



Appendix A: Draft Scope, MEPA Certificate, and Responses to Comments

Table of Contents

A.1	Proposed Scope for the 2022 Hanscom Field ESPR	A-3
A.1.1	Commentors on Proposed Scope for the 2022 Hanscom Field ESPR	A-22
A.1.2	Massport Response to Comments on Scope	A-23
A.2	MEPA Certificate and Comments for the Hanscom Field 2022 ESPR	A-51
A.3	MEPA Certificate and Comments for the Hanscom Field 2017 ESPR	A-101



(This page intentionally left blank.)



A.1 Proposed Scope for the 2022 Hanscom Field ESPR



(This page intentionally left blank.)



Massachusetts Port Authority
One Harborside Drive, Suite 200S
East Boston, MA 02128-2909
Telephone: 617-568-5000
www.massport.com

October 31, 2022

Secretary Bethany A. Card
Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
100 Cambridge Street, Suite 900
Boston MA 02114A

Re: **Proposed Scope 2022 L. G. Hanscom Field Environmental Status & Planning Report**
Bedford, MA, EEA Number: 5484/8696

Dear Secretary Card and Director Kim:

The Massachusetts Port Authority (Massport) is pleased to submit for your review this Proposed Scope for the *2022 L. G. Hanscom Field Environmental Status & Planning Report* (ESPR), the next filing in an ongoing review and evaluation of current and potential future operating and environmental conditions at L.G. Hanscom Field. The Proposed Scope is being submitted in accordance with the provisions of the Massachusetts Environmental Policy Act (MEPA), G.L. Chapter 30, Sections 62-62H and its regulations, 301 Code of Massachusetts Regulations (CMR) 11.00. The Proposed Scope responds to the Secretary's July 18, 2019 Certificate on the 2017 ESPR.

Massport is requesting a 30-day comment period to accommodate community review with the close of comments on December 9, 2022. A virtual public MEPA Scoping Session, is scheduled for 6:00 PM on Monday November 28, 2022 via Zoom (<https://massport.zoom.us/j/89201539311>). Massport will also be available to participate in additional community meetings within the public comment period to discuss the scope, as needed.

Brad Washburn will serve as the ESPR Project Manager. Brad, I and members of Massport's staff are available to discuss the ESPR and attached proposed scope with you or your staff if needed. Please contact Brad at 617-568-3546 or me at 617-568-3524 with any questions or comments.

Sincerely,

Massachusetts Port Authority

A handwritten signature in blue ink, appearing to read "Stewart Dalzell".

Stewart Dalzell, Deputy Director
Environmental Planning and Permitting

Attachments

Cc: S. Williams, A. Goodspeed, B. Washburn, M. Vatalaro/Massport



PROPOSED SCOPE

2022 L. G. Hanscom Field Environmental Status & Planning Report (ESPR)

October 31, 2022

PROJECT NAME:	2022 Hanscom Field Environmental Status & Planning Report
PROJECT LOCATION:	Bedford, Massachusetts
EEA NUMBER:	5484/8696
PROJECT PROPONENT:	Massachusetts Port Authority

The Massachusetts Port Authority (Massport or Authority) is committed to a multi-modal, multi-airport, regional transportation program that will satisfy current and future regional aviation demand. A key component of that program is the use of regional airports to complement Boston Logan International Airport (Logan). L.G. Hanscom Field (Hanscom Field), which is located in the four towns of Bedford, Concord, Lincoln, and Lexington, is New England’s premier general aviation (GA) airport. As a reliever to Logan, Hanscom Field provides airside relief by annually serving approximately 125,000 GA operations. Hanscom Field handles over six times more GA operations than occur at Logan and supports niche commercial service. This role for Hanscom Field was first established in the Master Plan for the airport in 1978, clarified in the 1980 Noise Rules, restated in the 1995 Generic Environmental Impact Report (GEIR), and the 2000, 2005, 2012 and 2017 Environmental Status & Planning Reports (ESPR).

Hanscom Field’s Master Plan and Noise Rules

Massport has owned Hanscom Field since 1974. The airport is located approximately 20 miles northwest of Boston just outside Route 128/I-95 and is convenient to most of metropolitan Boston. The Federal Aviation Administration (FAA) identifies Hanscom Field as a Commercial Service - Nonprimary airport in its National Plan of Integrated Airport Systems (NPIAS). As such, its primary role in the national aviation system is to accommodate regional GA needs, which has included limited commercial/passenger and cargo service. This allows larger nearby airports to concentrate on large-scale commercial/passenger and cargo activity.

In 1978, Massport prepared the Hanscom Field Master Plan. The preparation of the Master Plan included a lengthy and comprehensive public process. In 1980, after additional public process, the Authority adopted the Hanscom Field Noise Rules, which were an outgrowth of the Master Plan. The Master Plan and the 1980 Noise Rules remain the primary framework for airport planning and operations today.

The variety of current aviation activities at Hanscom Field include private corporate aviation, recreational flying, pilot training, air charter, cargo, commuter service, air ambulance, and military flights. The Master Plan and the 1980 Noise Rules contemplate and provide for commercial airline service. In fact, the 1980 Noise Rules specifically restrict passenger aircraft to no more than 60 seats. Commercial airlines have operated periodically at Hanscom Field since the mid-1970s. Streamline was the most recent airline to provide scheduled commercial passenger services. Currently, there is no scheduled passenger service at Hanscom Field.

History and Purpose of Environmental Status and Planning Report

The Massachusetts Secretary of the Executive Office of Energy & Environmental Affairs (Secretary) has, since 1985, required that the Authority prepare an ESPR every five years to evaluate the cumulative effect of growth and change at Hanscom Field and provide data and analyses on noise, ground transportation, air quality, and water quality. Massport designed the original GEIR, the 1995 GEIR Update, the ensuing ESPRs, and the forthcoming 2022 ESPR to provide both a retrospective analysis of the environmental effects of Hanscom Field while including analyses of projected future conditions.

As a result, the ESPR is an effective planning tool from which the Authority's policy and program developments are derived. The 2022 ESPR will present an overview of the operational environment and planning status of Hanscom Field and will provide long-range projections of environmental conditions against which the effects of potential future individual projects can be compared. At Hanscom Field, most development is by third parties and therefore future scenarios represent estimates of what could occur (not necessarily what will occur) using certain planning assumptions. The 2022 ESPR will provide historical environmental information, current information, and a forecast of future environmental effects at Hanscom Field. The ESPR does not replace the requirement for filing an Environmental Notification Form (ENF) or other state and federal permit applications for a specific project if that project meets or exceeds a Massachusetts Environmental Policy Act (MEPA) or other environmental regulatory threshold.

Massport filed its 2017 ESPR with the Executive Office of Energy and Environmental Affairs (EEA) in May 2019. The 2017 ESPR contained an extensive discussion on air and ground transportation, cultural and historical resources, and detailed information on such technical issues as noise abatement, air quality, ground access, and water quality management. The MEPA Certificate issued by the Secretary on July 18, 2019, determined that the 2017 ESPR "adequately and properly complies with the Massachusetts Environmental Policy Act." The Secretary's Certificate requires that the major areas of analyses for the next ESPR include, but are not limited to, aviation planning, landside planning, ground access, noise, air quality, water quality, cultural and historical resources, sustainability, and airport mitigation. Additionally, the proposed Scope for the 2022 ESPR acknowledges the recent changes in the MEPA regulations over the past several years, particularly those focused on resiliency, cumulative impacts, and enhanced outreach to environmental justice populations.

Public Review and Participation

In developing this Proposed Scope, the Authority reviewed the MEPA Certificate for the 2017 ESPR. Per the proposed schedule, the Authority will convene the following:

- A public meeting to discuss the proposed MEPA scope which will be in addition to the MEPA scoping session
- Up to two technical workshops during the public review process for the ESPR which will be in addition to the MEPA hearing for the ESPR

Format of the 2022 ESPR

The 2022 ESPR will be a single document that follows the general format of the 2017 ESPR. Detailed ESPR technical studies will be summarized in a readable format to clearly illustrate the implications of recent trends, existing conditions, and potential future scenarios. The 2022 ESPR will build on the base information developed for the 2017 ESPR, presenting policy considerations and an overview of the airport's current and potential future role within the regional planning context, including a status report on the Authority's proposed planning initiatives and projects. The 2022 ESPR technical studies will include analyses of airport activity levels, noise, ground access, air quality, water quality, natural resources, cultural and historical resources, and sustainability. The chapters on ground transportation management, noise, air quality, and water quality will include the following sections:

- Discussion of analysis methodologies and assumptions
- Report of 2022 conditions in comparison to previous years
- Prediction of 2030 and 2040 conditions

Activity levels for the future years could occur earlier or later than the forecast, but the analysis years of 2030 and 2040 will provide useful parameters for the analytical framework for various activity levels.

Electronic versions and (limited) printed copies of the ESPR will be available for public review. The ESPR document will be posted on the Authority's web page. Supporting technical appendices will be provided as necessary. The following list describes the contents of the proposed ESPR sections.

I. Introduction

This section will generally introduce the ESPR and place it in its environmental and regulatory context. This section will:

- Summarize the evolution of the Hanscom Field environmental review process.
- Describe the analysis framework for the environmental reporting and technical studies to be conducted.
- Describe the organization of the 2022 Hanscom Field ESPR.
- Summarize the major sections of the ESPR, with supporting graphics and data tables.

II. Facilities and Infrastructure

This section will update information presented in the 2017 ESPR regarding the airfield and its supporting infrastructure and utility system, including:

- The use and storage of hazardous materials at Hanscom Field, including jet fuel use and spill prevention efforts
- The status of the Authority's tenant audit program
- The current status of the 21E sites at Hanscom Field

III. Airport Activity Levels

This chapter will report on airport activity levels for 2017 to 2022 and describe the new forecasts of aviation activity for 2030 and 2040. The ESPR will use forecasts to assist in developing fleet projections for each future analysis year.

The 2022 ESPR will describe historic airport activity levels. The ESPR uses specific analysis years to integrate airport activity levels with other areas of analysis, such as traffic projections. The ESPR will provide an update of activity levels at Hanscom Field according to the following:

- Report on aircraft fleet mix and on activity levels of GA, commuter, and military operations from 2017 to 2022
- Compare 2017 through 2022 activity levels to historic trends
- Compare actual 2022 activity levels to forecasted 2017 activity levels from the 2017 ESPR
- Report on current and future trends within the aviation industry

The ESPR will utilize forecasts developed for aviation activity for 2030 and 2040 based on recent trends at Hanscom Field with consideration of the role that the airport plays in the regional airport system. The ESPR will report actual changes in fleet mix and aircraft operations at Hanscom Field – both increases and decreases – and compare these data to the range of future activity levels and fleet mix defined by the moderate growth scenarios of the 2017 ESPR. Differences between actual and previously forecast activity levels will be explained and will be reflected in the underlying assumptions for the 2030 and 2040 forecasts. The forecasts will also include coordination with ongoing forecasting for Logan and Worcester.

- Prepare a 2030 growth scenario for activity levels and passenger forecasts.
- Prepare growth scenario for activity levels that will reflect changes in fleet mix and passenger forecasts for the year 2040, which is consistent with the Logan ESPR and other regional planning efforts.

The fleet mix of the growth scenarios will include GA, military, commuter service and some cargo activity consistent with the 1978 Master Plan and 1980 Noise Rules. The scenarios will be based on recent trends at the airport as well as regional and national aviation trends.

IV. Airport Planning

The Authority continues to assess planning strategies for operating an efficient airport in an environmentally sensitive manner. As owner and operator of Hanscom Field, the Authority also must accommodate and guide airport tenant development. This section will describe the status of planning initiatives and projects for the Terminal, airside, and landside areas. This section will also discuss the impacts of the Covid-19 pandemic on Hanscom Field activity levels and projects.

The Airport Planning chapter will include planning and development initiatives by the Minute Man National Historical Park, the Hanscom Air Force Base, and the four contiguous towns that affect Hanscom Field and are affected by Hanscom Field.

V. Regional Transportation Context

Hanscom Field is the premier GA facility serving Massachusetts and the New England region. The ESPR will describe the role of Hanscom Field in the region's transportation system, and will report on the Authority's efforts to strengthen the regional transportation system and on its cooperative efforts with other transportation agencies to promote an efficient regional aviation system with improved public/private transportation access. The ESPR will also describe Massport's system of three airports and efforts to appropriately utilize these facilities. This chapter will update the information provided in the 2017 ESPR with the most current information provided in the Logan Environmental Data Reports and ESPR in relation to Hanscom Field and will include the following:

- For 2022, an update on regional airport operations, passenger activity levels, and the status of plans and new improvements as provided by regional airport authorities as well as a report on recent rail service initiatives by others that could affect air passenger travel, including the North-South Station Rail Link, Acela Service, and bus service
- A discussion of the role that Logan International Airport plays in intercity travel choices
- Diversion opportunities from Logan Airport to alternative modes and to New England airports
- An update on the integration of New England regional airport facilities as a regional system
- A report on Hanscom Field's role in the NPIAS
- A report on the current status of any ground access improvements at Logan Airport and the four closest New England regional airports (T. F. Green Airport, Manchester Airport, Bradley International Airport, and Worcester Regional Airport) by state transportation agencies, including projected dates for completion of studies and/or construction and an analysis to quantify the effects of these measures upon projected passenger levels at each of the airports

In addition, the ESPR will report on the Authority's efforts to promote scheduled passenger service at Worcester Regional Airport and other airports, as well as other Authority involvement to promote the regional transportation system.

A summary of relevant regional and local highway studies and transit projects will be included.

VI. Ground Transportation

The 2022 ESPR will report on Ground Transportation conditions using the following indicators:

- Traffic, roadway and access analysis results
- Mode share data
- Alternative transportation modes, availability and use
- Parking demand and management information

The document will evaluate background growth in traffic within the Study Area attributed to Hanscom Field as compared to other area sources. The Study Area for the traffic analysis in the

2017 ESPR was bounded by Route 2A, Old Bedford Road, Route 62, Routes 4/225 and Route 128/I-95. It is assumed the 2022 ESPR will include the same intersections that were counted for the 2017 ESPR within the traffic analysis Study Area. The 2022 ESPR will identify and evaluate those Study Area intersections for which Hanscom Field traffic contributes 10 percent or more to the existing traffic volumes on each intersection approach. The 2022 ESPR will also use this methodology to evaluate the Study Area intersections for the forecast activity levels and years.

Analyses conducted in support of the 2017 ESPR and other available information indicate that Hanscom Field currently does not have a sufficient commuting population to support a Transportation Management Association (TMA). The potential for developing partnerships with abutters and area businesses to facilitate a regional Transportation Demand Management (TDM) approach will be discussed in the ESPR. Other special topics will address recent studies and issues raised in previous ESPR Certificates, as well as reviewers' comments, and will:

- Report available information from the Authority's survey of Hanscom Field employees.
- Describe TDM strategies including potential for participation in a TMA.
- Review, summarize and analyze, as necessary, existing metropolitan transportation documents and report as to how they relate to Hanscom Field access.

VII. Noise

The Noise chapter of the ESPR will report current conditions for the year 2022 and projections for the forecast activity levels and years using the following indicators:

- Total Noise Exposure (EXP) as calculated in accordance with FAA-prescribed standards for the Aviation Environmental Design Tool (AEDT) and past practice at Hanscom Field
- Day-Night Average Sound Level (DNL) contours
- Time-Above (TA) contours for the given thresholds

All noise contour levels will be computed using the latest version of the AEDT. The DNL levels depicted will be based on accepted EPA and FAA guidelines. Changes in the noise environment for both DNL and TA will be based on local land use information and data from the 2020 U.S. Census. An evaluation of sound exposure levels (SELs) for each period will be documented and discussed. The ESPR will present the noise data from the six permanent monitoring stations at Hanscom Field including minimum, maximum and average daily DNL values. Noise sensitive sites within the study area will be identified and DNL values will be provided for each site. DNL and TA results will also be provided for identified sites within MMNP. Special topics will address recent studies, and issues raised in previous ESPR Certificates, reviewers' comments, and will include, in consultation with the Authority:

- A report on the Fly Friendly program at Hanscom Field.
- An update on the noise monitoring and aircraft tracking systems.

VIII. Air Quality

The Air Quality chapter of the 2022 ESPR will be responsive to state policy updates and will report on current conditions for the year 2022, industry updates on airport-related greenhouse gases (GHGs), and projections for the forecast activity levels and years using the following indicators:

- Emissions Inventory for:
 - Carbon Monoxide (CO)
 - Oxides of Nitrogen (NO_x)
 - Volatile Organic Compounds (VOCs)
 - Particulate matter (PM₁₀) and (PM_{2.5})
 - Greenhouse Gases
- Available monitoring results for:
 - Ozone Precursors
 - Nitrogen Dioxide (NO₂)

IX. Wetlands/Wildlife/Water Resources

The ESPR will include the most recent wetlands delineation and the identified vernal pools. The ESPR will report wildlife habitat mapping using available information, including the 15th Edition of the Natural Heritage Atlas, from Massachusetts Natural Heritage and Endangered Species Program (NHESP). The Wetlands/Wildlife/Water Resources chapter will provide an update on the status of the Authority's Vegetation Management Plan at Hanscom Field. It will also report on the 2021 Hanscom Field Grassland Management Plan update and all associated monitoring and maintenance.

The ESPR will report on any incremental changes to the Hanscom Field storm water management system and to the Storm Water Pollution Prevention Plan (SWPPP). The ESPR will report on the water quality monitoring program at the Shawsheen River. The ESPR will provide any available public information on the National Pollutant Discharge Elimination System (NPDES) permit, and the SWPPP. Reporting indicators for water quality improvement will include NPDES Permit monitoring results. The Wetlands/Wildlife/Water Resources chapter will also report on the deicing monitoring program. The scope of the ESPR will also include an outline of measures to minimize releases of per- and polyfluoroalkyl substances (PFAS) and to detect, manage, and remediate PFAS contamination.

The ESPR will identify, but not quantify, the kinds of direct impacts expected from future development scenarios to wetlands, vernal pools, rare species/habitat, and water quality.

X. Cultural and Historical Resources and Environmental Justice

The 2022 ESPR will review and update the extensive data on historic and archeological resources completed as part of the 2017 Hanscom Field ESPR. The most current version of the State Register of Historic Places and the files of the Massachusetts Historical Commission will be reviewed, as will available planning studies conducted within or adjacent to Hanscom Field. This information will be compared to the 2017 ESPR and updated where appropriate for the

2022 ESPR. The ESPR will also consider new MEPA requirements related to Environmental Justice public involvement and impact analysis.

XI. Sustainable Development

The Sustainable Development chapter of the ESPR will report on the development of the Authority's Sustainable Development Program. This chapter will include a discussion of the following:

- Summary of existing sustainable practices currently maintained by the Authority at Hanscom Field
- Overview of Massport's Climate Action/Net Zero planning and how Hanscom Field is integrated into that Authority-wide planning
- Report on recycling policy and efforts
- Report on toxic waste reduction at the airport
- Opportunities for additional sustainable development practices

XII. MEPA Documentation

This section will include a copy of the Secretary's 2019 Certificate on the 2017 Hanscom Field ESPR, a copy of the Secretary's Certificate on the scope for the 2022 ESPR, a reviewers list and a glossary of terms.

Supporting technical appendices will be included in the report as necessary. The ESPR will respond to comments on the Proposed Scope in a topical format.

List of Reviewers

Federal

The Honorable Elizabeth Warren
Attn: Olivia Paulo
2400 JFK Federal Building
15 New Sudbury Street
Boston, MA 02203

The Honorable Edward J. Markey
Attn: Katherine Morfill
975 JFK Federal Building
15 New Sudbury Street
Boston, MA 02203

The Honorable Katherine Clark
Attn: Kelsey Perkins
U.S. House of Representatives
157 Pleasant Street, Suite 4
Malden, MA 02148

The Honorable Ayanna Pressley
Attn: Eric White
U.S. House of Representatives
1295 River Street
Hyde Park, MA 02136

The Honorable Lori Trahan
Attn: Alexander Eliassen
U.S. House of Representatives
126 John Street, Suite 12
Lowell, MA 01852

The Honorable Seth Moulton
Attn: Rick Jakious
U.S. House of Representatives
21 Front Street
Salem, MA 01970

Advisory Council on Historic Preservation
401 F Street NW, Suite 308
Washington, DC 20001

Colleen D'Alessandro,
New England Regional Administrator
Department of Transportation
FAA - New England Region
1200 District Avenue
Burlington, MA 01803

Gail Lattrell, Director
Department of Transportation
FAA - New England Region, Airports Division
1200 District Avenue
Burlington, MA 01803

Cheryl Quaine, Environmental Protection Specialist
Department of Transportation
FAA - New England Region, Airports Division
1200 District Avenue
Burlington, MA 01803

Miguel Rodriquez
FAA Air Traffic Control Tower
HAFB, Building 1714A
Bedford, MA 01730

Council on Environmental Quality
722 Jackson Place, N.W.
Washington, DC 20503

Simone Monteleone, Superintendent
National Park Service Minute Man National
Historical Park
North Bridge / Park Head Quarters
174 Liberty St.
Concord, MA 01742

Gay Vietzke, Regional Director
National Park Service
1234 Market Street, 20th Floor
Philadelphia, PA 19107

Maj. Gen. Dwyer L. Dennis
Hanscom Air Force Base
120 Grenier Street
Hanscom Air Force Base, MA 01730

Proposed Scope 2022 L.G. Hanscom Field Environmental Status & Planning Report

U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

David Cash, Administrator
U.S. EPA New England Region
5 Post Office Square
Boston, MA 02109

NE Field Office
U.S. Fish & Wildlife Service
Department of the Interior
70 Commercial St., Suite 300
Concord, NH 03301-5087

Libby Herland, Project Leader
Eastern Massachusetts NWR Complex
73 Weir Hill Road
Sudbury, MA 01776

State

The Honorable Diana DiZoglio
Massachusetts State House
24 Beacon Street, Room 416-B
Boston, MA 02133

The Honorable Kate Hogan
Massachusetts State House
24 Beacon Street, Room 370
Boston, MA 02133

The Honorable Cindy F. Friedman
Massachusetts State House
24 Beacon Street, Room 313
Boston, MA 02133

The Honorable Michael Barrett
Massachusetts State House
24 Beacon Street, Room 109-D
Boston, MA 02133

The Honorable Kenneth Gordon
Massachusetts State House
24 Beacon Street, Room 156
Boston, MA 02133

The Honorable Tami Gouveia
Massachusetts State House
24 Beacon Street, Room 146B
Boston, MA 02133

The Honorable Michelle Ciccolo
Massachusetts State House
24 Beacon Street, Room 473F
Boston, MA 02133

The Honorable Carmine Gentile
Massachusetts State House
24 Beacon Street, Room 167
Boston, MA 02133

The Honorable Thomas M. Stanley
MA House of Representatives
State House, Room 167
Boston, MA 02133

Bethany A. Card, Secretary
Executive Office of Energy & Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Martin Suuberg, Commissioner
Massachusetts Department of Environmental
Protection
One Winter Street
Boston, MA 02108-4746

Tori Kim, Director
MEPA Office
Executive Office of Energy Environmental Affairs
100 Cambridge St, 9th Floor
Boston, MA 02114

MEPA Coordinator
Massachusetts Department of Environmental
Protection/Northeast Regional Office
205-B Lowell Street
Wilmington, MA 01887

Proposed Scope 2022 L.G. Hanscom Field Environmental Status & Planning Report

DCR Division of Water Supply Protection
Attn: Environmental Reviewer
251 Causeway Street
Boston, MA 02114

MEPA Coordinator
The Massachusetts Department of Transportation
10 Park Plaza, Room 4150
Boston, MA 02116

MassRIDES
10 Park Plaza, Suite 2180
Boston, MA 02116

MassDOT, Highway Division
MHD – District #4
Attn: MEPA Coordinator
519 Appleton Street
Arlington, MA 02174

Dr. Jeffrey DeCarlo, Administrator Division
MassDOT, Aeronautics Division
One Harborside Drive
East Boston, MA 02128

MassDOT, Aeronautics Division
Attn: MEPA Coordinator
10 Park Plaza, Room 3510
Boston, MA 02116-3966

Massachusetts Historical Commission
The Massachusetts Archives Building
220 Morrissey Boulevard
Boston, MA 02125

Massachusetts Department Agricultural Resources
Attn: MEPA Coordinator
16 West Experiment Station
University of Massachusetts
Amherst MA 01003

Eve Schluter, Assistant Director
Natural Heritage and Endangered Species Program
Massachusetts Division of Fish & Wildlife
Commonwealth of Massachusetts
One Rabbit Hill Road
Westborough, MA 01581

Massachusetts Department of Public Health
Director of Environmental Health
250 Washington Street
Boston, MA 02108-4619

Massachusetts Water Resource Authority
Attn: MEPA Coordinator
Charlestown Navy Yard
100 First Avenue
Boston, MA 02129

Massachusetts Bay Transportation Authority
Attn: MEPA Coordinator
10 Park Plaza, 6th Floor
Boston, MA 02216-3966

Regional

Marc Draisen
Metropolitan Area Planning Council
60 Temple Place/6th Floor
Boston, MA 02111

Regional Transportation Planning Staff
Metropolitan Area Planning Council
10 Park Plaza, Room 2150
Boston, MA 02116

Julie Curti
Minuteman Advisory Group on Interlocal
Coordination
c/o MAPC
60 Temple Place
Boston, MA 02111

Local

Bedford

Bedford Public Library
7 Mudge Way
Bedford, MA 01730-2168

Proposed Scope 2022 L.G. Hanscom Field Environmental Status & Planning Report

Sarah Stanton, Town Manager
Town of Bedford
10 Mudge Way
Bedford, MA 01730

Bedford Board of Health
Town of Bedford
10 Mudge Way
Bedford, MA 01730

Bridget Rodrigue, Town Clerk
Town of Bedford
10 Mudge Way
Bedford, MA 01730

Jeffrey Summers, Administrator
Bedford Conservation Commission
Town of Bedford
10 Mudge Way
Bedford, MA 01730

Bedford Historic Preservation Commission
Town of Bedford
10 Mudge Way
Bedford, MA 01730

Shawn Hagan, Chair
Bedford Planning Board
10 Mudge Way
Bedford, MA 01730

Tony Fields, Planning Director
Town of Bedford
10 Mudge Way
Bedford, MA 01730

Emily Mitchell, Chair
Board of Selectmen
Town of Bedford
10 Mudge Way
Bedford, MA 01730

Margot R. Fleischman
Board of Selectmen
Town of Bedford
10 Mudge Way
Bedford, MA 01730

Bopha Malone
Board of Selectmen
Town of Bedford
10 Mudge Way
Bedford, MA 01730

Shawn Hanegan
Board of Selectmen
Town of Bedford
10 Mudge Way
Bedford, MA 01730

Boston

Rev. Mariama White-Hammond, Chief
Office of Environment, Energy and Open Space
Boston Environment Department
One City Hall Plaza, Room 709
Boston, MA 02201

Boston Environment Department
One City Hall Plaza, Room 709
Boston, MA 02201

Brad Gerratt, Interim Commissioner
Boston Transportation Department
One City Hall Plaza, Room 721
Boston, MA 02201

Carlisle

Planning Director
Town of Carlisle
108 Main Street P.O. Box 67
Carlisle, MA 01741

Concord

Concord Public Library
129 Main Street
Concord, MA 01742

Proposed Scope 2022 L.G. Hanscom Field Environmental Status & Planning Report

Kerry Lafleur, Town Manager
Town of Concord
22 Monument Square
P.O. Box 535
Concord, MA 01742

Kaari Mai Tari, Town Clerk
Town of Concord
22 Monument Square
P.O. Box 535
Concord, MA 01742

Delia Kaye, Administrator
Concord Natural Resources Commission
141 Keyes Road
Concord, MA 01742

Concord Historical Commission
Town Offices
22 Monument Square
P.O. Box 535
Concord, MA 01742

Concord Department of Planning & Land
Management
141 Keyes Road
Concord, MA 01742

Matthew Johnson, Chair
Board of Selectmen
22 Monument Square
P.O. Box 535
Concord, MA 01742

Terri Ackerman, Clerk
Board of Selectmen
22 Monument Square
P.O. Box 535
Concord, MA 01742

Lexington

Carey Memorial Library
1874 Mass Ave. at Carey Hall
Lexington, MA 02420-5385

James Malloy
Town Manager
1625 Mass. Avenue
Lexington, MA 02420

Mary de Alderete, Town Clerk
Town Offices
1625 Mass Avenue
Lexington, MA 02420

Karen Mullins, Administrator
Conservation Commission
Town Offices
1625 Mass Avenue
Lexington, MA 02420

Health Division
Town Offices
1625 Mass Avenue
Lexington, MA 02420

Historical Commission
Town Offices
1625 Mass Avenue
Lexington, MA 02420

Lexington Planning Board
1625 Mass Avenue
Lexington, MA 02420

Lexington Planning Department
1625 Mass Avenue
Lexington, MA 02420

Dr. Julie Jacket Ed.D., Superintendent
Lexington Public Schools
1557 Massachusetts Avenue
Lexington, MA 02420

Jill I. Hai, Chair
Board of Selectmen
1625 Massachusetts Ave
Lexington, MA 02420

Douglas M. Lucente, Vice Chair
Board of Selectmen
1625 Massachusetts Ave
Lexington, MA 02420

Proposed Scope 2022 L.G. Hanscom Field Environmental Status & Planning Report

Lincoln

Lincoln Public Library
Reference Department
3 Bedford Road
Lincoln, MA 01773

Timothy S. Higgins Town Administrator
Lincoln Town Hall
16 Lincoln Road
Lincoln, MA 01773

Valerie Fox, Town Clerk
Town Office Building
16 Lincoln Road, 1st Floor
Lincoln, MA 01773

Michele Grzenda, Director
Conservation Commission
Town Office Building
16 Lincoln Road, 2nd Floor
Lincoln, MA 01773

Lincoln Historical Commission
Box 6294
Lincoln, MA 01773

Lincoln Planning Board, Chair
Town Office Building
16 Lincoln Road, 2nd Floor
Lincoln, MA 01773

Paula Vaughn-MacKenzie, Director of Planning and
Land Use
Town Office Building
16 Lincoln Road, 2nd Floor
Lincoln, MA 01773

Jennifer Glass, Chair
Selectmen, Town of Lincoln
Hanscom Area Town Selectmen
7 Conant Road
Lincoln, MA 02173

Darin LaFalam
Lincoln Water Department
16 Lincoln Road
Lincoln, MA 01773

Organizations

Aircraft Owners and Pilot Association
421 Aviation Way
Frederick, MD 21701-4798

Annursnac Hill Association, Inc.
29 Isaac Davis Road
Concord, MA 01742-1513

Farm Board of Trustees
5D South Commons
Lincoln, MA 01773

Eileen Entin, President
Citizen's for Lexington Conservation
P.O. Box 292
Lexington, MA 02420-0003

Lisa Litchfield, Administrator
Concord Field Station
100 Old Causeway Rd.
Bedford, MA 01730

Lexington Chamber of Commerce
Heather Hartshorn, Executive Director
1620 Massachusetts Avenue
Lexington, MA 02420

Pauline Cross Reeve, Chair
Concord Land Conservation Trust
P.O. Box 141
Concord, MA 01742-0141

Lisa Krassner, Executive Director
Concord Museum
53 Cambridge Turnpike
Concord, MA 01742

Concord Chamber of Commerce
P.O. Box 1544
Concord, MA 01742

Proposed Scope 2022 L.G. Hanscom Field Environmental Status & Planning Report

Bradley Campbell, President
Conservation Law Foundation
62 Summer Street
Boston, MA 02110

Gerard J. G. Ward, Headmaster
Fenn School
516 Monument Street
Concord, MA 01742

Taragh Mulvany, Chair
Fenn School Board of Trustees
516 Monument Street
Concord, MA 01742

Jim Rooney, President and CEO
Greater Boston Chamber of Commerce
265 Franklin St., Suite 1701
Boston, MA 02110

Lana Ignacio
Signature Flight Support
180 Hanscom Drive
Bedford, MA 01730

Christopher Eliot, Chair
Hanscom Field Advisory Commission
Lincoln Town Hall
16 Lincoln Road
Lincoln, MA 01773

Pam Day
Jet Aviation of America, Inc.
380 Hanscom Drive
Hanscom Field
Bedford, MA 01730-2630

Tim Calabrese
Sr. Director, Corporate, Foundation and
Government Relations
Mass Audubon
208 South Great Road
Lincoln, MA 01773

Ford Van Weise
Hanscom Aircraft Owners and Pilots Association
380 Hanscom Drive
Bedford, MA 01730

David Richter, President
Massachusetts Business Aviation Association
PO Box 5396
Wayland, MA 01778

Mike Kennealy, Chair
MassDevelopment
99 High Street
Boston, MA 02110

Christopher R. Anderson, President
Massachusetts High Technology Council
Reservoir Place
1601 Trapelo Road, Suite 336
Waltham MA 02451-7333

Catherine Allgor, President
Massachusetts Historical Society
1154 Boylston Street
Boston, MA 02215-3695

Karlyn McNall, Interim Head of School
Middlesex School
1400 Lowell Road
Concord, MA 01742-9122

Danielle Heard, Head of School
Nashoba Brooks School
200 Strawberry Hill Road
Concord, MA 01742-5404

James T. Brett, Secretary
New England Council
98 North Washington Street, Suite 303
Boston, MA 02114

Jan Turnquist, Executive Director
(Alcott) Orchard House
399 Lexington Road
P.O. Box 343
Concord, MA 01742

Save Our Heritage
91 Main Street, Suite 201
Concord, MA 01742

Proposed Scope 2022 L.G. Hanscom Field Environmental Status & Planning Report

Margaret Coppe, President
Safeguarding the Historic Hanscom
Area's Irreplaceable Resources
P.O. Box 441
Concord, MA 01742

Aaron Toffler
Executive Director, Massport CAC
c/o Law Office of Robert Allen, Jr., LLP
300 Washington Street
Brookline, MA 02445

Arthur P. Kreiger/
Douglas H. Wilkins, Esq.
Anderson & Kreiger LLP
47 Thorndike Street
Cambridge, MA 02141

Bedford Chamber of Commerce
Maureen McAuliffe Sullivan, Executive Director
12 Mudge Way (2-2)
Bedford, MA 01730

Middlesex West Chamber of Commerce
77 Great Road, Suite 214
Acton, MA 01720

Anne Slugg
Sudbury, Assabet and Concord Wild & Scenic River
Stewardship Council
15 State Street
Boston, MA 02109

Historic Site Manager
The Old Manse
The Trustees of Reservations
P.O. Box 572
269 Monument Street
Concord, MA 01742-1837

Anderson Kathi, Executive Director
The Walden Woods Project
44 Baker Farm
Lincoln, MA 01773-3004

Roseann Bongiovanni
Chair, Massport CAC
c/o Law Office of Robert Allen, Jr., LLP
300 Washington Street
Brookline, MA 02445



A.1.1 Commentors on Proposed Scope for the 2022 Hanscom Field ESR

The following is a list of commentors who submitted comments to the Secretary of Energy and Environmental Affairs (EEA) during the MEPA public comment period when MEPA issued a draft scope for the 2022 ESR.

Table A-1. Comments with Response Identifiers

Commenter	Date of Comment	Comment Format	Commenter Contact Information	Massport Comment Response Identifiers
Bethany A. Card, Secretary of Energy and Environmental Affairs, Commonwealth of Massachusetts	12/16/2022	Scope Certificate	Office of Energy and Environmental Affairs, 100 Cambridge St, Suite 900, Boston, MA 02114	A-1 – A-96
Christopher Eliot, Hanscom Field Advisory Commission	11/17/2022	EEA Online Portal	124 Bedford Road, Lincoln, MA 01773	P-1 – P-7
Amy McCoy	11/26/2022	EEA Online Portal	187 Old Groton Road, Ayer, MA 01432	P-8 – P-11
The Select Board of Bedford Emily Mitchell, Chair	11/28/2022	Letter	10 Mudge Way Bedford, MA 01730	P-12 – P-17
David McCoy, Ayer Resident	12/5/2022	Email	Ayer, MA	P-18 – P-20
Amy McCoy, Ayer Resident	12/5/2022	Email	Ayer, MA	P-21 – P-25
Jen Murray	12/7/2022	Email	Not provided	P-26 – P-28
Liz Reardon, Ayer Resident	12/7/2022	Email	Ayer, MA	P-29 – P-31
David Eliades, Ayer Resident	12/8/2022	Email	Ayer, MA	P-32
Jennifer Hart and Mike MacClary, Co-Presidents of the Annursnac Hill Association	12/9/2022	Email	Concord, MA 01742	P-33 – P-34
Jennifer Boles, Bedford Resident	12/9/2022	Email	Bedford, MA	P-35 – P-37



A.1.2 Massport Response to Comments on Scope

The following is a list of summarized comments submitted to the Secretary of Energy and Environmental Affairs (EEA) during the MEPA public comment period when MEPA issued a draft scope for the 2022 *ESPR*. For each comment, a formal response from Massport is provided. The reader may also be referred to a specific section of the 2022 *ESPR* where a more detailed answer to the comment can be found.

Table A-2. Response to Comments

Comment Number	Comment	Response
EEA Secretary’s Certificate, December 16, 2022		
Format		
A-2	The <i>ESPR</i> should follow the general format of the Proposed Scope and the 2017 <i>ESPR</i> , and provide additional information and analyses specified in this Certificate.	The 2022 <i>ESPR</i> follows the general format of the Proposed Scope and the 2017 <i>ESPR</i> ; the additional information and analyses specified by the scope certificate have been added.
A-3	It should provide an overview of the <i>ESPR</i> preparation and review process and describe the analytical framework for the studies to be conducted.	Chapter 1 of the 2022 <i>ESPR</i> provides an overview and includes background information on Hanscom Field, describes the environmental review process and identifies the analytical framework for the 2022 <i>ESPR</i> .
A-4	Detailed technical studies should be summarized to illustrate the implications of recent trends, existing conditions and potential future scenarios. For each topic, the <i>ESPR</i> should highlight new developments and airport planning efforts, updated data, and significant differences from the 2017 <i>ESPR</i> and provide projections for the years 2030 and 2040.	Chapter 1 summarizes the primary changes since the 2017 <i>ESPR</i> and provides an executive summary of the findings. Each chapter contains an overview of the key findings for that topic, highlighting new developments, efforts, updated data, and significant differences from the 2017 <i>ESPR</i> and provide projections for the years 2030 and 2040.
A-5	To the extent possible, Massport should use the same data sources as those referenced in prior <i>ESPRs</i> , or otherwise utilize measures or metrics that facilitate comparisons with previously reported data.	When possible, the same data sources and/or metrics as those referenced in prior <i>ESPRs</i> were used in the 2022 <i>ESPR</i> to facilitate comparison, as noted throughout the 2022 <i>ESPR</i> .
A-89	The 2022 <i>ESPR</i> should contain a copy of this Certificate and a copy of each comment letter received on the Proposed Scope and the 2017 <i>ESPR</i> .	The 2022 <i>ESPR</i> Scope Certificate and a copy of each comment received on the 2022 Proposed Scope and on the previous <i>ESPR</i> are provided in Appendix A of the 2022 <i>ESPR</i> .

Comment Number	Comment	Response
A-92	The ESPR should include a copy of this Certificate.	The 2022 ESPR Scope Certificate is provided in Appendix A of the 2022 ESPR.
A-94	It should include all Supporting Technical Appendices or report how reviewers can obtain a copy.	Technical Appendices B through G are referenced throughout the 2022 ESPR. All ESPR appendices are available on the Massport website under Project Environmental Filings, along with the 2022 ESPR. https://www.massport.com/environment/project-environmental-filings/hanscom-field
A-95	The ESPR should identify when Massport will submit interim review documents, such as Annual Reports.	Section 1.6 identifies that in addition to the ESPR process, Massport publishes two annual reports for public review: The State of Hanscom and the Annual Noise Report. Both documents are distributed to the Hanscom Field Advisory Committee and are available on Massport's website. https://www.massport.com/hanscom-field/about-hanscom/publications-reporting
A-96	The documents should be made available in print, CD-ROM format, and/or in a downloadable format from a website.	The 2022 ESPR is available in print at the Bedford, Concord, Lexington and Lincoln public libraries. The full document will be in a downloadable format on the Massport website.
Airport Facilities and Infrastructure		
A-6	The ESPR should describe the proposed North Hangar development project and incorporate this project in projections of future operations at Hanscom.	See Section 3.4.1. Proposed development projects target existing demand. The current and proposed hangar development, including the North Airfield Development, is not anticipated to increase future operations at Hanscom.
A-8	The ESPR should describe the facilities and infrastructure at Hanscom, including their use, ownership, condition and maintenance.	See Sections 2.2, 2.3, and 2.4. A current Inventory of facilities and infrastructure at Hanscom Field was conducted as part of the 2022 ESPR.
A-9	It should describe maintenance practices and responsibilities.	Section 2.3.4 describes maintenance practices and responsibilities.
A-10	The ESPR should report on the use and storage of hazardous materials such as jet fuel and identify measures to minimize and mitigate release of these materials.	See Section 2.4.6. Massport has developed a Spill Prevention Control and Countermeasures (SPCC) Plan that covers general Massport operations. Tenants that store a total of more than 42,000 gallons of oil in underground storage tanks and/or more than 1,320 gallons of oil in above-ground storage tanks or

Comment Number	Comment	Response
		containers are required to have a SPCC Plan, as required under 40 CFR 112 (Oil Pollution Prevention).
A-11	It should identify areas regulated under M.G.L. 21E, the Massachusetts Contingency Plan (MCP), and report on their status.	See Section 2.4.11. A search of the MassDEP's Online 21E Site File Review database returned data indicating that there have been 10 21E cases associated with Hanscom Field since 2017. All 10 have a response action outcome (RAO) status that indicates response actions were sufficient to achieve a level of no significant risk.
A-12	The ESPR should report on the past, current and projected water use and wastewater generation, describe water and sewer infrastructure, and detail water conservation measures for equipment, plumbing, and landscape irrigation.	In Section 2.4.3. Hanscom Field's water usage is provided in Figure 2-5. In Section 2.4.4, Figure 2-7 provides average daily wastewater flows at Hanscom Field. See Section 2.4.3 for water infrastructure. See Section 2.4.4 for sewer infrastructure. Chapter 4, Section 4.3 provides an analysis of future utility usage, including water and wastewater. Chapter 11 describes water conservation as one of Massport's sustainability goals. Section 11.3.1 identifies sustainable planning, design, and construction initiatives at Massport, including water efficiency and wastewater reduction.
Airport Activity Levels		
A-13	The 2022 ESPR should describe historic airport activity levels, report on airport activity levels for 2017 to 2022 and review growth forecasts of aviation activity for 2030 and 2040 based on aviation growth forecasts for all three Massport airports (Logan, Hanscom, and Worcester). The ESPR should use these forecasts to assist in developing fleet projections for each future analysis year.	Figure 3-4 provides a history of daytime operations at Hanscom Field. Table 3-1 provides a summary of historic aircraft operations at Hanscom Field from 2012 to 2022, including the activity levels for 2017-2022. See Sections 3.4 and 3.5 for growth forecasts. As described in Section 3.4, the forecasts for aviation activity at Hanscom Field include projections of aircraft operations and based aircraft for the mid-term (2030) and the long-term (2040).
A-14	It should provide an update of activity levels at Hanscom Field, including: <ul style="list-style-type: none"> • Report on aircraft fleet mix and on activity levels of GA, commuter, and military operations from 2017 to 2022; • Compare 2017-2022 activity levels to historic trends; • Compare actual 2022 activity levels to forecasted activity levels from the 2017 ESPR; and, 	Chapter 3 provides overviews of fleet mix and activity levels of all types for 2017-2022 as well as past and forecasted operations. Section 3.2 gives an overview of national industry trends.

Comment Number	Comment	Response
	<ul style="list-style-type: none"> Report on current and future trends within the airline industry. 	
A-15	The ESPR should utilize growth forecasts developed for aviation activity for 2030 and 2040 based on recent trends at Hanscom Field and its role in the regional airport system.	See Section 3.4 for aviation activity forecasts for 2030 and 2040.
A-16	The ESPR should report actual changes in fleet mix and aircraft operations at Hanscom Field and compare this data to the range of future activity levels and fleet mix defined by the moderate growth scenarios of the 2017 ESPR. Differences between actual and previously forecast activity levels should be explained, including the effects of the Covid-19 pandemic, and should be reflected in the underlying assumptions for the 2030 and 2040 forecasts to the extent applicable.	Sections 3.3 and 3.4 report on changes in fleet mix and operations at Hanscom Field and compare the data to the forecast scenarios of the 2017 ESPR, including the effects of the COVID-19 pandemic. Figure 3-7 compares actual aircraft operation levels at Hanscom Field to previously forecast levels and differences are explained in adjacent text.
A-17	The forecasts should be coordinated with forecasts for Logan and Worcester airports.	The ESPR team coordinated with Massport staff to help ensure consistency between forecast methodology. The Boston Logan and Hanscom ESPR teams discussed forecasting strategies and how they were similar and different based on the two airports' different primary users. Section 3.4.1 specifically notes that "general aviation forecasts are different at commercial service airports (such as Logan Airport), where GA is constrained by the commercial service and therefore may experience zero or very low growth rates."
A-18	The ESPR should include a 2030 growth scenario for activity levels and passenger forecasts and a 2040 growth scenario for activity levels that reflect the fleet mix and passenger forecasts. The fleet mix of the growth scenarios should include GA, military, commuter service and cargo activity. This scenario should be based on recent trends at the airport as well as regional and national aviation trends.	See Section 3.4. Table 3-5 provides a forecast of operations at Hanscom Field for the 2030 and 2040 scenarios including fleet mix. Table 3-7 provides actual and forecast (2030 and 2040) scenarios for scheduled passenger activity. Section 3.4.1 discusses GA forecast, 3.4.2 discusses military forecast, and 3.4.3 discusses commercial forecast. Cargo is not a large enough or consistent enough source of operations at Hanscom to be tracked separately or to be included as a separate category in forecasts. The forecast scenarios are based on recent trends as described in Chapter 3.
A-19	The ESPR should include a comprehensive discussion of enterprise-level initiatives that Massport will implement to minimize and mitigate environmental impacts from airport operations.	The ESPR is a comprehensive discussion of enterprise-level initiatives that Massport will implement to minimize and mitigate environmental impacts from airport operations.

Comment Number	Comment	Response
A-20	The ESPR should describe any additional beneficial measures to be implemented beyond those previously identified that are necessary to meet new regulatory requirements or current aviation industry best management practices, or to address increased environmental impacts associated with projected activity levels.	Beneficial measures are summarized in Table 11-6 in section 11.5.
Airport Planning		
A-21	The ESPR should review Massport's planning strategies for operating an efficient airport in an environmentally sensitive manner.	Section 4.1 describes Massport's planning strategies for operating in an environmentally sensitive manner. Section 4.1.6 specifically addresses environmental planning. As stated in Chapter 4, Massport acknowledges the importance of managing Hanscom Field in an environmentally sensitive and sustainable manner that recognizes the significance of the Minute Man National Historical Park (MMNHP), Great Meadows National Wildlife Refuge (GMNWR), Hanscom Air Force Base (AFB), and the towns of Bedford, Concord, Lexington, and Lincoln. Section 11.3.1 describes Massport's sustainable and resilient planning, design, and construction initiatives.
A-22	It should describe the status of planning initiatives and projects for the Terminal, airside area and landside area, and identify any projects that may be subject to MEPA review.	Section 4.2.1 describes the status of existing conditions and planning areas of Hanscom Field and identifies projects that may be subject to MEPA review. Table 4-9 includes potential MEPA review requirements of current Hanscom Field planning initiatives included in Massport's five-year capital improvement program.
A-23	The ESPR should report on planning and development initiatives by the MMNHP, the Hanscom Air Force Base, and the four contiguous towns that affect Hanscom Field and are affected by Hanscom Field.	Section 4.1.7 provides local municipality planning initiatives of the four contiguous towns. Section 4.1.8 reports on the planning and development initiatives of the MMNHP and the Hanscom Air Force Base.
A-24	The ESPR should discuss the effect of the Covid-19 pandemic on airport planning, activity levels, and project schedules and implementation.	The following sections discuss the effects of COVID-19 on airport planning, activity levels, and project schedules: 3.2, 3.3.3, 3.4, 5.1, 5.2.4, and 5.4.
A-25	The ESPR should provide a conceptual description of the proposed hangar expansion at the North Hangar site, and discuss any short or	Section 4.2.1 describes the status of the North Airfield planning area. Section 4.2.5 describes Massport's five-year capital improvement program, including the proposed hangar expansion at

Comment Number	Comment	Response
	long-term master planning efforts that may be under development for future airport development.	the North Hangar site. Table 4-9 includes planning efforts of Hanscom Field.
Regional Transportation Context		
A-26	The ESPR should describe the role of Hanscom Field in the region’s transportation system and how Massport plans for and coordinates the use of its three airports.	Section 5.2.1 describes the role of Hanscom Field in the regional transportation system. Section 5.5 provides the improvement plans and projects of Massport’s three airports, and Section 5.6 describes coordination with regional planning efforts.
A-27	<p>It should provide an update on Massport’s efforts to promote an efficient regional aviation system with improved public/private transportation access by coordinating activities and services with other airports. The ESPR should review:</p> <ul style="list-style-type: none"> • Hanscom Field’s role in the GA airport network; • Regional airport operations, passenger activity levels, and any improvements or planned changes to the regional airport network; • Rail service initiatives by others that could affect air passenger travel including Acela Service and bus service; • The role that Logan International Airport plays in intercity travel choices; • Diversion opportunities to alternative modes and to other New England airports; • Efforts to better integrate New England regional airport facilities as a regional system; • Hanscom’s role as a Commercial Service - Nonprimary airport in the Federal Aviation Administration’s (FAA’s) National Plan of Integrated Airport Systems (NPIAS); • The current status of the ground access improvements at Logan Airport and the four closest New England regional airports (T. F. Green Airport, Manchester Airport, Bradley International Airport and Worcester Regional Airport) by state transportation agencies, including projected dates for completion of studies and/or construction, and an analysis of the effects of these measures upon projected passenger levels at each of the airports; 	<ul style="list-style-type: none"> • Section 5.2.1 describes Hanscom Field’s role in the GA airport network. • Chapter 3 discusses regional airport operations and passenger activity levels. Section 5.4 discusses passenger activity levels. Chapter 4 discusses improvements and planned changes to the regional airport network. • Section 5.7.1 discusses rail service initiatives that could affect air passenger travel including Acela Service and bus service. • Section 5.6 discusses the role that Logan International Airport plays in intercity travel choices. • Section 5.7 discusses diversion opportunities to alternative modes. • The status of ground access improvements in Boston and the airports in the New England region is described in Section 5.7. • Section 5.2.1 describes Hanscom Field’s role as a Commercial Service. • Section 5.7.2 describes the current status of the ground access improvements at Logan Airport, T. F. Green Airport, Manchester Airport, Bradley International Airport and Worcester Regional Airport, including projected dates for completion, and an analysis of the effects of these measures upon projected passenger levels at each of the airports. • Section 5.2.3 reports on Massport’s efforts to promote service at Worcester. Section 5.2.4 reports on Massports efforts to support Boston Area airline passengers.

Comment Number	Comment	Response
	<ul style="list-style-type: none"> • A report on the Massport’s efforts to promote service at Worcester and other airports; and • A report on relevant regional and local highway studies and transit projects. 	<ul style="list-style-type: none"> • Chapter 6 reports on relevant regional and local highway studies and transit projects.
Ground Transportation		
A-28	The ESPR should report on traffic generated by activities at Hanscom and any impacts on the local roadway network.	Section 6.2.3 describes the traffic generated by activities at Hanscom Field and the impacts on local roadways.
A-29	The traffic analysis should be prepared in accordance with the EEA/MassDOT Guidelines for Traffic Impact Assessment. The analysis should document actual trips and projected growth in trips attributed to Hanscom Field as compared to background growth and projected increases from other area sources. This analysis should be performed as of 2022 and future years of 2030 and 2040. The analysis should be conducted for a study area bounded by Route 2A, Old Bedford Road, Route 62, Routes 4/225 and Route 128/I-95. It should evaluate existing and projected traffic operations for the intersections evaluated in the 2017 ESPR and any additional intersections where Hanscom Field traffic contributes 5 percent or more of the traffic volume.	Refer to Chapter 6. Section 6.2 describes traffic analysis in accordance with MassDOT guidelines, including actual trips and projected growth in trips, and was conducted for a study area bound by Route 2A, Route 62, Routes 4/225, and Route 128/I-95. Section 6.3 describes the analysis for the 2030 and 2040 scenarios. Chapter 6 also includes the evaluation of existing and projected traffic operations for the intersections evaluated in the 2017 ESPR. Hanscom Field-related traffic has increased since 2017, while overall Route 2A peak hour traffic volumes have decreased.
A-30	The ESPR should include trips anticipated to be generated by the North Hangar project as part of trips attributable to Hanscom Field and incorporate the results of the traffic study prepared by the proponent of that project, if available.	Trips generated by the North Hangar project have been attributed to the North Airfield access and included in the 2030 and 2040 future traffic projections as described in Section 6.3.3 and Appendix C.
A-31	Existing and projected trip generation should be compared to trip data used in previous ESPRs to describe any trends in the number of trips generated by the airport.	Table 6-1 provides vehicular trip generation for Hanscom Field since 2012 and the forecast trip generation for 2030 and 2040. The data contained in Appendix C show an increase in Hanscom Field-related peak hour vehicular trip since 2018 and it shows projected increases to peak hour traffic volumes generated by Hanscom Field exceeding those of 2012. The forecasts represent an increase from traffic volumes seen at the airport in past years, due to the forecast aircraft operations as shown in Chapter 3.

Comment Number	Comment	Response
A-32	The ESPR should describe trips taken by employees and visitors to Hanscom and note any changes in travel patterns based on available data.	Section 6.2.3 describes trip characteristics, including trips taken for general aviation, employment, student programs, and other business activities that support Hanscom Field operations. Travel patterns are also reviewed in Section 6.2.
A-33	It should describe any existing public transportation or shuttle service to Hanscom or nearby locations.	Section 6.2.1 describes existing public transportation services for Hanscom Field, including the nearest commuter rail station, bus station, and shuttle services.
A-34	It should detail Transportation Demand Management (TDM) measures implemented at Hanscom to reduce single-occupancy vehicle (SOV) trips to and from the site, identify any additional TDM measures under consideration, and describe how the success of each measure will be evaluated.	Section 6.4.3 discusses Transportation Demand Management measures implemented at Hanscom Field. A survey was administered to Hanscom Field employees and tenants between April and June of 2023 to identify and understand current travel patterns and opportunities to reduce SOV trips to and from Hanscom field. The results of the travel survey are provided in Appendix C. Additional measures and information for traffic management approaches are found in Section 6.4.
A-35	The ESPR should describe the potential formation of a Transportation Management Association (TMA) and how it could reduce SOV trips to the site.	Section 6.2.2 describes the formation of Middlesex 3 Transportation Management Association (TMA), which addresses transportation issues related to traffic congestion. The section also describes the Route 128 Business Council (Massachusetts' first TMA). Any benefits attributable to the TMA are included in the existing traffic counts.
A-36	The ESPR should include a review of transportation plans and analyses addressing the area and how they relate to Hanscom Field traffic and transportation patterns.	Sections 6.2.1 and 6.2.2 discuss regional transportation. Section 6.3 describes regional growth and how it relates to Hanscom Field traffic.
Noise		
A-37	The ESPR should report on noise levels generated by air traffic operating in and out of Hanscom Field for 2022, 2030 and 2040 and forecasted activity levels.	Section 7.4 describes current (year 2022) noise levels generated by air traffic operating at Hanscom Field. Section 7.5 provides the 2030 and 2040 forecasted noise levels.
A-38	The ESPR should review the methodology for collecting and analyzing noise level data, and compare current conditions to actual, modeled and projected noise levels reported in the 2017 ESPR.	Section 7.3 describes the methodology for collecting and analyzing noise level data. Section 7.4.1 provides a comparison of current conditions to noise levels reported in the 2017 ESPR.

Comment Number	Comment	Response
A-39	The ESPR should describe the AEDT model and its explain how its outputs are computed. It should provide updated Noise Exposure (EXP) reference levels calculated in accordance with FAA guidelines using the AEDT; Day-Night Average Sound Level (DNL) contours for 55, 60, 65 and 70 decibels (dBA); and Time-Above (TA) contours showing 30, 60 and 90 minutes of exposure for 55 and 65 dBA contours.	Section 7.3 describes the AEDT model, and Section 7.3.2 discusses how its outputs are computed. Section 7.2 discusses noise terminology, including total noise exposure (EXP), day-night average sound level (DNL), A-weighted sound level (dBA), and time above a threshold (TA).
A-40	Based on the new noise level contours, local land use information and population data from the 2020 Census, the ESPR should calculate the number of residents within each noise level scenario and evaluate sound exposure levels (SELs) for each time period.	Table 7-1 presents population estimates within the 65 and 55 DNL contours for 2005, 2012, 2017, 2022, and the forecasted 2030 and 2040 scenarios. Section 7.4.6. provides SELs for 2022 activity and Section 7.5.5 provides SELs for the forecasted 2030 and 2040 scenarios
A-41	Noise data collected, including minimum, maximum and average daily DNL values, from the six permanent monitoring stations at Hanscom should be presented in the ESPR.	Table 7-10 provides the minimum, mean, and maximum average daily DNL values from the six permanent noise monitoring stations.
A-42	The ESPR should identify noise sensitive sites within the study area, including sites within the MMNHP, and provide DNL and TA data for the sites.	Section 7.6 identifies the noise sensitive sites within the study area. The tables within the section provide DNL and TA for the sites.
A-43	The ESPR should describe all noise mitigation measures implemented at Hanscom, including the Fly Friendly program and the recommended “touch and go” procedures over the MMNHP.	Section 7.8 describes all noise mitigation measures, including the Fly Friendly Program (Section 7.8.7). Section 7.8.8 describes Massport's 2009 adjustments to the recommended touch-and-go flight tracks, which reduced the number of direct flights over the more noise-sensitive areas of MMNHP and nearby residences.
A-44	It should provide an update on the noise monitoring and aircraft tracking systems.	Section 7.8.6 describes Massport's Noise and Operations Monitoring System (NOMS).
Air Quality		
A-45	The ESPR should report on air quality conditions for the year 2022 and actual and projected emissions based on forecasted activity levels in 2030 and 2040.	Section 8.4.1 provides air quality conditions for the year 2022. Section 8.4.2 provides projected emissions for the 2030 and 2040 scenarios.
A-46	The ESPR should provide an emissions inventory for the following pollutants:	Section 8.4 includes an emissions inventory for CO, NOx, VOCs, PM10, PM2.5, and CO2. Section 8.5 includes an emissions inventory

Comment Number	Comment	Response
	<ul style="list-style-type: none"> • Carbon Monoxide (CO) • Oxides of Nitrogen (NOx) • Volatile Organic Compounds (VOCs) • Particulate matter (PM10 and PM2.5) • Carbon dioxide (CO2) and other Greenhouse Gasses (GHG) • Diesel PM 	for GHGs. PM emissions as a result of diesel combustion are reported in section 8.4.
A-47	As proposed by Massport, air emissions from aircraft take-offs, landings, cruising, taxiing and idling will be modeled using the AEDT and compared to emissions data for previous years. The ESPR should discuss whether emissions are anticipated to meet the National Ambient Air Quality Standards (NAAQS).	Section 8.2 describes the National Ambient Air Quality Standards (NAAQS), and Chapter 8 provides a summary of whether emissions meet the NAAQS. The maximum air quality concentrations for all criteria pollutants in the study year and in the future planning scenarios comply with the NAAQS.
A-48	The ESPR should describe how air emissions are modeled by the AEDT and its results interpreted.	Section 8.4.1 describes how emissions are modeled by AEDT and includes the interpreted results.
A-49	The ESPR should also provide monitoring results for ozone precursors and nitrogen dioxide (NO2).	Sections 8.3.2 provides background air quality levels at MassDEP monitoring locations for all criteria pollutants including NO ₂ and Ozone. Monitored values were then compared to the NAAQS to ensure compliance. MassDEP does not perform VOC monitoring on a regular basis because there is no state or national air quality standard for VOC.
A-50	The ESPR should describe all mitigation measures implemented to minimize emissions of air pollutants, including enterprise-level initiatives related to GHG emissions reductions to support the Commonwealth's 2050 "net zero" goals.	Massport continues to implement beneficial measures to reduce on-site emissions where possible, as discussed in Section 8.6. These measures include fuel conversion of ground service equipment, building heating/cooling, and the clean fuel vehicle program. Section 8.2.3 discusses the Commonwealth's 2050 net zero goals and Massport's <i>Roadmap to Net Zero</i> emissions by 2031.
A-51	The Bedford Select Board has requested data on emissions of lead into the air.	Section 8.4.6 reports lead emissions as a result of aircraft operations at Hanscom Field from 2022 through 2040.
A-52	The ESPR should discuss the issue of lead emissions, including an inventory of lead emissions from piston engine aircraft at Hanscom and an update on the establishment of federal standards to control lead emissions from piston engine aircraft.	Section 8.6.4 provides an update on the status of lead-free avgas in the United States.

Comment Number	Comment	Response
A-53	It should review of the development of technologies to reduce emissions from aircraft, such as electric engines and alternative fuels.	Section 8.6 discusses potential environmentally beneficial measures, including adoption of Sustainable Aviation Fuel (SAF) at Hanscom Field (Section 8.6.5). Adoption of electric aircraft at Hanscom Field is discussed in section 8.4.2
A-54	The ESPR should provide a mesoscale analysis of air emissions from vehicular traffic associated with Hanscom Field, based on the traffic study conducted for the ESPR, and compare emissions concentrations to the NAAQS as of 2022 and prior and future modeled years and activity levels.	Section 8.4 discusses the methodology for conducting a mesoscale analysis of air emissions for motor vehicle traffic associated with activities at Hanscom Field. Consistent with MassDEP guidance for performing a mesoscale analysis, Massport calculated total annual emissions of CO, NOx, PM10, PM2.5, CO2, and VOC using emission factors from the U.S. EPA's MOVES.
A-55	The ESPR should provide an updated inventory of GHG emissions for Hanscom, including emissions from aircraft, auxiliary power units (APU)/ground support equipment (GSE), building energy use and mobile source vehicle emissions.	Section 8.5 provides a GHG inventory for Hanscom Field, including emissions from all sources
A-56	It should report on Massport's efforts to minimize GHG emissions, including GHG mitigation measures implemented by fixed base operators.	Section 11.3.1 describes energy efficiency and renewable energy efforts at Hanscom. Massport encourages reducing energy consumption and GHG emissions through energy efficiency as outlined in the SRDSGs, guidelines for all projects at Massport. Massport also requires all eligible projects to be designed and built to LEED Silver or equivalent standards and Massport has invested significantly in post-construction energy-efficiency projects. Hanscom Field tenants have also taken on their own projects to increase energy efficiency and embrace renewable energy options as described in the section.
A-57	As identified in the Proposed Scope, the ESPR should describe Massport's "net zero" planning efforts, and clearly explain what sources of GHG emissions are included in this effort and how "net zero" will be calculated and the target year for which this goal has been established.	Section 8.2.3 introduces Massport's <i>Roadmap to Net Zero</i> , and Section 11.3.1 further describes the effort.
Wetlands, Wildlife, Water Resources		
A-58	The ESPR should discuss and provide maps of the most recent delineation of wetlands and vernal pools.	Figure 9-1 in Section 9.2.2 provides a map of the most recent delineated wetlands and vernal pools.

Comment Number	Comment	Response
A-59	It should include maps of rare species habitat as depicted on the Massachusetts Natural Heritage and Endangered Species Program's (NHESP) Natural Heritage Atlas (15th Edition) released on August 1, 2021.	Portions of Hanscom Field are situated within an area identified by the NHESP as a Priority Habitat of Rare Species. The latest mapping is shown in Figure 9-2, Section 9.2.5, consistent with the Natural Heritage Atlas, 15th Edition, Town Priority Habitat Maps.
A-60	The Great Meadow National Wildlife Refuge and other significant nearby areas of wetland and wildlife habitat should be identified on maps of natural resource areas to provide context.	The Great Meadow National Wildlife Refuge and other significant nearby areas of wetland and wildlife habitat are shown and labeled on relevant figures.
A-61	The ESPR should include an update of Massport's Vegetation Management Program and the Hanscom Field Grassland Management Program.	Massport's Vegetation Management Plan and the Hanscom Field Grassland Management Program updates are provided in Section 9.2.5.
A-62	It should identify potential direct impacts to wetlands, vernal pools, rare species habitat and water quality from future development scenarios.	Section 9.2 describes the existing Hanscom Field environment in terms of geographic and geologic characteristics, wetlands and surface water features, wildlife habitat, rare and endangered species, and groundwater.
A-63	The ESPR should identify changes to the impervious areas at Hanscom Field between 2017 and 2022 and estimate future changes impervious area based on the 2030 and 2040 growth scenarios and airport planning.	Section 4.3.3 describes the changes in impervious areas between the 2017 and 2022 ESPRs, and Table 4-10 estimates future changes. Section 9.3 provides an analysis of future scenarios, including impervious areas. Massport encourages new development to be focused within areas with existing impervious surfaces that take advantage of available infrastructure and minimize impacts on habitat and water quality.
A-64	It should report on any incremental changes to the Hanscom Field stormwater management system and its Storm Water Pollution Prevention Plan (SWPPP), including Best Management Practices (BMPs) and provide water quality data from Hanscom's National Pollutant Discharge Elimination System (NPDES) monitoring program.	Section 9.2.8 describes the Stormwater Management Program Plan (SWPPP) for Hanscom Field, including BMPs and water quality data from Hanscom Field's NPDES monitoring program.
A-65	The ESPR should report on water quality in the Shawsheen River.	Section 9.2.8 reports on the water quality in the Shawsheen River. Impaired waters monitoring was conducted in August 2021, and all monitored analytes were either not detected or were within acceptable levels for the receiving waters. Thus, no further impaired waters testing will be required until 2024.

Comment Number	Comment	Response
A-66	The ESPR should review Massport’s program for detecting, managing and remediating PFAS and describe measures for minimizing releases of PFAS, such as the use of PFAS-free fire fighting foams.	Section 9.2.7 reports on regulated remediation sites and PFAS.
A-67	It should compare concentrations of any PFAS detected at Hanscom to PFAS standards developed by MassDEP and provide an update on any monitoring and remediation of PFAS to be conducted at Hanscom by the U.S. Air Force.	Section 9.2.7 compares concentrations of PFAS detected at Hanscom Field to MassDEP standards and provides an update on monitoring and remediation of PFAS to be conducted by the U.S. Air Force.
Historic Resources		
A-68	The 2022 ESPR should review the existing data on historic and archeological resources within or adjacent to Hanscom Field developed in connection with the 2017 ESPR.	Chapter 10 contains comprehensive reconnaissance surveys of historic and archaeological resources (referred to as an “inventory update”) that were conducted for the 2022 ESPR. Section 10.3 contains the historic resources update including existing conditions and provides analyses of historic resources within the General Study Area and the Reconnaissance Survey Area. Section 10.4 provides the archaeological resources methodology and related analysis.
A-69	The ESPR should identify cultural resources listed in the State Register of Historic Places and/or the files of the Massachusetts Historical Commission (MHC) and local historical commissions or described in previous planning studies.	Section 10.3 details the 2022 historic resources update which presents historic resources starting with National and State Registers resources, then MHC Inventory resources. The ESPR team connected with the local historical commissions in Bedford, Concord, Lexington, and Lincoln and with representatives of the MMNHP to explain the purpose and process of the ESPR and to collect updated data as described in Section 10.2.4.
A-70	The ESPR should describe potential impacts to these resources and identify mitigation measures.	Section 10.6 assesses potential effects to historic and archaeological resources and Minute Man National Historic Park that could occur under the 2030 and 2040 forecast scenarios. Section 10.7 presents a summary of possible environmentally beneficial measures that have been identified to address the predicted effects of Hanscom Field on historic and cultural resources in the 2030 and 2040 scenarios.

Comment Number	Comment	Response
Environmental Justice		
A-71	The ESPR should include a public engagement plan developed consistent with the MEPA EJ Public Involvement Protocol and review Massport’s public outreach efforts prior to the filing of the ESPR. I encourage Massport to hold regular meetings with the public regarding operation of Hanscom Field, such as public information sessions held at accessible locations and convenient times (such as the evening or weekends) so as to maximize participation from EJ neighborhoods and residents.	Massport’s Community Relations & Government Affairs Department manages Massport’s relations with community members and government officials through extensive and evolving public involvement practices that include engagement with EJ communities. Section 1.4.2 describes Massport’s outreach process for preparation of the 2022 ESPR. Notice of document availability will be sent to all entities on MEPA’s EJ reference list. Additional public outreach for this 2022 ESPR includes two technical workshops (on June 10 and 11, 2024, held virtually) to provide analysis results and an opportunity for questions and answers during the public review period.
A-72	The ESPR should include a description of the surrounding EJ populations, as mapped on the EEA EJ Viewer, and survey the locations of residential areas within a 1-mile radius of the airport.	Section 11.6.1 describes the EJ study area which represents EJ populations within a one-mile radius of the airport. Table 11-7 identifies EJ Census block groups within 1 mile of Hanscom Field.
A-73	The ESPR should be circulated to community-based organizations (CBOs) and tribes/indigenous organizations (“EJ Reference List”) provided by the MEPA Office, with as much advance notice as practicable so as to facilitate a meaningful review of surrounding EJ populations.	Massport will notify all organizations on the EJ Reference List as to the availability of the electronic files for the 2022 ESPR.
A-74	I encourage Massport to allow for an extended comment period on the ESPR to allow for full public input and participation.	Massport will request MEPA to grant an extended public comment period.
A-75	The ESPR should survey publicly available data through the Department of Public Health’s (DPH) EJ Tool to identify any communities or census tracts in one mile of the project site identified as exhibiting “vulnerable health EJ criteria.”	Section 11.6.2 describes how the Massachusetts Department of Public Health (DPH) EJ Tool was used to determine if any of the identified EJ block groups exhibit vulnerable health criteria. Communities within the EJ study area do not meet the vulnerable health EJ criteria based on DPH data.
A-76	It should survey the nature of other polluting sources using the DPH EJ Tool mapping function and the environmental indicators shown in EPA EJ Screen to determine if any of the identified EJ census blocks are identified as experiencing environmental indicators that are	Section 11.6.3 identifies other potential sources of pollution within the EJ study area that may pose a health risk to the public based on data from the DPH EJ tool. The US EPA’s EJScreen was utilized to evaluate twelve additional environmental indicators within the EJ study area to determine whether any environmental indicators fell

Comment Number	Comment	Response
	elevated at 80th or higher of statewide average. Special attention should be given to any air or water quality related indicators.	at or above the 80th percentile by census block group as compared to the statewide average, as described in Section 11.6.4.
A-77	To the extent existing conditions show an unfair or inequitable burden borne by the identified EJ populations as indicated by these mapping tools, the ESPR should discuss ways in which Massport and /or its tenants will work to reduce those burdens by improving environmental conditions in the area.	Since the ESPR only provides an overview of the operations, environment, and planning status of Hanscom Field (as opposed to describing potential impacts of a specific project) there are no environmental impacts associated with the ESPR. Therefore, there are no disproportionate effects caused by the preparation of the ESPR to the identified EJ populations.
A-78	The ESPR should discuss whether the environmental impacts of airport operations may disproportionately affect any of the identified EJ populations, and should specifically discuss whether anticipated routes of vehicular traffic will extend adjacent to EJ populations where air quality indicators in EJ Screen are elevated at the 80th percentile or higher.	The ESPR does not include environmental "impact analysis" due to its purpose as a planning document and not a standalone project. Standalone projects must go through environmental review processes based on the proposed project, as described in Section 1.3.2.
A-79	To the extent vehicular traffic will extend by such identified EJ populations, the air quality analysis should include, in addition to an estimate of project emissions in the traffic study area, an estimate of the increase in traffic and air emissions at specific intersections or locations adjacent to those populations.	The ESPR does not include "project emissions" due to its purpose as a general planning document, not an evaluation of a specific project.
A-80	The ESPR should review trends of noise and air quality modeling with respect to impacts to EJ populations and identify measures that may minimize these impacts.	Trends in noise and emissions are documented in Chapters 7 and 8, respectively, with identification of measures to minimize impacts where possible.
Climate Change and Sustainable Development		
A-81	I note that the MEPA statute directs all Agencies to consider reasonably foreseeable climate change impacts, including additional greenhouse gas emissions, and effects, such as predicted sea level rise, when issuing permits, licenses and other administrative approvals and decisions.	Section 11.1 identifies that in 2017, Massport established a Design Flood Elevation for Hanscom Field as a result of flooding due to extreme precipitation. In 2014, Massport released the Floodproofing Design Guide outlining various strategies to decrease the impacts of flooding; it was most recently updated in 2018. Massport adopted the Sustainability and Resiliency Design Standards and Guidelines (SRDSG), a comprehensive set of standards and guidelines for sustainable planning, design, and construction in 2009; an updated version was released in December

Comment Number	Comment	Response
		of 2018. Section 11.3.3 describes Massport's climate adaptation and resiliency measures.
A-82	Consistent with the MEPA Interim Protocol on Climate Change Adaptation and Resiliency, the ESPR should include an output report from the MA Climate Resilience Design Standards Tool prepared by the Resilient Massachusetts Action Team (RMAT) (the "MA Resilience Design Tool"), ² together with information on climate resilience strategies to be undertaken at Hanscom.	The Resilient MA Map Viewer displays geospatial information related to climate change projections and impacts, vulnerability, and adaptation across Massachusetts. Section 11.3.3 reports on map layers within the Map Viewer that mirror the output information from the RMAT tool. Map layers included in the analysis are shown in Table 11-2.
A-83	Recognizing that the ESPR itself will not propose construction of new structures, representative assets associated with the airport operations (e.g., hangars, runways, stormwater utilities) should be identified and evaluated in the MA Resilience Design Tool. The ESPR should review the existing condition of the key assets with respect to resiliency and identify potential changes to existing assets or potential design measures that could be implemented should the asset be reconstructed or replaced to increase its resiliency.	The RMAT tool relies on user inputs specific to a proposed project. It uses that data to provide a preliminary climate change risk rating, recommend climate resilience design standards, and guide implementation practices for projects constructing or rehabilitating physical assets. The 2022 ESPR does not include physical assets to be constructed or refurbished. General data from the Resilient MA Map Viewer are presented in Section 11.3.3.
A-84	The ESPR should address specific impacts to EJ populations, consistent with MEPA EJ protocols, as well as impacts on other vulnerable populations, including potential impacts associated with stormwater flooding and urban heat island effects due to the addition of impervious surfaces and lack of tree cover.	The ESPR does not include environmental "impact analysis" due to its purpose as a planning document and not a standalone project.
A-85	The ESPR should report on the status of Massport's Sustainable Development Program and its Environmental Management System (EMS Program). It should describe Massport's environmental goals and the monitoring procedures and roles and responsibilities it uses to track and manage the environmental performance of Hanscom Field.	As of 2020, Massport no longer pursues International Organization for Standardization (ISO) 14001 Environmental Management System certification. Due to the constraints of the COVID-19 Pandemic, Massport was not able to supply the necessary resources to continue certification. Therefore, the ESPR no longer includes a section on the Environmental Management System. Even so, continued high standards for environmental compliance of operations and facilities are ensured and managed by Massport's Safety and Operations Units.

Comment Number	Comment	Response
A-86	The ESPR should include a discussion of the following: <ul style="list-style-type: none"> • Sustainable practices currently being undertaken by Massport at Hanscom Field; • Massport’s Climate Action/Net Zero planning and how Hanscom is integrated into this planning effort; • Recycling policy and efforts; • Toxics reduction; and • Opportunities and planning efforts to encourage sustainable development practices. 	Section 11.3 describes sustainability at Massport facilities and Massport's sustainability vision and goals. Section 11.4 describes regulations, monitoring, and reporting. "
A-87	The ESPR should provide a comprehensive discussion of Massport’s enterprise-level mitigation initiatives and commitments, such as TDM, noise abatement, implementation of the “Fly Friendly” program and sustainability measures such as “net zero” GHG emissions planning. This chapter should include the identification of the parties responsible, a schedule for implementation, and the estimated costs.	Chapter 11 covers these topics.
A-88	The ESPR should describe how implementation of proposed beneficial measures will address any increases in impacts associated with projected activity levels.	The ESPR does not include environmental "impact analysis" due to its purpose as a planning document and not a standalone project.
Response to Comments		
A-1	The ESPR should provide responses to all comments received and incorporate suggestions into the ESPR where appropriate.	This matrix addresses all comments received on the ESPR Scope, with most responses pointing to the place in the ESPR documentation where that topic is incorporated.
A-7	The Bedford Select Board and other commenters expressed concern about noise and air quality impacts generated by training flights conducted by flight schools based at Hanscom Field. The ESPR should address these comments and identify measures that Massport can implement in coordination with its tenants to minimize impacts from training flights.	Table 7-6 provides the runway use for training flights and Figure 7-8 displays the flight density and areas where most flight training occurs. This area is south of Hanscom and just north of the MMNHP. Training flights are not allowed after 11pm or before 7am at Hanscom. This restriction is allowed since it was put in place prior to ANCA; additional restrictions or mandatory rules for flight training are not allowed under federal regulations. Massport has worked closely with the local community, MMNP and operators to

Comment Number	Comment	Response
		develop and promote a Fly Friendly program. The Fly Friendly program recommends best practices for pilots and requests that the pattern remain within 1/2 nm of the runway on the downwind leg as practical. This program is discussed in Section 7.8.8.
A-90	In order to ensure that the issues raised by commenters are addressed, the ESRP should include direct responses to comments to the extent that they are within MEPA jurisdiction. This directive is not intended to, and shall not be construed to, enlarge the Scope of the 2022 ESRP beyond what has been expressly identified in this Certificate.	Appendix A includes responses to comments received on the Scope.
A-93	It should include copies of all comments received on the Proposed Scope and the 2012 ESRP and provide responses to the comments.	We believe that this comment contains a typo and that it was meant to say "... include copies of all comments received on the Proposed Scope and the 2017 ESRP..." Copies of all comments are provided in Appendix A of the 2022 ESRP, and this matrix provides comment responses.
Distribution		
A-91	The ESRP should be circulated in compliance with Section 11.16 of the MEPA regulations. Copies should be sent to those parties who commented on the Proposed Scope and 2012 ESRP. Massport should send a Notice of Availability of the 2017 ESRP to its mailing list for Hanscom Field. Copies should also be provided to the Bedford, Concord, Lexington and Lincoln public libraries.	We believe that this comment contains typos in the years mentioned and that it was meant to say "Copies should be sent to those parties who commented on the Proposed Scope and 2017 ESRP. Massport should send a Notice of Availability of the 2022 ESRP to its mailing list for Hanscom Field." Massport will email all commentors to provide the link to the electronic files for the 2022 ESRP and will likewise notify those on the mailing list for Hanscom Field. Paper copies will be provided to the four town public libraries.
Christopher Eliot, December 16, 2022		
Lead Contamination		
P-1	The 2022 ESRP should include a study of airfield soil and possibly air and water samples collected and analyzed for lead. Communities adjacent to Hanscom Field are particularly concerned about high levels of lead contamination in the soil because construction projects	The EPA released a fact sheet (https://www.epa.gov/sites/default/files/2020-10/documents/lead-in-soil-aug2020.pdf) which summarizes their research of lead impacts in soil. Refer to ESRP Section 8.3.3 for a

Comment Number	Comment	Response
	<p>periodically haul soil from the airport through our communities and we need to determine our appropriate level of concern about lead contamination resulting from this activity.</p>	<p>discussion of lead in air. Refer to Section 8.6.4 for a discussion on the status of lead-free avgas in the U.S. as well as Hanscom's path to a lead-free future and predictions of lead emissions decreases as unleaded avgas is continually adopted.</p> <p>An Environmental Assessment (EA) was prepared in 2018 for Airport Layout Plan approval of proposed developments in the Pine Hill and North Airfield areas. It addressed certain remediation sites, including some associated with Draper Labs located near or on the Pine Hill Area, and a monitoring well was established in this area adjacent to the existing hangar buildings. The EA reports that a groundwater treatment system was installed in 2007 to respond to contamination related to both the hydraulic oil and the fuel oil. (https://www.massport.com/sites/default/files/2024-04/Hanscom-Final-EA-Facility-improvements-9-26-18-reduced.pdf)</p> <p>Soil exported from construction at Hanscom is managed in accordance with state and federal regulations. All soil which is generated for offsite shipment during construction is first sampled for a range of contaminants, including lead. Soil sample results which are found to exceed any MassDEP reporting criteria are reported to MassDEP under the Massachusetts Contingency Plan (MCP), and any required follow up per the MCP are performed. Reported release sites are discussed in further detail in Chapter 9.</p>
Fuel		
P-2	<p>We would like to see a detailed sequence of verifiable milestones culminating in the rollout of unleaded AvGas at Hanscom Field. We would like to be able to use this sequence as a checklist so we can measure progress along the implementation plan, and have awareness of where in the process there is an obstacle.</p>	<p>Section 8.6.4 discusses Massport's adoption of Avgas. Massport will comply with FAA regulations.</p>
P-3	<p>There has been a lot of discussion of alternate fuels for aircraft including electric, hydrogen, SAF all of which promise to reduce local emissions and may reduce noise levels. As citizens we are trying to make sense of various conflicting and confusing commercial claims and promotional statements. It would be very useful to have a</p>	<p>Section 8.6 discusses potential environmentally beneficial measures, including adoption of Sustainable Aviation Fuel (SAF) at Hanscom Field (Section 8.6.5). Adoption of electric aircraft at Hanscom Field is discussed in section 8.4.2.</p>

Comment Number	Comment	Response
	properly researched discussion of these potential environmentally friendly future technologies including best estimates of expected deployments and likely beneficial impacts.	
Sustainability		
P-4	What is the projected future of solar power production at Hanscom Field? In future years, what percentage of airport electrical usage is expected to be produced on-site without carbon emissions? Can a table or chart show likely projections?	Massport is in the design stage of two solar photovoltaic projects at Hanscom. These projects will provide renewable energy for the respective buildings. As new buildings are designed or existing buildings are retrofitted, those projects will be evaluated for solar PV feasibility.
P-5	Does Massport have a plan to make Hanscom Field a net-zero carbon emitter by a specific date? Can the ESPR 2022 include a table showing milestones along the path to achieving net zero carbon emissions from Hanscom Field. For practical reasons, it is probably best to separate aircraft emissions, which are less under Massport control, from buildings and operations, which are more under Massport control.	In early 2022, Massport committed to achieving net zero carbon emissions across all its properties and facilities, including Hanscom Field, by 2031. To meet this goal, Massport aims to eliminate absolute emissions from facilities under its control (scopes 1 and 2) to the maximum extent practicable and will purchase carbon offsets for remaining emissions. Massport is not allowing itself the option of carbon offsets past 2040. Massport has created a Program Management Office (PMO) to facilitate implementation of its Roadmap to Net Zero by 2031 and is working with stakeholders to ensure progress toward this objective. There is no table of milestones specifically for Hanscom. Sections 8.2.3 and 11.3.1 provide more information.
Air Quality		
P-6	Determination of Hanscom Field air quality impact is almost entirely based on modeling. There have been many requests for actual measurement to be done.	Table 8-2 in the ESPR summarizes nearby air quality monitoring data from the MassDEP, which is representative of the Study Area. Air quality emissions from future operations cannot be measured and are therefore modeled using EPA and FAA-approved models and methodologies. Current year (2022) emissions are modeled with the same methodology for direct comparison.
Water Quality		
P-7	Municipal water supplies for Bedford, Concord, Lexington and Lincoln are located between 0.9 and 6.8 miles from Hanscom Field	The effects of deicing activities are addressed in Section 9.2.9.

Comment Number	Comment	Response
	(2017 ESPR P.9-30) and could be affected by salt, de-icing compounds or other chemicals used on the airport. We request ongoing and active testing of water flowing from the airport to increase confidence in the safety of our water supplies.	
Amy McCoy, November 26, 2022		
Operations		
P-8	The impacts on "Hanscom's Standard Training Areas" should be studied and evaluated in the upcoming ESPR. The flight schools based at Hanscom Field call certain areas "theirs" that they use for concentrated flight maneuvers. These maneuvers included: turns about a point, starts and stalls, abrupt changes in attitude and altitude. These sessions can last from a few minutes to up towards a hour at a time.	See response to Comment P-18.
P-9	The private flight schools at Hanscom Field determine the areas they want to use, Massport does not disclose these areas to the public, and no environmental impact of these actions has ever been evaluated. All of these non-airport communities - Ayer, Groton, Westford, Chelmsford, Tyngsboro, Townsend, Clinton, Bolton - have never had any input regarding the pollution (noise and lead) from recreational prop. planes based at Hanscom Field.	See response to Comment P-18.
Quality of Life		
P-10	The flight schools based at Hanscom Field are ruining my quality of life in my own home.	See response to Comment P-18.
Safety		
P-11	In addition to noise and lead, East Coast Aero Club repeatedly violates minimum safe altitudes in the vicinity of the closed Moore Army Air field.	See response to Comment P-18.

Comment Number	Comment	Response
The Select Board of Bedford, November 28, 2022		
Ground Transportation		
P-12	The ESPR should take into account any potential additional use of access roads from Hartwell Road, either for construction projects or for tenant access, and develop plans to work with the Town of Bedford to minimize impacts on local traffic and neighborhoods.	Section 6.2 discusses the existing traffic conditions and section 6.3 provides the analysis for the forecast years. The ESPR includes additional traffic on Hartwell Road based on the forecast scenarios. Development projects are studied on a case by case basis.
Noise		
P-13	Given the ongoing development at the North Airfield site, which abuts Bedford neighborhoods, we feel the ESPR must include projections for increased noise from aircraft entering and departing those new hangars, as well as mitigation plans to reduce the expected increased noise pollution within those neighborhoods.	The ESPR noise analysis accounts for forecasted growth at the airport through 2040. The ESPR does not evaluate potential impacts/ specific projects as those would be done through a separate process. The DNL results shown in Table 7-22 indicate small increases in levels through 2040 but no sites higher than 55 DNL.
Air Quality		
P-14	The 2022 ESPR should include an emissions inventory for lead, using direct air and soil sampling—not simply modeling—to calculate the current levels of lead on the property and propose appropriate mitigation strategies.	According to the MassDEP 2022 Annual Air Quality Report (https://www.mass.gov/doc/2022-annual-air-quality-report/download), MassDEP lead monitoring values meet the National Ambient Air Quality Standards (NAAQS). As of November 2011, the EPA designated the entire state of Massachusetts as Unclassifiable/Attainment for the 2009 standard. There have been several studies conducted at airports which analyzed soil samples; each concluded that they did not contain high lead levels that exceed local, state, or federal standards. Table 8-11 provides a lead emissions inventory as a result of aircraft operations at Hanscom Field. The inventory accounts for the FAA’s Eliminate Aviation Gasoline Lead Emissions (EAGLE) initiative, which plans to eliminate leaded aviation fuels (Avgas) by 2030.
Wetlands, Wildlife, Water Resources		

Comment Number	Comment	Response
P-15	Protecting our natural resources requires a thorough understanding of the extent of current pollution. We urge Massport to use actual sampling, not simply modeling or projections, in calculating the extent of its impacts on the local environment.	Stormwater runoff is periodically monitored as described in Section 9.2.8. Specifically, certain outfalls are monitored for total phosphorus, total nitrogen, and total suspended solids. In 2021, all monitored analytes were either not detected or were within acceptable levels for the receiving waters, and no further monitoring is required until 2024. In 2022, Massport conducted Biannual Indicator Monitoring for Polycyclic Aromatic Hydrocarbons at certain outfalls. All samples were below the laboratory reporting limit, and the results did not indicate any current water quality issues. The indicator monitoring will be conducted again in the fourth year of the NPDES permit. Active remediation sites are monitored on an ongoing basis while they are being remediated, as described in Section 9.2.7. See response to Comment P-7 regarding deicing compounds.
Sustainability		
P-16	We encourage Massport to include in the ESPR proposed incentives and infrastructure for newer aircraft using sustainable fuels, including all-electric jets and aircraft using renewable sources. Much of the air traffic in and around Bedford, including repeated-pattern flights by Massport’s tenant flight schools, comes from older, single-engine piston aircraft, which still use leaded avgas. We urge a faster transition away from these older planes to minimize the harmful effects of lead and other pollutants on our residents.	Massport predicts that up to 10 percent of the aircraft servicing Hanscom field may be electric powered by 2030, as described in section 8.4.2. Unleaded avgas adoption at Hanscom Field is forecasted to align with the FAA EAGLE initiative which aims to eliminate the usage of leaded avgas by 2030. Adoption of Sustainable Aviation Fuel (SAF) at Hanscom Field is forecasted to follow the FAAs timeline of SAF production, which predicts approximately 10% of all JET-A fuel produced in 2030 will be SAF, and 100% by 2050. Discussion of unleaded avgas and SAF adoption at Hanscom Field can be found in section 8.6.
List of Reviewers		
P-17	<p>We note the following corrections to the Bedford entries on pages 3–4:</p> <ul style="list-style-type: none"> • Steve Hagan (not Shawn), Chair, Bedford Planning Board • Select Board (not Board of Selectmen) • Please add Ed Pierce as the fifth member of the Select Board 	Noted and corrected for future use.

Comment Number	Comment	Response
David McCoy, December 5, 2022		
Operations		
P-18	Ayer residents continue to be plagued with noise from flight schools based at Hanscom Field, especially from Mark Holzwarth's East Coast Aero Club. The flight training areas that have been seized without any environmental impact since inception and need to be included in the Hanscom Field upcoming 2022 ESRP. Although not publicly disclosed, "Hanscom's standard training areas, A, B, and C " affect residents' right to the quiet use and enjoyment of their homes.	Massport does not have any control over where pilots operate once they leave the airport. Massport provides the facilities, and the FAA and the pilot are in control of the aircraft. Concerns over flight training away from Hanscom Field should be directed to the FAA. Consistent with FAA guidelines, the ESRP evaluates conditions from aircraft operations near the airport. Massport does not have jurisdiction over airspace.
P-20	Former Secretary Kathleen Theoharides, Executive Office of Energy and Environmental Affairs, made comments regarding the 2017 Massport ESRP that support researching the airspace seized by private flight schools causing noise and environmental issues in Ayer. "The 2022 ESRP should include a review of regulatory, policy and operational responsibilities of entities operating at Hanscom, including Massport, the Air Force, the FAA, FBOs and other operators. The review should include an explanation of how airspace is regulated for general aviation and training purposes."	See response to Comment P-18.
Fuel		
P-19	The effect of leaded avgas emissions remains a health concern as well.	Lead emissions as a result of aircraft operations are reported in Section 8.6.4. See response to comment P-14.
Amy McCoy, December 5, 2022		
Operations		
P-21	Flight training areas are subjected to multiple concentrated flight training maneuver sessions. These areas are not charted or disclosed to the public.	See response to Comment P-18.
P-24	Planes take turns flying over our roof for seeking noise relief. Neither the FAA nor Massport will take responsibility for noise and targeted maneuvers.	See response to Comment P-18.

Comment Number	Comment	Response
Quality of Life		
P-22	Ayer is subjected to noise and leaded aviation fuel emissions for what is predominately a recreational activity.	See response to Comment P-18.
Public Comments		
P-23	I did share a comment through the MEPA portal, but received no acknowledgement. I was concerned my guest post did not go through and am also sharing with you directly.	Noted.
Safety		
P-25	East Coast Aero Club also repeatedly violates minimum safe altitudes over Ayer and the FAA has expressed concerns regarding systemic wrong runway line ups at Hanscom (see attached reports). These safety issues should be evaluated.	See response to Comment P-18.
Jen Murray, December 7, 2022		
Noise		
P-26	In the upcoming ESRP for Hanscom Field - please include a study of the noise... in the areas used for flight training by East Coast Aero Club, Hanscom Aero Club and Civil Air Patrol.	See response to Comment P-18.
Fuel		
P-27	In the upcoming ESRP for Hanscom Field - please include a study of... leaded aviation fuel impacts in the areas used for flight training by East Coast Aero Club, Hanscom Aero Club and Civil Air Patrol.	Lead emissions and impacts as a result of all aircraft operations including East Coast Aero Club, Hanscom Aero Club, and Civil Air Patrol are reported in section 8.6.4.
Operations		
P-28	Hanscom Aero Club operations are included in Hanscom's military operations, but they should be included in the recreational flying data when compiling your report.	The Aero Club operations at Hanscom are included in the noise and air quality evaluations for the ESRP.

Comment Number	Comment	Response
Liz Reardon, December 7, 2022		
Noise		
P-29	I am a resident of Ayer and would like to respectfully ask to include "Hanscom's Standard Training Area" in Ayer (Unsanctioned) in the upcoming 2022 Massport Environmental Status and Planning Report (ESPR) when evaluating the impacts of concentrated noise... made by East Coast Aero Club/Plane Nonsense Inc. and other Hanscom based flight schools.	See response to Comment P-18.
Fuel		
P-30	I am a resident of Ayer and would like to respectfully ask to include "Hanscom's Standard Training Area" in Ayer (Unsanctioned) in the upcoming 2022 Massport Environmental Status and Planning Report (ESPR) when evaluating the impacts of... leaded avgas emissions made by East Coast Aero Club/Plane Nonsense Inc. and other Hanscom based flight schools.	See response to Comment P-18.
Health Impacts		
P-31	I have two very small children (1 and 3 yo) and understanding the impact of these flights may have on their health is extremely important to me.	The ESPR evaluates environmental conditions from aircraft operations near the airport and flights over Ayer are well outside the study area. The ESPR provides information on noise contours down to 55 DNL, well below the federal threshold (of 65 DNL) for determining compatible land use. Chapter 8 evaluates the air quality for a set of points representing community locations near the airport.
David Eliades, December 8, 2022		
Noise		
P-32	Please include a study of the flight training areas used repeatedly by the Hanscom based flight schools in the upcoming ESPR for Hanscom Field. The noise from the flight schools negatively impacts my area.	See responses to Comments P-18 and P-31.

Comment Number	Comment	Response
Jennifer Hart and Mike MacClary, December 9, 2022		
Operations		
P-33	We request the ESPR include information about the location of flight paths for planes to and from Hanscom with maps, diagrams, use frequency, and airplane elevations particularly over our neighborhood. Our area includes Annursnac Hill which is the highest hill in Concord, the historic Colonel Barrett House (now a part of Minuteman National Park) and food producing farmland.	Flight track density plot figures in Chapter 7 (areas of yellow to red show areas of higher frequency of operations) and flight track figures in Appendix D show where the different categories and type of operations fly over your area. Table 7-23 provides the modeled DNL levels for the Barrett Farm Historic District (44.6 DNL in 2022).
Land Use		
P-34	We would also like the ESPR to include a study of optional land utilization for Hanscom that would not include domestic airport operations.	Hanscom Field is a public use airport and Massport has accepted FAA grants to facilitate improvements at the airport. As a condition of receiving FAA grants, Massport must also abide by its FAA grant assurances, which require that Massport must provide access to the airport with no undue operational restrictions or burdens on interstate and foreign commerce. Therefore, the airport is required to remain open and accessible to aircraft operators.
Jennifer Boles, December 9, 2022		
Hazardous Materials		
P-35	Will there be a reevaluation of the original PFAS remediation work related to the 2014 tragic fatal private jet crash into the Shawsheen River, where the aircraft burned in and on the riverbank, and the flames were extinguished with firefighting foam?	The incident, listed in the MassDEP Reportable Releases database under Release Tracking Number (RTN) 3-0032206, received the regulatory status of Permanent Solution with No Conditions (closure) in 2015, prior to the 2017 ESPR. Therefore, the incident is not included in the 2022 ESPR reporting.
P-36	More specifically, does the removal and remediation of the PFAS contaminated Shawsheen riverbank soil and river bottom sediments, which were thought to be sufficient in 2014, need to be reevaluated now in light of increasingly strict EPA and MassDEP standards for acceptable levels of PFAS contamination in current or potential municipal water supplies downstream of the airfield?	See response to Comment P-35.

Comment Number	Comment	Response
P-37	In light of these facts, going forward do other Massport activities involving the Shawsheen River near or downstream from the 2014 jet crash impact (such as construction projects, dredging, vegetation removal, etc) need to include assessments of potential disturbance of PFAS contaminated riverbank or river bottom sediments back into the flowing river water? And should that be included in future ESPRs?	Massport will continue to comply with all applicable state and federal regulatory and sampling requirements. Future ESPR documents will continue to report on incidents, sampling, and assessments as they occur.



A.2 MEPA Certificate and Comments for the Hanscom Field 2022 ESPR



(This page intentionally left blank.)



The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Charles D. Baker
GOVERNOR

Karyn E. Polito
LIEUTENANT GOVERNOR

Bethany A. Card
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1081
<http://www.mass.gov/eea>

December 16, 2022

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS
ESTABLISHING THE SCOPE FOR THE
2022 L. G. HANSCOM FIELD ENVIRONMENTAL STATUS AND PLANNING REPORT

PROJECT NAME : 2022 Hanscom Field Environmental Status and Planning Report
PROJECT MUNICIPALITY : Bedford, Concord, Lexington, and Lincoln
PROJECT WATERSHED : Shawsheen River
EEA NUMBER : 5484/8696
PROJECT PROPONENT : Massachusetts Port Authority (Massport)
DATE NOTICED IN MONITOR : November 9, 2022

As Secretary of Environmental Affairs, I hereby establish the scope for analysis to be presented in the 2022 L.G. Hanscom Field Environmental Status and Planning Report (ESPR). The Massachusetts Port Authority (Massport) submitted a Proposed Scope for the ESPR that was consistent with the outline of previously prepared ESPRs.

Background

Hanscom Field comprises approximately 1,300 acres of land, located approximately 20 miles northwest of Boston, within the municipalities of Bedford, Concord, Lexington, and Lincoln. Since 1974, when Massport assumed ownership of the field, it has primarily accommodated private general aviation (GA) activity, commercial, and cargo service. The Federal Aviation Administration (FAA) identifies Hanscom Field as a reliever airport to Logan Airport, whereby Hanscom Field provides substantial airside relief by annually serving approximately 165,000 GA operations. Hanscom Field also supports limited commercial air service.

Massport prepared ESPRs in 2000, 2005, 2012 and 2019 (2017 ESPR). The ESPR process replaced the preparation and review of Generic Environmental Impact Reports (GEIR) that Massport had prepared for Hanscom starting in 1985. The ESPR process is intended to present an overview of the operational environment and planning status of Hanscom Field and

provide long-range projections of environmental conditions against which the effects of future individual projects can be compared. The ESPRs have provided analyses of environmental impacts associated with Hanscom Field activities and considered future conditions based on projected operations. The ESPRs have included important data on airport facility planning and environmental impacts that are of interest to the surrounding communities and organizations, and have provided a basis for ongoing discussions between Massport and its neighbors. As a result, the documents have served as planning tools to guide Massport in the development of policy and programs.

The ESPR process does not replace MEPA review of specific projects at Hanscom that meet or exceed regulatory thresholds, with the exception of Routine Maintenance and Replacement Projects that are not subject to MEPA review pursuant to 310 CMR 11.01(2)(b)(3). For any project that does exceed thresholds, such as a proposed North Hangar development in Bedford, an Environmental Notification Form (ENF) and, if necessary, an Environmental Impact Report (EIR), must be submitted in accordance with MEPA regulations to analyze impacts, review alternatives and identify measures to avoid, minimize, and mitigate impacts. The ESPR serves as a vehicle for ensuring that long-term, broad-scope planning informs the review and implementation of individual actions at Hanscom Field. The ESPR should also inform policy and planning initiatives to minimize and mitigate environmental impact on an enterprise scale.

Public Comments

The Proposed Scope was noticed in the Environmental Monitor on November 9, 2022 with a 30-day public comment period. After the filing of the Proposed Scope, a remote public scoping session was held on November 28, 2022 at 6:00 PM, at which representatives of the MEPA office and Massport reviewed the ESPR process, the Proposed Scope and the process for subsequent review of documents in MEPA. According to Massport, it will convene technical workshops during the public review process for the 2022 ESPR.

I received comments on the proposed Scope from the Town of Bedford and area residents. The ESPR should provide responses to all comments received and incorporate suggestions into the ESPR where appropriate. I note that a significant concern raised by commenters concerned potential emissions/releases of per- and polyfluoroalkyl substances (PFAS) at Hanscom. Massport has proposed to include a section in the ESPR that will address PFAS emissions/releases.

I also note that, since review of the 2017 ESPR, all new projects in “Designated Geographic Areas” (“DGA,” as defined in 301 CMR 11.02, as amended) around EJ populations are subject to new requirements imposed by Chapter 8 of the Acts of 2021: *An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy* (“Climate Roadmap Act”) and amended MEPA regulations at 301 CMR 11.00. Two related MEPA protocols – the MEPA Public Involvement Protocol for Environmental Justice Populations (“MEPA EJ Public Involvement Protocol”) and MEPA Interim Protocol for Analysis of Project Impacts on Environmental Justice Populations (“MEPA Interim Protocol for Analysis of EJ Impacts”) – are also in effect for new projects filed on or after January 1, 2022. While the ESPR is not a new project subject to these new regulations and protocols, the Scope includes requirements to meet the spirit of the new rules relative to enhanced outreach and analysis of impacts.

SCOPE

The ESPR should follow the general format of the Proposed Scope and the 2017 ESPR, and provide additional information and analyses specified in this Certificate. It should provide an overview of the ESPR preparation and review process and describe the analytical framework for the studies to be conducted. Detailed technical studies should be summarized to illustrate the implications of recent trends, existing conditions and potential future scenarios. For each topic, the ESPR should highlight new developments and airport planning efforts, updated data, and significant differences from the 2017 ESPR and provide projections for the years 2030 and 2040. To the extent possible, Massport should use the same data sources as those referenced in prior ESPRs, or otherwise utilize measures or metrics that facilitate comparisons with previously reported data.

A-2
A-3
A-4
A-5

An ENF for development of additional hangar space at the North Hangar site off Hartwell Road in Bedford is anticipated to be submitted for MEPA review prior to submittal of the ESPR. The project’s operations and construction impacts, including but not limited to traffic, air quality and noise, and mitigation measures will be described in the ENF and in one or more Environmental Impact Reports (EIRs), which will be subject to public review and comment. The ESPR should describe the proposed North Hangar development project and incorporate this project in projections of future operations at Hanscom.

A-6

The Bedford Select Board and other commenters expressed concern about noise and air quality impacts generated by training flights conducted by flight schools based at Hanscom Field. The ESPR should address these comments and identify measures that Massport can implement in coordination with its tenants to minimize impacts from training flights.

A-7

Airport Facilities and Infrastructure

The ESPR should describe the facilities and infrastructure at Hanscom, including their use, ownership, condition and maintenance. It should describe maintenance practices and responsibilities. The ESPR should report on the use and storage of hazardous materials such as jet fuel, and identify measures to minimize and mitigate release of these materials. It should identify areas regulated under M.G.L. 21E, the Massachusetts Contingency Plan (MCP), and report on their status. The ESPR should report on the past, current and projected water use and wastewater generation, describe water and sewer infrastructure, and detail water conservation measures for equipment, plumbing, and landscape irrigation.

A-8
A-9
A-10
A-11
A-12

Airport Activity Levels

The 2022 ESPR should describe historic airport activity levels, report on airport activity levels for 2017 to 2022 and review growth forecasts of aviation activity for 2030 and 2040 based on aviation growth forecasts for all three Massport airports (Logan, Hanscom, and Worcester). The ESPR should use these forecasts to assist in developing fleet projections for each future analysis year. It should provide an update of activity levels at Hanscom Field, including:

A-13
A-14

- Report on aircraft fleet mix and on activity levels of GA, commuter, and military operations from 2017 to 2022;

- Compare 2017-2022 activity levels to historic trends;
- Compare actual 2022 activity levels to forecasted activity levels from the 2017 ESPR; and,
- Report on current and future trends within the airline industry.

A-14
Cont.

The ESPR should utilize growth forecasts developed for aviation activity for 2030 and 2040 based on recent trends at Hanscom Field and its role in the regional airport system. The ESPR should report actual changes in fleet mix and aircraft operations at Hanscom Field and compare this data to the range of future activity levels and fleet mix defined by the moderate growth scenarios of the 2017 ESPR. Differences between actual and previously forecast activity levels should be explained, including the effects of the Covid-19 pandemic, and should be reflected in the underlying assumptions for the 2030 and 2040 forecasts to the extent applicable. The forecasts should be coordinated with forecasts for Logan and Worcester airports.

A-15

A-16

A-17

The ESPR should include a 2030 growth scenario for activity levels and passenger forecasts and a 2040 growth scenario for activity levels that reflect the fleet mix and passenger forecasts. The fleet mix of the growth scenarios should include GA, military, commuter service and cargo activity. This scenario should be based on recent trends at the airport as well as regional and national aviation trends.

A-18

As referenced in the Beneficial Measures section below, the ESPR should include a comprehensive discussion of enterprise-level initiatives that Massport will implement to minimize and mitigate environmental impacts from airport operations. The ESPR should describe any additional beneficial measures to be implemented beyond those previously identified that are necessary to meet new regulatory requirements or current aviation industry best management practices, or to address increased environmental impacts associated with projected activity levels.

A-19

A-20

Airport Planning

The ESPR should review Massport’s planning strategies for operating an efficient airport in an environmentally sensitive manner. It should describe the status of planning initiatives and projects for the Terminal, airside area and landside area, and identify any projects that may be subject to MEPA review. The ESPR should report on planning and development initiatives by the MMNHP, the Hanscom Air Force Base, and the four contiguous towns that affect Hanscom Field and are affected by Hanscom Field. The ESPR should discuss the effect of the Covid-19 pandemic on airport planning, activity levels, and project schedules and implementation. The ESPR should provide a conceptual description of the proposed hangar expansion at the North Hangar site, and discuss any short or long-term master planning efforts that may be under development for future airport development.

A-21

A-22

A-23

A-24

A-25

Regional Transportation Context

The ESPR should describe the role of Hanscom Field in the region’s transportation system and how Massport plans for and coordinates the use of its three airports. It should provide

A-26

A-27

an update on Massport’s efforts to promote an efficient regional aviation system with improved public/private transportation access by coordinating activities and services with other airports. The ESPR should review:

A-27
Cont.

- Hanscom Field’s role in the GA airport network;
- Regional airport operations, passenger activity levels, and any improvements or planned changes to the regional airport network;
- Rail service initiatives by others that could affect air passenger travel including Acela Service and bus service;
- The role that Logan International Airport plays in intercity travel choices;
- Diversion opportunities to alternative modes and to other New England airports;
- Efforts to better integrate New England regional airport facilities as a regional system;
- Hanscom’s role as a Commercial Service - Nonprimary airport in the Federal Aviation Administration’s (FAA’s) National Plan of Integrated Airport Systems (NPIAS);
- The current status of the ground access improvements at Logan Airport and the four closest New England regional airports (T. F. Green Airport, Manchester Airport, Bradley International Airport and Worcester Regional Airport) by state transportation agencies, including projected dates for completion of studies and/or construction, and an analysis of the effects of these measures upon projected passenger levels at each of the airports;
- A report on the Massport’s efforts to promote service at Worcester and other airports; and
- A report on relevant regional and local highway studies and transit projects.

Ground Transportation

The ESPR should report on traffic generated by activities at Hanscom and any impacts on the local roadway network. The traffic analysis should be prepared in accordance with the EEA/MassDOT Guidelines for Traffic Impact Assessment. The analysis should document actual trips and projected growth in trips attributed to Hanscom Field as compared to background growth and projected increases from other area sources. This analysis should be performed as of 2022 and future years of 2030 and 2040. The analysis should be conducted for a study area bounded by Route 2A, Old Bedford Road, Route 62, Routes 4/225 and Route 128/I-95. It should evaluate existing and projected traffic operations for the intersections evaluated in the 2017 ESPR and any additional intersections where Hanscom Field traffic contributes 5 percent or more of the traffic volume. The ESPR should include trips anticipated to be generated by the North Hangar project as part of trips attributable to Hanscom Field and incorporate the results of the traffic study prepared by the proponent of that project, if available. Existing and projected trip generation should be compared to trip data used in previous ESPRs to describe any trends in the number of trips generated by the airport.

A-28
A-29

A-30

A-31

The ESPR should describe trips taken by employees and visitors to Hanscom and note any changes in travel patterns based on available data. It should describe any existing public transportation or shuttle service to Hanscom or nearby locations. It should detail Transportation Demand Management (TDM) measures implemented at Hanscom to reduce single-occupancy vehicle (SOV) trips to and from the site, identify any additional TDM measures under consideration, and describe how the success of each measure will be evaluated. The ESPR should describe the potential formation of a Transportation Management Association (TMA) and how it could reduce SOV trips to the site. The ESPR should include a review of transportation

A-32

A-33

A-34

A-35

A-36

plans and analyses addressing the area and how they relate to Hanscom Field traffic and transportation patterns.

A-36
Cont.

Noise

The ESPR should report on noise levels generated by air traffic operating in and out of Hanscom Field for 2022, 2030 and 2040 and forecasted activity levels. The ESPR should review the methodology for collecting and analyzing noise level data, and compare current conditions to actual, modeled and projected noise levels reported in the 2017 ESPR. According to the Massport, noise and air emissions from aircraft will be modeled using the Aviation Environmental Design Tool (AEDT). The ESPR should describe the AEDT model and its explain how its outputs are computed. It should provide updated Noise Exposure (EXP) reference levels calculated in accordance with FAA guidelines using the AEDT; Day-Night Average Sound Level (DNL) contours for 55, 60, 65 and 70 decibels (dBA); and Time-Above (TA) contours showing 30, 60 and 90 minutes of exposure for 55 and 65 dBA contours. Based on the new noise level contours, local land use information and population data from the 2020 Census, the ESPR should calculate the number of residents within each noise level scenario and evaluate sound exposure levels (SELs) for each time period. Noise data collected, including minimum, maximum and average daily DNL values, from the six permanent monitoring stations at Hanscom should be presented in the ESPR. The ESPR should identify noise sensitive sites within the study area, including sites within the MMNHP, and provide DNL and TA data for the sites. The ESPR should describe all noise mitigation measures implemented at Hanscom, including the Fly Friendly program and the recommended “touch and go” procedures over the MMNHP. It should provide an update on the noise monitoring and aircraft tracking systems.

A-37
A-38
A-39
A-40
A-41
A-42
A-43
A-44

Air Quality

The ESPR should report on air quality conditions for the year 2022 and actual and projected emissions based on forecasted activity levels in 2030 and 2040. The ESPR should provide an emissions inventory for the following pollutants:

- Carbon Monoxide (CO)
- Oxides of Nitrogen (NO_x)
- Volatile Organic Compounds (VOCs)
- Particulate matter (PM₁₀ and PM_{2.5})
- Carbon dioxide (CO₂) and other Greenhouse Gasses (GHG)
- Diesel PM

A-45
A-46

As proposed by Massport, air emissions from aircraft take-offs, landings, cruising, taxiing and idling will be modeled using the AEDT and compared to emissions data for previous years. The ESPR should discuss whether emissions are anticipated to meet the National Ambient Air Quality Standards (NAAQS). The ESPR should describe how air emissions are modeled by the AEDT and its results interpreted. The ESPR should also provide monitoring results for ozone precursors and nitrogen dioxide (NO₂). The ESPR should describe all mitigation measures implemented to minimize emissions of air pollutants, including enterprise-level initiatives related to GHG emissions reductions to support the Commonwealth’s 2050 “net zero” goals. The Bedford Select Board has requested data on emissions of lead into the air. The ESPR should

A-47
A-48
A-49
A-50
A-51
A-52

discuss the issue of lead emissions, including an inventory of lead emissions from piston engine aircraft at Hanscom and an update on the establishment of federal standards to control lead emissions from piston engine aircraft. It should review of the development of technologies to reduce emissions from aircraft, such as electric engines and alternative fuels.

A-52
Cont.

A-53

The ESPR should provide a mesoscale analysis of air emissions from vehicular traffic associated with Hanscom Field, based on the traffic study conducted for the ESPR, and compare emissions concentrations to the NAAQS as of 2022 and prior and future modeled years and activity levels.

A-54

The ESPR should provide an updated inventory of GHG emissions for Hanscom, including emissions from aircraft, auxiliary power units (APU)/ground support equipment (GSE), building energy use and mobile source vehicle emissions. It should report on Massport’s efforts to minimize GHG emissions, including GHG mitigation measures implemented by fixed base operators. As identified in the Proposed Scope, the ESPR should describe Massport’s “net zero” planning efforts, and clearly explain what sources of GHG emissions are included in this effort and how “net zero” will be calculated and the target year for which this goal has been established.

A-55

A-56

A-57

Wetlands/Wildlife/Water Resources

The ESPR should discuss and provide maps of the most recent delineation of wetlands and vernal pools. It should include maps of rare species habitat as depicted on the Massachusetts Natural Heritage and Endangered Species Program’s (NHESP) Natural Heritage Atlas (15th Edition) released on August 1, 2021. The Great Meadow National Wildlife Refuge and other significant nearby areas of wetland and wildlife habitat should be identified on maps of natural resource areas to provide context. The ESPR should include an update of Massport’s Vegetation Management Program and the Hanscom Field Grassland Management Program. It should identify potential direct impacts to wetlands, vernal pools, rare species habitat and water quality from future development scenarios.

A-58

A-59

A-60

A-61

A-62

The ESPR should identify changes to the impervious areas at Hanscom Field between 2017 and 2022 and estimate future changes impervious area based on the 2030 and 2040 growth scenarios and airport planning. It should report on any incremental changes to the Hanscom Field stormwater management system and its Storm Water Pollution Prevention Plan (SWPPP), including Best Management Practices (BMPs) and provide water quality data from Hanscom’s National Pollutant Discharge Elimination System (NPDES) monitoring program. The ESPR should report on water quality in the Shawsheen River. The ESPR should review Massport’s program for detecting, managing and remediating PFAS and describe measures for minimizing releases of PFAS, such as the use of PFAS-free fire fighting foams. It should compare concentrations of any PFAS detected at Hanscom to PFAS standards developed by MassDEP and provide an update on any monitoring and remediation of PFAS to be conducted at Hanscom by the U.S. Air Force.

A-63

A-64

A-65

A-66

A-67

Cultural and Historical Resources

The 2022 ESPR should review the existing data on historic and archeological resources within or adjacent to Hanscom Field developed in connection with the 2017 ESPR. The ESPR

A-68

A-69

should identify cultural resources listed in the State Register of Historic Places and/or the files of the Massachusetts Historical Commission (MHC) and local historical commissions or described in previous planning studies. The ESPR should describe potential impacts to these resources and identify mitigation measures.

A-69
Cont.
A-70

Environmental Justice

Hanscom Field is within one mile of Environmental Justice (EJ) populations designated as Minority located in Bedford, Lexington and Lincoln. Hanscom is within five miles of additional EJ populations designated as Minority located in Billerica, Burlington, Lexington, Lincoln, Waltham and Woburn.¹ Within the census tracts containing the above EJ populations, no languages are identified as those spoken by 5% of more of residents who also identify as not speaking English very well.

The ESPR should include a public engagement plan developed consistent with the MEPA EJ Public Involvement Protocol and review Massport’s public outreach efforts prior to the filing of the ESPR. I encourage Massport to hold regular meetings with the public regarding operation of Hanscom Field, such as public information sessions held at accessible locations and convenient times (such as the evening or weekends) so as to maximize participation from EJ neighborhoods and residents. The ESPR should include a description of the surrounding EJ populations, as mapped on the EEA EJ Viewer, and survey the locations of residential areas within a 1-mile radius of the airport. The ESPR should be circulated to community-based organizations (CBOs) and tribes/indigenous organizations (“EJ Reference List”) provided by the MEPA Office, with as much advance notice as practicable so as to facilitate a meaningful review of surrounding EJ populations. I encourage Massport to allow for an extended comment period on the ESPR to allow for full public input and participation.

A-71
A-72
A-73
A-74

The ESPR should survey publicly available data through the Department of Public Health’s (DPH) EJ Tool to identify any communities or census tracts in one mile of the project site identified as exhibiting “vulnerable health EJ criteria.” It should survey the nature of other polluting sources using the DPH EJ Tool mapping function and the environmental indicators shown in EPA EJ Screen to determine if any of the identified EJ census blocks are identified as experiencing environmental indicators that are elevated at 80th or higher of statewide average. Special attention should be given to any air or water quality related indicators. To the extent existing conditions show an unfair or inequitable burden borne by the identified EJ populations as indicated by these mapping tools, the ESPR should discuss ways in which Massport and /or its tenants will work to reduce those burdens by improving environmental conditions in the area. The ESPR should discuss whether the environmental impacts of airport operations may disproportionately affect any of the identified EJ populations, and should specifically discuss whether anticipated routes of vehicular traffic will extend adjacent to EJ populations where air quality indicators in EJ Screen are elevated at the 80th percentile or higher. To the extent vehicular traffic will extend by such identified EJ populations, the air quality analysis should include, in addition to an estimate of project emissions in the traffic study area, an estimate of the increase in traffic and air emissions at specific intersections or locations adjacent to those

A-75
A-76
A-77
A-78
A-79

¹ Updated EJ maps indicate that the Bedford portion of Hanscom is located within an EJ population designated as Minority, within one mile of EJ populations designated as Minority in Lincoln and Lexington and within five miles of additional EJ populations designated as Minority located in Billerica, Burlington, Lexington and Waltham.

populations. The ESPR should review trends of noise and air quality modeling with respect to impacts to EJ populations and identify measures that may minimize these impacts.

A-80

Climate Change and Sustainable Development

Governor Baker’s Executive Order 569: Establishing an Integrated Climate Change Strategy for the Commonwealth was issued on September 16, 2016. The Order recognizes the serious threat presented by climate change and direct Executive Branch agencies to develop and implement an integrated strategy that leverages state resources to combat climate change and prepare for its impacts. The urgent need to address climate change was again recognized by Governor Baker and the Massachusetts Legislature with the recent passage of St. 2021, c. 8, *An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy*, which sets a goal of Net Zero emissions by 2050. I note that the MEPA statute directs all Agencies to consider reasonably foreseeable climate change impacts, including additional greenhouse gas emissions, and effects, such as predicted sea level rise, when issuing permits, licenses and other administrative approvals and decisions.

A-81

Adaptation and Resiliency

Consistent with the MEPA Interim Protocol on Climate Change Adaptation and Resiliency, the ESPR should include an output report from the MA Climate Resilience Design Standards Tool prepared by the Resilient Massachusetts Action Team (RMAT) (the “MA Resilience Design Tool”),² together with information on climate resilience strategies to be undertaken at Hanscom. Recognizing that the ESPR itself will not propose construction of new structures, representative assets associated with the airport operations (e.g., hangars, runways, stormwater utilities) should be identified and evaluated in the MA Resilience Design Tool. The ESPR should review the existing condition of the key assets with respect to resiliency and identify potential changes to existing assets or potential design measures that could be implemented should the asset be reconstructed or replaced to increase its resiliency. The ESPR should address specific impacts to EJ populations, consistent with MEPA EJ protocols, as well as impacts on other vulnerable populations, including potential impacts associated with stormwater flooding and urban heat island effects due to the addition of impervious surfaces and lack of tree cover.

A-82

A-83

A-84

The ESPR should report on the status of Massport’s Sustainable Development Program and its Environmental Management System (EMS Program). It should describe Massport’s environmental goals and the monitoring procedures and roles and responsibilities it uses to track and manage the environmental performance of Hanscom Field. The ESPR should include a discussion of the following:

A-85

- Sustainable practices currently being undertaken by Massport at Hanscom Field;
- Massport’s Climate Action/Net Zero planning and how Hanscom is integrated into this planning effort;
- Recycling policy and efforts;
- Toxics reduction; and

A-86

² https://resilientma.org/rmat_home/designstandards/

- Opportunities and planning efforts to encourage sustainable development practices.

A-86
Cont.

Beneficial Measures

The ESPR should provide a comprehensive discussion of Massport’s enterprise-level mitigation initiatives and commitments, such as TDM, noise abatement, implementation of the “Fly Friendly” program and sustainability measures such as “net zero” GHG emissions planning. This chapter should include the identification of the parties responsible, a schedule for implementation, and the estimated costs. The ESPR should describe how implementation of proposed beneficial measures will address any increases in impacts associated with projected activity levels.

A-87

A-88

Response to Comments

The 2022 ESPR should contain a copy of this Certificate and a copy of each comment letter received on the Proposed Scope and the 2017 ESPR. In order to ensure that the issues raised by commenters are addressed, the ESPR should include direct responses to comments to the extent that they are within MEPA jurisdiction. This directive is not intended to, and shall not be construed to, enlarge the Scope of the 2022 ESPR beyond what has been expressly identified in this Certificate.

A-89

A-90

Circulation

The ESPR should be circulated in compliance with Section 11.16 of the MEPA regulations. Copies should be sent to those parties who commented on the Proposed Scope and 2012 ESPR. Massport should send a Notice of Availability of the 2017 ESPR to its mailing list for Hanscom Field. Copies should also be provided to the Bedford, Concord, Lexington and Lincoln public libraries.

A-91

Conclusion

The ESPR should include a copy of this Certificate. It should include copies of all comments received on the Proposed Scope and the 2012 ESPR and provide responses to the comments. It should include all Supporting Technical Appendices or report how reviewers can obtain a copy. The ESPR should identify when Massport will submit interim review documents, such as Annual Reports. The documents should be made available in print, CD-ROM format, and/or in a downloadable format from a website.

A-92

A-93

A-94

A-95

A-96

December 16, 2022

Date



Bethany A. Card

Comments received:

11/17/2022	Christopher Eliot
11/26/2022	Amy McCoy
11/28/2022	Town of Bedford Select Board
12/05/2022	David McCoy
12/07/2022	Jen Murray
12/07/2022	Liz Reardon
12/08/2022	David Eliades
12/09/2022	Annursnac Hill Association
12/09/2022	Jennifer Boles

BAC/AJS/ajs



alexander.strysky@mass.gov

Dashboard(javascript:void(0);) > View Comment(javascript:void(0);)

View Comment

Comment Details			
EEA #/MEPA ID 5484/8696	First Name Christopher	Address Line 1 124 Bedford Road	Organization Hanscom Field Advisory Commission
Comments Submit Date 11-17-2022	Last Name Eliot	Address Line 2 --	Affiliation Description State Agency
Certificate Action Date 12-9-2022	Phone --	State MASSACHUSETTS	Status Opened
Reviewer Alexander Strysky (857)408-6957, alexander.strysky@mass.gov	Email cre@chriseliot.com	Zip Code 01773	

Comment Title or Subject

Topic: Requested Hanscom Field ESPR 2022 Scope

Comments

Rich Text Editor: B I U [font: Segoe UI, 10pt] [color: red] [background-color: yellow] [text-decoration: underline] [text-align: center] [text-align: right] Paragraph [bulleted list] [numbered list] [link] [undo] [redo] [source code]

The Hanscom Field Advisory Commission, including representatives from the Towns of Bedford, Concord, Lexington, Lincoln, the South Lexington Residents Association and the Aircraft Owners and Pilots Association met on November 16, 2022 and unanimously voted to request for the items described below to be included in the scope of the 2022 Hanscom Field ESPR. We appreciate the opportunity to participate in the ESPR development process and hope to see action on these requested items.

Sincerely,

Christopher Eliot, Ph.D.
Hanscom Field Advisory Commission, Chair
Thursday November 17, 2022

1. To our knowledge, there has never been a study of airport soil samples for lead contamination. After 60 years flying piston aircraft over the airfield on leaded AvGas there is presumably a significant level of lead contamination on or in the vicinity of the airfield. The 2022 ESPR should include a study of airfield soil and possibly air and water samples collected and analyzed for lead. Communities adjacent to Hanscom Field are particularly concerned about high levels of lead contamination in the soil because construction projects periodically haul soil from the airport through our communities and we need to determine our appropriate level of concern about lead contamination resulting from this activity.
2. The FAA has recently approved an unleaded replacement for 100 LL for aviation use but it will take some years before this is available at Hanscom Field. We would like to see a detailed sequence of verifiable milestones culminating in the rollout of unleaded AvGas at Hanscom Field. We would like to be able to use this sequence as a checklist so we can measure progress along the implementation plan, and have awareness of where in the process there is an obstacle.
3. There has been a lot of discussion of alternate fuels for aircraft including electric, hydrogen, SAF all of which promise to reduce local emissions and may reduce noise levels. As citizens we are trying to make sense of various conflicting and confusing commercial claims and promotional statements. It would be very useful to have a properly researched discussion of these potential environmentally friendly future technologies including best estimates of expected deployments and likely beneficial impacts. According to published claims, some of these technologies could be deployed in the five year period covered by the 2022 ESPR so this discussion is timely.
4. Massport has been a leader in environmentally friendly construction and several recent projects have included solar power production. What is the projected future of solar power production at Hanscom Field? In future years, what percentage of airport electrical usage is expected to be produced on-site without carbon emissions? Can a table or chart show likely projections?
5. Does Massport have a plan to make Hanscom Field a net-zero carbon emitter by a specific date? Can the ESPR 2022 include a table showing milestones along the path to achieving net zero carbon emissions from Hanscom Field. For practical reasons, it is probably best to separate aircraft emissions, which are less under Massport control, from buildings and operations, which are more under Massport control. (See <https://www.massport.com/massport/media/newsroom/massport-announces-goal-to-be-net-zero-by-2031/>) (<https://www.massport.com/massport/media/newsroom/massport-announces-goal-to-be-net-zero-by-2031/>)
6. Determination of Hanscom Field air quality impact is almost entirely based on modeling. There have been many requests for actual measurement to be done.
7. The Shawshen river flows through Hanscom field and has potential use for drinking water. Municipal water supplies for Bedford, Concord, Lexington and Lincoln are located between 0.9 and 6.8 miles from Hanscom Field (2017 ESPR P.9-30) and could be affected by salt, de-icing compounds or other chemicals used on the airport. We request ongoing and active testing of water flowing from the airport to increase confidence in the safety of our water supplies.

Attachments

Update Status

Status

Opened

[Dashboard](#) > [View Comment](#)

View Comment

Comment Details			
EEA #/MEPA ID 5484/8696	First Name amy	Address Line 1 187 old groton road	Organization --
Comments Submit Date 11-26-2022	Last Name mccoy	Address Line 2 --	Affiliation Description Individual
Certificate Action Date 12-9-2022	Phone --	State MASSACHUSETTS	Status Opened
Reviewer Alexander Strysky (857)408-6957, alexander.strycky@mass.gov	Email mccoy4@verizon.net	Zip Code 01432	

Comment Title or Subject

Topic: Hanscom's flight training areas need to be included in ESPR

Comments

↶ ↷ **B** *I* U ↶ Segoe UI 10 pt ▲ ■ X₂ X' tt Tt Paragraph ≡ ☰ ☷ ☰ ☷ ↻ ✕ 🖨 </>

Thank you for the opportunity to comment regarding the upcoming Hanscom Field ESPR. The impacts on "Hanscom's Standard Training Areas" should be studied and evaluated in the upcoming ESPR. The flight schools based at Hanscom Field call certain areas "theirs" that they use for concentrated flight maneuvers. These maneuvers included: turns about a point, starts and stalls, abrupt changes in attitude and altitude. These sessions can last from a few minutes to up towards a hour at a time. The noise is very disruptive and these old aircraft burn leaded aviation fuel. Sometimes the planes are one after the other, sometimes there are more than one plane in the area at one time. I am an Ayer resident and East Coast Aero Club uses the area surrounding closed Moore Army Airfield for their concentrated maneuvers despite the fact that area residents have asked them to stop, that it is now a State Police training facility and an Air Force drone test site. The Air Force has also asked the flight schools to avoid the closed Moore Army Airfield. To my knowledge, the flight schools have yet to cooperate. Hanscom based flight schools also concentrate at the MWRA's Wachusett Reservoir despite a FAA NOTAM to avoid loitering around public water supplies. The water system security policy can be found here: https://www.mwra.com/04water/html/water_security.htm The private flight schools at Hanscom Field determine the areas they want to use, Massport does not disclose these areas to the public, and no environmental impact of these actions has ever been evaluated. All of these non-airport communities - Ayer, Groton, Westford, Chelmsford, Tyngsboro, Townsend, Clinton, Bolton - have never had any input regarding the pollution (noise and lead) from recreational prop. planes based at Hanscom Field. The flight schools based at Hanscom Field are ruining my quality of life in my own home. I have attached some flight tracks for further information. In addition to noise and lead, East Coast Aero Club repeatedly violates minimum safe altitudes in the vicinity of the closed Moore Army Airfield (support document from the FAA is attached too).

- Attachments**
- [n3572m over wachusett 10.23.22 and MWRA aircraft policy.pdf](#)
 - [FAA report on n75202 2021.pdf](#)
 - [East Coast Aero Club Plane Nonsense over Ayer 11.22.22 - one flight session.pdf](#)
 - [flight tracks 11.26.22 over training areas - all ecac.pdf](#)

Update Status

Status

Opened ▼ SUBMIT

Share Comment

SHARE WITH A REGISTERED USER

[BACK TO SEARCH RESULTS](#)


P-8

P-9

P-10

P-11

N3572M
Hex: A10178 Copy Link



UTC days:
2022-10-23

previous next

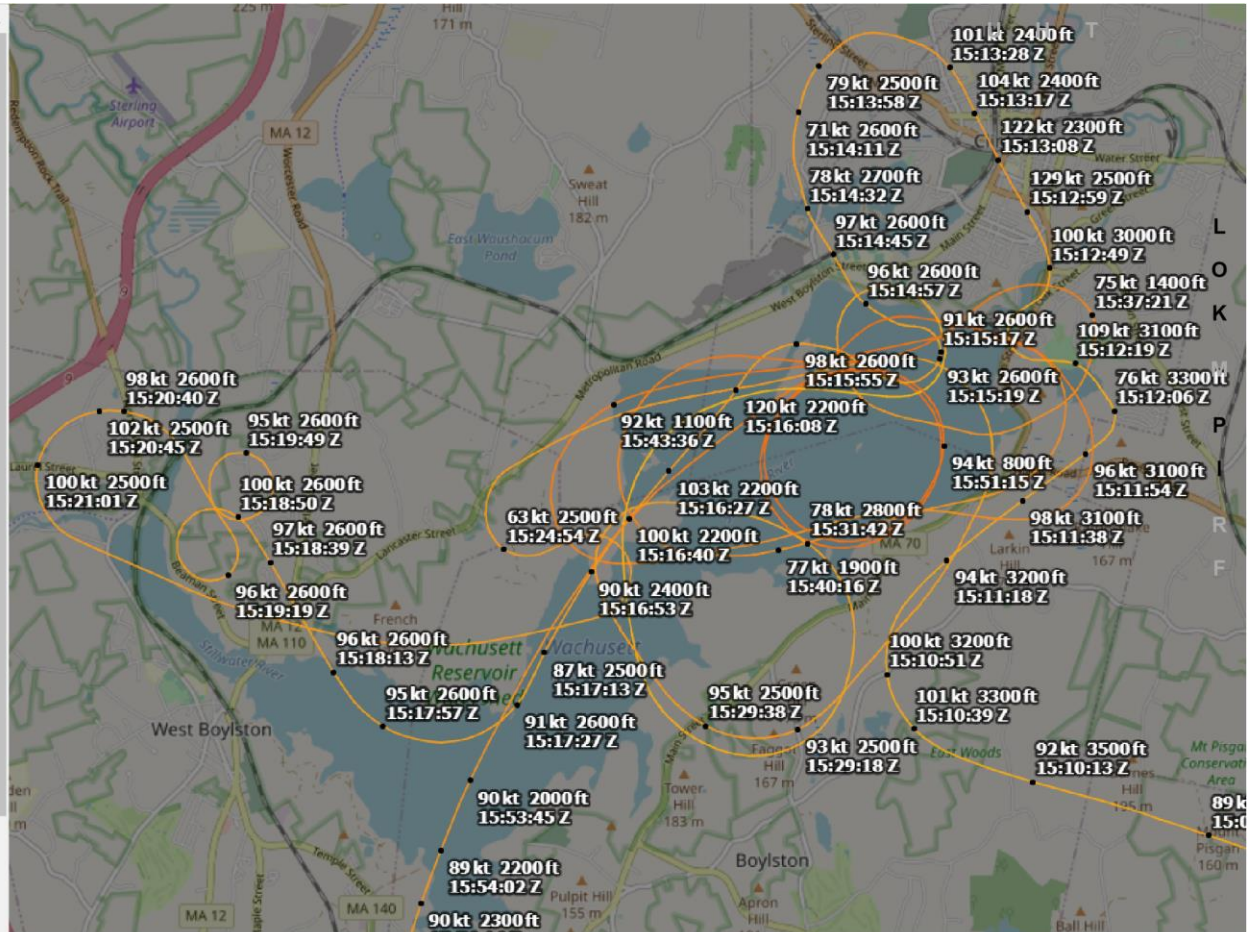
Legs: All

previous next

Time: 16:55:10

stop 1x 5x

10x 20x 40x



Click on the trace line to start playback!

SPATIAL

Groundspeed: 0 kt
Baro. Altitude: on ground
WGS84 altitude: n/a
Vert. Rate: n/a
Track: n/a
Pos.: 42.463°, -71.293°
Distance: n/a

SIGNAL

Source: ADS-B

FMS SEL

Sel. Alt.: n/a
Sel. Head.: n/a

WIND

Speed: n/a

0.5 NM

adsbexchange.com

© OpenStreetMap contributors.

Improve Coverage:
adsbexchange.com

Premium Login: no ads / Sat.
Layer

FAQ Map Help

tar1090 on github

Total Aircraft: 0
On Screen: 1



Search Filters Columns

Filter by altitude:
 ft to ft Filter Reset

Filter by callsign:
 Filter Reset

Filter by squawk:
 Filter Reset

Filter by type code:
 Filter Reset

Filter by type description:
 Filter Reset

Filter by ICAO hex id:
 Filter Reset

Filter by source:
ADS-B UAT / ADS-R

MLAT TIS-B

Mode-S Other

ADS-C
Filter Reset

Filter by DB flags:
Military PIA

LADD
Filter Reset

Filter by registration:
 Filter Reset

Filter by country of registration:
 Filter Reset

Filter by category (A3,B0,...):
 Filter Reset

Callsign Type Squawk Alt. (ft) Spd. (kt) RSS

N3572M P28A 1200 around 0

Water System Security

The Massachusetts Water Resources Authority (MWRA) provides wholesale water service to 46 Metropolitan Boston, Metro West, and several central Massachusetts communities. The high quality Quabbin and Wachusett Reservoirs, managed by the MDC – Division of Watershed Management, are the supply sources.

FREQUENTLY ASKED QUESTIONS

How has security increased at MWRA water system facilities?

Ensuring the safety of the public water supply system is MWRA's top priority. Our security is at the highest appropriate levels based on guidance from federal and state law enforcement and utility security experts. The National Guard and State Police have been deployed by the Commonwealth in critical locations of the water system. MWRA has taken a range of actions from physical security measures, emergency planning and training, and testing and monitoring.

MWRA has also taken a series of steps to protect the wastewater treatment plant on Deer Island.

What rules govern public access at Reservoirs and Watersheds?

MWRA and MDC have restricted public access to certain critical areas and facilities in both the Quabbin and Wachusett watersheds. However, public access areas are now open in on a large portion of both watersheds.

A prohibition on vehicular access to the Winsor Dam and Goodnough Dike will continue. Pedestrian and bicycle access is allowed.

The popular "Y Pool" fly-fishing stretch of the Swift River below Winsor is once again open to anglers. MDC Rangers and State Police based at the Quabbin Administration Building will continue to patrol the reservoir and watershed.

MDC's website contains public access rules for the watersheds at: <http://www.state.ma.us/mdc/pacc.htm>

MWRA staff testing water samples.

MDC staff sampling Wachusett Reservoir water.

What is the policy on airplanes over Reservoirs?

On October 22nd, the Federal Aeronautics Administration (FAA) issued a Notice to Airmen (see right) "strongly urged to not circle or loiter over" reservoirs and dams.

MWRA and MDC have made a request to the FAA for a prohibition on air flights under 3,500 feet for airspace over the Quabbin and Wachusett Reservoirs.

How are the reservoirs protected and inspected?

The massive Quabbin Reservoir contains 412 billion gallons of water and is so large that water travels for years before reaching the transmission system. The reservoir is 17 miles long and 3 miles wide in spots. The Wachusett Reservoir contains 65 billion gallons and is 8.5 miles long by 1 mile wide. Water generally takes months to cross the Wachusett before heading to treatment and tunnels leading to metro Boston.

MDC staff are currently patrolling the reservoirs on boats daily. These professional staff are trained to look for changes in water and biotic characteristics and for fish kills. MDC scientists also conduct water sampling across the reservoirs and at different depths. MWRA is installing 24-7 water monitoring devices at critical locations in the reservoir that continuously examine chemistry changes at various depths.

How is water tested and treated after leaving the reservoirs?

MWRA performs daily water testing and physical measurements before and after treatment with chlorine. On a 24-7 basis, MWRA staff constantly watch water chemistry on computer screens linked to real-time testing devices. Alarms are set to notify operators when certain parameters move outside of specified ranges. All treatment chemicals are tested before delivery.

MWRA currently uses chlorine to disinfect drinking water. Chlorine is an effective tool against a range of bacteria, viruses and chemicals. MWRA can quickly change the chlorine dose if needed.

Given the enormous size of the reservoirs, testing, monitoring, and treatment, experts believe it is quite impractical to successfully contaminate such as large water system.

What about the MWRA distribution and storage system?

Almost the entire MWRA and community water systems are located underground in tunnels, covered storage tanks and pipelines. Access is extremely limited and protected. MWRA has redundant tunnels and pipes, as well as backup water supplies, and regularly trains staff on emergency response actions. Critical areas are currently protected by the State Police, locks and alarms, MWRA staff, and video surveillance. MWRA closely watches water chemistry in the metro Boston area distribution network while community water departments conduct weekly testing.

How does security fit into the MWRA's Integrated Water Supply Improvement Program?

[MWRA's Integrated Water Supply Improvement Program](#) is a \$1.7 billion program of major upgrades to watershed protection, water treatment, water transmission and storage, and distribution pipelines. In the next few years, the three largest components of this program will be brought on-line. The Walnut Hill Water Treatment Plant in Marlborough will switch MWRA over to the powerful disinfectant ozone and keep water quality well in compliance with the strengthened Federal Safe Drinking Water Act. The 18.6-mile long MetroWest Water Supply Tunnel will bring treated water from Walnut Hill into the metro Boston area some 400' underground and provide for long-term reliability in transmission. The 115 million-gallon Norumbega Covered Storage Facility in Weston along the Mass Pike will store MetroWest Tunnel water for use during daytime peak demand. These three projects, in conjunction with ongoing distribution pipeline projects in the MWRA and community systems, bring large improvements in water system security.

Legislation has recently been filed by the MWRA Legislative Caucus to fast track design and construction of two MWRA covered water storage facility projects in Quincy and Stoneham.

FAA
Special Interest NOTAMs

(Issued October 22, 2001)

**!FDC 1/1516 FDC AND FDC
1/1517 ZZZ ... SPECIAL NOTICE**

...
EFFECTIVE IMMEDIATELY UNTIL
FURTHER NOTICE, IN THE
INTEREST OF NATIONAL
SECURITY, **ALL PILOTS
OPERATING IN ACCORDANCE
WITH FLIGHT RULES ARE
STRONGLY URGED TO NOT
CIRCLE OR LOITER OVER THE
FOLLOWING SITES:**
NUCLEAR/ELECTRICAL POWER
PLANTS, POWER DISTRIBUTION
STATIONS, **DAMS,
RESERVOIRS**, REFINERIES, OR
MILITARY INSTALLATIONS,
UNLESS OTHERWISE
AUTHORIZED BY ATC OR AS
REQUIRED TO LAND AND DEPART
AT TOWERED/NON-TOWERED
AIRPORTS. ANY VFR AIRCRAFT
OPERATING IN CLOSE PROXIMITY
TO THE ABOVE INDICATED
AREAS, IF CAPABLE, ARE TO
MAINTAIN A LISTENING WATCH
ON VHF 121.5 OR UHF 243.0
EMERGENCY FREQUENCIES.

WATER QUALITY HOTLINE

Citizens can call MWRA at (617) 242-5323 to get answers to water quality questions and concerns. MWRA's website contains the latest [annual and monthly water quality](#) information.

HOW YOU CAN HELP

Be vigilant for anything out of the ordinary around MWRA and MDC Water facilities

If your normal business takes you past MWRA/MDC reservoirs, treatment plants, or other facilities and you see anything unusual or notice open and/or unlocked gates, promptly report it to MWRA at (617) 305 – 5950 or to your local law enforcement officers.

Help MWRA educate your community about water safety

MWRA staff is available to provide briefings on water safety issues to public agencies and community groups. For more information or to schedule a briefing, contact MWRA at (617)-788-1178.

Go to: [Water System](#)
[Drinking Water Quality](#)

SPAS NPTRS Record List

Query Criteria: Query Date: Closed Date, Date: 04/30/2021,04/26/2022, Inspection Status: Closed, A/C Reg#: 75202

Rec No	Record ID	Dsgn Code	Make/Model Series	Inspector Code	Result	Status	Act No.	#14 CFR Part (FAR)	Status Date	A/C Reg#	Loc. Depart
1	EA61202200886		PA-28-151	EA61SDO	C	C	1733	91	12/14/2021	N75202	
Comments: B617U (B-General Aviation Operations 617-Conformance U-Unacceptable) LOCATION: Ayer, MA DATE/ TIME: 10/28/2021 / 1734z (1334 EDT) CLASS OF AIRSPACE: Golf AIRMAN NAME AND CERTIFICATE: ██████████ - ██████████ FLIGHT INSTRUCTOR SPECIFIC REGULATORY OR STATUTORY REQUIREMENT NOT MET: 91.119(c) COMPLAINT DESCRIPTION: Public complaint received via FSDO Mailbox alleging that N75202 had strayed from minimum safe altitudes in the vicinity of the former Moore Army Airfield, in Ayer, MA. CEA6122005 established ██████████ as PIC of the flight in question. Repeated violations of minimum safe altitudes by East Coast Aero Club in the vicinity of Moore had previously been addressed via compliance actions. In an effort to bring East Coast Instructors into compliance and prevent reoccurrence, ██████████ was sent a LOI on November 17, 2021 informing him that Personnel of this office are investigating a flight that involved the operation of a Piper Cherokee aircraft, N75202, below minimum safe altitudes, in the vicinity of Ayer, Massachusetts, on October 28, 2021. Upon receipt of the LOI ██████████ contacted AST O Connor and stated that he was willing to cooperate with the investigation. AST O Connor provided ██████████ with screenshot taken from A90 Boston Consolidated Terminal Radar Approach Control radar data showing that N75202 had descended to 600 MSL (336 AGL) while passing less than 500 laterally from structures located on the former airfield. On Thursday, December 9, 2021, at approximately 11:22 AM EST, AST O'Connor called ██████████ regarding 2021EA610001. ██████████ stated that he had received the Letter of Investigation (LOI) and stated that he did not have any questions. AST O'Connor requested that ██████████ recall the flight on October 28, 2021, to the best of his abilities. ██████████ stated that he has been with a student "practicing engine outs." ██████████ stated that they had "used the airfield (Moore) because the runways look more real." ██████████ stated that "they lose an engine, fly a normal pattern and do this continuously." ██████████ stated that he "was under the impression that if the police weren't out there, it's a good area to practice." ██████████ stated that he tries to use a soft deck, when we go from 3,000' to 1,000, we recover." ██████████ stated that "sometimes it's lower, sometimes it's higher." ██████████ stated that the violation was not intentional and he is "not trying to see how low we can get." ██████████ stated that "sometimes the student recovers too low." ██████████ stated that "I own the mistake, I take full ownership that this mistake is one me." AST O'Connor asked ██████████ if he understood the difference between descending below minimum safe altitudes when in the process of takeoff or landing and conducting a training maneuver. ██████████ stated that he understood the difference between the two. ██████████ stated that "I no longer work as a CFI." ██████████ stated that "he is very strict on himself now and stated that he will not go below 1,200." ██████████ stated that he "was let go" by the East Coast Aero Club." AST O'Connor asked if ██████████ had been told to avoid specific areas of Groton or Ayer. ██████████ stated that he was "told as a new hire that "this was our area" and to give the restricted area a wide berth." ██████████ stated that he was told "don't be doing turns on a point in Groton." AST O'Connor asked ██████████ if East Coast encouraged the use of Moore for Engine Out practice. ██████████ stated "I didn't have the power to do anything as a new hire" and that he was directed to used Moore because of the runways. Following the interview ██████████ was asked to provide evidence of compliance with 61.56(c)(1) &(2) and 61.57(a)(1). ██████████ provided the documentation as requested with satisfactory results. AST O Connor discussed the incident and conversation with his Front Line Manager at which point it was decided that based on ██████████'s cooperation, the fact that the violation was not intentional and the fact that a violation had occurred, a Streamlined Administrative Action would be selected with a warning notice being sent to ██████████ as a means of preventing future reoccurrence. TYPE OF ACTION INITIATED: SNAAP Warning Letter issued for violation of 91.119(c) RELATED SAS RECORD ID: EA61202200747											
2	EA61202200747		PA-28-151	EA61SDO	C	C	1737	91	11/15/2021	N75202	BED
Comments: B617I (B-General Aviation Operations 617-Conformance I-Information) LOCATION: Ayer, MA DATE/ TIME: 10/28/2021 / 1734z (1334 EDT) CLASS OF AIRSPACE: Golf AIRMAN NAME AND CERTIFICATE: LINEHAN, ██████████ - ██████████ FLIGHT INSTRUCTOR SPECIFIC REGULATORY OR STATUTORY REQUIREMENT NOT MET: 91.119(c) COMPLAINT DESCRIPTION: Public complaint received via FSDO Mailbox alleging that N75202 had strayed from minimum safe altitudes, in the vicinity of the former Moore Army Airfield, in Ayer, MA. AST O Connor reviewed A90 Boston Consolidated Terminal Radar Approach Control radar data which revealed that N752023 had descended to 600 MSL (336 AGL) while passing less than 500 laterally from structures located on the former airfield. AST O Connor contacted the operator of N75202, East Coast Aero Club, located at BED and requested PIC identification for the relevant flight. The PIC was identified as ██████████ TYPE OF ACTION INITIATED: AST O Connor discussed the findings with his Front Line Manager ██████████. Since this was not the first instance of East Coast straying from MSA in the vicinity of Moore, it was decided that an EIR would be initiated. RELATED SAS RECORD ID: N/A											
3	EA61202101969		PA-28-151	EA61RDF	C	C	5423	21	06/16/2021	N75202	
Comments: H611I (H-Aircraft 611-Conformance I-Information) AMOC approval and use on Model PA-28-151 serial numbers 28-287615269: Alternative Method of Compliance (AMOC) for Airworthiness Directive 2020-26-16, Paragraph (i) Eddy current Inspect Reference FAA Correspondence #7A0-21-8313											

N488BA
Hex: A6066B [Copy Link](#)
adsbexchange.com



Reg.: N488BA
United States
DB flags: none
Type: C172
1979 CESSNA 172 Skyhawk
PLANE NONSENSE INC
Type Desc.: L1P
Squawk: 1200

History

UTC day:
2022-11-22
previous next
Legs: All
previous next
Time: 22:07:35 Z
stop 1x 5x
10x 20x 40x

Click on the trace line to start playback!

SPATIAL

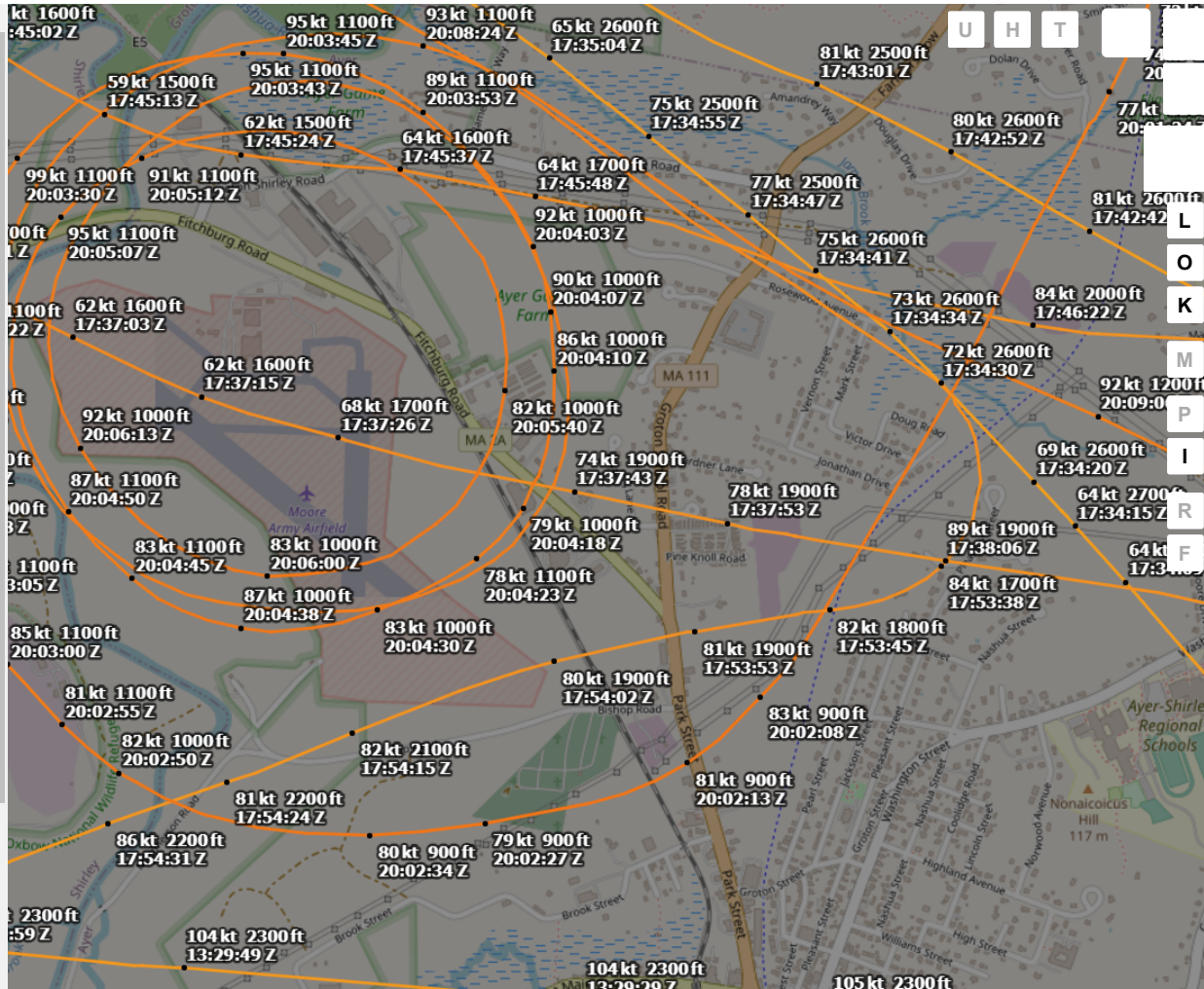
Groundspeed: 0 kt
Baro. Altitude: on ground
WGS84 altitude: n/a
Vert. Rate: n/a
Track: n/a
Pos.: 42.465°, -71.290°
Distance: n/a

SIGNAL

Source: ADS-B
FMS SEL
Sel. Alt.: n/a
Sel. Head.: n/a

WIND

Speed: n/a
Direction (from): n/a



0.2 NM

adsbexchange.com

© OpenStreetMap contributors.

Improve Coverage:
adsbexchange.com

Premium Login: no ads / Sat.
Layer

[FAQ](#) [Map Help](#)

tar1090 on github

Total Aircraft: 0
On Screen: 1



AdChoices

Search Filters Columns

Filter by altitude:
[] ft to [] ft Filter Reset

Filter by callsign:
[] Filter Reset

Filter by squawk:
[] Filter Reset

Filter by type code:
[] Filter Reset

Filter by type description:
[] Filter Reset

Filter by ICAO hex id:
[] Filter Reset

Filter by source:
ADS-B UAT / ADS-R

MLAT TIS-B

Mode-S Other

ADS-C

Filter Reset

Filter by DB flags:
Military PIA

LADD

Filter Reset

Filter by registration:
[] Filter Reset

Filter by country of registration:
[] Filter Reset

Filter by category (A3,B0,...):
[] Filter Reset

Callsign Type Squawk Alt. (ft) Spd. (kt) RSS

N488BA C172 1200 around 0

N275ND
 Hex: A2BA3F [Copy Link](#)
adsbexchange.com



Reg.: N275ND
 United States
 DB flags: none
 Type: P28A
 2000 PIPER PA-28-140/150/160/180
 PLANE NONSENSE
 Type Desc.: L1P
 Squawk: 1200

History +

SPATIAL

Groundspeed: 73 kt
 Baro. Altitude: ▼ 3000 ft
 WGS84 altitude: ▼ 2800 ft
 Vert. Rate: -704 ft/min
 Track: 349.0°
 Pos.: 42.407°, -71.637°
 Distance: n/a

SIGNAL

Source: ADS-B
 RSSI: -16.3
 Msg. Rate: 8.2
 Receivers: > 5
 Last Pos.: 0.1 s
 Last Seen: 0.0 s

FMS SEL

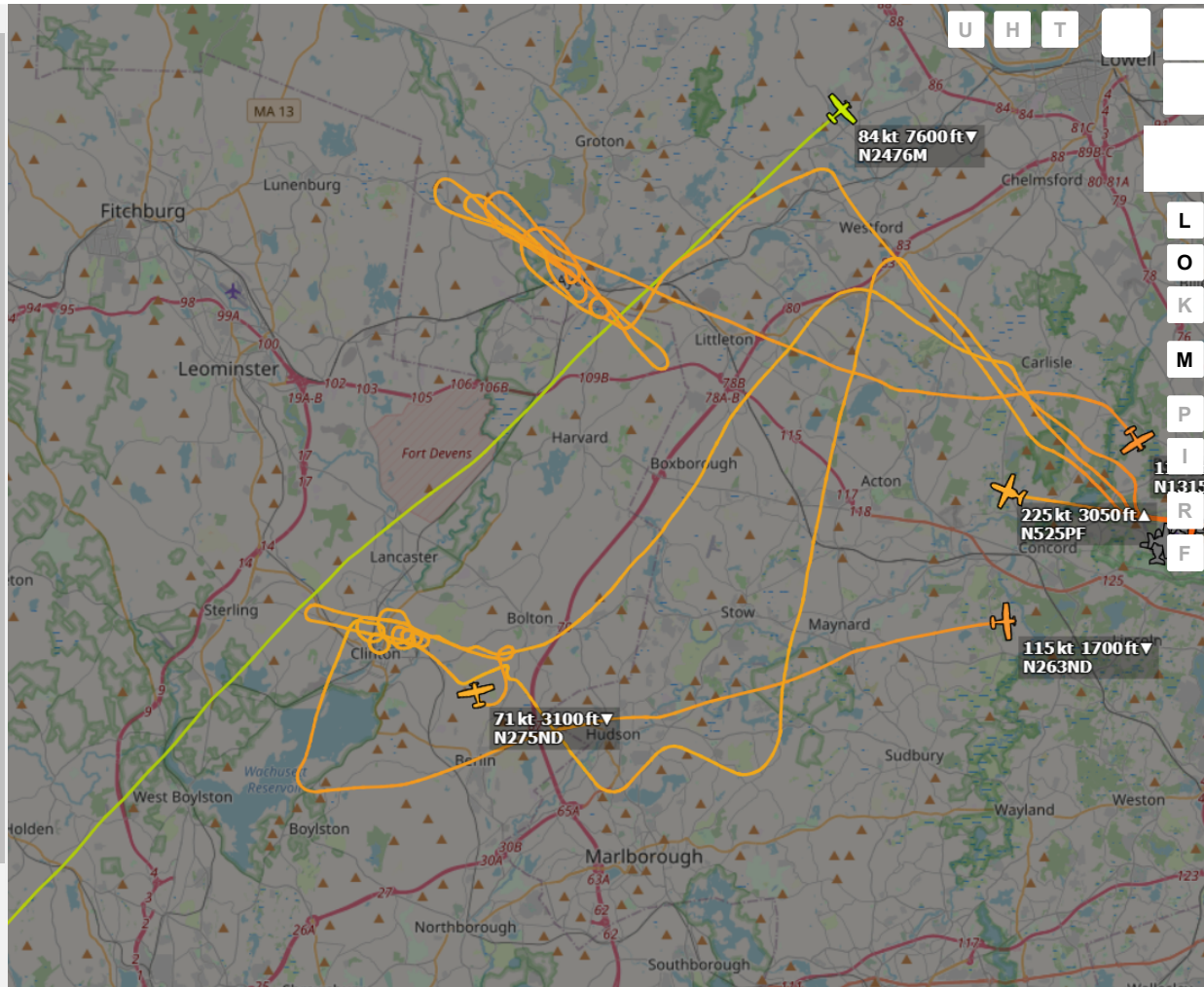
Sel. Alt.: n/a
 Sel. Head.: n/a

WIND

Speed: n/a
 Direction (from): n/a
 TAT / OAT: n/a

SPEED

Ground: 73 kt
 True: n/a
 Indicated: n/a
 Mach: n/a



U H T

L O K M P I R F

Improve Coverage:
adsbexchange.com

Premium Login: no ads / Sat.
 Layer

[FAQ](#) [Map Help](#)

tar1090 on github

Total Aircraft: 11598
 On Screen: 10



Search Filters Columns

Filter by altitude:
 ft to ft

Filter by callsign:

Filter by squawk:

Filter by type code:

Filter by type description:

Filter by ICAO hex id:

Filter by source:

Filter by DB flags:

Filter by registration:

Filter by country of registration:

Filter by category (A3,B0,...):

Callsign Type Squawk Alt. (ft) Spd. (kt) RSSI

🇺🇸 N2476M P28A 5357 7600 ▼ 84 -8

November 28, 2022

Bethany A. Card, Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Alex Strysky, EEA 5484/8697
100 Cambridge Street, Suite 900
Boston MA 02114

Re: EEA 5484/8696, Proposed Scope 2022 L. G. Hanscom Field
Environmental Status & Planning Report

Dear Ms. Card and Mr. Strysky:

The Bedford Select Board submits the following comments to the above-referenced scoping plan for the 2022 Hanscom Field Environmental Status & Planning Report. We hope our comments will be helpful to Massport in understanding the needs and concerns of Bedford residents regarding operations and development at Hanscom Field.

Ground Transportation

Several recent construction projects have accessed the airfield from Hartwell Road in Bedford, on the north side of the property. New box hangars have been completed, and development plans are underway for another large hangar complex, as well as restoration of the former Navy hangar adjacent to the North Airfield area. The ESPR should take into account any potential additional use of access roads from Hartwell Road, either for construction projects or for tenant access, and develop plans to work with the Town of Bedford to minimize impacts on local traffic and neighborhoods.

P-12

Noise

The Hanscom Field Advisory Commission receives noise reports each month from Massport, including tallies of noise complaints received by residents from neighboring communities. Bedford frequently has the highest number of complainants each month, stemming largely from the flight path for Runway 5-23, which runs directly over the center of town from north to south, as well as repeated operations from flight schools practicing maneuvers.

Given the ongoing development at the North Airfield site, which abuts Bedford neighborhoods, we feel the ESPR must include projections for increased noise from aircraft entering and departing those new hangars, as well as mitigation plans to reduce the expected increased noise pollution within those neighborhoods.

P-13

Air Quality

Many Bedford residents have expressed deep concern about the extent of lead pollution due to the use of leaded avgas in aircraft operating out of Hanscom Field. The 2022 ESPR should include an emissions inventory for lead, using direct air and soil sampling—not simply

P-14

modeling—to calculate the current levels of lead on the property and propose appropriate mitigation strategies.

P-14
Cont.

Wetlands/Wildlife/Water Resources

Bedford’s wetlands extend onto Massport property: the airfield is partly located within one of the Town’s aquifer protection districts, and the wetland buffers cover more than half of the property. Since the 2017 ESPR, Bedford has ceased use of its Shawsheen wells due to PFAS/PFOA contamination, which we believe was caused at least partly by firefighting foam and other chemicals in use on and around Hanscom Field.

Protecting our natural resources requires a thorough understanding of the extent of current pollution. We urge Massport to use actual sampling, not simply modeling or projections, in calculating the extent of its impacts on the local environment.

P-15

Sustainable Development

We encourage Massport to include in the ESPR proposed incentives and infrastructure for newer aircraft using sustainable fuels, including all-electric jets and aircraft using renewable sources. Much of the air traffic in and around Bedford, including repeated-pattern flights by Massport’s tenant flight schools, comes from older, single-engine piston aircraft, which still use leaded avgas. We urge a faster transition away from these older planes to minimize the harmful effects of lead and other pollutants on our residents.

P-16

List of Reviewers

We note the following corrections to the Bedford entries on pages 3–4:

- Steve Hagan (not Shawn), Chair, Bedford Planning Board
- Select Board (not Board of Selectmen)
- Please add Ed Pierce as the fifth member of the Select Board

P-17

We look forward to working with our partners in HFAC and HATS to ensure a mutually beneficial relationship between Massport and the Town of Bedford.

Sincerely,

The Select Board of Bedford
Emily Mitchell, chair; Bopha Malone, clerk; Margot Fleischman,
Shawn Hanegan, and Edward Pierce

cc: State Representative Kenneth Gordon
State Senator Michael Barrett
Christopher Eliot, Chair, Hanscom Field Advisory Commission

From: [D.Mc](#)
To: [Strysky, Alexander \(EEA\)](#)
Cc: [internet_env \(EEA\)](#)
Subject: EEA #/MEPA ID 5484/8696 Hanscom Field
Date: Monday, December 5, 2022 11:50:54 AM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Dear Mr. Strysky,

Ayer residents continue to be plagued with noise from flight schools based at Hanscom Field, especially from Mark Holzwarth's East Coast Aero Club. The flight training areas that have been seized without any environmental impact since inception and need to be included in the Hanscom Field upcoming 2022 ESPR. Although not publicly disclosed, "Hanscom's standard training areas, A, B, and C " affect residents' right to the quiet use and enjoyment of their homes. The effect of leaded avgas emissions remains a health concern as well.

P-18

P-19

Former Secretary Kathleen Theoharides, Executive Office of Energy and Environmental Affairs, made comments regarding the 2017 Massport ESPR that support researching the airspace seized by private flight schools causing noise and environmental issues in Ayer. "The 2022 ESPR should include a review of regulatory, policy and operational responsibilities of entities operating at Hanscom, including Massport, the Air Force, the FAA, FBOs and other operators. The review should include an explanation of how airspace is regulated for general aviation and training purposes."

P-20

The following link identifies Mark Holzwarth's East Coast Aero Club (Plane Nonsense Inc) aircraft and his prolonged noise abuse and targeted harassment of my family and home. <https://www.youtube.com/@eastcoastaeroclub>

Thank you for this opportunity to express my concerns that have gone unheard since the closure of Fort Devens in 1997.

Sincerely,

David McCoy
Ayer, MA

From: mccoy4@verizon.net
To: [Strysky, Alexander \(EEA\)](#)
Cc: [internet_env \(EEA\)](#)
Subject: MEPA ID 5484 8696 Hanscom Field ESPR and ongoing Hanscom problems
Date: Monday, December 5, 2022 12:51:53 PM
Attachments: [pilot taunts sent to FAA and Massport.pdf](#)
[FAA report on n75202 2021.pdf](#)
[FAA report regarding ECAC N275ND.pdf](#)
[Massport FAA impasse on noise docs 2022 .pdf](#)

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Dear Mr. Strysky,

Thank you for the opportunity to provide feedback regarding Hanscom's 2022 ESPR. As an Ayer resident, I am outside of what Massport considers an airport community, however the Hanscom based flight schools concentrate aircraft Ayer as their solution to noise. Flight training areas are subjected to multiple concentrated flight training maneuver sessions. These areas are not charted or disclosed to the public. Ayer is subjected to noise and leaded aviation fuel emissions for what is predominately a recreational activity.

P-21

P-22

I did share a comment through the MEPA portal, but received no acknowledgement. I was concerned my guest post did not go through and am also sharing with you directly. I have included additional information with this email.

P-23

Noise complaints made to both Massport and FAA has made my home a target. Planes take turns flying over our roof for seeking noise relief. Neither the FAA nor Massport will take responsibility for noise and targeted maneuvers. East Coast Aero Club also repeatedly violates minimum safe altitudes over Ayer and the FAA has expressed concerns regarding systemic wrong runway line ups at Hanscom (see attached reports). These safety issues should be evaluated.

P-24

P-25

N350ML	PLANE NONSENSE	2022/12/05 11:16:47	2022/12/05 11:30:08	2200 ft MSL	0.02 mi
------------------------	--------------------------------	---------------------	---------------------	-------------	---------

Sheila Harrington filed [H.4526](#) because the Hanscom flight schools concentrate around the Nashoba Valley Medical Center's air emergency helipad. The densely populated town of Ayer is considered "urban" by the state of Massachusetts and the FAA defines us as "noise sensitive" per their [advisory circular](#).

I appreciate your time in evaluating all of these concerns.

Best regards,
Amy McCoy



Massachusetts Port Authority
One Harborside Drive, Suite 200S
East Boston, MA 02128-2090
www.massport.com

October 31, 2022

Via U.s. Mail



Dear [REDACTED],

We have received your recent letter to Massport CEO Lisa Wieland, dated September 25, 2022. We appreciate your comments and respect your input.

As the Federal Aviation Administration (FAA) has previously communicated to you, your individual concerns should be routed to the FAA Noise Portal (9-ane-noise@faa.gov). Safety concerns, such as low flying aircraft, will be routed to the FAA Flight Standards District Office where they are thoroughly investigated and any findings are addressed by the FAA.

Massport is committed to being a good neighbor. Should you have further questions, please feel free to contact Michael Vatalaro in Community Relations & Government Affairs at (617) 5683711.

Sincerely,

Alaina M. Coppola, Director
Community Relations & Government Affairs
Massachusetts Port Authority

From: "9-ANE-Noise (FAA)" <9-ane-noise@faa.gov>

Date: February 24, 2022 at 8:24:37 AM EST

Subject: FAA Response to Noise Complaint

Dear ***,

Thank you for sharing your aircraft noise concern with the Federal Aviation Administration (FAA). Although it does not require a detailed FAA response, we have logged your information into the FAA's Noise Portal tracking system for future reference.

Please note that airport related noise concerns should be addressed by the airport authority. If you have not yet contacted your airport authority at Hanscom Field in Bedford, Massachusetts, we encourage you to work with them regarding your noise concern. Sharon Williams is the Manager and may be contacted at 781-869-8000. You can also find out more about Hanscom Field by visiting their website:

[Welcome to Hanscom Field \(massport.com\)](https://www.massport.com)

We hope that this response proves helpful in addressing your concerns regarding aircraft noise. The FAA is continuing to manage the national airspace system in a safe and efficient manner while also continuing to explore measures to reduce noise from aircraft in the future.

Regards,

Office of the Regional Administrator
New England Region

Excerpt from FAA response email:

Your email has been directed to the Noise Portal. The FAA does not engage with individual private citizens regarding aviation noise. The FAA developed the Noise Portal to create a single point of entry to address specific questions and address concerns with regard to aviation operations. Our current [engagement strategy](#) includes the Noise Portal and working with airports and community leadership through roundtables, ad hoc committees, and task forces to address consensus recommendations from Airport communities. As we and the Boston FSDO have previously communicated to you, your individual concerns should be directed to the [Noise Portal](#). – Colleen D'Alessandro – FAA 12/2021

SPAS NPTRS Record List

Query Criteria: Query Date: Closed Date, Date: 04/30/2021,04/26/2022, Inspection Status: Closed, A/C Reg#: 275ND

Rec No	Record ID	Dsgn Code	Make/Model Series	Inspector Code	Result	Status	Act No.	#14 CFR Part (FAR)	Status Date	A/C Reg#	Loc. Depart
1	EA61202200756		PA-28-161	EA61AMS	C	C	1712	91	11/19/2021	N275ND	BED
Comments: B633P (B-General Aviation Operations 633-Conformance P-Potential Problem)											
Description of the deviation; N275ND, a PA-28, was inbound to KBED from the Northwest and was issued a right base entry for Rwy 23. The aircraft flew through final and began to head for a right base to Rwy 29, conflicting with other traffic in the pattern. ATC turned the aircraft back to a downwind for 23. It was then cleared to land, but did a touch and go without ATC clearance. On the second pass, they were issued a full stop landing and complied. Violation of 91.123 occurred. Causal and/or contributing factors; The flight was an instructional flight and the CFI became distracted with trying to talk with his student while entering the pattern. This is one of several wrong runway line-up issues at KBED. If the ASI determines that ATC actions or processes were contributory to the event, the ASI will include ATC and rational in block 18 (this information is reviewed by the ATC QAG); Recommendations for systemic corrective action to reduce risk of future occurrence; The systemic nature of wrong runway line-ups at KBED continues to be an issue, with the primary cause as yet undetermined. This particular pilot needs to adapt his teaching style to allow for more vigilance at KBED, especially when working with primary students. Action(s) taken to correct the problem and prevent reoccurrence; Counseling, per compliance policy PTRS record transmittal ID number(s) associated with the event; Description of the deviation; N275ND, a PA-28, was inbound to KBED from the Northwest and was issued a right base entry for Rwy 23. The aircraft flew through final and began to head for a right base to Rwy 29, conflicting with other traffic in the pattern. ATC turned the aircraft back to a downwind for 23. It was then cleared to land, but did a touch and go without ATC clearance. On the second pass, they were issued a full stop landing and complied. Violation of 91.123 occurred. Causal and/or contributing factors; The flight was an instructional flight and the CFI became distracted with trying to talk with his student while entering the pattern. This is one of several wrong runway line-up issues at KBED. If the ASI determines that ATC actions or processes were contributory to the event, the ASI will include ATC and rational in block 18 (this information is reviewed by the ATC QAG); Recommendations for systemic corrective action to reduce risk of future occurrence; The systemic nature of wrong runway line-ups at KBED continues to be an issue, with the primary cause as yet undetermined. This particular pilot needs to adapt his teaching style to allow for more vigilance at KBED, especially when working with primary students. Action(s) taken to correct the problem and prevent reoccurrence; Counseling, per compliance policy PTRS record transmittal ID number(s) associated with the event; Comments, to capture information not already included in the form. None											
B907I (B-General Aviation Operations 907-Management I-Information)											
Counseling used in accordance with compliance policy. No further action required. AMS											
2	EA61202200170		PA-28-161	EA61SDO	C	C	1725	107	09/09/2021	N275ND	BED
Comments: H617I (H-Aircraft 617-Conformance I-Information)											
LOCATION: Providence, RI DATE/ TIME: 09/07/2021 1350z (0950 EDT) CLASS OF AIRSPACE: Echo AIRMAN NAME AND CERTIFICATE: Unknown UAS SPECIFIC REGULATION VIOLATED: 107.31; 107.41; 107.52. COMPLAINT DESCRIPTION: PROVIDENCE, RI: N275ND, P28A, OBSERVED A UAS AT APPROXIMATELY 3,500 FEET 15 MILES WEST OF PROVIDENCE. NO EVASIVE ACTIONS TAKEN. WARWICK PD TO BE NOTIFIED 09/07/2021 1350Z INVESTIGATION NOTES: A90 Radar file reviewed indicating that the incident occurred in the vicinity of in Foster, RI. Social media searches were conducted with no relevant results found. TYPE OF ACTION INITIATED: Closed with no further action. RELATED SAS RECORD ID: N/A SDO - 09/09/2021											

SPAS NPTRS Record List

Query Criteria: Query Date: Closed Date, Date: 04/30/2021,04/26/2022, Inspection Status: Closed, A/C Reg#: 75202

Rec No	Record ID	Dsgn Code	Make/Model Series	Inspector Code	Result	Status	Act No.	#14 CFR Part (FAR)	Status Date	A/C Reg#	Loc. Depart
1	EA61202200886		PA-28-151	EA61SDO	C	C	1733	91	12/14/2021	N75202	
Comments: B617U (B-General Aviation Operations 617-Conformance U-Unacceptable) LOCATION: Ayer, MA DATE/ TIME: 10/28/2021 / 1734z (1334 EDT) CLASS OF AIRSPACE: Golf AIRMAN NAME AND CERTIFICATE: ██████████ - ██████████ FLIGHT INSTRUCTOR SPECIFIC REGULATORY OR STATUTORY REQUIREMENT NOT MET: 91.119(c) COMPLAINT DESCRIPTION: Public complaint received via FSDO Mailbox alleging that N75202 had strayed from minimum safe altitudes in the vicinity of the former Moore Army Airfield, in Ayer, MA. CEA6122005 established ██████████ as PIC of the flight in question. Repeated violations of minimum safe altitudes by East Coast Aero Club in the vicinity of Moore had previously been addressed via compliance actions. In an effort to bring East Coast Instructors into compliance and prevent reoccurrence, ██████████ was sent a LOI on November 17, 2021 informing him that Personnel of this office are investigating a flight that involved the operation of a Piper Cherokee aircraft, N75202, below minimum safe altitudes, in the vicinity of Ayer, Massachusetts, on October 28, 2021. Upon receipt of the LOI ██████████ contacted AST O Connor and stated that he was willing to cooperate with the investigation. AST O Connor provided ██████████ with screenshot taken from A90 Boston Consolidated Terminal Radar Approach Control radar data showing that N75202 had descended to 600 MSL (336 AGL) while passing less than 500 laterally from structures located on the former airfield. On Thursday, December 9, 2021, at approximately 11:22 AM EST, AST O'Connor called ██████████ regarding 2021EA610001. ██████████ stated that he had received the Letter of Investigation (LOI) and stated that he did not have any questions. AST O'Connor requested that ██████████ recall the flight on October 28, 2021, to the best of his abilities. ██████████ stated that he has been with a student "practicing engine outs." ██████████ stated that they had "used the airfield (Moore) because the runways look more real." ██████████ stated that "they lose an engine, fly a normal pattern and do this continuously." ██████████ stated that he "was under the impression that if the police weren't out there, it's a good area to practice." ██████████ stated that he tries to use a soft deck, when we go from 3,000' to 1,000, we recover." ██████████ stated that "sometimes it's lower, sometimes it's higher." ██████████ stated that the violation was not intentional and he is "not trying to see how low we can get." ██████████ stated that "sometimes the student recovers too low." ██████████ stated that "I own the mistake, I take full ownership that this mistake is one me." AST O'Connor asked ██████████ if he understood the difference between descending below minimum safe altitudes when in the process of takeoff or landing and conducting a training maneuver. ██████████ stated that he understood the difference between the two. ██████████ stated that "I no longer work as a CFI." ██████████ stated that "he is very strict on himself now and stated that he will not go below 1,200." ██████████ stated that he "was let go" by the East Coast Aero Club." AST O'Connor asked if ██████████ had been told to avoid specific areas of Groton or Ayer. ██████████ stated that he was "told as a new hire that "this was our area" and to give the restricted area a wide berth." ██████████ stated that he was told "don't be doing turns on a point in Groton." AST O'Connor asked ██████████ if East Coast encouraged the use of Moore for Engine Out practice. ██████████ stated "I didn't have the power to do anything as a new hire" and that he was directed to used Moore because of the runways. Following the interview ██████████ was asked to provide evidence of compliance with 61.56(c)(1) &(2) and 61.57(a)(1). ██████████ provided the documentation as requested with satisfactory results. AST O Connor discussed the incident and conversation with his Front Line Manager at which point it was decided that based on ██████████'s cooperation, the fact that the violation was not intentional and the fact that a violation had occurred, a Streamlined Administrative Action would be selected with a warning notice being sent to ██████████ as a means of preventing future reoccurrence. TYPE OF ACTION INITIATED: SNAAP Warning Letter issued for violation of 91.119(c) RELATED SAS RECORD ID: EA61202200747											
2	EA61202200747		PA-28-151	EA61SDO	C	C	1737	91	11/15/2021	N75202	BED
Comments: B617I (B-General Aviation Operations 617-Conformance I-Information) LOCATION: Ayer, MA DATE/ TIME: 10/28/2021 / 1734z (1334 EDT) CLASS OF AIRSPACE: Golf AIRMAN NAME AND CERTIFICATE: LINEHAN, ██████████ - ██████████ FLIGHT INSTRUCTOR SPECIFIC REGULATORY OR STATUTORY REQUIREMENT NOT MET: 91.119(c) COMPLAINT DESCRIPTION: Public complaint received via FSDO Mailbox alleging that N75202 had strayed from minimum safe altitudes, in the vicinity of the former Moore Army Airfield, in Ayer, MA. AST O Connor reviewed A90 Boston Consolidated Terminal Radar Approach Control radar data which revealed that N752023 had descended to 600 MSL (336 AGL) while passing less than 500 laterally from structures located on the former airfield. AST O Connor contacted the operator of N75202, East Coast Aero Club, located at BED and requested PIC identification for the relevant flight. The PIC was identified as ██████████ TYPE OF ACTION INITIATED: AST O Connor discussed the findings with his Front Line Manager ██████████. Since this was not the first instance of East Coast straying from MSA in the vicinity of Moore, it was decided that an EIR would be initiated. RELATED SAS RECORD ID: N/A											
3	EA61202101969		PA-28-151	EA61RDF	C	C	5423	21	06/16/2021	N75202	
Comments: H611I (H-Aircraft 611-Conformance I-Information) AMOC approval and use on Model PA-28-151 serial numbers 28-287615269: Alternative Method of Compliance (AMOC) for Airworthiness Directive 2020-26-16, Paragraph (i) Eddy current Inspect Reference FAA Correspondence #7A0-21-8313											



Requests Mitchell Pevehouse
Messenger



Mitchell Pevehouse
You and Mitchell aren't connected on Facebook

DEC 18, 4:15 AM

We do aerobics over Ayer all the time with no intentions of stopping. All of the flight schools do their training over ayer because of how much you complain and post private info. We turn our transponders off so you can't prove where we are lol



Groton Ayer Buzz ▶ Rotten in Groton
Monday at 7:48 AM · 📍

Bothered by the noise generated from the Hanscom private flight school planes coming to your home or neighborhood? Please post your email to your State Rep on our page. Residents in numbers will force the change. Sheila is listening!
Sheila.Harrington@mahouse.gov

👍 Like 💬 Comment

👍 1



Shawn Weishaar
Again?
Monday at 7:49 AM · Like · Reply · 👍 2



Daniel Johnson
We had this annoying woman with her stop the noise movement years ago. What eventually hapoened is she became a joke among all the local airports so we took turns flying over her house . They actually had her coordinates on the bulletin boards . You can't control planes flying over your house and if one flying disrupts your little utopia I consider that a mental illness and you're a danger to all those who about you
Monday at 8:09 AM · Like · Reply · 👍 🤔 11



Benny Wall
I smell another redneck ultralight fly-in brewin'!

Reply Reply All Forward

Regards,

Colleen M. D'Alessandro
New England Regional Administrator

From: [i.m](#)
To: [Strvsky, Alexander \(EEA\)](#)
Subject: EEA/MEPA 5484/8696
Date: Wednesday, December 7, 2022 3:06:13 PM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

In the upcoming ESPR for Hanscom Field - please include a study of the noise and leaded aviation fuel impacts in the areas used for flight training by East Coast Aero Club, Hanscom Aero Club and Civil Air Patrol. Hanscom Aero Club operations are included in Hanscom's military operations, but they should be included in the recreational flying data when compiling your report.

Thank you.
Jen Murray

| P-26

| P-27

| P-28

From: [Liz Reardon](#)
To: [Strysky, Alexander \(EEA\)](#)
Subject: EEA #/MEPA ID 5484/8696 Hanscom Field
Date: Wednesday, December 7, 2022 6:08:47 AM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hello Mr. Strysky,

I am a resident of Ayer and would like to respectfully ask to include "Hanscom's Standard Training Area" in Ayer (Unsanctioned) in the upcoming 2022 Massport Environmental Status and Planning Report (ESPR) when evaluating the impacts of concentrated noise and leaded avgas emissions made by East Coast Aero Club/Plane Nonsense Inc. and other Hanscom based flight schools. I have two very small children (1 and 3 yo) and understanding the impact of these flights may have on their health is extremely important to me.

P-29

P-30

P-31

Thank you very much for your time and consideration.

Best,

Liz Reardon

From: [Lincoln Management](#)
To: [Strysky, Alexander \(EEA\)](#)
Subject: Hanscom Field ESPR - EEA#/MEPA 5484 8696
Date: Thursday, December 8, 2022 9:52:19 PM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Dear Mr. Strysky,

Please include a study of the flight training areas used repeatedly by the Hanscom based flight schools in the upcoming ESPR for Hanscom Field. The noise from the flight schools negatively impacts my area.

Thank you,
David Eliades
Ayer, MA

ExchangeDefender Message Security: [Check Authenticity](#)

From: [Jennifer Hart](#)
To: [Strysky, Alexander \(EEA\)](#)
Cc: [Stewart Dalzell](#); bwashburn@massport.com; agoodspeed@massport.com; [Michael MacClary](#)
Subject: Comment for ESPR from The Annursnac Hill Association, Concord MA
Date: Friday, December 9, 2022 2:41:36 PM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hello Alexander,

Please see comments below from The Annursnac Hill Association regarding scope for the Environmental Status and Planning Report for Hanscom Field:

We request the ESPR include information about the location of flight paths for planes to and from Hanscom with maps, diagrams, use frequency, and airplane elevations particularly over our neighborhood. Our area includes Annursnac Hill which is the highest hill in Concord, the historic Colonel Barrett House (now a part of Minuteman National Park) and food producing farmland.

P-33

We would also like the ESPR to include a study of optional land utilization for Hanscom that would not include domestic airport operations.

P-34

Thank you very much.

Jennifer Hart and Mike MacClary
Co-Presidents of the Annursnac Hill Association
Concord, MA 01742

From: ijcb3@verizon.net
To: [Strysky, Alexander \(EEA\)](#)
Cc: [Stewart Dalzell](#); b.washburn@massport.com; agoodspeed@massport.com
Subject: EEA# 5484/8697; MEPA Scoping for 2022 L.G. Hanscom Field ESPR
Date: Friday, December 9, 2022 6:28:15 PM
Attachments: [620908 EPA comments to AF re PFAS Sept 2022.pdf](#)
[MassDEP Comments Hanscom SixthFYR 2022-11-10fin-1.pdf](#)

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Dear Mr. Strysky,

Please accept these two public comment questions pertaining to the MEPA review of Massport's proposed 2022 ESPR for L.G. Hanscom Field:

Question 1.

Will there be a reevaluation of the original PFAS remediation work related to the 2014 tragic fatal private jet crash into the Shawsheen River, where the aircraft burned in and on the riverbank, and the flames were extinguished with firefighting foam?

More specifically, does the removal and remediation of the PFAS contaminated Shawsheen riverbank soil and river bottom sediments, which were thought to be sufficient in 2014, need to be reevaluated now in light of increasingly strict EPA and MassDEP standards for acceptable levels of PFAS contamination in current or potential municipal water supplies downstream of the airfield?

As a reminder of the incident and some of the PFAS aftermath, please see:

https://www.eagletribune.com/news/flame-retardant-from-plane-crash-foams-up-in-andover/article_2124aa0c-5bc1-5e3d-89e7-d76ab31d8d43.html

(Please note the quotes in the article from various experts who believed that PFAS contamination naturally broke down and became harmless, which is now understood not to be the case.)

Thankfully, the downstream Bedford Shawsheen municipal wellfield and the Burlington Shawsheen River diversion station were ordered temporarily closed by town officials after the jet crash to protect both towns' water supplies.

Unfortunately, since 2014 both towns have discovered that those two municipal water sources contain PFAS.

The origin of the present PFAS contamination is being investigated, but there are some indications already that it may be airfield related (see attached EPA and MassDEP documents).

Bedford closed the Shawsheen municipal wellfield in 2019 because of the newly detected PFAS contamination.

Burlington is seeking other methods of diminishing potential risk from the current PFAS contamination.

Just this fall, the EPA requested the Air Force take a more proactive and holistic approach in its Superfund site remediation at Hanscom Field and evaluate all airfield groundwater PFAS contamination threats to the Shawsheen River (from past military activities, as well as from more recent civilian incidents such as the 2014 private jet crash). MassDEP has noted that at the OU-1 airfield Superfund site bordering the Shawsheen River, "PFAS6 was detected in groundwater at concentrations as high as 45,000n/l, several orders of magnitude above the MMCL of 20ng/l and EPA's current Lifetime Health Advisory (LHA) of 70 ng/l." Please see attached Nov 10, 2022 MassDEP letter to the Air Force, and attached Sept 27, 2022 EPA letter to the Air Force re PFAS contamination at Hanscom airfield.

Question 2.

In light of these facts, going forward do other Massport activities involving the Shawsheen River near or downstream from the 2014 jet crash impact (such as construction projects, dredging, vegetation removal,

P-35

P-36

P-37

etc) need to include assessments of potential disturbance of PFAS contaminated riverbank or river bottom sediments back into the flowing river water? And should that be included in future ESPRs?

Thank you for considering these two questions.

Sincerely,
Jennifer Boles
Bedford resident



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Bethany A. Card
Secretary

Martin Suuberg
Commissioner

November 10, 2022

Matthew Greenberg
Air Force Civil Engineer Center/AFCEC
Via matthew.greenberg.2@us.af.mil

Re: Final Sixth Five Year Review Report
Hanscom Field/Hanscom Air Force Base Superfund Site
Bedford, Concord, Lexington and Lincoln, MA

Dear Mr. Greenberg:

The purpose of this letter is to formally document MassDEP's lack of concurrence with the Sixth Five Year Review (FYR) for Hanscom Field/Hanscom Air Force Base Superfund Site (Hanscom), issued by the Air Force Civil Engineer Center (AFCEC) on September 26, 2022 and to document MassDEP's disagreement with AFCEC's position that there is no groundwater/drinking water exposure pathway for PFAS contamination present in groundwater at Hanscom.

In June 2022 the AFCEC issued the Draft Final Sixth FYR for Hanscom. MassDEP submitted comments on the FYR on July 25, 2022. In response, the AFCEC issued a Response to Comments (RTCs) for both MassDEP's and EPA's comments on the Draft Final FYR on August 11, 2022. While the RTCs addressed many of MassDEP's comments and incorporated those comments into the Final FYR, AFCEC disagreed with many of MassDEP's comments – most notably those pertaining to the consideration of groundwater/drinking water receptors for PFAS-contaminated groundwater – and did not incorporate these into the Final FYR. AFCEC asserted in the FYR, as well as in the RTCs and discussions with MassDEP and EPA regarding the FYR that there is no groundwater/drinking water exposure pathway associated with Hanscom. The final FYR acknowledges the presence of and contaminant impacts to two nearby downgradient water supply wellfields and a downstream public surface water supply that draws from the Shawsheen River. However, these drinking water supplies are dismissed for consideration as exposure pathways in the FYR. AFCEC states in the RTCs that “it is premature

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751.
TTY# MassRelay Service 1-800-439-2370
MassDEP Website: www.mass.gov/dep

Printed on Recycled Paper

to make a direct connection between Air Force PFAS release areas and those sources” and that “a Remedial Investigation has not yet been initiated for the PFAS source areas and the nature and extent of PFAS has not yet been defined.”

AFCEC’s failure to identify these drinking water supplies as potential current/future drinking water exposure pathways improperly minimizes the potential risks posed by PFAS impacts from Hanscom to downgradient/downstream receptors. MassDEP therefore, does not concur with the Final FYR.

Two of the Town of Bedford’s wellfields, the Shawsheen Road and Hartwell Road wellfields, are located downstream and downgradient of Hanscom along Elm Brook, a tributary of the Shawsheen River that lies adjacent to the Airfield. Both wellfields were taken off-line due to contamination impacting the wells, but the wellfields have not been permanently abandoned. The Town of Bedford retains the right to use these wells in the future. Until 2019, the Shawsheen Road Wellfield served as a backup supply for the Town of Bedford until it was taken off-line due to PFAS contamination that exceeded the then-proposed and since-promulgated Massachusetts Maximum Contaminant Level (MMCL) of 20 ng/l for the sum of six PFAS compounds (PFAS6¹). The Town of Bedford has received its drinking water supply solely from the Massachusetts Water Resources Authority (MWRA) system since that time. The Town of Bedford is currently working with a consultant to evaluate treatment options for the Town’s water sources. The Bedford Water Department serves a population of approximately 14,000.

The Town of Burlington's Mill Pond Reservoir draws its drinking water supply directly from an intake on the Shawsheen River located downstream of Hanscom. PFAS6 contamination was detected in the Mill Pond Reservoir in April 2021 when sampling was first required by Massachusetts regulations. PFAS6 concentrations have been consistently above the 20 ng/l MMCL for PFAS6 in the Mill Pond source since that time. The Mill Pond Reservoir remains an active water supply for the Town of Burlington, despite PFAS6 concentrations exceeding the MMCL. The Town of Burlington has been addressing the PFAS contamination present in their water system through a number of interim measures (including blending with supplemental water from MWRA and other sources that do not contain PFAS levels at levels exceeding the MMCL) so as not to exceed the MMCL for PFAS6 in the supplied water. The Town has conducted a pilot study for PFAS upgrades to the Mill Pond Water Treatment Plant (WTP). Construction for PFAS removal at the Mill Pond WTP began in early 2022 and Burlington is anticipating activation at the end of 2022. The Burlington Water Department serves a population of approximately 26,000.

¹ MassDEP’s PFAS6 compounds are: perfluorodecanoic acid (PFDA), perfluoroheptanoic acid (PFHPA), perfluoroheptanoic acid (PFHPA), perfluorohexanesulfonic acid (PFHXS), perfluorononanoic acid (PFNA), perfluorooctanesulfonic acid (PFOS), and perfluorooctanoic acid (PFOA).

Surface water studies were conducted by MassDEP in Fall 2021 and Spring 2022 to identify the source of PFAS contamination in the Shawsheen Road Wellfield and Burlington's Mill Pond Reservoir. The studies reviewed PFAS data collected from the Shawsheen River, several tributaries of the Shawsheen, including Elm Brook, the Mill Pond Reservoir and groundwater associated with Bedford's Shawsheen Road Wellfield. The studies identified the presence of PFAS in the Shawsheen River with a fingerprint indicative of legacy PFOS-based AFFF, which have historically been used in fire-fighting operations. The predominant source of PFAS to the Shawsheen River appears to be coming from Hanscom. The highest concentrations were detected near the headwaters of the Shawsheen within Hanscom with a pattern of decreasing concentrations with distance from Hanscom. The PFAS fingerprint in samples collected throughout the Shawsheen River study area is consistent with the headwater samples and legacy PFOS AFFF. The concentrations consistently exceed the MMCL for PFAS6 of 20 ng/l.

Surface water samples collected from Elm Brook also exhibited a PFAS fingerprint indicative of legacy PFOS based AFFF. Surface water data collected in 2021 and 2022 identified a potential source of legacy PFOS emanating from between Virginia Road in Concord and Hartwell Road in Bedford along Elm Brook, adjacent to Hanscom Field.

PFAS6 is present in both soil and groundwater at Hanscom. Groundwater from OU-1 currently discharges into the Shawsheen River and its tributaries. At OU-1, which borders the Shawsheen River, PFAS6 was detected in groundwater at concentrations as high as 45,000 ng/l, several orders of magnitude above the MMCL of 20 ng/l and EPA's current Lifetime Health Advisory (LHA) of 70 ng/l. The OU-1 groundwater remedy currently in place treats chlorinated volatile organic compounds (CVOCs). The OU-1 groundwater treatment plant (GWTP) is not currently equipped to treat PFAS and has been temporarily taken off-line at the request of MassDEP (with concurrence from EPA) because of a concern that the treated effluent from the GWTP, which discharges directly to a small unnamed tributary of the Shawsheen River, contains elevated levels of PFAS which could increase impacts to the river and downstream receptors. PFAS contaminated groundwater is still passively discharging to the river.

The Air Force is currently in the process of conducting an evaluation/treatability study to evaluate upgrades to the OU-1 treatment system and whether the system can be retrofitted to address the PFAS contamination in groundwater extracted and treated by the OU-1 GWTP. This work is being conducted in conjunction with a Plume Stability Study (PSS) which will determine whether optimization of the current treatment system or other Remedial Alternatives (RAs) are appropriate to address contamination at OU-1. The proposed PSS includes evaluation of the migration potential of CVOCs, but not PFAS.

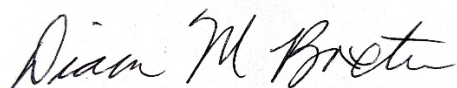
PFAS6 associated with legacy based AFFF used in fire-fighting operations has been identified in the groundwater and soil underlying OU-1 at Hanscom, within the Shawsheen River, Elm Brook, the Town of Bedford's Shawsheen Wellfield and the Town of Burlington's water supplies above the PFAS MMCL of 20 ng/l. In addition, AFFF has been documented to have been used at Hanscom within OU-1. MassDEP acknowledges that a direct connection between the Hanscom PFAS releases and the Bedford and Burlington drinking water supplies has not been confirmed

in the yet to be initiated RI; however, sufficient data exists to identify the Hanscom PFAS release areas as potential sources of PFAS impacts to the downgradient/downstream drinking water supplies for Bedford and Burlington. Further, although Bedford wellfields are currently inactive, they have not been abandoned as a drinking water supply and should be identified in the FYR as potential future exposure pathways. The Burlington surface water supply remains an active drinking water supply and should be considered as both a current and future exposure pathway.

If not for the actions taken by the Towns of Bedford and Burlington there would be complete exposure pathways for PFAS6 contamination exceeding MMCLs present in the Shawsheen River and its tributaries and underlying groundwater to drinking water receptors located downgradient of Hanscom AFB/Field. MassDEP strenuously disagrees with the Air Force's conclusion in the FYR that there is no groundwater/drinking water exposure pathway and believes that it improperly minimizes the potential impact and threat of PFAS contamination to drinking water receptors and resources in the area. The Air Force must acknowledge the potential threats and act quickly to evaluate and address PFAS risks associated with the contamination present at Hanscom.

Please feel free to contact Randi Augustine at 617-634-9612 with any questions.

Sincerely,



Diane M. Baxter
Director, Division of Federal Grant Programs
Bureau of Waste Site Cleanup
Massachusetts Department of Environmental Protection

Cc: Anni Loughlin, EPA
Shawn, Lowry, EPA
Matthew Audet, EPA
Bryan Olson, EPA
Elizabeth Callahan, MassDEP
Randi Augustine, MassDEP
Curtis Frye, AFCEC



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
5 POST OFFICE SQUARE, SUITE 100
MAILCODE: 07-3
BOSTON, MA 02109-3912

Date: See signature stamp below

Matthew Greenberg
Air Force Civil Engineer Center/AFCEC
via matthew.greenberg.2@us.af.mil

Re: Independent Finding on Final Sixth Five-Year Review Report
Hanscom Field/Hanscom Air Force Base Superfund Site,
Bedford, Concord, Lexington & Lincoln, MA

Dear Mr. Greenberg:

Thank you for submitting the Final Five-Year Review (FYR) Report for the Hanscom Field/Hanscom Air Force Base Superfund Site (Hanscom) in Middlesex County, Massachusetts. It is EPA policy to make protectiveness determinations at federal facilities by the statutory due date. The Hanscom FYR statutory due date is September 27, 2022.

Air Force submitted a draft FYR Report to EPA and the Massachusetts Department of Environmental Protection (MassDEP) on May 11, 2022, with EPA's initial comments provided on July 14, 2022, and MassDEP comments provided on July 25, 2022. Air Force provided a revised draft final FYR Report on August 11, 2022, with a request for the regulators' position or concurrence by August 19, 2022. On August 18, 2022, EPA sent an e-mail to Air Force indicating that it was unable to concur given the limited time left to resolve the deficiencies, including certain of those EPA had identified in its July 14, 2022, comments that were not addressed in the August 11, 2022, draft final FYR Report, and that it intended to issue an independent finding on the protectiveness of the remedies by the FYR due date.

This letter is based on the revised Final FYR Report submitted by Air Force on September 8, 2022, that also did not address all of EPA's previous comments. EPA appreciates the effort to address regulators' comments and subsequent conversations regarding protectiveness, however a number of significant issues identified by EPA remain outstanding. As discussed throughout this process, it remains Air Force's responsibility to respond to regulator comments and complete the FYR in a timely fashion. Air Force signed its Final FYR Report on September 19, 2022. Air Force has indicated that the report was unchanged from the September 8, 2022 version.

Operable Unit 1 (IRP Sites 1, 2, and 3)

For Operable Unit 1 (OU1) (IRP Sites 1, 2, and 3), Air Force's Final FYR Report determined that the remedy currently protects human health and the environment and identified the following recommendations necessary for the remedy to be protective in the long-term:

- Air Force must prepare a Memorandum for Record to add 1,4-dioxane as a contaminant of concern to the OU1 Record of Decision and add 1,4-dioxane to groundwater and surface water monitoring requirements; and
- Air Force must evaluate the groundwater treatment plant and to proceed with any recommended actions, as well as conduct a plume stability study to determine if potential optimization or alternative remedial actions are required

While EPA agrees that the OU1 remedy is short-term protective, EPA has determined the following additional recommendations are necessary for the remedy to be protective in the long-term (further explanation is provided later in this letter):

- Air Force must complete and implement a Land Use Control Implementation Plan (LUCIP) which identifies how subsequent enforceable LUCs will be established;
- Air Force must complete its PFAS treatability study and implement any resultant recommendations, as necessary to ensure compliance of PFAS-contaminated effluent standards into the Shawsheen River; and
- Air Force must complete a PFAS Remedial Investigation that addresses the nature and extent of contamination throughout the site, regardless of source.

Air Force's Final FYR Report identified as an issue that while a Supplemental Remedial Investigation determined that 1,4-dioxane was found to exceed the risk-based screening level (RBSL) in groundwater, it was not found to exceed the RBSL at the influent or effluent to the OU 1 groundwater treatment plant. A subsequent Focused Feasibility Study recommended adding 1,4-dioxane as a contaminant of concern (COC). The remedy currently protects human health and the environment because the groundwater is not currently being used. In order for the remedy to be protective in the long-term, Air Force recommended preparing a Memorandum for Record to add 1,4-dioxane as a COC to the OU1 Record of Decision and add 1,4-dioxane to groundwater and surface water monitoring requirements. Air Force's Final FYR Report's milestone date for this work is "December 2022". By e-mail dated September 22, 2022, Air Force indicated that its specific milestone date for this work is December 20, 2022. By this letter, EPA agrees with this determination and accepts this milestone date.

Air Force's Final FYR Report identified the following issues related to the OU1 groundwater treatment plant: the age of the groundwater treatment plant, the reduction in volume and mass of contaminant removal, and a lack of progress in cleaning up groundwater contamination. The remedy currently protects human health and the environment because the plant contains the plume of identified COCs contaminants and Air Force is taking steps to restart plant operation. In order for the remedy to be protective in the long-term, Air Force recommended an evaluation of the treatment plant and to proceed with any recommended actions, as well as to conduct a plume stability study to determine if potential optimization or alternative remedial actions are required. Air Force Final FYR Report's milestone date for this work is "2027". By e-mail dated September 22, 2022, Air Force indicated that its milestone date for this work is August 31, 2026. By this letter, EPA agrees with this determination and accepts this milestone date.

EPA's initial comments on the draft FYR Report noted that the lack of a final LUCIP, a component of the OU1 remedy, impacted protectiveness of the remedy in the short-term. Air Force disagreed, stating, "A LUCIP will not include expanded LUCs beyond what is included in any related Record of Decision (ROD). Its use is intended for Air Force Base personnel and contractors to make them better aware of the land use controls (LUCs) stated in RODs." Air Force included this as a follow-up action in *Section 10, Other Findings*, noting an anticipated completion date of December 2022. The requirement to establish LUCs as required in the ROD¹ does not negate the need for a LUCIP, since the LUCIP is the first step in establishing the enforceable LUCs. This deficiency affects the protectiveness of the OU1 remedy in the short term. In order for the remedy to be protective in the long-term, Air Force must complete and implement a LUCIP which identifies how the subsequent enforceable LUCs will be established. Furthermore, a final LUCIP serves as an instruction for Air Force staff in maintaining compliance with the LUCs in the event of any future development that could impact the protectiveness of the remedy. By this letter, EPA determines that the specific milestone date for this work is December 30, 2022. EPA encourages Air Force to solicit EPA and MassDEP comments on the draft LUCIP. Furthermore, the Air Force needs to provide EPA and the State with the drafts of actual enforceable LUC documents (such as a Base Instruction, if used to establish the LUC).

During a January 26, 2022, partnering meeting among Air Force, EPA, and MassDEP, the group agreed to table the start-up of the groundwater treatment plant (GWTP) due to concerns regarding PFAS in effluent potentially entering the Shawsheen River. As outlined in Air Force's September 13, 2022, *Final Quality Assurance Project Plan (QAPP) Addendum to the Final Per- and Polyfluoroalkyl Substances (PFAS) Expanded Site Inspection (ESI) QAPP for Operable Unit Sites 1 and 2*, potential migration from GWTP effluent could cause PFAS to be present at and/or beyond the base boundaries. Air Force will complete GWTP Treatability Study to implement treatment of PFAS to levels at or below the MassDEP PFAS6 MCL prior to effluent discharge. Air Force's Final FYR Report notably lacks any discussion of this issue and efforts being undertaken by Air Force to address it. As EPA and MassDEP have discussed with Air Force, drinking water supplies in two municipalities downstream of the site have been impacted by PFAS. If not for actions taken by the municipalities, citizens would potentially be exposed to PFAS in drinking water in excess of the MassDEP PFAS6 MCL. The remedy currently protects human health and the environment in the short-term because the GWTP is currently not discharging PFAS-contaminated effluent into the Shawsheen River. In order for the remedy to be protective in the long-term, Air Force must complete its GWTP Treatability Study for PFAS and implement any resultant recommendations as necessary to ensure compliance of PFAS-contaminated effluent standards into the Shawsheen River. By this letter, EPA determines that the specific milestone date for Air Force to complete this work is September 30, 2024.

Air Force's February 2022 *DRAFT FINAL PFAS Expanded Site Inspection Report* recommended a PFAS Remedial Investigation (RI) for four AFFF-related sources. Air Force's July 29, 2022 letter to EPA stated that it was currently awaiting contract award for this work, and Air Force's agenda for the September 21, 2022 partnering meeting among Air Force, EPA and MassDEP indicated that the PFAS RI contract was awarded with a kick-off meeting held August 31, 2022.

¹ The OU 1 ROD is not prescriptive in the form of the LUCs to be used, instead describing them generally as "includ[ing] non-engineered instruments such as legal and/or administrative controls."

During the September 21, 2022 partnering meeting, Air Force indicated it plans to submit work plans related to the PFAS RI this fall/winter. Air Force must provide a path forward and an enforceable schedule for this work including a determination as to whether the RI work will be done in conjunction with an established OU or as part of a new basewide PFAS OU.

Air Force's Final FYR Report states that no basis for remedial action has yet been established for PFAS, therefore it is not appropriate to evaluate the potential impact of PFAS on the long-term protectiveness of the existing remedies for OU1. The Report notes in *Section 10, Other Findings*, a follow-up action: "Implement recommended actions, as appropriate to address PFAS as indicated in the Expanded Site Inspection for Hanscom AFB. Any required PFAS remedies will either be implemented through ROD modification or issuance of a separate ROD." Air Force's Final FYR Report indicates this action has a milestone date of "2027".

Air Force declined to address EPA's May 2022 updated Regional Screening Levels (RSLs) for PFAS, stating that the reporting period for its FYR was through December 2021², while noting in the same report that PFAS compounds were identified in the 2018 Site Investigation above EPA screening levels (in place at that time). Air Force also declined to address PFAS Ecological Screening Values, issued in September 2021 by Argonne National Laboratory and Air Force Civil Engineer Center (AFCEC).

EPA, MassDEP, and Air Force have exchanged correspondence and conducted several discussions regarding the upcoming PFAS RI and specific ways EPA and the State have identified that the draft scope is deficient. These include a lack of commitment to include all potential releases, irrespective of source (*i.e.*, the use of AFFF by Air Force and/or any 3rd Party - *e.g.*, the 2014 private jet crash, to which Air Force personnel responded), or the release of PFAS from non-AFFF sources (*e.g.*, landfilled waste). Air Force instead proposes Fiscal Year 2023 Preliminary Assessment activities at installations, including Hanscom, (subject to availability of funds) to evaluate potential non-AFFF releases of PFAS. The resultant multi-year delay in achieving final decisions regarding PFAS at the site is unacceptable. Moreover, Air Force continues to claim no responsibility to investigate releases from other parties, despite acknowledgement that these releases are likely commingled with historic Air Force releases at Hanscom.

The lack of clear and enforceable future progress on the PFAS RI is an issue that affects the protectiveness of the OU1 remedy in the long term. In order for the remedy to be protective in the long-term, Air Force must complete its PFAS RI and address the nature and extent of contamination throughout the site, regardless of source. EPA also notes that while Air Force intends to initially address PFAS administratively in a separate Remedial Investigation, since PFAS is present in media with other chemical contaminants, cumulative risk and treatment options must be assessed holistically. By this letter, EPA determines that the specific milestone date for Air Force to complete this work is September 30, 2025.

² EPA does not agree with this "reporting period" and instead requested that any information received during the entire statutorily-defined five-year review period be addressed in the FYR.

Operable Unit 2 (IRP Site 4 Landfill)

While OU2 (IRP Site 4 Landfill) has been included in prior FYRs, there has never been a CERCLA remedy for this OU, therefore no CERCLA protectiveness statement is appropriate, and Air Force notes in its FYR Report that its review of OU2 is discretionary. Air Force believes that its low-permeability landfill cover is functioning as intended by its 1988 Remedial Action Plan, implemented prior to the listing of the site on the NPL. As outlined in its November 9, 2021, letter, and acknowledged in its FYR Report, Air Force has agreed to follow the CERCLA process, issue a Record of Decision, and implement a CERCLA remedy for the site. Air Force intends to initiate a streamlined Remedial Investigation for OU2 in the coming months. Air Force's FYR Report did not specify an exact date to complete this milestone. By e-mail dated September 22, 2022, Air Force indicated that its milestone date for this work is December 18, 2025. By this letter, EPA agrees with this determination and accepts this milestone date.

Operable Unit 3 (IRP Sites 6 and 21)

EPA agrees with the protectiveness statement in Air Force's Final FYR Report for Operable Unit (OU) 3 (IRP Sites 6 and 21) that the remedies are protective.

EPA will report in the annual Report to Congress its independent finding of short-term protective for the overall site, as required by CERCLA § 121(c). The statutory deadline for the Seventh Hanscom FYR Report is September 27, 2027.

Please feel free to contact Anni Loughlin at 617-918-1273 with any questions.

Sincerely,

**BRYAN
OLSON**

Digitally signed by
BRYAN OLSON
Date: 2022.09.27
12:43:44 -04'00'

Bryan Olson, Director
Superfund & Emergency Management Division

cc: Anni Loughlin, EPA
Matt Audet, EPA
Shawn Lowry, EPA
David Peterson, EPA Senior Enforcement Counsel
Greg Gervais, EPA FFRRO
Randi Augustine, MassDEP
Diane Baxter, MassDEP
Curtis Frye, AFCEC



(This page intentionally left blank.)



A.3 MEPA Certificate and Comments for the Hanscom Field 2017 ESPR



(This page intentionally left blank.)



The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Charles D. Baker
GOVERNOR

Karyn E. Polito
LIEUTENANT GOVERNOR

Kathleen A. Theoharides
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1181
<http://www.mass.gov/eea>

July 18, 2019

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS
FOR THE
2017 L. G. HANSCOM FIELD ENVIRONMENTAL STATUS AND PLANNING REPORT

PROJECT NAME : 2017 Hanscom Field Environmental Status and
Planning Report
PROJECT MUNICIPALITY : Bedford, Concord, Lexington, and Lincoln
PROJECT WATERSHED : Shawsheen River
EOEA NUMBER : 5484/8696
PROJECT PROPONENT : Massachusetts Port Authority (Massport)
DATE NOTICED IN MONITOR : May 22, 2019

As Secretary of Environmental Affairs, I hereby determine that the 2017 Hanscom Field Environmental Status and Planning Report (ESPR) **adequately and properly complies** with the Massachusetts Environmental Policy Act (MGL c.30, ss. 61-62H) and with its implementing regulations (301 CMR 11.00).

Project Description

Hanscom Field comprises approximately 1,300 acres of land, located approximately 20 miles northwest of Boston, within the municipalities of Bedford, Concord, Lexington, and Lincoln. The Massachusetts Port Authority (Massport) assumed ownership of the facility in 1974. The airport has primarily accommodated private general aviation (GA) activity, commercial, and cargo service. The Federal Aviation Administration (FAA) identifies Hanscom Field as a reliever airport to Logan Airport, whereby Hanscom Field provides substantial airside relief by annually serving approximately 165,000 GA operations.

The ESPR inventoried Hanscom's facilities and infrastructure, summarized Massport's tenant audit program, identified airport activity levels, described ground transportation, explained Massport's Environmental Management system, and provided information on Hanscom's planned role in the future regional transportation system and its projected five-year improvement program. It also examined noise and air quality levels under existing conditions and a future scenario, and assessed impacts to cultural, historic, conservation and recreational resources.

History and Purpose of ESPR

This is the fourth ESPR Massport has prepared, following ESPRs in 2000, 2005 and 2012. Preparation of ESPRs is intended to provide State Agencies and the public with planning data and information on an on-going basis. It provides an analysis of past trends in the environmental impacts of Hanscom Field and analyzes future conditions based on projected operations. As a result, these documents serve as a planning tool to guide Massport in the development of policy and programs. The ESPR presents an overview of the operational environment and planning status of Hanscom Field and provides long-range projections of environmental conditions against which the effects of future individual projects can be compared. The ESPR includes important data on airport facility planning and environmental impacts that are of interest to the surrounding communities and organizations, and provides a basis for ongoing discussions between Massport and its neighbors.

The ESPR does not replace MEPA review of specific projects at Hanscom that meet or exceed regulatory environmental review thresholds, with the exception of Routine Maintenance and Replacement Projects that are not subject to MEPA review pursuant to 310 CMR 11.01(2)(b)(3). For any project that does exceed thresholds, Massport must submit an Environmental Notification Form (ENF) and, if necessary, an Environmental Impact Report (EIR), that analyzes impacts, reviews alternatives, and identifies measures to avoid, minimize, and mitigate impacts. The purpose of this long-term, broad-scope planning is to inform review and implementation of individual actions at Hanscom Field.

Based on my review of this ESPR, consultation with State Agencies, and review of comments, I have determined that it adequately responds to issues identified in the Certificate establishing the Scope for the 2017 ESPR, dated November 17, 2017.

Public Comments

I received comments from Bedford officials and residents identifying impacts associated with operation of the airport on surrounding areas and expressing concern that impacts will increase with the anticipated growth in aircraft operations. A major concern is the lack of detail regarding the nature and extent of potential development described in the ESPR. In addition to their primary concerns about traffic and noise, commenters requested that Massport collect more data on impacts to air quality, GHG emissions and stormwater runoff and implement measures to minimize these impacts. Regarding traffic generated by Hanscom Field, comments focused on potential impacts of increased traffic, including construction vehicles, on residential streets; the need for more extensive analysis of traffic operations on Bedford streets; and consideration for

alternative access roads to support existing and future development. Comments regarding noise included increased aircraft operations, including during nighttime hours, and monitoring of actual noise levels from aircraft and ground-level activities. I also received a comment regarding training activities conducted by Fixed Base Operators (FBOs).

MEPA is an environmental review process through which the Proponent will identify potential environmental impacts, consider alternatives to avoid impacts, and propose mitigation measures. It does not approve or deny a project and does not include performance standards by which project impacts are evaluated. A key purpose of MEPA is to “assist each Agency in using (in addition to applying any other applicable statutory and regulatory standards and requirements) all feasible means to avoid Damage to the Environment or, to the extent Damage to the Environment cannot be avoided, to minimize and mitigate Damage to the Environment to the maximum extent practicable” (301 CMR 11.01(1)(a)). The ESPR described maintenance and operational activities routinely conducted by Massport that would otherwise not require MEPA review.

Massport should consider these comments and suggestions in preparing the Scope for the 2022 ESPR. While responses to comments received on this ESPR must be provided in the 2022 ESPR, I encourage Massport to provide responses as part of its Scope for the 2022 ESPR to provide context to commenters on this document and, in particular, to address suggestions regarding monitoring of noise and traffic impacts. The 2022 ESPR should include a review of regulatory, policy and operational responsibilities of entities operating at Hanscom, including Massport, the Air Force, the FAA, FBOs and other operators. This review should include an explanation of how air space is regulated for general aviation and training purposes. Massport should continue to coordinate its activities and maintain its ongoing public process with the Hanscom Area Towns (HATS) committee, including during preparation of the next ESPR.

Review of the ESPR

The ESPR described the analysis framework for the environmental reporting and technical studies documenting changing conditions at the facility. It reviewed existing conditions at the airport and projects completed since 2012 or currently underway. The ESPR provided data on airport operations and a broad range of environmental factors, including traffic, noise, air quality, cultural/historic resources, wetlands/water resources, wildlife habitat, air quality and greenhouse gas (GHG) emissions. Data for present conditions was compared to historic trends and projected airport operations and environmental conditions in the years 2025 and 2035. The ESPR, presented policy considerations, an overview of the airport’s current and potential role within the regional planning context, and a status report on proposed planning initiatives and projects.

The ESPR reviewed the environmental review process for Hanscom Field, including public outreach. It identified issues of importance to key stakeholders, including the surrounding towns (Bedford, Concord, Lexington, and Lincoln), the Minute Man National Historical Park (MMNHP) and residents.

Aircraft Operations

The ESPR provided a tally of aircraft activity by type in 2017, compared 2017 activity levels to those of 2005 and 2012 and provided forecasts for the years 2025 and 2035. According to the ESPR, there were 128,777 total aircraft operations in 2017, compared to 169,955 operations in 2005 and 166,214 operations in 2012. On an annual basis, aircraft operations have declined by 2.3 percent per year since 2005 and 5.0 percent per year since 2017. Military aircraft operations accounted for 759 operations in 2017 and the remainder were GA flights; there were no scheduled commercial airline flights in 2017. Operations involving single-engine piston aircraft for training and personal use decreased by approximately 8 percent since 2012; operations involving business flights and helicopters increased by 1.3 to 3.1 percent during that period.

The number of daytime aircraft operations in 2017 is approximately 23 percent lower than forecasted in the 2012 ESPR. Nighttime operations (between 11:00 PM and 7:00 AM) increased from 1,631 in 2012 to 1,902 in 2017 largely due to increases in the number of jet and helicopter flights.

Aircraft operations are forecasted to increase to 131,913 operations in 2025 (0.13 percent average annual growth from 2017), and 138,841 operations in 2035 (0.4 percent average annual growth from 2017). The increases are expected due to forecasted growth in business and helicopter operations; training and personal flights are anticipated to decline during this period by 0.7 and 0.9 percent per year, respectively. The number of nighttime operations is expected to increase to 2,399 in 2025 and 2,972 in 2035.

Airport Infrastructure

The ESPR provided an inventory of airport facilities, including the terminal, runways and taxiways, hangars, air traffic control facilities, flight schools, fuel storage tanks, safety and maintenance facilities and supporting water, wastewater and energy infrastructure. Massport and FBOs conduct routine maintenance activities and facility upgrades to ensure safe and efficient operation of aviation facilities at Hanscom. The ESPR described facility upgrades and maintenance activities conducted from 2012 to 2017 by Massport or FBO, including:

- Relocation of portions of perimeter roads adjacent to Runways 11 and 29;
- Pavement rehabilitation at hangars, aprons, runway safety areas (RSA), taxiways and driveways;
- Repaving of Runway 11/29;
- New facilities for Rectrix Aviation and Jet Aviation, including a new hangar, relocation of Hangar 17 and other FBO facilities;
- Redevelopment of Hangar 12A by Boston Medflight;
- Installation of a wildlife exclusion fence near the headwaters of the Shawsheen River;
- Construction of a vehicle bay for the Airport Rescue and Fire Fighting (ARFF) vehicle; and,
- Rehabilitation of the Civil Air Terminal to repair flood damage.

The number of vehicular parking spaces at Hanscom decreased from 1,567 spaces in 2012 to 1,351 spaces in 2017. The decrease is due primarily to the Hangar 17 project, which displaced parking spaces from the lot at the Civil Air Terminal. The ESPR indicated that impervious area has decreased since 2012 and there has not been a significant change in water consumption or wastewater flows.

Future Development

Based on forecasted increases in aircraft activity by business jets and turboprops, the ESPR estimated that 210,000 square feet (sf) of additional hangar space will be required by 2025 and an additional 120,000 sf of hangar space would be needed between 2025 and 2035. The ESPR identified five planning areas at Hanscom Field, including North Airfield, Northeast Airfield, East Ramp, West Ramp and Pine Hill. Conceptual plans for potential development of these areas for aviation-related facilities were included in the ESPR.

North Airfield

This planning area includes an approximately 15-acre development site. An Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) was prepared for development of up to 165,000 sf of new hangar space and associated offices at the site. The FAA issued a Finding of No Significant Impact (FONSI) for the development of these facilities. Massport issued a Request for Proposals (RFP) in February 2018 for the development of 165,000 sf of hangar space, of which 55,000 sf consists of hangar space to be relocated from the Pine Hill planning area. Access to the site will be provided from Hartwell Road.

Northeast Airfield

The U.S. Air Force leases this a large portion of this property from Massport under an agreement that will expire in 2027. The 2035 planning scenario indicates that the site will be reserved for aviation-compatible development.

East Ramp

This site is currently used by FBO and includes fueling facilities. The area is identified for potential development of GA and corporate hangar facilities, reconfigured aircraft access from Taxiway E and a possible landside connection to Hartwell Avenue that would avoid the military area at Hanscom. Approximately 60,000 sf of hangar space could be provided along the eastern edge of the apron and existing hangars could be renovated and expanded to provide additional space. Development of this planning area would potentially impact adjacent taxiways.

West Ramp

This planning area is used for GA, including FBO facilities, hangars and the Civil Air Terminal. It includes undeveloped land along Hanscom Drive and Old Bedford Road. Potential

development of the site includes corporate hangar facilities, passenger terminal improvements and non-aviation related development such as hotels, offices or museums.

Pine Hill

This 10-acre site is used for GA, including FBO facilities and hangars. When the hangars are moved to the North Airfield, an approximately 100,000-sf area will be available for GA development. The FAA issued a FONSI in 2018 for the development of this space.

I received comments questioning Massport's determination that proposed development activities at the North Airfield and Pine Hill planning areas are not subject to MEPA review. During the review period, Massport provided additional information about the development of these areas. According to Massport, the sites have been previously altered and development activities have not altered more than 25 acres of land. The project will result in a net increase of 4.5 acres of impervious area, add 100 parking spaces, avoid impacts to wetland resource areas and generate 490 average daily trips (adt) based on trip generation rates published by the Institute of Transportation Engineers (ITE). These impact levels do not meet or exceed MEPA review thresholds; no other applicable thresholds have been identified. A parcel of land east of the North Airfield formerly owned by the US Navy was recently sold to a private developer. As noted in the ESPR, development of that site may require review by MEPA and other state and local agencies.

A central component of MEPA review is the analysis of alternatives. Future ESPRs should evaluate alternative development concepts, including access alternatives, for potential development parcels and assess associated environmental impacts. The alternatives considered and the level of detail of the analysis of impacts associated with each alternative should be commensurate with the degree to which the development plan is highly conceptual or under design.

Traffic and Transportation

The ESPR summarized the regional air and rail transportation system, including passenger activity levels and the status of plans and improvements, and described Hanscom's role in the system. Hanscom Field is the busiest GA airport in New England. Because of its proximity to Boston and the high-tech corridors along Route 128/Interstate-95 (I-95) and Interstate-495 (I-495), Hanscom serves a vital role for businesses that rely on corporate aviation.

The ESPR included a traffic analysis generally consistent with the *EEA/MassDOT Guidelines for EIR/EIS Traffic Impact Assessment (TIA)*. The study area was defined by the area bounded by Hartwell Road to the north, Routes 4/225 to the northeast, Route 128/I-95 to the east, Route 2A to the south and Old Bedford Road to the west. Traffic counts within the study area were collected in 2018, including 7-day counts at six locations and turning movement counts during peak periods at 10 locations. According to the ESPR, the average number of vehicles on Hanscom Drive was 1,700 per day, including 110 vehicles in the morning peak period and 107 vehicles in the afternoon peak period. The data indicate that the number of trips to Hanscom has decreased compared to 2012, when 2,200 average vehicles per day were

observed, including 165 in the morning peak hour and 121 in the evening peak hour. According to the ESPR, Hanscom Field is an off-peak traffic generator that contributes 3.3 percent of the vehicle trips on Route 2A during the morning peak period and 2.1 percent of the vehicles in the afternoon peak hour.

The ESPR included an analysis of traffic conditions under Existing, No Build 2025, Build 2025, No Build 2035 and Build 2035 and 2035 to evaluate the effect on area roadways of additional Hanscom-related traffic resulting from potential development. It modeled level-of-service (LOS), delay and vehicle-to-capacity (v/c) ratios at intersections at which Hanscom-related traffic comprised 10 percent or more of the total traffic. Operations at four of the six intersections included in the analysis operated at LOS C or better under all conditions, indicating acceptable operations without significant delays or congestion. The analysis indicated that the intersections of Hanscom Drive/Route 2A and Old Bedford Road/Virginia Road experience substandard operations under some conditions. Left and right turns from the southbound lanes of Hanscom Drive onto Route 2A experience LOS F in the afternoon peak hour, and the left turn onto Route 2A experiences LOS F in the morning peak hour. Left and right turns from Virginia Road onto Old Bedford Road operate at LOS F in the evening peak period.

Roadway conditions in the 2025 No Build and 2035 No Build scenarios were modelled based on a background traffic growth rate of 0.75 percent per year and included trips associated with increased staffing levels at Hanscom Air Force Base. According to the ESPR, morning peak period trips are expected to increase to 138 trips in 2025 and 167 trips in 2035. Evening peak hour trips are projected to increase to 125 trips in 2025 and 146 trips in 2035. For the three intersections at which Hanscom-related traffic comprised 10 percent or more of the total traffic, traffic operations did not change significantly under the 2025 No Build and 2035 No Build Conditions. The 2025 Build and 2035 Build scenarios include additional Hanscom-generated trips associated with the forecasted increases in aviation activity. Traffic operations under the 2025 Build scenario are not significantly different than the 2025 No Build Condition. Under 2035 Build conditions, the Old Bedford Road/Virginia Road will operate below LOS D in both morning and evening peak periods. According to the ESPR, the Hanscom Drive/Route 2A intersection may warrant the installation of a traffic signal when Route 2A is repaved in 2023. The ESPR also indicated that operations at the Old Bedford Road/Virginia Road intersection could be improved by improving sight lines and providing dedicated left- and right-turn lanes at the Virginia Road approach to Old Bedford Road.

The ESPR discussed Transportation Demand Management (TDM) measures implemented at Hanscom Field to reduce single occupancy vehicle (SOV) trips. These measures include encouraging the use of the Massachusetts Bay Transportation Authority's (MBTA) Bus Route 76 and shuttle service operated by the Route 128 Business Council to access the site from the MBTA's Alewife subway station and promoting carpooling to the site by offering designated parking spaces and encouraging the use of ride-matching services.

The ESPR identified additional measures to reduce SOV trips:

- Coordination with the Route 128 Business Council to provide shuttle service to the MBTA's Concord Commuter Rail station;

- Improve pedestrian and bicycle facilities at the Hanscom Road/Old Bedford Road intersection;
- Enhanced pedestrian access to the Battle Road Trail;
- Add bicycle facilities along Hanscom Drive by converting shoulder space to bike lanes; and,
- Enhance bicycle access along Virginia Road.

The 2022 ESPR should report on implementation of these measures.

Noise

The FAA's Aviation Environmental Design Tool (AEDT) was used to model noise levels generated by aircraft using Hanscom Field. Modeled noise levels were provided for selected sites in each of the four Hanscom Field municipalities and for the MMNHP. The ESPR reviewed the differences between the AEDT methodology and the Integrated Noise Model (INM) used in previous ESPRs. The AEDT incorporates physical characteristics of the airfield, flight tracks, operational parameters and aircraft-specific noise and performance data. The noise models were used to establish noise contours for the following indicators:

- Total Noise Exposure (EXP), which sums the sound exposure levels for each departure of an airplane assuming it flies over a single point;
- Day-Night Average Sound Level (DNL), which is an annual average of 24-hour sound levels. According to the ESPR, the FAA has determined that DNL is the official cumulative noise exposure metric for use in airport noise analyses;
- Time-Above (TA) threshold contours, which map areas on the ground that exceed a certain decibel level for different time periods; and,
- Distribution of Sound Exposure Levels (SEL), which characterizes the duration of a sound.

According to the ESPR, aircraft noise levels were generally lower in 2017 than in previous years, consistent with the decline in the numbers of aircraft operations. However, the DNL contours in 2017 covered larger areas and affected more residents and larger areas of the MMNHP in 2017 than in 2012. The ESPR noted that the size and shape of the contours are consistent with changes to flight operations that increased use of Runway 5/23 while Runway 11/29 was closed for rehabilitation and a temporary increase in flights diverted from Boston due to construction at Logan Airport. The SEL data reflect the greater frequency of departures by quieter aircraft and fewer departures by noisy aircraft compared to previous years.

Noise levels are expected to increase in 2025 and 2035 in connection with the forecasted increase in aircraft operations. According to the ESPR, more residents will be exposed to DNL levels between 55dB and 65 dB, but no residents will be located within the 65 dB or greater contours in 2025 or 2035. Noise levels in the MMNHP will increase in 2025 and 2035 compared to 2017. However, the area of the 55 db DNL contour within the MMNHP will decrease and neither the 60 dB nor 65 dB contours will extend into the MMNHP in 2025 or 2035.

Air Quality

The ESPR reported on air quality for the year 2017 and included projections for 2025 and 2035 based on forecasted activity levels. It evaluated emissions of the following air contaminants: carbon monoxide (CO), oxides of nitrogen (NO_x), volatile organic compounds (VOCs), particulate matter (PM₁₀ and PM_{2.5}) and carbon dioxide (CO₂)¹. The ESPR included data on emissions from aircraft and Hanscom-generated traffic and identified measures to reduce on-site emissions. Massachusetts, including Hanscom Field and adjacent communities, meet National Ambient Air Quality Standards (NAAQS) and Massachusetts Ambient Air Quality Standards (MAAQS) for criteria pollutants.

According to the ESPR, emissions of contaminants from aircraft are believed to have decreased between 2012 and 2017 based on fewer aircraft operations. Compared to 2012, aircraft emissions of VOCs have decreased by 36 percent and PM₁₀ and PM_{2.5} have decreased by 81 percent. However, modelled emissions of CO and NO_x showed an increase in 2017. The ESPR indicates that this increase is based on use of the AEDT model rather than the Emissions and Dispersion Modelling System (EDMS) previously used. Emissions of CO increased by 39 percent and NO_x increased by 9 percent. Emissions of all pollutants except CO are projected to increase in 2025 and 2035. Hanscom Field and adjacent communities are projected to maintain compliance with NAAQS and MAAQS in 2025 and 2035.

Climate Change

Executive Order 569: Establishing an Integrated Climate Change Strategy for the Commonwealth (EO 569) was issued on September 16, 2016. EO 569 recognizes the serious threat presented by climate change and directs agencies within the administration to develop and implement an integrated strategy that leverages state resources to combat climate change and prepare for its impacts. The Order seeks to ensure that Massachusetts will meet greenhouse gas emissions reduction limits established under the Global Warming Solution Act of 2008 (GWSA) and will work to prepare state government and cities and towns for the impacts of climate change.

The ESPR includes a GHG emissions inventory and addresses infrastructure resiliency, as requested in the Certificate on the 2012 ESPR. These analyses will document Massport's efforts to support the Commonwealth's climate change goals. I strongly encourage Massport to consider complementary approaches – energy-efficient buildings, incorporation of renewables and inclusion of low impact development in site design – that can improve Hanscom's resiliency, reduce GHG emissions and conserve and sustainably employ the natural resources of the Commonwealth. I encourage Massport to consolidate discussions of climate change resiliency and GHG mitigation measures, such as energy-efficiency and renewable energy generation, into a single chapter of the next ESPR.

¹ Emissions of greenhouse gasses, including CO₂, are reviewed in the next section of this Certificate.

Climate Change

The region's climate is expected to experience higher temperatures and more frequent and intense storms. The Northeast Climate Science Center at the University of Massachusetts at Amherst has developed projections of changes in temperature, precipitation and sea level rise for each river basin in Massachusetts. The data includes climate projections for the years 2030, 2050, 2070 and 2090 and identifies changes in those years compared to baseline data collected from 1971 to 2000. This data is available through the Climate Change Clearinghouse for the Commonwealth at www.resilientMA.org. By the end of the century, average temperature in the Shawsheen River Basin is expected to rise by 3.8 to 11.0 degrees Fahrenheit (F), including an increase in the number of days with temperatures over 90 F from seven to up to 72 days. During the same time span, the average annual precipitation in the Shawsheen River Basin is expected to increase by 1.2 to 8.3 inches, most of which is expected to occur in the winter.

Massport developed a Resiliency Program in 2014 to incorporate adaptation and resiliency considerations into its activities. Recent storms have damaged hangars and caused flooding in the Civil Air Terminal. As a result, Massport evaluated its drainage system and will implement flood-proofing measures at the facility consistent with its Floodproofing Design Guidelines. I encourage Massport to develop resiliency guidelines for buildings and infrastructure at Hanscom Field and include these in the next ESPR. The Scope for the 2022 ESPR should include an outline of a mechanism to track resiliency measures that are adopted.

GHG Emissions

The ESPR included an inventory of GHG emissions from the following sources:

- Aircraft operations within the ground-based taxi-idle/delay mode;
- Aircraft operations from the ground to the top of the 3,000-ft Landing and Takeoff (LTO) cycle;
- Aircraft ground support equipment (GSE) and aircraft auxiliary power units (APU);
- Motor vehicles;
- Stationary sources such as boilers and generators; and,
- Electricity usage.

Emissions from these sources were provided for Massport-owned, Tenant-owned and Public/Private-owned (such as private passenger cars and shuttle vans) sources. The total GHG emissions (expressed as CO₂ equivalent) were calculated as 23,892 metric tons per year (mtpy), (approximately 26,336 short tpy). Over 22,000 mtpy (approximately 24,500 tpy), or 93 percent of all emissions, were emitted by Tenant-owned sources. Aircraft operations accounted for 18,211 mtpy (approximately 20,100 tpy) of GHG emissions; according to the ESPR, GHG emissions from aircraft are expected to increase by 16 percent in 2025 and by 30 percent in 2035.

As requested by the Department of Energy Resources (DOER) future ESPRs should include emissions from energy use by the buildings at Hanscom Field. DOER recommends that buildings include high-efficiency electric heat and cooling systems, including electric heat

pumps. Emissions associated with electric heating and cooling will decrease over time as the Massachusetts' electricity grid is powered by renewable energy sources.

Wetlands/Wildlife/Water Resources

The ESPR described natural resource at Hanscom Field, including wetlands, rare species and water quality. It reviewed vegetation management practices, wellhead protection areas, stormwater management systems and areas with documented releases of contaminated material to soil or groundwater.

The ESPR included a map and description of each wetland area at or adjacent to Hanscom Field. According to the ESPR, activities at the facility are designed to avoid wetland areas and field verification of wetlands is conducted on a project-specific basis. Most of Hanscom Field is located within mapped *Priority Habitat of Rare Species*. It includes habitat for species that are categorized as Endangered, Threatened, or of Special Concern by the Natural Heritage and Endangered Species Program (NHESP), including Upland Sandpiper (*Bartramia longicauda*), Grasshopper Sparrow (*Ammodramus savannarum*), Blanding's Turtle (*Emydoidea blandingii*) and Wood Turtle (*Glyptemys insulpta*). The Pine Hill, North Airfield, Northeast Airfield, East Ramp and West Ramp planning areas include rare species. The NHESP regulates activities within rare species habitat.

The ESPR reviewed Best Management Practices (BMPs) used at Hanscom to minimize pollutants in stormwater runoff and described requirements the facility's Stormwater Multi-sector General Permit for Airports administered by the Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES). In accordance with its NPDES permit, Massport updated its Stormwater Pollution Prevention Plan (SWPPP) in 2015. Sampling for Total Suspended Solids (TSS) must be conducted annually for one outfall that discharges into Elm Brook. Elm Brook is listed on the Massachusetts Year 2016 Integrated List of Waters as a waterbody requiring the establishment of a total maximum load (TMDL) for pathogens.

Fire-fighting foams used at airports historically contained Per- and Polyfluoroalkyl Substances (PFAS). These contaminants have been detected in soil and groundwater at several airports across the Commonwealth, among other locations. The Scope for the 2022 EPRS should include an outline of measures that Massport will implement to minimize releases of PFAS and to detect, manage and remediate PFAS contamination at Hanscom.

Cultural and Historical Resources

The ESPR reviewed historical and archeological resources in the vicinity of Hanscom Field and assessed potential traffic, noise and air quality impacts. It identified cultural and historical resources listed in the State Register and Massachusetts Cultural Resource Information System (MACRIS) maintained by the Massachusetts Historical Commission (MHC), and provided an update of the inventory at the MMNHP and resources in Bedford, Concord, Lexington, and Lincoln. In addition to the MMNHP, there are 39 historic buildings and 21 historic districts in the vicinity of Hanscom Field. As noted earlier, none of the cultural resources

are located within the 65 dB DNL noise contour. Compared to 2012, a smaller portion of the MMNHP and fewer individual properties are located within the 55 dB DNL contour.

Summary of Environmentally Beneficial Measures

The ESPR included a chapter identifying environmentally beneficial measures that Massport will implement or, in some cases, has implemented at Hanscom Field to avoid, minimize, and mitigate environmental impacts:

- Provide transportation information on Massport website;
- Provide transit information in Civil Air Terminal;
- Provide information about transit and non-auto travel options in prominent locations throughout Hanscom Field;
- Maintain a bus shelter with transit information;
- Explore creation of a bikeshare network with communities and stakeholders;
- Modify the Fly Friendly Program using flight tracking software to direct pilots conducting touch-and-go procedures to fly over the airport rather than neighboring lands, including the MMNHP;
- Implement run-up procedures for the use of the East Ramp;
- Relocation of the noise monitors has been completed, with four monitors in communities off each runway and two on the airfield;
- Maintain the “Airport Activity Monitor” which allows the public to research a noise event or flight, log a noise disturbance, and track correspondence related to noise disturbance;
- Continue to assess a fee for nighttime field use;
- Encourage tenants to consider the purchase of alternatively fueled vehicles;
- Continue to prohibit use of Auxiliary Power units and Ground Power Units for most purposes during nighttime hours and encourage FBOs to minimize their use at all times;
- Use ultra low sulfur fuel in Massport fleet vehicles;
- Installation of a paved aircraft holding area at the head of Runway 23 has been completed to reduce minor aircraft delays;
- Consider alternative fuel vehicles for any new Massport vehicles;
- Support the Shawsheen Watershed Initiative to improve water quality;
- Continue to implement BMPs for stormwater quality control;
- Manage airfield in a manner that does not disrupt breeding season for grassland birds listed under the Massachusetts Endangered Species Act; and,
- Implement and maintain Environmental Management System procedures.

Massport should consider additional TDM measures to reduce single passenger trips to Hanscom Field, including promotion of ride-sharing and enhancing transit connections. The 2022 ESPR should review all additional TDM measures considered for implementation and explain why measures not adopted are infeasible. Future ESPRs should identify mode share goals and report on the success of the TDM program. Massport should also consider instituting parking fees for single passenger vehicles with free or reduced parking fees for ridesharing at Hanscom Field.

Conclusion

The 2017 ESPR provided information regarding the facilities, infrastructure, operations, and airport activity levels at Hanscom Field and its potential effect on the surrounding communities, residents and resources. It provided forecasts of airport-related activity, including potential development, and identified potential environmental impacts. The information and analysis provided in the ESPR should serve as the basis of Massport’s ongoing efforts to minimize environmental impacts of its operations and facilities.

July 18, 2018
Date

K. Theoharides

Kathleen A. Theoharides

Comments received:

- 06/09/2019 John Stella
- 07/08/2019 David McCoy
- 07/09/2019 Town of Bedford
- 07/10/2019 Chris Boles
- 07/10/2019 Steve Shetler
- 07/11/2019 Carol C. Amick
- 07/11/2019 Jennifer Boles
- 07/11/2019 Coreen Garrett
- 07/12/2019 Department of Energy Resources (DOER)
- 07/13/2019 Chris Boles

KAT/AJS/ajs

RECEIVED
JUN 12 2019
MEPA

JOHN STELLA
PO BOX 543
BEDFORD, MA. 01730

SECRETARY KATHLEEN THEOHARIDES
EXECUTIVE OFFICE OF ENGERY AND ENVIORMENTAL AFFAIRS (EEA)
ATTN : MEPA OFFICE
ALEX STRYSKY , EEA NO. 5484/8696
100 CAMBRIDGE ST. SUITE 900
BOSTON , MA. 02114

JUNE 9 , 2019

DEAR SECRETARY KATHLEEN :

AS A LONG TIME BEDFORD RESIDENT NEAR HANSCOM FIELD, I AM WRITING YOU A LETTER THAT I STRONGLY RECCOMEND MASSPORT AND THE FAA THAT HANSCOM FIELD AIRPORT SHOULD INSTALL NEW SOUNDPROOF WALLS AROUND HANSCOM FIELD THIS WILL HELP PROVIDE NOISE REDUCTION FOR BEDFORD , LEXINGTON , CONCORD, AND LINCOLN .

WHY NOT BUILD NEW SOUNDPROOF WALLS AROUND THE AIRPORT ? WE HAD SEEN SOUNDPROOF BUFFER WALLS ON MAJOR HIGHWAYS AROUND MASSACHUSETTS . NOISE REDUCTION THAT HELP PEOPLE WHO LIVE HOMES NEAR MAJOR HIGHWAYS . THIS WILL HELP CUT DOWN NOISE REDUCTION.

IN NEAR FUTURE SOMEDAY , ALL AIRLINES MAY REQUIRE TO INSTALL NEW BUFFER AIRPLANES .

THIS IS MY RECCOMENDATION TO MASSPORT AND THE FAA REGARDING HANSCOM FIELD AIRPORT SHOULD INSTALL NEW SOUNDPROOF BUFFER WALLS.

SINCERELY,


JOHN STELLA

RE PLACED
MAY 21 1964

APR 1964
MAY 1964
MAY 1964

RECEIVED
MAY 1964

MAY 1964
MAY 1964
MAY 1964

MAY 1964

MAY 1964
MAY 1964
MAY 1964

MAY 1964
MAY 1964

MAY 1964
MAY 1964
MAY 1964

MAY 1964
MAY 1964

MAY 1964

MAY 1964
MAY 1964

July 11, 2019

Secretary Kathleen Theoharides
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office, Alex Strysky
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: EEA No. 5484/8696, 2007 L. G. Hanscom Field Environmental Status & Planning Report

Dear Secretary Theoharides:

As a longtime Bedford resident, a former MA State Senator who represented Bedford in the Massachusetts Legislature, and the Senate Chair of the Legislature's Committee on Natural Resources and Agriculture who wrote numerous environmental legislation during my 15 years in the Legislature, I respectfully submit the following comments on the 2017 Hanscom Field Environmental Status & Planning Report (ESPR):

Noise:

The 2017 ESPR, like its 2012 predecessor, discusses current and future projects to encourage more aviation activity at Hanscom Field without regard to the impacts on quality-of-life affecting Bedford's residential neighborhoods, both those close to the airfield and those further away like mine that are still affected by the noise emanating from Hanscom Field, especially at night.

Total nighttime aircraft operations are forecast to increase from 1,902 in 2017 to 2,972 in 2035, with jet aircraft predicted to fly about 66% of those operations, or 2,000 nighttime flights (page 3-18). Ignoring for a moment the issue of decibel levels, I can affirm that nighttime flights constantly awaken me and my neighbors. I urge MEPA to require stronger action by Massport to reduce nighttime operations.

Massport's proposed future development of the Northeast Airfield site is completely vague in the ESPR. The "FamCamp" site, accessed only via South Road in Bedford, is part of this parcel, which abuts or includes a red maple swamp wetland, #1-2 (Page 9-7). Access to this site via South Road poses adverse traffic impacts on this narrow, residential street, and its location adjacent to the densely-settled Bedford residential neighborhoods off South Road will result in severe noise impacts to these residents. In addition, because the wetland has not been delineated since 2010, I urge MEPA to require Massport to perform a review to update the wetland boundaries.

The ESPR states that over 99% of Hanscom Field's operations were General Aviation-related in 2017, and are forecast to grow at a small rate of 0.3% per year through 2035, due to increases in business aviation activity that uses turboprop and jet aircraft (page 3-15). Jet activity is predicted to increase in 2025 by 42.4% from 2012 and in 2035 by 63.5% from 2012 (page 3-14).

The ESPR states that rising air noise levels measured at Hanscom Field since the 2012 ESPR are due primarily to increases in jet aircraft operations. The 2017 ESPR downplays the noise that these jets will create, but Table 4-7 (Page 4-30) shows Massport's forecasts for jets based at Hanscom in the future: from 93 jets in 2017 to 118 in 2025, to 153 in 2035. That's an increase of over 60% by 2035, and with it comes a certainty of additional noise to Bedford's residential neighborhoods.

Air quality:

At the June 11, 2019 ESPR informational meeting, Massport consultant Katherine Preston made a statement identical to a conclusion in the ESPR, that, with the exception of carbon monoxide, "aircraft emissions of criteria pollutants and greenhouse gases (GHG) for each of the future year scenarios (2025 and 2035) are forecasted to be higher than those for the year 2017 based on the predicted growth in operations" (page 8-3). I urge MEPA to require Massport to install actual air quality monitoring equipment at Hanscom Field instead of using projections, to insure that, as jet operations increase, the air quality at neighboring residential and commercial areas meets the State's ambient air quality standards. MEPA has required such monitoring activities at Logan Airport; the residents surrounding Hanscom Field deserve no less protection.

Water quality:

The Shawsheen River watershed provides drinking water to Bedford and other communities. Yet Massport allows stormwater discharges to enter the Shawsheen River or via its Elm Brook tributary, and monitors those discharges ONLY by visual inspection on a quarterly basis (page 9-51), and inspects stormwater discharges into the Elm Brook for total suspended solids only ONCE a year, and only at ONE location (page 9-52). MEPA needs to require Massport to establish a more arduous stormwater testing program, also consistent with requirements at Logan Airport.

North Airfield:

Last year, Massport issued an RFP for the construction of new T-hangers and corporate hangars at the North Airfield Site. Aircraft using these new hangars could amount to a total of 38 small planes and helicopters, and up to 12 business aircraft, likely jets. The construction of these hangars totaling 165,000 square feet will generate noise for several years to the surrounding neighborhoods. Once these new facilities are built and operating, activities associated with them will produce new noise by aircraft entering and leaving the new hangars as well as idling their engines while waiting their turn to taxi to the runway.

Vehicular access to these yet-to-be-constructed hangar facilities, using the new public gate into this portion of the airfield, will result in severe traffic congestion on the only road that provides access to this site: Hartwell Road in Bedford. This road is already busy accommodating Bedford commercial and residential traffic, and as a cut-through for traffic seeking relief from I-95/128, Route 2 and Route 2A congestion. This road also serves as access to several single-family and

condominium community neighborhoods, including Kendall Court, which is less than a quarter mile from the proposed new hangar site.

The 2017 ESRP states that Hartwell Road will continue its "heavy traffic volumes" and projects that by 2025, 20% of ALL General Aviation ground transportation will use the Hartwell Road gate. The percentage jumps to 25% in the 2035 scenario (p 6-47). Yet Massport's consultant Katherine Preston acknowledged at the June 11 ESRP meeting that the effects on construction traffic through Bedford neighborhoods were NOT considered in the 2017 ESRP, due to their "limited duration." Yet Massport has acknowledged at Hanscom Field Advisory Commission (HFAC) meetings that the construction will last for SEVERAL years.

To make matters worse, the ESRP notes (page 6-20) that Massport's traffic consultants counted traffic manually for a three-hour morning period and a three-hour afternoon period on only ONE day in 2018 (April 5), at two Bedford intersections (Hartwell Road/Route 62 and South Road/Hartwell Road), but DID NOT include any Bedford locations for the next step in its traffic study: installing automatic, 24-hour traffic counting monitors for seven days.

While the new requirement of a Construction-Period Traffic Management Plan that will notify local officials and residents about construction vehicle routes before construction begins is a good first step, it is insufficient to mitigate the problems created by trucks that may be overloaded, too large for the narrow residential roads on their haul routes, traveling at excessive speeds, and out of compliance with MA trucking laws and regulations. These problems occurred last year when thousands of dump trucks used by Massport contractors traversed residential streets during the runway resurfacing project.

I urge MEPA to consider these multiple years of construction-related trucking as one, continuous activity, with regular and predictable impacts on Bedford's residential streets and the residents living there, and propose some additional mitigating measures.

With all the possible noise activity, I was extremely disturbed to hear a Massport official at the final ESRP informational meeting on June 11, 2019 acknowledge that the noise impact generated from ground operations at the North Airfield site was NOT evaluated in the model that Massport utilized to predict "no impact" on Bedford neighborhoods. To me, this absence of the evaluation of the ground noise impact suggests Massport's use of segmentation to break the North Airfield project down into below-MEPA-threshold activities. Alex Strycky of MEPA stated at the June 11 ESRP meeting that "segmentation" would be a reason to allow MEPA to look back at previously-approved and permitted projects. I urge such action.

I also note that the ESRP reports a need for 210,000 square feet of new hangar space as of 2025, and 120,000 more square feet by 2035. The North Airfield site with its proposed new 165,000 square feet of hangar space is not the only planned hangar development location; plans for new or upgraded hanger facilities are proposed at the East Ramp, West Ramp, and Pine Hill sites. It is illuminating to read the ESRP statement (page 4-31) that "the array of general aviation hangars identified in Table 4-8 EXCEEDS the expressed facility requirements in Section 4.2.3 for aircraft storage for both the 2025 and 2035 scenarios..."

Massport's own words indicate that it is proposing greater square footage needs for hangars than it really needs through 2035.

Therefore, I urge MEPA to look back at the North Airfield project and require Massport to conduct a re-evaluation, and scale back the North Airfield planned construction. In addition, I urge MEPA to require Massport to include the impacts of ground noise -- both construction related and operational, and traffic congestion in its review. Only MEPA can force Massport to consider the impact that its push for unconstrained growth in airfield operations is having on the four communities that surround the airfield. Only MEPA has the tools to force Massport to scale back its construction plans.

Sincerely,

Carol C. Amick
18 Crescent Avenue, Bedford

cc: Senator Michael Barrett
Representative Ken Gordon

From: Chris Boles
To: Strysky, Alexander (EEA)
Subject: Comments on Hanscom Field 2017 ESPR
Date: Wednesday, July 10, 2019 11:15:36 PM

Dear Mr. Strysky,

I am writing to submit my thoughts and concerns on the 2017 Hanscom ESPR. I have two groups of concerns. The first group (part A, below) pertains to MEPA's mission in the Hanscom ESPR process. The second (part B, below) pertains to the lack of attention to certain environmental issues in the Hanscom 2017 ESPR document.

A. MEPA's mission and responsibilities in the Hanscom ESPR process.

At the opening of the June 11th Massport ESPR review, you presented an outline of the purpose of the Hanscom ESPR process and MEPA's role in the Hanscom ESPR process. Two of your statements stood out to me.

- 1) Something to the effect that the ESPR process was to ensure that the public is fully informed of Hanscom development projects prior to permitting, and
- 2) Something to the effect that another goal of the ESPR process was to avoid regulatory segmentation, where large projects that might require special regulatory oversight/review are not divided into numerous small projects that separately might not require such regulatory measures.

On both of these issues, I believe that Massport and MEPA have fallen short.

I live less than a mile from Hanscom field, and experienced the horrendous and hazardous 11-29 runway repaving project in August-September of 2017. Since then, I have taken great care to attend HFAC and HATS meetings, in order to be alert to the next hazardous Massport project that may be coming to my neighborhood.

Despite my efforts, the full extent of the N. Airfield development projects remained obscure until the April 2018 draft environmental assessment was published for comment. Prior to that publication, the "N. Airfield" Bedford Corporate Hangar project had been discussed as something separate from the "Pine Hill" Concord project, thus avoiding the issue that the N. Airfield project involved almost twice as much hangar space as envisioned in the "N. Airfield" RFP. In effect, by treating the two projects as separate in Massport disclosures at HFAC, Massport seemed to be aiming at regulatory segmentation of certain aspects of the entire N. Airfield plan, such as ground operations noise, air, and possibly ground water contamination that could very well impact Bedford residential areas as close as 1600 feet away, and Bedford recreational facilities that are directly across the street from the project.

So for these reasons, I think that MEPA and Massport have failed in their stated goals of regulatory transparency and anti-segmentation in the case of the proposed N. Airfield development.

And one other question regarding regulatory transparency: why was the N. Airfield environmental assessment submitted to the FAA, rather than an agency charged with

environmental issues? It seems obvious that the assessment should have been assigned to MEPA or the US EPA (and possibly a conflict of interest that it was submitted to the FAA).

B. Deficiencies in the 2017 Hanscom ESPR

1. No consideration of the increased ground noise at the N. Airfield Bedford site.

During my many visits to HFAC meetings at the Hanscom Civil Air terminal, I have always been impressed by the amount of noise coming from corporate hangars near the terminal. This would obviously also be a potential concern for Bedford residents that live near the N. Airfield development site. Those neighborhoods are as close as 1600ft to the northwest of the N. Airfield site, and as close as 2400 ft east of the site. It was very surprising to learn at the June 11th MEPA review meeting that ground noise impacts had not been considered for the N. Airfield project, and that *ground noise was not even measured* at Hanscom Field. In view of the close proximity of Hanscom facilities to Bedford, Concord, and Lincoln residential neighborhoods, I think some consideration of airfield operations ground noise should be included in the ESPR.

2. Air Quality at Bedford neighborhoods near the N. Airfield, and along the 11-29 major runway.

As with the ground noise issue discussed above, during my visits to the Hanscom Civil Air Terminal, I am always impressed by the chemical smells near the terminal, coming from aircraft exhaust, fuel, and possibly solvents used in aircraft maintenance. During visits to my friends that live along the 11-29 runway near South Road in Bedford, I frequently experience the same smells. I think that the level of hazardous fumes in Bedford neighborhoods needs some attention by Massport and MEPA. I was surprised to learn that the sparse air quality data in the ESPR document was not collected at Hanscom Field communities. This topic requires more attention, as it is relevant to the health of Bedford residents presently experiencing noxious fumes near the east end of runway 11-29, and also the the health of those residents that will be experiencing such fumes near the N. Airfield hangars in a couple of years from now.

3. No runoff water testing at Hanscom Field

It was very surprising to learn at the June 11th ESPR meeting that no chemical analysis of Hanscom Field runoff water was being conducted, despite the fact that Massport has a lot of experience with runoff water testing at Logan. Since water from Elm Brook and the Shawsheen River contribute to public water supplies of Bedford and Burlington, it is imperative that Massport institute a proper analytical water testing program at Hanscom Field as soon as possible.

4. No evaluation of traffic impact of the N. Airfield project on Bedford neighborhoods.

As far as I can see, there is no evaluation of the change in traffic along Hartwell Road in Bedford expected from the N. Airfield development plan. Hartwell road is a small road with dense residential areas on either end. The central region is not residential but is heavily traveled by employees of Instrumentation Laboratory (just west of the planned N. Airfield site), and athletic teams using the Edge rink and playing fields (directly across the street from the N. Airfield site). Some evaluation should be made, because there is currently no traffic at all associated from the currently vacant N. Airfield site.

Thanks for your consideration of these issues.

Chris Boles, Ph.D.
tcboles@protonmail.com
mobile: +1-781-856-2165
243 Concord Road, Bedford, MA 01730

This email may contain information that is confidential or privileged. If you are not the intended recipient, do not read, copy or distribute the e-mail or any attachments. Instead, please notify the sender and delete the e-mail and any attachments. Thank you.

Sent with ProtonMail Secure Email.

From: Chris Boles
To: Strysky, Alexander (EEA)
Subject: An additional comment on the 2017 Hanscom Field ESPR
Date: Saturday, July 13, 2019 9:42:53 AM
Attachments: CBoles Hanscom ESPR scoping comments 2017.pdf

Dear Mr. Strysky,

(I know the deadline for ESPR comments was July 11th. But since you are out until the 15th, I thought there might be a chance that this additional comment could be accepted.)

I submitted most of my comments on the Hanscom ESPR on Wed July 10th, but since then I have had time to review my November 5, 2017, comments to you on the ESPR scoping document (attached). One of my comments from 2017 seems to have taken on larger importance, in light of the new 2017 ESPR.

In the 2017 Hanscom ESPR, Massport discloses that their Northeast Airfield parcel will be considered for future development (Figure 4-4). The 2017 ESPR also shows previously undisclosed plans for even larger developments in the N. Airfield area (Figure 4-3). I feel that the impact of the N. Airfield project on Bedford residential traffic (on Hartwell Road and other connecting routes through Bedford) has not been adequately evaluated. That impression is now reinforced and amplified by the disclosure that the Northeast parcel may also be developed.

In my 2017 comments on the ESPR scoping document, I asserted that Massport needs to implement new access routes to the north side of the airfield that do not impact Bedford residential neighborhoods. I would like to reiterate those comments here. They are now even more relevant in view of the expanded scope for the N. Airfield project, and the possible development of the Northeast parcel. It is hard to see how Hartwell road can serve the access for these two large developments.

With the increased emphasis on development of the East Ramp, it seems that Massport should consider plans that include other options for airfield access. One unexplored route might involve a gate from the commercial area of Hartwell Ave. which would be convenient to the proposed East ramp development area. Such a new gate would not be disruptive of any residential areas.

To offer full access to the N. Airfield and Northeast Airfield areas from a new Hartwell Ave. gate, there would still need to be new plans for a perimeter access road within the airfield boundaries. This would present some problems in acquiring the right of way (or property) necessary to provide the new perimeter access, of course. But the 2017 ESPR development plan seems to involve dumping all north Hanscom Field access (including all N. Airfield and Northeast parcel traffic, including employees, customers, and all related continuing Massport maintenance, supply, and construction traffic) onto the Town of Bedford, adversely affecting the quality of life for thousands of Bedford residents for the benefit of dozens or hundreds of corporate or private aviation customers.

To summarize, the expansion plans described in the 2017 ESPR for the north border of Hanscom Field deserve more study and consideration of how those area will be accessed both in the near term and in the future, and how such access will affect Bedford residential areas.

Thanks for your consideration of these issues.

Chris Boles, Ph.D.
tcboles@protonmail.com
mobile: +1-781-856-2165
243 Concord Road, Bedford, MA 01730

This email may contain information that is confidential or privileged. If you are not the intended recipient, do not read, copy or distribute the e-mail or any attachments. Instead, please notify the sender and delete the e-mail and any attachments. Thank you.

Sent with ProtonMail Secure Email.

November 5, 2017; C. Boles comments on Hanscom Field ESPR scoping document

Comments on the Proposed Scope 2017 L. G. Hanscom Environmental Status & Planning Report
Chris Boles, Bedford Resident
243 Concord Rd., Bedford, MA 01730

Dear Massport and MEPA officials:

Please find below my comments on the ESPR scoping document, in order of importance.

Section IV. Airport Planning

As a major regional airport, Hanscom Field will require continuing capital improvement, development, and maintenance projects. While such projects are essential to Massport's function at Hanscom Field, at least one recent capital maintenance project, the runway 11-29 resurfacing project, has run rough-shod over the well-being of Bedford citizens, by conducting more than 12,000 heavy construction vehicle trips through Bedford residential neighborhoods.

Moreover, many of the construction loads consisted of hazardous material such as milled asphalt, which is known to contain respirable silica, a substance associated with increased cancer risk. Furthermore, much of the material trucked through Bedford was removed from locations close to known EPA superfund sites (OU-1, sites 1, 2, and 3). For this reason, such activity should have been considered potentially hazardous to Bedford citizens, at a minimum. Our inquiries about the potential hazards from such trucking activity have been answered by dismissive, insubstantial reassurances from Massport, and have not provided any actual testing data on the potential hazards to Bedford neighborhoods. (And I am speaking here about neighborhoods with many small children and playing fields for youths in close proximity to the truck routes.) In my opinion, such precautionary testing should have been required by the EPA and MEPA well in advance of the 11-29 runway resurfacing project.

The lessons from the 11-29 resurfacing project that are important for the Massport ESPR scoping process are clear: **there needs to be a clear and well-considered plan to provide improved access for heavy construction projects at Hanscom Field that does not involve travel through residential neighborhoods of the Hanscom area towns, especially Bedford.**

I wish to be clear that I am not opposed to further development at Hanscom Field. However, such development must be carried out in a manner that protects the health and safety of the citizens of Bedford, and the other Hanscom communities.

Plans for improved access for construction projects might consider the following options:

- 1) A new gate for construction vehicles entering from Hartwell Avenue along the east border of the field, at a point somewhere northeast of the Air Force base.
- 2) An improved gate for construction traffic on the southwest perimeter of the field entering from Virginia Road, where a couple of gates to the perimeter service road already exist.
- 3) Redesign of existing taxiways and/or construction of new taxiways that would allow more flexible routing of construction vehicles with minimal disruption of normal airport operations.
- 4) Improvements to, or construction of, a new perimeter road within existing Massport property lines to provide better construction access from gates not involving Bedford residential neighborhoods.

November 5, 2017; C. Boles comments on Hanscom Field ESPR scoping document

Section IX. Wetlands/Wildlife/Water resources; and Section XI. Sustainable Development and Environmental Management System

Because of the specialized chemicals in use at airports, there is a need for special environmental monitoring. For instance, it is my understanding that a substantial fraction of the aircraft fuel used at Hanscom Field is leaded. In addition, there are components of specialty chemicals used at airports, such as deicing chemicals, that may be hazardous to the ecosystem and humans. Although, water quality monitoring of the Shawsheen River is an important activity supported by Massport, it would seem to be valuable to also monitor soils and groundwater for commonly used hazardous materials at Hanscom Field. This would seem to be easy to address at Hanscom Field, since many such monitoring procedures are already in place due to the Superfund cleanup activities. I think that such a testing program should be considered for inclusion in the ESPR.

Format of the 2017 ESPR

Page 2 of the scoping document states that:

“Detailed ESPR technical studies will be summarized in a readable format to illustrate clearly the implications of recent trends, existing conditions and potential future scenarios.”

Since Massport is an agency of the Commonwealth of Massachusetts, all technical studies used to produce the ESPR should be publically available to the citizens of the Commonwealth. Summaries of the technical data in the ESPR are useful and essential, but at this point in history, where electronic document storage costs are so low, all of the technical data used for the ESPR should be made available as technical appendices that can be downloaded from the Massport website separately from the main ESPR document.

A minor comment about the ESPR scoping review process –

Although dated October 2nd, the document was not publically available for download from the Massport website until sometime after October 20th. I downloaded it on October 23rd. For this reason, the actual period for public comment on the scoping document was around 19 days, instead of the stated 30 day period. Massport should do better in future to inform citizens of such deadlines, and provide easy and timely access to the relevant documents to be reviewed.

Thank you for meeting with the Hanscom communities to discuss the ESPR scoping document on October 24th, and also for soliciting public comments on these important issues.

Sincerely,



Chris Boles
11/5/2017



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF
ENERGY AND ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENERGY RESOURCES

100 CAMBRIDGE ST., SUITE 1020

BOSTON, MA 02114

Telephone: 617-626-7300

Facsimile: 617-727-0030

Charles D. Baker
Governor

Karyn E. Polito
Lt. Governor

Kathleen Theoharides
Secretary

Judith F. Judson
Commissioner

12 July 2019

Kathleen Theoharides, Secretary
Executive Office of Energy & Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02114
Attn: MEPA Unit

RE: 2017 L.G. Hanscom Field, Bedford, Massachusetts, EEA #5485/8696

Cc: Maggie McCarey, Director of Energy Efficiency, Department of Energy Resources
Judith Judson, Commissioner, Department of Energy Resources

Dear Secretary Theoharides:

We've reviewed the 2017 Environmental Status and Planning Report (ESPR), dated May 2019, for the above facility. Recommendations to consider are as follows:

Building Energy Use

The facility contains approximately 45 buildings (office, hanger, garage, etc) with plans to develop buildings in the future. It would be useful to estimate gas, electric, and other energy use for these buildings to estimate total energy use. For the buildings that are space conditioned, estimate energy use per square foot of conditioned space. These data can be estimated annual and trended over time with the objective of evaluating progress toward reducing energy use on a per area basis.

Building Emissions

Similarly, it would also be useful to estimate total building emissions, and trend building emissions over time, both total and on an per area basis. For building electric power, use an electric grid emission rate of 700 lbs/MWhr for the year 2020. With the addition of renewables into the Massachusetts grid, electric grid emission rates are expected to decline to 200 lbs/MWhr by 2050. Accordingly, when contemplating new construction and renovations, it would be useful to evaluate potential efficiency measures and heating options in terms of reduced emissions, not just reduced

2017 L.G. Hanscom Field, Bedford, EEA #5485/8696
Bedford, Massachusetts

total energy. Consider, also, how electric grid emission rates are expected to decline when choosing efficiency strategies.

Key Emission Reduction Strategies

Key emission reduction strategies are as follows:

- **Envelope:** High-performance envelope performance is another key emission reduction strategy. High-performance envelopes require continuous insulation and very low air-leakage. High performance envelopes also avoid extensive use of curtain walls and excessive glass.
- **Electrification:** In Massachusetts, electrification of space and water heating is a key emission reduction strategy due to current emission rates, which are expected to lower further as discussed above. For this reason, space heating with efficient heat pumps and VRF equipment should be given high priority. Water heating can also be done with electric heat pumps, replacing fossil fuel equipment.
- **Heat Recovery:** Heat recovery is critical to emissions reduction. Heat recovery is the process of keeping heat energy inside the building during winter and keeping heat energy out during summer while ventilating. Heat recovery also occurs internal to building operation, using excess energy from one part of the building in cooling for heating in other portions of the building.

MassSave®

Engage with MassSave® for all building projects, both new construction and renovations. MassSave has both prescriptive and performance based pathways to help ensure maximum financial benefit to the project.

Alternative Energy Credits

Space heating with eligible electric heat pumps can qualify for Alternative Energy Credits (AECs). More information is available here: <https://www.mass.gov/guides/aps-renewable-thermal-statement-of-qualification-application>

Solar PV

Building code now requires PV readiness for 50% of the roof of most low-rise buildings. When planning new buildings, consider expanding this minimum PV readiness to 80-90%. This can be done by avoiding or consolidating rooftop equipment to one area of the roof in order to maximize unobstructed rooftop.

2017 L.G. Hanscom Field, Bedford, EEA #5485/8696
Bedford, Massachusetts

Information on the Commonwealth's solar SMART plan is here: <https://www.mass.gov/solar-massachusetts-renewable-target-smart>

Sincerely,

A handwritten signature in black ink, appearing to read 'Paul F. Ormond', with a stylized flourish at the end.

Paul F. Ormond, P.E.
Energy Efficiency Engineer
Massachusetts Department of Energy Resources

From: [Coreen](#)
To: [Strycky, Alexander \(EEA\)](#)
Subject: 2017 ESPR – Massport/HANSCOM ~ EEA No. 5484/8696
Date: Thursday, July 11, 2019 6:27:29 PM

On Thursday, July 11, 2019, 6:24:41 PM EDT, Coreen <coreenita@yahoo.com> wrote:

Dear Mass officials,

I am a concerned Mass resident living in Bedford. Recently I attended a meeting that brought note to how little is being done to protect us residents. It's really disappointing. In the meeting it was evident that they don't care. The traffic concerns, noise and air pollution and water. Many questions asked by a resident were answered with we don't test that or that's not our responsibility. The studies that were done left out so many things. It came up in the meeting that Every time a plane takes off it dumps fuel. This is running off near our water. Please someone step up and help the residents of Massachusetts. It would be nice to see some actual partnering with the surrounding towns and some real testing.

Thank you
Coreen garrett

July 11, 2019

Dear Mr. Strysky,

I have several concerns about the 2017 Massport ESRP for Hanscom Field.

- One is that the very first figure in the document, Figure 1-1, uses a composite map that seems to be based on an older 1987 USGS map that appeared as Figure 1-1 in the September 26, 2018 Environmental Assessment for L.G. Hanscom Field, Aviation Facility Improvements Project prepared by Massport and Epsilon Associates.

Of course, since 1987 many homes, and even some whole new neighborhoods in Bedford have been constructed near the airfield and along streets that Massport may choose to designate as haul routes for future construction projects. They are not shown on Figure 1-1.

I do realize that this particular composite map was not used to provide actual technical data for the Massport environmental impact studies summarized in the ESRP.

However, it is the first map that people will see when examining the document. Not everyone will read all 560 pages, but everyone will certainly look at Figure 1-1, which simply does not show many of the Bedford homes which are closest to the airfield, and in particular to those proposed new corporate and T-hangar projects on the North Airfield. The homes on Kendall Court, Soren's Way, and many along Concord Road, even some much older than 1987, are not shown. On the other side of the airfield, homes on Liberty Road and Meeting House Circle are not shown.

So the first glance at Figure 1-1 in this ESRP communicates to all readers, whether they are Massport consultants, project planners, contractors, potential developers, haul route planners, or regulatory agency officials, legislative and executive government officials (including maybe the Governor himself), and ordinary folks like me ... that there are only a handful of homes in Bedford close to the airfield. I'm pretty sure the same applies to many homes in Concord, Lexington, and Lincoln near the airfield.

So there are probably hundreds of homes missing from Figure 1-1 of the ESRP, and yet the families in those homes are certainly affected by many current and future Massport operations and developments. But anyone getting their impression of Hanscom Field and the surrounding neighborhoods from Figure 1-1 won't realize that.

So my comment is that Figure 1-1 gives a misleading impression of the number of families that live in close proximity to the airfield, even though Massport did not actually use it to model environmental impacts on the neighborhoods near the airfield.

- I also would like to comment that the North Airfield site Massport has chosen for the construction of a T-hangar facility with associated aircraft parking aprons and car lots, used to be a residential lot for mobile homes that housed military personnel and their families.

It wasn't used for aviation purposes. It is not paved over. There are some remnants of the little roads that led into the housing area. Most of the land is covered with grass and shrubs and trees. Please come see for yourself. Or at least look at a satellite view from Google Maps.

The only noise coming from that land for many years was the sound of the families who used to live there. Common sense says that the noise from the 38 small planes and helicopters Massport plans to house in its proposed new T-hangar complex on that land will be vastly different from residential sound levels, no matter what that September 26, 2018 environmental assessment predicted.

I think there may actually be other more suitable locations for T-hangars on the airfield that are already completely paved, are in close proximity to other aviation-related activities, and are acknowledged by Massport to be under-utilized, than this former residential site on the North Airfield. (Even if it might require reconfiguring an access road or two. That isn't my idea, it is in the ESRP.) I suggest the North Airfield hangar projects, both corporate and T-hangar, should go back to the drawing board in search of a more suitable home. I don't think it will be hard to find.

- My last comment is that I think Bedford's Shawsheen River and Elm Brook deserve better treatment from Massport, with regard to Hanscom Field stormwater discharge monitoring. More like the careful laboratory analyses for airfield-related pollutants applied to the Logan stormwater discharges into Boston Harbor, instead of only periodic visually monitoring.

After all, the water of the Shawsheen River (and its tributary Elm Brook) flows right beside Bedford's Shawsheen Municipal Wellfield where our town takes 15% of its drinking water. Further downstream, Burlington diverts water from the Shawsheen River for quite a lot of its drinking water. No one drinks Boston Harbor water.

Some extra care and attention for both the Shawsheen River and Elm Brook are warranted. Maybe those 2009 and 2015 MADEP NPDES permits to Massport for Hanscom Field stormwater discharges should be re-examined.

Thank you for coming to the June 11 ESRP public meeting, and thank you also for answering questions and listening to the concerns of town officials and residents.

Sincerely,
Jennifer Boles
Bedford resident

From: Jennifer Boles
To: Strysky, Alexander (FEA)
Subject: One more comment on 2017 Massport/HANSCOM - EEA No. 5484/8696
Date: Thursday, July 11, 2019 12:08:07 PM

July 11, 2019

Dear Mr. Strysky,

I realized I had not commented in my earlier letter to you on what may turn out to be a very important issue with Massport's Hanscom Field stormwater discharge monitoring: PFAS.

As you know, these perfluorinated compounds are associated with airfields, and former military airfields in particular, and have come under increasing scrutiny by both the EPA and MADEP as contaminants of emerging concern.

I think Hanscom Field's long history as a military airfield before it reverted back to Massport, along with its location in the midst of the headwaters of the Shawsheen River, should prompt even more attention to Massport's airfield stormwater discharge monitoring.

And the terrible jet crash in 2014 off the end of a Hanscom Field runway straight into the Shawsheen River, with the tragic loss of all aboard, illustrates how vulnerable Bedford's Shawsheen River can be during unforeseen accidents at the airfield.

The jet fuel and firefighting foam that poured into the river that night caused our Shawsheen Municipal Wellfield, and Burlington's Shawsheen River diversion station to be closed down for a number of weeks, to protect Bedford and Burlington's drinking water safety.

As concern grows among researchers and communities about PFAS contamination of both surface water and groundwater, I hope Massport can be encouraged to take a proactive part in stepping up the monitoring of stormwater discharges off the airfield and airport into both the Shawsheen River and Elm Brook. I hope Massport would also be encouraged to recognize that Bedford's groundwater may be vulnerable to PFAS contamination from the Hanscom airfield.

Sincerely,

Jennifer Boles
Bedford resident

From: David McCoy
To: Strysky, Alexander (EEA); sdalzell@massport.com
Cc: Harrington, Sheila - Rep. (HOU)
Subject: Request to be included in ESPR
Date: Monday, July 08, 2019 9:27:30 AM
Attachments: Hanscom Standard Training Area

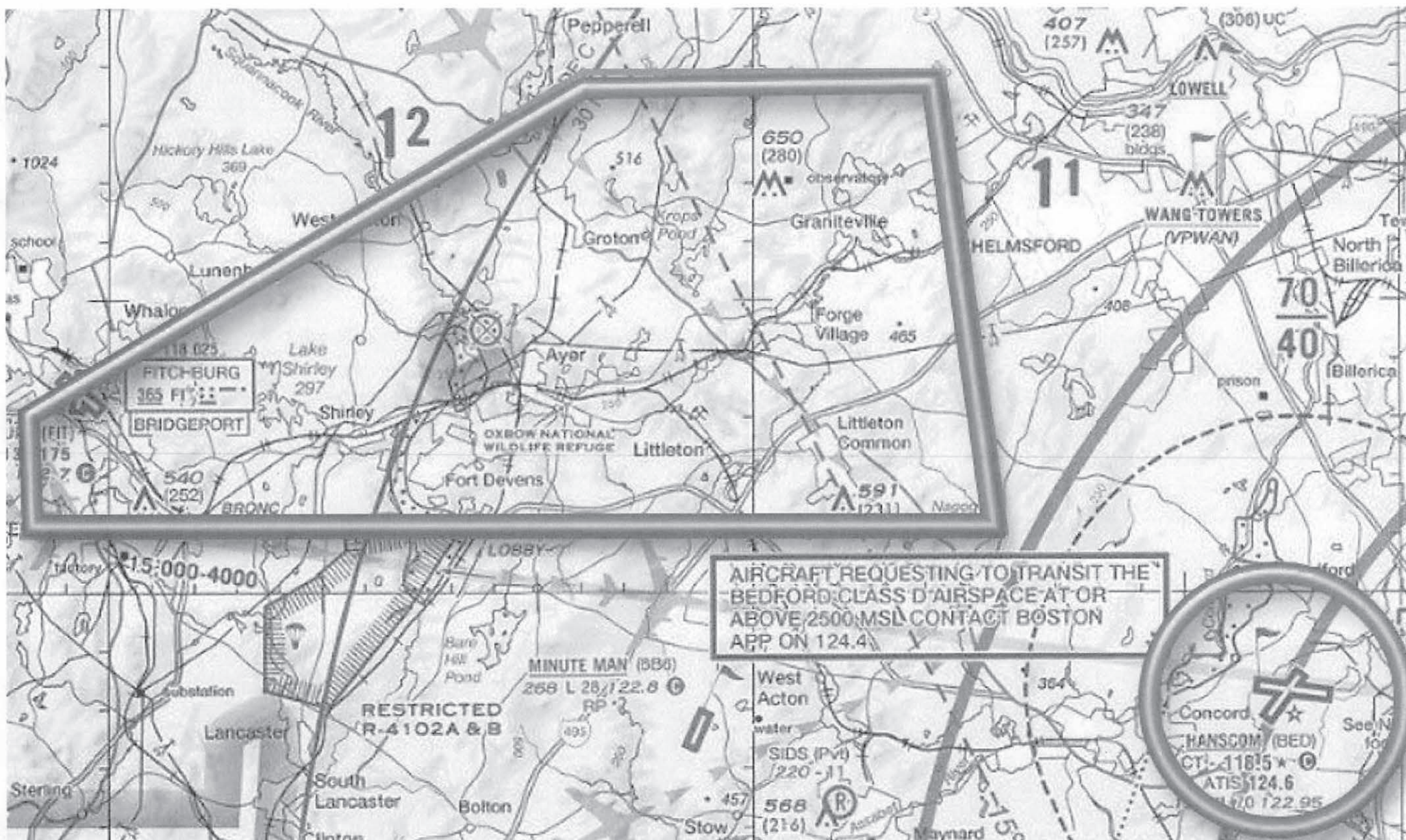
Hanscom's impacts are not localized to the four surrounding towns of Bedford, Concord, Lexington and Lincoln. Towns located within Hanscom's "training areas" of A, B and C should be included in the ESPR reports. The noise impact and leaded fuel impact of single and double piston propellered aircraft need to be measured.

Massport needs to create "Time Above Contours" where Hanscom based flight schools conduct their maneuvers. One example of such areas is over the towns of Ayer and Groton (see attached chart provided by Massport). In addition, areas under the Hanscom flight tracks need to be included in the ESPR.

Sincerely,

David McCoy

Ayer, Ma



AIRCRAFT REQUESTING TO TRANSIT THE
 BEDFORD CLASS D AIRSPACE AT OR
 ABOVE 2500 MSL CONTACT BOSTON
 APP ON 124.4



From: steve.shetler
To: [Strysky, Alexander \(FEA\)](mailto:Strysky.Alexander@FEA)
Cc: sdalzell@massport.com; [Vivian Howell](mailto:Vivian.Howell)
Subject: 2017 ESPR – Massport/HANSCOM ~ EEA No. 5484/8696
Date: Wednesday, July 10, 2019 5:30:50 PM

As an adjacent resident in Bedford, I have the following comments and observations on the ESPR:

Section 3 defines noise impacts in terms of decibels and growth and decline of various aviation.

I would define noise impacts in terms of level of nuisance and duration. Having lived near Logan and now near Hanscom, I have experienced a significant difference between fully-laden airliners and small planes- both in terms of noise and duration. Small planes have a much shorter nuisance duration than do commercial craft- ie. 10-15 seconds of 'disruptive' noise vs. 45- 60 seconds.

Small plane and private jets constitute a short-duration disruption. Commercial Aircraft do not.

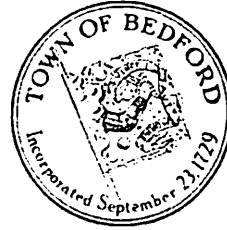
Although pilot training is declining, according to the report, helicopter use is growing. Helicopters are highly disruptive and a major nuisance to the surrounding neighborhoods as low- level flying lessons are given daily, including on weekends. Helicopters are extremely noisy and longer- duration nuisance than are light planes or even jets. This should be addressed.

Although limited, nighttime operations are highly disruptive and a major nuisance when they occur. This will be a major concern to residents as nighttime operations are expected to increase.

5.35- Hanscom, with limited use as a commercial aviation field, is a non- starter with the neighborhoods.

We appreciate the effort of Massport to address neighborhood concerns. The field's use as a GA reliever has placed it in an approximate stasis with the concerns of the abutters and surrounding communities. Any growth supporting light GA should be achievable without upsetting the 'balance' however, commercial aviation will instantly tip the scales to extreme opposition.

Sincerely,
Steve Shetler, AIA
2 Cutler Street
Bedford, MA. 01730



SELECTMEN of BEDFORD

William S. Moonan, Chair
Caroline Fedele Margot Fleischman
Edward Pierce Michael A. Rosenberg

10 Mudge Way
Bedford, MA 01730
781-275-1111

July 9, 2019

Secretary Kathleen Theoharides
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office, Alex Strycky
EEA No. 5484/8696
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: EEA No. 5484/8696, 2017 L. G. Hanscom Field Environmental Status & Planning Report

Dear Secretary Theoharides:

The Bedford Selectmen submit the following comments to the 2017 Hanscom Field Environmental Status & Planning Report, and respectfully request that the Massachusetts Environmental Policy Act (MEPA) review result in the issuance of conditions based on these comments. It is our hope and anticipation that such conditions will require Massport to adhere to various enforceable mitigation strategies during its future development at Hanscom Field.

Our concerns are threefold:

Traffic congestion

The traffic counts listed in the report (page 6-20) include only two locations in Bedford, and neither of those locations was used for the automatic, 24-hour monitoring undertaken by Massport's consultants. Several roads in Bedford, notably Hartwell Road and South Road/Summer Street, would be impacted by both new construction and new access roads proposed in the forecasts.

Massport's planned construction of new T-hangars and corporate hangars at the North Airfield site, along with associated administrative offices, for a total of 165,000 square feet of new construction, will be accessible only by Hartwell Road, which is already heavily used by residents, commuters, and commercial vehicles.

This will be impacted during the construction phase and afterwards, with increased vehicular traffic to access the facilities. The 2017 ESPR acknowledges existing "heavy traffic volumes" on this road, and projects that for 2025, 20% of all General Aviation ground transportation will use the Hartwell Road access, jumping to 25% in the 2035 scenario (Page 6-47). Yet for the 2017 ESPR, Massport is

relying on just six hours of manual traffic-counting at only two Bedford intersections on one day in 2018 to forecast impacts on Bedford to 2035.

Massport could assure residents of safety on streets during construction by funding local traffic control personnel and a Department of Transportation inspector dedicated to monitoring the Massport construction haul routes through Bedford, and enforcing compliance.

Massport has identified a large tract of property that it calls the Northeast Airfield with potential for development. The only vehicular access to this property is via South Road in Bedford, a dead-end street too narrow to permit trucks to pass in opposite directions. Such development would have a major negative impact on the neighborhood, a dense, highly-congested residential area.. We also request that MEPA require a review to update the wetland boundaries—which may encompass portions of the Northeast Airfield site—before any decisions are made to develop this site.

Noise

More aircraft activity and more construction necessarily create more noise. During the past several months, Massport has noted a sharp increase in noise complaints from surrounding neighborhoods. Any new construction or increased aircraft activity would presumably result in even more noise complaints. We urge Massport to investigate the causes of these increases, and to advocate higher fees to discourage flights between 11:00pm and 7:00am. Massport also could provide funding to Bedford for subscriptions to the Airnoise button (www.airnoise.io), which could help pinpoint which flights caused the most complaints and lead to improved flight path recommendations.

In addition, at the final June ESPR meeting, Massport officials disclosed that there had been no attempt to evaluate the noise impact generated by the ground operations associated with the new hanger facilities in the North Airfield area. MEPA also should require the evaluation of construction plans that curtail or baffle noise from ground operations.

Environmental impacts

We are concerned that the air and water quality assessments in the report are incomplete and/or outdated. We encourage Massport to invest in upgraded water-quality testing equipment and procedures. Bedford draws some of its water from wellfields adjacent to the Shawsheen River, which are inspected infrequently and sometimes only visually (page 9-51, 9-52, 9-54).

Residents of the neighborhoods adjacent to Hanscom Field experienced excessive noise, traffic, and unhealthy air conditions from trucks and other construction vehicles during the runway resurfacing in 2017. The prospect of additional construction activity in these same neighborhoods and on these same roads is not a welcome one.

We also see a disconnect between the aircraft storage needs identified in the 2025 and 2035 scenarios and the potential development of the Northeast Airfield sites, which falls within Bedford's boundaries. If, as the report states in Section 4 (page 4-31), the current hangar capacity is sufficient for the projected aircraft use in 2025 and 2035, we urge that Hanscom rule out any hangar construction on the so-called Northeast Airfield. The potential disruptions to Bedford, both temporary during construction and ongoing after completion, would compromise the quality of life that our residents expect and deserve.

In order to assure that air quality meets state ambient air quality standards as jet operations rise, we urge MEPA to require that Massport install actual air quality monitoring equipment at Hanscom Field, rather than using projections based on monitoring data from Boston and Chelmsford. This would be consistent with the air quality monitoring activities MEPA has previously required of Massport at Logan Airport in Boston.

The airport water quality monitoring systems need to be upgraded, since airfield runoff enters the Shawsheen River directly or via the Elm Brook. Bedford takes 15% of its municipal water from a wellfield adjacent to the Shawsheen River. Massport acknowledges that stormwater discharges into the Shawsheen and its Elm Brook tributary are monitored only by periodic visual inspection. We urge MEPA to require a more rigorous water testing program that includes assays for perfluorinated compounds in the runoff.

Also, because Massport is using a 2003 modeling study, which it tested using stream and stormwater samples collected only seven times during the winter of 2003-04, and the ESPR notes that "no additional sampling has occurred since then" (page 9-54), we believe Massport needs to update its data with more recent samples, and also commit to monitoring for deicers every winter during a snow or ice event. Massport already conducts such monitoring for de-icing compounds at Logan Airport.

We also note Massport's acknowledgement that, since the 2012 ESPR, two turtle species (one designated as a State "threatened" species and one as a State species of "special concern") were recent additions to the Massachusetts Natural Heritage and Endangered Species Program inventory at Hanscom Field or "a portion thereof" (page 9-2) Monitoring of runoff and deicing impact is vital to protecting these species' habitats

We look forward to working with our partners in HFAC and HATS to ensure a mutually beneficial relationship between Massport and the Town of Bedford.


Sincerely,

The Selectman of Bedford




Michael Rosenberg, chair

Margot Fleischman



Emily Mitchell,



William Moonan



Edward Pierce

cc: State Representative Kenneth Gordon
State Senator Michael Barrett
Christopher Eliot, Chair, Hanscom Field Advisory Commission



(This page intentionally left blank.)



Appendix B: Airport Layout Plan



(This page intentionally left blank.)

SEE INSET A

DRAWING LEGEND	
RUNWAY PAVEMENT	FEDERAL LEASE AREAS
EXISTING TAXIWAY / APRON PAVEMENT	RUNWAY HOLDING POSITION (PATTERN A)
OTHER PAVEMENT IN USE	LAND AND HOLD SHORT OPERATIONS MARKING (LAHSO)
FUTURE TAXIWAY / APRON PAVEMENT	LS HOLDING POSITION (PATTERN B)
FUTURE BUILDING / PAVEMENT REMOVAL	INTERMEDIATE HOLDING POSITION (PATTERN C)
BLAST PAD	NON-MOVEMENT AREA BOUNDARY
FUTURE VEHICLE SERVICE ROAD / ROADWAY	BUILDING - EXISTING - ON AIRPORT
EXISTING AIRPORT PROPERTY LINE	BUILDING - EXISTING - OFF AIRPORT
FUTURE AIRPORT PROPERTY LINE	BUILDING - FUTURE - ON AIRPORT
AIRPORT PROPERTY FILL	EXISTING PAPI
PROPOSED DISPOSAL OF AIRPORT PROPERTY	FUTURE PAPI
PROPOSED AIRPORT PROPERTY ACQUISITION	VISUAL APPROACH SLOPE INDICATOR (VASI)
AVIATION EASEMENT	RUNWAY END IDENTIFIER LIGHTS (REIL)
RUNWAY SAFETY AREA (RSA)	EXISTING WIND CONE/SEGMENTED CIRCLE
RUNWAY PROTECTION ZONE (RPZ)	FUTURE WIND CONE
CENTRAL PORTION OF THE RPZ	EXISTING GLIDE SLOPE (GS)
THRESHOLD BITING SURFACE (TBS)	TAXIWAY GLIDE SLOPE (GS)
RUNWAY OBJECT FREE AREA (TOFA)	LOCALIZER (LOC)
TAXIWAY OBJECT FREE AREA (TOFA)	PRECISION APPROACH SURFACE OBSERVATION SYSTEM (PAOS)
RUNWAY OBSTACLE FREE ZONE (OFZ)	REMOTE TRANSMITTER/RECEIVER ANTENNA (RTTA)
PRECISION OBSTACLE FREE ZONE (POFZ)	DISTANCE MEASURING EQUIPMENT (DME)
BUILDING RESTRICTION LINE (BRL)	RUNWAY VISIBILITY ZONE (RVZ)
14 CFR PART 77 (P77) APPROACH SURFACE	MIDPOINT BEACON
THRESHOLD BITING SURFACE (TBS)	AIRPORT INTENSITY APPROACH LIGHTING SYSTEM (AALS)
GLOPE/PATH QUALIFICATION SURFACE (GQS)	DEPARTURE SURFACE (DEP)
DEPARTURE SURFACE (DEP)	SURVEY POINTS
PRECISION APPROACH PATH INDICATOR (PAPI)	PRECISION SECURITY FENCE (HEIGHT RANGE: 7-11')
CRISTABLE CLEARANCE SURFACE (OCS)	FUTURE SECURITY FENCE (HEIGHT: TBD)
FUTURE TAXIWAY NOMENCLATURE	EXISTING ADA PERIMETER GATE
FUTURE TAXIWAY NOMENCLATURE REMOVAL	FUTURE ADA PERIMETER GATE
FUTURE ENGINEERED MATERIALS ARRESTOR SYSTEM (EMAS)	NON-OBSSTRUCTION POINT OF INTEREST
FUTURE DEVELOPMENT AREA	ROAD
CITY/TOWN BOUNDARY	100' MSL
TOPOGRAPHIC CONTOURS	NAVAID CRITICAL AREAS

NOTES

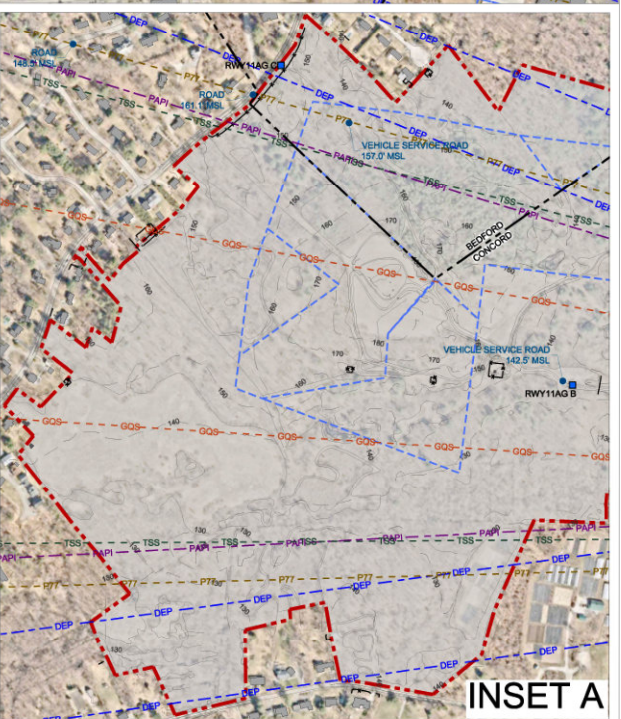
- (1) ALL VEHICLE SERVICE ROAD ELEVATIONS WERE ADJUSTED UPWARD 10 FEET AND PUBLIC ROAD ELEVATIONS WERE ADJUSTED UPWARD 15 FEET AS PER 188 REQUIREMENTS.
- (2) ALL ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL, (MSL).
- (3) HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD 83).
- (4) VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 1988).
- (5) THE BUILDING RESTRICTION LINE (BRL) IS A COMPOSITE OF THE PART 77 38' CONTOUR, TOFA, RPZ, AND NAVAID CRITICAL AREAS.
- (6) AIRFIELD IMPROVEMENTS ARE IN ACCORDANCE WITH THE 2021 BED AIRFIELD GEOMETRY STUDY.
- (7) THE SOURCE OF THE AERIAL PHOTO SHOWN HERE IS NEARMAP IMAGERY DATED MARCH 2021.
- (8) ALL TAXIWAY NOMENCLATURE IS PENDING REVIEW BY THE FEDERAL AVIATION ADMINISTRATION (FAA) CERTIFICATION INSPECTOR.
- (9) THE TOP ELEVATION OF THE BUILDINGS/FACILITY IS CURRENTLY UNKNOWN. IT WILL BE UPDATED WHEN A NEW AIRPORT-GIS SURVEY IS PERFORMED.

FUTURE BUILDINGS/FACILITIES

NO.	DESCRIPTION
F1	SIGNATURE FLIGHT SUPPORT
F2	SIGNATURE FUEL FARM
F3	SALT STORAGE GARAGE
F4	HANGAR - PINE HILL REDEVELOPMENT
F5	OFFICES - PINE HILL REDEVELOPMENT
F6	GARAGE - PINE HILL REDEVELOPMENT
F7	T-HANGAR DEVELOPMENT

EXISTING BUILDINGS/FACILITIES

NO.	DESCRIPTION	TOP ELEV.	NO.	DESCRIPTION	TOP ELEV.
1	SIGNATURE HANGAR	154.0'	21	JET AVIATION HANGAR	156.9'
2	SIGNATURE HANGAR	141.6'	22	JET AVIATION GSE GARAGE	144.7'
3	SIGNATURE HANGAR	141.6'	23	DRAPER LABORATORY	156.9'
4	HANSCOM AIR FORCE BASE (HAFB) AERO CLUB	141.7'	24	ROSS RECTRIX AVIATION HANGAR	144.4'
5	HAFB FIRE DEPARTMENT	141.2'	25	MIT/LL LABORATORY	142.3'
6	METAL FLIGHT FACILITY	134.9'	26	FAA LOCALIZER BUILDING (WEST SIDE)	138.1'
7	MASSPORT FIELD MAINTENANCE	N/A	27	FAA GS BUILDING (WEST SIDE)	136.9'
7A	MASSPORT ELECTRICAL VAULT	139.8'	28	FAA GS BUILDING (EAST SIDE) (TO BE RELOCATED)	N/A
7B	MASSPORT BUILDING MAINTENANCE	N/A	29	FAA LOCALIZER BUILDING (EAST SIDE)	134.4'
8	FAA AIRPORT TRAFFIC CONTROL TOWER (ATCT)	245.9'	30	AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF) AND USCB/F FACILITY	N/A
8A	FAA SSC/TECH OPS (OWNED BY FAA)	N/A	30	T-HANGAR A	145.2'
9	FAA FMP FACILITY (BUILDING 1840)	159.2'	31	T-HANGAR B	144.6'
9A	SALT STORAGE (TO BE RELOCATED)	121.3'	32	T-HANGAR C	145.0'
10	SIGNATURE HANGAR	144.8'	33	T-HANGAR D	144.8'
11	NORTHSTAR LLC HANGAR	166.6'	34	T-HANGAR E	145.9'
11A	STREAM ENTERPRISES	N/A	35	T-HANGAR F	145.9'
12	SIGNATURE HANGAR	152.2'	36	T-HANGAR G (TO BE REMOVED)	145.5'
13	BOSTON MED/FLIGHT	150.6'	37	T-HANGAR H (TO BE REMOVED)	148.0'
14	SIGNATURE HANGAR	140.1'	38	T-HANGAR I (TO BE REMOVED)	143.3'
15	SIGNATURE HANGAR	141.4'	39	T-HANGAR J (TO BE REMOVED)	143.4'
16	MASSPORT CIVIL AIR TERMINAL	110.2'	40	ATHLETIC COMPLEX	N/A
17	LIBERTY METAL	N/A	41	UNASSIGNED	N/A
17	JET AVIATION HANGAR	N/A	42	UNASSIGNED	N/A
18	UNASSIGNED	N/A	43	JET AVIATION FUEL FARM	N/A
19	UNASSIGNED	N/A	44	ROSS RECTRIX AVIATION FUEL FARM	N/A
20	MASSPORT BUILDING MAINTENANCE GARAGE (TO BE REMOVED)	144.6'	45	SIGNATURE FLIGHT SUPPORT FUEL FARM	N/A



INSET A

FAA Approval Space
Lisa J. Lesperance
 Lisa J. Lesperance (Jan 25, 2022 07:51 EST)
 Lead Community Planner
 Jan 25, 2022

THE CONTENTS OF THESE DOCUMENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT NECESSARILY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN, NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.

SUBMITTED BY:
 MASSACHUSETTS PORT AUTHORITY
 BOSTON, MASSACHUSETTS

DATE: Jan 21, 2022

DIRECTOR OF AVIATION
Laurence G. Hanscom

DIRECTOR OF CAPITAL PROGRAMS AND ENVIRONMENTAL AFFAIRS

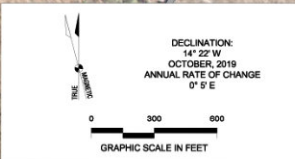
MASSACHUSETTS PORT AUTHORITY

LAURENCE G. HANSCOM
 FIELD (BED)
 BEDFORD, MASSACHUSETTS
 AIRPORT LAYOUT PLAN

REV. NO.	DATE	DESCRIPTION	MADE BY	CHECKED BY	APPROVED BY
1	JAN. 2022	DEPICTS FUTURE IMPROVEMENTS FROM 2021 AIRFIELD GEOMETRY STUDY	AYG/NFB	JRB/KXP	

FUTURE AIRPORT LAYOUT PLAN

SHEET 2 OF 2 JANUARY 2022 **HNTB**



(This page intentionally left blank.)



Appendix C: Ground Transportation

Table of Contents

Appendix C-1: 2023 Hanscom Field Travel Questionnaire	C-3
Appendix C-2: 2022 Intersection Turn Movement Count.....	C-19
Appendix C-3: 2022 Automatic Traffic Recorder (ATR) Counts	C-221
Appendix C-4: 2023 Vehicle Occupancy Survey.....	C-321
Appendix C-5: 2023 Parking Survey Counts.....	C-327
Appendix C-6: SYNCHRO Level of Service Analysis: 2022	C-333
Appendix C-7: SYNCHRO Level of Service Analysis: 2030 No Build	C-347
Appendix C-8: SYNCHRO Level of Service Analysis: 2030 Build	C-357
Appendix C-9: SYNCHRO Level of Service Analysis: 2040 No Build	C-367
Appendix C-10: SYNCHRO Level of Service Analysis: 2040 Build	C-381
Appendix C-11: MassDOT Crash Worksheets	C-396
Appendix C-12: Count data for 2022 on I-95 at Route 2A	C-401
Appendix C-13: Trip Generation, Assignment, and Distribution Estimation	C-405



(This page intentionally left blank.)



C.1 2023 Hanscom Field Travel Questionnaire



(This page intentionally left blank.)

Hanscom Field Commute/Travel Survey

45

Responses

10:29

Average time to complete

Closed

Status

1. Do you regularly (at least once a week) commute to Hanscom Field?

● Yes	39
● No	6



2. What is the purpose of your trip today?

4

Responses

Latest Responses

3. What is your gender?

Male	28
Female	9
Prefer not to say	2



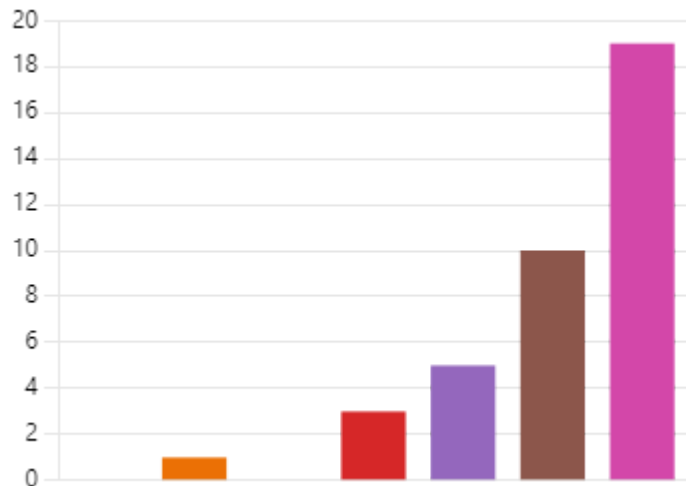
4. What is your age?

18-24	2
25-34	5
35-44	5
45-54	18
55 or over	9



5. What was your total income in 2022?

Less than \$25,000	0
\$25,000 to \$34,999	1
\$35,000 to \$49,999	0
\$50,000 to \$74,999	3
\$75,000 to \$99,999	5
\$100,000 to \$149,999	10
\$150,000 or more	19

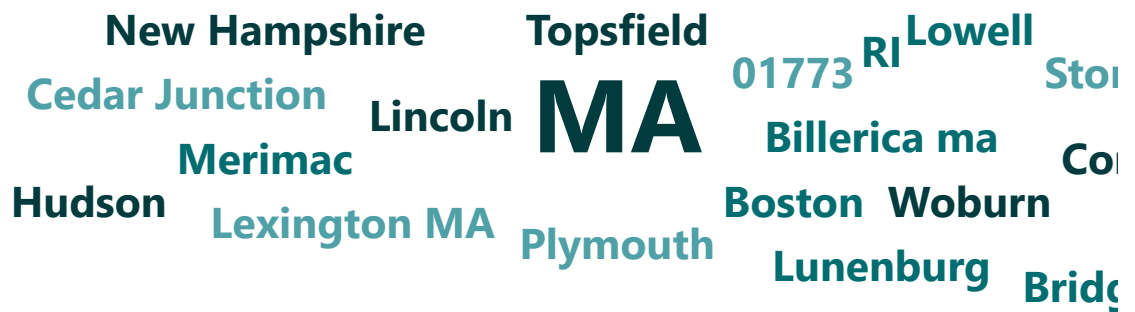


6. From where does your trip to Hanscom Field typically originate (include city, state, and zip if known)?

38
Responses

Latest Responses
"LYNNFIELD MA 01940"
"Bedford, NH 03110"
"03033"

21 respondents (55%) answered MA for this question.



7. Which of the following describes the typical origination location for your trip to Hanscom Field?

- Residence 31
- Business 6
- Lodging 0
- Other 2



8. What is the purpose of your typical trip to Hanscom Field?

● I am a MassPort Employee	15
● I am an employee of a Hanscom...	23
● Other	1



9. How many days per week do you typically travel to Hanscom Field?

● 1	4
● 2	7
● 3	7
● 4	3
● 5 or more	18

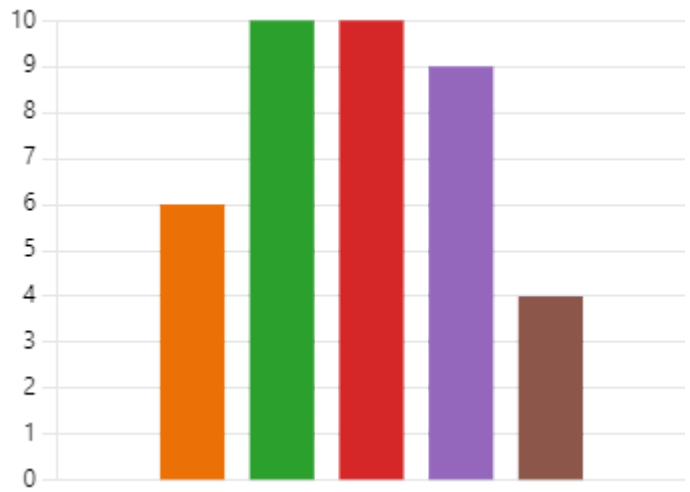
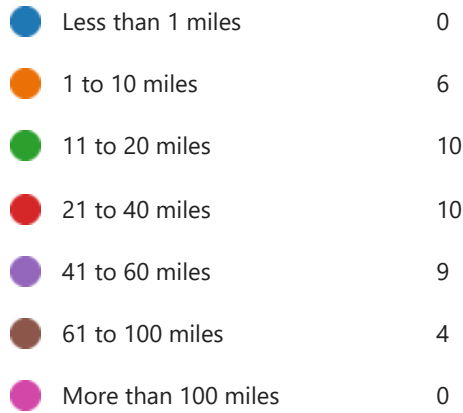


10. How long does it take you to travel from your home to Hanscom Field on a typical day (in minutes, one-way)?

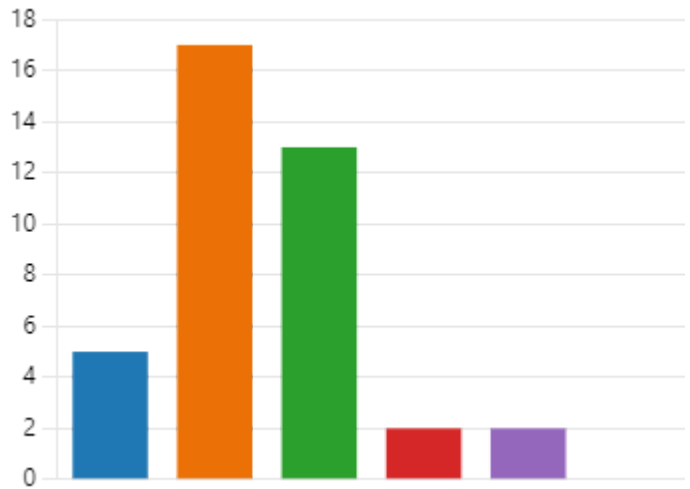
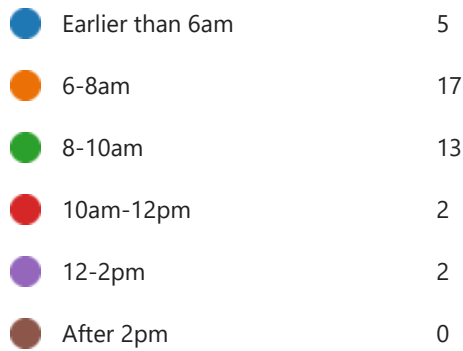
● 0-15 minutes	6
● 16-30 minutes	10
● 31-45 minutes	8
● 60 minutes	8
● More than 60 minutes	7



11. How far do you travel from your home to Hanscom Field on a typical day (miles, one-way)?

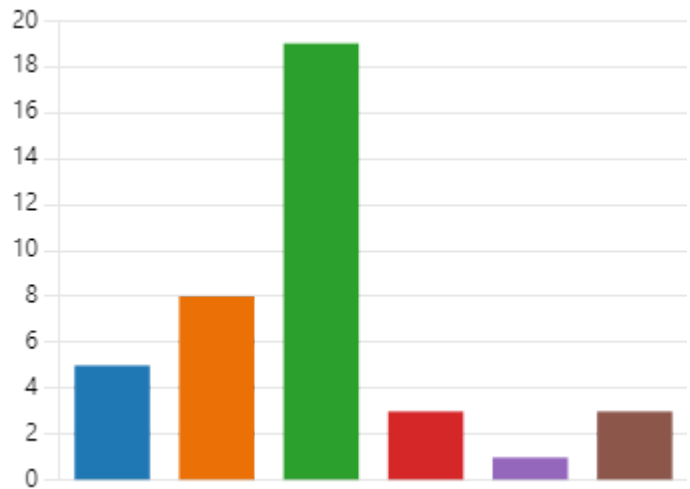


12. What time do you typically arrive at Hanscom Field on weekdays?



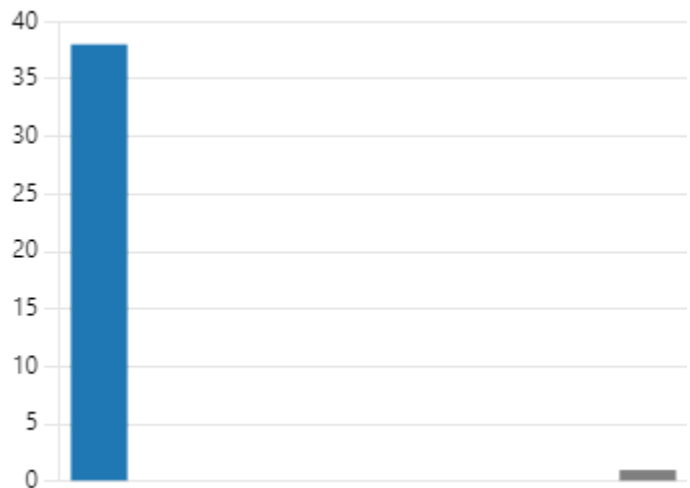
13. What time do you typically depart from Hanscom Field on weekdays?

● Before 2pm	5
● 2-4pm	8
● 4-6pm	19
● 6-8pm	3
● 8-10pm	1
● Later than 10pm	3



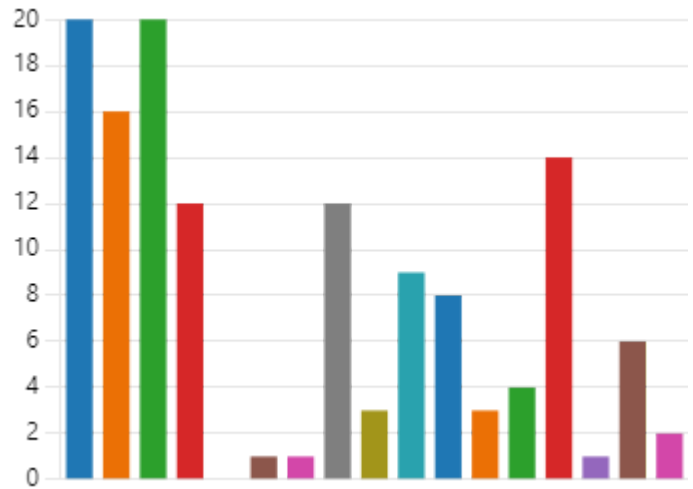
14. How do you commute to work at Hanscom Field on most days?

● Drive Alone	38
● Dropped off by someone who d...	0
● Carpool with other Hanscom e...	0
● Private shuttle service	0
● Public Transportation	0
● Uber/other paid ride share	0
● Walk/Bicycle	0
● Other	1



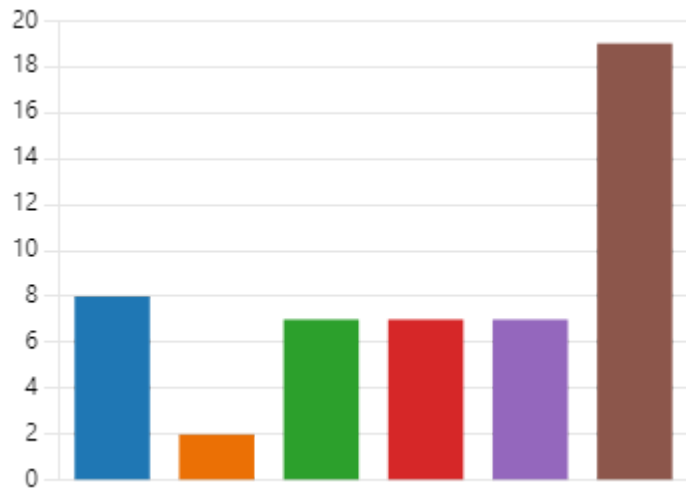
15. Which of the following describes your reasons? Select all that apply.

- Convenience 20
- I enjoy my privacy/prefer to driv... 16
- My hours are irregular and vary ... 20
- I need my car for errands before... 12
- Other modes are not safe 0
- Other modes cost too much 1
- I do not know how to use public... 1
- Transit schedules and routes are... 12
- There is poor pedestrian access ... 3
- I need my own car for work-rela... 9
- Difficulty finding others to carp... 8
- I do not like taking the bus or tr... 3
- I take children to/from daycare ... 4
- I need my car in case of emerge... 14
- Too many transfers on public tra... 1
- I am not aware of other options 6
- Other 2



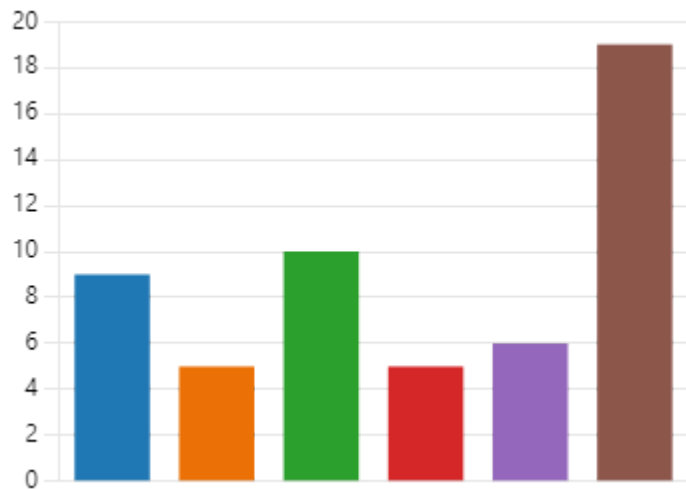
16. Which of the following incentives or services might motivate you to change to carpooling for part or all of your trips? Check all the apply.

- Free guaranteed ride home 8
- Preferential parking for carpools... 2
- Help with finding someone to c... 7
- Having a company car if necess... 7
- Better/more frequent shuttle bu... 7
- Other 19



17. Which of the following incentives might motivate you to change to using public transit? Check all that apply.

- Financial subsidy or tax credits f... 9
- On-site information on transit r... 5
- Better/more convenient bus ser... 10
- Having a company car available ... 5
- Better/more frequent shuttle bu... 6
- Other 19

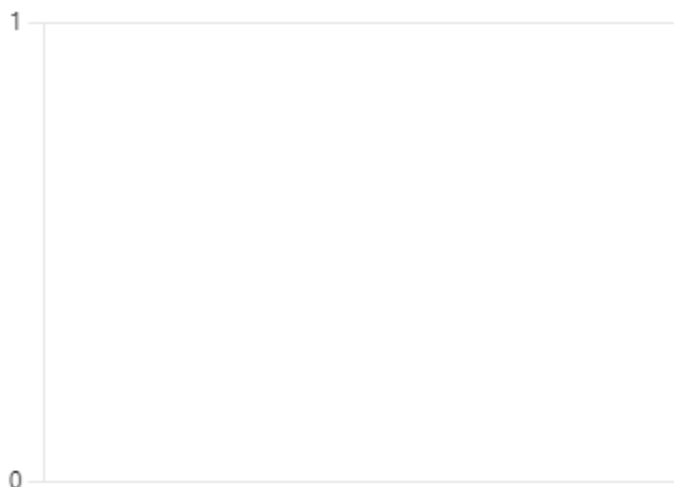


18. Which of the following do you use as your primary transit service?

- MBTA76 Bus 0
- RevBus (Hartwell Area Shuttle) 0
- MBTA Commuter Rail/subway 0
- Other 0

19. If necessary, which additional transit services/modes to you use to reach your final destination? Check all that apply.

- MBTA 76 Bus 0
- RevBus 0
- Uber/other paid ride share 0
- Walk 0
- Bicycle 0
- Private shuttle or van service 0

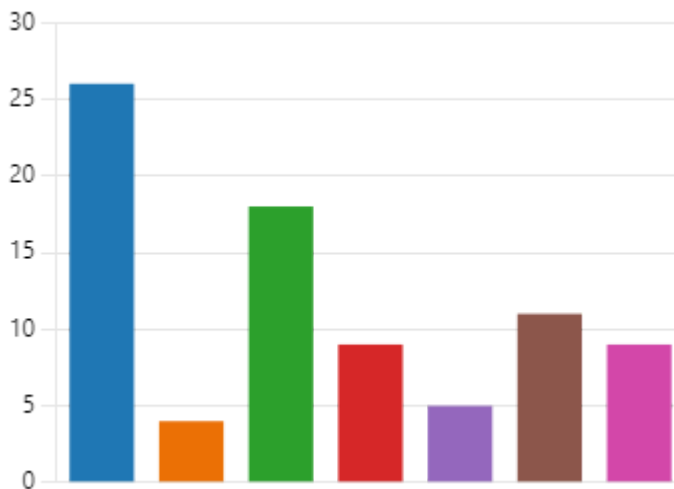


20. How many occupants typically ride with you?

- 1 0
- 2 0
- 3 or more 0

21. What prevents you from using public transportation services? Check all that apply.

- No pick-up/drop-off location ne... 26
- No pick-up/drop-off location ne... 4
- Service schedule does not work ... 18
- Personal safety 9
- The cost savings is not enough 5
- Lack of convenient/frequent shu... 11
- Other 9



22. How often do you leave and then return to Hanscom Field during the workday?

● Once or twice a week	10
● Once daily	5
● Twice daily	2
● Three or more times daily	1
● Never	20



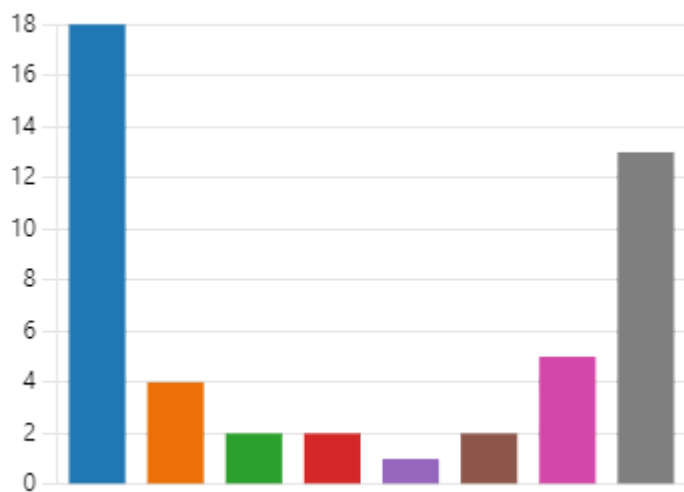
23. What mode of transportation do you use to make these extra trips?

● Personal Vehicle	15
● Work Vehicle	3
● Public Transportation	0
● Other	0

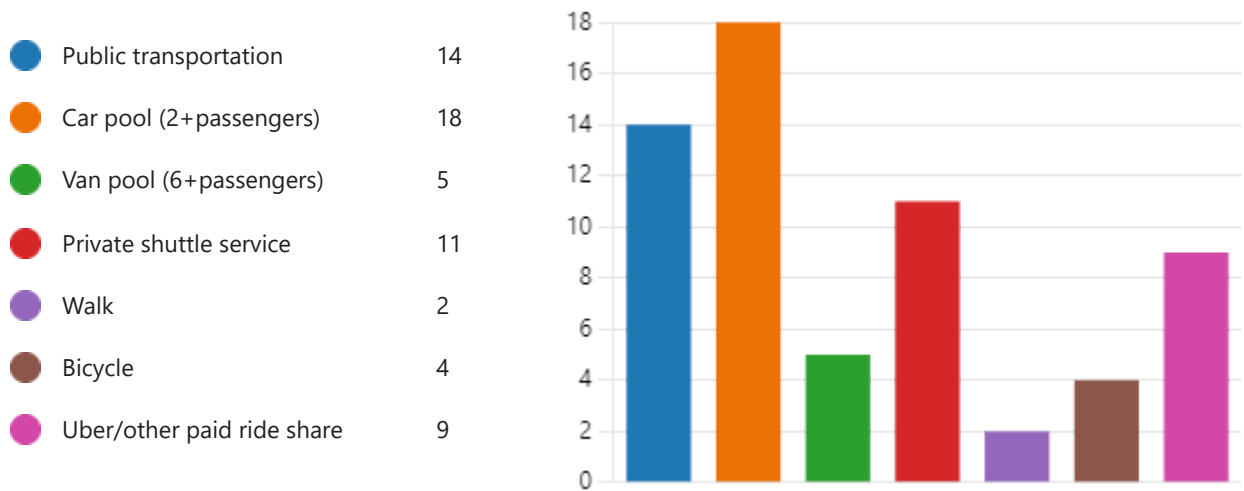


24. If commuting in a different way, which best describes your commuting option? Check all that apply.

● Drive Alone	18
● Dropped off by someone who d...	4
● Carpool with other Hanscom e...	2
● Public Transportation	2
● Private shuttle service	1
● Walk or bicycle	2
● Uber/other paid ride share	5
● Never commute via different m...	13



25. Please select up to THREE alternative modes of transportation you would consider using to travel to Hancom Field.



26. Would you be willing to carpool for part or all of the week to and from Hanscom Field with others who live near you, if the schedule was accommodating?



27. Are the bicycle facilities provided at Hanscom Field adequate to make bicycling a viable transportation option, if you lived close enough?



28. What could be added to improve bicycling facilities at Hanscom Field?

● Shower, locker, and storage facil...	19
● Bicycle Parking	11
● Bicycle Lanes or other pavement...	9
● Bicycle or "Share the Road" sign...	5
● Other	9



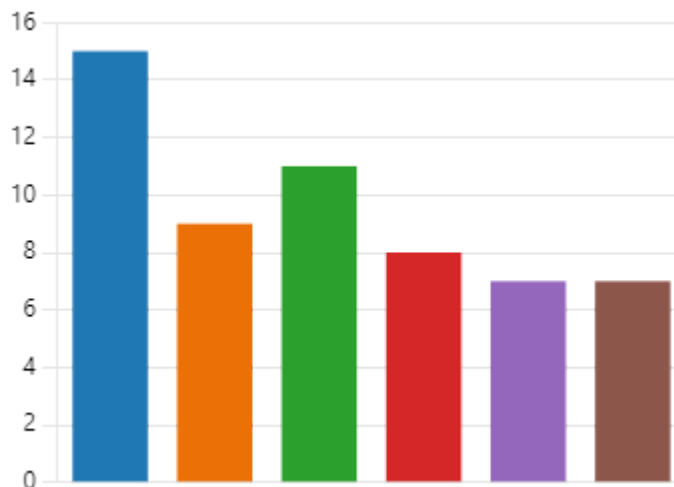
29. Are the pedestrian facilities provided at Hanscom Field adequate to make a viable transportation option if you lived close enough?

● Yes	19
● No	16



30. What could be added to improve the pedestrian friendliness and walkability at Hanscom?

● Shower and locker facilities	15
● Improved crosswalk (including li...	9
● Improved sidewalk infrastrucur...	11
● Improved pedestrian signs	8
● Improved transit connections wi...	7
● Other	7



31. Based on your responses related to bicycling and pedestrian facilities, please provide specific locations/intersections/roadways at Hanscom where improvements are needed to enhance walking and biking. Please be as specific as you can (e.g., Crosswalks and pedestrian signals are needed at the intersection of Bedford Road and Hanscom Drive).

15
Responses

Latest Responses

5 respondents (33%) answered **Hanscom Drive** for this question.



32. Would you like to learn more about the existing programs and services encouraging you to use alternative commuting choices?

● Yes	7
● No	32



33. Do you have other thoughts or comments on transportation to/from Hanscom Field?

10
Responses

Latest Responses
"NO"

3 respondents (30%) answered **bicycle** for this question.





C.2 2022 Intersection Movement Count



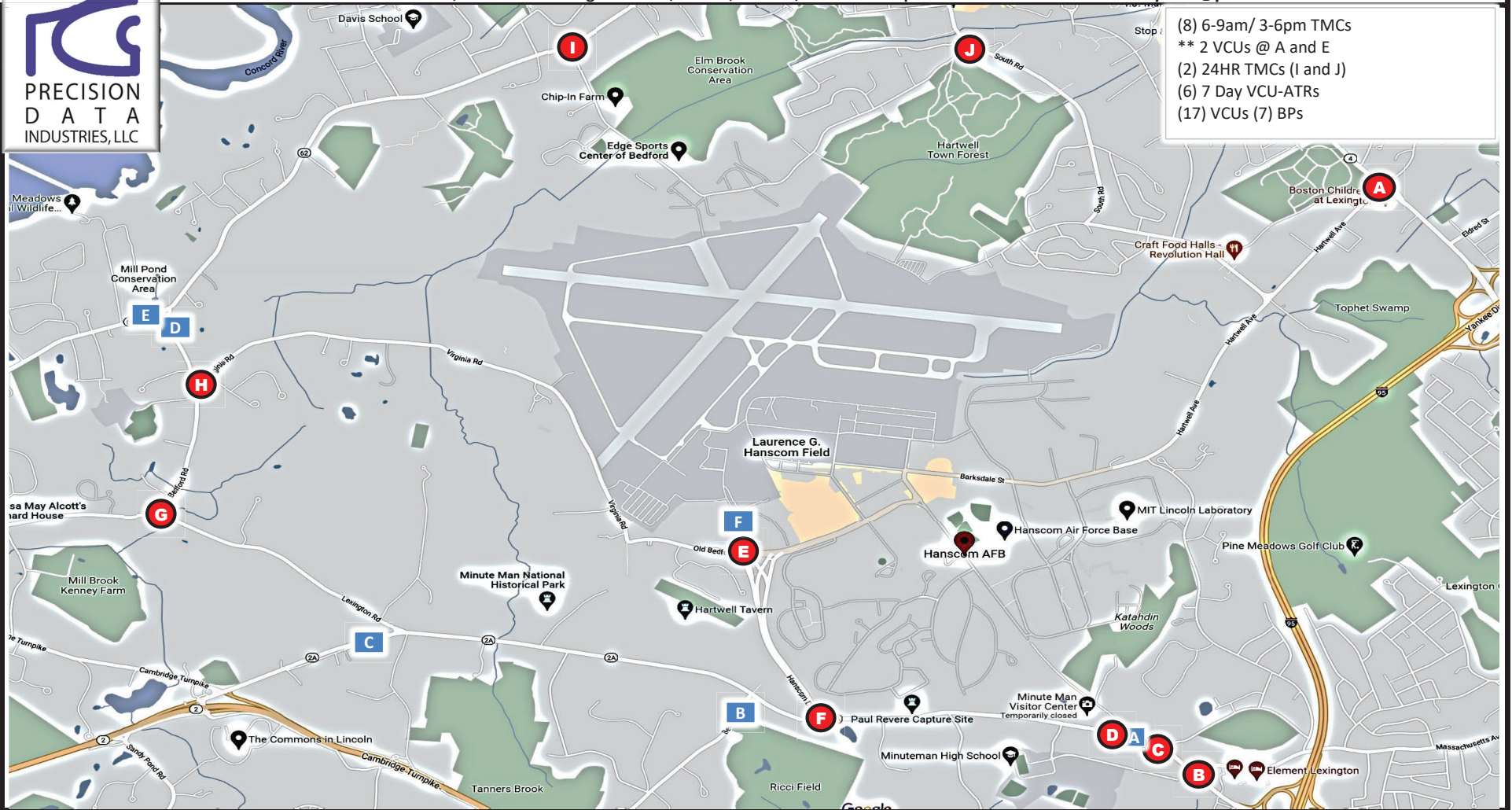
(This page intentionally left blank.)



Location Map: 228952 Hanscom, MA (Lexington, Lincoln, Concord)

Precision Data Industries, LLC 157 Washington Street, Suite 2, Hudson, MA 01749 ph: 508-875-0100 email: datarequests@pdillc.com

- (8) 6-9am/ 3-6pm TMCs
- ** 2 VCUs @ A and E
- (2) 24HR TMCs (I and J)
- (6) 7 Day VCU-ATRs
- (17) VCUs (7) BPs



Client: McFarland Johnson	Engineer: S. Ireland	Site Code:	Date: Tues 11/29 thru Mon 12/5/2022	PDI Job # 228952	City, State: Hanscom, MA (Lexington, Lincoln, Concord)
-------------------------------------	--------------------------------	-------------------	---	----------------------------	--



(This page intentionally left blank.)

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 A
N: Bedford St (Rte 4/225) S: Bedford St (Rte 4/225)
E: Jug Handle W: Hartwell Avenue
Lexington, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
6:00 AM
9:00 AM



157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	" o k					K =					" o k					= ' -					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
°U °U °U °U																					
u °U °U °U °U																					
u °U °U °U °U																					
u 8 u .																					
u - O u																					
# #																					
- O u																					
= † = † - O u																					

h = ' °U °U

	" o k					K =					" o k					= ' -					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
°U °U °U °U																					
u † u																					
h=7																					
# #																					
= † = †																					
# - O = - O																					
u - O																					
# - O = - O																					
u - O																					

h) @/ 228952 A
 O N: Bedford St (Rte 4/225) S: Bedford St (Rte 4/225)
 O E: Jug Handle W: Hartwell Avenue
 # o Lexington, MA
 # MCFarland Johnson/S. Ireland
 o # TBD
 #) Thursday, December 1, 2022
 o u 6:00 AM
 - u 9:00 AM
 #



Cars

	" o k					K =					" o k					= ' -					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
°U °U °U °U																					
u																					
°U °U °U °U																					
u																					
°U °U °U °U																					
u																					
8 u																					
· u																					
- O u																					

h = ° °U °U

	" o k					K =					" o k					= ' -					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
°U °U °U °U																					
u †																					
· u																					
h=7																					
- O																					
- O																					
u																					

h) @ 228952 A
 O N: Bedford St (Rte 4/225) S: Bedford St (Rte 4/225)
 O E: Jug Handle W: Hartwell Avenue
 # o Lexington, MA
 # MCFarland Johnson/S. Ireland
 o # TBD
 #) Thursday, December 1, 2022
 o u 6:00 AM
 - u 9:00 AM
 #



Buses

	" o k					K =					" o k					= "					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
°U																					
°U																					
°U																					
°U																					
u																					
8 u																					
.																					
u																					
- o u																					

h = ° °U °U

	" o k					K =					" o k					= "					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
°U																					
°U																					
°U																					
°U																					
u †																					
u																					
h=7																					
- o																					
- o																					
u																					

h) @ 228952 A
 O N: Bedford St (Rte 4/225) S: Bedford St (Rte 4/225)
 O E: Jug Handle W: Hartwell Avenue
 # o Lexington, MA
 # MCFarland Johnson/S. Ireland
 o # TBD
 #) Thursday, December 1, 2022
 o u 6:00 AM
 - u 9:00 AM
 #



Single-Unit Trucks

	" o k					K =					" o k					= ' -					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
°U																					
°U																					
°U																					
°U																					
u																					
°U																					
°U																					
°U																					
u																					
8 u																					
.																					
u																					
- o u																					

h = ° °U °U

	" o k					K =					" o k					= ' -					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
°U																					
°U																					
°U																					
°U																					
u †																					
u																					
h=7																					
- o																					
- o																					
u																					

PDI File #: **228952 A**
 Location: **N: Bedford St (Rte 4/225) S: Bedford St (Rte 4/225)**
 Location: **E: Jug Handle W: Hartwell Avenue**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Bedford Street (Route 4/225)					Jug Handle					Bedford Street (Route 4/225)					Hartwell Avenue					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	1	0	0	0	1	3
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
6:30 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
6:45 AM	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	1	0	0	0	1	4
Total	0	2	0	0	2	0	2	0	0	2	0	4	0	0	4	3	0	0	0	3	11
7:00 AM	0	6	0	0	6	0	1	0	0	1	0	0	0	0	0	2	0	0	0	2	9
7:15 AM	0	2	0	0	2	0	1	0	0	1	0	2	0	0	2	1	0	0	0	1	6
7:30 AM	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1	1	0	0	0	1	5
7:45 AM	0	2	0	0	2	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	5
Total	0	12	0	0	12	0	5	0	0	5	0	4	0	0	4	4	0	0	0	4	25
8:00 AM	0	1	0	0	1	0	3	0	0	3	0	1	0	0	1	0	0	0	0	0	5
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	3	0	3	4
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	4
8:45 AM	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	5	0	0	0	5	8
Total	0	2	0	0	2	0	6	0	0	6	0	2	0	0	2	8	0	3	0	11	21
Grand Total	0	16	0	0	16	0	13	0	0	13	0	10	0	0	10	15	0	3	0	18	57
Approach %	0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		83.3	0.0	16.7	0.0		
Total %	0.0	28.1	0.0	0.0	28.1	0.0	22.8	0.0	0.0	22.8	0.0	17.5	0.0	0.0	17.5	26.3	0.0	5.3	0.0	31.6	
Exiting Leg Total	13					0					31					13					57

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

7:00 AM	Bedford Street (Route 4/225)					Jug Handle					Bedford Street (Route 4/225)					Hartwell Avenue					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	6	0	0	6	0	1	0	0	1	0	0	0	0	0	2	0	0	0	2	9
7:15 AM	0	2	0	0	2	0	1	0	0	1	0	2	0	0	2	1	0	0	0	1	6
7:30 AM	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1	1	0	0	0	1	5
7:45 AM	0	2	0	0	2	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	5
Total Volume	0	12	0	0	12	0	5	0	0	5	0	4	0	0	4	4	0	0	0	4	25
% Approach Total	0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.500	0.000	0.000	0.500	0.000	0.625	0.000	0.000	0.625	0.000	0.500	0.000	0.000	0.500	0.500	0.000	0.000	0.000	0.500	0.694
Entering Leg	0	12	0	0	12	0	5	0	0	5	0	4	0	0	4	4	0	0	0	4	25
Exiting Leg	4					0					16					5					25
Total	16					5					20					9					50

PDI File #: **228952 A**
 Location: **N: Bedford St (Rte 4/225) S: Bedford St (Rte 4/225)**
 Location: **E: Jug Handle W: Hartwell Avenue**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Bicycles (on Roadway and Crosswalks)

	Bedford Street (Route 4/225)							Jug Handle							Bedford Street (Route 4/225)							Hartwell Avenue							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
Total	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
Approach %	50.0	50.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0			
Total %	50.0	50.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0			
Exiting Leg Total							0							0							1					1	2		

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

7:00 AM	Bedford Street (Route 4/225)							Jug Handle							Bedford Street (Route 4/225)							Hartwell Avenue							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
Total Volume	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
% Approach Total	50.0	50.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0			
PHF	0.250	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250		
Entering Leg	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
Exiting Leg							0														1					1	2		
Total							2							0							1					1	4		

h) @/

O

O

o

#

o #

)

o u

- u

#

228952 A

N: Bedford St (Rte 4/225) S: Bedford St (Rte 4/225)

E: Jug Handle W: Hartwell Avenue

Lexington, MA

McFarland Johnson/S. Ireland

TBD

Thursday, December 1, 2022

6:00 AM

9:00 AM



Pedestrians

	" o k	K =	" o k	= "
	V	-	o	‡
	k u O y-u #t--" #t-t" u	k u O y-u #t-o" #t-v" u	k u O y-u #t-t" #t--" u	k u O y-u #t-v" #t-o" u U
°U				
°U				
°U				
°U				
u				
°U				
°U				
°U				
u				
°U				
°U				
°U				
u				
8 u				
·				
u				
- o u				

h = °

	" o k	K =	" o k	= "
	V	-	o	‡
	k u O y-u #t--" #t-t" u	k u O y-u #t-o" #t-v" u	k u O y-u #t-t" #t--" u	k u O y-u #t-v" #t-o" u U
°U				
°U				
°U				
°U				
u †				
· u				
h=7				
- o				
- o				
u				

PDI File #: **228952 A**
 Location: **N: Bedford St (Rte 4/225) S: Bedford St (Rte 4/225)**
 Location: **E: Jug Handle W: Hartwell Avenue**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Bedford Street (Route 4/225)					Jug Handle					Bedford Street (Route 4/225)					Hartwell Avenue					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	30	168	0	0	198	0	38	12	0	50	0	177	0	0	177	149	0	75	0	224	649
3:15 PM	31	166	0	0	197	0	52	11	0	63	0	157	1	0	158	132	0	50	0	182	600
3:30 PM	21	191	0	0	212	1	77	20	0	98	0	156	0	0	156	198	0	68	0	266	732
3:45 PM	31	218	0	0	249	0	77	19	0	96	0	233	1	0	234	156	0	63	0	219	798
Total	113	743	0	0	856	1	244	62	0	307	0	723	2	0	725	635	0	256	0	891	2779
4:00 PM	45	166	0	0	211	2	104	18	0	124	0	186	0	0	186	185	0	81	0	266	787
4:15 PM	37	178	0	0	215	0	90	7	0	97	0	209	1	0	210	198	0	63	0	261	783
4:30 PM	34	154	0	0	188	1	117	28	0	146	0	157	2	0	159	187	0	53	0	240	733
4:45 PM	39	161	0	0	200	0	99	14	0	113	0	205	0	0	205	174	0	61	0	235	753
Total	155	659	0	0	814	3	410	67	0	480	0	757	3	0	760	744	0	258	0	1002	3056
5:00 PM	39	154	0	0	193	0	129	24	0	153	0	176	1	0	177	164	0	65	0	229	752
5:15 PM	40	167	0	0	207	2	109	13	0	124	0	199	2	0	201	172	0	44	0	216	748
5:30 PM	45	142	0	0	187	0	108	8	0	116	0	192	2	0	194	124	0	50	0	174	671
5:45 PM	45	130	0	0	175	0	112	8	0	120	0	184	1	0	185	140	0	42	0	182	662
Total	169	593	0	0	762	2	458	53	0	513	0	751	6	0	757	600	0	201	0	801	2833
Grand Total	437	1995	0	0	2432	6	1112	182	0	1300	0	2231	11	0	2242	1979	0	715	0	2694	8668
Approach %	18.0	82.0	0.0	0.0		0.5	85.5	14.0	0.0		0.0	99.5	0.5	0.0		73.5	0.0	26.5	0.0		
Total %	5.0	23.0	0.0	0.0	28.1	0.1	12.8	2.1	0.0	15.0	0.0	25.7	0.1	0.0	25.9	22.8	0.0	8.2	0.0	31.1	
Exiting Leg Total	2952					0					4156					1560					8668
Cars	428	1975	0	0	2403	6	1085	179	0	1270	0	2193	11	0	2204	1954	0	707	0	2661	8538
% Cars	97.9	99.0	0.0	0.0	98.8	100.0	97.6	98.4	0.0	97.7	0.0	98.3	100.0	0.0	98.3	98.7	0.0	98.9	0.0	98.8	98.5
Exiting Leg Total	2906					0					4108					1524					8538
Heavy Vehicles	9	20	0	0	29	0	27	3	0	30	0	38	0	0	38	25	0	8	0	33	130
% Heavy Vehicles	2.1	1.0	0.0	0.0	1.2	0.0	2.4	1.6	0.0	2.3	0.0	1.7	0.0	0.0	1.7	1.3	0.0	1.1	0.0	1.2	1.5
Exiting Leg Total	46					0					48					36					130

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Bedford Street (Route 4/225)					Jug Handle					Bedford Street (Route 4/225)					Hartwell Avenue					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:45 PM	31	218	0	0	249	0	77	19	0	96	0	233	1	0	234	156	0	63	0	219	798
4:00 PM	45	166	0	0	211	2	104	18	0	124	0	186	0	0	186	185	0	81	0	266	787
4:15 PM	37	178	0	0	215	0	90	7	0	97	0	209	1	0	210	198	0	63	0	261	783
4:30 PM	34	154	0	0	188	1	117	28	0	146	0	157	2	0	159	187	0	53	0	240	733
Total Volume	147	716	0	0	863	3	388	72	0	463	0	785	4	0	789	726	0	260	0	986	3101
% Approach Total	17.0	83.0	0.0	0.0		0.6	83.8	15.6	0.0		0.0	99.5	0.5	0.0		73.6	0.0	26.4	0.0		
PHF	0.817	0.821	0.000	0.000	0.866	0.375	0.829	0.643	0.000	0.793	0.000	0.842	0.500	0.000	0.843	0.917	0.000	0.802	0.000	0.927	0.971
Cars	144	706	0	0	850	3	382	71	0	456	0	770	4	0	774	716	0	256	0	972	3052
Cars %	98.0	98.6	0.0	0.0	98.5	100.0	98.5	98.6	0.0	98.5	0.0	98.1	100.0	0.0	98.1	98.6	0.0	98.5	0.0	98.6	98.4
Heavy Vehicles	3	10	0	0	13	0	6	1	0	7	0	15	0	0	15	10	0	4	0	14	49
Heavy Vehicles %	2.0	1.4	0.0	0.0	1.5	0.0	1.5	1.4	0.0	1.5	0.0	1.9	0.0	0.0	1.9	1.4	0.0	1.5	0.0	1.4	1.6
Cars Enter Leg	144	706	0	0	850	3	382	71	0	456	0	770	4	0	774	716	0	256	0	972	3052
Heavy Enter Leg	3	10	0	0	13	0	6	1	0	7	0	15	0	0	15	10	0	4	0	14	49
Total Entering Leg	147	716	0	0	863	3	388	72	0	463	0	785	4	0	789	726	0	260	0	986	3101
Cars Exiting Leg	1029					0					1493					530					3052
Heavy Exiting Leg	19					0					21					9					49
Total Exiting Leg	1048					0					1514					539					3101

PDI File #: **228952 A**
 Location: **N: Bedford St (Rte 4/225) S: Bedford St (Rte 4/225)**
 Location: **E: Jug Handle W: Hartwell Avenue**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Cars

	Bedford Street (Route 4/225)					Jug Handle					Bedford Street (Route 4/225)					Hartwell Avenue					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	29	167	0	0	196	0	35	12	0	47	0	174	0	0	174	144	0	74	0	218	635
3:15 PM	30	165	0	0	195	0	50	10	0	60	0	152	1	0	153	129	0	50	0	179	587
3:30 PM	21	187	0	0	208	1	71	20	0	92	0	153	0	0	153	197	0	66	0	263	716
3:45 PM	31	212	0	0	243	0	74	18	0	92	0	227	1	0	228	154	0	61	0	215	778
Total	111	731	0	0	842	1	230	60	0	291	0	706	2	0	708	624	0	251	0	875	2716
4:00 PM	42	165	0	0	207	2	102	18	0	122	0	184	0	0	184	182	0	79	0	261	774
4:15 PM	37	175	0	0	212	0	89	7	0	96	0	203	1	0	204	196	0	63	0	259	771
4:30 PM	34	154	0	0	188	1	117	28	0	146	0	156	2	0	158	184	0	53	0	237	729
4:45 PM	39	160	0	0	199	0	95	14	0	109	0	202	0	0	202	174	0	61	0	235	745
Total	152	654	0	0	806	3	403	67	0	473	0	745	3	0	748	736	0	256	0	992	3019
5:00 PM	38	152	0	0	190	0	128	24	0	152	0	173	1	0	174	163	0	65	0	228	744
5:15 PM	39	167	0	0	206	2	108	13	0	123	0	198	2	0	200	171	0	44	0	215	744
5:30 PM	43	142	0	0	185	0	105	8	0	113	0	189	2	0	191	121	0	50	0	171	660
5:45 PM	45	129	0	0	174	0	111	7	0	118	0	182	1	0	183	139	0	41	0	180	655
Total	165	590	0	0	755	2	452	52	0	506	0	742	6	0	748	594	0	200	0	794	2803
Grand Total	428	1975	0	0	2403	6	1085	179	0	1270	0	2193	11	0	2204	1954	0	707	0	2661	8538
Approach %	17.8	82.2	0.0	0.0		0.5	85.4	14.1	0.0		0.0	99.5	0.5	0.0		73.4	0.0	26.6	0.0		
Total %	5.0	23.1	0.0	0.0	28.1	0.1	12.7	2.1	0.0	14.9	0.0	25.7	0.1	0.0	25.8	22.9	0.0	8.3	0.0	31.2	
Exiting Leg Total	2906					0					4108					1524					8538

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:45 PM	Bedford Street (Route 4/225)					Jug Handle					Bedford Street (Route 4/225)					Hartwell Avenue					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
3:45 PM	31	212	0	0	243	0	74	18	0	92	0	227	1	0	228	154	0	61	0	215	778	
4:00 PM	42	165	0	0	207	2	102	18	0	122	0	184	0	0	184	182	0	79	0	261	774	
4:15 PM	37	175	0	0	212	0	89	7	0	96	0	203	1	0	204	196	0	63	0	259	771	
4:30 PM	34	154	0	0	188	1	117	28	0	146	0	156	2	0	158	184	0	53	0	237	729	
Total Volume	144	706	0	0	850	3	382	71	0	456	0	770	4	0	774	716	0	256	0	972	3052	
% Approach Total	16.9	83.1	0.0	0.0		0.7	83.8	15.6	0.0		0.0	99.5	0.5	0.0		73.7	0.0	26.3	0.0			
PHF	0.857	0.833	0.000	0.000	0.874	0.375	0.816	0.634	0.000	0.781	0.000	0.848	0.500	0.000	0.849	0.913	0.000	0.810	0.000	0.931	0.981	
Entering Leg	144	706	0	0	850	3	382	71	0	456	0	770	4	0	774	716	0	256	0	972	3052	
Exiting Leg						1029					0					1493					530	3052
Total	1879					456					2267					1502					6104	

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 A
N: Bedford St (Rte 4/225) S: Bedford St (Rte 4/225)
E: Jug Handle W: Hartwell Avenue
Lexington, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
3:00 PM
6:00 PM



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	" o k					K =					" o k					= "					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
hU																					
hU																					
hU																					
hU																					
u																					
hU																					
hU																					
hU																					
u																					
8 u																					
u																					
- O u																					
"																					
"																					
- O u																					
o -y u																					
o -y																					
- O u																					
u																					
- O u																					

h = "	hU hU					" o k					K =					" o k					= "				
	V					-					o					‡									
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u				
hU																									
hU																									
hU																									
hU																									
u †																									
u																									
h=7																									
"																									
"																									
o -y u																									
o -y																									
u																									
o -y u																									
o -y																									
u - O																									
"																									
o -y u																									
o -y																									
u - O																									

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 A
N: Bedford St (Rte 4/225) S: Bedford St (Rte 4/225)
E: Jug Handle W: Hartwell Avenue
Lexington, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
3:00 PM
6:00 PM



Buses

	" o k					K =					" o k					= "					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
hU hU hU hU																					
u																					
hU hU hU hU																					
u																					
hU hU hU hU																					
u																					
8 u . u - O u																					

	hU hU					" o k					K =					" o k					= "				
	V					-					o					‡									
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u				
hU hU hU hU																									
u † u																									
h=7																									
- O - O u																									

PDI File #: **228952 A**
 Location: **N: Bedford St (Rte 4/225) S: Bedford St (Rte 4/225)**
 Location: **E: Jug Handle W: Hartwell Avenue**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Single-Unit Trucks

	Bedford Street (Route 4/225)					Jug Handle					Bedford Street (Route 4/225)					Hartwell Avenue					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	4	0	1	0	5	8
3:15 PM	0	1	0	0	1	0	2	1	0	3	0	2	0	0	2	3	0	0	0	3	9
3:30 PM	0	4	0	0	4	0	5	0	0	5	0	1	0	0	1	1	0	2	0	3	13
3:45 PM	0	3	0	0	3	0	2	0	0	2	0	4	0	0	4	0	0	1	0	1	10
Total	0	8	0	0	8	0	10	1	0	11	0	9	0	0	9	8	0	4	0	12	40
4:00 PM	2	1	0	0	3	0	2	0	0	2	0	2	0	0	2	2	0	1	0	3	10
4:15 PM	0	1	0	0	1	0	1	0	0	1	0	6	0	0	6	2	0	0	0	2	10
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
4:45 PM	0	1	0	0	1	0	3	0	0	3	0	2	0	0	2	0	0	0	0	0	6
Total	2	3	0	0	5	0	6	0	0	6	0	10	0	0	10	6	0	1	0	7	28
5:00 PM	1	0	0	0	1	0	1	0	0	1	0	1	0	0	1	1	0	0	0	1	4
5:15 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	2
5:30 PM	2	0	0	0	2	0	1	0	0	1	0	1	0	0	1	2	0	0	0	2	6
5:45 PM	0	0	0	0	0	0	1	1	0	2	0	1	0	0	1	0	0	1	0	1	4
Total	3	0	0	0	3	0	4	1	0	5	0	4	0	0	4	3	0	1	0	4	16
Grand Total	5	11	0	0	16	0	20	2	0	22	0	23	0	0	23	17	0	6	0	23	84
Approach %	31.3	68.8	0.0	0.0		0.0	90.9	9.1	0.0		0.0	100.0	0.0	0.0		73.9	0.0	26.1	0.0		
Total %	6.0	13.1	0.0	0.0	19.0	0.0	23.8	2.4	0.0	26.2	0.0	27.4	0.0	0.0	27.4	20.2	0.0	7.1	0.0	27.4	
Exiting Leg Total	29					0					30					25					84

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:30 PM	Bedford Street (Route 4/225)					Jug Handle					Bedford Street (Route 4/225)					Hartwell Avenue					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:30 PM	0	4	0	0	4	0	5	0	0	5	0	1	0	0	1	1	0	2	0	3	13
3:45 PM	0	3	0	0	3	0	2	0	0	2	0	4	0	0	4	0	0	1	0	1	10
4:00 PM	2	1	0	0	3	0	2	0	0	2	0	2	0	0	2	2	0	1	0	3	10
4:15 PM	0	1	0	0	1	0	1	0	0	1	0	6	0	0	6	2	0	0	0	2	10
Total Volume	2	9	0	0	11	0	10	0	0	10	0	13	0	0	13	5	0	4	0	9	43
% Approach Total	18.2	81.8	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		55.6	0.0	44.4	0.0		
PHF	0.250	0.563	0.000	0.000	0.688	0.000	0.500	0.000	0.000	0.500	0.000	0.542	0.000	0.000	0.542	0.625	0.000	0.500	0.000	0.750	0.827
Entering Leg	2	9	0	0	11	0	10	0	0	10	0	13	0	0	13	5	0	4	0	9	43
Exiting Leg	17					0					14					12					43
Total	28					10					27					21					86

PDI File #: **228952 A**
 Location: **N: Bedford St (Rte 4/225) S: Bedford St (Rte 4/225)**
 Location: **E: Jug Handle W: Hartwell Avenue**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Bedford Street (Route 4/225)					Jug Handle					Bedford Street (Route 4/225)					Hartwell Avenue					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
3:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	2	3
Total	0	1	0	0	1	0	2	0	0	2	0	3	0	0	3	1	0	1	0	2	8
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	2	0	0	0	2	5
Grand Total	0	2	0	0	2	0	3	0	0	3	0	4	0	0	4	4	0	1	0	5	14
Approach %	0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		80.0	0.0	20.0	0.0		
Total %	0.0	14.3	0.0	0.0	14.3	0.0	21.4	0.0	0.0	21.4	0.0	28.6	0.0	0.0	28.6	28.6	0.0	7.1	0.0	35.7	
Exiting Leg Total	5					0					6					3					14

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Bedford Street (Route 4/225)					Jug Handle					Bedford Street (Route 4/225)					Hartwell Avenue					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
3:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1	0	2	3
Total Volume	0	1	0	0	1	0	2	0	0	2	0	3	0	0	3	1	0	1	0	2	8
% Approach Total	0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		50.0	0.0	50.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.500	0.000	0.375	0.000	0.000	0.375	0.250	0.000	0.250	0.000	0.250	0.667
Entering Leg	0	1	0	0	1	0	2	0	0	2	0	3	0	0	3	1	0	1	0	2	8
Exiting Leg	4					0					2					2					8
Total	5					2					5					4					16

h) @/
 O
 O
 # o
 #
 o #
 #)
 o u
 - u
 #

228952 A
N: Bedford St (Rte 4/225) S: Bedford St (Rte 4/225)
E: Jug Handle W: Hartwell Avenue
Lexington, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
3:00 PM
6:00 PM



Bicycles (on Roadway and Crosswalks)

	" o k				K =				" o k				= "																
	V				-				o				‡																
	k	u	o	y-u	#t--'	#t-1'	u	k	u	o	y-u	#t-σ'	#t-V'	u	k	u	o	y-u	#t-1'	#t--'	u	k	u	o	y-u	#t-V'	#t-σ'	u	U
hU																													
hU																													
hU																													
hU																													
u																													
hU																													
hU																													
hU																													
u																													
8 u																													
.																													
u																													
- o u																													

h = "

	" o k				K =				" o k				= "																
	V				-				o				‡																
	k	u	o	y-u	#t--'	#t-1'	u	k	u	o	y-u	#t-σ'	#t-V'	u	k	u	o	y-u	#t-1'	#t--'	u	k	u	o	y-u	#t-V'	#t-σ'	u	U
hU																													
hU																													
hU																													
hU																													
u †																													
u																													
h=7																													
- o																													
- o																													
u																													

h) @/
 O
 O
 # o
 #
 o #
 #)
 o u
 - u
 #

228952 A
N: Bedford St (Rte 4/225) S: Bedford St (Rte 4/225)
E: Jug Handle W: Hartwell Avenue
Lexington, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
3:00 PM
6:00 PM



Pedestrians

	" o k												K =					" o k												= "				
	V												-					o												‡				
	k	u	o	y-u	#t--"	#t-t"	u	k	u	o	y-u	#t-o'	#t-v'	u	k	u	o	y-u	#t-t"	#t--"	u	k	u	o	y-u	#t-v'	#t-o'	u	U					
hU																																		
hU																																		
hU																																		
hU																																		
u																																		
hU																																		
hU																																		
hU																																		
u																																		
8 u																																		
.																																		
u																																		
- o u																																		

h = "

	" o k												K =					" o k												= "				
	V												-					o												‡				
	k	u	o	y-u	#t--"	#t-t"	u	k	u	o	y-u	#t-o'	#t-v'	u	k	u	o	y-u	#t-t"	#t--"	u	k	u	o	y-u	#t-v'	#t-o'	u	U					
hU																																		
hU																																		
hU																																		
hU																																		
u †																																		
u																																		
h=7																																		
- o																																		
- o																																		
u																																		

PDI File #: **228952 B**
 Location: **N: Marrett Road (Route 2A) S: Marrett Road (Route 2A)**
 Location: **E: Massachusetts Avenue W: Cranberry Hill**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Marrett Road (Route 2A)					Massachusetts Avenue					Marrett Road (Route 2A)					Cranberry Hill					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
6:00 AM	0	27	4	0	31	4	1	12	0	17	13	55	2	0	70	0	0	0	0	0	118
6:15 AM	2	32	5	0	39	3	2	17	0	22	29	70	8	0	107	1	0	0	0	1	169
6:30 AM	0	47	15	0	62	7	2	21	0	30	30	60	15	0	105	2	0	0	0	2	199
6:45 AM	0	71	21	0	92	7	4	28	0	39	42	75	23	0	140	5	0	0	0	5	276
Total	2	177	45	0	224	21	9	78	0	108	114	260	48	0	422	8	0	0	0	8	762
7:00 AM	0	85	25	0	110	18	9	34	0	61	46	80	23	0	149	8	0	1	0	9	329
7:15 AM	0	116	29	0	145	17	18	40	0	75	53	103	57	0	213	25	2	2	0	29	462
7:30 AM	1	137	22	0	160	23	23	67	0	113	57	127	70	0	254	44	12	0	0	56	583
7:45 AM	2	177	35	0	214	27	6	52	0	85	70	137	13	0	220	24	4	1	0	29	548
Total	3	515	111	0	629	85	56	193	0	334	226	447	163	0	836	101	18	4	0	123	1922
8:00 AM	1	123	32	0	156	29	3	87	0	119	80	116	4	0	200	4	1	0	0	5	480
8:15 AM	3	133	38	0	174	25	4	63	0	92	91	105	8	0	204	7	3	0	0	10	480
8:30 AM	1	113	21	0	135	28	1	66	0	95	87	108	13	0	208	3	1	1	0	5	443
8:45 AM	1	109	40	0	150	33	3	50	0	86	85	109	7	0	201	3	2	0	0	5	442
Total	6	478	131	0	615	115	11	266	0	392	343	438	32	0	813	17	7	1	0	25	1845
Grand Total	11	1170	287	0	1468	221	76	537	0	834	683	1145	243	0	2071	126	25	5	0	156	4529
Approach %	0.7	79.7	19.6	0.0		26.5	9.1	64.4	0.0		33.0	55.3	11.7	0.0		80.8	16.0	3.2	0.0		
Total %	0.2	25.8	6.3	0.0	32.4	4.9	1.7	11.9	0.0	18.4	15.1	25.3	5.4	0.0	45.7	2.8	0.6	0.1	0.0	3.4	
Exiting Leg Total	1371					995					1833					330					4529
Cars	11	1139	278	0	1428	209	75	519	0	803	666	1081	225	0	1972	96	19	5	0	120	4323
% Cars	100.0	97.4	96.9	0.0	97.3	94.6	98.7	96.6	0.0	96.3	97.5	94.4	92.6	0.0	95.2	76.2	76.0	100.0	0.0	76.9	95.5
Exiting Leg Total	1295					963					1754					311					4323
Heavy Vehicles	0	31	9	0	40	12	1	18	0	31	17	64	18	0	99	30	6	0	0	36	206
% Heavy Vehicles	0.0	2.6	3.1	0.0	2.7	5.4	1.3	3.4	0.0	3.7	2.5	5.6	7.4	0.0	4.8	23.8	24.0	0.0	0.0	23.1	4.5
Exiting Leg Total	76					32					79					19					206

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Marrett Road (Route 2A)					Massachusetts Avenue					Marrett Road (Route 2A)					Cranberry Hill					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:30 AM	1	137	22	0	160	23	23	67	0	113	57	127	70	0	254	44	12	0	0	56	583
7:45 AM	2	177	35	0	214	27	6	52	0	85	70	137	13	0	220	24	4	1	0	29	548
8:00 AM	1	123	32	0	156	29	3	87	0	119	80	116	4	0	200	4	1	0	0	5	480
8:15 AM	3	133	38	0	174	25	4	63	0	92	91	105	8	0	204	7	3	0	0	10	480
Total Volume	7	570	127	0	704	104	36	269	0	409	298	485	95	0	878	79	20	1	0	100	2091
% Approach Total	1.0	81.0	18.0	0.0		25.4	8.8	65.8	0.0		33.9	55.2	10.8	0.0		79.0	20.0	1.0	0.0		
PHF	0.583	0.805	0.836	0.000	0.822	0.897	0.391	0.773	0.000	0.859	0.819	0.885	0.339	0.000	0.864	0.449	0.417	0.250	0.000	0.446	0.897
Cars	7	559	122	0	688	101	36	261	0	398	291	452	87	0	830	65	15	1	0	81	1997
Cars %	100.0	98.1	96.1	0.0	97.7	97.1	100.0	97.0	0.0	97.3	97.7	93.2	91.6	0.0	94.5	82.3	75.0	100.0	0.0	81.0	95.5
Heavy Vehicles	0	11	5	0	16	3	0	8	0	11	7	33	8	0	48	14	5	0	0	19	94
Heavy Vehicles %	0.0	1.9	3.9	0.0	2.3	2.9	0.0	3.0	0.0	2.7	2.3	6.8	8.4	0.0	5.5	17.7	25.0	0.0	0.0	19.0	4.5
Cars Enter Leg	7	559	122	0	688	101	36	261	0	398	291	452	87	0	830	65	15	1	0	81	1997
Heavy Enter Leg	0	11	5	0	16	3	0	8	0	11	7	33	8	0	48	14	5	0	0	19	94
Total Entering Leg	7	570	127	0	704	104	36	269	0	409	298	485	95	0	878	79	20	1	0	100	2091
Cars Exiting Leg	554					428					885					130					1997
Heavy Exiting Leg	36					17					33					8					94
Total Exiting Leg	590					445					918					138					2091

PDI File #: **228952 B**
 Location: **N: Marrett Road (Route 2A) S: Marrett Road (Route 2A)**
 Location: **E: Massachusetts Avenue W: Cranberry Hill**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class: **Cars**



157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars

	Marrett Road (Route 2A)					Massachusetts Avenue					Marrett Road (Route 2A)					Cranberry Hill					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
6:00 AM	0	25	3	0	28	3	1	10	0	14	13	49	2	0	64	0	0	0	0	0	106
6:15 AM	2	30	5	0	37	3	2	16	0	21	28	66	7	0	101	0	0	0	0	0	159
6:30 AM	0	44	15	0	59	7	2	21	0	30	29	59	14	0	102	1	0	0	0	1	192
6:45 AM	0	69	21	0	90	6	4	27	0	37	42	71	20	0	133	2	0	0	0	2	262
Total	2	168	44	0	214	19	9	74	0	102	112	245	43	0	400	3	0	0	0	3	719
7:00 AM	0	82	25	0	107	15	9	33	0	57	45	75	22	0	142	3	0	1	0	4	310
7:15 AM	0	114	28	0	142	16	17	40	0	73	51	99	54	0	204	19	2	2	0	23	442
7:30 AM	1	133	22	0	156	22	23	65	0	110	56	117	64	0	237	32	11	0	0	43	546
7:45 AM	2	174	31	0	207	27	6	51	0	84	68	129	13	0	210	23	4	1	0	28	529
Total	3	503	106	0	612	80	55	189	0	324	220	420	153	0	793	77	17	4	0	98	1827
8:00 AM	1	120	32	0	153	28	3	85	0	116	79	107	3	0	189	4	0	0	0	4	462
8:15 AM	3	132	37	0	172	24	4	60	0	88	88	99	7	0	194	6	0	0	0	6	460
8:30 AM	1	110	21	0	132	28	1	63	0	92	84	103	12	0	199	3	0	1	0	4	427
8:45 AM	1	106	38	0	145	30	3	48	0	81	83	107	7	0	197	3	2	0	0	5	428
Total	6	468	128	0	602	110	11	256	0	377	334	416	29	0	779	16	2	1	0	19	1777
Grand Total	11	1139	278	0	1428	209	75	519	0	803	666	1081	225	0	1972	96	19	5	0	120	4323
Approach %	0.8	79.8	19.5	0.0		26.0	9.3	64.6	0.0		33.8	54.8	11.4	0.0		80.0	15.8	4.2	0.0		
Total %	0.3	26.3	6.4	0.0	33.0	4.8	1.7	12.0	0.0	18.6	15.4	25.0	5.2	0.0	45.6	2.2	0.4	0.1	0.0	2.8	
Exiting Leg Total					1295					963					1754					311	4323

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

7:30 AM	Marrett Road (Route 2A)					Massachusetts Avenue					Marrett Road (Route 2A)					Cranberry Hill					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:30 AM	1	133	22	0	156	22	23	65	0	110	56	117	64	0	237	32	11	0	0	43	546
7:45 AM	2	174	31	0	207	27	6	51	0	84	68	129	13	0	210	23	4	1	0	28	529
8:00 AM	1	120	32	0	153	28	3	85	0	116	79	107	3	0	189	4	0	0	0	4	462
8:15 AM	3	132	37	0	172	24	4	60	0	88	88	99	7	0	194	6	0	0	0	6	460
Total Volume	7	559	122	0	688	101	36	261	0	398	291	452	87	0	830	65	15	1	0	81	1997
% Approach Total	1.0	81.3	17.7	0.0		25.4	9.0	65.6	0.0		35.1	54.5	10.5	0.0		80.2	18.5	1.2	0.0		
PHF	0.583	0.803	0.824	0.000	0.831	0.902	0.391	0.768	0.000	0.858	0.827	0.876	0.340	0.000	0.876	0.508	0.341	0.250	0.000	0.471	0.914
Entering Leg	7	559	122	0	688	101	36	261	0	398	291	452	87	0	830	65	15	1	0	81	1997
Exiting Leg					554					428					885					130	1997
Total					1242					826					1715					211	3994

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 B
N: Marrett Road (Route 2A) S: Marrett Road (Route 2A)
E: Massachusetts Avenue W: Cranberry Hill
Lexington, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
6:00 AM
9:00 AM



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	U k k -					U -					U k k -					# =					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
U																					
U																					
U																					
U																					
u																					
8 u																					
u																					
- O u																					
"																					
- O u																					
o -y u																					
o -y u																					
- O u																					
u																					
- O u																					

h =	U k k -					U -					U k k -					# =					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
U																					
U																					
U																					
U																					
u t																					
u																					
h=7																					
"																					
o -y u																					
o -y u																					
u																					
u - O																					
"																					
o -y u																					
u - O																					

PDI File #: **228952 B**
 Location: **N: Marrett Road (Route 2A) S: Marrett Road (Route 2A)**
 Location: **E: Massachusetts Avenue W: Cranberry Hill**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Buses

	Marrett Road (Route 2A)					Massachusetts Avenue					Marrett Road (Route 2A)					Cranberry Hill					Total					
	from North					from East					from South					from West										
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total						
6:00 AM	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2					
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	2					
6:30 AM	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	1	0	0	0	1	4					
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	3					
Total	0	2	0	0	2	0	0	1	0	1	1	2	2	0	5	3	0	0	0	3	11					
7:00 AM	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2					
7:15 AM	0	0	0	0	0	0	1	0	0	1	1	0	3	0	4	2	0	0	0	2	7					
7:30 AM	0	0	0	0	0	1	0	0	0	1	0	1	5	0	6	11	1	0	0	12	19					
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1					
Total	0	1	0	0	1	1	1	1	0	3	2	1	8	0	11	13	1	0	0	14	29					
8:00 AM	0	1	0	0	1	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	3					
8:15 AM	0	0	1	0	1	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	4					
8:30 AM	0	0	0	0	0	0	0	2	0	2	2	0	0	0	2	0	0	0	0	0	4					
8:45 AM	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	3					
Total	0	2	1	0	3	0	0	3	0	3	6	2	0	0	8	0	0	0	0	0	14					
Grand Total	0	5	1	0	6	1	1	5	0	7	9	5	10	0	24	16	1	0	0	17	54					
Approach %	0.0	83.3	16.7	0.0		14.3	14.3	71.4	0.0		37.5	20.8	41.7	0.0		94.1	5.9	0.0	0.0							
Total %	0.0	9.3	1.9	0.0	11.1	1.9	1.9	9.3	0.0	13.0	16.7	9.3	18.5	0.0	44.4	29.6	1.9	0.0	0.0	31.5						
Exiting Leg Total						6					11					26					11					54

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Marrett Road (Route 2A)					Massachusetts Avenue					Marrett Road (Route 2A)					Cranberry Hill					Total					
	from North					from East					from South					from West										
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total						
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	3					
7:00 AM	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2					
7:15 AM	0	0	0	0	0	0	1	0	0	1	1	0	3	0	4	2	0	0	0	2	7					
7:30 AM	0	0	0	0	0	1	0	0	0	1	0	1	5	0	6	11	1	0	0	12	19					
Total Volume	0	1	0	0	1	1	1	1	0	3	1	2	9	0	12	14	1	0	0	15	31					
% Approach Total	0.0	100.0	0.0	0.0		33.3	33.3	33.3	0.0		8.3	16.7	75.0	0.0		93.3	6.7	0.0	0.0							
PHF	0.000	0.250	0.000	0.000	0.250	0.250	0.250	0.250	0.000	0.750	0.250	0.500	0.450	0.000	0.500	0.318	0.250	0.000	0.000	0.313	0.408					
Entering Leg	0	1	0	0	1	1	1	1	0	3	1	2	9	0	12	14	1	0	0	15	31					
Exiting Leg						3					2					16					31					
Total						4					5					28					25					62

h) @/

O

O

O

#

O #

)

O u

- u

#

228952 B

N: Marrett Road (Route 2A) S: Marrett Road (Route 2A)

E: Massachusetts Avenue W: Cranberry Hill

Lexington, MA

McFarland Johnson/S. Ireland

TBD

Thursday, December 1, 2022

6:00 AM

9:00 AM



157 Washington Street, Suite 2

Hudson, MA 01749

Office: 508-875-0100 Fax: 508-875-0118

Email: datarequests@pdillc.com

Single-Unit Trucks

	U k k -					U -					U k k -					# =					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
°U																					
°U																					
°U																					
°U																					
u																					
°U																					
°U																					
°U																					
u																					
8 u																					
u																					
- O u																					

h = °

	°U					°U					# =										
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
°U																					
°U																					
°U																					
°U																					
u †																					
u																					
h=7																					
- O																					
- O																					
u																					

PDI File #: **228952 B**
 Location: **N: Marrett Road (Route 2A) S: Marrett Road (Route 2A)**
 Location: **E: Massachusetts Avenue W: Cranberry Hill**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Marrett Road (Route 2A)					Massachusetts Avenue					Marrett Road (Route 2A)					Cranberry Hill					Total					
	from North					from East					from South					from West										
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total						
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2					
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1					
6:45 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1					
Total	0	2	0	0	2	0	0	0	0	0	0	3	1	0	4	1	0	0	0	0	1					
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	0	0	1					
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0					
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	1	0	0	0	0	1					
7:45 AM	0	2	1	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0					
Total	0	2	1	0	3	0	0	0	0	0	0	9	0	0	9	2	0	0	0	0	2					
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0					
8:15 AM	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	1	0	0	0	1					
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0					
8:45 AM	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0					
Total	0	1	0	0	1	1	0	1	0	2	0	4	2	0	6	0	1	0	0	0	1					
Grand Total	0	5	1	0	6	1	0	1	0	2	0	16	3	0	19	3	1	0	0	4	31					
Approach %	0.0	83.3	16.7	0.0		50.0	0.0	50.0	0.0		0.0	84.2	15.8	0.0		75.0	25.0	0.0	0.0							
Total %	0.0	16.1	3.2	0.0	19.4	3.2	0.0	3.2	0.0	6.5	0.0	51.6	9.7	0.0	61.3	9.7	3.2	0.0	0.0	12.9						
Exiting Leg Total						17					2					9					3					31

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Marrett Road (Route 2A)					Massachusetts Avenue					Marrett Road (Route 2A)					Cranberry Hill					Total					
	from North					from East					from South					from West										
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total						
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	1	0	0	0	0	1					
7:45 AM	0	2	1	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0					
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0					
8:15 AM	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	1	0	0	0	1					
Total Volume	0	2	1	0	3	0	0	1	0	1	0	10	1	0	11	1	1	0	0	2	17					
% Approach Total	0.0	66.7	33.3	0.0		0.0	0.0	100.0	0.0		0.0	90.9	9.1	0.0		50.0	50.0	0.0	0.0							
PHF	0.000	0.250	0.250	0.000	0.250	0.000	0.000	0.250	0.000	0.250	0.000	0.625	0.250	0.000	0.688	0.250	0.250	0.000	0.000	0.500	0.850					
Entering Leg	0	2	1	0	3	0	0	1	0	1	0	10	1	0	11	1	1	0	0	2	17					
Exiting Leg						10					2					4					1					
Total						13					3					15					3					34

PDI File #: **228952 B**
 Location: **N: Marrett Road (Route 2A) S: Marrett Road (Route 2A)**
 Location: **E: Massachusetts Avenue W: Cranberry Hill**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Bicycles (on Roadway and Crosswalks)

	Marrett Road (Route 2A)							Massachusetts Avenue							Marrett Road (Route 2A)							Cranberry Hill							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0			
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Exiting Leg Total	0							0							0							0							0

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Marrett Road (Route 2A)							Massachusetts Avenue							Marrett Road (Route 2A)							Cranberry Hill							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Exiting Leg	0							0							0							0							0
Total	0							0							0							0							0

PDI File #: **228952 B**
 Location: **N: Marrett Road (Route 2A) S: Marrett Road (Route 2A)**
 Location: **E: Massachusetts Avenue W: Cranberry Hill**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Pedestrians

	Marrett Road (Route 2A)							Massachusetts Avenue							Marrett Road (Route 2A)							Cranberry Hill							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	2	4	4	
Total	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	2	4	4	
Grand Total	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	2	4	4	
Approach %	0	0	0	0	0	100		0	0	0	0	0	100		0	0	0	0	0	0	0	0	50	50					
Total %	0	0	0	0	0	25	25	0	0	0	0	0	25	25	0	0	0	0	0	0	0	0	25	25	50				
Exiting Leg Total	1							1							0							2							4

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

8:00 AM	Marrett Road (Route 2A)							Massachusetts Avenue							Marrett Road (Route 2A)							Cranberry Hill							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	2	4	
Total Volume	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	2	4	
% Approach Total	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0				
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.250	0.250	0.250		
Entering Leg	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	2	4	
Exiting Leg	1							1							0							2							4
Total	2							2							0							4							8

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 B
N: Marrett Road (Route 2A) S: Marrett Road (Route 2A)
E: Massachusetts Avenue W: Cranberry Hill
Lexington, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
3:00 PM
6:00 PM



157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	U k k °					U °					U k k °					# =					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
hU hU hU hU																					
u hU hU hU hU																					
u hU hU hU hU																					
u 8 u u																					
- O u # # - O u																					
= † = † - O u																					

h = °	hU hU					U °					U k k °					# =					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
hU hU hU hU																					
u † u h=7																					
# # = † = † # - O = - O u - O # - O = - O u - O																					

PDI File #: **228952 B**
 Location: **N: Marrett Road (Route 2A) S: Marrett Road (Route 2A)**
 Location: **E: Massachusetts Avenue W: Cranberry Hill**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Cars

	Marrett Road (Route 2A)					Massachusetts Avenue					Marrett Road (Route 2A)					Cranberry Hill					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	1	100	28	0	129	32	4	82	0	118	31	121	9	0	161	12	4	0	0	16	424
3:15 PM	0	68	37	0	105	39	2	65	0	106	55	87	8	0	150	19	3	1	0	23	384
3:30 PM	0	86	29	0	115	58	6	92	0	156	62	89	9	0	160	33	7	3	0	43	474
3:45 PM	0	66	18	0	84	65	5	118	0	188	51	103	7	0	161	27	6	1	0	34	467
Total	1	320	112	0	433	194	17	357	0	568	199	400	33	0	632	91	20	5	0	116	1749
4:00 PM	0	98	33	0	131	54	1	101	0	156	45	132	5	0	182	24	8	2	0	34	503
4:15 PM	0	80	22	0	102	33	2	72	0	107	46	156	2	0	204	10	4	4	0	18	431
4:30 PM	0	74	6	0	80	46	2	108	0	156	38	151	6	0	195	4	7	1	0	12	443
4:45 PM	0	65	14	0	79	30	0	91	0	121	33	141	7	0	181	5	0	2	0	7	388
Total	0	317	75	0	392	163	5	372	0	540	162	580	20	0	762	43	19	9	0	71	1765
5:00 PM	0	55	22	0	77	52	1	104	0	157	21	179	9	0	209	10	1	4	0	15	458
5:15 PM	0	58	25	0	83	51	2	99	0	152	37	155	7	0	199	7	1	1	0	9	443
5:30 PM	0	66	24	0	90	45	1	112	0	158	32	157	4	0	193	6	1	2	0	9	450
5:45 PM	0	65	20	0	85	42	1	72	0	115	28	113	5	0	146	8	2	0	0	10	356
Total	0	244	91	0	335	190	5	387	0	582	118	604	25	0	747	31	5	7	0	43	1707
Grand Total	1	881	278	0	1160	547	27	1116	0	1690	479	1584	78	0	2141	165	44	21	0	230	5221
Approach %	0.1	75.9	24.0	0.0		32.4	1.6	66.0	0.0		22.4	74.0	3.6	0.0		71.7	19.1	9.1	0.0		
Total %	0.0	16.9	5.3	0.0	22.2	10.5	0.5	21.4	0.0	32.4	9.2	30.3	1.5	0.0	41.0	3.2	0.8	0.4	0.0	4.4	
Exiting Leg Total					2152					801					2162					106	5221

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Marrett Road (Route 2A)					Massachusetts Avenue					Marrett Road (Route 2A)					Cranberry Hill					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:30 PM	0	86	29	0	115	58	6	92	0	156	62	89	9	0	160	33	7	3	0	43	474
3:45 PM	0	66	18	0	84	65	5	118	0	188	51	103	7	0	161	27	6	1	0	34	467
4:00 PM	0	98	33	0	131	54	1	101	0	156	45	132	5	0	182	24	8	2	0	34	503
4:15 PM	0	80	22	0	102	33	2	72	0	107	46	156	2	0	204	10	4	4	0	18	431
Total Volume	0	330	102	0	432	210	14	383	0	607	204	480	23	0	707	94	25	10	0	129	1875
% Approach Total	0.0	76.4	23.6	0.0		34.6	2.3	63.1	0.0		28.9	67.9	3.3	0.0		72.9	19.4	7.8	0.0		
PHF	0.000	0.842	0.773	0.000	0.824	0.808	0.583	0.811	0.000	0.807	0.823	0.769	0.639	0.000	0.866	0.712	0.781	0.625	0.000	0.750	0.932
Entering Leg	0	330	102	0	432	210	14	383	0	607	204	480	23	0	707	94	25	10	0	129	1875
Exiting Leg					700					331					807					37	1875
Total					1132					938					1514					166	3750

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 B
N: Marrett Road (Route 2A) S: Marrett Road (Route 2A)
E: Massachusetts Avenue W: Cranberry Hill
Lexington, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
3:00 PM
6:00 PM



157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	U k k					U					U k k					# =					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
hU																					
hU																					
hU																					
hU																					
u																					
hU																					
hU																					
hU																					
u																					
8 u																					
u																					
- O u																					
"																					
"																					
- O u																					
o -y u																					
o -y																					
- O u																					
u																					
- O u																					

h = °	hU					hU					U k k					# =					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
hU																					
hU																					
hU																					
hU																					
u †																					
u																					
h=7																					
"																					
"																					
o -y u																					
o -y																					
u																					
o -y u																					
o -y																					
u - O																					
"																					
o -y u																					
o -y																					
u - O																					

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 B
N: Marrett Road (Route 2A) S: Marrett Road (Route 2A)
E: Massachusetts Avenue W: Cranberry Hill
Lexington, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
3:00 PM
6:00 PM



157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Buses

	U	k	k	-	U	-	U	k	k	-	#	=				
	V				-				o				‡			
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
hU																
hU																
hU																
hU																
u																
hU																
hU																
hU																
hU																
u																
hU																
hU																
hU																
u																
8 u																
u																
o u																

h = °

	U	k	k	-	U	-	U	k	k	-	#	=				
	V				-				o				‡			
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
hU																
hU																
hU																
hU																
u †																
u																
h=7																
o																
o																
u																

PDI File #: **228952 B**
 Location: **N: Marrett Road (Route 2A) S: Marrett Road (Route 2A)**
 Location: **E: Massachusetts Avenue W: Cranberry Hill**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Single-Unit Trucks

	Marrett Road (Route 2A)					Massachusetts Avenue					Marrett Road (Route 2A)					Cranberry Hill					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	3	0	0	3	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	5
3:15 PM	0	2	0	0	2	1	0	1	0	2	3	0	0	0	3	1	0	0	0	1	8
3:30 PM	0	0	0	0	0	1	0	1	0	2	1	2	0	0	3	1	0	0	0	1	6
3:45 PM	0	2	0	0	2	1	1	0	0	2	3	1	0	0	4	0	0	0	0	0	8
Total	0	7	0	0	7	3	1	2	0	6	8	4	0	0	12	2	0	0	0	2	27
4:00 PM	0	0	0	0	0	0	0	3	0	3	1	1	0	0	2	0	0	0	0	0	5
4:15 PM	0	1	0	0	1	1	1	0	0	2	1	3	0	0	4	0	0	0	0	0	7
4:30 PM	0	1	0	0	1	0	1	2	0	3	0	2	0	0	2	0	0	0	0	0	6
4:45 PM	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	5
Total	0	5	1	0	6	1	2	5	0	8	2	6	0	0	8	0	1	0	0	1	23
5:00 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	1	1	0	2	1	1	0	0	2	0	0	0	0	0	4
5:30 PM	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	2	0	0	2	5
5:45 PM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	2	1	0	3	0	3	3	0	6	1	1	0	0	2	0	2	0	0	2	13
Grand Total	0	14	2	0	16	4	6	10	0	20	11	11	0	0	22	2	3	0	0	5	63
Approach %	0.0	87.5	12.5	0.0		20.0	30.0	50.0	0.0		50.0	50.0	0.0	0.0		40.0	60.0	0.0	0.0		
Total %	0.0	22.2	3.2	0.0	25.4	6.3	9.5	15.9	0.0	31.7	17.5	17.5	0.0	0.0	34.9	3.2	4.8	0.0	0.0	7.9	
Exiting Leg Total	15					16					26					6					63

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Marrett Road (Route 2A)					Massachusetts Avenue					Marrett Road (Route 2A)					Cranberry Hill					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	3	0	0	3	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	5
3:15 PM	0	2	0	0	2	1	0	1	0	2	3	0	0	0	3	1	0	0	0	1	8
3:30 PM	0	0	0	0	0	1	0	1	0	2	1	2	0	0	3	1	0	0	0	1	6
3:45 PM	0	2	0	0	2	1	1	0	0	2	3	1	0	0	4	0	0	0	0	0	8
Total Volume	0	7	0	0	7	3	1	2	0	6	8	4	0	0	12	2	0	0	0	2	27
% Approach Total	0.0	100.0	0.0	0.0		50.0	16.7	33.3	0.0		66.7	33.3	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.583	0.000	0.000	0.583	0.750	0.250	0.500	0.000	0.750	0.667	0.500	0.000	0.000	0.750	0.500	0.000	0.000	0.000	0.500	0.844
Entering Leg	0	7	0	0	7	3	1	2	0	6	8	4	0	0	12	2	0	0	0	2	27
Exiting Leg	7					8					11					1					27
Total	14					14					23					3					54

PDI File #: **228952 B**
 Location: **N: Marrett Road (Route 2A) S: Marrett Road (Route 2A)**
 Location: **E: Massachusetts Avenue W: Cranberry Hill**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Marrett Road (Route 2A)					Massachusetts Avenue					Marrett Road (Route 2A)					Cranberry Hill					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
3:15 PM	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
3:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Total	0	2	0	0	2	2	1	1	0	4	0	1	0	0	1	0	0	0	0	0	7
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	1	1	1	0	0	2	0	1	0	0	1	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	3	0	0	3	3	2	1	0	6	0	2	0	0	2	0	0	0	0	0	11
Approach %	0.0	100.0	0.0	0.0		50.0	33.3	16.7	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	27.3	0.0	0.0	27.3	27.3	18.2	9.1	0.0	54.5	0.0	18.2	0.0	0.0	18.2	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					5					0				4						2	11

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Marrett Road (Route 2A)					Massachusetts Avenue					Marrett Road (Route 2A)					Cranberry Hill					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
3:15 PM	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
3:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	2	0	0	2	2	1	1	0	4	0	1	0	0	1	0	0	0	0	0	7
% Approach Total	0.0	100.0	0.0	0.0		50.0	25.0	25.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.500	0.000	0.000	0.500	0.250	0.250	0.250	0.000	0.500	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.875
Entering Leg	0	2	0	0	2	2	1	1	0	4	0	1	0	0	1	0	0	0	0	0	7
Exiting Leg					3					0				3						1	7
Total					5					4				4						1	14

h) @/
 O
 O
 # o
 #
 o #
 #)
 o u
 - u
 #

228952 B
N: Marrett Road (Route 2A) S: Marrett Road (Route 2A)
E: Massachusetts Avenue W: Cranberry Hill
Lexington, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
3:00 PM
6:00 PM



Bicycles (on Roadway and Crosswalks)

	U	k	k		U		U	k	k		#	=																	
	V				-				o				‡																
	k	u	o	y-u	#t--'	#t-t'	u	k	u	o	y-u	#t-o'	#t-v'	u	k	u	o	y-u	#t-t'	#t--'	u	k	u	o	y-u	#t-v'	#t-o'	u	U
hU																													
hU																													
hU																													
hU																													
u																													
hU																													
hU																													
hU																													
u																													
8 u																													
u																													
- O u																													

h = °

	U	k	k		U		U	k	k		#	=																	
	V				-				o				‡																
	k	u	o	y-u	#t--'	#t-t'	u	k	u	o	y-u	#t-o'	#t-v'	u	k	u	o	y-u	#t-t'	#t--'	u	k	u	o	y-u	#t-v'	#t-o'	u	U
hU																													
hU																													
hU																													
hU																													
u †																													
u																													
h=7																													
- O																													
- O																													
u																													

PDI File #: 228952 B
 Location: N: Marrett Road (Route 2A) S: Marrett Road (Route 2A)
 Location: E: Massachusetts Avenue W: Cranberry Hill
 City, State: Lexington, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 3:00 PM
 End Time: 6:00 PM
 Class:



Pedestrians

	Marrett Road (Route 2A)							Massachusetts Avenue							Marrett Road (Route 2A)							Cranberry Hill							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Exiting Leg Total	0							0							0							0							0

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Marrett Road (Route 2A)							Massachusetts Avenue							Marrett Road (Route 2A)							Cranberry Hill							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Exiting Leg	0							0							0							0							0
Total	0							0							0							0							0

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 C
N: Old Massachusetts Avenue
E: Marrett Rd (Rte 2A) W: Massachusetts Ave (Rte 2A)
Lexington, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
6:00 AM
9:00 AM



Cars and Heavy Vehicles (Combined)

	\ U				U k k				U k				u
	V				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u	
U													
U													
U													
U													
u													
U													
U													
U													
u													
8 u													
u													
- O u													
#													
#													
- O u													
= †													
= †													
- O u													

h =

	\ U				U k k				U k				u
	V				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u	
U													
U													
U													
U													
u †													
u													
h=7													
#													
#													
= †													
= †													
# - O													
= - O													
u - O													
# - O													
= - O													
u - O													

PDI File #: **228952 C**
 Location: **N: Old Massachusetts Avenue**
 Location: **E: Marrett Rd (Rte 2A) W: Massachusetts Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Cars

	Old Massachusetts Avenue				Marrett Road (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
6:00 AM	1	0	0	1	0	53	0	53	27	6	0	33	87
6:15 AM	1	0	0	1	0	69	0	69	37	8	0	45	115
6:30 AM	7	0	0	7	0	67	0	67	60	20	0	80	154
6:45 AM	9	2	0	11	1	76	0	77	87	9	0	96	184
Total	18	2	0	20	1	265	0	266	211	43	0	254	540
7:00 AM	5	0	0	5	1	88	0	89	105	7	0	112	206
7:15 AM	13	2	0	15	1	113	0	114	137	13	0	150	279
7:30 AM	14	3	0	17	1	137	0	138	167	20	0	187	342
7:45 AM	15	1	0	16	2	158	0	160	197	25	0	222	398
Total	47	6	0	53	5	496	0	501	606	65	0	671	1225
8:00 AM	6	7	0	13	1	135	0	136	149	34	0	183	332
8:15 AM	10	4	0	14	0	123	0	123	164	29	0	193	330
8:30 AM	10	3	0	13	3	129	0	132	129	22	0	151	296
8:45 AM	14	5	0	19	2	135	0	137	139	27	0	166	322
Total	40	19	0	59	6	522	0	528	581	112	0	693	1280
Grand Total	105	27	0	132	12	1283	0	1295	1398	220	0	1618	3045
Approach %	79.5	20.5	0.0		0.9	99.1	0.0		86.4	13.6	0.0		
Total %	3.4	0.9	0.0	4.3	0.4	42.1	0.0	42.5	45.9	7.2	0.0	53.1	
Exiting Leg Total				232				1425				1388	3045

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

7:30 AM	Old Massachusetts Avenue				Marrett Road (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:30 AM	14	3	0	17	1	137	0	138	167	20	0	187	342
7:45 AM	15	1	0	16	2	158	0	160	197	25	0	222	398
8:00 AM	6	7	0	13	1	135	0	136	149	34	0	183	332
8:15 AM	10	4	0	14	0	123	0	123	164	29	0	193	330
Total Volume	45	15	0	60	4	553	0	557	677	108	0	785	1402
% Approach Total	75.0	25.0	0.0		0.7	99.3	0.0		86.2	13.8	0.0		
PHF	0.750	0.536	0.000	0.882	0.500	0.875	0.000	0.870	0.859	0.794	0.000	0.884	0.881
Entering Leg	45	15	0	60	4	553	0	557	677	108	0	785	1402
Exiting Leg				112				692				598	1402
Total				172				1249				1383	2804

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 C
N: Old Massachusetts Avenue
E: Marrett Rd (Rte 2A) W: Massachusetts Ave (Rte 2A)
Lexington, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
6:00 AM
9:00 AM



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	\ U				U k k				U k				u
	V				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u	
U													
U													
U													
U													
u													
U													
U													
U													
u													
8 u													
u													
- O u													
"													
"													
- O u													
o -y u													
o -y													
- O u													
u													
- O u													

h =

	\ U				U k k				U k				u
	V				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u	
U													
U													
U													
U													
u t													
u													
h=7													
"													
o -y u													
o -y													
u													
o -y u													
u - O													
o -y u													
u - O													

PDI File #: **228952 C**
 Location: **N: Old Massachusetts Avenue**
 Location: **E: Marrett Rd (Rte 2A) W: Massachusetts Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Buses

	Old Massachusetts Avenue				Marrett Road (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
6:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
6:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	1	0	1	1	1	0	2	1	0	0	1	4
7:00 AM	1	0	0	1	0	0	0	0	1	0	0	1	2
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:30 AM	0	0	0	0	1	1	0	2	0	0	0	0	2
7:45 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	2	0	0	2	1	1	0	2	2	0	0	2	6
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
8:15 AM	0	0	0	0	1	0	0	1	1	0	0	1	2
8:30 AM	1	0	0	1	0	0	0	0	1	0	0	1	2
8:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	1	0	0	1	2	0	0	2	3	0	0	3	6
Grand Total	3	1	0	4	4	2	0	6	6	0	0	6	16
Approach %	75.0	25.0	0.0		66.7	33.3	0.0		100.0	0.0	0.0		
Total %	18.8	6.3	0.0	25.0	25.0	12.5	0.0	37.5	37.5	0.0	0.0	37.5	
Exiting Leg Total				4				7				5	16

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Old Massachusetts Avenue				Marrett Road (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
6:30 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
6:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
7:00 AM	1	0	0	1	0	0	0	0	1	0	0	1	2
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	1	0	0	1	1	1	0	2	3	0	0	3	6
% Approach Total	100.0	0.0	0.0		50.0	50.0	0.0		100.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.250	0.250	0.250	0.000	0.500	0.750	0.000	0.000	0.750	0.750
Entering Leg	1	0	0	1	1	1	0	2	3	0	0	3	6
Exiting Leg				1				3				2	6
Total				2				5				5	12

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 C
N: Old Massachusetts Avenue
E: Marrett Rd (Rte 2A) W: Massachusetts Ave (Rte 2A)
Lexington, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
6:00 AM
9:00 AM



**PRECISION
 D A T A
 INDUSTRIES, LLC**

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Single-Unit Trucks

	\ U				U k k				U k				u
	V				-				‡				
	k	O	y-u	u	k	u	y-u	u	u	O	y-u	u	
U													
U													
U													
U													
u													
U													
U													
U													
u													
8 u													
u													
- O u													

h =

	\ U				U k k				U k				u
	V				-				‡				
	k	O	y-u	u	k	u	y-u	u	u	O	y-u	u	
U													
U													
U													
U													
u †													
u													
h=7													
- O													
- O													
u													

PDI File #: **228952 C**
 Location: **N: Old Massachusetts Avenue**
 Location: **E: Marrett Rd (Rte 2A) W: Massachusetts Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Old Massachusetts Avenue				Marrett Road (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
6:45 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
Total	0	0	0	0	0	3	0	3	2	0	0	2	5
7:00 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
7:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
7:30 AM	0	0	0	0	0	3	0	3	0	0	0	0	3
7:45 AM	0	0	0	0	0	2	0	2	3	0	0	3	5
Total	0	0	0	0	0	8	0	8	3	0	0	3	11
8:00 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
8:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
Total	0	0	0	0	0	5	0	5	1	0	0	1	6
Grand Total	0	0	0	0	0	16	0	16	6	0	0	6	22
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	72.7	0.0	72.7	27.3	0.0	0.0	27.3	
Exiting Leg Total	0				6				16				22

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Old Massachusetts Avenue				Marrett Road (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:30 AM	0	0	0	0	0	3	0	3	0	0	0	0	3
7:45 AM	0	0	0	0	0	2	0	2	3	0	0	3	5
8:00 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
8:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
Total Volume	0	0	0	0	0	9	0	9	3	0	0	3	12
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.750	0.250	0.000	0.000	0.250	0.600
Entering Leg	0	0	0	0	0	9	0	9	3	0	0	3	12
Exiting Leg	0				3				9				12
Total	0				12				12				24

PDI File #: 228952 C
 Location: N: Old Massachusetts Avenue
 Location: E: Marrett Rd (Rte 2A) W: Massachusetts Ave (Rte 2A)
 City, State: Lexington, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 6:00 AM
 End Time: 9:00 AM
 Class:



Bicycles (on Roadway and Crosswalks)

	Old Massachusetts Avenue						Marrett Road (Route 2A)						Massachusetts Avenue (Route 2A)						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	
Exiting Leg Total	2						0						0						2

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Old Massachusetts Avenue						Marrett Road (Route 2A)						Massachusetts Avenue (Route 2A)						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.500	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
Exiting Leg	2						0						0						2
Total	2						0						2						4

h) @ 228952 C
 O N: Old Massachusetts Avenue
 O E: Marrett Rd (Rte 2A) W: Massachusetts Ave (Rte 2A)
 # O Lexington, MA
 # McFarland Johnson/S. Ireland
 O # TBD
 #) Thursday, December 1, 2022
 O u 6:00 AM
 - u 9:00 AM
 #



Pedestrians

	\ U						U k k						U k					
	V						-						‡					
	k	O	y-u	#t--	#t-t	u	k	u	y-u	#t-o	#t-v	u	u	O	y-u	#t-v	#t-o	u
U																		
U																		
U																		
U																		
u																		
8 u																		
u																		
- O u																		

h = U U

	\ U						U k k						U k					
	V						-						‡					
	k	O	y-u	#t--	#t-t	u	k	u	y-u	#t-o	#t-v	u	u	O	y-u	#t-v	#t-o	u
U																		
U																		
U																		
U																		
u f																		
u																		
h=7																		
- O																		
- O																		
u																		

PDI File #: **228952 C**
 Location: **N: Old Massachusetts Avenue**
 Location: **E: Marrett Rd (Rte 2A) W: Massachusetts Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**



Cars and Heavy Vehicles (Combined)

	Old Massachusetts Avenue				Marrett Road (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	21	1	0	22	1	161	1	163	127	10	0	137	322
3:15 PM	30	1	0	31	3	127	0	130	98	12	0	110	271
3:30 PM	21	3	0	24	1	153	0	154	117	12	0	129	307
3:45 PM	32	0	0	32	0	172	0	172	91	14	0	105	309
Total	104	5	0	109	5	613	1	619	433	48	0	481	1209
4:00 PM	21	2	0	23	2	184	0	186	128	17	0	145	354
4:15 PM	27	1	0	28	0	203	0	203	104	10	0	114	345
4:30 PM	32	0	0	32	1	192	0	193	85	11	0	96	321
4:45 PM	33	3	0	36	1	177	0	178	92	12	0	104	318
Total	113	6	0	119	4	756	0	760	409	50	0	459	1338
5:00 PM	59	0	0	59	2	233	0	235	77	13	0	90	384
5:15 PM	43	2	0	45	1	207	0	208	87	4	0	91	344
5:30 PM	44	1	0	45	0	205	0	205	91	5	0	96	346
5:45 PM	26	3	0	29	0	152	0	152	82	5	0	87	268
Total	172	6	0	178	3	797	0	800	337	27	0	364	1342
Grand Total	389	17	0	406	12	2166	1	2179	1179	125	0	1304	3889
Approach %	95.8	4.2	0.0		0.6	99.4	0.0		90.4	9.6	0.0		
Total %	10.0	0.4	0.0	10.4	0.3	55.7	0.0	56.0	30.3	3.2	0.0	33.5	
Exiting Leg Total				137				1197				2555	3889
Cars	384	15	0	399	12	2140	1	2153	1152	121	0	1273	3825
% Cars	98.7	88.2	0.0	98.3	100.0	98.8	100.0	98.8	97.7	96.8	0.0	97.6	98.4
Exiting Leg Total				133				1168				2524	3825
Heavy Vehicles	5	2	0	7	0	26	0	26	27	4	0	31	64
% Heavy Vehicles	1.3	11.8	0.0	1.7	0.0	1.2	0.0	1.2	2.3	3.2	0.0	2.4	1.6
Exiting Leg Total				4				29				31	64

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

4:45 PM	Old Massachusetts Avenue				Marrett Road (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:45 PM	33	3	0	36	1	177	0	178	92	12	0	104	318
5:00 PM	59	0	0	59	2	233	0	235	77	13	0	90	384
5:15 PM	43	2	0	45	1	207	0	208	87	4	0	91	344
5:30 PM	44	1	0	45	0	205	0	205	91	5	0	96	346
Total Volume	179	6	0	185	4	822	0	826	347	34	0	381	1392
% Approach Total	96.8	3.2	0.0		0.5	99.5	0.0		91.1	8.9	0.0		
PHF	0.758	0.500	0.000	0.784	0.500	0.882	0.000	0.879	0.943	0.654	0.000	0.916	0.906
Cars	178	5	0	183	4	817	0	821	341	33	0	374	1378
Cars %	99.4	83.3	0.0	98.9	100.0	99.4	0.0	99.4	98.3	97.1	0.0	98.2	99.0
Heavy Vehicles	1	1	0	2	0	5	0	5	6	1	0	7	14
Heavy Vehicles %	0.6	16.7	0.0	1.1	0.0	0.6	0.0	0.6	1.7	2.9	0.0	1.8	1.0
Cars Enter Leg	178	5	0	183	4	817	0	821	341	33	0	374	1378
Heavy Enter Leg	1	1	0	2	0	5	0	5	6	1	0	7	14
Total Entering Leg	179	6	0	185	4	822	0	826	347	34	0	381	1392
Cars Exiting Leg				37				346				995	1378
Heavy Exiting Leg				1				7				6	14
Total Exiting Leg				38				353				1001	1392

h) @
 O
 O
 # o
 #
 o #
 #)
 o u
 - u
 #

228952 C
N: Old Massachusetts Avenue
E: Marrett Rd (Rte 2A) W: Massachusetts Ave (Rte 2A)
Lexington, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
3:00 PM
6:00 PM



**PRECISION
 D A T A
 INDUSTRIES, LLC**

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars

	\ U				U k k				U k				u
	V				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u	
hU													
hU													
hU													
hU													
u													
hU													
hU													
hU													
hU													
u													
hU													
hU													
hU													
u													
8 u													
u													
o u													

h =

	hU				hU				U k k				U k				u
	V				-				‡								
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u					
hU																	
hU																	
hU																	
hU																	
u †																	
u																	
h=7																	
o																	
o																	
u																	

PDI File #: **228952 C**
 Location: **N: Old Massachusetts Avenue**
 Location: **E: Marrett Rd (Rte 2A) W: Massachusetts Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**



	Old Massachusetts Avenue				Marrett Road (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	1	0	0	1	0	2	0	2	4	0	0	4	7
3:15 PM	2	0	0	2	0	3	0	3	4	1	0	5	10
3:30 PM	1	0	0	1	0	3	0	3	0	0	0	0	4
3:45 PM	0	0	0	0	0	3	0	3	4	0	0	4	7
Total	4	0	0	4	0	11	0	11	12	1	0	13	28
4:00 PM	0	0	0	0	0	1	0	1	2	1	0	3	4
4:15 PM	0	1	0	1	0	4	0	4	4	0	0	4	9
4:30 PM	0	0	0	0	0	5	0	5	1	0	0	1	6
4:45 PM	1	0	0	1	0	2	0	2	5	0	0	5	8
Total	1	1	0	2	0	12	0	12	12	1	0	13	27
5:00 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
5:15 PM	0	1	0	1	0	1	0	1	0	0	0	0	2
5:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	2	1	0	3	3
Total	0	1	0	1	0	3	0	3	3	2	0	5	9
Grand Total	5	2	0	7	0	26	0	26	27	4	0	31	64
Approach %	71.4	28.6	0.0		0.0	100.0	0.0		87.1	12.9	0.0		
Total %	7.8	3.1	0.0	10.9	0.0	40.6	0.0	40.6	42.2	6.3	0.0	48.4	
Exiting Leg Total	4				29				31				64
Buses	2	2	0	4	0	6	0	6	5	2	0	7	17
% Buses	40.0	100.0	0.0	57.1	0.0	23.1	0.0	23.1	18.5	50.0	0.0	22.6	26.6
Exiting Leg Total	2				7				8				17
Single-Unit Trucks	3	0	0	3	0	16	0	16	19	2	0	21	40
% Single-Unit	60.0	0.0	0.0	42.9	0.0	61.5	0.0	61.5	70.4	50.0	0.0	67.7	62.5
Exiting Leg Total	2				19				19				40
Articulated Trucks	0	0	0	0	0	4	0	4	3	0	0	3	7
% Articulated	0.0	0.0	0.0	0.0	0.0	15.4	0.0	15.4	11.1	0.0	0.0	9.7	10.9
Exiting Leg Total	0				3				4				7

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:00 PM	Old Massachusetts Avenue				Marrett Road (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	1	0	0	1	0	2	0	2	4	0	0	4	7
3:15 PM	2	0	0	2	0	3	0	3	4	1	0	5	10
3:30 PM	1	0	0	1	0	3	0	3	0	0	0	0	4
3:45 PM	0	0	0	0	0	3	0	3	4	0	0	4	7
Total Volume	4	0	0	4	0	11	0	11	12	1	0	13	28
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		92.3	7.7	0.0		
PHF	0.500	0.000	0.000	0.500	0.000	0.917	0.000	0.917	0.750	0.250	0.000	0.650	0.700
Buses	2	0	0	2	0	2	0	2	2	0	0	2	6
Buses %	50.0	0.0	0.0	50.0	0.0	18.2	0.0	18.2	16.7	0.0	0.0	15.4	21.4
Single-Unit Trucks	2	0	0	2	0	8	0	8	8	1	0	9	19
Single-Unit %	50.0	0.0	0.0	50.0	0.0	72.7	0.0	72.7	66.7	100.0	0.0	69.2	67.9
Articulated Trucks	0	0	0	0	0	1	0	1	2	0	0	2	3
Articulated %	0.0	0.0	0.0	0.0	0.0	9.1	0.0	9.1	16.7	0.0	0.0	15.4	10.7
Buses	2	0	0	2	0	2	0	2	2	0	0	2	6
Single-Unit Trucks	2	0	0	2	0	8	0	8	8	1	0	9	19
Articulated Trucks	0	0	0	0	0	1	0	1	2	0	0	2	3
Total Entering Leg	4	0	0	4	0	11	0	11	12	1	0	13	28
Buses	0				2				4				6
Single-Unit Trucks	1				8				10				19
Articulated Trucks	0				2				1				3
Total Exiting Leg	1				12				15				28

PDI File #: **228952 C**
 Location: **N: Old Massachusetts Avenue**
 Location: **E: Marrett Rd (Rte 2A) W: Massachusetts Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Buses

	Old Massachusetts Avenue				Marrett Road (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	2	0	0	2	0	1	0	1	2	0	0	2	5
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	2	0	0	2	0	2	0	2	2	0	0	2	6
4:00 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
4:15 PM	0	1	0	1	0	1	0	1	1	0	0	1	3
4:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
Total	0	1	0	1	0	3	0	3	3	1	0	4	8
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	1	0	1	0	1	0	1	3
Grand Total	2	2	0	4	0	6	0	6	5	2	0	7	17
Approach %	50.0	50.0	0.0		0.0	100.0	0.0		71.4	28.6	0.0		
Total %	11.8	11.8	0.0	23.5	0.0	35.3	0.0	35.3	29.4	11.8	0.0	41.2	
Exiting Leg Total				2				7				8	17

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:15 PM	Old Massachusetts Avenue				Marrett Road (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:15 PM	2	0	0	2	0	1	0	1	2	0	0	2	5
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:00 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
Total Volume	2	0	0	2	0	2	0	2	3	1	0	4	8
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		75.0	25.0	0.0		
PHF	0.250	0.000	0.000	0.250	0.000	0.500	0.000	0.500	0.375	0.250	0.000	0.500	0.400
Entering Leg	2	0	0	2	0	2	0	2	3	1	0	4	8
Exiting Leg				1				3				4	8
Total				3				5				8	16

h) @
 O
 O
 # o
 #
 o #
 #)
 o u
 - u
 #

228952 C
N: Old Massachusetts Avenue
E: Marrett Rd (Rte 2A) W: Massachusetts Ave (Rte 2A)
Lexington, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
3:00 PM
6:00 PM



**PRECISION
 D A T A
 INDUSTRIES, LLC**

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Single-Unit Trucks

	\ U				U k k				U k				u
	V				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u	
hU													
hU													
hU													
hU													
u													
hU													
hU													
hU													
hU													
u													
8 u													
.													
u													
- o u													

h =

	hU				hU				U k k				U k				u
	\ U				V				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u					
hU																	
hU																	
hU																	
hU																	
u †																	
u																	
h=7																	
- o																	
- o																	
u																	

PDI File #: **228952 C**
 Location: **N: Old Massachusetts Avenue**
 Location: **E: Marrett Rd (Rte 2A) W: Massachusetts Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Old Massachusetts Avenue				Marrett Road (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	1	0	1	2	0	0	2	3
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
4:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	3	0	3	1	0	0	1	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	4	0	4	3	0	0	3	7
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	57.1	0.0	57.1	42.9	0.0	0.0	42.9	
Exiting Leg Total	0				3				4				7

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Old Massachusetts Avenue				Marrett Road (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
4:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	0	0	0	0	2	0	2	2	0	0	2	4
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.500	0.000	0.000	0.500	0.500
Entering Leg	0	0	0	0	0	2	0	2	2	0	0	2	4
Exiting Leg	0				2				2				4
Total	0				4				4				8

PDI File #: **228952 C**
 Location: **N: Old Massachusetts Avenue**
 Location: **E: Marrett Rd (Rte 2A) W: Massachusetts Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**



Bicycles (on Roadway and Crosswalks)

	Old Massachusetts Avenue						Marrett Road (Route 2A)						Massachusetts Avenue (Route 2A)						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:00 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	2
Approach %	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		
Total %	50.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	50.0	
Exiting Leg Total							0						1						2

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:00 PM	Old Massachusetts Avenue						Marrett Road (Route 2A)						Massachusetts Avenue (Route 2A)						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:00 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg							0						1						1
Total	1						0						1						2

h) @ 228952 C
 O N: Old Massachusetts Avenue
 O E: Marrett Rd (Rte 2A) W: Massachusetts Ave (Rte 2A)
 # O Lexington, MA
 # McFarland Johnson/S. Ireland
 O # TBD
 #) Thursday, December 1, 2022
 O u 3:00 PM
 - u 6:00 PM
 #



Pedestrians

	\ U						U k k						U k					
	V						-						‡					
	k	o	y-u	#t--	#t-t	u	k	u	y-u	#t-o	#t-v	u	u	o	y-u	#t-v	#t-o	u
hU																		
hU																		
hU																		
hU																		
u																		
hU																		
hU																		
hU																		
u																		
8 u																		
u																		
- O u																		

h = hU hU

	\ U						U k k						U k					
	V						-						‡					
	k	o	y-u	#t--	#t-t	u	k	u	y-u	#t-o	#t-v	u	u	o	y-u	#t-v	#t-o	u
hU																		
hU																		
hU																		
hU																		
u f																		
u																		
h=7																		
- O																		
- O																		
u																		

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 D
N: Marrett Street
E: Mass Ave (Rte 2A) W: Mass Ave (Rte 2A)
Lexington, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
6:00 AM
9:00 AM



Cars and Heavy Vehicles (Combined)

	U o				U k				U k				u
	V				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u	
U													
U													
U													
U													
u													
U													
U													
U													
u													
8 u													
u													
- O u													
#													
#													
- O u													
= †													
= †													
- O u													

h =

	U o				U k				U k				u
	V				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u	
U													
U													
U													
U													
u †													
u													
h=7													
#													
#													
= †													
= †													
# - O													
= - O													
u - O													
# - O													
= - O													
u - O													

PDI File #: **228952 D**
 Location: **N: Marrett Street**
 Location: **E: Mass Ave (Rte 2A) W: Mass Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Cars

	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	55	0	55	34	0	0	34	89
6:15 AM	0	0	0	0	0	70	0	70	47	1	0	48	118
6:30 AM	0	1	0	1	0	74	0	74	81	0	0	81	156
6:45 AM	0	0	0	0	1	83	0	84	96	1	0	97	181
Total	0	1	0	1	1	282	0	283	258	2	0	260	544
7:00 AM	0	1	0	1	0	93	0	93	111	0	0	111	205
7:15 AM	0	0	0	0	0	134	0	134	146	0	0	146	280
7:30 AM	0	0	0	0	0	146	0	146	196	0	0	196	342
7:45 AM	0	1	0	1	1	171	0	172	211	0	0	211	384
Total	0	2	0	2	1	544	0	545	664	0	0	664	1211
8:00 AM	0	0	0	0	0	144	0	144	186	0	0	186	330
8:15 AM	0	0	0	0	0	137	0	137	194	0	0	194	331
8:30 AM	0	0	0	0	1	137	0	138	157	0	0	157	295
8:45 AM	1	0	0	1	0	153	0	153	158	0	0	158	312
Total	1	0	0	1	1	571	0	572	695	0	0	695	1268
Grand Total	1	3	0	4	3	1397	0	1400	1617	2	0	1619	3023
Approach %	25.0	75.0	0.0		0.2	99.8	0.0		99.9	0.1	0.0		
Total %	0.0	0.1	0.0	0.1	0.1	46.2	0.0	46.3	53.5	0.1	0.0	53.6	
Exiting Leg Total				5				1620				1398	3023

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

7:30 AM	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:30 AM	0	0	0	0	0	146	0	146	196	0	0	196	342
7:45 AM	0	1	0	1	1	171	0	172	211	0	0	211	384
8:00 AM	0	0	0	0	0	144	0	144	186	0	0	186	330
8:15 AM	0	0	0	0	0	137	0	137	194	0	0	194	331
Total Volume	0	1	0	1	1	598	0	599	787	0	0	787	1387
% Approach Total	0.0	100.0	0.0		0.2	99.8	0.0		100.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.250	0.250	0.874	0.000	0.871	0.932	0.000	0.000	0.932	0.903
Entering Leg	0	1	0	1	1	598	0	599	787	0	0	787	1387
Exiting Leg				1				788				598	1387
Total				2				1387				1385	2774

PDI File #: **228952 D**
 Location: **N: Marrett Street**
 Location: **E: Mass Ave (Rte 2A) W: Mass Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	7	0	7	1	0	0	1	8
6:15 AM	0	0	0	0	0	3	0	3	2	0	0	2	5
6:30 AM	0	0	0	0	0	2	0	2	4	0	0	4	6
6:45 AM	0	0	0	0	0	4	0	4	2	0	0	2	6
Total	0	0	0	0	0	16	0	16	9	0	0	9	25
7:00 AM	0	0	0	0	0	9	0	9	4	0	0	4	13
7:15 AM	0	0	0	0	0	6	0	6	5	0	0	5	11
7:30 AM	0	0	0	0	0	12	0	12	2	0	0	2	14
7:45 AM	0	0	0	0	0	9	0	9	7	0	0	7	16
Total	0	0	0	0	0	36	0	36	18	0	0	18	54
8:00 AM	0	0	0	0	0	7	0	7	4	0	0	4	11
8:15 AM	0	0	0	0	0	5	0	5	3	0	0	3	8
8:30 AM	0	0	0	0	0	6	0	6	4	0	0	4	10
8:45 AM	0	0	0	0	0	3	0	3	4	0	0	4	7
Total	0	0	0	0	0	21	0	21	15	0	0	15	36
Grand Total	0	0	0	0	0	73	0	73	42	0	0	42	115
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	63.5	0.0	63.5	36.5	0.0	0.0	36.5	
Exiting Leg Total	0				42				73				115
Buses	0	0	0	0	0	5	0	5	6	0	0	6	11
% Buses	0.0	0.0	0.0	0.0	0.0	6.8	0.0	6.8	14.3	0.0	0.0	14.3	9.6
Exiting Leg Total	0				6				5				11
Single-Unit Trucks	0	0	0	0	0	48	0	48	30	0	0	30	78
% Single-Unit	0.0	0.0	0.0	0.0	0.0	65.8	0.0	65.8	71.4	0.0	0.0	71.4	67.8
Exiting Leg Total	0				30				48				78
Articulated Trucks	0	0	0	0	0	20	0	20	6	0	0	6	26
% Articulated	0.0	0.0	0.0	0.0	0.0	27.4	0.0	27.4	14.3	0.0	0.0	14.3	22.6
Exiting Leg Total	0				6				20				26

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

7:00 AM	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	9	0	9	4	0	0	4	13
7:15 AM	0	0	0	0	0	6	0	6	5	0	0	5	11
7:30 AM	0	0	0	0	0	12	0	12	2	0	0	2	14
7:45 AM	0	0	0	0	0	9	0	9	7	0	0	7	16
Total Volume	0	0	0	0	0	36	0	36	18	0	0	18	54
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.750	0.643	0.000	0.000	0.643	0.844
Buses	0	0	0	0	0	3	0	3	2	0	0	2	5
Buses %	0.0	0.0	0.0	0.0	0.0	8.3	0.0	8.3	11.1	0.0	0.0	11.1	9.3
Single-Unit Trucks	0	0	0	0	0	20	0	20	13	0	0	13	33
Single-Unit %	0.0	0.0	0.0	0.0	0.0	55.6	0.0	55.6	72.2	0.0	0.0	72.2	61.1
Articulated Trucks	0	0	0	0	0	13	0	13	3	0	0	3	16
Articulated %	0.0	0.0	0.0	0.0	0.0	36.1	0.0	36.1	16.7	0.0	0.0	16.7	29.6
Buses	0	0	0	0	0	3	0	3	2	0	0	2	5
Single-Unit Trucks	0	0	0	0	0	20	0	20	13	0	0	13	33
Articulated Trucks	0	0	0	0	0	13	0	13	3	0	0	3	16
Total Entering Leg	0	0	0	0	0	36	0	36	18	0	0	18	54
Buses	0				2				3				5
Single-Unit Trucks	0				13				20				33
Articulated Trucks	0				3				13				16
Total Exiting Leg	0				18				36				54

h) @/ 228952 D
 O N: Marrett Street
 O E: Mass Ave (Rte 2A) W: Mass Ave (Rte 2A)
 # o Lexington, MA
 # McFarland Johnson/S. Ireland
 o # TBD
 #) Thursday, December 1, 2022
 o u 6:00 AM
 - u 9:00 AM
 #



Buses

	U o				U k				U k				u
	V				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u	
U													
U													
U													
U													
u													
U													
U													
U													
u													
8 u													
u													
- o u													

h = U U

	U o				U k				U k				u
	V				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u	
U													
U													
U													
U													
u †													
u													
h=7													
- o													
- o													
u													

PDI File #: **228952 D**
 Location: **N: Marrett Street**
 Location: **E: Mass Ave (Rte 2A) W: Mass Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Single-Unit Trucks

	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	5	0	5	1	0	0	1	6
6:15 AM	0	0	0	0	0	3	0	3	2	0	0	2	5
6:30 AM	0	0	0	0	0	1	0	1	2	0	0	2	3
6:45 AM	0	0	0	0	0	3	0	3	1	0	0	1	4
Total	0	0	0	0	0	12	0	12	6	0	0	6	18
7:00 AM	0	0	0	0	0	7	0	7	3	0	0	3	10
7:15 AM	0	0	0	0	0	3	0	3	4	0	0	4	7
7:30 AM	0	0	0	0	0	4	0	4	2	0	0	2	6
7:45 AM	0	0	0	0	0	6	0	6	4	0	0	4	10
Total	0	0	0	0	0	20	0	20	13	0	0	13	33
8:00 AM	0	0	0	0	0	6	0	6	3	0	0	3	9
8:15 AM	0	0	0	0	0	3	0	3	2	0	0	2	5
8:30 AM	0	0	0	0	0	5	0	5	3	0	0	3	8
8:45 AM	0	0	0	0	0	2	0	2	3	0	0	3	5
Total	0	0	0	0	0	16	0	16	11	0	0	11	27
Grand Total	0	0	0	0	0	48	0	48	30	0	0	30	78
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	61.5	0.0	61.5	38.5	0.0	0.0	38.5	
Exiting Leg Total	0				30				48				78

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

7:00 AM	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	7	0	7	3	0	0	3	10
7:15 AM	0	0	0	0	0	3	0	3	4	0	0	4	7
7:30 AM	0	0	0	0	0	4	0	4	2	0	0	2	6
7:45 AM	0	0	0	0	0	6	0	6	4	0	0	4	10
Total Volume	0	0	0	0	0	20	0	20	13	0	0	13	33
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.714	0.000	0.714	0.813	0.000	0.000	0.813	0.825
Entering Leg	0	0	0	0	0	20	0	20	13	0	0	13	33
Exiting Leg	0				13				20				33
Total	0				33				33				66

PDI File #: **228952 D**
 Location: **N: Marrett Street**
 Location: **E: Mass Ave (Rte 2A) W: Mass Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
6:45 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
Total	0	0	0	0	0	3	0	3	2	0	0	2	5
7:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
7:15 AM	0	0	0	0	0	3	0	3	0	0	0	0	3
7:30 AM	0	0	0	0	0	7	0	7	0	0	0	0	7
7:45 AM	0	0	0	0	0	2	0	2	3	0	0	3	5
Total	0	0	0	0	0	13	0	13	3	0	0	3	16
8:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
Total	0	0	0	0	0	4	0	4	1	0	0	1	5
Grand Total	0	0	0	0	0	20	0	20	6	0	0	6	26
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	76.9	0.0	76.9	23.1	0.0	0.0	23.1	
Exiting Leg Total	0				6				20				26

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

7:00 AM	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
7:15 AM	0	0	0	0	0	3	0	3	0	0	0	0	3
7:30 AM	0	0	0	0	0	7	0	7	0	0	0	0	7
7:45 AM	0	0	0	0	0	2	0	2	3	0	0	3	5
Total Volume	0	0	0	0	0	13	0	13	3	0	0	3	16
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.464	0.000	0.464	0.250	0.000	0.000	0.250	0.571
Entering Leg	0	0	0	0	0	13	0	13	3	0	0	3	16
Exiting Leg	0				3				13				16
Total	0				16				16				32

PDI File #: 228952 D
 Location: N: Marrett Street
 Location: E: Mass Ave (Rte 2A) W: Mass Ave (Rte 2A)
 City, State: Lexington, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 6:00 AM
 End Time: 9:00 AM



Bicycles (on Roadway and Crosswalks)

	Marrett Street						Massachusetts Avenue (Route 2A)						Massachusetts Avenue (Route 2A)						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Exiting Leg Total	0						2						0						2

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

7:30 AM	Marrett Street						Massachusetts Avenue (Route 2A)						Massachusetts Avenue (Route 2A)						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Exiting Leg	0						2						0						2
Total	0						2						2						4

h) @ 228952 D
 O N: Marrett Street
 O E: Mass Ave (Rte 2A) W: Mass Ave (Rte 2A)
 # o Lexington, MA
 # McFarland Johnson/S. Ireland
 o # TBD
 #) Thursday, December 1, 2022
 o u 6:00 AM
 - u 9:00 AM
 #



Pedestrians

	U o						U k						U k					
	V						-						‡					
	k	o	y-u	#t--	#t-t	u	k	u	y-u	#t-o	#t-v	u	u	o	y-u	#t-v	#t-o	u
U																		
U																		
U																		
U																		
u																		
8 u																		
u																		
- o u																		

h = U U

	U o						U k						U k					
	V						-						‡					
	k	o	y-u	#t--	#t-t	u	k	u	y-u	#t-o	#t-v	u	u	o	y-u	#t-v	#t-o	u
U																		
U																		
U																		
U																		
u f																		
u																		
h=7																		
- o																		
- o																		
u																		

PDI File #: **228952 D**
 Location: **N: Marrett Street**
 Location: **E: Mass Ave (Rte 2A) W: Mass Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	1	0	0	1	1	181	0	182	136	0	0	136	319
3:15 PM	0	0	0	0	0	154	0	154	116	0	0	116	270
3:30 PM	0	0	0	0	3	168	0	171	128	0	0	128	299
3:45 PM	1	0	0	1	1	203	0	204	107	0	0	107	312
Total	2	0	0	2	5	706	0	711	487	0	0	487	1200
4:00 PM	0	0	0	0	0	210	0	210	148	0	0	148	358
4:15 PM	0	1	0	1	0	227	0	227	109	0	0	109	337
4:30 PM	0	0	0	0	3	226	0	229	96	0	0	96	325
4:45 PM	2	1	0	3	1	202	0	203	105	1	0	106	312
Total	2	2	0	4	4	865	0	869	458	1	0	459	1332
5:00 PM	0	2	0	2	0	288	0	288	89	0	0	89	379
5:15 PM	0	0	0	0	0	254	0	254	85	0	0	85	339
5:30 PM	0	0	0	0	0	252	0	252	96	1	0	97	349
5:45 PM	0	1	0	1	0	174	0	174	87	0	0	87	262
Total	0	3	0	3	0	968	0	968	357	1	0	358	1329
Grand Total	4	5	0	9	9	2539	0	2548	1302	2	0	1304	3861
Approach %	44.4	55.6	0.0		0.4	99.6	0.0		99.8	0.2	0.0		
Total %	0.1	0.1	0.0	0.2	0.2	65.8	0.0	66.0	33.7	0.1	0.0	33.8	
Exiting Leg Total	11				1307				2543				3861
Cars	3	4	0	7	8	2507	0	2515	1274	1	0	1275	3797
% Cars	75.0	80.0	0.0	77.8	88.9	98.7	0.0	98.7	97.8	50.0	0.0	97.8	98.3
Exiting Leg Total	9				1278				2510				3797
Heavy Vehicles	1	1	0	2	1	32	0	33	28	1	0	29	64
% Heavy Vehicles	25.0	20.0	0.0	22.2	11.1	1.3	0.0	1.3	2.2	50.0	0.0	2.2	1.7
Exiting Leg Total	2				29				33				64

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:45 PM	2	1	0	3	1	202	0	203	105	1	0	106	312
5:00 PM	0	2	0	2	0	288	0	288	89	0	0	89	379
5:15 PM	0	0	0	0	0	254	0	254	85	0	0	85	339
5:30 PM	0	0	0	0	0	252	0	252	96	1	0	97	349
Total Volume	2	3	0	5	1	996	0	997	375	2	0	377	1379
% Approach Total	40.0	60.0	0.0		0.1	99.9	0.0		99.5	0.5	0.0		
PHF	0.250	0.375	0.000	0.417	0.250	0.865	0.000	0.865	0.893	0.500	0.000	0.889	0.910
Cars	1	2	0	3	1	989	0	990	370	1	0	371	1364
Cars %	50.0	66.7	0.0	60.0	100.0	99.3	0.0	99.3	98.7	50.0	0.0	98.4	98.9
Heavy Vehicles	1	1	0	2	0	7	0	7	5	1	0	6	15
Heavy Vehicles %	50.0	33.3	0.0	40.0	0.0	0.7	0.0	0.7	1.3	50.0	0.0	1.6	1.1
Cars Enter Leg	1	2	0	3	1	989	0	990	370	1	0	371	1364
Heavy Enter Leg	1	1	0	2	0	7	0	7	5	1	0	6	15
Total Entering Leg	2	3	0	5	1	996	0	997	375	2	0	377	1379
Cars Exiting Leg	2				372				990				1364
Heavy Exiting Leg	1				6				8				15
Total Exiting Leg	3				378				998				1379

PDI File #: **228952 D**
 Location: **N: Marrett Street**
 Location: **E: Mass Ave (Rte 2A) W: Mass Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Cars

	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	1	0	0	1	1	178	0	179	133	0	0	133	313
3:15 PM	0	0	0	0	0	149	0	149	110	0	0	110	259
3:30 PM	0	0	0	0	3	164	0	167	128	0	0	128	295
3:45 PM	1	0	0	1	1	199	0	200	103	0	0	103	304
Total	2	0	0	2	5	690	0	695	474	0	0	474	1171
4:00 PM	0	0	0	0	0	209	0	209	145	0	0	145	354
4:15 PM	0	1	0	1	0	222	0	222	106	0	0	106	329
4:30 PM	0	0	0	0	2	223	0	225	95	0	0	95	320
4:45 PM	1	1	0	2	1	199	0	200	101	0	0	101	303
Total	1	2	0	3	3	853	0	856	447	0	0	447	1306
5:00 PM	0	1	0	1	0	287	0	287	88	0	0	88	376
5:15 PM	0	0	0	0	0	252	0	252	85	0	0	85	337
5:30 PM	0	0	0	0	0	251	0	251	96	1	0	97	348
5:45 PM	0	1	0	1	0	174	0	174	84	0	0	84	259
Total	0	2	0	2	0	964	0	964	353	1	0	354	1320
Grand Total	3	4	0	7	8	2507	0	2515	1274	1	0	1275	3797
Approach %	42.9	57.1	0.0		0.3	99.7	0.0		99.9	0.1	0.0		
Total %	0.1	0.1	0.0	0.2	0.2	66.0	0.0	66.2	33.6	0.0	0.0	33.6	
Exiting Leg Total				9				1278				2510	3797

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

4:45 PM	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:45 PM	1	1	0	2	1	199	0	200	101	0	0	101	303
5:00 PM	0	1	0	1	0	287	0	287	88	0	0	88	376
5:15 PM	0	0	0	0	0	252	0	252	85	0	0	85	337
5:30 PM	0	0	0	0	0	251	0	251	96	1	0	97	348
Total Volume	1	2	0	3	1	989	0	990	370	1	0	371	1364
% Approach Total	33.3	66.7	0.0		0.1	99.9	0.0		99.7	0.3	0.0		
PHF	0.250	0.500	0.000	0.375	0.250	0.861	0.000	0.862	0.916	0.250	0.000	0.918	0.907
Entering Leg	1	2	0	3	1	989	0	990	370	1	0	371	1364
Exiting Leg				2				372				990	1364
Total				5				1362				1361	2728

PDI File #: **228952 D**
 Location: **N: Marrett Street**
 Location: **E: Mass Ave (Rte 2A) W: Mass Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	0	0	0	0	0	3	0	3	3	0	0	3	6
3:15 PM	0	0	0	0	0	5	0	5	6	0	0	6	11
3:30 PM	0	0	0	0	0	4	0	4	0	0	0	0	4
3:45 PM	0	0	0	0	0	4	0	4	4	0	0	4	8
Total	0	0	0	0	0	16	0	16	13	0	0	13	29
4:00 PM	0	0	0	0	0	1	0	1	3	0	0	3	4
4:15 PM	0	0	0	0	0	5	0	5	3	0	0	3	8
4:30 PM	0	0	0	0	1	3	0	4	1	0	0	1	5
4:45 PM	1	0	0	1	0	3	0	3	4	1	0	5	9
Total	1	0	0	1	1	12	0	13	11	1	0	12	26
5:00 PM	0	1	0	1	0	1	0	1	1	0	0	1	3
5:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	2
5:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	3	0	0	3	3
Total	0	1	0	1	0	4	0	4	4	0	0	4	9
Grand Total	1	1	0	2	1	32	0	33	28	1	0	29	64
Approach %	50.0	50.0	0.0		3.0	97.0	0.0		96.6	3.4	0.0		
Total %	1.6	1.6	0.0	3.1	1.6	50.0	0.0	51.6	43.8	1.6	0.0	45.3	
Exiting Leg Total	2				29				33				64
Buses	0	0	0	0	0	8	0	8	8	0	0	8	16
% Buses	0.0	0.0	0.0	0.0	0.0	25.0	0.0	24.2	28.6	0.0	0.0	27.6	25.0
Exiting Leg Total	0				8				8				16
Single-Unit Trucks	1	1	0	2	1	19	0	20	16	1	0	17	39
% Single-Unit	100.0	100.0	0.0	100.0	100.0	59.4	0.0	60.6	57.1	100.0	0.0	58.6	60.9
Exiting Leg Total	2				17				20				39
Articulated Trucks	0	0	0	0	0	5	0	5	4	0	0	4	9
% Articulated	0.0	0.0	0.0	0.0	0.0	15.6	0.0	15.2	14.3	0.0	0.0	13.8	14.1
Exiting Leg Total	0				4				5				9

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:00 PM	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	0	0	0	0	0	3	0	3	3	0	0	3	6
3:15 PM	0	0	0	0	0	5	0	5	6	0	0	6	11
3:30 PM	0	0	0	0	0	4	0	4	0	0	0	0	4
3:45 PM	0	0	0	0	0	4	0	4	4	0	0	4	8
Total Volume	0	0	0	0	0	16	0	16	13	0	0	13	29
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.800	0.000	0.800	0.542	0.000	0.000	0.542	0.659
Buses	0	0	0	0	0	4	0	4	2	0	0	2	6
Buses %	0.0	0.0	0.0	0.0	0.0	25.0	0.0	25.0	15.4	0.0	0.0	15.4	20.7
Single-Unit Trucks	0	0	0	0	0	10	0	10	8	0	0	8	18
Single-Unit %	0.0	0.0	0.0	0.0	0.0	62.5	0.0	62.5	61.5	0.0	0.0	61.5	62.1
Articulated Trucks	0	0	0	0	0	2	0	2	3	0	0	3	5
Articulated %	0.0	0.0	0.0	0.0	0.0	12.5	0.0	12.5	23.1	0.0	0.0	23.1	17.2
Buses	0	0	0	0	0	4	0	4	2	0	0	2	6
Single-Unit Trucks	0	0	0	0	0	10	0	10	8	0	0	8	18
Articulated Trucks	0	0	0	0	0	2	0	2	3	0	0	3	5
Total Entering Leg	0	0	0	0	0	16	0	16	13	0	0	13	29
Buses	0				2				4				6
Single-Unit Trucks	0				8				10				18
Articulated Trucks	0				3				2				5
Total Exiting Leg	0				13				16				29

h) @/ 228952 D
 O N: Marrett Street
 O E: Mass Ave (Rte 2A) W: Mass Ave (Rte 2A)
 # o Lexington, MA
 # McFarland Johnson/S. Ireland
 o # TBD
 #) Thursday, December 1, 2022
 o u 3:00 PM
 - u 6:00 PM
 #



Buses

	U o				U k				U k				u
	V				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u	
hU hU hU hU													
u													
hU hU hU hU													
u													
hU hU hU hU													
u													
8 u . u - o u													
h =													
hU													
hU hU hU hU													
u † u													
h=7													
- o - o u													

PDI File #: **228952 D**
 Location: **N: Marrett Street**
 Location: **E: Mass Ave (Rte 2A) W: Mass Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Single-Unit Trucks

	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	0	0	0	0	0	2	0	2	2	0	0	2	4
3:15 PM	0	0	0	0	0	1	0	1	4	0	0	4	5
3:30 PM	0	0	0	0	0	4	0	4	0	0	0	0	4
3:45 PM	0	0	0	0	0	3	0	3	2	0	0	2	5
Total	0	0	0	0	0	10	0	10	8	0	0	8	18
4:00 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
4:15 PM	0	0	0	0	0	2	0	2	1	0	0	1	3
4:30 PM	0	0	0	0	1	2	0	3	1	0	0	1	4
4:45 PM	1	0	0	1	0	2	0	2	3	1	0	4	7
Total	1	0	0	1	1	7	0	8	6	1	0	7	16
5:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	0	1	0	1	0	2	0	2	2	0	0	2	5
Grand Total	1	1	0	2	1	19	0	20	16	1	0	17	39
Approach %	50.0	50.0	0.0		5.0	95.0	0.0		94.1	5.9	0.0		
Total %	2.6	2.6	0.0	5.1	2.6	48.7	0.0	51.3	41.0	2.6	0.0	43.6	
Exiting Leg Total	2				17				20				39

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:00 PM	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	0	0	0	0	0	2	0	2	2	0	0	2	4
3:15 PM	0	0	0	0	0	1	0	1	4	0	0	4	5
3:30 PM	0	0	0	0	0	4	0	4	0	0	0	0	4
3:45 PM	0	0	0	0	0	3	0	3	2	0	0	2	5
Total Volume	0	0	0	0	0	10	0	10	8	0	0	8	18
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.625	0.500	0.000	0.000	0.500	0.900
Entering Leg	0	0	0	0	0	10	0	10	8	0	0	8	18
Exiting Leg	0				8				10				18
Total	0				18				18				36

PDI File #: **228952 D**
 Location: **N: Marrett Street**
 Location: **E: Mass Ave (Rte 2A) W: Mass Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
3:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	0	0	0	0	0	2	0	2	3	0	0	3	5
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	2	0	2	1	0	0	1	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	3	0	3	1	0	0	1	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	5	0	5	4	0	0	4	9
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	55.6	0.0	55.6	44.4	0.0	0.0	44.4	
Exiting Leg Total	0				4				5				9

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:00 PM	Marrett Street				Massachusetts Avenue (Route 2A)				Massachusetts Avenue (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
3:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
Total Volume	0	0	0	0	0	2	0	2	3	0	0	3	5
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.375	0.000	0.000	0.375	0.625
Entering Leg	0	0	0	0	0	2	0	2	3	0	0	3	5
Exiting Leg	0				3				2				5
Total	0				5				5				10

h) @ 228952 D
 O N: Marrett Street
 O E: Mass Ave (Rte 2A) W: Mass Ave (Rte 2A)
 # o Lexington, MA
 # McFarland Johnson/S. Ireland
 o # TBD
 #) Thursday, December 1, 2022
 o u 3:00 PM
 - u 6:00 PM
 #



Bicycles (on Roadway and Crosswalks)

	U o						U k						U k						
	V						-						‡						
	k	o	y-u	#t--	#t-t	u	k	u	y-u	#t-o	#t-v	u	u	o	y-u	#t-v	#t-o	u	u
hU																			
hU																			
hU																			
hU																			
u																			
hU																			
hU																			
hU																			
u																			
8 u																			
u																			
- o u																			
h = °																			
hU																			
hU																			
hU																			
hU																			
u †																			
u																			
h=7																			
- o																			
- o																			
u																			

PDI File #: **228952 D**
 Location: **N: Marrett Street**
 Location: **E: Mass Ave (Rte 2A) W: Mass Ave (Rte 2A)**
 City, State: **Lexington, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Pedestrians

	Marrett Street							Massachusetts Avenue (Route 2A)						Massachusetts Avenue (Route 2A)						Total
	from North							from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg Total	0							0						0						0

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:00 PM	Marrett Street							Massachusetts Avenue (Route 2A)						Massachusetts Avenue (Route 2A)						Total
	from North							from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0							0						0						0
Total	0							0						0						0

PDI File #: **228952 E**
 Location: **N: Hanscom Drive S: Hanscom Drive**
 Location: **E: Old Bedford Road W: Old Bedford Road**
 City, State: **Lincoln, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Cars and Heavy Vehicles (Combined)

	Hanscom Drive					Old Bedford Road					Hanscom Drive					Old Bedford Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
6:00 AM	1	3	0	0	4	0	1	0	0	1	0	12	13	0	25	4	3	1	0	8	38
6:15 AM	1	0	0	0	1	0	1	0	0	1	0	9	10	1	20	4	8	0	0	12	34
6:30 AM	0	8	0	0	8	1	0	0	0	1	0	12	4	0	16	4	8	1	0	13	38
6:45 AM	0	5	0	0	5	0	0	0	0	0	0	20	21	0	41	10	10	2	0	22	68
Total	2	16	0	0	18	1	2	0	0	3	0	53	48	1	102	22	29	4	0	55	178
7:00 AM	0	11	0	0	11	0	2	0	0	2	0	7	11	0	18	10	22	4	0	36	67
7:15 AM	2	5	0	0	7	0	3	0	0	3	0	19	20	0	39	21	29	0	0	50	99
7:30 AM	2	1	0	0	3	0	1	0	0	1	0	12	25	1	38	28	11	3	0	42	84
7:45 AM	0	3	0	0	3	0	6	0	0	6	0	21	40	0	61	18	24	3	0	45	115
Total	4	20	0	0	24	0	12	0	0	12	0	59	96	1	156	77	86	10	0	173	365
8:00 AM	0	8	1	0	9	1	8	0	0	9	0	13	50	0	63	10	16	2	0	28	109
8:15 AM	0	3	0	0	3	1	4	0	0	5	0	18	60	0	78	30	10	0	0	40	126
8:30 AM	1	9	2	0	12	0	3	1	0	4	0	24	33	0	57	26	14	3	0	43	116
8:45 AM	2	4	0	0	6	1	5	0	0	6	0	14	46	0	60	19	17	8	0	44	116
Total	3	24	3	0	30	3	20	1	0	24	0	69	189	0	258	85	57	13	0	155	467
Grand Total	9	60	3	0	72	4	34	1	0	39	0	181	333	2	516	184	172	27	0	383	1010
Approach %	12.5	83.3	4.2	0.0		10.3	87.2	2.6	0.0		0.0	35.1	64.5	0.4		48.0	44.9	7.0	0.0		
Total %	0.9	5.9	0.3	0.0	7.1	0.4	3.4	0.1	0.0	3.9	0.0	17.9	33.0	0.2	51.1	18.2	17.0	2.7	0.0	37.9	
Exiting Leg Total	212					175					247					376					1010
Cars	8	48	3	0	59	4	32	1	0	37	0	169	326	2	497	180	172	26	0	378	971
% Cars	88.9	80.0	100.0	0.0	81.9	100.0	94.1	100.0	0.0	94.9	0.0	93.4	97.9	100.0	96.3	97.8	100.0	96.3	0.0	98.7	96.1
Exiting Leg Total	199					175					231					366					971
Heavy Vehicles	1	12	0	0	13	0	2	0	0	2	0	12	7	0	19	4	0	1	0	5	39
% Heavy Vehicles	11.1	20.0	0.0	0.0	18.1	0.0	5.9	0.0	0.0	5.1	0.0	6.6	2.1	0.0	3.7	2.2	0.0	3.7	0.0	1.3	3.9
Exiting Leg Total	13					0					16					10					39

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

8:00 AM	Hanscom Drive					Old Bedford Road					Hanscom Drive					Old Bedford Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
8:00 AM	0	8	1	0	9	1	8	0	0	9	0	13	50	0	63	10	16	2	0	28	109
8:15 AM	0	3	0	0	3	1	4	0	0	5	0	18	60	0	78	30	10	0	0	40	126
8:30 AM	1	9	2	0	12	0	3	1	0	4	0	24	33	0	57	26	14	3	0	43	116
8:45 AM	2	4	0	0	6	1	5	0	0	6	0	14	46	0	60	19	17	8	0	44	116
Total Volume	3	24	3	0	30	3	20	1	0	24	0	69	189	0	258	85	57	13	0	155	467
% Approach Total	10.0	80.0	10.0	0.0		12.5	83.3	4.2	0.0		0.0	26.7	73.3	0.0		54.8	36.8	8.4	0.0		
PHF	0.375	0.667	0.375	0.000	0.625	0.750	0.625	0.250	0.000	0.667	0.000	0.719	0.788	0.000	0.827	0.708	0.838	0.406	0.000	0.881	0.927
Cars	2	19	3	0	24	3	20	1	0	24	0	65	186	0	251	83	57	12	0	152	451
Cars %	66.7	79.2	100.0	0.0	80.0	100.0	100.0	100.0	0.0	100.0	0.0	94.2	98.4	0.0	97.3	97.6	100.0	92.3	0.0	98.1	96.6
Heavy Vehicles	1	5	0	0	6	0	0	0	0	0	0	4	3	0	7	2	0	1	0	3	16
Heavy Vehicles %	33.3	20.8	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8	1.6	0.0	2.7	2.4	0.0	7.7	0.0	1.9	3.4
Cars Enter Leg	2	19	3	0	24	3	20	1	0	24	0	65	186	0	251	83	57	12	0	152	451
Heavy Enter Leg	1	5	0	0	6	0	0	0	0	0	0	4	3	0	7	2	0	1	0	3	16
Total Entering Leg	3	24	3	0	30	3	20	1	0	24	0	69	189	0	258	85	57	13	0	155	467
Cars Exiting Leg	80					60					103					208					451
Heavy Exiting Leg	5					0					7					4					16
Total Exiting Leg	85					60					110					212					467

h) @/ 228952 E
 O N: Hanscom Drive S: Hanscom Drive
 O E: Old Bedford Road W: Old Bedford Road
 # O Lincoln, MA
 # MCFarland Johnson/S. Ireland
 O # TBD
 #) Thursday, December 1, 2022
 O u 6:00 AM
 - u 9:00 AM
 #



157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars

	=)					\ " k					=)					\ " k					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
°U																					
°U																					
°U																					
°U																					
u																					
8 u																					
. u																					
- O u																					

h = ° °U °U

	=)					\ " k					=)					\ " k					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
°U																					
°U																					
°U																					
°U																					
u f																					
. u																					
h=7																					
- O																					
- O																					
u																					

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 E
N: Hanscom Drive S: Hanscom Drive
E: Old Bedford Road W: Old Bedford Road
Lincoln, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
6:00 AM
9:00 AM



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	=)					\ " k					=)					\ " k					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
°U																					
°U																					
°U																					
°U																					
u																					
°U																					
°U																					
°U																					
u																					
8 u																					
u																					
- O u																					
"																					
"																					
- O u																					
o -y u																					
o -y																					
- O u																					
u																					
- O u																					

h = °	°U					°U					=)					\ " k					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
°U																					
°U																					
°U																					
°U																					
u t																					
u																					
h=7																					
"																					
o -y u																					
o -y																					
u																					
"																					
o -y u																					
o -y																					
u - O																					
"																					
o -y u																					
o -y																					
u - O																					

h) @/ 228952 E
 O N: Hanscom Drive S: Hanscom Drive
 O E: Old Bedford Road W: Old Bedford Road
 # O Lincoln, MA
 # McFarland Johnson/S. Ireland
 O # TBD
 #) Thursday, December 1, 2022
 O u 6:00 AM
 - u 9:00 AM
 #



PRECISION
 D A T A
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Buses

	=)					\ " k					=)					\ " k					u
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	
°U																					
°U																					
°U																					
°U																					
u																					
°U																					
°U																					
°U																					
u																					
8 u																					
.																					
u																					
- O u																					

h = °

	°U °U					\ " k					=)					\ " k					u
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	
°U																					
°U																					
°U																					
°U																					
u †																					
.																					
h=7																					
- O																					
- O																					
u																					

PDI File #: **228952 E**
 Location: **N: Hanscom Drive S: Hanscom Drive**
 Location: **E: Old Bedford Road W: Old Bedford Road**
 City, State: **Lincoln, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Single-Unit Trucks

	Hanscom Drive					Old Bedford Road					Hanscom Drive					Old Bedford Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
6:00 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	2
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	2
Total	0	1	0	0	1	0	1	0	0	1	0	3	2	0	5	1	0	0	0	1	8
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	1	0	1	0	2	4
8:15 AM	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	4
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
8:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	4	0	0	5	0	0	0	0	0	0	1	3	0	4	1	0	1	0	2	11
Grand Total	1	7	0	0	8	0	1	0	0	1	0	5	5	0	10	2	0	1	0	3	22
Approach %	12.5	87.5	0.0	0.0		0.0	100.0	0.0	0.0		0.0	50.0	50.0	0.0		66.7	0.0	33.3	0.0		
Total %	4.5	31.8	0.0	0.0	36.4	0.0	4.5	0.0	0.0	4.5	0.0	22.7	22.7	0.0	45.5	9.1	0.0	4.5	0.0	13.6	
Exiting Leg Total	6					0					9					7					22

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

7:30 AM	Hanscom Drive					Old Bedford Road					Hanscom Drive					Old Bedford Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	2
7:45 AM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	2
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	1	0	1	0	2	4
8:15 AM	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	4
Total Volume	0	3	0	0	3	0	1	0	0	1	0	3	2	0	5	2	0	1	0	3	12
% Approach Total	0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	60.0	40.0	0.0		66.7	0.0	33.3	0.0		
PHF	0.000	0.375	0.000	0.000	0.375	0.000	0.250	0.000	0.000	0.250	0.000	0.750	0.500	0.000	0.625	0.500	0.000	0.250	0.000	0.375	0.750
Entering Leg	0	3	0	0	3	0	1	0	0	1	0	3	2	0	5	2	0	1	0	3	12
Exiting Leg	4					0					5					3					12
Total	7					1					10					6					24

PDI File #: **228952 E**
 Location: **N: Hanscom Drive S: Hanscom Drive**
 Location: **E: Old Bedford Road W: Old Bedford Road**
 City, State: **Lincoln, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Hanscom Drive					Old Bedford Road					Hanscom Drive					Old Bedford Road					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	3	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	3	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Total	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	3	
Grand Total	0	2	0	0	2	0	0	0	0	0	0	4	1	0	5	1	0	0	0	1	8	
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	80.0	20.0	0.0		100.0	0.0	0.0	0.0			
Total %	0.0	25.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	12.5	0.0	62.5	12.5	0.0	0.0	0.0	12.5		
Exiting Leg Total						4					0					3					1	8

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

7:30 AM	Hanscom Drive					Old Bedford Road					Hanscom Drive					Old Bedford Road					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	
Total Volume	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	4	
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0			
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.250	1.000	
Entering Leg	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	4	
Exiting Leg						2					0					2					0	4
Total						3					0					4					1	8

h) @/

O

O

o

#

o #

)

o u

- u

#

228952 E

N: Hanscom Drive S: Hanscom Drive

E: Old Bedford Road W: Old Bedford Road

Lincoln, MA

McFarland Johnson/S. Ireland

TBD

Thursday, December 1, 2022

6:00 AM

9:00 AM



PRECISION
D A T A
INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	=)										\ " k										=)										\ " k									
	V										-										o										‡									
	k	u	O	y-u	#t--"	#t-t"	u	k	u	O	y-u	#t-o'	#t-v'	u	k	u	O	y-u	#t-t"	#t--"	u	k	u	O	y-u	#t-v'	#t-o'	u	U											
°U																																								
°U																																								
°U																																								
°U																																								
u																																								
°U																																								
°U																																								
°U																																								
u																																								
8 u																																								
.																																								
u																																								
- o u																																								

h = °

	=)										\ " k										=)										\ " k									
	V										-										o										‡									
	k	u	O	y-u	#t--"	#t-t"	u	k	u	O	y-u	#t-o'	#t-v'	u	k	u	O	y-u	#t-t"	#t--"	u	k	u	O	y-u	#t-v'	#t-o'	u	U											
°U																																								
°U																																								
°U																																								
°U																																								
u †																																								
.																																								
h=7																																								
- o																																								
- o																																								
u																																								

PDI File #: **228952 E**
 Location: **N: Hanscom Drive S: Hanscom Drive**
 Location: **E: Old Bedford Road W: Old Bedford Road**
 City, State: **Lincoln, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Hanscom Drive					Old Bedford Road					Hanscom Drive					Old Bedford Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	5	16	0	0	21	0	22	0	0	22	0	6	39	0	45	39	6	3	0	48	136
3:15 PM	1	11	1	0	13	1	22	0	0	23	0	6	23	0	29	22	3	1	0	26	91
3:30 PM	4	8	0	0	12	0	20	0	0	20	0	4	20	0	24	29	5	1	0	35	91
3:45 PM	4	12	0	0	16	0	14	0	0	14	0	5	21	0	26	32	3	0	0	35	91
Total	14	47	1	0	62	1	78	0	0	79	0	21	103	0	124	122	17	5	0	144	409
4:00 PM	4	18	1	0	23	0	28	1	0	29	0	8	17	0	25	43	8	1	0	52	129
4:15 PM	2	10	0	0	12	3	25	0	0	28	0	5	12	0	17	35	2	1	0	38	95
4:30 PM	3	8	0	0	11	1	20	0	0	21	0	10	11	0	21	28	5	0	0	33	86
4:45 PM	1	9	0	0	10	0	20	0	0	20	0	2	17	0	19	17	3	1	0	21	70
Total	10	45	1	0	56	4	93	1	0	98	0	25	57	0	82	123	18	3	0	144	380
5:00 PM	5	13	0	0	18	0	6	0	0	6	0	7	20	0	27	20	2	2	0	24	75
5:15 PM	5	6	0	0	11	0	7	0	0	7	0	4	15	0	19	22	2	0	0	24	61
5:30 PM	1	8	0	0	9	0	11	0	0	11	0	7	14	0	21	23	1	0	0	24	65
5:45 PM	2	5	1	0	8	0	7	0	0	7	0	4	19	0	23	24	1	3	0	28	66
Total	13	32	1	0	46	0	31	0	0	31	0	22	68	0	90	89	6	5	0	100	267
Grand Total	37	124	3	0	164	5	202	1	0	208	0	68	228	0	296	334	41	13	0	388	1056
Approach %	22.6	75.6	1.8	0.0		2.4	97.1	0.5	0.0		0.0	23.0	77.0	0.0		86.1	10.6	3.4	0.0		
Total %	3.5	11.7	0.3	0.0	15.5	0.5	19.1	0.1	0.0	19.7	0.0	6.4	21.6	0.0	28.0	31.6	3.9	1.2	0.0	36.7	
Exiting Leg Total	86					44					459					467					1056
Cars	36	113	2	0	151	4	201	1	0	206	0	61	222	0	283	327	41	12	0	380	1020
% Cars	97.3	91.1	66.7	0.0	92.1	80.0	99.5	100.0	0.0	99.0	0.0	89.7	97.4	0.0	95.6	97.9	100.0	92.3	0.0	97.9	96.6
Exiting Leg Total	77					43					441					459					1020
Heavy Vehicles	1	11	1	0	13	1	1	0	0	2	0	7	6	0	13	7	0	1	0	8	36
% Heavy Vehicles	2.7	8.9	33.3	0.0	7.9	20.0	0.5	0.0	0.0	1.0	0.0	10.3	2.6	0.0	4.4	2.1	0.0	7.7	0.0	2.1	3.4
Exiting Leg Total	9					1					18					8					36

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:00 PM	Hanscom Drive					Old Bedford Road					Hanscom Drive					Old Bedford Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	5	16	0	0	21	0	22	0	0	22	0	6	39	0	45	39	6	3	0	48	136
3:15 PM	1	11	1	0	13	1	22	0	0	23	0	6	23	0	29	22	3	1	0	26	91
3:30 PM	4	8	0	0	12	0	20	0	0	20	0	4	20	0	24	29	5	1	0	35	91
3:45 PM	4	12	0	0	16	0	14	0	0	14	0	5	21	0	26	32	3	0	0	35	91
Total Volume	14	47	1	0	62	1	78	0	0	79	0	21	103	0	124	122	17	5	0	144	409
% Approach Total	22.6	75.8	1.6	0.0		1.3	98.7	0.0	0.0		0.0	16.9	83.1	0.0		84.7	11.8	3.5	0.0		
PHF	0.700	0.734	0.250	0.000	0.738	0.250	0.886	0.000	0.000	0.859	0.000	0.875	0.660	0.000	0.689	0.782	0.708	0.417	0.000	0.750	0.752
Cars	14	40	0	0	54	1	78	0	0	79	0	17	99	0	116	118	17	4	0	139	388
Cars %	100.0	85.1	0.0	0.0	87.1	100.0	100.0	0.0	0.0	100.0	0.0	81.0	96.1	0.0	93.5	96.7	100.0	80.0	0.0	96.5	94.9
Heavy Vehicles	0	7	1	0	8	0	0	0	0	0	0	4	4	0	8	4	0	1	0	5	21
Heavy Vehicles %	0.0	14.9	100.0	0.0	12.9	0.0	0.0	0.0	0.0	0.0	0.0	19.0	3.9	0.0	6.5	3.3	0.0	20.0	0.0	3.5	5.1
Cars Enter Leg	14	40	0	0	54	1	78	0	0	79	0	17	99	0	116	118	17	4	0	139	388
Heavy Enter Leg	0	7	1	0	8	0	0	0	0	0	0	4	4	0	8	4	0	1	0	5	21
Total Entering Leg	14	47	1	0	62	1	78	0	0	79	0	21	103	0	124	122	17	5	0	144	409
Cars Exiting Leg	22					17					158					191					388
Heavy Exiting Leg	5					1					11					4					21
Total Exiting Leg	27					18					169					195					409

h) @/ 228952 E
 O N: Hanscom Drive S: Hanscom Drive
 O E: Old Bedford Road W: Old Bedford Road
 # o Lincoln, MA
 # McFarland Johnson/S. Ireland
 o # TBD
 #) Thursday, December 1, 2022
 o u 3:00 PM
 - u 6:00 PM
 #



Cars

	=)					\ " k					=)					\ " k					u
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	
hU hU hU hU																					
u																					
hU hU hU hU																					
u																					
hU hU hU hU																					
u																					
8 u																					
u																					
- O u																					

h = °

	hU hU					=)					\ " k					=)					\ " k					u
	V					-					o					‡										
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u						
hU hU hU hU																										
u f																										
u																										
h=7																										
- O																										
- O																										
u																										

PDI File #: **228952 E**
 Location: **N: Hanscom Drive S: Hanscom Drive**
 Location: **E: Old Bedford Road W: Old Bedford Road**
 City, State: **Lincoln, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Hanscom Drive					Old Bedford Road					Hanscom Drive					Old Bedford Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	2	0	0	2	0	0	0	0	0	0	2	1	0	3	2	0	1	0	3	8
3:15 PM	0	2	1	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	0	0	0	1	3
3:45 PM	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	5
Total	0	7	1	0	8	0	0	0	0	0	0	4	4	0	8	4	0	1	0	5	21
4:00 PM	0	1	0	0	1	0	1	0	0	1	0	1	2	0	3	2	0	0	0	2	7
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
4:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	2	1	1	0	0	2	0	1	2	0	3	3	0	0	0	3	10
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
5:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
Grand Total	1	11	1	0	13	1	1	0	0	2	0	7	6	0	13	7	0	1	0	8	36
Approach %	7.7	84.6	7.7	0.0		50.0	50.0	0.0	0.0		0.0	53.8	46.2	0.0		87.5	0.0	12.5	0.0		
Total %	2.8	30.6	2.8	0.0	36.1	2.8	2.8	0.0	0.0	5.6	0.0	19.4	16.7	0.0	36.1	19.4	0.0	2.8	0.0	22.2	
Exiting Leg Total	9					1					18					8					36
Buses	0	4	0	0	4	0	1	0	0	1	0	4	1	0	5	2	0	0	0	2	12
% Buses	0.0	36.4	0.0	0.0	30.8	0.0	100.0	0.0	0.0	50.0	0.0	57.1	16.7	0.0	38.5	28.6	0.0	0.0	0.0	25.0	33.3
Exiting Leg Total	4					0					6					2					12
Single-Unit Trucks	1	5	1	0	7	1	0	0	0	1	0	2	4	0	6	4	0	1	0	5	19
% Single-Unit	100.0	45.5	100.0	0.0	53.8	100.0	0.0	0.0	0.0	50.0	0.0	28.6	66.7	0.0	46.2	57.1	0.0	100.0	0.0	62.5	52.8
Exiting Leg Total	4					1					9					5					19
Articulated Trucks	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	5
% Articulated	0.0	18.2	0.0	0.0	15.4	0.0	0.0	0.0	0.0	0.0	0.0	14.3	16.7	0.0	15.4	14.3	0.0	0.0	0.0	12.5	13.9
Exiting Leg Total	1					0					3					1					5

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Hanscom Drive					Old Bedford Road					Hanscom Drive					Old Bedford Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	2	0	0	2	0	0	0	0	0	0	2	1	0	3	2	0	1	0	3	8
3:15 PM	0	2	1	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	0	0	0	1	3
3:45 PM	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	5
Total Volume	0	7	1	0	8	0	0	0	0	0	0	4	4	0	8	4	0	1	0	5	21
% Approach Total	0.0	87.5	12.5	0.0		0.0	0.0	0.0	0.0		0.0	50.0	50.0	0.0		80.0	0.0	20.0	0.0		
PHF	0.000	0.583	0.250	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.500	0.000	0.667	0.500	0.000	0.250	0.000	0.417	0.656
Buses	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	4
Buses %	0.0	14.3	0.0	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	25.0	25.0	0.0	25.0	25.0	0.0	0.0	0.0	20.0	19.0
Single-Unit Trucks	0	4	1	0	5	0	0	0	0	0	0	2	2	0	4	3	0	1	0	4	13
Single-Unit %	0.0	57.1	100.0	0.0	62.5	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	50.0	75.0	0.0	100.0	0.0	80.0	61.9
Articulated Trucks	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	4
Articulated %	0.0	28.6	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	25.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	19.0
Buses	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	4
Single-Unit Trucks	0	4	1	0	5	0	0	0	0	0	0	2	2	0	4	3	0	1	0	4	13
Articulated Trucks	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	4
Total Entering Leg	0	7	1	0	8	0	0	0	0	0	0	4	4	0	8	4	0	1	0	5	21
Buses	1					0					2					1					4
Single-Unit Trucks	3					1					7					2					13
Articulated Trucks	1					0					2					1					4
Total Exiting Leg	5					1					11					4					21

PDI File #: **228952 E**
 Location: **N: Hanscom Drive S: Hanscom Drive**
 Location: **E: Old Bedford Road W: Old Bedford Road**
 City, State: **Lincoln, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Buses

	Hanscom Drive					Old Bedford Road					Hanscom Drive					Old Bedford Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	2
3:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	4
4:00 PM	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	1	0	0	0	1	4
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	1	0	0	0	1	4
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4
Grand Total	0	4	0	0	4	0	1	0	0	1	0	4	1	0	5	2	0	0	0	2	12
Approach %	0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	80.0	20.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	33.3	0.0	0.0	33.3	0.0	8.3	0.0	0.0	8.3	0.0	33.3	8.3	0.0	41.7	16.7	0.0	0.0	0.0	16.7	
Exiting Leg Total	4					0					6					2					12

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Hanscom Drive					Old Bedford Road					Hanscom Drive					Old Bedford Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	1	0	0	0	1	4
Total Volume	0	2	0	0	2	0	1	0	0	1	0	2	0	0	2	1	0	0	0	1	6
% Approach Total	0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.500	0.000	0.000	0.500	0.000	0.250	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.250	0.375
Entering Leg	0	2	0	0	2	0	1	0	0	1	0	2	0	0	2	1	0	0	0	1	6
Exiting Leg	2					0					3					1					6
Total	4					1					5					2					12

PDI File #: **228952 E**
 Location: **N: Hanscom Drive S: Hanscom Drive**
 Location: **E: Old Bedford Road W: Old Bedford Road**
 City, State: **Lincoln, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Single-Unit Trucks

	Hanscom Drive					Old Bedford Road					Hanscom Drive					Old Bedford Road					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
3:00 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	1	0	1	0	2	5	
3:15 PM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	2	
3:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	4	
Total	0	4	1	0	5	0	0	0	0	0	0	2	2	0	4	3	0	1	0	4	13	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2	
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	
4:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	1	0	0	1	1	0	0	0	1	0	0	2	0	2	1	0	0	0	1	5	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Grand Total	1	5	1	0	7	1	0	0	0	1	0	2	4	0	6	4	0	1	0	5	19	
Approach %	14.3	71.4	14.3	0.0		100.0	0.0	0.0	0.0		0.0	33.3	66.7	0.0		80.0	0.0	20.0	0.0			
Total %	5.3	26.3	5.3	0.0	36.8	5.3	0.0	0.0	0.0	5.3	0.0	10.5	21.1	0.0	31.6	21.1	0.0	5.3	0.0	26.3		
Exiting Leg Total						4					1					9					5	19

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Hanscom Drive					Old Bedford Road					Hanscom Drive					Old Bedford Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	1	0	1	0	2	5
3:15 PM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	2
3:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	4
Total Volume	0	4	1	0	5	0	0	0	0	0	0	2	2	0	4	3	0	1	0	4	13
% Approach Total	0.0	80.0	20.0	0.0		0.0	0.0	0.0	0.0		0.0	50.0	50.0	0.0		75.0	0.0	25.0	0.0		
PHF	0.000	0.500	0.250	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.000	0.500	0.750	0.000	0.250	0.000	0.500	0.650
Entering Leg	0	4	1	0	5	0	0	0	0	0	0	2	2	0	4	3	0	1	0	4	13
Exiting Leg						3					7					2					13
Total	8					1					11					6					26

h) @/ 228952 E
 O N: Hanscom Drive S: Hanscom Drive
 O E: Old Bedford Road W: Old Bedford Road
 # o Lincoln, MA
 # McFarland Johnson/S. Ireland
 o # TBD
 #) Thursday, December 1, 2022
 o u 3:00 PM
 - u 6:00 PM
 #



Articulated Trucks

	=)					\ " k					=)					\ " k					
	V					-					o					‡					
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u
hU hU hU hU																					
u																					
hU hU hU hU																					
u																					
hU hU hU hU																					
u																					
8 u																					
u																					
- o u																					

h = °

	hU hU					=)					\ " k					=)					\ " k				
	V					-					o					‡									
	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	k	u	O	y-u	u	u				
hU hU hU hU																									
u †																									
u																									
h=7																									
- o																									
- o																									
u																									

h) @/
O
O
o
#
o #
)
o u
- u
#

228952 E
N: Hanscom Drive S: Hanscom Drive
E: Old Bedford Road W: Old Bedford Road
Lincoln, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
3:00 PM
6:00 PM

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

Table with 4 columns and 8 rows. Headers include symbols like =), \ " k, V, and ‡. Sub-headers include k u O y-u #t --' #t -t' u.

Table with 4 columns and 8 rows. Headers include =), \ " k, V, and ‡. Sub-headers include k u O y-u #t --' #t -t' u.

PDI File #: 228952 E
 Location: N: Hanscom Drive S: Hanscom Drive
 Location: E: Old Bedford Road W: Old Bedford Road
 City, State: Lincoln, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 3:00 PM
 End Time: 6:00 PM
 Class:



Pedestrians

	Hanscom Drive							Old Bedford Road							Hanscom Drive							Old Bedford Road							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:30 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Total	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Approach %	0	0	0	0	0	100		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Total %	0	0	0	0	0	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Exiting Leg Total							1						0														1		

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Hanscom Drive							Old Bedford Road							Hanscom Drive							Old Bedford Road							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:30 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Total Volume	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
% Approach Total	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250		
Entering Leg	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Exiting Leg							1						0														1		
Total							2						0														2		

PDI File #: **228952 F**
 Location: **N: Hanscom Drive**
 Location: **E: North Great Rd (Rte 2A) W: North Great Rd (Rte 2A)**
 City, State: **Lincoln, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Hanscom Drive				North Great Road (Route 2A)				North Great Road (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
6:00 AM	10	10	0	20	46	17	0	63	31	25	0	56	139
6:15 AM	11	10	0	21	47	19	0	66	49	21	0	70	157
6:30 AM	10	18	0	28	44	34	0	78	73	24	0	97	203
6:45 AM	10	10	0	20	65	23	0	88	95	36	0	131	239
Total	41	48	0	89	202	93	0	295	248	106	0	354	738
7:00 AM	19	16	0	35	61	43	0	104	123	43	0	166	305
7:15 AM	26	28	0	54	74	62	0	136	163	50	0	213	403
7:30 AM	36	24	0	60	76	98	0	174	215	73	0	288	522
7:45 AM	23	21	0	44	108	77	0	185	187	59	0	246	475
Total	104	89	0	193	319	280	0	599	688	225	0	913	1705
8:00 AM	22	25	0	47	76	77	0	153	172	55	0	227	427
8:15 AM	26	38	0	64	60	81	0	141	150	57	0	207	412
8:30 AM	31	27	0	58	67	73	0	140	148	42	0	190	388
8:45 AM	20	23	0	43	72	93	0	165	134	34	0	168	376
Total	99	113	0	212	275	324	0	599	604	188	0	792	1603
Grand Total	244	250	0	494	796	697	0	1493	1540	519	0	2059	4046
Approach %	49.4	50.6	0.0		53.3	46.7	0.0		74.8	25.2	0.0		
Total %	6.0	6.2	0.0	12.2	19.7	17.2	0.0	36.9	38.1	12.8	0.0	50.9	
Exiting Leg Total				1315				1790				941	4046
Cars	231	229	0	460	748	670	0	1418	1513	511	0	2024	3902
% Cars	94.7	91.6	0.0	93.1	94.0	96.1	0.0	95.0	98.2	98.5	0.0	98.3	96.4
Exiting Leg Total				1259				1742				901	3902
Heavy Vehicles	13	21	0	34	48	27	0	75	27	8	0	35	144
% Heavy Vehicles	5.3	8.4	0.0	6.9	6.0	3.9	0.0	5.0	1.8	1.5	0.0	1.7	3.6
Exiting Leg Total				56				48				40	144

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

7:30 AM	Hanscom Drive				North Great Road (Route 2A)				North Great Road (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:30 AM	36	24	0	60	76	98	0	174	215	73	0	288	522
7:45 AM	23	21	0	44	108	77	0	185	187	59	0	246	475
8:00 AM	22	25	0	47	76	77	0	153	172	55	0	227	427
8:15 AM	26	38	0	64	60	81	0	141	150	57	0	207	412
Total Volume	107	108	0	215	320	333	0	653	724	244	0	968	1836
% Approach Total	49.8	50.2	0.0		49.0	51.0	0.0		74.8	25.2	0.0		
PHF	0.743	0.711	0.000	0.840	0.741	0.849	0.000	0.882	0.842	0.836	0.000	0.840	0.879
Cars	100	100	0	200	300	321	0	621	712	241	0	953	1774
Cars %	93.5	92.6	0.0	93.0	93.8	96.4	0.0	95.1	98.3	98.8	0.0	98.5	96.6
Heavy Vehicles	7	8	0	15	20	12	0	32	12	3	0	15	62
Heavy Vehicles %	6.5	7.4	0.0	7.0	6.3	3.6	0.0	4.9	1.7	1.2	0.0	1.5	3.4
Cars Enter Leg	100	100	0	200	300	321	0	621	712	241	0	953	1774
Heavy Enter Leg	7	8	0	15	20	12	0	32	12	3	0	15	62
Total Entering Leg	107	108	0	215	320	333	0	653	724	244	0	968	1836
Cars Exiting Leg				541				812				421	1774
Heavy Exiting Leg				23				20				19	62
Total Exiting Leg				564				832				440	1836

PDI File #: **228952 F**
 Location: **N: Hanscom Drive**
 Location: **E: North Great Rd (Rte 2A) W: North Great Rd (Rte 2A)**
 City, State: **Lincoln, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Cars

	Hanscom Drive				North Great Road (Route 2A)				North Great Road (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
6:00 AM	10	9	0	19	39	17	0	56	30	25	0	55	130
6:15 AM	11	9	0	20	44	19	0	63	48	21	0	69	152
6:30 AM	10	16	0	26	44	32	0	76	72	23	0	95	197
6:45 AM	10	9	0	19	61	22	0	83	94	36	0	130	232
Total	41	43	0	84	188	90	0	278	244	105	0	349	711
7:00 AM	18	15	0	33	55	41	0	96	122	43	0	165	294
7:15 AM	24	26	0	50	70	61	0	131	156	48	0	204	385
7:30 AM	35	24	0	59	71	95	0	166	210	72	0	282	507
7:45 AM	22	19	0	41	101	74	0	175	182	59	0	241	457
Total	99	84	0	183	297	271	0	568	670	222	0	892	1643
8:00 AM	21	22	0	43	71	73	0	144	172	54	0	226	413
8:15 AM	22	35	0	57	57	79	0	136	148	56	0	204	397
8:30 AM	30	24	0	54	64	68	0	132	147	41	0	188	374
8:45 AM	18	21	0	39	71	89	0	160	132	33	0	165	364
Total	91	102	0	193	263	309	0	572	599	184	0	783	1548
Grand Total	231	229	0	460	748	670	0	1418	1513	511	0	2024	3902
Approach %	50.2	49.8	0.0		52.8	47.2	0.0		74.8	25.2	0.0		
Total %	5.9	5.9	0.0	11.8	19.2	17.2	0.0	36.3	38.8	13.1	0.0	51.9	
Exiting Leg Total				1259				1742				901	3902

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

7:30 AM	Hanscom Drive				North Great Road (Route 2A)				North Great Road (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:30 AM	35	24	0	59	71	95	0	166	210	72	0	282	507
7:45 AM	22	19	0	41	101	74	0	175	182	59	0	241	457
8:00 AM	21	22	0	43	71	73	0	144	172	54	0	226	413
8:15 AM	22	35	0	57	57	79	0	136	148	56	0	204	397
Total Volume	100	100	0	200	300	321	0	621	712	241	0	953	1774
% Approach Total	50.0	50.0	0.0		48.3	51.7	0.0		74.7	25.3	0.0		
PHF	0.714	0.714	0.000	0.847	0.743	0.845	0.000	0.887	0.848	0.837	0.000	0.845	0.875
Entering Leg	100	100	0	200	300	321	0	621	712	241	0	953	1774
Exiting Leg				541				812				421	1774
Total				741				1433				1374	3548

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 F
N: Hanscom Drive
E: North Great Rd (Rte 2A) W: North Great Rd (Rte 2A)
Lincoln, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
6:00 AM
9:00 AM



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	=)				V 8 k k				V 8 k k				u
	V				-				‡				
	k	O	y-u	u	k	u	y-u	u	u	O	y-u	u	
U													
U													
U													
U													
u													
U													
U													
U													
u													
8 u													
u													
- O u													
"													
"													
- O u													
o -y u													
o -y													
- O u													
u													
- O u													

h =	U U				V 8 k k				V 8 k k				u
	=)				-				‡				
	k	O	y-u	u	k	u	y-u	u	u	O	y-u	u	
U													
U													
U													
U													
u t													
u													
h=7													
"													
o -y u													
o -y													
u													
o -y u													
u - O													
o -y u													
u - O													

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 F
N: Hanscom Drive
E: North Great Rd (Rte 2A) W: North Great Rd (Rte 2A)
Lincoln, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
6:00 AM
9:00 AM



**PRECISION
 D A T A
 INDUSTRIES, LLC**
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Buses

	=)				V 8 k k				V 8 k k				u
	V				-				‡				
	k	0	y-u	u	k	u	y-u	u	u	0	y-u	u	
U													
U													
U													
U													
u													
U													
U													
U													
u													
8 u													
u													
- 0 u													

h =

	U U				V 8 k k				V 8 k k				u
	=)				-				‡				
	k	0	y-u	u	k	u	y-u	u	u	0	y-u	u	
U													
U													
U													
U													
u †													
u													
h=7													
- 0													
- 0													
u													

PDI File #: **228952 F**
 Location: **N: Hanscom Drive**
 Location: **E: North Great Rd (Rte 2A) W: North Great Rd (Rte 2A)**
 City, State: **Lincoln, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Single-Unit Trucks

	Hanscom Drive				North Great Road (Route 2A)				North Great Road (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
6:00 AM	0	1	0	1	5	0	0	5	1	0	0	1	7
6:15 AM	0	1	0	1	3	0	0	3	1	0	0	1	5
6:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
6:45 AM	0	1	0	1	3	1	0	4	1	0	0	1	6
Total	0	3	0	3	11	2	0	13	3	0	0	3	19
7:00 AM	1	0	0	1	4	2	0	6	1	0	0	1	8
7:15 AM	0	2	0	2	3	0	0	3	2	0	0	2	7
7:30 AM	0	0	0	0	2	1	0	3	2	1	0	3	6
7:45 AM	1	1	0	2	5	1	0	6	3	0	0	3	11
Total	2	3	0	5	14	4	0	18	8	1	0	9	32
8:00 AM	1	2	0	3	4	3	0	7	0	1	0	1	11
8:15 AM	4	3	0	7	3	2	0	5	1	1	0	2	14
8:30 AM	0	2	0	2	2	3	0	5	1	0	0	1	8
8:45 AM	2	1	0	3	1	3	0	4	2	1	0	3	10
Total	7	8	0	15	10	11	0	21	4	3	0	7	43
Grand Total	9	14	0	23	35	17	0	52	15	4	0	19	94
Approach %	39.1	60.9	0.0		67.3	32.7	0.0		78.9	21.1	0.0		
Total %	9.6	14.9	0.0	24.5	37.2	18.1	0.0	55.3	16.0	4.3	0.0	20.2	
Exiting Leg Total				39				29				26	94

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Hanscom Drive				North Great Road (Route 2A)				North Great Road (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:45 AM													
7:45 AM	1	1	0	2	5	1	0	6	3	0	0	3	11
8:00 AM	1	2	0	3	4	3	0	7	0	1	0	1	11
8:15 AM	4	3	0	7	3	2	0	5	1	1	0	2	14
8:30 AM	0	2	0	2	2	3	0	5	1	0	0	1	8
Total Volume	6	8	0	14	14	9	0	23	5	2	0	7	44
% Approach Total	42.9	57.1	0.0		60.9	39.1	0.0		71.4	28.6	0.0		
PHF	0.375	0.667	0.000	0.500	0.700	0.750	0.000	0.821	0.417	0.500	0.000	0.583	0.786
Entering Leg	6	8	0	14	14	9	0	23	5	2	0	7	44
Exiting Leg				16				13				15	44
Total				30				36				22	88

PDI File #: **228952 F**
 Location: **N: Hanscom Drive**
 Location: **E: North Great Rd (Rte 2A) W: North Great Rd (Rte 2A)**
 City, State: **Lincoln, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Hanscom Drive				North Great Road (Route 2A)				North Great Road (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
6:00 AM	0	0	0	0	2	0	0	2	0	0	0	0	2
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	2	0	2	0	0	0	0	0	1	0	1	3
6:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	2	0	2	3	0	0	3	0	1	0	1	6
7:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
7:15 AM	1	0	0	1	1	1	0	2	0	0	0	0	3
7:30 AM	0	0	0	0	3	2	0	5	0	0	0	0	5
7:45 AM	0	1	0	1	1	1	0	2	2	0	0	2	5
Total	1	1	0	2	6	4	0	10	2	0	0	2	14
8:00 AM	0	0	0	0	1	1	0	2	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	1	0	0	1	0	2	0	2	0	1	0	1	4
8:45 AM	0	1	0	1	0	1	0	1	0	0	0	0	2
Total	1	1	0	2	1	4	0	5	0	1	0	1	8
Grand Total	2	4	0	6	10	8	0	18	2	2	0	4	28
Approach %	33.3	66.7	0.0		55.6	44.4	0.0		50.0	50.0	0.0		
Total %	7.1	14.3	0.0	21.4	35.7	28.6	0.0	64.3	7.1	7.1	0.0	14.3	
Exiting Leg Total				12				6				10	28

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Hanscom Drive				North Great Road (Route 2A)				North Great Road (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:15 AM	1	0	0	1	1	1	0	2	0	0	0	0	3
7:30 AM	0	0	0	0	3	2	0	5	0	0	0	0	5
7:45 AM	0	1	0	1	1	1	0	2	2	0	0	2	5
8:00 AM	0	0	0	0	1	1	0	2	0	0	0	0	2
Total Volume	1	1	0	2	6	5	0	11	2	0	0	2	15
% Approach Total	50.0	50.0	0.0		54.5	45.5	0.0		100.0	0.0	0.0		
PHF	0.250	0.250	0.000	0.500	0.500	0.625	0.000	0.550	0.250	0.000	0.000	0.250	0.750
Entering Leg	1	1	0	2	6	5	0	11	2	0	0	2	15
Exiting Leg				6				3				6	15
Total				8				14				8	30

PDI File #: 228952 F
 Location: N: Hanscom Drive
 Location: E: North Great Rd (Rte 2A) W: North Great Rd (Rte 2A)
 City, State: Lincoln, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 6:00 AM
 End Time: 9:00 AM
 Class:



Bicycles (on Roadway and Crosswalks)

	Hanscom Drive						North Great Road (Route 2A)						North Great Road (Route 2A)						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Grand Total	0	0	0	0	0	0	1	0	0	0	0	1	2	0	0	0	0	2	3
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7
Total %	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	33.3	66.7	0.0	0.0	0.0	0.0	66.7	
Exiting Leg Total	1						2						0						3

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

6:45 AM	Hanscom Drive						North Great Road (Route 2A)						North Great Road (Route 2A)						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
6:45 AM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Total Volume	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	2
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.500
Entering Leg	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	2
Exiting Leg	1						1						0						2
Total	1						2						1						4

PDI File #: 228952 F
 Location: N: Hanscom Drive
 Location: E: North Great Rd (Rte 2A) W: North Great Rd (Rte 2A)
 City, State: Lincoln, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 6:00 AM
 End Time: 9:00 AM
 Class:



Pedestrians

	Hanscom Drive							North Great Road (Route 2A)						North Great Road (Route 2A)						Total	
	from North							from East						from West							
	Right	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg Total	0							0						0						0	

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

6:00 AM	Hanscom Drive							North Great Road (Route 2A)						North Great Road (Route 2A)						Total	
	from North							from East						from West							
	Right	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0							0						0						0	
Total	0							0						0						0	

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 F
N: Hanscom Drive
E: North Great Rd (Rte 2A) W: North Great Rd (Rte 2A)
Lincoln, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
3:00 PM
6:00 PM



**PRECISION
 D A T A
 INDUSTRIES, LLC**
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	=)				V 8 k k °				V 8 k k °				u
	V				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u	
hU													
hU													
hU													
hU													
u													
hU													
hU													
hU													
u													
hU													
hU													
hU													
u													
8 u													
u													
- O u													
#													
#													
- O u													
= †													
= †													
- O u													

h = °

	hU hU				V 8 k k °				V 8 k k °				u
	=)				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u	
hU													
hU													
hU													
hU													
u †													
u													
h=7													
#													
#													
= †													
= †													
# - O													
= - O													
u - O													
# - O													
= - O													
u - O													

PDI File #: **228952 F**
 Location: **N: Hanscom Drive**
 Location: **E: North Great Rd (Rte 2A) W: North Great Rd (Rte 2A)**
 City, State: **Lincoln, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Cars

	Hanscom Drive				North Great Road (Route 2A)				North Great Road (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	57	55	0	112	45	152	0	197	78	17	0	95	404
3:15 PM	47	43	0	90	24	118	0	142	75	20	0	95	327
3:30 PM	48	52	0	100	32	162	0	194	72	18	0	90	384
3:45 PM	39	36	0	75	31	175	0	206	67	15	0	82	363
Total	191	186	0	377	132	607	0	739	292	70	0	362	1478
4:00 PM	58	59	0	117	18	196	0	214	74	19	0	93	424
4:15 PM	59	43	0	102	23	197	0	220	61	21	0	82	404
4:30 PM	65	46	0	111	22	211	0	233	55	18	0	73	417
4:45 PM	57	39	0	96	19	191	0	210	67	25	0	92	398
Total	239	187	0	426	82	795	0	877	257	83	0	340	1643
5:00 PM	58	33	0	91	24	265	0	289	59	15	0	74	454
5:15 PM	45	28	0	73	20	270	0	290	62	11	0	73	436
5:30 PM	37	41	0	78	27	254	0	281	46	14	0	60	419
5:45 PM	20	43	0	63	27	153	0	180	42	12	0	54	297
Total	160	145	0	305	98	942	0	1040	209	52	0	261	1606
Grand Total	590	518	0	1108	312	2344	0	2656	758	205	0	963	4727
Approach %	53.2	46.8	0.0		11.7	88.3	0.0		78.7	21.3	0.0		
Total %	12.5	11.0	0.0	23.4	6.6	49.6	0.0	56.2	16.0	4.3	0.0	20.4	
Exiting Leg Total				517				1276				2934	4727

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

4:45 PM	Hanscom Drive				North Great Road (Route 2A)				North Great Road (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:45 PM	57	39	0	96	19	191	0	210	67	25	0	92	398
5:00 PM	58	33	0	91	24	265	0	289	59	15	0	74	454
5:15 PM	45	28	0	73	20	270	0	290	62	11	0	73	436
5:30 PM	37	41	0	78	27	254	0	281	46	14	0	60	419
Total Volume	197	141	0	338	90	980	0	1070	234	65	0	299	1707
% Approach Total	58.3	41.7	0.0		8.4	91.6	0.0		78.3	21.7	0.0		
PHF	0.849	0.860	0.000	0.880	0.833	0.907	0.000	0.922	0.873	0.650	0.000	0.813	0.940
Entering Leg	197	141	0	338	90	980	0	1070	234	65	0	299	1707
Exiting Leg				155				375				1177	1707
Total				493				1445				1476	3414

PDI File #: **228952 F**
 Location: **N: Hanscom Drive**
 Location: **E: North Great Rd (Rte 2A) W: North Great Rd (Rte 2A)**
 City, State: **Lincoln, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Hanscom Drive				North Great Road (Route 2A)				North Great Road (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	1	2	0	3	1	1	0	2	1	2	0	3	8
3:15 PM	1	2	0	3	2	2	0	4	3	0	0	3	10
3:30 PM	1	0	0	1	2	2	0	4	0	1	0	1	6
3:45 PM	2	3	0	5	1	5	0	6	3	1	0	4	15
Total	5	7	0	12	6	10	0	16	7	4	0	11	39
4:00 PM	2	1	0	3	1	0	0	1	0	3	0	3	7
4:15 PM	1	2	0	3	1	4	0	5	1	0	0	1	9
4:30 PM	0	1	0	1	0	3	0	3	1	0	0	1	5
4:45 PM	0	3	0	3	0	3	0	3	2	1	0	3	9
Total	3	7	0	10	2	10	0	12	4	4	0	8	30
5:00 PM	0	1	0	1	1	0	0	1	0	0	0	0	2
5:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
5:30 PM	0	1	0	1	1	0	0	1	0	0	0	0	2
5:45 PM	0	2	0	2	0	0	0	0	2	0	0	2	4
Total	0	4	0	4	2	1	0	3	2	0	0	2	9
Grand Total	8	18	0	26	10	21	0	31	13	8	0	21	78
Approach %	30.8	69.2	0.0		32.3	67.7	0.0		61.9	38.1	0.0		
Total %	10.3	23.1	0.0	33.3	12.8	26.9	0.0	39.7	16.7	10.3	0.0	26.9	
Exiting Leg Total				18				31				29	78
Buses	3	5	0	8	4	5	0	9	6	3	0	9	26
% Buses	37.5	27.8	0.0	30.8	40.0	23.8	0.0	29.0	46.2	37.5	0.0	42.9	33.3
Exiting Leg Total				7				11				8	26
Single-Unit Trucks	5	10	0	15	6	12	0	18	6	5	0	11	44
% Single-Unit	62.5	55.6	0.0	57.7	60.0	57.1	0.0	58.1	46.2	62.5	0.0	52.4	56.4
Exiting Leg Total				11				16				17	44
Articulated Trucks	0	3	0	3	0	4	0	4	1	0	0	1	8
% Articulated	0.0	16.7	0.0	11.5	0.0	19.0	0.0	12.9	7.7	0.0	0.0	4.8	10.3
Exiting Leg Total				0				4				4	8

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Hanscom Drive				North Great Road (Route 2A)				North Great Road (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	1	2	0	3	1	1	0	2	1	2	0	3	8
3:15 PM	1	2	0	3	2	2	0	4	3	0	0	3	10
3:30 PM	1	0	0	1	2	2	0	4	0	1	0	1	6
3:45 PM	2	3	0	5	1	5	0	6	3	1	0	4	15
Total Volume	5	7	0	12	6	10	0	16	7	4	0	11	39
% Approach Total	41.7	58.3	0.0		37.5	62.5	0.0		63.6	36.4	0.0		
PHF	0.625	0.583	0.000	0.600	0.750	0.500	0.000	0.667	0.583	0.500	0.000	0.688	0.650
Buses	1	1	0	2	2	3	0	5	4	2	0	6	13
Buses %	20.0	14.3	0.0	16.7	33.3	30.0	0.0	31.3	57.1	50.0	0.0	54.5	33.3
Single-Unit Trucks	4	4	0	8	4	6	0	10	2	2	0	4	22
Single-Unit %	80.0	57.1	0.0	66.7	66.7	60.0	0.0	62.5	28.6	50.0	0.0	36.4	56.4
Articulated Trucks	0	2	0	2	0	1	0	1	1	0	0	1	4
Articulated %	0.0	28.6	0.0	16.7	0.0	10.0	0.0	6.3	14.3	0.0	0.0	9.1	10.3
Buses	1	1	0	2	2	3	0	5	4	2	0	6	13
Single-Unit Trucks	4	4	0	8	4	6	0	10	2	2	0	4	22
Articulated Trucks	0	2	0	2	0	1	0	1	1	0	0	1	4
Total Entering Leg	5	7	0	12	6	10	0	16	7	4	0	11	39
Buses				4				5				4	13
Single-Unit Trucks				6				6				10	22
Articulated Trucks				0				3				1	4
Total Exiting Leg				10				14				15	39

PDI File #: **228952 F**
 Location: **N: Hanscom Drive**
 Location: **E: North Great Rd (Rte 2A) W: North Great Rd (Rte 2A)**
 City, State: **Lincoln, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Buses

	Hanscom Drive				North Great Road (Route 2A)				North Great Road (Route 2A)				Total	
	from North				from East				from West					
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total		
3:00 PM	1	0	0	1	0	0	0	0	0	0	1	0	1	2
3:15 PM	0	1	0	1	1	1	0	2	2	0	0	0	2	5
3:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1
3:45 PM	0	0	0	0	1	1	0	2	2	1	0	0	3	5
Total	1	1	0	2	2	3	0	5	4	2	0	6	13	
4:00 PM	1	1	0	2	0	0	0	0	0	1	0	1	3	
4:15 PM	1	0	0	1	0	1	0	1	1	0	0	1	3	
4:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1	
4:45 PM	0	1	0	1	0	0	0	0	1	0	0	1	2	
Total	2	2	0	4	0	2	0	2	2	1	0	3	9	
5:00 PM	0	1	0	1	1	0	0	1	0	0	0	0	2	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1	
5:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	1	
Total	0	2	0	2	2	0	0	2	0	0	0	0	4	
Grand Total	3	5	0	8	4	5	0	9	6	3	0	9	26	
Approach %	37.5	62.5	0.0		44.4	55.6	0.0		66.7	33.3	0.0			
Total %	11.5	19.2	0.0	30.8	15.4	19.2	0.0	34.6	23.1	11.5	0.0	34.6		
Exiting Leg Total				7				11				8	26	

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Hanscom Drive				North Great Road (Route 2A)				North Great Road (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:15 PM	0	1	0	1	1	1	0	2	2	0	0	2	5
3:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
3:45 PM	0	0	0	0	1	1	0	2	2	1	0	3	5
4:00 PM	1	1	0	2	0	0	0	0	0	1	0	1	3
Total Volume	1	2	0	3	2	3	0	5	4	2	0	6	14
% Approach Total	33.3	66.7	0.0		40.0	60.0	0.0		66.7	33.3	0.0		
PHF	0.250	0.500	0.000	0.375	0.500	0.750	0.000	0.625	0.500	0.500	0.000	0.500	0.700
Entering Leg	1	2	0	3	2	3	0	5	4	2	0	6	14
Exiting Leg				4				6				4	14
Total				7				11				10	28

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 F
N: Hanscom Drive
E: North Great Rd (Rte 2A) W: North Great Rd (Rte 2A)
Lincoln, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
3:00 PM
6:00 PM



Single-Unit Trucks

	=)				V 8 k k °				V 8 k k °				u
	V				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u	
hU													
hU													
hU													
hU													
u													
hU													
hU													
hU													
u													
hU													
hU													
hU													
u													
8 u													
.													
u													
- o u													

h = °

	hU hU				V 8 k k °				V 8 k k °				u
	=)				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u	
hU													
hU													
hU													
hU													
u †													
u													
h=7													
- o													
- o													
u													

PDI File #: **228952 F**
 Location: **N: Hanscom Drive**
 Location: **E: North Great Rd (Rte 2A) W: North Great Rd (Rte 2A)**
 City, State: **Lincoln, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Hanscom Drive				North Great Road (Route 2A)				North Great Road (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	0	1	0	1	0	1	0	1	0	0	0	0	2
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	1	0	1	0	0	0	0	1	0	0	1	2
Total	0	2	0	2	0	1	0	1	1	0	0	1	4
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	1	0	2	0	2	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	1	0	1	0	3	0	3	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	3	0	3	0	4	0	4	1	0	0	1	8
Approach %	0.0	100.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	37.5	0.0	37.5	0.0	50.0	0.0	50.0	12.5	0.0	0.0	12.5	
Exiting Leg Total				0				4				4	8

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Hanscom Drive				North Great Road (Route 2A)				North Great Road (Route 2A)				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	1	0	1	0	0	0	0	1	0	0	1	2
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	1	0	2	0	2	0	0	0	0	3
Total Volume	0	2	0	2	0	2	0	2	1	0	0	1	5
% Approach Total	0.0	100.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.500	0.000	0.500	0.000	0.250	0.000	0.250	0.250	0.000	0.000	0.250	0.417
Entering Leg	0	2	0	2	0	2	0	2	1	0	0	1	5
Exiting Leg				0				3				2	5
Total				2				5				3	10

PDI File #: **228952 F**
 Location: **N: Hanscom Drive**
 Location: **E: North Great Rd (Rte 2A) W: North Great Rd (Rte 2A)**
 City, State: **Lincoln, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**



Bicycles (on Roadway and Crosswalks)

	Hanscom Drive						North Great Road (Route 2A)						North Great Road (Route 2A)						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	2
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	2
Approach %	0.0	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	50.0	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	0						1						1						2

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:00 PM	Hanscom Drive						North Great Road (Route 2A)						North Great Road (Route 2A)						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	2
% Approach Total	0.0	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	2
Exiting Leg	0						1						1						2
Total	1						2						1						4

PDI File #: 228952 F
 Location: N: Hanscom Drive
 Location: E: North Great Rd (Rte 2A) W: North Great Rd (Rte 2A)
 City, State: Lincoln, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 3:00 PM
 End Time: 6:00 PM
 Class:



Pedestrians

	Hanscom Drive							North Great Road (Route 2A)						North Great Road (Route 2A)						Total	
	from North							from East						from West							
	Right	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg Total	0							0						0						0	

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:00 PM	Hanscom Drive							North Great Road (Route 2A)						North Great Road (Route 2A)						Total	
	from North							from East						from West							
	Right	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0							0						0						0	
Total	0							0						0						0	

PDI File #: **228952 G**
 Location: **N: Old Bedford Road**
 Location: **E: Lexington Road W: Lexington Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Cars and Heavy Vehicles (Combined)

	Old Bedford Road				Lexington Road				Lexington Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
6:00 AM	5	11	0	16	2	3	0	5	7	2	0	9	30
6:15 AM	4	17	0	21	3	5	0	8	24	12	0	36	65
6:30 AM	5	15	0	20	8	11	0	19	44	18	0	62	101
6:45 AM	7	24	0	31	5	10	0	15	74	23	0	97	143
Total	21	67	0	88	18	29	0	47	149	55	0	204	339
7:00 AM	9	38	0	47	7	11	0	18	78	26	0	104	169
7:15 AM	18	32	0	50	20	16	0	36	81	41	0	122	208
7:30 AM	26	37	0	63	19	18	0	37	55	23	0	78	178
7:45 AM	44	35	0	79	16	31	0	47	61	46	0	107	233
Total	97	142	0	239	62	76	0	138	275	136	0	411	788
8:00 AM	23	43	0	66	24	26	0	50	59	69	0	128	244
8:15 AM	28	34	0	62	23	19	0	42	63	48	0	111	215
8:30 AM	26	36	0	62	18	21	0	39	57	42	0	99	200
8:45 AM	36	35	0	71	14	20	0	34	53	57	0	110	215
Total	113	148	0	261	79	86	0	165	232	216	0	448	874
Grand Total	231	357	0	588	159	191	0	350	656	407	0	1063	2001
Approach %	39.3	60.7	0.0		45.4	54.6	0.0		61.7	38.3	0.0		
Total %	11.5	17.8	0.0	29.4	7.9	9.5	0.0	17.5	32.8	20.3	0.0	53.1	
Exiting Leg Total				566				1013				422	2001
Cars	218	350	0	568	153	181	0	334	646	400	0	1046	1948
% Cars	94.4	98.0	0.0	96.6	96.2	94.8	0.0	95.4	98.5	98.3	0.0	98.4	97.4
Exiting Leg Total				553				996				399	1948
Heavy Vehicles	13	7	0	20	6	10	0	16	10	7	0	17	53
% Heavy Vehicles	5.6	2.0	0.0	3.4	3.8	5.2	0.0	4.6	1.5	1.7	0.0	1.6	2.6
Exiting Leg Total				13				17				23	53

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Old Bedford Road				Lexington Road				Lexington Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:45 AM	44	35	0	79	16	31	0	47	61	46	0	107	233
8:00 AM	23	43	0	66	24	26	0	50	59	69	0	128	244
8:15 AM	28	34	0	62	23	19	0	42	63	48	0	111	215
8:30 AM	26	36	0	62	18	21	0	39	57	42	0	99	200
Total Volume	121	148	0	269	81	97	0	178	240	205	0	445	892
% Approach Total	45.0	55.0	0.0		45.5	54.5	0.0		53.9	46.1	0.0		
PHF	0.688	0.860	0.000	0.851	0.844	0.782	0.000	0.890	0.952	0.743	0.000	0.869	0.914
Cars	117	145	0	262	78	94	0	172	234	201	0	435	869
Cars %	96.7	98.0	0.0	97.4	96.3	96.9	0.0	96.6	97.5	98.0	0.0	97.8	97.4
Heavy Vehicles	4	3	0	7	3	3	0	6	6	4	0	10	23
Heavy Vehicles %	3.3	2.0	0.0	2.6	3.7	3.1	0.0	3.4	2.5	2.0	0.0	2.2	2.6
Cars Enter Leg	117	145	0	262	78	94	0	172	234	201	0	435	869
Heavy Enter Leg	4	3	0	7	3	3	0	6	6	4	0	10	23
Total Entering Leg	121	148	0	269	81	97	0	178	240	205	0	445	892
Cars Exiting Leg				279				379				211	869
Heavy Exiting Leg				7				9				7	23
Total Exiting Leg				286				388				218	892

PDI File #: **228952 G**
 Location: **N: Old Bedford Road**
 Location: **E: Lexington Road W: Lexington Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Cars

	Old Bedford Road				Lexington Road				Lexington Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
6:00 AM	5	11	0	16	2	3	0	5	7	2	0	9	30
6:15 AM	4	16	0	20	3	5	0	8	23	12	0	35	63
6:30 AM	5	15	0	20	8	9	0	17	44	18	0	62	99
6:45 AM	7	24	0	31	5	10	0	15	74	22	0	96	142
Total	21	66	0	87	18	27	0	45	148	54	0	202	334
7:00 AM	9	38	0	47	5	10	0	15	75	26	0	101	163
7:15 AM	15	32	0	47	19	14	0	33	81	41	0	122	202
7:30 AM	22	36	0	58	19	18	0	37	55	22	0	77	172
7:45 AM	43	34	0	77	14	31	0	45	60	45	0	105	227
Total	89	140	0	229	57	73	0	130	271	134	0	405	764
8:00 AM	23	42	0	65	24	25	0	49	59	69	0	128	242
8:15 AM	27	33	0	60	23	18	0	41	61	46	0	107	208
8:30 AM	24	36	0	60	17	20	0	37	54	41	0	95	192
8:45 AM	34	33	0	67	14	18	0	32	53	56	0	109	208
Total	108	144	0	252	78	81	0	159	227	212	0	439	850
Grand Total	218	350	0	568	153	181	0	334	646	400	0	1046	1948
Approach %	38.4	61.6	0.0		45.8	54.2	0.0		61.8	38.2	0.0		
Total %	11.2	18.0	0.0	29.2	7.9	9.3	0.0	17.1	33.2	20.5	0.0	53.7	
Exiting Leg Total				553				996				399	1948

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Old Bedford Road				Lexington Road				Lexington Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:45 AM	43	34	0	77	14	31	0	45	60	45	0	105	227
8:00 AM	23	42	0	65	24	25	0	49	59	69	0	128	242
8:15 AM	27	33	0	60	23	18	0	41	61	46	0	107	208
8:30 AM	24	36	0	60	17	20	0	37	54	41	0	95	192
Total Volume	117	145	0	262	78	94	0	172	234	201	0	435	869
% Approach Total	44.7	55.3	0.0		45.3	54.7	0.0		53.8	46.2	0.0		
PHF	0.680	0.863	0.000	0.851	0.813	0.758	0.000	0.878	0.959	0.728	0.000	0.850	0.898
Entering Leg	117	145	0	262	78	94	0	172	234	201	0	435	869
Exiting Leg				279				379				211	869
Total				541				551				646	1738

PDI File #: **228952 G**
 Location: **N: Old Bedford Road**
 Location: **E: Lexington Road W: Lexington Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Old Bedford Road				Lexington Road				Lexington Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	1	0	1	0	0	0	0	1	0	0	1	2
6:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
6:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	1	0	1	0	2	0	2	1	1	0	2	5
7:00 AM	0	0	0	0	2	1	0	3	3	0	0	3	6
7:15 AM	3	0	0	3	1	2	0	3	0	0	0	0	6
7:30 AM	4	1	0	5	0	0	0	0	0	1	0	1	6
7:45 AM	1	1	0	2	2	0	0	2	1	1	0	2	6
Total	8	2	0	10	5	3	0	8	4	2	0	6	24
8:00 AM	0	1	0	1	0	1	0	1	0	0	0	0	2
8:15 AM	1	1	0	2	0	1	0	1	2	2	0	4	7
8:30 AM	2	0	0	2	1	1	0	2	3	1	0	4	8
8:45 AM	2	2	0	4	0	2	0	2	0	1	0	1	7
Total	5	4	0	9	1	5	0	6	5	4	0	9	24
Grand Total	13	7	0	20	6	10	0	16	10	7	0	17	53
Approach %	65.0	35.0	0.0		37.5	62.5	0.0		58.8	41.2	0.0		
Total %	24.5	13.2	0.0	37.7	11.3	18.9	0.0	30.2	18.9	13.2	0.0	32.1	
Exiting Leg Total	13				17				23				53
Buses	8	0	0	8	2	2	0	4	4	5	0	9	21
% Buses	61.5	0.0	0.0	40.0	33.3	20.0	0.0	25.0	40.0	71.4	0.0	52.9	39.6
Exiting Leg Total	7				4				10				21
Single-Unit Trucks	4	7	0	11	4	8	0	12	5	2	0	7	30
% Single-Unit	30.8	100.0	0.0	55.0	66.7	80.0	0.0	75.0	50.0	28.6	0.0	41.2	56.6
Exiting Leg Total	6				12				12				30
Articulated Trucks	1	0	0	1	0	0	0	0	1	0	0	1	2
% Articulated	7.7	0.0	0.0	5.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	5.9	3.8
Exiting Leg Total	0				1				1				2

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

7:00 AM	Old Bedford Road				Lexington Road				Lexington Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	2	1	0	3	3	0	0	3	6
7:15 AM	3	0	0	3	1	2	0	3	0	0	0	0	6
7:30 AM	4	1	0	5	0	0	0	0	0	1	0	1	6
7:45 AM	1	1	0	2	2	0	0	2	1	1	0	2	6
Total Volume	8	2	0	10	5	3	0	8	4	2	0	6	24
% Approach Total	80.0	20.0	0.0		62.5	37.5	0.0		66.7	33.3	0.0		
PHF	0.500	0.500	0.000	0.500	0.625	0.375	0.000	0.667	0.333	0.500	0.000	0.500	1.000
Buses	5	0	0	5	2	1	0	3	3	2	0	5	13
Buses %	62.5	0.0	0.0	50.0	40.0	33.3	0.0	37.5	75.0	100.0	0.0	83.3	54.2
Single-Unit Trucks	3	2	0	5	3	2	0	5	0	0	0	0	10
Single-Unit %	37.5	100.0	0.0	50.0	60.0	66.7	0.0	62.5	0.0	0.0	0.0	0.0	41.7
Articulated Trucks	0	0	0	0	0	0	0	0	1	0	0	1	1
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	16.7	4.2
Buses	5	0	0	5	2	1	0	3	3	2	0	5	13
Single-Unit Trucks	3	2	0	5	3	2	0	5	0	0	0	0	10
Articulated Trucks	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Entering Leg	8	2	0	10	5	3	0	8	4	2	0	6	24
Buses	4				3				6				13
Single-Unit Trucks	3				2				5				10
Articulated Trucks	0				1				0				1
Total Exiting Leg	7				6				11				24

PDI File #: **228952 G**
 Location: **N: Old Bedford Road**
 Location: **E: Lexington Road W: Lexington Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Buses

	Old Bedford Road				Lexington Road				Lexington Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
6:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	1	0	0	1	2
7:00 AM	0	0	0	0	1	1	0	2	3	0	0	3	5
7:15 AM	3	0	0	3	1	0	0	1	0	0	0	0	4
7:30 AM	2	0	0	2	0	0	0	0	0	1	0	1	3
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	5	0	0	5	2	1	0	3	3	2	0	5	13
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	2
8:30 AM	2	0	0	2	0	0	0	0	0	0	0	0	2
8:45 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
Total	3	0	0	3	0	0	0	0	0	3	0	3	6
Grand Total	8	0	0	8	2	2	0	4	4	5	0	9	21
Approach %	100.0	0.0	0.0		50.0	50.0	0.0		44.4	55.6	0.0		
Total %	38.1	0.0	0.0	38.1	9.5	9.5	0.0	19.0	19.0	23.8	0.0	42.9	
Exiting Leg Total				7				4				10	21

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Old Bedford Road				Lexington Road				Lexington Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	1	1	0	2	3	0	0	3	5
7:15 AM	3	0	0	3	1	0	0	1	0	0	0	0	4
7:30 AM	2	0	0	2	0	0	0	0	0	1	0	1	3
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	5	0	0	5	2	1	0	3	3	2	0	5	13
% Approach Total	100.0	0.0	0.0		66.7	33.3	0.0		60.0	40.0	0.0		
PHF	0.417	0.000	0.000	0.417	0.500	0.250	0.000	0.375	0.250	0.500	0.000	0.417	0.650
Entering Leg	5	0	0	5	2	1	0	3	3	2	0	5	13
Exiting Leg				4				3				6	13
Total				9				6				11	26

PDI File #: **228952 G**
 Location: **N: Old Bedford Road**
 Location: **E: Lexington Road W: Lexington Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Single-Unit Trucks

	Old Bedford Road				Lexington Road				Lexington Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
6:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
6:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	1	0	1	0	1	0	1	0	1	0	1	3
7:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
7:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
7:30 AM	2	1	0	3	0	0	0	0	0	0	0	0	3
7:45 AM	1	1	0	2	2	0	0	2	0	0	0	0	4
Total	3	2	0	5	3	2	0	5	0	0	0	0	10
8:00 AM	0	1	0	1	0	1	0	1	0	0	0	0	2
8:15 AM	0	1	0	1	0	1	0	1	2	0	0	2	4
8:30 AM	0	0	0	0	1	1	0	2	3	1	0	4	6
8:45 AM	1	2	0	3	0	2	0	2	0	0	0	0	5
Total	1	4	0	5	1	5	0	6	5	1	0	6	17
Grand Total	4	7	0	11	4	8	0	12	5	2	0	7	30
Approach %	36.4	63.6	0.0		33.3	66.7	0.0		71.4	28.6	0.0		
Total %	13.3	23.3	0.0	36.7	13.3	26.7	0.0	40.0	16.7	6.7	0.0	23.3	
Exiting Leg Total				6				12				12	30

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

8:00 AM	Old Bedford Road				Lexington Road				Lexington Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
8:00 AM	0	1	0	1	0	1	0	1	0	0	0	0	2
8:15 AM	0	1	0	1	0	1	0	1	2	0	0	2	4
8:30 AM	0	0	0	0	1	1	0	2	3	1	0	4	6
8:45 AM	1	2	0	3	0	2	0	2	0	0	0	0	5
Total Volume	1	4	0	5	1	5	0	6	5	1	0	6	17
% Approach Total	20.0	80.0	0.0		16.7	83.3	0.0		83.3	16.7	0.0		
PHF	0.250	0.500	0.000	0.417	0.250	0.625	0.000	0.750	0.417	0.250	0.000	0.375	0.708
Entering Leg	1	4	0	5	1	5	0	6	5	1	0	6	17
Exiting Leg				2				9				6	17
Total				7				15				12	34

h) @/ 228952 G
 O N: Old Bedford Road
 O E: Lexington Road W: Lexington Road
 # O Concord, MA
 # McFarland Johnson/S. Ireland
 O # TBD
 #) Thursday, December 1, 2022
 O u 6:00 AM
 - u 9:00 AM
 #



Articulated Trucks

	\ " k				O k				O k				u
	V				-				‡				
	k	O	y-u	u	k	u	y-u	u	u	O	y-u	u	
U													
U													
U													
U													
u													
U													
U													
U													
u													
8 u													
.													
u													
- O u													

h = U U

	\ " k				O k				O k				u
	V				-				‡				
	k	O	y-u	u	k	u	y-u	u	u	O	y-u	u	
U													
U													
U													
U													
u †													
u													
h=7													
- O													
- O													
u													

PDI File #: **228952 G**
 Location: **N: Old Bedford Road**
 Location: **E: Lexington Road W: Lexington Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Bicycles (on Roadway and Crosswalks)

	Old Bedford Road							Lexington Road						Lexington Road						Total
	from North							from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:00 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	
Grand Total	1	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	2	3	
Approach %	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0	0.0			
Total %	33.3	0.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	33.3	33.3	0.0	0.0	0.0	66.7		
Exiting Leg Total	1						1						1						3	

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

6:45 AM	Old Bedford Road							Lexington Road						Lexington Road						Total
	from North							from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:00 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	
Total Volume	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2	
% Approach Total	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0			
PHF	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.500	
Entering Leg	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2	
Exiting Leg	1						0						1						2	
Total	2							0						2						4

PDI File #: 228952 G
 Location: N: Old Bedford Road
 Location: E: Lexington Road W: Lexington Road
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 6:00 AM
 End Time: 9:00 AM
 Class:



Pedestrians

	Old Bedford Road							Lexington Road						Lexington Road						Total
	from North							from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg Total	0							0						0						0

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

6:00 AM	Old Bedford Road							Lexington Road						Lexington Road						Total
	from North							from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0							0						0						0
Total	0							0						0						0

PDI File #: **228952 G**
 Location: **N: Old Bedford Road**
 Location: **E: Lexington Road W: Lexington Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**



Cars and Heavy Vehicles (Combined)

	Old Bedford Road				Lexington Road				Lexington Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	53	27	0	80	35	73	0	108	29	31	0	60	248
3:15 PM	27	21	0	48	34	71	0	105	21	23	0	44	197
3:30 PM	42	27	0	69	37	79	0	116	27	27	0	54	239
3:45 PM	28	21	0	49	51	72	0	123	24	26	0	50	222
Total	150	96	0	246	157	295	0	452	101	107	0	208	906
4:00 PM	49	24	0	73	45	74	0	119	30	20	0	50	242
4:15 PM	31	16	0	47	61	85	0	146	17	37	0	54	247
4:30 PM	37	31	0	68	59	77	0	136	14	33	0	47	251
4:45 PM	31	25	0	56	46	59	0	105	23	29	0	52	213
Total	148	96	0	244	211	295	0	506	84	119	0	203	953
5:00 PM	28	31	0	59	39	91	0	130	21	21	0	42	231
5:15 PM	40	34	0	74	42	104	0	146	22	40	0	62	282
5:30 PM	28	21	0	49	33	75	0	108	12	13	0	25	182
5:45 PM	25	15	1	41	32	52	0	84	10	17	0	27	152
Total	121	101	1	223	146	322	0	468	65	91	0	156	847
Grand Total	419	293	1	713	514	912	0	1426	250	317	0	567	2706
Approach %	58.8	41.1	0.1		36.0	64.0	0.0		44.1	55.9	0.0		
Total %	15.5	10.8	0.0	26.3	19.0	33.7	0.0	52.7	9.2	11.7	0.0	21.0	
Exiting Leg Total	832				543				1331				2706
Cars	408	289	1	698	502	903	0	1405	246	311	0	557	2660
% Cars	97.4	98.6	100.0	97.9	97.7	99.0	0.0	98.5	98.4	98.1	0.0	98.2	98.3
Exiting Leg Total	814				535				1311				2660
Heavy Vehicles	11	4	0	15	12	9	0	21	4	6	0	10	46
% Heavy Vehicles	2.6	1.4	0.0	2.1	2.3	1.0	0.0	1.5	1.6	1.9	0.0	1.8	1.7
Exiting Leg Total	18				8				20				46

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Old Bedford Road				Lexington Road				Lexington Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:30 PM	37	31	0	68	59	77	0	136	14	33	0	47	251
4:45 PM	31	25	0	56	46	59	0	105	23	29	0	52	213
5:00 PM	28	31	0	59	39	91	0	130	21	21	0	42	231
5:15 PM	40	34	0	74	42	104	0	146	22	40	0	62	282
Total Volume	136	121	0	257	186	331	0	517	80	123	0	203	977
% Approach Total	52.9	47.1	0.0		36.0	64.0	0.0		39.4	60.6	0.0		
PHF	0.850	0.890	0.000	0.868	0.788	0.796	0.000	0.885	0.870	0.769	0.000	0.819	0.866
Cars	134	120	0	254	185	328	0	513	80	122	0	202	969
Cars %	98.5	99.2	0.0	98.8	99.5	99.1	0.0	99.2	100.0	99.2	0.0	99.5	99.2
Heavy Vehicles	2	1	0	3	1	3	0	4	0	1	0	1	8
Heavy Vehicles %	1.5	0.8	0.0	1.2	0.5	0.9	0.0	0.8	0.0	0.8	0.0	0.5	0.8
Cars Enter Leg	134	120	0	254	185	328	0	513	80	122	0	202	969
Heavy Enter Leg	2	1	0	3	1	3	0	4	0	1	0	1	8
Total Entering Leg	136	121	0	257	186	331	0	517	80	123	0	203	977
Cars Exiting Leg	307				200				462				969
Heavy Exiting Leg	2				1				5				8
Total Exiting Leg	309				201				467				977

PDI File #: **228952 G**
 Location: **N: Old Bedford Road**
 Location: **E: Lexington Road W: Lexington Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Cars

	Old Bedford Road				Lexington Road				Lexington Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	51	27	0	78	33	73	0	106	27	31	0	58	242
3:15 PM	25	20	0	45	33	71	0	104	21	23	0	44	193
3:30 PM	41	27	0	68	37	77	0	114	27	26	0	53	235
3:45 PM	27	20	0	47	50	70	0	120	23	25	0	48	215
Total	144	94	0	238	153	291	0	444	98	105	0	203	885
4:00 PM	47	23	0	70	42	73	0	115	29	19	0	48	233
4:15 PM	31	16	0	47	57	84	0	141	17	36	0	53	241
4:30 PM	36	31	0	67	58	76	0	134	14	33	0	47	248
4:45 PM	31	25	0	56	46	57	0	103	23	28	0	51	210
Total	145	95	0	240	203	290	0	493	83	116	0	199	932
5:00 PM	27	31	0	58	39	91	0	130	21	21	0	42	230
5:15 PM	40	33	0	73	42	104	0	146	22	40	0	62	281
5:30 PM	28	21	0	49	33	75	0	108	12	13	0	25	182
5:45 PM	24	15	1	40	32	52	0	84	10	16	0	26	150
Total	119	100	1	220	146	322	0	468	65	90	0	155	843
Grand Total	408	289	1	698	502	903	0	1405	246	311	0	557	2660
Approach %	58.5	41.4	0.1		35.7	64.3	0.0		44.2	55.8	0.0		
Total %	15.3	10.9	0.0	26.2	18.9	33.9	0.0	52.8	9.2	11.7	0.0	20.9	
Exiting Leg Total				814				535				1311	2660

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

4:30 PM	Old Bedford Road				Lexington Road				Lexington Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:30 PM	36	31	0	67	58	76	0	134	14	33	0	47	248
4:45 PM	31	25	0	56	46	57	0	103	23	28	0	51	210
5:00 PM	27	31	0	58	39	91	0	130	21	21	0	42	230
5:15 PM	40	33	0	73	42	104	0	146	22	40	0	62	281
Total Volume	134	120	0	254	185	328	0	513	80	122	0	202	969
% Approach Total	52.8	47.2	0.0		36.1	63.9	0.0		39.6	60.4	0.0		
PHF	0.838	0.909	0.000	0.870	0.797	0.788	0.000	0.878	0.870	0.763	0.000	0.815	0.862
Entering Leg	134	120	0	254	185	328	0	513	80	122	0	202	969
Exiting Leg				307				200				462	969
Total				561				713				664	1938

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 G
N: Old Bedford Road
E: Lexington Road W: Lexington Road
Concord, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
3:00 PM
6:00 PM



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	\ " k				O k				O k				u
	V				-				‡				
	k	O	y-u	u	k	u	y-u	u	u	O	y-u	u	
hU													
hU													
hU													
hU													
u													
hU													
hU													
hU													
u													
8 u													
u													
- O u													
"													
"													
- O u													
o -y u													
o -y													
- O u													
u													
- O u													

h = "

	hU " k				O k				O k				u
	V				-				‡				
	k	O	y-u	u	k	u	y-u	u	u	O	y-u	u	
hU													
hU													
hU													
hU													
u †													
u													
h=7													
"													
"													
o -y u													
o -y													
u													
o -y u													
o -y													
u - O													
"													
o -y u													
o -y													
u - O													

PDI File #: **228952 G**
 Location: **N: Old Bedford Road**
 Location: **E: Lexington Road W: Lexington Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Buses

	Old Bedford Road				Lexington Road				Lexington Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	2	0	0	2	2	0	0	2	1	0	0	1	5
3:15 PM	2	1	0	3	0	0	0	0	0	0	0	0	3
3:30 PM	0	0	0	0	0	1	0	1	0	1	0	1	2
3:45 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
Total	4	1	0	5	2	1	0	3	2	2	0	4	12
4:00 PM	1	0	0	1	0	1	0	1	0	1	0	1	3
4:15 PM	0	0	0	0	0	1	0	1	0	1	0	1	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	1	0	1	0	1	0	1	2
Total	1	0	0	1	0	3	0	3	0	3	0	3	7
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
Total	1	0	0	1	0	0	0	0	0	1	0	1	2
Grand Total	6	1	0	7	2	4	0	6	2	6	0	8	21
Approach %	85.7	14.3	0.0		33.3	66.7	0.0		25.0	75.0	0.0		
Total %	28.6	4.8	0.0	33.3	9.5	19.0	0.0	28.6	9.5	28.6	0.0	38.1	
Exiting Leg Total				8				3				10	21

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Old Bedford Road				Lexington Road				Lexington Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:00 PM	2	0	0	2	2	0	0	2	1	0	0	1	5
3:15 PM	2	1	0	3	0	0	0	0	0	0	0	0	3
3:30 PM	0	0	0	0	0	1	0	1	0	1	0	1	2
3:45 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
Total Volume	4	1	0	5	2	1	0	3	2	2	0	4	12
% Approach Total	80.0	20.0	0.0		66.7	33.3	0.0		50.0	50.0	0.0		
PHF	0.500	0.250	0.000	0.417	0.250	0.250	0.000	0.375	0.500	0.500	0.000	0.500	0.600
Entering Leg	4	1	0	5	2	1	0	3	2	2	0	4	12
Exiting Leg				4				3				5	12
Total				9				6				9	24

PDI File #: **228952 G**
 Location: **N: Old Bedford Road**
 Location: **E: Lexington Road W: Lexington Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Single-Unit Trucks

	Old Bedford Road				Lexington Road				Lexington Road				Total	
	from North				from East				from West					
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total		
3:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	1	0	0	1	0	1	0	1	0	0	0	0	0	2
3:45 PM	1	0	0	1	1	2	0	3	0	0	0	0	0	4
Total	2	0	0	2	1	3	0	4	1	0	0	1	1	7
4:00 PM	0	0	0	0	3	0	0	3	1	0	0	1	1	4
4:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:30 PM	1	0	0	1	1	1	0	2	0	0	0	0	0	3
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total	1	0	0	1	5	2	0	7	1	0	0	1	1	9
5:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	2	0	0	0	0	0	0	0	0	0	2
Grand Total	4	1	0	5	6	5	0	11	2	0	0	2	18	
Approach %	80.0	20.0	0.0		54.5	45.5	0.0		100.0	0.0	0.0			
Total %	22.2	5.6	0.0	27.8	33.3	27.8	0.0	61.1	11.1	0.0	0.0	11.1		
Exiting Leg Total				6				3				9	18	

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Old Bedford Road				Lexington Road				Lexington Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
3:45 PM	1	0	0	1	1	2	0	3	0	0	0	0	4
4:00 PM	0	0	0	0	3	0	0	3	1	0	0	1	4
4:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:30 PM	1	0	0	1	1	1	0	2	0	0	0	0	3
Total Volume	2	0	0	2	6	3	0	9	1	0	0	1	12
% Approach Total	100.0	0.0	0.0		66.7	33.3	0.0		100.0	0.0	0.0		
PHF	0.500	0.000	0.000	0.500	0.500	0.375	0.000	0.750	0.250	0.000	0.000	0.250	0.750
Entering Leg	2	0	0	2	6	3	0	9	1	0	0	1	12
Exiting Leg				6				1				5	12
Total				8				10				6	24

h) @ 228952 G
 O N: Old Bedford Road
 O E: Lexington Road W: Lexington Road
 # o Concord, MA
 # McFarland Johnson/S. Ireland
 o # TBD
 #) Thursday, December 1, 2022
 o u 3:00 PM
 - u 6:00 PM
 #



Articulated Trucks

	\ " k				O k				O k				u
	V				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u	
hU													
hU													
hU													
hU													
u													
hU													
hU													
hU													
u													
8 u													
.													
u													
- o u													

h = °

	hU hU				O k				O k				u
	\ " k				-				‡				
	k	o	y-u	u	k	u	y-u	u	u	o	y-u	u	
hU													
hU													
hU													
hU													
u †													
.													
h=7													
- o													
- o													
u													

PDI File #: 228952 G
 Location: N: Old Bedford Road
 Location: E: Lexington Road W: Lexington Road
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 3:00 PM
 End Time: 6:00 PM



Bicycles (on Roadway and Crosswalks)

	Old Bedford Road							Lexington Road						Lexington Road						Total	
	from North							from East						from West							
	Right	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0
Exiting Leg Total	1							0						0						1	

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:15 PM	Old Bedford Road							Lexington Road						Lexington Road						Total	
	from North							from East						from West							
	Right	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Exiting Leg	1							0						0						1	
Total	1							0						0						2	

PDI File #: **228952 G**
 Location: **N: Old Bedford Road**
 Location: **E: Lexington Road W: Lexington Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Pedestrians

	Old Bedford Road						Lexington Road						Lexington Road						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg Total	0						0						0						0

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:00 PM	Old Bedford Road						Lexington Road						Lexington Road						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0						0						0						0
Total	0						0						0						0

PDI File #: **228952 H**
 Location: **N: Old Bedford Road S: Old Bedford Road**
 Location: **E: Virginia Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class: **Cars and Heavy Vehicles (Combined)**



	Old Bedford Road				Virginia Road				Old Bedford Road				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
6:00 AM	13	2	0	15	1	3	0	4	5	2	0	7	26
6:15 AM	19	3	0	22	2	2	0	4	15	1	0	16	42
6:30 AM	18	13	0	31	3	3	0	6	11	11	0	22	59
6:45 AM	26	15	0	41	1	0	0	1	17	11	0	28	70
Total	76	33	0	109	7	8	0	15	48	25	0	73	197
7:00 AM	47	19	0	66	0	4	0	4	23	11	0	34	104
7:15 AM	51	24	0	75	4	4	0	8	31	20	0	51	134
7:30 AM	56	20	0	76	7	7	0	14	17	23	0	40	130
7:45 AM	64	26	0	90	5	7	0	12	31	18	0	49	151
Total	218	89	0	307	16	22	0	38	102	72	0	174	519
8:00 AM	54	24	0	78	5	11	0	16	42	44	0	86	180
8:15 AM	59	27	0	86	4	10	0	14	36	25	0	61	161
8:30 AM	53	20	0	73	7	10	0	17	24	22	0	46	136
8:45 AM	61	40	0	101	9	13	0	22	31	26	0	57	180
Total	227	111	0	338	25	44	0	69	133	117	0	250	657
Grand Total	521	233	0	754	48	74	0	122	283	214	0	497	1373
Approach %	69.1	30.9	0.0		39.3	60.7	0.0		56.9	43.1	0.0		
Total %	37.9	17.0	0.0	54.9	3.5	5.4	0.0	8.9	20.6	15.6	0.0	36.2	
Exiting Leg Total				262				516				595	1373
Cars	503	230	0	733	46	70	0	116	281	206	0	487	1336
% Cars	96.5	98.7	0.0	97.2	95.8	94.6	0.0	95.1	99.3	96.3	0.0	98.0	97.3
Exiting Leg Total				252				511				573	1336
Heavy Vehicles	18	3	0	21	2	4	0	6	2	8	0	10	37
% Heavy Vehicles	3.5	1.3	0.0	2.8	4.2	5.4	0.0	4.9	0.7	3.7	0.0	2.0	2.7
Exiting Leg Total				10				5				22	37

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

8:00 AM	Old Bedford Road				Virginia Road				Old Bedford Road				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
8:00 AM	54	24	0	78	5	11	0	16	42	44	0	86	180
8:15 AM	59	27	0	86	4	10	0	14	36	25	0	61	161
8:30 AM	53	20	0	73	7	10	0	17	24	22	0	46	136
8:45 AM	61	40	0	101	9	13	0	22	31	26	0	57	180
Total Volume	227	111	0	338	25	44	0	69	133	117	0	250	657
% Approach Total	67.2	32.8	0.0		36.2	63.8	0.0		53.2	46.8	0.0		
PHF	0.930	0.694	0.000	0.837	0.694	0.846	0.000	0.784	0.792	0.665	0.000	0.727	0.913
Cars	218	109	0	327	24	43	0	67	132	113	0	245	639
Cars %	96.0	98.2	0.0	96.7	96.0	97.7	0.0	97.1	99.2	96.6	0.0	98.0	97.3
Heavy Vehicles	9	2	0	11	1	1	0	2	1	4	0	5	18
Heavy Vehicles %	4.0	1.8	0.0	3.3	4.0	2.3	0.0	2.9	0.8	3.4	0.0	2.0	2.7
Cars Enter Leg	218	109	0	327	24	43	0	67	132	113	0	245	639
Heavy Enter Leg	9	2	0	11	1	1	0	2	1	4	0	5	18
Total Entering Leg	227	111	0	338	25	44	0	69	133	117	0	250	657
Cars Exiting Leg				137				241				261	639
Heavy Exiting Leg				5				3				10	18
Total Exiting Leg				142				244				271	657

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 H
N: Old Bedford Road S: Old Bedford Road
E: Virginia Road
Concord, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
6:00 AM
9:00 AM



Cars

	\ " k				† k				\ " k				u
	V				-				o				
	u	o	y-u	u	k	o	y-u	u	k	u	y-u	u	
U													
U													
U													
U													
u													
U													
U													
U													
u													
8 u													
.													
u													
- o u													

h =

	\ " k				† k				\ " k				u
	V				-				o				
	u	o	y-u	u	k	o	y-u	u	k	u	y-u	u	
U													
U													
U													
U													
u †													
.													
h=7													
- o													
- o													
u													

PDI File #: **228952 H**
 Location: **N: Old Bedford Road S: Old Bedford Road**
 Location: **E: Virginia Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Old Bedford Road				Virginia Road				Old Bedford Road				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	0	0	0	0	1
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	3	1	0	4	1	2	0	3	0	1	0	1	8
7:30 AM	3	0	0	3	0	0	0	0	0	2	0	2	5
7:45 AM	2	0	0	2	0	1	0	1	0	1	0	1	4
Total	8	1	0	9	1	3	0	4	1	4	0	5	18
8:00 AM	2	1	0	3	1	0	0	1	0	1	0	1	5
8:15 AM	2	0	0	2	0	0	0	0	1	0	0	1	3
8:30 AM	2	0	0	2	0	1	0	1	0	1	0	1	4
8:45 AM	3	1	0	4	0	0	0	0	0	2	0	2	6
Total	9	2	0	11	1	1	0	2	1	4	0	5	18
Grand Total	18	3	0	21	2	4	0	6	2	8	0	10	37
Approach %	85.7	14.3	0.0		33.3	66.7	0.0		20.0	80.0	0.0		
Total %	48.6	8.1	0.0	56.8	5.4	10.8	0.0	16.2	5.4	21.6	0.0	27.0	
Exiting Leg Total	10				5				22				37
Buses	7	1	0	8	1	2	0	3	2	5	0	7	18
% Buses	38.9	33.3	0.0	38.1	50.0	50.0	0.0	50.0	100.0	62.5	0.0	70.0	48.6
Exiting Leg Total	6				3				9				18
Single-Unit Trucks	11	2	0	13	1	2	0	3	0	3	0	3	19
% Single-Unit	61.1	66.7	0.0	61.9	50.0	50.0	0.0	50.0	0.0	37.5	0.0	30.0	51.4
Exiting Leg Total	4				2				13				19
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	0				0				0				0

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

7:15 AM	Old Bedford Road				Virginia Road				Old Bedford Road				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:15 AM	3	1	0	4	1	2	0	3	0	1	0	1	8
7:30 AM	3	0	0	3	0	0	0	0	0	2	0	2	5
7:45 AM	2	0	0	2	0	1	0	1	0	1	0	1	4
8:00 AM	2	1	0	3	1	0	0	1	0	1	0	1	5
Total Volume	10	2	0	12	2	3	0	5	0	5	0	5	22
% Approach Total	83.3	16.7	0.0		40.0	60.0	0.0		0.0	100.0	0.0		
PHF	0.833	0.500	0.000	0.750	0.500	0.375	0.000	0.417	0.000	0.625	0.000	0.625	0.688
Buses	4	1	0	5	1	1	0	2	0	3	0	3	10
Buses %	40.0	50.0	0.0	41.7	50.0	33.3	0.0	40.0	0.0	60.0	0.0	60.0	45.5
Single-Unit Trucks	6	1	0	7	1	2	0	3	0	2	0	2	12
Single-Unit %	60.0	50.0	0.0	58.3	50.0	66.7	0.0	60.0	0.0	40.0	0.0	40.0	54.5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	4	1	0	5	1	1	0	2	0	3	0	3	10
Single-Unit Trucks	6	1	0	7	1	2	0	3	0	2	0	2	12
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	10	2	0	12	2	3	0	5	0	5	0	5	22
Buses	4				1				5				10
Single-Unit Trucks	6				3				9				12
Articulated Trucks	0				0				0				0
Total Exiting Leg	7				2				13				22

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 H
N: Old Bedford Road S: Old Bedford Road
E: Virginia Road
Concord, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
6:00 AM
9:00 AM



**PRECISION
 D A T A
 INDUSTRIES, LLC**

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Buses

	\ " k				† k				\ " k				u
	V				-				O				
	u	O	y-u	u	k	O	y-u	u	k	u	y-u	u	
U													
U													
U													
U													
u													
U													
U													
U													
u													
8 u													
.													
u													
- O u													

h = U U

	\ " k				† k				\ " k				u
	V				-				O				
	u	O	y-u	u	k	O	y-u	u	k	u	y-u	u	
U													
U													
U													
U													
u †													
u													
h=7													
- O													
- O													
u													

PDI File #: **228952 H**
 Location: **N: Old Bedford Road S: Old Bedford Road**
 Location: **E: Virginia Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Single-Unit Trucks

	Old Bedford Road				Virginia Road				Old Bedford Road				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	0	0	0	0	1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
7:30 AM	2	0	0	2	0	0	0	0	0	1	0	1	3
7:45 AM	2	0	0	2	0	1	0	1	0	0	0	0	3
Total	4	0	0	4	0	2	0	2	0	1	0	1	7
8:00 AM	2	1	0	3	1	0	0	1	0	1	0	1	5
8:15 AM	2	0	0	2	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	2	1	0	3	0	0	0	0	0	1	0	1	4
Total	6	2	0	8	1	0	0	1	0	2	0	2	11
Grand Total	11	2	0	13	1	2	0	3	0	3	0	3	19
Approach %	84.6	15.4	0.0		33.3	66.7	0.0		0.0	100.0	0.0		
Total %	57.9	10.5	0.0	68.4	5.3	10.5	0.0	15.8	0.0	15.8	0.0	15.8	
Exiting Leg Total				4				2				13	19

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Old Bedford Road				Virginia Road				Old Bedford Road				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:30 AM	2	0	0	2	0	0	0	0	0	1	0	1	3
7:45 AM	2	0	0	2	0	1	0	1	0	0	0	0	3
8:00 AM	2	1	0	3	1	0	0	1	0	1	0	1	5
8:15 AM	2	0	0	2	0	0	0	0	0	0	0	0	2
Total Volume	8	1	0	9	1	1	0	2	0	2	0	2	13
% Approach Total	88.9	11.1	0.0		50.0	50.0	0.0		0.0	100.0	0.0		
PHF	1.000	0.250	0.000	0.750	0.250	0.250	0.000	0.500	0.000	0.500	0.000	0.500	0.650
Entering Leg	8	1	0	9	1	1	0	2	0	2	0	2	13
Exiting Leg				3				1				9	13
Total				12				3				11	26

PDI File #: **228952 H**
 Location: **N: Old Bedford Road S: Old Bedford Road**
 Location: **E: Virginia Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Old Bedford Road				Virginia Road				Old Bedford Road				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total				0				0					0

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

6:00 AM	Old Bedford Road				Virginia Road				Old Bedford Road				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg				0				0					0
Total				0				0					0

h) @ 228952 H
 O N: Old Bedford Road S: Old Bedford Road
 O E: Virginia Road
 # O Concord, MA
 # McFarland Johnson/S. Ireland
 O # TBD
 #) Thursday, December 1, 2022
 O u 6:00 AM
 - u 9:00 AM
 #



Bicycles (on Roadway and Crosswalks)

	\ " k						† k						\ " k					
	V						-						O					
	u	O	y-u	#t --"	#t -t"	u	k	O	y-u	#t -o"	#t -v"	u	k	u	y-u	#t -t"	#t --"	u
°U																		
°U																		
°U																		
°U																		
u																		
°U																		
°U																		
°U																		
u																		
8 u																		
.																		
u																		
- O u																		

h = °	°U						°U						\ " k					
	V						-						O					
	u	O	y-u	#t --"	#t -t"	u	k	O	y-u	#t -o"	#t -v"	u	k	u	y-u	#t -t"	#t --"	u
°U																		
°U																		
°U																		
°U																		
u †																		
u																		
h=7																		
- O																		
- O																		
u																		

PDI File #: 228952 H
 Location: N: Old Bedford Road S: Old Bedford Road
 Location: E: Virginia Road
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 6:00 AM
 End Time: 9:00 AM
 Class:



Pedestrians

	Old Bedford Road						Virginia Road						Old Bedford Road						Total
	from North						from East						from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
6:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1	2
6:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	2
Total	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	2	1	3	5
7:00 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	1	0	1	4
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	3
7:30 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	1	0	0	0	3	0	3	0	0	0	4	1	5	9
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Grand Total	0	0	0	1	0	1	0	0	0	5	0	5	0	0	0	6	3	9	15
Approach %	0	0	0	100	0		0	0	0	100	0		0	0	0	66.667	33.333		
Total %	0	0	0	6.6667	0	6.6667	0	0	0	33.333	0	33.333	0	0	0	40	20	60	
Exiting Leg Total	1						5						9						15

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Old Bedford Road						Virginia Road						Old Bedford Road						Total
	from North						from East						from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	
6:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1	2
6:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	2
7:00 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	1	0	1	4
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	3
Total Volume	0	0	0	0	0	0	0	0	0	5	0	5	0	0	0	4	2	6	11
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	66.7	33.3		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.417	0.000	0.000	0.000	0.500	0.500	0.500	0.688
Entering Leg	0	0	0	0	0	0	0	0	0	5	0	5	0	0	0	4	2	6	11
Exiting Leg	0						5						6						11
Total	0						10						12						22

PDI File #: **228952 H**
 Location: **N: Old Bedford Road S: Old Bedford Road**
 Location: **E: Virginia Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class: **Cars and Heavy Vehicles (Combined)**



	Old Bedford Road				Virginia Road				Old Bedford Road				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
3:00 PM	28	5	0	33	36	15	0	51	8	55	0	63	147
3:15 PM	35	10	0	45	36	12	0	48	5	58	0	63	156
3:30 PM	50	9	0	59	44	13	0	57	7	53	0	60	176
3:45 PM	33	2	0	35	36	14	0	50	4	71	0	75	160
Total	146	26	0	172	152	54	0	206	24	237	0	261	639
4:00 PM	50	6	0	56	46	18	0	64	6	60	0	66	186
4:15 PM	37	2	0	39	43	11	0	54	13	83	0	96	189
4:30 PM	42	3	0	45	29	22	0	51	7	90	0	97	193
4:45 PM	48	4	0	52	33	10	0	43	8	67	0	75	170
Total	177	15	0	192	151	61	0	212	34	300	0	334	738
5:00 PM	43	2	0	45	32	12	0	44	2	59	0	61	150
5:15 PM	54	4	0	58	19	14	0	33	9	69	0	78	169
5:30 PM	40	4	0	44	17	4	0	21	3	43	0	46	111
5:45 PM	33	5	0	38	18	7	0	25	5	45	0	50	113
Total	170	15	0	185	86	37	0	123	19	216	0	235	543
Grand Total	493	56	0	549	389	152	0	541	77	753	0	830	1920
Approach %	89.8	10.2	0.0		71.9	28.1	0.0		9.3	90.7	0.0		
Total %	25.7	2.9	0.0	28.6	20.3	7.9	0.0	28.2	4.0	39.2	0.0	43.2	
Exiting Leg Total	1142				133				645				1920
Cars	482	54	0	536	386	149	0	535	72	741	0	813	1884
% Cars	97.8	96.4	0.0	97.6	99.2	98.0	0.0	98.9	93.5	98.4	0.0	98.0	98.1
Exiting Leg Total	1127				126				631				1884
Heavy Vehicles	11	2	0	13	3	3	0	6	5	12	0	17	36
% Heavy Vehicles	2.2	3.6	0.0	2.4	0.8	2.0	0.0	1.1	6.5	1.6	0.0	2.0	1.9
Exiting Leg Total	15				7				14				36

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Old Bedford Road				Virginia Road				Old Bedford Road				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:00 PM	50	6	0	56	46	18	0	64	6	60	0	66	186
4:15 PM	37	2	0	39	43	11	0	54	13	83	0	96	189
4:30 PM	42	3	0	45	29	22	0	51	7	90	0	97	193
4:45 PM	48	4	0	52	33	10	0	43	8	67	0	75	170
Total Volume	177	15	0	192	151	61	0	212	34	300	0	334	738
% Approach Total	92.2	7.8	0.0		71.2	28.8	0.0		10.2	89.8	0.0		
PHF	0.885	0.625	0.000	0.857	0.821	0.693	0.000	0.828	0.654	0.833	0.000	0.861	0.956
Cars	177	15	0	192	151	58	0	209	34	291	0	325	726
Cars %	100.0	100.0	0.0	100.0	100.0	95.1	0.0	98.6	100.0	97.0	0.0	97.3	98.4
Heavy Vehicles	0	0	0	0	0	3	0	3	0	9	0	9	12
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	4.9	0.0	1.4	0.0	3.0	0.0	2.7	1.6
Cars Enter Leg	177	15	0	192	151	58	0	209	34	291	0	325	726
Heavy Enter Leg	0	0	0	0	0	3	0	3	0	9	0	9	12
Total Entering Leg	177	15	0	192	151	61	0	212	34	300	0	334	738
Cars Exiting Leg	442				49				235				726
Heavy Exiting Leg	9				0				3				12
Total Exiting Leg	451				49				238				738

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 H
N: Old Bedford Road S: Old Bedford Road
E: Virginia Road
Concord, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
3:00 PM
6:00 PM



**PRECISION
 D A T A
 INDUSTRIES, LLC**

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars

	\ " k				† k				\ " k				u
	V				-				o				
	u	o	y-u	u	k	o	y-u	u	k	u	y-u	u	
hU													
hU													
hU													
hU													
u													
hU													
hU													
hU													
u													
hU													
hU													
hU													
u													
8 u													
.													
u													
- o u													

h = *

	hU				hU				\ " k				u
	V				-				o				
	u	o	y-u	u	k	o	y-u	u	k	u	y-u	u	
hU													
hU													
hU													
hU													
u †													
.													
h=7													
- o													
- o													
u													

PDI File #: **228952 H**
 Location: **N: Old Bedford Road S: Old Bedford Road**
 Location: **E: Virginia Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**



	Old Bedford Road				Virginia Road				Old Bedford Road				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
3:00 PM	2	1	0	3	1	0	0	1	2	0	0	2	6
3:15 PM	3	1	0	4	1	0	0	1	0	1	0	1	6
3:30 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
3:45 PM	1	0	0	1	0	0	0	0	1	1	0	2	3
Total	7	2	0	9	2	0	0	2	3	3	0	6	17
4:00 PM	0	0	0	0	0	2	0	2	0	4	0	4	6
4:15 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
4:30 PM	0	0	0	0	0	1	0	1	0	1	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	3	0	3	0	9	0	9	12
5:00 PM	2	0	0	2	0	0	0	0	0	0	0	0	2
5:15 PM	1	0	0	1	1	0	0	1	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	0	0	1	0	0	0	0	2	0	0	2	3
Total	4	0	0	4	1	0	0	1	2	0	0	2	7
Grand Total	11	2	0	13	3	3	0	6	5	12	0	17	36
Approach %	84.6	15.4	0.0		50.0	50.0	0.0		29.4	70.6	0.0		
Total %	30.6	5.6	0.0	36.1	8.3	8.3	0.0	16.7	13.9	33.3	0.0	47.2	
Exiting Leg Total				15				7				14	36
Buses	6	0	0	6	2	1	0	3	3	4	0	7	16
% Buses	54.5	0.0	0.0	46.2	66.7	33.3	0.0	50.0	60.0	33.3	0.0	41.2	44.4
Exiting Leg Total				6				3				7	16
Single-Unit Trucks	3	1	0	4	1	1	0	2	2	7	0	9	15
% Single-Unit	27.3	50.0	0.0	30.8	33.3	33.3	0.0	33.3	40.0	58.3	0.0	52.9	41.7
Exiting Leg Total				8				3				4	15
Articulated Trucks	2	1	0	3	0	1	0	1	0	1	0	1	5
% Articulated	18.2	50.0	0.0	23.1	0.0	33.3	0.0	16.7	0.0	8.3	0.0	5.9	13.9
Exiting Leg Total				1				1				3	5

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:00 PM	Old Bedford Road				Virginia Road				Old Bedford Road				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
3:00 PM	2	1	0	3	1	0	0	1	2	0	0	2	6
3:15 PM	3	1	0	4	1	0	0	1	0	1	0	1	6
3:30 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
3:45 PM	1	0	0	1	0	0	0	0	1	1	0	2	3
Total Volume	7	2	0	9	2	0	0	2	3	3	0	6	17
% Approach Total	77.8	22.2	0.0		100.0	0.0	0.0		50.0	50.0	0.0		
PHF	0.583	0.500	0.000	0.563	0.500	0.000	0.000	0.500	0.375	0.750	0.000	0.750	0.708
Buses	5	0	0	5	2	0	0	2	3	1	0	4	11
Buses %	71.4	0.0	0.0	55.6	100.0	0.0	0.0	100.0	100.0	33.3	0.0	66.7	64.7
Single-Unit Trucks	1	1	0	2	0	0	0	0	0	2	0	2	4
Single-Unit %	14.3	50.0	0.0	22.2	0.0	0.0	0.0	0.0	0.0	66.7	0.0	33.3	23.5
Articulated Trucks	1	1	0	2	0	0	0	0	0	0	0	0	2
Articulated %	14.3	50.0	0.0	22.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.8
Buses	5	0	0	5	2	0	0	2	3	1	0	4	11
Single-Unit Trucks	1	1	0	2	0	0	0	0	0	2	0	2	4
Articulated Trucks	1	1	0	2	0	0	0	0	0	0	0	0	2
Total Entering Leg	7	2	0	9	2	0	0	2	3	3	0	6	17
Buses				3				3				5	11
Single-Unit Trucks				2				1				1	4
Articulated Trucks				0				1				1	2
Total Exiting Leg				5				5				7	17

PDI File #: **228952 H**
 Location: **N: Old Bedford Road S: Old Bedford Road**
 Location: **E: Virginia Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Buses

	Old Bedford Road				Virginia Road				Old Bedford Road				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
3:00 PM	2	0	0	2	1	0	0	1	2	0	0	2	5
3:15 PM	3	0	0	3	1	0	0	1	0	0	0	0	4
3:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
3:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	5	0	0	5	2	0	0	2	3	1	0	4	11
4:00 PM	0	0	0	0	0	1	0	1	0	1	0	1	2
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	1	0	1	0	3	0	3	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	1	0	0	1	0	0	0	0	0	0	0	0	1
Grand Total	6	0	0	6	2	1	0	3	3	4	0	7	16
Approach %	100.0	0.0	0.0		66.7	33.3	0.0		42.9	57.1	0.0		
Total %	37.5	0.0	0.0	37.5	12.5	6.3	0.0	18.8	18.8	25.0	0.0	43.8	
Exiting Leg Total				6				3				7	16

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Old Bedford Road				Virginia Road				Old Bedford Road				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
3:00 PM	2	0	0	2	1	0	0	1	2	0	0	2	5
3:15 PM	3	0	0	3	1	0	0	1	0	0	0	0	4
3:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
3:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	5	0	0	5	2	0	0	2	3	1	0	4	11
% Approach Total	100.0	0.0	0.0		100.0	0.0	0.0		75.0	25.0	0.0		
PHF	0.417	0.000	0.000	0.417	0.500	0.000	0.000	0.500	0.375	0.250	0.000	0.500	0.550
Entering Leg	5	0	0	5	2	0	0	2	3	1	0	4	11
Exiting Leg				3				3				5	11
Total				8				5				9	22

PDI File #: **228952 H**
 Location: **N: Old Bedford Road S: Old Bedford Road**
 Location: **E: Virginia Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Single-Unit Trucks

	Old Bedford Road				Virginia Road				Old Bedford Road				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
3:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
3:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	1	1	0	2	0	0	0	0	0	2	0	2	4
4:00 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:30 PM	0	0	0	0	0	1	0	1	0	1	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	5	0	5	6
5:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
5:15 PM	1	0	0	1	1	0	0	1	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	2	0	0	2	1	0	0	1	2	0	0	2	5
Grand Total	3	1	0	4	1	1	0	2	2	7	0	9	15
Approach %	75.0	25.0	0.0		50.0	50.0	0.0		22.2	77.8	0.0		
Total %	20.0	6.7	0.0	26.7	6.7	6.7	0.0	13.3	13.3	46.7	0.0	60.0	
Exiting Leg Total				8				3				4	15

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Old Bedford Road				Virginia Road				Old Bedford Road				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
3:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:00 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:30 PM	0	0	0	0	0	1	0	1	0	1	0	1	2
Total Volume	0	0	0	0	0	1	0	1	0	6	0	6	7
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.500	0.000	0.500	0.583
Entering Leg	0	0	0	0	0	1	0	1	0	6	0	6	7
Exiting Leg				6				0				1	7
Total				6				1				7	14

h) @
 O
 O
 # O
 #
 O #
 #)
 O u
 - u
 #

228952 H
N: Old Bedford Road S: Old Bedford Road
E: Virginia Road
Concord, MA
McFarland Johnson/S. Ireland
TBD
Thursday, December 1, 2022
3:00 PM
6:00 PM



**PRECISION
 D A T A
 INDUSTRIES, LLC**

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Articulated Trucks

	\ " k				† k				\ " k				u
	V				-				O				
	u	O	y-u	u	k	O	y-u	u	k	u	y-u	u	
hU													
hU													
hU													
hU													
u													
hU													
hU													
hU													
hU													
u													
8 u													
.													
u													
- O u													

h = °

	hU hU				\ " k				† k				\ " k				u
	V				-				O								
	u	O	y-u	u	k	O	y-u	u	k	u	y-u	u					
hU																	
hU																	
hU																	
hU																	
u †																	
u																	
h=7																	
- O																	
- O																	
u																	

PDI File #: 228952 H
 Location: N: Old Bedford Road S: Old Bedford Road
 Location: E: Virginia Road
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 3:00 PM
 End Time: 6:00 PM



Bicycles (on Roadway and Crosswalks)

	Old Bedford Road						Virginia Road						Old Bedford Road						Total
	from North						from East						from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
3:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	2	3
Approach %	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	50.0	0.0	50.0	0.0		
Total %	0.0	33.3	0.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	33.3	0.0	66.7	
Exiting Leg Total	1						1						1						3

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Old Bedford Road						Virginia Road						Old Bedford Road						Total
	from North						from East						from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
3:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total Volume	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	2	3
% Approach Total	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	50.0	0.0	50.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.500	0.750
Entering Leg	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	2	3
Exiting Leg	1						1						1						3
Total	2						1						3						6

PDI File #: 228952 H
 Location: N: Old Bedford Road S: Old Bedford Road
 Location: E: Virginia Road
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 3:00 PM
 End Time: 6:00 PM
 Class:



Pedestrians

	Old Bedford Road						Virginia Road						Old Bedford Road						Total
	from North						from East						from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	3
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	2
Grand Total	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	1	3	4	6
Approach %	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	25	75		
Total %	0	0	0	0	0	0	0	0	0	33.333	0	33.333	0	0	0	16.667	50	66.667	
Exiting Leg Total	0						2						4						6

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:00 PM	Old Bedford Road						Virginia Road						Old Bedford Road						Total
	from North						from East						from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	3
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	66.7		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.375	0.375
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	3
Exiting Leg	0						0						3						3
Total	0						0						6						6

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM



Cars and Heavy Vehicles (Combined)

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
12:00 AM	5	0	0	5	5	0	0	5	0	0	0	0	10
12:15 AM	4	0	0	4	2	0	0	2	1	0	0	1	7
12:30 AM	1	0	0	1	2	0	0	2	0	2	0	2	5
12:45 AM	1	0	0	1	2	1	0	3	0	0	0	0	4
Total	11	0	0	11	11	1	0	12	1	2	0	3	26
1:00 AM	0	0	0	0	6	0	0	6	0	0	0	0	6
1:15 AM	2	1	0	3	2	0	0	2	0	0	0	0	5
1:30 AM	0	0	0	0	4	0	0	4	0	1	0	1	5
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	1	0	3	12	0	0	12	0	1	0	1	16
2:00 AM	1	1	0	2	1	0	0	1	0	1	0	1	4
2:15 AM	0	1	0	1	0	0	0	0	0	1	0	1	2
2:30 AM	0	4	0	4	0	0	0	0	0	1	0	1	5
2:45 AM	1	3	0	4	0	0	0	0	0	1	0	1	5
Total	2	9	0	11	1	0	0	1	0	4	0	4	16
3:00 AM	0	3	0	3	1	0	0	1	0	1	0	1	5
3:15 AM	0	5	0	5	0	0	0	0	0	1	0	1	6
3:30 AM	0	7	0	7	0	0	0	0	1	1	0	2	9
3:45 AM	0	15	0	15	1	0	0	1	1	2	0	3	19
Total	0	30	0	30	2	0	0	2	2	5	0	7	39
4:00 AM	0	2	0	2	1	0	0	1	1	0	0	1	4
4:15 AM	4	7	0	11	0	0	0	0	0	0	0	0	11
4:30 AM	3	8	0	11	0	0	0	0	0	2	0	2	13
4:45 AM	6	40	0	46	3	0	0	3	2	6	0	8	57
Total	13	57	0	70	4	0	0	4	3	8	0	11	85
5:00 AM	6	14	0	20	1	0	0	1	0	3	0	3	24
5:15 AM	3	9	0	12	0	2	0	2	1	11	0	12	26
5:30 AM	15	21	0	36	0	1	0	1	2	15	0	17	54
5:45 AM	15	22	0	37	2	2	0	4	4	15	0	19	60
Total	39	66	0	105	3	5	0	8	7	44	0	51	164
6:00 AM	21	17	0	38	3	0	0	3	7	14	0	21	62
6:15 AM	25	10	0	35	2	2	0	4	5	26	0	31	70
6:30 AM	45	8	0	53	1	2	0	3	5	42	0	47	103
6:45 AM	55	18	0	73	1	5	0	6	6	49	0	55	134
Total	146	53	0	199	7	9	0	16	23	131	0	154	369
7:00 AM	68	27	0	95	0	10	1	11	10	44	0	54	160
7:15 AM	100	14	0	114	10	9	0	19	25	72	0	97	230
7:30 AM	144	29	0	173	11	9	0	20	28	69	0	97	290
7:45 AM	89	21	0	110	7	10	0	17	31	56	0	87	214
Total	401	91	0	492	28	38	1	67	94	241	0	335	894
8:00 AM	122	29	0	151	5	9	0	14	36	69	0	105	270
8:15 AM	124	21	0	145	8	9	0	17	26	90	0	116	278
8:30 AM	119	26	0	145	7	4	0	11	24	66	0	90	246
8:45 AM	153	26	0	179	5	13	0	18	31	93	0	124	321
Total	518	102	0	620	25	35	0	60	117	318	0	435	1115
9:00 AM	92	25	0	117	3	13	0	16	17	139	0	156	289
9:15 AM	66	14	0	80	0	9	0	9	22	94	0	116	205
9:30 AM	63	4	0	67	2	7	0	9	9	62	0	71	147
9:45 AM	54	10	0	64	3	4	0	7	7	47	0	54	125
Total	275	53	0	328	8	33	0	41	55	342	0	397	766
10:00 AM	59	8	0	67	5	6	0	11	4	53	0	57	135
10:15 AM	46	7	0	53	5	6	0	11	6	53	0	59	123
10:30 AM	53	11	0	64	5	6	0	11	3	53	0	56	131
10:45 AM	53	6	0	59	4	4	0	8	7	43	0	50	117
Total	211	32	0	243	19	22	0	41	20	202	0	222	506
11:00 AM	47	4	0	51	10	4	0	14	7	67	0	74	139
11:15 AM	44	12	0	56	11	5	0	16	9	52	0	61	133
11:30 AM	52	8	0	60	11	7	0	18	9	64	0	73	151
11:45 AM	63	4	0	67	25	9	0	34	11	64	0	75	176
Total	206	28	0	234	57	25	0	82	36	247	0	283	599
12:00 PM	58	5	0	63	14	8	0	22	7	70	0	77	162
12:15 PM	72	4	0	76	7	13	0	20	8	85	0	93	189
12:30 PM	66	6	0	72	19	10	0	29	7	60	0	67	168

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
12:45 PM	61	11	0	72	15	10	0	25	8	53	0	61	158
Total	257	26	0	283	55	41	0	96	30	268	0	298	677
1:00 PM	56	12	0	68	11	7	0	18	4	54	0	58	144
1:15 PM	48	12	0	60	10	10	0	20	4	40	0	44	124
1:30 PM	53	12	0	65	46	11	0	57	9	53	0	62	184
1:45 PM	52	22	0	74	7	13	0	20	6	72	0	78	172
Total	209	58	0	267	74	41	0	115	23	219	0	242	624
2:00 PM	71	8	0	79	13	15	0	28	13	56	0	69	176
2:15 PM	73	27	0	100	9	11	0	20	12	67	0	79	199
2:30 PM	89	11	0	100	46	18	0	64	9	64	0	73	237
2:45 PM	78	10	0	88	11	14	0	25	21	83	0	104	217
Total	311	56	0	367	79	58	0	137	55	270	0	325	829
3:00 PM	78	4	0	82	21	15	0	36	18	96	0	114	232
3:15 PM	95	6	0	101	6	21	0	27	18	122	0	140	268
3:30 PM	88	3	0	91	24	20	0	44	23	109	0	132	267
3:45 PM	77	5	0	82	11	24	0	35	16	110	0	126	243
Total	338	18	0	356	62	80	0	142	75	437	0	512	1010
4:00 PM	80	6	0	86	24	30	0	54	12	126	0	138	278
4:15 PM	90	4	0	94	16	42	0	58	14	123	0	137	289
4:30 PM	74	9	0	83	22	59	0	81	22	138	0	160	324
4:45 PM	101	14	0	115	26	67	0	93	29	94	0	123	331
Total	345	33	0	378	88	198	0	286	77	481	0	558	1222
5:00 PM	101	6	0	107	30	46	0	76	18	90	0	108	291
5:15 PM	94	6	0	100	24	45	0	69	17	87	0	104	273
5:30 PM	71	6	0	77	13	50	0	63	9	63	0	72	212
5:45 PM	87	9	0	96	14	27	0	41	17	60	0	77	214
Total	353	27	0	380	81	168	0	249	61	300	0	361	990
6:00 PM	89	2	0	91	16	31	0	47	8	65	0	73	211
6:15 PM	68	4	0	72	10	33	0	43	8	50	0	58	173
6:30 PM	58	10	0	68	4	16	0	20	9	62	0	71	159
6:45 PM	45	8	0	53	4	5	0	9	8	45	0	53	115
Total	260	24	0	284	34	85	0	119	33	222	0	255	658
7:00 PM	57	6	0	63	16	9	0	25	17	36	0	53	141
7:15 PM	37	1	0	38	4	12	0	16	6	42	0	48	102
7:30 PM	43	8	0	51	4	10	0	14	3	40	0	43	108
7:45 PM	32	15	0	47	6	5	0	11	11	22	0	33	91
Total	169	30	0	199	30	36	0	66	37	140	0	177	442
8:00 PM	30	13	0	43	19	4	0	23	8	24	0	32	98
8:15 PM	31	2	0	33	7	6	0	13	2	18	0	20	66
8:30 PM	21	4	0	25	4	7	0	11	1	25	0	26	62
8:45 PM	34	5	0	39	1	1	0	2	0	24	0	24	65
Total	116	24	0	140	31	18	0	49	11	91	0	102	291
9:00 PM	23	7	0	30	9	9	0	18	3	18	0	21	69
9:15 PM	24	7	0	31	7	3	0	10	1	17	0	18	59
9:30 PM	13	1	0	14	8	7	0	15	1	17	0	18	47
9:45 PM	10	1	0	11	1	2	0	3	3	18	0	21	35
Total	70	16	0	86	25	21	0	46	8	70	0	78	210
10:00 PM	11	2	0	13	1	0	0	1	0	18	0	18	32
10:15 PM	12	0	0	12	1	0	0	1	0	14	0	14	27
10:30 PM	12	1	0	13	13	3	0	16	3	9	0	12	41
10:45 PM	10	0	0	10	7	1	0	8	1	12	0	13	31
Total	45	3	0	48	22	4	0	26	4	53	0	57	131
11:00 PM	7	1	0	8	9	3	0	12	1	14	0	15	35
11:15 PM	6	0	0	6	4	0	0	4	0	5	0	5	15
11:30 PM	4	0	0	4	2	0	0	2	0	5	0	5	11
11:45 PM	2	0	0	2	1	0	0	1	0	3	0	3	6
Total	19	1	0	20	16	3	0	19	1	27	0	28	67
Grand Total	4316	838	0	5154	774	921	1	1696	773	4123	0	4896	11746
Approach %	83.7	16.3	0.0		45.6	54.3	0.1		15.8	84.2	0.0		
Total %	36.7	7.1	0.0	43.9	6.6	7.8	0.0	14.4	6.6	35.1	0.0	41.7	
Exiting Leg Total				4897				1612				5237	11746
Cars	4211	814	0	5025	747	897	1	1645	746	4012	0	4758	11428

PDI File #: **228952 I**
 Location: **S: Hartwell Road**
 Location: **E: Concord Road (Route 62) W: Concord Road (Route 62)**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**



Cars and Heavy Vehicles (Combined)

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
% Cars	97.6	97.1	0.0	97.5	96.5	97.4	100.0	97.0	96.5	97.3	0.0	97.2	97.3
Exiting Leg Total	4759				1561				5108				11428
Heavy Vehicles	105	24	0	129	27	24	0	51	27	111	0	138	318
% Heavy Vehicles	2.4	2.9	0.0	2.5	3.5	2.6	0.0	3.0	3.5	2.7	0.0	2.8	2.7
Exiting Leg Total	138				51				129				318

AM Peak Hour Analysis from 12:00 AM to 10:00 AM begins at:

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
8:15 AM	124	21	0	145	8	9	0	17	26	90	0	116	278
8:30 AM	119	26	0	145	7	4	0	11	24	66	0	90	246
8:45 AM	153	26	0	179	5	13	0	18	31	93	0	124	321
9:00 AM	92	25	0	117	3	13	0	16	17	139	0	156	289
Total Volume	488	98	0	586	23	39	0	62	98	388	0	486	1134
% Approach Total	83.3	16.7	0.0		37.1	62.9	0.0		20.2	79.8	0.0		
PHF	0.797	0.942	0.000	0.818	0.719	0.750	0.000	0.861	0.790	0.698	0.000	0.779	0.883
Cars	468	94	0	562	22	37	0	59	96	371	0	467	1088
Cars %	95.9	95.9	0.0	95.9	95.7	94.9	0.0	95.2	98.0	95.6	0.0	96.1	95.9
Heavy Vehicles	20	4	0	24	1	2	0	3	2	17	0	19	46
Heavy Vehicles %	4.1	4.1	0.0	4.1	4.3	5.1	0.0	4.8	2.0	4.4	0.0	3.9	4.1
Cars Enter Leg	468	94	0	562	22	37	0	59	96	371	0	467	1088
Heavy Enter Leg	20	4	0	24	1	2	0	3	2	17	0	19	46
Total Entering Leg	488	98	0	586	23	39	0	62	98	388	0	486	1134
Cars Exiting Leg	393				190				505				1088
Heavy Exiting Leg	18				6				22				46
Total Exiting Leg	411				196				527				1134

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
1:45 PM	52	22	0	74	7	13	0	20	6	72	0	78	172
2:00 PM	71	8	0	79	13	15	0	28	13	56	0	69	176
2:15 PM	73	27	0	100	9	11	0	20	12	67	0	79	199
2:30 PM	89	11	0	100	46	18	0	64	9	64	0	73	237
Total Volume	285	68	0	353	75	57	0	132	40	259	0	299	784
% Approach Total	80.7	19.3	0.0		56.8	43.2	0.0		13.4	86.6	0.0		
PHF	0.801	0.630	0.000	0.883	0.408	0.792	0.000	0.516	0.769	0.899	0.000	0.946	0.827
Cars	280	65	0	345	71	56	0	127	38	253	0	291	763
Cars %	98.2	95.6	0.0	97.7	94.7	98.2	0.0	96.2	95.0	97.7	0.0	97.3	97.3
Heavy Vehicles	5	3	0	8	4	1	0	5	2	6	0	8	21
Heavy Vehicles %	1.8	4.4	0.0	2.3	5.3	1.8	0.0	3.8	5.0	2.3	0.0	2.7	2.7
Cars Enter Leg	280	65	0	345	71	56	0	127	38	253	0	291	763
Heavy Enter Leg	5	3	0	8	4	1	0	5	2	6	0	8	21
Total Entering Leg	285	68	0	353	75	57	0	132	40	259	0	299	784
Cars Exiting Leg	324				103				336				763
Heavy Exiting Leg	10				5				6				21
Total Exiting Leg	334				108				342				784

PM Peak Hour Analysis from 2:00 PM to 11:59 PM begins at:

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:15 PM	90	4	0	94	16	42	0	58	14	123	0	137	289
4:30 PM	74	9	0	83	22	59	0	81	22	138	0	160	324
4:45 PM	101	14	0	115	26	67	0	93	29	94	0	123	331
5:00 PM	101	6	0	107	30	46	0	76	18	90	0	108	291
Total Volume	366	33	0	399	94	214	0	308	83	445	0	528	1235
% Approach Total	91.7	8.3	0.0		30.5	69.5	0.0		15.7	84.3	0.0		
PHF	0.906	0.589	0.000	0.867	0.783	0.799	0.000	0.828	0.716	0.806	0.000	0.825	0.933
Cars	362	32	0	394	88	212	0	300	80	438	0	518	1212
Cars %	98.9	97.0	0.0	98.7	93.6	99.1	0.0	97.4	96.4	98.4	0.0	98.1	98.1
Heavy Vehicles	4	1	0	5	6	2	0	8	3	7	0	10	23
Heavy Vehicles %	1.1	3.0	0.0	1.3	6.4	0.9	0.0	2.6	3.6	1.6	0.0	1.9	1.9

h) @ 228952 I
 O S: Hartwell Road
 O E: Concord Road (Route 62) W: Concord Road (Route 62)
 # o Concoctd, MA
 # McFarland Johnson/S. Ireland
 o # TBD
 #) Thursday, December 1, 2022
 o u 12:00 AM
 - u 11:59 PM
 #



PRECISION
 D A T A
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

#	k	k			=	k			#	k	k		
u	O	yu	u		k	O	yu	u	k	u	yu	u	u

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
12:00 AM	5	0	0	5	5	0	0	5	0	0	0	0	10
12:15 AM	4	0	0	4	2	0	0	2	1	0	0	1	7
12:30 AM	1	0	0	1	2	0	0	2	0	2	0	2	5
12:45 AM	1	0	0	1	1	1	0	2	0	0	0	0	3
Total	11	0	0	11	10	1	0	11	1	2	0	3	25
1:00 AM	0	0	0	0	6	0	0	6	0	0	0	0	6
1:15 AM	2	1	0	3	2	0	0	2	0	0	0	0	5
1:30 AM	0	0	0	0	4	0	0	4	0	1	0	1	5
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	1	0	3	12	0	0	12	0	1	0	1	16
2:00 AM	1	1	0	2	1	0	0	1	0	1	0	1	4
2:15 AM	0	1	0	1	0	0	0	0	0	1	0	1	2
2:30 AM	0	4	0	4	0	0	0	0	0	1	0	1	5
2:45 AM	1	3	0	4	0	0	0	0	0	1	0	1	5
Total	2	9	0	11	1	0	0	1	0	4	0	4	16
3:00 AM	0	3	0	3	1	0	0	1	0	1	0	1	5
3:15 AM	0	5	0	5	0	0	0	0	0	1	0	1	6
3:30 AM	0	7	0	7	0	0	0	0	1	1	0	2	9
3:45 AM	0	15	0	15	1	0	0	1	0	2	0	2	18
Total	0	30	0	30	2	0	0	2	1	5	0	6	38
4:00 AM	0	2	0	2	1	0	0	1	1	0	0	1	4
4:15 AM	4	7	0	11	0	0	0	0	0	0	0	0	11
4:30 AM	3	8	0	11	0	0	0	0	0	2	0	2	13
4:45 AM	6	40	0	46	3	0	0	3	2	6	0	8	57
Total	13	57	0	70	4	0	0	4	3	8	0	11	85
5:00 AM	6	14	0	20	1	0	0	1	0	3	0	3	24
5:15 AM	3	8	0	11	0	2	0	2	1	10	0	11	24
5:30 AM	15	21	0	36	0	1	0	1	1	15	0	16	53
5:45 AM	15	22	0	37	2	2	0	4	4	15	0	19	60
Total	39	65	0	104	3	5	0	8	6	43	0	49	161
6:00 AM	21	17	0	38	3	0	0	3	7	14	0	21	62
6:15 AM	25	10	0	35	2	1	0	3	5	26	0	31	69
6:30 AM	45	8	0	53	0	2	0	2	5	42	0	47	102
6:45 AM	54	17	0	71	1	5	0	6	6	46	0	52	129
Total	145	52	0	197	6	8	0	14	23	128	0	151	362
7:00 AM	66	27	0	93	0	10	1	11	10	42	0	52	156
7:15 AM	100	14	0	114	10	8	0	18	25	70	0	95	227
7:30 AM	139	29	0	168	11	9	0	20	27	69	0	96	284
7:45 AM	86	21	0	107	6	10	0	16	31	55	0	86	209
Total	391	91	0	482	27	37	1	65	93	236	0	329	876
8:00 AM	116	29	0	145	4	9	0	13	35	64	0	99	257
8:15 AM	122	18	0	140	8	9	0	17	25	90	0	115	272
8:30 AM	115	26	0	141	7	4	0	11	23	65	0	88	240
8:45 AM	141	25	0	166	4	11	0	15	31	90	0	121	302
Total	494	98	0	592	23	33	0	56	114	309	0	423	1071
9:00 AM	90	25	0	115	3	13	0	16	17	126	0	143	274
9:15 AM	65	14	0	79	0	9	0	9	22	93	0	115	203
9:30 AM	59	4	0	63	2	7	0	9	8	61	0	69	141
9:45 AM	48	10	0	58	3	3	0	6	7	45	0	52	116
Total	262	53	0	315	8	32	0	40	54	325	0	379	734
10:00 AM	56	5	0	61	5	5	0	10	4	51	0	55	126
10:15 AM	45	7	0	52	4	5	0	9	6	48	0	54	115
10:30 AM	50	9	0	59	4	6	0	10	3	53	0	56	125
10:45 AM	52	6	0	58	3	4	0	7	6	43	0	49	114
Total	203	27	0	230	16	20	0	36	19	195	0	214	480
11:00 AM	47	3	0	50	9	4	0	13	6	64	0	70	133
11:15 AM	41	12	0	53	10	4	0	14	8	50	0	58	125
11:30 AM	48	7	0	55	11	6	0	17	9	63	0	72	144
11:45 AM	62	4	0	66	25	8	0	33	9	59	0	68	167
Total	198	26	0	224	55	22	0	77	32	236	0	268	569
12:00 PM	57	5	0	62	13	7	0	20	6	70	0	76	158
12:15 PM	70	3	0	73	6	11	0	17	7	81	0	88	178
12:30 PM	65	5	0	70	18	10	0	28	4	58	0	62	160

PDI File #: **228952 I**
 Location: **S: Hartwell Road**
 Location: **E: Concord Road (Route 62) W: Concord Road (Route 62)**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
12:45 PM	60	10	0	70	13	10	0	23	8	50	0	58	151
Total	252	23	0	275	50	38	0	88	25	259	0	284	647
1:00 PM	56	11	0	67	11	6	0	17	4	53	0	57	141
1:15 PM	46	12	0	58	10	10	0	20	4	40	0	44	122
1:30 PM	51	11	0	62	45	10	0	55	8	52	0	60	177
1:45 PM	51	20	0	71	6	13	0	19	5	71	0	76	166
Total	204	54	0	258	72	39	0	111	21	216	0	237	606
2:00 PM	69	7	0	76	11	15	0	26	13	55	0	68	170
2:15 PM	72	27	0	99	9	11	0	20	11	67	0	78	197
2:30 PM	88	11	0	99	45	17	0	62	9	60	0	69	230
2:45 PM	76	10	0	86	11	12	0	23	21	81	0	102	211
Total	305	55	0	360	76	55	0	131	54	263	0	317	808
3:00 PM	73	4	0	77	20	15	0	35	18	96	0	114	226
3:15 PM	86	6	0	92	6	18	0	24	15	117	0	132	248
3:30 PM	88	3	0	91	24	19	0	43	23	100	0	123	257
3:45 PM	76	5	0	81	11	24	0	35	16	110	0	126	242
Total	323	18	0	341	61	76	0	137	72	423	0	495	973
4:00 PM	79	6	0	85	24	30	0	54	12	123	0	135	274
4:15 PM	88	4	0	92	16	42	0	58	13	116	0	129	279
4:30 PM	74	8	0	82	21	58	0	79	21	138	0	159	320
4:45 PM	101	14	0	115	24	67	0	91	28	94	0	122	328
Total	342	32	0	374	85	197	0	282	74	471	0	545	1201
5:00 PM	99	6	0	105	27	45	0	72	18	90	0	108	285
5:15 PM	94	6	0	100	24	45	0	69	17	87	0	104	273
5:30 PM	71	6	0	77	13	50	0	63	9	61	0	70	210
5:45 PM	86	9	0	95	14	27	0	41	17	59	0	76	212
Total	350	27	0	377	78	167	0	245	61	297	0	358	980
6:00 PM	88	1	0	89	16	31	0	47	8	64	0	72	208
6:15 PM	68	4	0	72	10	33	0	43	8	50	0	58	173
6:30 PM	57	9	0	66	4	16	0	20	9	59	0	68	154
6:45 PM	45	8	0	53	4	5	0	9	8	43	0	51	113
Total	258	22	0	280	34	85	0	119	33	216	0	249	648
7:00 PM	57	6	0	63	16	9	0	25	17	35	0	52	140
7:15 PM	37	1	0	38	4	12	0	16	6	40	0	46	100
7:30 PM	42	8	0	50	4	10	0	14	3	39	0	42	106
7:45 PM	32	15	0	47	6	5	0	11	11	22	0	33	91
Total	168	30	0	198	30	36	0	66	37	136	0	173	437
8:00 PM	30	13	0	43	19	4	0	23	7	23	0	30	96
8:15 PM	31	2	0	33	7	6	0	13	2	17	0	19	65
8:30 PM	21	4	0	25	4	7	0	11	1	25	0	26	62
8:45 PM	34	5	0	39	1	1	0	2	0	24	0	24	65
Total	116	24	0	140	31	18	0	49	10	89	0	99	288
9:00 PM	23	7	0	30	9	9	0	18	3	18	0	21	69
9:15 PM	24	7	0	31	7	3	0	10	1	17	0	18	59
9:30 PM	13	1	0	14	8	7	0	15	1	17	0	18	47
9:45 PM	10	1	0	11	1	2	0	3	3	18	0	21	35
Total	70	16	0	86	25	21	0	46	8	70	0	78	210
10:00 PM	11	2	0	13	1	0	0	1	0	18	0	18	32
10:15 PM	12	0	0	12	1	0	0	1	0	14	0	14	27
10:30 PM	12	1	0	13	13	3	0	16	3	9	0	12	41
10:45 PM	10	0	0	10	7	1	0	8	1	12	0	13	31
Total	45	3	0	48	22	4	0	26	4	53	0	57	131
11:00 PM	6	1	0	7	9	3	0	12	1	14	0	15	34
11:15 PM	6	0	0	6	4	0	0	4	0	5	0	5	15
11:30 PM	4	0	0	4	2	0	0	2	0	5	0	5	11
11:45 PM	2	0	0	2	1	0	0	1	0	3	0	3	6
Total	18	1	0	19	16	3	0	19	1	27	0	28	66
Grand Total	4211	814	0	5025	747	897	1	1645	746	4012	0	4758	11428
Approach %	83.8	16.2	0.0		45.4	54.5	0.1		15.7	84.3	0.0		
Total %	36.8	7.1	0.0	44.0	6.5	7.8	0.0	14.4	6.5	35.1	0.0	41.6	
Exiting Leg Total				4759				1561				5108	11428

PDI File #: **228952 I**
 Location: **S: Hartwell Road**
 Location: **E: Concord Road (Route 62) W: Concord Road (Route 62)**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**
 Class:



Cars

Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
from East				from South				from West				
Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	

AM Peak Hour Analysis from 12:00 AM to 10:00 AM begins at:

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
8:15 AM	122	18	0	140	8	9	0	17	25	90	0	115	272
8:30 AM	115	26	0	141	7	4	0	11	23	65	0	88	240
8:45 AM	141	25	0	166	4	11	0	15	31	90	0	121	302
9:00 AM	90	25	0	115	3	13	0	16	17	126	0	143	274
Total Volume	468	94	0	562	22	37	0	59	96	371	0	467	1088
% Approach Total	83.3	16.7	0.0		37.3	62.7	0.0		20.6	79.4	0.0		
PHF	0.830	0.904	0.000	0.846	0.688	0.712	0.000	0.868	0.774	0.736	0.000	0.816	0.901
Entering Leg	468	94	0	562	22	37	0	59	96	371	0	467	1088
Exiting Leg				393				190				505	1088
Total				955				249				972	2176

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
1:45 PM	51	20	0	71	6	13	0	19	5	71	0	76	166
2:00 PM	69	7	0	76	11	15	0	26	13	55	0	68	170
2:15 PM	72	27	0	99	9	11	0	20	11	67	0	78	197
2:30 PM	88	11	0	99	45	17	0	62	9	60	0	69	230
Total Volume	280	65	0	345	71	56	0	127	38	253	0	291	763
% Approach Total	81.2	18.8	0.0		55.9	44.1	0.0		13.1	86.9	0.0		
PHF	0.795	0.602	0.000	0.871	0.394	0.824	0.000	0.512	0.731	0.891	0.000	0.933	0.829
Entering Leg	280	65	0	345	71	56	0	127	38	253	0	291	763
Exiting Leg				324				103				336	763
Total				669				230				627	1526

PM Peak Hour Analysis from 2:00 PM to 11:59 PM begins at:

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:15 PM	88	4	0	92	16	42	0	58	13	116	0	129	279
4:30 PM	74	8	0	82	21	58	0	79	21	138	0	159	320
4:45 PM	101	14	0	115	24	67	0	91	28	94	0	122	328
5:00 PM	99	6	0	105	27	45	0	72	18	90	0	108	285
Total Volume	362	32	0	394	88	212	0	300	80	438	0	518	1212
% Approach Total	91.9	8.1	0.0		29.3	70.7	0.0		15.4	84.6	0.0		
PHF	0.896	0.571	0.000	0.857	0.815	0.791	0.000	0.824	0.714	0.793	0.000	0.814	0.924
Entering Leg	362	32	0	394	88	212	0	300	80	438	0	518	1212
Exiting Leg				526				112				574	1212
Total				920				412				1092	2424

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concoctd, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	0	0	0	1	0	0	1	0	0	0	0	1
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	1	0	0	1	1
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	1	0	1	0	0	0	0	0	1	0	1	2
5:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	1	1	0	2	3
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
6:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
6:45 AM	1	1	0	2	0	0	0	0	0	3	0	3	5
Total	1	1	0	2	1	1	0	2	0	3	0	3	7
7:00 AM	2	0	0	2	0	0	0	0	0	2	0	2	4
7:15 AM	0	0	0	0	0	1	0	1	0	2	0	2	3
7:30 AM	5	0	0	5	0	0	0	0	1	0	0	1	6
7:45 AM	3	0	0	3	1	0	0	1	0	1	0	1	5
Total	10	0	0	10	1	1	0	2	1	5	0	6	18
8:00 AM	6	0	0	6	1	0	0	1	1	5	0	6	13
8:15 AM	2	3	0	5	0	0	0	0	1	0	0	1	6
8:30 AM	4	0	0	4	0	0	0	0	1	1	0	2	6
8:45 AM	12	1	0	13	1	2	0	3	0	3	0	3	19
Total	24	4	0	28	2	2	0	4	3	9	0	12	44
9:00 AM	2	0	0	2	0	0	0	0	0	13	0	13	15
9:15 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
9:30 AM	4	0	0	4	0	0	0	0	1	1	0	2	6
9:45 AM	6	0	0	6	0	1	0	1	0	2	0	2	9
Total	13	0	0	13	0	1	0	1	1	17	0	18	32
10:00 AM	3	3	0	6	0	1	0	1	0	2	0	2	9
10:15 AM	1	0	0	1	1	1	0	2	0	5	0	5	8
10:30 AM	3	2	0	5	1	0	0	1	0	0	0	0	6
10:45 AM	1	0	0	1	1	0	0	1	1	0	0	1	3
Total	8	5	0	13	3	2	0	5	1	7	0	8	26
11:00 AM	0	1	0	1	1	0	0	1	1	3	0	4	6
11:15 AM	3	0	0	3	1	1	0	2	1	2	0	3	8
11:30 AM	4	1	0	5	0	1	0	1	0	1	0	1	7
11:45 AM	1	0	0	1	0	1	0	1	2	5	0	7	9
Total	8	2	0	10	2	3	0	5	4	11	0	15	30
12:00 PM	1	0	0	1	1	1	0	2	1	0	0	1	4
12:15 PM	2	1	0	3	1	2	0	3	1	4	0	5	11
12:30 PM	1	1	0	2	1	0	0	1	3	2	0	5	8

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concodt, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
12:45 PM	1	1	0	2	2	0	0	2	0	3	0	3	7
Total	5	3	0	8	5	3	0	8	5	9	0	14	30
1:00 PM	0	1	0	1	0	1	0	1	0	1	0	1	3
1:15 PM	2	0	0	2	0	0	0	0	0	0	0	0	2
1:30 PM	2	1	0	3	1	1	0	2	1	1	0	2	7
1:45 PM	1	2	0	3	1	0	0	1	1	1	0	2	6
Total	5	4	0	9	2	2	0	4	2	3	0	5	18
2:00 PM	2	1	0	3	2	0	0	2	0	1	0	1	6
2:15 PM	1	0	0	1	0	0	0	0	1	0	0	1	2
2:30 PM	1	0	0	1	1	1	0	2	0	4	0	4	7
2:45 PM	2	0	0	2	0	2	0	2	0	2	0	2	6
Total	6	1	0	7	3	3	0	6	1	7	0	8	21
3:00 PM	5	0	0	5	1	0	0	1	0	0	0	0	6
3:15 PM	9	0	0	9	0	3	0	3	3	5	0	8	20
3:30 PM	0	0	0	0	0	1	0	1	0	9	0	9	10
3:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	15	0	0	15	1	4	0	5	3	14	0	17	37
4:00 PM	1	0	0	1	0	0	0	0	0	3	0	3	4
4:15 PM	2	0	0	2	0	0	0	0	1	7	0	8	10
4:30 PM	0	1	0	1	1	1	0	2	1	0	0	1	4
4:45 PM	0	0	0	0	2	0	0	2	1	0	0	1	3
Total	3	1	0	4	3	1	0	4	3	10	0	13	21
5:00 PM	2	0	0	2	3	1	0	4	0	0	0	0	6
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
5:45 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
Total	3	0	0	3	3	1	0	4	0	3	0	3	10
6:00 PM	1	1	0	2	0	0	0	0	0	1	0	1	3
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	1	1	0	2	0	0	0	0	0	3	0	3	5
6:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
Total	2	2	0	4	0	0	0	0	0	6	0	6	10
7:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
7:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
7:30 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	0	4	0	4	5
8:00 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
8:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	2	0	3	3
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	0	0	0	0	1
Grand Total	105	24	0	129	27	24	0	51	27	111	0	138	318
Approach %	81.4	18.6	0.0		52.9	47.1	0.0		19.6	80.4	0.0		
Total %	33.0	7.5	0.0	40.6	8.5	7.5	0.0	16.0	8.5	34.9	0.0	43.4	
Exiting Leg Total				138				51				129	318
Buses	32	1	0	33	2	6	0	8	1	36	0	37	78

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concodt, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
% Buses	30.5	4.2	0.0	25.6	7.4	25.0	0.0	15.7	3.7	32.4	0.0	26.8	24.5
Exiting Leg Total	38				2				38				78
Single-Unit Trucks	67	20	0	87	22	12	0	34	21	68	0	89	210
% Single-Unit	63.8	83.3	0.0	67.4	81.5	50.0	0.0	66.7	77.8	61.3	0.0	64.5	66.0
Exiting Leg Total	90				41				79				210
Articulated Trucks	6	3	0	9	3	6	0	9	5	7	0	12	30
% Articulated	5.7	12.5	0.0	7.0	11.1	25.0	0.0	17.6	18.5	6.3	0.0	8.7	9.4
Exiting Leg Total	10				8				12				30

AM Peak Hour Analysis from 12:00 AM to 10:00 AM begins at:

8:15 AM	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total	
	from East				from South				from West					
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total		
8:15 AM	2	3	0	5	0	0	0	0	0	1	0	0	1	6
8:30 AM	4	0	0	4	0	0	0	0	0	1	1	0	2	6
8:45 AM	12	1	0	13	1	2	0	3	0	3	0	3	19	
9:00 AM	2	0	0	2	0	0	0	0	0	0	13	0	13	15
Total Volume	20	4	0	24	1	2	0	3	2	17	0	19	46	
% Approach Total	83.3	16.7	0.0		33.3	66.7	0.0		10.5	89.5	0.0			
PHF	0.417	0.333	0.000	0.462	0.250	0.250	0.000	0.250	0.500	0.327	0.000	0.365	0.605	
Buses	10	0	0	10	0	2	0	2	0	15	0	15	27	
Buses %	50.0	0.0	0.0	41.7	0.0	100.0	0.0	66.7	0.0	88.2	0.0	78.9	58.7	
Single-Unit Trucks	9	3	0	12	1	0	0	1	1	2	0	3	16	
Single-Unit %	45.0	75.0	0.0	50.0	100.0	0.0	0.0	33.3	50.0	11.8	0.0	15.8	34.8	
Articulated Trucks	1	1	0	2	0	0	0	0	1	0	0	1	3	
Articulated %	5.0	25.0	0.0	8.3	0.0	0.0	0.0	0.0	50.0	0.0	0.0	5.3	6.5	
Buses	10	0	0	10	0	2	0	2	0	15	0	15	27	
Single-Unit Trucks	9	3	0	12	1	0	0	1	1	2	0	3	16	
Articulated Trucks	1	1	0	2	0	0	0	0	1	0	0	1	3	
Total Entering Leg	20	4	0	24	1	2	0	3	2	17	0	19	46	
Buses													15	
Single-Unit Trucks													3	
Articulated Trucks													0	
Total Exiting Leg	18				6				22				46	

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

11:45 AM	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
11:45 AM	1	0	0	1	0	1	0	1	2	5	0	7	9
12:00 PM	1	0	0	1	1	1	0	2	1	0	0	1	4
12:15 PM	2	1	0	3	1	2	0	3	1	4	0	5	11
12:30 PM	1	1	0	2	1	0	0	1	3	2	0	5	8
Total Volume	5	2	0	7	3	4	0	7	7	11	0	18	32
% Approach Total	71.4	28.6	0.0		42.9	57.1	0.0		38.9	61.1	0.0		
PHF	0.625	0.500	0.000	0.583	0.750	0.500	0.000	0.583	0.583	0.550	0.000	0.643	0.727
Buses	0	0	0	0	0	0	0	0	0	1	0	1	1
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	0.0	5.6	3.1
Single-Unit Trucks	5	2	0	7	3	2	0	5	5	8	0	13	25
Single-Unit %	100.0	100.0	0.0	100.0	100.0	50.0	0.0	71.4	71.4	72.7	0.0	72.2	78.1
Articulated Trucks	0	0	0	0	0	2	0	2	2	2	0	4	6
Articulated %	0.0	0.0	0.0	0.0	0.0	50.0	0.0	28.6	28.6	18.2	0.0	22.2	18.8
Buses	0	0	0	0	0	0	0	0	0	1	0	1	1
Single-Unit Trucks	5	2	0	7	3	2	0	5	5	8	0	13	25
Articulated Trucks	0	0	0	0	0	2	0	2	2	2	0	4	6
Total Entering Leg	5	2	0	7	3	4	0	7	7	11	0	18	32
Buses													1
Single-Unit Trucks													7
Articulated Trucks													2
Total Exiting Leg	14				9				9				32

PM Peak Hour Analysis from 2:00 PM to 11:59 PM begins at:

2:45 PM	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	

PDI File #: **228952 I**
 Location: **S: Hartwell Road**
 Location: **E: Concord Road (Route 62) W: Concord Road (Route 62)**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**



**PRECISION
D A T A
INDUSTRIES, LLC**

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Class:

Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
2:45 PM	2	0	0	2	0	2	0	2	0	2	0	2	6
3:00 PM	5	0	0	5	1	0	0	1	0	0	0	0	6
3:15 PM	9	0	0	9	0	3	0	3	3	5	0	8	20
3:30 PM	0	0	0	0	0	1	0	1	0	9	0	9	10
Total Volume	16	0	0	16	1	6	0	7	3	16	0	19	42
% Approach Total	100.0	0.0	0.0		14.3	85.7	0.0		15.8	84.2	0.0		
PHF	0.444	0.000	0.000	0.444	0.250	0.500	0.000	0.583	0.250	0.444	0.000	0.528	0.525
Buses	12	0	0	12	0	2	0	2	1	10	0	11	25
Buses %	75.0	0.0	0.0	75.0	0.0	33.3	0.0	28.6	33.3	62.5	0.0	57.9	59.5
Single-Unit Trucks	3	0	0	3	0	3	0	3	2	4	0	6	12
Single-Unit %	18.8	0.0	0.0	18.8	0.0	50.0	0.0	42.9	66.7	25.0	0.0	31.6	28.6
Articulated Trucks	1	0	0	1	1	1	0	2	0	2	0	2	5
Articulated %	6.3	0.0	0.0	6.3	100.0	16.7	0.0	28.6	0.0	12.5	0.0	10.5	11.9
Buses	12	0	0	12	0	2	0	2	1	10	0	11	25
Single-Unit Trucks	3	0	0	3	0	3	0	3	2	4	0	6	12
Articulated Trucks	1	0	0	1	1	1	0	2	0	2	0	2	5
Total Entering Leg	16	0	0	16	1	6	0	7	3	16	0	19	42
Buses				10				1				14	25
Single-Unit Trucks				4				2				6	12
Articulated Trucks				3				0				2	5
Total Exiting Leg				17				3				22	42

PDI File #: **228952 I**
 Location: **S: Hartwell Road**
 Location: **E: Concord Road (Route 62) W: Concord Road (Route 62)**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**



Buses

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
6:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	1	0	1	1	0	0	1	0	0	0	0	2
7:00 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
7:15 AM	0	0	0	0	0	1	0	1	0	2	0	2	3
7:30 AM	2	0	0	2	0	0	0	0	0	0	0	0	2
7:45 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	4	0	0	4	0	1	0	1	0	3	0	3	8
8:00 AM	0	0	0	0	1	0	0	1	0	3	0	3	4
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
8:45 AM	9	0	0	9	0	2	0	2	0	2	0	2	13
Total	10	0	0	10	1	2	0	3	0	6	0	6	19
9:00 AM	0	0	0	0	0	0	0	0	0	12	0	12	12
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	12	0	12	12
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	2	0	0	2	0	0	0	0	0	0	0	0	2
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1

PDI File #: **228952 I**
 Location: **S: Hartwell Road**
 Location: **E: Concord Road (Route 62) W: Concord Road (Route 62)**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**



Buses

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total	
	from East				from South				from West					
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total		
12:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	2	0	2	2
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	1
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	0	0	0	0	0	1
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	1	0	0	1	0	1	0	1	0	2	0	2	4	4
2:45 PM	1	0	0	1	0	0	0	0	0	1	0	1	2	2
Total	2	0	0	2	0	1	0	1	0	3	0	3	6	6
3:00 PM	5	0	0	5	0	0	0	0	0	0	0	0	5	5
3:15 PM	6	0	0	6	0	2	0	2	1	4	0	5	13	13
3:30 PM	0	0	0	0	0	0	0	0	0	5	0	5	5	5
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	11	0	0	11	0	2	0	2	1	9	0	10	23	23
4:00 PM	1	0	0	1	0	0	0	0	0	1	0	1	2	2
4:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	2	0	0	0	0	0	1	0	1	3	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	32	1	0	33	2	6	0	8	1	36	0	37	78	78
Approach %	97.0	3.0	0.0		25.0	75.0	0.0		2.7	97.3	0.0			
Total %	41.0	1.3	0.0	42.3	2.6	7.7	0.0	10.3	1.3	46.2	0.0	47.4		
Exiting Leg Total				38				2				38		78

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM
 Class:



Buses

Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
from East				from South				from West				
Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	

AM Peak Hour Analysis from 12:00 AM to 10:00 AM begins at:

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
8:45 AM	9	0	0	9	0	2	0	2	0	2	0	2	13
9:00 AM	0	0	0	0	0	0	0	0	0	12	0	12	12
Total Volume	10	0	0	10	0	2	0	2	0	15	0	15	27
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	100.0	0.0		
PHF	0.278	0.000	0.000	0.278	0.000	0.250	0.000	0.250	0.000	0.313	0.000	0.313	0.519
Entering Leg	10	0	0	10	0	2	0	2	0	15	0	15	27
Exiting Leg				15				0				12	27
Total				25				2				27	54

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	1	0	0	1	0	1	0	1	0	2	0	2	4
Total Volume	1	0	0	1	0	1	0	1	0	2	0	2	4
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	100.0	0.0		
PHF	0.250	0.000	0.000	0.250	0.000	0.250	0.000	0.250	0.000	0.250	0.000	0.250	0.250
Entering Leg	1	0	0	1	0	1	0	1	0	2	0	2	4
Exiting Leg				2				0				2	4
Total				3				1				4	8

PM Peak Hour Analysis from 2:00 PM to 11:59 PM begins at:

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
2:45 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
3:00 PM	5	0	0	5	0	0	0	0	0	0	0	0	5
3:15 PM	6	0	0	6	0	2	0	2	1	4	0	5	13
3:30 PM	0	0	0	0	0	0	0	0	0	5	0	5	5
Total Volume	12	0	0	12	0	2	0	2	1	10	0	11	25
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		9.1	90.9	0.0		
PHF	0.500	0.000	0.000	0.500	0.000	0.250	0.000	0.250	0.250	0.500	0.000	0.550	0.481
Entering Leg	12	0	0	12	0	2	0	2	1	10	0	11	25
Exiting Leg				10				1				14	25
Total				22				3				25	50

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concoctd, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Single-Unit Trucks

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	0	0	0	1	0	0	1	0	0	0	0	1
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	1	0	0	1	1
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
5:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	1	0	2	2
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	1	0	0	1	0	0	0	0	0	3	0	3	4
Total	1	0	0	1	0	1	0	1	0	3	0	3	5
7:00 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	3	0	0	3	0	0	0	0	1	0	0	1	4
7:45 AM	2	0	0	2	1	0	0	1	0	1	0	1	4
Total	6	0	0	6	1	0	0	1	1	2	0	3	10
8:00 AM	6	0	0	6	0	0	0	0	1	2	0	3	9
8:15 AM	1	2	0	3	0	0	0	0	0	0	0	0	3
8:30 AM	3	0	0	3	0	0	0	0	1	0	0	1	4
8:45 AM	3	1	0	4	1	0	0	1	0	1	0	1	6
Total	13	3	0	16	1	0	0	1	2	3	0	5	22
9:00 AM	2	0	0	2	0	0	0	0	0	1	0	1	3
9:15 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
9:30 AM	4	0	0	4	0	0	0	0	1	1	0	2	6
9:45 AM	6	0	0	6	0	0	0	0	0	2	0	2	8
Total	13	0	0	13	0	0	0	0	1	5	0	6	19
10:00 AM	3	2	0	5	0	1	0	1	0	2	0	2	8
10:15 AM	0	0	0	0	1	1	0	2	0	5	0	5	7
10:30 AM	2	2	0	4	1	0	0	1	0	0	0	0	5
10:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	5	4	0	9	3	2	0	5	0	7	0	7	21
11:00 AM	0	1	0	1	0	0	0	0	1	3	0	4	5
11:15 AM	3	0	0	3	1	1	0	2	1	2	0	3	8
11:30 AM	4	1	0	5	0	1	0	1	0	1	0	1	7
11:45 AM	1	0	0	1	0	0	0	0	0	4	0	4	5
Total	8	2	0	10	1	2	0	3	2	10	0	12	25
12:00 PM	1	0	0	1	1	0	0	1	1	0	0	1	3
12:15 PM	2	1	0	3	1	2	0	3	1	3	0	4	10
12:30 PM	1	1	0	2	1	0	0	1	3	1	0	4	7

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concoctd, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM



PRECISION
 D A T A
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Single-Unit Trucks

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
12:45 PM	0	1	0	1	2	0	0	2	0	2	0	2	5
Total	4	3	0	7	5	2	0	7	5	6	0	11	25
1:00 PM	0	1	0	1	0	1	0	1	0	1	0	1	3
1:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
1:30 PM	1	1	0	2	1	0	0	1	1	1	0	2	5
1:45 PM	1	2	0	3	1	0	0	1	1	1	0	2	6
Total	3	4	0	7	2	1	0	3	2	3	0	5	15
2:00 PM	2	1	0	3	2	0	0	2	0	1	0	1	6
2:15 PM	1	0	0	1	0	0	0	0	1	0	0	1	2
2:30 PM	0	0	0	0	1	0	0	1	0	2	0	2	3
2:45 PM	1	0	0	1	0	1	0	1	0	0	0	0	2
Total	4	1	0	5	3	1	0	4	1	3	0	4	13
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	2	0	0	2	0	1	0	1	2	1	0	3	6
3:30 PM	0	0	0	0	0	1	0	1	0	3	0	3	4
3:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	3	0	0	3	0	2	0	2	2	4	0	6	11
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	1	7	0	8	8
4:30 PM	0	1	0	1	0	1	0	1	0	0	0	0	2
4:45 PM	0	0	0	0	2	0	0	2	1	0	0	1	3
Total	0	1	0	1	2	1	0	3	2	8	0	10	14
5:00 PM	2	0	0	2	3	0	0	3	0	0	0	0	5
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
5:45 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
Total	3	0	0	3	3	0	0	3	0	3	0	3	9
6:00 PM	1	1	0	2	0	0	0	0	0	1	0	1	3
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	1	1	0	2	0	0	0	0	0	1	0	1	3
6:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
Total	2	2	0	4	0	0	0	0	0	4	0	4	8
7:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
7:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
7:30 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	0	4	0	4	5
8:00 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
8:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	2	0	3	3
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	0	0	0	0	1
Grand Total	67	20	0	87	22	12	0	34	21	68	0	89	210
Approach %	77.0	23.0	0.0		64.7	35.3	0.0		23.6	76.4	0.0		
Total %	31.9	9.5	0.0	41.4	10.5	5.7	0.0	16.2	10.0	32.4	0.0	42.4	
Exiting Leg Total	90				41				79				210

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concoth, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM
 Class:



Single-Unit Trucks

Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
from East				from South				from West				
Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	

AM Peak Hour Analysis from 12:00 AM to 10:00 AM begins at:

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
9:30 AM	4	0	0	4	0	0	0	0	1	1	0	2	6
9:45 AM	6	0	0	6	0	0	0	0	0	2	0	2	8
10:00 AM	3	2	0	5	0	1	0	1	0	2	0	2	8
10:15 AM	0	0	0	0	1	1	0	2	0	5	0	5	7
Total Volume	13	2	0	15	1	2	0	3	1	10	0	11	29
% Approach Total	86.7	13.3	0.0		33.3	66.7	0.0		9.1	90.9	0.0		
PHF	0.542	0.250	0.000	0.625	0.250	0.500	0.000	0.375	0.250	0.500	0.000	0.550	0.906
Entering Leg	13	2	0	15	1	2	0	3	1	10	0	11	29
Exiting Leg				11				3				15	29
Total				26				6				26	58

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
11:00 AM	0	1	0	1	0	0	0	0	1	3	0	4	5
11:15 AM	3	0	0	3	1	1	0	2	1	2	0	3	8
11:30 AM	4	1	0	5	0	1	0	1	0	1	0	1	7
11:45 AM	1	0	0	1	0	0	0	0	0	4	0	4	5
Total Volume	8	2	0	10	1	2	0	3	2	10	0	12	25
% Approach Total	80.0	20.0	0.0		33.3	66.7	0.0		16.7	83.3	0.0		
PHF	0.500	0.500	0.000	0.500	0.250	0.500	0.000	0.375	0.500	0.625	0.000	0.750	0.781
Entering Leg	8	2	0	10	1	2	0	3	2	10	0	12	25
Exiting Leg				11				4				10	25
Total				21				7				22	50

PM Peak Hour Analysis from 2:00 PM to 11:59 PM begins at:

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:15 PM	0	0	0	0	0	0	0	0	1	7	0	8	8
4:30 PM	0	1	0	1	0	1	0	1	0	0	0	0	2
4:45 PM	0	0	0	0	2	0	0	2	1	0	0	1	3
5:00 PM	2	0	0	2	3	0	0	3	0	0	0	0	5
Total Volume	2	1	0	3	5	1	0	6	2	7	0	9	18
% Approach Total	66.7	33.3	0.0		83.3	16.7	0.0		22.2	77.8	0.0		
PHF	0.250	0.250	0.000	0.375	0.417	0.250	0.000	0.500	0.500	0.250	0.000	0.281	0.563
Entering Leg	2	1	0	3	5	1	0	6	2	7	0	9	18
Exiting Leg				12				3				3	18
Total				15				9				12	36

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concoctd, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM



PRECISION
 D A T A
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Articulated Trucks

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	1
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	1	0	2	0	0	0	0	1	0	0	1	3
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	2	0	0	0	0	1	0	0	1	3
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	1	0	1	0	0	0	0	1
10:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
10:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	1	1	0	2	0	0	0	0	1	0	0	1	3
11:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	1	0	1	2	1	0	3	4
Total	0	0	0	0	1	1	0	2	2	1	0	3	5
12:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concoctd, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM



PRECISION
 D A T A
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Articulated Trucks

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
12:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	1	0	0	1	0	1	0	1	0	1	0	1	3
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	1	0	1	0	0	0	0	2
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	1	0	1	0	1	0	1	2
Total	0	0	0	0	0	1	0	1	0	1	0	1	2
3:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
3:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	1	0	0	1	0	1	0	1	3
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	1	0	0	1	1	0	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	1	0	0	1	1	1	0	2	4
5:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	1
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	2	0	2	2
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	6	3	0	9	3	6	0	9	5	7	0	12	30
Approach %	66.7	33.3	0.0		33.3	66.7	0.0		41.7	58.3	0.0		
Total %	20.0	10.0	0.0	30.0	10.0	20.0	0.0	30.0	16.7	23.3	0.0	40.0	
Exiting Leg Total	10				8				12				30

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM
 Class:



Articulated Trucks

Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
from East				from South				from West				
Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	

AM Peak Hour Analysis from 12:00 AM to 10:00 AM begins at:

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	1	0	2	0	0	0	0	1	0	0	1	3
Total Volume	1	1	0	2	0	0	0	0	1	0	0	1	3
% Approach Total	50.0	50.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
PHF	0.250	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.250
Entering Leg	1	1	0	2	0	0	0	0	1	0	0	1	3
Exiting Leg				0				2				1	3
Total				2				2				2	6

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	1	0	1	2	1	0	3	4
12:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	2	0	2	2	2	0	4	6
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		50.0	50.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.250	0.500	0.000	0.333	0.375
Entering Leg	0	0	0	0	0	2	0	2	2	2	0	4	6
Exiting Leg				2				2				2	6
Total				2				4				6	12

PM Peak Hour Analysis from 2:00 PM to 11:59 PM begins at:

	Concord Road (Route 62)				Hartwell Road				Concord Road (Route 62)				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
2:45 PM	0	0	0	0	0	1	0	1	0	1	0	1	2
3:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
3:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	1	0	0	1	1	1	0	2	0	2	0	2	5
% Approach Total	100.0	0.0	0.0		50.0	50.0	0.0		0.0	100.0	0.0		
PHF	0.250	0.000	0.000	0.250	0.250	0.250	0.000	0.500	0.000	0.500	0.000	0.500	0.625
Entering Leg	1	0	0	1	1	1	0	2	0	2	0	2	5
Exiting Leg				3				0				2	5
Total				4				2				4	10

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM
 Class:



Bicycles (on Roadway and Crosswalks)

	Concord Road (Route 62)							Hartwell Road							Concord Road (Route 62)							Total
	from East							from South							from West							
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total				
12:00 AM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1		
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1		
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1		
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1		
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:45 AM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1		
Total	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1		
12:00 PM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1		
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM
 Class:



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Concord Road (Route 62)							Hartwell Road					Concord Road (Route 62)						Total
	from East							from South					from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	5	0	0	0	0	5	0	0	0	1	0	1	0	4	0	0	0	4	10
Approach %	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0	0.0		
Total %	50.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	10.0	0.0	10.0	0.0	40.0	0.0	0.0	0.0	40.0	

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concodt, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM
 Class:



Bicycles (on Roadway and Crosswalks)

	Concord Road (Route 62)						Hartwell Road						Concord Road (Route 62)						Total
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	
Exiting Leg Total	4						1						5						10

AM Peak Hour Analysis from 12:00 AM to 10:00 AM begins at:

	Concord Road (Route 62)						Hartwell Road						Concord Road (Route 62)						Total
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.500	0.500	
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
Exiting Leg	2						0						0						2
Total	2						0						2						4

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	Concord Road (Route 62)						Hartwell Road						Concord Road (Route 62)						Total
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% Approach Total	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.500	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	
Entering Leg	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Exiting Leg	0						0						0						0
Total	2						0						2						4

PM Peak Hour Analysis from 2:00 PM to 11:59 PM begins at:

	Concord Road (Route 62)						Hartwell Road						Concord Road (Route 62)						Total
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	
Entering Leg	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg	0						0						1						1
Total	1						0						1						2

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM
 Class:



Pedestrians

	Concord Road (Route 62)						Hartwell Road						Concord Road (Route 62)						Total
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
9:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	2
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PDI File #: 228952 I
 Location: S: Hartwell Road
 Location: E: Concord Road (Route 62) W: Concord Road (Route 62)
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM
 Class:



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilic.com

Pedestrians

	Concord Road (Route 62)						Hartwell Road						Concord Road (Route 62)						Total	
	from East						from South						from West							
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total		
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	0	0	0	0	0	4	4	8	0	0	0	0	0	0	8	
Approach %	0	0	0	0	0	0	0	0	0	50	50	100	0	0	0	0	0	0	100	
Total %	0	0	0	0	0	0	0	0	0	50	50	100	0	0	0	0	0	0	100	
Exiting Leg Total	0												8						0	8

PDI File #: **228952 I**
 Location: **S: Hartwell Road**
 Location: **E: Concord Road (Route 62) W: Concord Road (Route 62)**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**
 Class:



Pedestrians

Concord Road (Route 62)							Hartwell Road						Concord Road (Route 62)						Total	
from East							from South						from West							
Thru	Left	U-Turn	CW-SB	CW-NB	Total		Right	Left	U-Turn	CW-WB	CW-EB	Total		Right	Thru	U-Turn	CW-NB	CW-SB		Total

AM Peak Hour Analysis from 12:00 AM to 10:00 AM begins at:

12:00 AM	Concord Road (Route 62)							Hartwell Road						Concord Road (Route 62)						Total		
	from East							from South						from West								
	Thru	Left	U-Turn	CW-SB	CW-NB	Total		Right	Left	U-Turn	CW-WB	CW-EB	Total		Right	Thru	U-Turn	CW-NB	CW-SB		Total	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	2	
Total Volume	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	2	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Entering Leg	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	2	
Exiting Leg	0							0						2						2		
Total	0							4						0						4		

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

10:30 AM	Concord Road (Route 62)							Hartwell Road						Concord Road (Route 62)						Total	
	from East							from South						from West							
	Thru	Left	U-Turn	CW-SB	CW-NB	Total		Right	Left	U-Turn	CW-WB	CW-EB	Total		Right	Thru	U-Turn	CW-NB	CW-SB		Total
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
Exiting Leg	0							1						1						1	
Total	0							2						0						2	

PM Peak Hour Analysis from 2:00 PM to 11:59 PM begins at:

2:00 PM	Concord Road (Route 62)							Hartwell Road						Concord Road (Route 62)						Total	
	from East							from South						from West							
	Thru	Left	U-Turn	CW-SB	CW-NB	Total		Right	Left	U-Turn	CW-WB	CW-EB	Total		Right	Thru	U-Turn	CW-NB	CW-SB		Total
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0							0						0						0	
Total	0							0						0						0	

PDI File #: **228952 J**
 Location: **N: South Road S: South Road**
 Location: **E: driveway W: Hartwell Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	South Road					driveway					South Road					Hartwell Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	6	0	2	0	8	9
12:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	6	0	2	0	8	11
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	1	2
1:15 AM	1	1	0	0	2	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	3
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	1	2
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	0	2	0	0	0	0	0	0	3	0	3	0	0	2	0	2	7	7
2:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	2
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Total	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0	1	1	3
3:00 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
3:45 AM	2	0	0	0	2	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	3
Total	5	0	0	0	5	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	7
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	2	3	3
4:15 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	2	1	0	0	0	1	4	4
4:30 AM	3	0	0	0	3	0	0	0	0	0	0	2	0	2	0	0	1	0	1	6	6
4:45 AM	5	0	0	0	5	0	0	0	0	0	1	1	0	2	0	0	2	0	2	9	9
Total	8	1	0	0	9	0	0	0	0	0	0	1	6	7	3	0	3	0	6	22	22
5:00 AM	0	3	0	0	3	0	0	0	0	0	1	1	0	2	0	0	0	0	0	5	5
5:15 AM	0	1	0	0	1	0	0	0	0	0	2	4	0	6	0	0	1	0	1	8	8
5:30 AM	2	6	0	0	8	0	0	0	0	0	0	5	0	5	2	0	1	0	3	16	16
5:45 AM	7	18	0	0	25	0	0	0	0	0	7	4	0	11	6	0	1	0	7	43	43
Total	9	28	0	0	37	0	0	0	0	0	0	10	14	24	8	0	3	0	11	72	72
6:00 AM	4	20	0	0	24	0	0	0	0	0	11	2	0	13	2	0	1	0	3	40	40
6:15 AM	0	35	0	0	35	0	0	0	0	0	3	7	0	10	5	0	1	0	6	51	51
6:30 AM	6	52	0	0	58	0	0	0	0	0	10	4	0	14	6	0	4	0	10	82	82
6:45 AM	10	55	0	0	65	0	0	0	0	0	5	9	0	14	8	0	5	0	13	92	92
Total	20	162	0	0	182	0	0	0	0	0	0	29	22	51	21	0	11	0	32	265	265
7:00 AM	9	79	0	0	88	0	0	0	0	0	20	16	0	36	11	0	6	0	17	141	141
7:15 AM	19	72	0	0	91	1	0	0	0	1	33	15	0	48	12	0	17	0	29	169	169
7:30 AM	15	98	0	0	113	0	0	0	0	0	53	13	0	66	21	0	13	0	34	213	213
7:45 AM	16	88	0	0	104	0	0	0	0	0	31	22	0	53	13	0	13	0	26	183	183
Total	59	337	0	0	396	1	0	0	0	1	0	137	66	203	57	0	49	0	106	706	706
8:00 AM	12	69	0	0	81	0	0	0	0	0	25	14	0	39	27	0	18	0	45	165	165
8:15 AM	7	74	0	0	81	0	0	0	0	0	26	13	0	39	18	0	10	0	28	148	148
8:30 AM	18	73	0	0	91	0	0	0	0	0	34	16	0	50	16	0	9	0	25	166	166
8:45 AM	15	57	0	0	72	0	0	0	0	0	23	18	0	41	15	0	12	0	27	140	140
Total	52	273	0	0	325	0	0	0	0	0	0	108	61	169	76	0	49	0	125	619	619
9:00 AM	11	57	0	0	68	0	0	0	0	0	24	18	0	42	14	0	9	0	23	133	133
9:15 AM	5	32	0	0	37	0	0	0	0	0	26	16	0	42	15	0	2	0	17	96	96
9:30 AM	7	40	0	0	47	0	0	0	0	0	16	9	0	25	9	0	13	0	22	94	94
9:45 AM	7	14	0	0	21	0	1	0	0	1	16	7	0	23	7	0	14	0	21	66	66
Total	30	143	0	0	173	0	1	0	0	1	0	82	50	132	45	0	38	0	83	389	389
10:00 AM	7	21	0	0	28	0	0	0	0	0	24	3	0	27	5	0	7	0	12	67	67
10:15 AM	7	29	0	0	36	0	0	0	0	0	20	4	0	24	4	0	11	0	15	75	75
10:30 AM	11	26	0	0	37	0	0	0	0	0	29	5	0	34	4	0	3	0	7	78	78
10:45 AM	7	20	0	0	27	0	0	0	0	0	28	1	0	29	7	0	8	0	15	71	71
Total	32	96	0	0	128	0	0	0	0	0	0	101	13	114	20	0	29	0	49	291	291
11:00 AM	8	22	0	0	30	0	0	0	0	0	23	11	0	34	8	0	2	0	10	74	74
11:15 AM	7	23	0	0	30	0	0	0	0	0	27	4	0	31	9	0	6	0	15	76	76
11:30 AM	7	18	0	0	25	0	0	0	0	0	27	7	0	34	11	0	12	0	23	82	82
11:45 AM	12	20	0	0	32	0	0	0	0	0	27	4	0	31	20	0	21	0	41	104	104
Total	34	83	0	0	117	0	0	0	0	0	0	104	26	130	48	0	41	0	89	336	336
12:00 PM	9	17	0	0	26	1	0	0	0	1	33	6	0	39	12	0	17	0	29	95	95
12:15 PM	11	19	1	0	31	0	0	0	0	0	29	10	0	39	11	0	14	0	25	95	95
12:30 PM	8	27	0	0	35	0	0	0	0	0	39	10	0	49	6	0	16	0	22	106	106

PDI File #: **228952 J**
 Location: **N: South Road S: South Road**
 Location: **E: driveway W: Hartwell Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	South Road					driveway					South Road					Hartwell Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
% Cars	97.7	96.8	100.0	0.0	97.0	100.0	100.0	0.0	0.0	100.0	0.0	97.1	97.3	0.0	97.1	97.5	0.0	96.9	0.0	97.2	97.1
Exiting Leg Total	3618					3					2756					1663					8040
Heavy Vehicles	18	66	0	0	84	0	0	0	0	0	0	84	25	0	109	20	0	26	0	46	239
% Heavy Vehicles	2.3	3.2	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	2.7	0.0	2.9	2.5	0.0	3.1	0.0	2.8	2.9
Exiting Leg Total	110					0					86					43					239

AM Peak Hour Analysis from 12:00 AM to 10:00 AM begins at:

	South Road					driveway					South Road					Hartwell Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:15 AM	19	72	0	0	91	1	0	0	0	1	0	33	15	0	48	12	0	17	0	29	169
7:30 AM	15	98	0	0	113	0	0	0	0	0	0	53	13	0	66	21	0	13	0	34	213
7:45 AM	16	88	0	0	104	0	0	0	0	0	0	31	22	0	53	13	0	13	0	26	183
8:00 AM	12	69	0	0	81	0	0	0	0	0	0	25	14	0	39	27	0	18	0	45	165
Total Volume	62	327	0	0	389	1	0	0	0	1	0	142	64	0	206	73	0	61	0	134	730
% Approach Total	15.9	84.1	0.0	0.0		100.0	0.0	0.0	0.0		0.0	68.9	31.1	0.0		54.5	0.0	45.5	0.0		
PHF	0.816	0.834	0.000	0.000	0.861	0.250	0.000	0.000	0.000	0.250	0.000	0.670	0.727	0.000	0.780	0.676	0.000	0.847	0.000	0.744	0.857
Cars	62	321	0	0	383	1	0	0	0	1	0	129	63	0	192	70	0	60	0	130	706
Cars %	100.0	98.2	0.0	0.0	98.5	100.0	0.0	0.0	0.0	100.0	0.0	90.8	98.4	0.0	93.2	95.9	0.0	98.4	0.0	97.0	96.7
Heavy Vehicles	0	6	0	0	6	0	0	0	0	0	0	13	1	0	14	3	0	1	0	4	24
Heavy Vehicles %	0.0	1.8	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	9.2	1.6	0.0	6.8	4.1	0.0	1.6	0.0	3.0	3.3
Cars Enter Leg	62	321	0	0	383	1	0	0	0	1	0	129	63	0	192	70	0	60	0	130	706
Heavy Enter Leg	0	6	0	0	6	0	0	0	0	0	0	13	1	0	14	3	0	1	0	4	24
Total Entering Leg	62	327	0	0	389	1	0	0	0	1	0	142	64	0	206	73	0	61	0	134	730
Cars Exiting Leg	190					0					391					125					706
Heavy Exiting Leg	14					0					9					1					24
Total Exiting Leg	204					0					400					126					730

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	South Road					driveway					South Road					Hartwell Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
1:45 PM	7	20	0	0	27	0	0	0	0	0	0	28	14	0	42	7	0	9	0	16	85
2:00 PM	10	22	0	0	32	0	0	0	0	0	0	35	4	0	39	14	0	14	0	28	99
2:15 PM	11	29	0	0	40	0	0	0	0	0	0	53	11	0	64	10	0	7	0	17	121
2:30 PM	16	54	0	0	70	0	0	0	0	0	0	53	8	0	61	11	0	22	0	33	164
Total Volume	44	125	0	0	169	0	0	0	0	0	0	169	37	0	206	42	0	52	0	94	469
% Approach Total	26.0	74.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	82.0	18.0	0.0		44.7	0.0	55.3	0.0		
PHF	0.688	0.579	0.000	0.000	0.604	0.000	0.000	0.000	0.000	0.000	0.000	0.797	0.661	0.000	0.805	0.750	0.000	0.591	0.000	0.712	0.715
Cars	44	116	0	0	160	0	0	0	0	0	0	162	34	0	196	41	0	48	0	89	445
Cars %	100.0	92.8	0.0	0.0	94.7	0.0	0.0	0.0	0.0	0.0	0.0	95.9	91.9	0.0	95.1	97.6	0.0	92.3	0.0	94.7	94.9
Heavy Vehicles	0	9	0	0	9	0	0	0	0	0	0	7	3	0	10	1	0	4	0	5	24
Heavy Vehicles %	0.0	7.2	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	4.1	8.1	0.0	4.9	2.4	0.0	7.7	0.0	5.3	5.1
Cars Enter Leg	44	116	0	0	160	0	0	0	0	0	0	162	34	0	196	41	0	48	0	89	445
Heavy Enter Leg	0	9	0	0	9	0	0	0	0	0	0	7	3	0	10	1	0	4	0	5	24
Total Entering Leg	44	125	0	0	169	0	0	0	0	0	0	169	37	0	206	42	0	52	0	94	469
Cars Exiting Leg	210					0					157					78					445
Heavy Exiting Leg	11					0					10					3					24
Total Exiting Leg	221					0					167					81					469

PM Peak Hour Analysis from 2:00 PM to 11:59 PM begins at:

	South Road					driveway					South Road					Hartwell Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:15 PM	22	23	0	0	45	0	0	0	0	0	0	158	35	0	193	23	0	19	0	42	280
4:30 PM	14	39	0	0	53	0	0	0	0	0	0	167	51	0	218	17	0	18	0	35	306
4:45 PM	18	32	0	0	50	0	0	0	0	0	0	130	45	0	175	9	0	21	0	30	255
5:00 PM	16	40	0	0	56	0	0	0	0	0	0	158	36	0	194	14	0	30	0	44	294
Total Volume	70	134	0	0	204	0	0	0	0	0	0	613	167	0	780	63	0	88	0	151	1135
% Approach Total	34.3	65.7	0.0	0.0		0.0	0.0	0.0	0.0		0.0	78.6	21.4	0.0		41.7	0.0	58.3	0.0		
PHF	0.795	0.838	0.000	0.000	0.911	0.000	0.000	0.000	0.000	0.000	0.000	0.918	0.819	0.000	0.894	0.685	0.000	0.733	0.000	0.858	0.927
Cars	69	130	0	0	199	0	0	0	0	0	0	606	164	0	770	62	0	86	0	148	1117
Cars %	98.6	97.0	0.0	0.0	97.5	0.0	0.0	0.0	0.0	0.0	0.0	98.9	98.2	0.0	98.7	98.4	0.0	97.7	0.0	98.0	98.4
Heavy Vehicles	1	4	0	0	5	0	0	0	0	0	0	7	3	0	10	1	0	2	0	3	18
Heavy Vehicles %	1.4	3.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.8	0.0	1.3	1.6	0.0	2.3	0.0	2.0	1.6

PDI File #: **228952 J**
 Location: **N: South Road S: South Road**
 Location: **E: driveway W: Hartwell Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**



**PRECISION
D A T A
INDUSTRIES, LLC**

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	South Road					driveway					South Road					Hartwell Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
Cars Enter Leg	69	130	0	0	199	0	0	0	0	0	0	606	164	0	770	62	0	86	0	148	1117
Heavy Enter Leg	1	4	0	0	5	0	0	0	0	0	0	7	3	0	10	1	0	2	0	3	18
Total Entering Leg	70	134	0	0	204	0	0	0	0	0	0	613	167	0	780	63	0	88	0	151	1135
Cars Exiting Leg					692					0					192					233	1117
Heavy Exiting Leg					9					0					5					4	18
Total Exiting Leg					701					0					197					237	1135

PDI File #: **228952 J**
 Location: **N: South Road S: South Road**
 Location: **E: driveway W: Hartwell Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**
 Class:



		Cars																				Total
		South Road					driveway					South Road					Hartwell Road					
		from North					from East					from South					from West					
		Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
12:00 AM		0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	6	0	1	0	7	8
12:15 AM		0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:30 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	6	0	1	0	7	9
1:00 AM		0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
1:15 AM		1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
1:30 AM		0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
1:45 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		1	1	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	2	0	2	7
2:00 AM		1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
2:15 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM		0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total		1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	3
3:00 AM		2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:15 AM		1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:30 AM		0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
3:45 AM		2	0	0	0	2	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	3
Total		5	0	0	0	5	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	7
4:00 AM		0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2	3
4:15 AM		0	1	0	0	1	0	0	0	0	0	0	2	0	2	1	0	0	0	0	1	4
4:30 AM		3	0	0	0	3	0	0	0	0	0	0	2	0	2	0	0	1	0	1	6	
4:45 AM		5	0	0	0	5	0	0	0	0	0	0	1	0	1	0	0	2	0	2	8	
Total		8	1	0	0	9	0	0	0	0	0	0	6	0	6	3	0	3	0	6	21	
5:00 AM		0	3	0	0	3	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	5
5:15 AM		0	1	0	0	1	0	0	0	0	0	2	4	0	6	0	0	1	0	1	8	
5:30 AM		2	6	0	0	8	0	0	0	0	0	0	5	0	5	2	0	1	0	3	16	
5:45 AM		7	17	0	0	24	0	0	0	0	0	7	4	0	11	6	0	1	0	7	42	
Total		9	27	0	0	36	0	0	0	0	0	10	14	0	24	8	0	3	0	11	71	
6:00 AM		4	20	0	0	24	0	0	0	0	0	11	2	0	13	2	0	1	0	3	40	
6:15 AM		0	35	0	0	35	0	0	0	0	0	3	7	0	10	5	0	1	0	6	51	
6:30 AM		5	49	0	0	54	0	0	0	0	0	10	4	0	14	6	0	3	0	9	77	
6:45 AM		9	55	0	0	64	0	0	0	0	0	5	9	0	14	8	0	3	0	11	89	
Total		18	159	0	0	177	0	0	0	0	0	29	22	0	51	21	0	8	0	29	257	
7:00 AM		9	75	0	0	84	0	0	0	0	0	20	14	0	34	11	0	6	0	17	135	
7:15 AM		19	72	0	0	91	1	0	0	1	0	28	15	0	43	11	0	16	0	27	162	
7:30 AM		15	98	0	0	113	0	0	0	0	0	52	13	0	65	21	0	13	0	34	212	
7:45 AM		16	84	0	0	100	0	0	0	0	0	27	21	0	48	12	0	13	0	25	173	
Total		59	329	0	0	388	1	0	0	1	0	127	63	0	190	55	0	48	0	103	682	
8:00 AM		12	67	0	0	79	0	0	0	0	0	22	14	0	36	26	0	18	0	44	159	
8:15 AM		7	71	0	0	78	0	0	0	0	0	23	12	0	35	18	0	9	0	27	140	
8:30 AM		18	71	0	0	89	0	0	0	0	0	32	16	0	48	15	0	9	0	24	161	
8:45 AM		15	55	0	0	70	0	0	0	0	0	21	17	0	38	14	0	12	0	26	134	
Total		52	264	0	0	316	0	0	0	0	0	98	59	0	157	73	0	48	0	121	594	
9:00 AM		10	57	0	0	67	0	0	0	0	0	24	18	0	42	14	0	9	0	23	132	
9:15 AM		5	31	0	0	36	0	0	0	0	0	24	16	0	40	15	0	2	0	17	93	
9:30 AM		6	38	0	0	44	0	0	0	0	0	14	9	0	23	9	0	13	0	22	89	
9:45 AM		6	12	0	0	18	0	1	0	1	0	14	6	0	20	6	0	11	0	17	56	
Total		27	138	0	0	165	0	1	0	1	0	76	49	0	125	44	0	35	0	79	370	
10:00 AM		6	21	0	0	27	0	0	0	0	0	24	3	0	27	5	0	7	0	12	66	
10:15 AM		6	28	0	0	34	0	0	0	0	0	19	4	0	23	4	0	9	0	13	70	
10:30 AM		11	24	0	0	35	0	0	0	0	0	26	4	0	30	4	0	3	0	7	72	
10:45 AM		5	19	0	0	24	0	0	0	0	0	24	1	0	25	6	0	8	0	14	63	
Total		28	92	0	0	120	0	0	0	0	0	93	12	0	105	19	0	27	0	46	271	
11:00 AM		7	21	0	0	28	0	0	0	0	0	22	9	0	31	6	0	2	0	8	67	
11:15 AM		7	23	0	0	30	0	0	0	0	0	27	4	0	31	9	0	6	0	15	76	
11:30 AM		7	16	0	0	23	0	0	0	0	0	26	6	0	32	11	0	12	0	23	78	
11:45 AM		12	19	0	0	31	0	0	0	0	0	26	4	0	30	20	0	21	0	41	102	
Total		33	79	0	0	112	0	0	0	0	0	101	23	0	124	46	0	41	0	87	323	
12:00 PM		9	16	0	0	25	1	0	0	1	0	31	6	0	37	11	0	16	0	27	90	
12:15 PM		11	19	1	0	31	0	0	0	0	0	27	10	0	37	11	0	14	0	25	93	
12:30 PM		8	27	0	0	35	0	0	0	0	0	39	10	0	49	5	0	16	0	21	105	

PDI File #: **228952 J**
Location: **N: South Road S: South Road**
Location: **E: driveway W: Hartwell Road**
City, State: **Concord, MA**
Client: **McFarland Johnson/S. Ireland**
Site Code: **TBD**
Count Date: **Thursday, December 1, 2022**
Start Time: **12:00 AM**
End Time: **11:59 PM**
Class:



PRECISION
DATA
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	South Road					driveway					South Road					Hartwell Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
12:45 PM	21	21	0	0	42	0	0	0	0	0	0	25	6	0	31	6	0	13	0	19	92
Total	49	83	1	0	133	1	0	0	0	1	0	122	32	0	154	33	0	59	0	92	380
1:00 PM	11	16	0	0	27	0	0	0	0	0	0	21	4	0	25	8	0	6	0	14	66
1:15 PM	13	15	0	0	28	0	0	0	0	0	0	30	9	0	39	2	0	9	0	11	78
1:30 PM	10	24	0	0	34	0	0	0	0	0	0	36	8	0	44	10	0	16	0	26	104
1:45 PM	7	19	0	0	26	0	0	0	0	0	0	28	14	0	42	7	0	8	0	15	83
Total	41	74	0	0	115	0	0	0	0	0	0	115	35	0	150	27	0	39	0	66	331
2:00 PM	10	21	0	0	31	0	0	0	0	0	0	32	4	0	36	14	0	13	0	27	94
2:15 PM	11	28	0	0	39	0	0	0	0	0	0	52	10	0	62	9	0	7	0	16	117
2:30 PM	16	48	0	0	64	0	0	0	0	0	0	50	6	0	56	11	0	20	0	31	151
2:45 PM	11	38	0	0	49	0	0	0	0	0	0	38	16	0	54	9	0	15	0	24	127
Total	48	135	0	0	183	0	0	0	0	0	0	172	36	0	208	43	0	55	0	98	489
3:00 PM	10	29	0	0	39	0	0	0	0	0	0	81	8	0	89	13	0	18	0	31	159
3:15 PM	15	25	0	0	40	0	0	0	0	0	0	99	9	0	108	12	0	14	0	26	174
3:30 PM	16	19	0	0	35	0	0	0	0	0	0	149	13	0	162	17	0	16	0	33	230
3:45 PM	14	34	0	0	48	0	0	0	0	0	0	134	11	0	145	14	0	17	0	31	224
Total	55	107	0	0	162	0	0	0	0	0	0	463	41	0	504	56	0	65	0	121	787
4:00 PM	20	27	0	0	47	0	0	0	0	0	0	157	21	0	178	19	0	17	0	36	261
4:15 PM	22	23	0	0	45	0	0	0	0	0	0	158	34	0	192	23	0	19	0	42	279
4:30 PM	13	37	0	0	50	0	0	0	0	0	0	165	51	0	216	16	0	18	0	34	300
4:45 PM	18	30	0	0	48	0	0	0	0	0	0	126	43	0	169	9	0	19	0	28	245
Total	73	117	0	0	190	0	0	0	0	0	0	606	149	0	755	67	0	73	0	140	1085
5:00 PM	16	40	0	0	56	0	0	0	0	0	0	157	36	0	193	14	0	30	0	44	293
5:15 PM	6	35	0	0	41	0	0	0	0	0	0	146	21	0	167	14	0	29	0	43	251
5:30 PM	18	21	0	0	39	0	0	0	0	0	0	99	44	0	143	20	0	23	0	43	225
5:45 PM	29	25	0	0	54	0	0	0	0	0	0	101	40	0	141	9	0	16	0	25	220
Total	69	121	0	0	190	0	0	0	0	0	0	503	141	0	644	57	0	98	0	155	989
6:00 PM	21	37	0	0	58	0	0	0	0	0	0	56	25	0	81	21	0	27	0	48	187
6:15 PM	11	20	0	0	31	0	0	0	0	0	0	36	22	0	58	16	0	21	0	37	126
6:30 PM	12	18	0	0	30	0	0	0	0	0	0	32	12	0	44	11	0	14	0	25	99
6:45 PM	21	19	1	0	41	0	0	0	0	0	0	33	30	0	63	4	0	6	0	10	114
Total	65	94	1	0	160	0	0	0	0	0	0	157	89	0	246	52	0	68	0	120	526
7:00 PM	15	25	0	0	40	0	0	0	0	0	0	24	16	0	40	24	0	17	0	41	121
7:15 PM	13	20	1	0	34	0	0	0	0	0	0	20	10	0	30	22	0	12	0	34	98
7:30 PM	9	20	0	0	29	0	0	0	0	0	0	9	13	0	22	14	0	13	0	27	78
7:45 PM	23	12	0	0	35	0	0	0	0	0	0	10	27	0	37	7	0	7	0	14	86
Total	60	77	1	0	138	0	0	0	0	0	0	63	66	0	129	67	0	49	0	116	383
8:00 PM	18	10	0	0	28	0	0	0	0	0	0	13	13	0	26	20	0	21	0	41	95
8:15 PM	13	6	0	0	19	0	0	0	0	0	0	8	4	0	12	10	0	9	0	19	50
8:30 PM	4	7	0	0	11	0	0	0	0	0	0	7	3	0	10	22	0	11	0	33	54
8:45 PM	5	7	0	0	12	0	0	0	0	0	0	9	3	0	12	3	0	2	0	5	29
Total	40	30	0	0	70	0	0	0	0	0	0	37	23	0	60	55	0	43	0	98	228
9:00 PM	10	12	0	0	22	0	0	0	0	0	0	4	6	0	10	3	0	12	0	15	47
9:15 PM	10	8	0	0	18	0	0	0	0	0	0	5	8	0	13	14	0	3	0	17	48
9:30 PM	2	8	0	0	10	0	0	0	0	0	0	2	3	0	5	15	0	8	0	23	38
9:45 PM	1	6	0	0	7	0	0	0	0	0	0	8	0	0	8	9	0	5	0	14	29
Total	23	34	0	0	57	0	0	0	0	0	0	19	17	0	36	41	0	28	0	69	162
10:00 PM	0	5	0	0	5	0	0	0	0	0	0	5	1	0	6	0	0	2	0	2	13
10:15 PM	6	2	0	0	8	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	14
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	1	0	2	0	3	6
10:45 PM	1	0	0	0	1	0	0	0	0	0	0	1	1	0	2	4	0	2	0	6	9
Total	7	7	0	0	14	0	0	0	0	0	0	13	4	0	17	5	0	6	0	11	42
11:00 PM	0	2	0	0	2	0	0	0	0	0	0	5	3	0	8	3	0	0	0	3	13
11:15 PM	0	1	0	0	1	0	0	0	0	0	0	2	2	0	4	1	0	0	0	1	6
11:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	3
11:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	4	0	0	5	0	0	0	0	0	0	8	6	0	14	4	0	0	0	4	23
Grand Total	772	1974	3	0	2749	2	1	0	0	3	0	2816	890	0	3706	782	0	800	0	1582	8040
Approach %	28.1	71.8	0.1	0.0		66.7	33.3	0.0	0.0		0.0	76.0	24.0	0.0		49.4	0.0	50.6	0.0		
Total %	9.6	24.6	0.0	0.0	34.2	0.0	0.0	0.0	0.0	0.0	0.0	35.0	11.1	0.0	46.1	9.7	0.0	10.0	0.0	19.7	
Exiting Leg Total	3618					3					2756					1663					8040

PDI File #: **228952 J**
 Location: **N: South Road S: South Road**
 Location: **E: driveway W: Hartwell Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**
 Class:



Cars

South Road					driveway					South Road					Hartwell Road					Total
from North					from East					from South					from West					
Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	

AM Peak Hour Analysis from 12:00 AM to 10:00 AM begins at:

	South Road					driveway					South Road					Hartwell Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:15 AM	19	72	0	0	91	1	0	0	0	1	0	28	15	0	43	11	0	16	0	27	162
7:30 AM	15	98	0	0	113	0	0	0	0	0	0	52	13	0	65	21	0	13	0	34	212
7:45 AM	16	84	0	0	100	0	0	0	0	0	0	27	21	0	48	12	0	13	0	25	173
8:00 AM	12	67	0	0	79	0	0	0	0	0	0	22	14	0	36	26	0	18	0	44	159
Total Volume	62	321	0	0	383	1	0	0	0	1	0	129	63	0	192	70	0	60	0	130	706
% Approach Total	16.2	83.8	0.0	0.0		100.0	0.0	0.0	0.0		0.0	67.2	32.8	0.0		53.8	0.0	46.2	0.0		
PHF	0.816	0.819	0.000	0.000	0.847	0.250	0.000	0.000	0.000	0.250	0.000	0.620	0.750	0.000	0.738	0.673	0.000	0.833	0.000	0.739	0.833
Entering Leg	62	321	0	0	383	1	0	0	0	1	0	129	63	0	192	70	0	60	0	130	706
Exiting Leg					190					0					391					125	706
Total					573					1					583					255	1412

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	South Road					driveway					South Road					Hartwell Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
1:45 PM	7	19	0	0	26	0	0	0	0	0	0	28	14	0	42	7	0	8	0	15	83
2:00 PM	10	21	0	0	31	0	0	0	0	0	0	32	4	0	36	14	0	13	0	27	94
2:15 PM	11	28	0	0	39	0	0	0	0	0	0	52	10	0	62	9	0	7	0	16	117
2:30 PM	16	48	0	0	64	0	0	0	0	0	0	50	6	0	56	11	0	20	0	31	151
Total Volume	44	116	0	0	160	0	0	0	0	0	0	162	34	0	196	41	0	48	0	89	445
% Approach Total	27.5	72.5	0.0	0.0		0.0	0.0	0.0	0.0		0.0	82.7	17.3	0.0		46.1	0.0	53.9	0.0		
PHF	0.688	0.604	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.779	0.607	0.000	0.790	0.732	0.000	0.600	0.000	0.718	0.737
Entering Leg	44	116	0	0	160	0	0	0	0	0	0	162	34	0	196	41	0	48	0	89	445
Exiting Leg					210					0					157					78	445
Total					370					0					353					167	890

PM Peak Hour Analysis from 2:00 PM to 11:59 PM begins at:

	South Road					driveway					South Road					Hartwell Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:15 PM	22	23	0	0	45	0	0	0	0	0	0	158	34	0	192	23	0	19	0	42	279
4:30 PM	13	37	0	0	50	0	0	0	0	0	0	165	51	0	216	16	0	18	0	34	300
4:45 PM	18	30	0	0	48	0	0	0	0	0	0	126	43	0	169	9	0	19	0	28	245
5:00 PM	16	40	0	0	56	0	0	0	0	0	0	157	36	0	193	14	0	30	0	44	293
Total Volume	69	130	0	0	199	0	0	0	0	0	0	606	164	0	770	62	0	86	0	148	1117
% Approach Total	34.7	65.3	0.0	0.0		0.0	0.0	0.0	0.0		0.0	78.7	21.3	0.0		41.9	0.0	58.1	0.0		
PHF	0.784	0.813	0.000	0.000	0.888	0.000	0.000	0.000	0.000	0.000	0.000	0.918	0.804	0.000	0.891	0.674	0.000	0.717	0.000	0.841	0.931
Entering Leg	69	130	0	0	199	0	0	0	0	0	0	606	164	0	770	62	0	86	0	148	1117
Exiting Leg					692					0					192					233	1117
Total					891					0					962					381	2234

PDI File #: 228952 J
 Location: N: South Road S: South Road
 Location: E: driveway W: Hartwell Road
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	South Road					driveway					South Road					Hartwell Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	1
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5	8
6:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	2	3	3
Total	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0	0	3	0	3	8	8
7:00 AM	0	4	0	0	4	0	0	0	0	0	0	2	0	2	2	0	0	0	0	0	6
7:15 AM	0	0	0	0	0	0	0	0	0	0	5	0	0	5	1	0	1	0	2	7	13
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	7
7:45 AM	0	4	0	0	4	0	0	0	0	0	4	1	0	5	1	0	0	0	1	10	24
Total	0	8	0	0	8	0	0	0	0	0	10	3	0	13	2	0	1	0	3	24	24
8:00 AM	0	2	0	0	2	0	0	0	0	0	3	0	0	3	1	0	0	0	1	6	30
8:15 AM	0	3	0	0	3	0	0	0	0	0	3	1	0	4	0	0	1	0	1	8	38
8:30 AM	0	2	0	0	2	0	0	0	0	0	2	0	0	2	1	0	0	0	1	5	43
8:45 AM	0	2	0	0	2	0	0	0	0	0	2	1	0	3	1	0	0	0	1	6	49
Total	0	9	0	0	9	0	0	0	0	0	10	2	0	12	3	0	1	0	4	25	74
9:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	75
9:15 AM	0	1	0	0	1	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3	78
9:30 AM	1	2	0	0	3	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5	83
9:45 AM	1	2	0	0	3	0	0	0	0	0	2	1	0	3	1	0	3	0	4	10	93
Total	3	5	0	0	8	0	0	0	0	0	6	1	0	7	1	0	3	0	4	19	112
10:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	113
10:15 AM	1	1	0	0	2	0	0	0	0	0	1	0	0	1	0	0	2	0	2	5	118
10:30 AM	0	2	0	0	2	0	0	0	0	0	3	1	0	4	0	0	0	0	0	6	124
10:45 AM	2	1	0	0	3	0	0	0	0	0	4	0	0	4	1	0	0	0	1	8	132
Total	4	4	0	0	8	0	0	0	0	0	8	1	0	9	1	0	2	0	3	20	152
11:00 AM	1	1	0	0	2	0	0	0	0	0	1	2	0	3	2	0	0	0	2	7	159
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	160
11:30 AM	0	2	0	0	2	0	0	0	0	0	1	1	0	2	0	0	0	0	0	4	164
11:45 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	166
Total	1	4	0	0	5	0	0	0	0	0	3	3	0	6	2	0	0	0	2	13	179
12:00 PM	0	1	0	0	1	0	0	0	0	0	2	0	0	2	1	0	1	0	2	5	184
12:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2	186
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	187

PDI File #: 228952 J
 Location: N: South Road S: South Road
 Location: E: driveway W: Hartwell Road
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	South Road					driveway					South Road					Hartwell Road					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
% Buses	11.1	36.4	0.0	0.0	31.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	16.0	0.0	22.9	20.0	0.0	7.7	0.0	13.0	23.8
Exiting Leg Total	23					0					28					6					57
Single-Unit Trucks	12	39	0	0	51	0	0	0	0	0	0	60	13	0	73	12	0	21	0	33	157
% Single-Unit	66.7	59.1	0.0	0.0	60.7	0.0	0.0	0.0	0.0	0.0	0.0	71.4	52.0	0.0	67.0	60.0	0.0	80.8	0.0	71.7	65.7
Exiting Leg Total	81					0					51					25					157
Articulated Trucks	4	3	0	0	7	0	0	0	0	0	0	3	8	0	11	4	0	3	0	7	25
% Articulated	22.2	4.5	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	3.6	32.0	0.0	10.1	20.0	0.0	11.5	0.0	15.2	10.5
Exiting Leg Total	6					0					7					12					25

AM Peak Hour Analysis from 12:00 AM to 10:00 AM begins at:

	South Road					driveway					South Road					Hartwell Road					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	4	0	0	4	0	0	0	0	0	0	4	1	0	5	1	0	0	0	1	10
8:00 AM	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	6
8:15 AM	0	3	0	0	3	0	0	0	0	0	0	3	1	0	4	0	0	1	0	1	8
8:30 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	5
Total Volume	0	11	0	0	11	0	0	0	0	0	0	12	2	0	14	3	0	1	0	4	29
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	85.7	14.3	0.0		75.0	0.0	25.0	0.0		
PHF	0.000	0.688	0.000	0.000	0.688	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.500	0.000	0.700	0.750	0.000	0.250	0.000	1.000	0.725
Buses	0	3	0	0	3	0	0	0	0	0	0	3	1	0	4	1	0	0	0	1	8
Buses %	0.0	27.3	0.0	0.0	27.3	0.0	0.0	0.0	0.0	0.0	0.0	25.0	50.0	0.0	28.6	33.3	0.0	0.0	0.0	25.0	27.6
Single-Unit Trucks	0	7	0	0	7	0	0	0	0	0	0	9	0	0	9	1	0	1	0	2	18
Single-Unit %	0.0	63.6	0.0	0.0	63.6	0.0	0.0	0.0	0.0	0.0	0.0	75.0	0.0	0.0	64.3	33.3	0.0	100.0	0.0	50.0	62.1
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	3
Articulated %	0.0	9.1	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	7.1	33.3	0.0	0.0	0.0	25.0	10.3
Buses	0	3	0	0	3	0	0	0	0	0	0	3	1	0	4	1	0	0	0	1	8
Single-Unit Trucks	0	7	0	0	7	0	0	0	0	0	0	9	0	0	9	1	0	1	0	2	18
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	3
Total Entering Leg	0	11	0	0	11	0	0	0	0	0	0	12	2	0	14	3	0	1	0	4	29
Buses	3					0					4					1					8
Single-Unit Trucks	10					0					8					0					18
Articulated Trucks	0					0					2					1					3
Total Exiting Leg	13					0					14					2					29

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	South Road					driveway					South Road					Hartwell Road					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
10:15 AM	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	2	0	2	5
10:30 AM	0	2	0	0	2	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	6
10:45 AM	2	1	0	0	3	0	0	0	0	0	0	4	0	0	4	1	0	0	0	1	8
11:00 AM	1	1	0	0	2	0	0	0	0	0	0	1	2	0	3	2	0	0	0	2	7
Total Volume	4	5	0	0	9	0	0	0	0	0	0	9	3	0	12	3	0	2	0	5	26
% Approach Total	44.4	55.6	0.0	0.0		0.0	0.0	0.0	0.0		0.0	75.0	25.0	0.0		60.0	0.0	40.0	0.0		
PHF	0.500	0.625	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.563	0.375	0.000	0.750	0.375	0.000	0.250	0.000	0.625	0.813
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Single-Unit Trucks	2	4	0	0	6	0	0	0	0	0	0	8	2	0	10	3	0	1	0	4	20
Single-Unit %	50.0	80.0	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	88.9	66.7	0.0	83.3	100.0	0.0	50.0	0.0	80.0	76.9
Articulated Trucks	2	1	0	0	3	0	0	0	0	0	0	1	1	0	2	0	0	1	0	1	6
Articulated %	50.0	20.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	11.1	33.3	0.0	16.7	0.0	0.0	50.0	0.0	20.0	23.1
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	2	4	0	0	6	0	0	0	0	0	0	8	2	0	10	3	0	1	0	4	20
Articulated Trucks	2	1	0	0	3	0	0	0	0	0	0	1	1	0	2	0	0	1	0	1	6
Total Entering Leg	4	5	0	0	9	0	0	0	0	0	0	9	3	0	12	3	0	2	0	5	26
Buses	0					0					0					0					0
Single-Unit Trucks	9					7					8					4					20
Articulated Trucks	2					1					2					3					6
Total Exiting Leg	11					8					8					7					26

PM Peak Hour Analysis from 2:00 PM to 11:59 PM begins at:

	South Road					driveway					South Road					Hartwell Road					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total

PDI File #: **228952 J**
 Location: **N: South Road S: South Road**
 Location: **E: driveway W: Hartwell Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	South Road					driveway					South Road					Hartwell Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
2:30 PM	0	6	0	0	6	0	0	0	0	0	0	3	2	0	5	0	0	2	0	2	13
2:45 PM	1	2	0	0	3	0	0	0	0	0	0	3	3	0	6	0	0	0	0	0	9
3:00 PM	1	2	0	0	3	0	0	0	0	0	0	1	0	0	1	4	0	0	0	4	8
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	2	0	5	1	0	2	0	3	8
Total Volume	2	10	0	0	12	0	0	0	0	0	0	10	7	0	17	5	0	4	0	9	38
% Approach Total	16.7	83.3	0.0	0.0		0.0	0.0	0.0	0.0		0.0	58.8	41.2	0.0		55.6	0.0	44.4	0.0		
PHF	0.500	0.417	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.833	0.583	0.000	0.708	0.313	0.000	0.500	0.000	0.563	0.731
Buses	0	9	0	0	9	0	0	0	0	0	0	4	2	0	6	3	0	0	0	3	18
Buses %	0.0	90.0	0.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	28.6	0.0	35.3	60.0	0.0	0.0	0.0	33.3	47.4
Single-Unit Trucks	2	1	0	0	3	0	0	0	0	0	0	6	2	0	8	2	0	4	0	6	17
Single-Unit %	100.0	10.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	28.6	0.0	47.1	40.0	0.0	100.0	0.0	66.7	44.7
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	3
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	17.6	0.0	0.0	0.0	0.0	0.0	7.9
Buses	0	9	0	0	9	0	0	0	0	0	0	4	2	0	6	3	0	0	0	3	18
Single-Unit Trucks	2	1	0	0	3	0	0	0	0	0	0	6	2	0	8	2	0	4	0	6	17
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	3
Total Entering Leg	2	10	0	0	12	0	0	0	0	0	0	10	7	0	17	5	0	4	0	9	38
Buses					4										12					2	18
Single-Unit Trucks					10										3					4	17
Articulated Trucks					0										0					3	3
Total Exiting Leg					14					0					15					9	38

PDI File #: **228952 J**
Location: **N: South Road S: South Road**
Location: **E: driveway W: Hartwell Road**
City, State: **Concord, MA**
Client: **McFarland Johnson/S. Ireland**
Site Code: **TBD**
Count Date: **Thursday, December 1, 2022**
Start Time: **12:00 AM**
End Time: **11:59 PM**
Class:



**PRECISION
D A T A
INDUSTRIES, LLC**

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilc.com

Buses

	South Road					driveway					South Road					Hartwell Road					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
6:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
Total	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	5
7:00 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	0	4
Total	0	4	0	0	4	0	0	0	0	0	0	5	1	0	6	1	0	0	0	1	0	11
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
8:30 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
Total	0	2	0	0	2	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	5
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PDI File #: **228952 J**
 Location: **N: South Road S: South Road**
 Location: **E: driveway W: Hartwell Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**



Class:

Buses

	South Road					driveway					South Road					Hartwell Road					Total			
	from North					from East					from South					from West								
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total				
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2:30 PM	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0		
2:45 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0		
Total	0	9	0	0	9	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0		
3:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3		
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	0	0	0	0	1	3		
3:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2		
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	2		
Total	0	2	0	0	2	0	0	0	0	0	0	2	2	0	4	3	0	1	0	0	4	10		
4:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2		
Total	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	6		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2		
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1		
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1		
Total	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4		
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Total	2	24	0	0	26	0	0	0	0	0	0	21	4	0	25	4	0	2	0	6	57	57		
Approach %	7.7	92.3	0.0	0.0		0.0	0.0	0.0	0.0		0.0	84.0	16.0	0.0		66.7	0.0	33.3	0.0					
Total %	3.5	42.1	0.0	0.0	45.6	0.0	0.0	0.0	0.0	0.0	0.0	36.8	7.0	0.0	43.9	7.0	0.0	3.5	0.0	10.5				
Exiting Leg Total						23						0						28						57

PDI File #: **228952 J**
 Location: **N: South Road S: South Road**
 Location: **E: driveway W: Hartwell Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**
 Class:



Buses

South Road					driveway					South Road					Hartwell Road					Total
from North					from East					from South					from West					
Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	

AM Peak Hour Analysis from 12:00 AM to 10:00 AM begins at:

	South Road					driveway					South Road					Hartwell Road					Total					
	from North					from East					from South					from West										
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total						
6:30 AM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
6:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
7:00 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
Total Volume	2	5	0	0	7	0	0	0	0	0	0	4	0	0	4	0	0	1	0	1	0	0	0	0	0	12
% Approach Total	28.6	71.4	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0							
PHF	0.500	0.417	0.000	0.000	0.583	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.000	0.250	0.750
Entering Leg	2	5	0	0	7	0	0	0	0	0	0	4	0	0	4	0	0	1	0	1	0	0	0	0	0	12
Exiting Leg					5					0					5					2					12	12
Total					12					0					9					3					24	24

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	South Road					driveway					South Road					Hartwell Road					Total					
	from North					from East					from South					from West										
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total						
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	8
Total Volume	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	9
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0							
PHF	0.000	0.292	0.000	0.000	0.292	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.281
Entering Leg	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	9
Exiting Leg					2					0					7					0					0	9
Total					9					0					9					0					0	18

PM Peak Hour Analysis from 2:00 PM to 11:59 PM begins at:

	South Road					driveway					South Road					Hartwell Road					Total					
	from North					from East					from South					from West										
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total						
2:30 PM	0	6	0	0	6	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	8
2:45 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	4
3:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	2	3
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	0	0	0	1	0	0	0	0	1	3
Total Volume	0	9	0	0	9	0	0	0	0	0	0	4	2	0	6	3	0	0	0	3	0	0	0	0	3	18
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	66.7	33.3	0.0		100.0	0.0	0.0	0.0							
PHF	0.000	0.375	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.750	0.375	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.375	0.563	
Entering Leg	0	9	0	0	9	0	0	0	0	0	0	4	2	0	6	3	0	0	0	3	0	0	0	0	3	18
Exiting Leg					4					0					12					2					18	18
Total					13					0					18					5					36	36

PDI File #: **228952 J**
 Location: **N: South Road S: South Road**
 Location: **E: driveway W: Hartwell Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**



**PRECISION
 DATA
 INDUSTRIES, LLC**
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilc.com

Single-Unit Trucks

	South Road					driveway					South Road					Hartwell Road					Total		
	from North					from East					from South					from West							
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total			
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
7:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	2	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
7:45 AM	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	6
Total	0	4	0	0	4	0	0	0	0	0	0	5	2	0	7	1	0	1	0	2	0	2	13
8:00 AM	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	1	0	0	0	0	1	0	6
8:15 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	1	0	0	1	0	5
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
8:45 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	1	0	0	0	0	1	0	5
Total	0	6	0	0	6	0	0	0	0	0	0	8	0	0	8	2	0	1	0	3	0	3	17
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
9:30 AM	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	5
9:45 AM	1	2	0	0	3	0	0	0	0	0	0	2	1	0	3	1	0	2	0	0	3	0	9
Total	2	5	0	0	7	0	0	0	0	0	0	5	1	0	6	1	0	2	0	3	0	3	16
10:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:15 AM	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	4
10:30 AM	0	1	0	0	1	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	0	5
10:45 AM	1	1	0	0	2	0	0	0	0	0	0	3	0	0	3	1	0	0	0	0	1	0	6
Total	3	3	0	0	6	0	0	0	0	0	0	7	1	0	8	1	0	1	0	2	0	2	16
11:00 AM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	2	0	0	0	0	2	0	5
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	4
11:45 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
Total	0	4	0	0	4	0	0	0	0	0	0	3	2	0	5	2	0	0	0	0	2	0	11
12:00 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	1	0	0	1	0	4
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1

PDI File #: 228952 J
Location: N: South Road S: South Road
Location: E: driveway W: Hartwell Road
City, State: Concord, MA
Client: McFarland Johnson/S. Ireland
Site Code: TBD
Count Date: Thursday, December 1, 2022
Start Time: 12:00 AM
End Time: 11:59 PM
Class:



Single-Unit Trucks

	South Road					driveway					South Road					Hartwell Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
12:45 PM	2	4	0	0	6	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	8
Total	2	5	0	0	7	0	0	0	0	0	0	5	1	0	6	1	0	1	0	2	15
1:00 PM	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2	5
1:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	3
1:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	4
1:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Total	1	3	0	0	4	0	0	0	0	0	0	3	2	0	5	1	0	4	0	5	14
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	4
2:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	4
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	2	0	2	4
2:45 PM	1	0	0	0	1	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	3
Total	1	1	0	0	2	0	0	0	0	0	0	6	3	0	9	1	0	3	0	4	15
3:00 PM	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	2	0	0	0	2	5
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	2	0	2	5
3:30 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	1	0	1	5
Total	1	2	0	0	3	0	0	0	0	0	0	10	0	0	10	2	0	3	0	5	18
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
4:30 PM	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
4:45 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2	6
Total	1	3	0	0	4	0	0	0	0	0	0	4	1	0	5	0	0	2	0	2	11
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	12	39	0	0	51	0	0	0	0	0	0	60	13	0	73	12	0	21	0	33	157
Approach %	23.5	76.5	0.0	0.0		0.0	0.0	0.0	0.0		0.0	82.2	17.8	0.0		36.4	0.0	63.6	0.0		
Total %	7.6	24.8	0.0	0.0	32.5	0.0	0.0	0.0	0.0	0.0	0.0	38.2	8.3	0.0	46.5	7.6	0.0	13.4	0.0	21.0	
Exiting Leg Total						81										51					157

PDI File #: **228952 J**
 Location: **N: South Road S: South Road**
 Location: **E: driveway W: Hartwell Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**
 Class:



Single-Unit Trucks

South Road					driveway					South Road					Hartwell Road					Total
from North					from East					from South					from West					
Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	

AM Peak Hour Analysis from 12:00 AM to 10:00 AM begins at:

	South Road					driveway					South Road					Hartwell Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
9:30 AM																					
9:30 AM	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
9:45 AM	1	2	0	0	3	0	0	0	0	0	0	2	1	0	3	1	0	2	0	3	9
10:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:15 AM	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	4
Total Volume	4	5	0	0	9	0	0	0	0	0	0	5	1	0	6	1	0	3	0	4	19
% Approach Total	44.4	55.6	0.0	0.0		0.0	0.0	0.0	0.0		0.0	83.3	16.7	0.0		25.0	0.0	75.0	0.0		
PHF	1.000	0.625	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.250	0.000	0.500	0.250	0.000	0.375	0.000	0.333	0.528
Entering Leg	4	5	0	0	9	0	0	0	0	0	0	5	1	0	6	1	0	3	0	4	19
Exiting Leg					8					0					6					5	19
Total					17					0					12					9	38

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	South Road					driveway					South Road					Hartwell Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
10:15 AM																					
10:15 AM	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	4
10:30 AM	0	1	0	0	1	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	5
10:45 AM	1	1	0	0	2	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	6
11:00 AM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	2	0	0	0	2	5
Total Volume	2	4	0	0	6	0	0	0	0	0	0	8	2	0	10	3	0	1	0	4	20
% Approach Total	33.3	66.7	0.0	0.0		0.0	0.0	0.0	0.0		0.0	80.0	20.0	0.0		75.0	0.0	25.0	0.0		
PHF	0.500	1.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.667	0.500	0.000	0.625	0.375	0.000	0.250	0.000	0.500	0.833
Entering Leg	2	4	0	0	6	0	0	0	0	0	0	8	2	0	10	3	0	1	0	4	20
Exiting Leg					9					0					7					4	20
Total					15					0					17					8	40

PM Peak Hour Analysis from 2:00 PM to 11:59 PM begins at:

	South Road					driveway					South Road					Hartwell Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM																					
3:00 PM	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	2	0	0	0	2	5
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	2	0	2	5
3:30 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	1	0	1	5
Total Volume	1	2	0	0	3	0	0	0	0	0	0	10	0	0	10	2	0	3	0	5	18
% Approach Total	33.3	66.7	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		40.0	0.0	60.0	0.0		
PHF	0.250	0.500	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.625	0.250	0.000	0.375	0.000	0.625	0.900
Entering Leg	1	2	0	0	3	0	0	0	0	0	0	10	0	0	10	2	0	3	0	5	18
Exiting Leg					13					0					4					1	18
Total					16					0					14					6	36

PDI File #: **228952 J**
Location: **N: South Road S: South Road**
Location: **E: driveway W: Hartwell Road**
City, State: **Concord, MA**
Client: **McFarland Johnson/S. Ireland**
Site Code: **TBD**
Count Date: **Thursday, December 1, 2022**
Start Time: **12:00 AM**
End Time: **11:59 PM**
Class:



**PRECISION
D A T A
INDUSTRIES, LLC**

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	South Road					driveway					South Road					Hartwell Road					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	3	3
9:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
Total	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	2
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
10:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:45 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
Total	1	1	0	0	2	0	0	0	0	0	1	0	1	0	1	0	0	1	0	1	4	4
11:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PDI File #: 228952 J
 Location: N: South Road S: South Road
 Location: E: driveway W: Hartwell Road
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM
 Class:



Articulated Trucks

	South Road					driveway					South Road					Hartwell Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Total	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	3
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	1	2	0	3	1	0	0	0	0	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	4	3	0	0	7	0	0	0	0	0	0	3	8	0	11	4	0	3	0	7	25
Approach %	57.1	42.9	0.0	0.0		0.0	0.0	0.0	0.0		0.0	27.3	72.7	0.0		57.1	0.0	42.9	0.0		
Total %	16.0	12.0	0.0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	32.0	0.0	44.0	16.0	0.0	12.0	0.0	28.0	
Exiting Leg Total						6						7						25			

PDI File #: **228952 J**
 Location: **N: South Road S: South Road**
 Location: **E: driveway W: Hartwell Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**
 Class:



Articulated Trucks

South Road					driveway					South Road					Hartwell Road					Total
from North					from East					from South					from West					
Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	

AM Peak Hour Analysis from 12:00 AM to 10:00 AM begins at:

	South Road					driveway					South Road					Hartwell Road					Total					
	from North					from East					from South					from West										
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total						
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	1	1	0	0	2	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	4
% Approach Total	50.0	50.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		100.0	0.0	0.0	0.0							
PHF	0.250	0.250	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.250	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.500	
Entering Leg	1	1	0	0	2	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	4
Exiting Leg					0					0					2					2					2	4
Total					2					0					3					3					8	

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

	South Road					driveway					South Road					Hartwell Road					Total					
	from North					from East					from South					from West										
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total						
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
10:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:45 AM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
11:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
Total Volume	2	1	0	0	3	0	0	0	0	0	0	1	1	0	2	0	0	0	1	0	0	0	0	0	0	6
% Approach Total	66.7	33.3	0.0	0.0		0.0	0.0	0.0	0.0		0.0	50.0	50.0	0.0		0.0	0.0	100.0	0.0							
PHF	0.500	0.250	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.500	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.750	
Entering Leg	2	1	0	0	3	0	0	0	0	0	0	1	1	0	2	0	0	1	0	0	0	0	0	0	0	6
Exiting Leg					2					0					1					3					6	
Total					5					0					3					4					12	

PM Peak Hour Analysis from 2:00 PM to 11:59 PM begins at:

	South Road					driveway					South Road					Hartwell Road					Total					
	from North					from East					from South					from West										
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total						
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Total Volume	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	1	0	0	0	0	0	0	0	0	0	5
% Approach Total	50.0	50.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0							
PHF	0.250	0.250	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.625	
Entering Leg	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	1	0	0	0	0	0	0	0	0	0	5
Exiting Leg					2					0					2					1					5	
Total					4					0					4					2					10	

PDI File #: **228952 J**
 Location: **N: South Road S: South Road**
 Location: **E: driveway W: Hartwell Road**
 City, State: **Concord, MA**
 Client: **McFarland Johnson/S. Ireland**
 Site Code: **TBD**
 Count Date: **Thursday, December 1, 2022**
 Start Time: **12:00 AM**
 End Time: **11:59 PM**



Bicycles (on Roadway and Crosswalks)

	South Road							driveway							South Road							Hartwell Road							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SE	CW-NB	Total	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	5	0	0	0	0	5	0	0	0	0	0	1	1	0	2	0	0	0	0	2	0	0	0	0	0	0	8	8
Approach %	0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	62.5	0.0	0.0	0.0	0.0	62.5	0.0	0.0	0.0	0.0	0.0	12.5	12.5	0.0	25.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0		

PDI File #: 228952 J
 Location: N: South Road S: South Road
 Location: E: driveway W: Hartwell Road
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM
 Class:



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

Exiting Leg Total	South Road							driveway							South Road							Hartwell Road							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
	2							1							5							0							8

AM Peak Hour Analysis from 12:00 AM to 10:00 AM begins at:

6:45 AM	South Road							driveway							South Road							Hartwell Road							Total	
	from North							from East							from South							from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2
% Approach Total	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500		
Entering Leg	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2
Exiting Leg							1							0								1						0	2	
Total	2							0							2							0							4	

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

12:30 PM	South Road							driveway							South Road							Hartwell Road							Total	
	from North							from East							from South							from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250		
Entering Leg	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg							0							0								1						0	1	
Total	1							0							1							0							2	

PM Peak Hour Analysis from 2:00 PM to 11:59 PM begins at:

2:45 PM	South Road							driveway							South Road							Hartwell Road							Total	
	from North							from East							from South							from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Approach Total	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250		
Entering Leg	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Exiting Leg							0							0								2						0	2	
Total	2							0							2							0							4	

PDI File #: 228952 J
 Location: N: South Road S: South Road
 Location: E: driveway W: Hartwell Road
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM



Pedestrians

	South Road								driveway								South Road								Hartwell Road							
	from North								from East								from South								from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	Left	U-Turn	CW-SE	CW-NB	Total		Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total		Right	Thru	Left	U-Turn	CW-NB	CW-SE	Total	Total
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	1	0	0	0	0	0	3	3	0	0	0	0	1	1	2	0	0	0	0	0	1	1	1	7		
1:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
1:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
1:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Total	0	0	0	0	0	0	0	0	0	0	4	1	5	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	6	
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:45 PM	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Total	0	0	0	0	0	2	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
3:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Total	0	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	5	3	8	0	0	0	0	13																				

PDI File #: 228952 J
 Location: N: South Road S: South Road
 Location: E: driveway W: Hartwell Road
 City, State: Concord, MA
 Client: McFarland Johnson/S. Ireland
 Site Code: TBD
 Count Date: Thursday, December 1, 2022
 Start Time: 12:00 AM
 End Time: 11:59 PM
 Class:



Pedestrians

South Road							driveway							South Road							Hartwell Road							Total
from North							from East							from South							from West							
Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	

AM Peak Hour Analysis from 12:00 AM to 10:00 AM begins at:

7:00 AM	South Road							driveway							South Road							Hartwell Road							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Total Volume	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375			
Entering Leg	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
Exiting Leg													3															3	
Total													6															6	

MidDay Peak Hour Analysis from 10:00 AM to 2:00 PM begins at:

10:15 AM	South Road							driveway							South Road							Hartwell Road							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
10:15 AM	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	2	0	2	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
11:00 AM	0	0	0	0	1	0	1	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	0	0	0	4	0	4	0	0	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
% Approach Total	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	40.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
PHF	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.375	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.563	
Entering Leg	0	0	0	0	4	0	4	0	0	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Exiting Leg							4							5															9
Total							8							10															18

PM Peak Hour Analysis from 2:00 PM to 11:59 PM begins at:

2:15 PM	South Road							driveway							South Road							Hartwell Road							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
2:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	2	2	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
% Approach Total	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	33.3	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
PHF	0.000	0.000	0.000	0.000	0.000	0.500	0.500	0.000	0.000	0.000	0.000	0.250	0.500	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	
Entering Leg	0	0	0	0	0	2	2	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Exiting Leg							2							3															5
Total							4							6															10



Location Map: 239267 Concord, MA (Hanscom)

Precision Data Industries, LLC 157 Washington Street, Suite 2, Hudson, MA 01749 ph: 508-875-0100 email: datarequests@pdillc.com

(1) 6-9am/ 3-6pm TMC



Client: McFarland Johnson	Engineer: T. Heise	Site Code: 19011.00	Date: Tues 3/28/2023	PDI Job # 239267	City, State: Concord, MA (Hanscom)
-------------------------------------	------------------------------	-------------------------------	--------------------------------	----------------------------	--



(This page intentionally left blank.)

PDI File #: **239267 A**
 Location: **N: Virginia Road S: Virginia Road**
 Location: **E: Atlantic Aviation Driveway W: Concord Business Park Drive**
 City, State: **Hancor, MA**
 Client: **McFarland Johnson/ T. Heise**
 Site Code: **19011.00**
 Count Date: **Tuesday, March 28, 2023**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Cars and Heavy Vehicles (Combined)

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
6:00 AM	4	10	0	0	14	0	0	0	0	0	1	3	4	0	8	0	0	0	0	0	22
6:15 AM	2	4	0	0	6	0	0	0	0	0	0	6	3	0	9	0	0	1	0	1	16
6:30 AM	2	10	0	0	12	0	0	0	0	0	1	0	6	0	7	0	0	0	0	0	19
6:45 AM	3	22	1	0	26	1	0	1	0	2	2	10	6	0	18	0	0	0	0	0	46
Total	11	46	1	0	58	1	0	1	0	2	4	19	19	0	42	0	0	1	0	1	103
7:00 AM	5	22	1	0	28	0	0	1	0	1	0	11	7	0	18	0	0	0	0	0	47
7:15 AM	5	38	1	0	44	1	0	1	0	2	1	4	8	0	13	1	0	1	0	2	61
7:30 AM	4	38	1	0	43	0	0	0	0	0	1	10	5	0	16	1	0	0	0	1	60
7:45 AM	5	37	1	0	43	0	0	0	0	0	0	27	6	0	33	0	0	0	0	0	76
Total	19	135	4	0	158	1	0	2	0	3	2	52	26	0	80	2	0	1	0	3	244
8:00 AM	4	36	3	0	43	0	0	1	0	1	1	35	8	0	44	1	0	0	0	1	89
8:15 AM	1	36	1	0	38	0	0	2	0	2	3	33	5	0	41	0	0	0	0	0	81
8:30 AM	2	61	3	0	66	1	0	1	0	2	3	34	6	0	43	0	0	0	0	0	111
8:45 AM	5	49	2	0	56	1	0	0	0	1	5	29	2	0	36	0	0	0	0	0	93
Total	12	182	9	0	203	2	0	4	0	6	12	131	21	0	164	1	0	0	0	1	374
Grand Total	42	363	14	0	419	4	0	7	0	11	18	202	66	0	286	3	0	2	0	5	721
Approach %	10.0	86.6	3.3	0.0		36.4	0.0	63.6	0.0		6.3	70.6	23.1	0.0		60.0	0.0	40.0	0.0		
Total %	5.8	50.3	1.9	0.0	58.1	0.6	0.0	1.0	0.0	1.5	2.5	28.0	9.2	0.0	39.7	0.4	0.0	0.3	0.0	0.7	
Exiting Leg Total	208					32					373					108					721
Cars	42	357	13	0	412	4	0	6	0	10	18	199	66	0	283	3	0	2	0	5	710
% Cars	100.0	98.3	92.9	0.0	98.3	100.0	0.0	85.7	0.0	90.9	100.0	98.5	100.0	0.0	99.0	100.0	0.0	100.0	0.0	100.0	98.5
Exiting Leg Total	205					31					366					108					710
Heavy Vehicles	0	6	1	0	7	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	11
% Heavy Vehicles	0.0	1.7	7.1	0.0	1.7	0.0	0.0	14.3	0.0	9.1	0.0	1.5	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.5
Exiting Leg Total	3					1					7					0					11

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
8:00 AM	4	36	3	0	43	0	0	1	0	1	1	35	8	0	44	1	0	0	0	1	89
8:15 AM	1	36	1	0	38	0	0	2	0	2	3	33	5	0	41	0	0	0	0	0	81
8:30 AM	2	61	3	0	66	1	0	1	0	2	3	34	6	0	43	0	0	0	0	0	111
8:45 AM	5	49	2	0	56	1	0	0	0	1	5	29	2	0	36	0	0	0	0	0	93
Total Volume	12	182	9	0	203	2	0	4	0	6	12	131	21	0	164	1	0	0	0	1	374
% Approach Total	5.9	89.7	4.4	0.0		33.3	0.0	66.7	0.0		7.3	79.9	12.8	0.0		100.0	0.0	0.0	0.0		
PHF	0.600	0.746	0.750	0.000	0.769	0.500	0.000	0.500	0.000	0.750	0.600	0.936	0.656	0.000	0.932	0.250	0.000	0.000	0.000	0.250	0.842
Cars	12	178	9	0	199	2	0	4	0	6	12	129	21	0	162	1	0	0	0	1	368
Cars %	100.0	97.8	100.0	0.0	98.0	100.0	0.0	100.0	0.0	100.0	100.0	98.5	100.0	0.0	98.8	100.0	0.0	0.0	0.0	100.0	98.4
Heavy Vehicles	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	6
Heavy Vehicles %	0.0	2.2	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	1.6
Cars Enter Leg	12	178	9	0	199	2	0	4	0	6	12	129	21	0	162	1	0	0	0	1	368
Heavy Enter Leg	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	6
Total Entering Leg	12	182	9	0	203	2	0	4	0	6	12	131	21	0	164	1	0	0	0	1	374
Cars Exiting Leg	131					21					183					33					368
Heavy Exiting Leg	2					0					4					0					6
Total Exiting Leg	133					21					187					33					374

PDI File #: **239267 A**
 Location: **N: Virginia Road S: Virginia Road**
 Location: **E: Atlantic Aviation Driveway W: Concord Business Park Drive**
 City, State: **Hancom, MA**
 Client: **McFarland Johnson/ T. Heise**
 Site Code: **19011.00**
 Count Date: **Tuesday, March 28, 2023**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Cars

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
6:00 AM	4	10	0	0	14	0	0	0	0	0	1	3	4	0	8	0	0	0	0	0	22
6:15 AM	2	4	0	0	6	0	0	0	0	0	0	6	3	0	9	0	0	1	0	1	16
6:30 AM	2	10	0	0	12	0	0	0	0	0	1	0	6	0	7	0	0	0	0	0	19
6:45 AM	3	22	1	0	26	1	0	1	0	2	2	10	6	0	18	0	0	0	0	0	46
Total	11	46	1	0	58	1	0	1	0	2	4	19	19	0	42	0	0	1	0	1	103
7:00 AM	5	22	0	0	27	0	0	1	0	1	0	11	7	0	18	0	0	0	0	0	46
7:15 AM	5	36	1	0	42	1	0	0	0	1	1	4	8	0	13	1	0	1	0	2	58
7:30 AM	4	38	1	0	43	0	0	0	0	0	1	10	5	0	16	1	0	0	0	1	60
7:45 AM	5	37	1	0	43	0	0	0	0	0	0	26	6	0	32	0	0	0	0	0	75
Total	19	133	3	0	155	1	0	1	0	2	2	51	26	0	79	2	0	1	0	3	239
8:00 AM	4	36	3	0	43	0	0	1	0	1	1	35	8	0	44	1	0	0	0	1	89
8:15 AM	1	35	1	0	37	0	0	2	0	2	3	31	5	0	39	0	0	0	0	0	78
8:30 AM	2	59	3	0	64	1	0	1	0	2	3	34	6	0	43	0	0	0	0	0	109
8:45 AM	5	48	2	0	55	1	0	0	0	1	5	29	2	0	36	0	0	0	0	0	92
Total	12	178	9	0	199	2	0	4	0	6	12	129	21	0	162	1	0	0	0	1	368
Grand Total	42	357	13	0	412	4	0	6	0	10	18	199	66	0	283	3	0	2	0	5	710
Approach %	10.2	86.7	3.2	0.0		40.0	0.0	60.0	0.0		6.4	70.3	23.3	0.0		60.0	0.0	40.0	0.0		
Total %	5.9	50.3	1.8	0.0	58.0	0.6	0.0	0.8	0.0	1.4	2.5	28.0	9.3	0.0	39.9	0.4	0.0	0.3	0.0	0.7	
Exiting Leg Total	205					31					366					108					710

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

8:00 AM	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
8:00 AM	4	36	3	0	43	0	0	1	0	1	1	35	8	0	44	1	0	0	0	1	89
8:15 AM	1	35	1	0	37	0	0	2	0	2	3	31	5	0	39	0	0	0	0	0	78
8:30 AM	2	59	3	0	64	1	0	1	0	2	3	34	6	0	43	0	0	0	0	0	109
8:45 AM	5	48	2	0	55	1	0	0	0	1	5	29	2	0	36	0	0	0	0	0	92
Total Volume	12	178	9	0	199	2	0	4	0	6	12	129	21	0	162	1	0	0	0	1	368
% Approach Total	6.0	89.4	4.5	0.0		33.3	0.0	66.7	0.0		7.4	79.6	13.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.600	0.754	0.750	0.000	0.777	0.500	0.000	0.500	0.000	0.750	0.600	0.921	0.656	0.000	0.920	0.250	0.000	0.000	0.000	0.250	0.844
Entering Leg	12	178	9	0	199	2	0	4	0	6	12	129	21	0	162	1	0	0	0	1	368
Exiting Leg	131					21					183					33					368
Total	330					27					345					34					736

PDI File #: 239267 A
 Location: N: Virginia Road S: Virginia Road
 Location: E: Atlantic Aviation Driveway W: Concord Business Park Drive
 City, State: Hancom, MA
 Client: McFarland Johnson/ T. Heise
 Site Code: 19011.00
 Count Date: Tuesday, March 28, 2023
 Start Time: 6:00 AM
 End Time: 9:00 AM



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total				
	from North					from East					from South					from West									
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total					
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	2	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1
Total	0	2	1	0	3	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	5
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	3
8:30 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	6
Grand Total	0	6	1	0	7	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	0	0	0	11
Approach %	0.0	85.7	14.3	0.0		0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0						
Total %	0.0	54.5	9.1	0.0	63.6	0.0	0.0	9.1	0.0	9.1	0.0	27.3	0.0	0.0	27.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	3					1					7					0					11				
Buses	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
% Buses	0.0	16.7	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.2
Exiting Leg Total	1					0					1					0					2				
Single-Unit Trucks	0	4	1	0	5	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	7
% Single-Unit	0.0	66.7	100.0	0.0	71.4	0.0	0.0	100.0	0.0	100.0	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.6
Exiting Leg Total	1					1					5					0					7				
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
% Articulated	0.0	16.7	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.2
Exiting Leg Total	1					0					1					0					2				

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total				
	from North					from East					from South					from West									
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total					
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	3
8:30 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	6
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0						
PHF	0.000	0.375	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Buses	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
Buses %	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3
Single-Unit Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
Single-Unit %	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
Articulated %	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3
Buses	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
Single-Unit Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
Total Entering Leg	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	6
Buses	1					0					1					0					2				
Single-Unit Trucks	1					0					1					0					2				
Articulated Trucks	1					0					1					0					2				
Total Exiting Leg	3					0					3					0					6				

PDI File #: **239267 A**
 Location: **N: Virginia Road S: Virginia Road**
 Location: **E: Atlantic Aviation Driveway W: Concord Business Park Drive**
 City, State: **Hancom, MA**
 Client: **McFarland Johnson/ T. Heise**
 Site Code: **19011.00**
 Count Date: **Tuesday, March 28, 2023**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Buses

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Grand Total	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	1					0					1					0					2

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

7:45 AM	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Exiting Leg	1					0					1					0					2
Total	2					0					2					0					4

PDI File #: **239267 A**
 Location: **N: Virginia Road S: Virginia Road**
 Location: **E: Atlantic Aviation Driveway W: Concord Business Park Drive**
 City, State: **Hancom, MA**
 Client: **McFarland Johnson/ T. Heise**
 Site Code: **19011.00**
 Count Date: **Tuesday, March 28, 2023**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Single-Unit Trucks

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	2	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	1	0	3	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	4
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
Grand Total	0	4	1	0	5	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	7
Approach %	0.0	80.0	20.0	0.0		0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	57.1	14.3	0.0	71.4	0.0	0.0	14.3	0.0	14.3	0.0	14.3	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	1					1					5					0					7

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	2	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	2	1	0	3	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	4
% Approach Total	0.0	66.7	33.3	0.0		0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.250	0.000	0.375	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.333
Entering Leg	0	2	1	0	3	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	4
Exiting Leg	0					1					3					0					4
Total	3					2					3					0					8

PDI File #: **239267 A**
 Location: **N: Virginia Road S: Virginia Road**
 Location: **E: Atlantic Aviation Driveway W: Concord Business Park Drive**
 City, State: **Hancom, MA**
 Client: **McFarland Johnson/ T. Heise**
 Site Code: **19011.00**
 Count Date: **Tuesday, March 28, 2023**
 Start Time: **6:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	1					0					1					0					2

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

7:45 AM	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Exiting Leg	1					0					1					0					2
Total	2					0					2					0					4

PDI File #: 239267 A
 Location: N: Virginia Road S: Virginia Road
 Location: E: Atlantic Aviation Driveway W: Concord Business Park Drive
 City, State: Hancom, MA
 Client: McFarland Johnson/ T. Heise
 Site Code: 19011.00
 Count Date: Tuesday, March 28, 2023
 Start Time: 6:00 AM
 End Time: 9:00 AM
 Class:



Bicycles (on Roadway and Crosswalks)

	Virginia Road								Atlantic Aviation Driveway								Virginia Road								Concord Business Park Drive								Total
	from North								from East								from South								from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Exiting Leg Total																																	

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Virginia Road								Atlantic Aviation Driveway								Virginia Road								Concord Business Park Drive								Total
	from North								from East								from South								from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Exiting Leg																																	
Total																																	

PDI File #: 239267 A
 Location: N: Virginia Road S: Virginia Road
 Location: E: Atlantic Aviation Driveway W: Concord Business Park Drive
 City, State: Hancom, MA
 Client: McFarland Johnson/ T. Heise
 Site Code: 19011.00
 Count Date: Tuesday, March 28, 2023
 Start Time: 6:00 AM
 End Time: 9:00 AM
 Class:



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilc.com

Pedestrians

	Virginia Road								Atlantic Aviation Driveway								Virginia Road								Concord Business Park Drive								Total
	from North								from East								from South								from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total		Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total		Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total	0								0								0								0								0

Peak Hour Analysis from 06:00 AM to 09:00 AM begins at:

	Virginia Road								Atlantic Aviation Driveway								Virginia Road								Concord Business Park Drive								Total
	from North								from East								from South								from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total		Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total		Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg	0								0								0								0								0
Total	0								0								0								0								0

PDI File #: **239267 A**
 Location: **N: Virginia Road S: Virginia Road**
 Location: **E: Atlantic Aviation Driveway W: Concord Business Park Drive**
 City, State: **Hancor, MA**
 Client: **McFarland Johnson/ T. Heise**
 Site Code: **19011.00**
 Count Date: **Tuesday, March 28, 2023**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



**PRECISION
D A T A
INDUSTRIES, LLC**
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	37	0	0	37	0	0	5	0	5	0	21	0	0	21	8	0	3	0	11	74
3:15 PM	0	10	0	0	10	0	0	3	0	3	1	26	0	0	27	5	0	3	0	8	48
3:30 PM	0	23	1	0	24	0	0	0	0	0	1	42	2	0	45	9	0	3	0	12	81
3:45 PM	0	18	0	0	18	1	0	2	0	3	1	29	0	0	30	5	0	3	0	8	59
Total	0	88	1	0	89	1	0	10	0	11	3	118	2	0	123	27	0	12	0	39	262
4:00 PM	0	25	0	0	25	0	0	3	0	3	4	30	1	0	35	7	0	2	0	9	72
4:15 PM	0	46	1	0	47	1	0	1	0	2	0	24	1	0	25	4	0	4	0	8	82
4:30 PM	0	25	1	1	27	2	0	1	0	3	1	32	4	0	37	4	0	1	0	5	72
4:45 PM	0	17	1	0	18	1	0	2	0	3	1	29	1	0	31	6	0	4	0	10	62
Total	0	113	3	1	117	4	0	7	0	11	6	115	7	0	128	21	0	11	0	32	288
5:00 PM	0	20	1	0	21	1	0	0	0	1	0	28	0	0	28	3	0	1	0	4	54
5:15 PM	0	21	0	0	21	2	0	1	0	3	0	30	1	0	31	10	0	4	0	14	69
5:30 PM	0	17	0	0	17	0	0	0	0	0	0	23	0	0	23	1	0	4	0	5	45
5:45 PM	0	16	1	0	17	1	0	1	0	2	0	23	0	0	23	4	0	3	0	7	49
Total	0	74	2	0	76	4	0	2	0	6	0	104	1	0	105	18	0	12	0	30	217
Grand Total	0	275	6	1	282	9	0	19	0	28	9	337	10	0	356	66	0	35	0	101	767
Approach %	0.0	97.5	2.1	0.4		32.1	0.0	67.9	0.0		2.5	94.7	2.8	0.0		65.3	0.0	34.7	0.0		
Total %	0.0	35.9	0.8	0.1	36.8	1.2	0.0	2.5	0.0	3.7	1.2	43.9	1.3	0.0	46.4	8.6	0.0	4.6	0.0	13.2	
Exiting Leg Total	382					15					360					10					767
Cars	0	271	6	1	278	9	0	19	0	28	9	334	10	0	353	66	0	34	0	100	759
% Cars	0.0	98.5	100.0	100.0	98.6	100.0	0.0	100.0	0.0	100.0	100.0	99.1	100.0	0.0	99.2	100.0	0.0	97.1	0.0	99.0	99.0
Exiting Leg Total	378					15					356					10					759
Heavy Vehicles	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	8
% Heavy Vehicles	0.0	1.5	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.8	0.0	0.0	2.9	0.0	1.0	1.0
Exiting Leg Total	4					0					4					0					8

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:30 PM	0	23	1	0	24	0	0	0	0	0	1	42	2	0	45	9	0	3	0	12	81
3:45 PM	0	18	0	0	18	1	0	2	0	3	1	29	0	0	30	5	0	3	0	8	59
4:00 PM	0	25	0	0	25	0	0	3	0	3	4	30	1	0	35	7	0	2	0	9	72
4:15 PM	0	46	1	0	47	1	0	1	0	2	0	24	1	0	25	4	0	4	0	8	82
Total Volume	0	112	2	0	114	2	0	6	0	8	6	125	4	0	135	25	0	12	0	37	294
% Approach Total	0.0	98.2	1.8	0.0		25.0	0.0	75.0	0.0		4.4	92.6	3.0	0.0		67.6	0.0	32.4	0.0		
PHF	0.000	0.609	0.500	0.000	0.606	0.500	0.000	0.500	0.000	0.667	0.375	0.744	0.500	0.000	0.750	0.694	0.000	0.750	0.000	0.771	0.896
Cars	0	111	2	0	113	2	0	6	0	8	6	125	4	0	135	25	0	12	0	37	293
Cars %	0.0	99.1	100.0	0.0	99.1	100.0	0.0	100.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	99.7
Heavy Vehicles	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Heavy Vehicles %	0.0	0.9	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Cars Enter Leg	0	111	2	0	113	2	0	6	0	8	6	125	4	0	135	25	0	12	0	37	293
Heavy Enter Leg	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Entering Leg	0	112	2	0	114	2	0	6	0	8	6	125	4	0	135	25	0	12	0	37	294
Cars Exiting Leg	139					8					142					4					293
Heavy Exiting Leg	0					0					1					0					1
Total Exiting Leg	139					8					143					4					294

PDI File #: **239267 A**
 Location: **N: Virginia Road S: Virginia Road**
 Location: **E: Atlantic Aviation Driveway W: Concord Business Park Drive**
 City, State: **Hancom, MA**
 Client: **McFarland Johnson/ T. Heise**
 Site Code: **19011.00**
 Count Date: **Tuesday, March 28, 2023**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Cars

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	34	0	0	34	0	0	5	0	5	0	21	0	0	21	8	0	2	0	10	70
3:15 PM	0	10	0	0	10	0	0	3	0	3	1	26	0	0	27	5	0	3	0	8	48
3:30 PM	0	23	1	0	24	0	0	0	0	0	1	42	2	0	45	9	0	3	0	12	81
3:45 PM	0	18	0	0	18	1	0	2	0	3	1	29	0	0	30	5	0	3	0	8	59
Total	0	85	1	0	86	1	0	10	0	11	3	118	2	0	123	27	0	11	0	38	258
4:00 PM	0	25	0	0	25	0	0	3	0	3	4	30	1	0	35	7	0	2	0	9	72
4:15 PM	0	45	1	0	46	1	0	1	0	2	0	24	1	0	25	4	0	4	0	8	81
4:30 PM	0	25	1	1	27	2	0	1	0	3	1	31	4	0	36	4	0	1	0	5	71
4:45 PM	0	17	1	0	18	1	0	2	0	3	1	28	1	0	30	6	0	4	0	10	61
Total	0	112	3	1	116	4	0	7	0	11	6	113	7	0	126	21	0	11	0	32	285
5:00 PM	0	20	1	0	21	1	0	0	0	1	0	27	0	0	27	3	0	1	0	4	53
5:15 PM	0	21	0	0	21	2	0	1	0	3	0	30	1	0	31	10	0	4	0	14	69
5:30 PM	0	17	0	0	17	0	0	0	0	0	0	23	0	0	23	1	0	4	0	5	45
5:45 PM	0	16	1	0	17	1	0	1	0	2	0	23	0	0	23	4	0	3	0	7	49
Total	0	74	2	0	76	4	0	2	0	6	0	103	1	0	104	18	0	12	0	30	216
Grand Total	0	271	6	1	278	9	0	19	0	28	9	334	10	0	353	66	0	34	0	100	759
Approach %	0.0	97.5	2.2	0.4		32.1	0.0	67.9	0.0		2.5	94.6	2.8	0.0		66.0	0.0	34.0	0.0		
Total %	0.0	35.7	0.8	0.1	36.6	1.2	0.0	2.5	0.0	3.7	1.2	44.0	1.3	0.0	46.5	8.7	0.0	4.5	0.0	13.2	
Exiting Leg Total					378					15					356					10	759

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:30 PM	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:30 PM	0	23	1	0	24	0	0	0	0	0	1	42	2	0	45	9	0	3	0	12	81
3:45 PM	0	18	0	0	18	1	0	2	0	3	1	29	0	0	30	5	0	3	0	8	59
4:00 PM	0	25	0	0	25	0	0	3	0	3	4	30	1	0	35	7	0	2	0	9	72
4:15 PM	0	45	1	0	46	1	0	1	0	2	0	24	1	0	25	4	0	4	0	8	81
Total Volume	0	111	2	0	113	2	0	6	0	8	6	125	4	0	135	25	0	12	0	37	293
% Approach Total	0.0	98.2	1.8	0.0		25.0	0.0	75.0	0.0		4.4	92.6	3.0	0.0		67.6	0.0	32.4	0.0		
PHF	0.000	0.617	0.500	0.000	0.614	0.500	0.000	0.500	0.000	0.667	0.375	0.744	0.500	0.000	0.750	0.694	0.000	0.750	0.000	0.771	0.904
Entering Leg	0	111	2	0	113	2	0	6	0	8	6	125	4	0	135	25	0	12	0	37	293
Exiting Leg					139					8					142					4	293
Total					252					16					277					41	586

PDI File #: **239267 A**
 Location: **N: Virginia Road S: Virginia Road**
 Location: **E: Atlantic Aviation Driveway W: Concord Business Park Drive**
 City, State: **Hancor, MA**
 Client: **McFarland Johnson/ T. Heise**
 Site Code: **19011.00**
 Count Date: **Tuesday, March 28, 2023**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Grand Total	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	8
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	37.5	0.0	0.0	37.5	0.0	0.0	12.5	0.0	12.5	
Exiting Leg Total	4					0					4					0					8
Buses	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
% Buses	0.0	25.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	25.0
Exiting Leg Total	1					0					1					0					2
Single-Unit Trucks	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
% Single-Unit	0.0	25.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	50.0
Exiting Leg Total	3					0					1					0					4
Articulated Trucks	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Articulated	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0
Exiting Leg Total	0					0					2					0					2

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.250
Buses	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Buses %	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	50.0
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Articulated Trucks	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Articulated %	0.0	66.7	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0
Buses	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Entering Leg	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4
Buses	1					0					1					0					2
Single-Unit Trucks	0					0					0					0					0
Articulated Trucks	0					0					2					0					2
Total Exiting Leg	1					0					3					0					4

PDI File #: **239267 A**
 Location: **N: Virginia Road S: Virginia Road**
 Location: **E: Atlantic Aviation Driveway W: Concord Business Park Drive**
 City, State: **Hancom, MA**
 Client: **McFarland Johnson/ T. Heise**
 Site Code: **19011.00**
 Count Date: **Tuesday, March 28, 2023**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Buses

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	50.0	
Exiting Leg Total	1					0					1					0					2

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.250
Entering Leg	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Exiting Leg	1					0					1					0					2
Total	2					0					1					1					4

PDI File #: **239267 A**
 Location: **N: Virginia Road S: Virginia Road**
 Location: **E: Atlantic Aviation Driveway W: Concord Business Park Drive**
 City, State: **Hancom, MA**
 Client: **McFarland Johnson/ T. Heise**
 Site Code: **19011.00**
 Count Date: **Tuesday, March 28, 2023**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Single-Unit Trucks

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Grand Total	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	25.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	0.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	3					0					1					0					4

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total Volume	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	1.000
Entering Leg	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
Exiting Leg	3					0					1					0					4
Total	4					0					4					0					8

PDI File #: **239267 A**
 Location: **N: Virginia Road S: Virginia Road**
 Location: **E: Atlantic Aviation Driveway W: Concord Business Park Drive**
 City, State: **Hancom, MA**
 Client: **McFarland Johnson/ T. Heise**
 Site Code: **19011.00**
 Count Date: **Tuesday, March 28, 2023**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total					
	from North					from East					from South					from West										
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total						
3:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	0					0					2					0					2					

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:00 PM	Virginia Road					Atlantic Aviation Driveway					Virginia Road					Concord Business Park Drive					Total					
	from North					from East					from South					from West										
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total						
3:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	
Entering Leg	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Exiting Leg	0					0					2					0					2					
Total	2					0					2					0					4					

PDI File #: **239267 A**
 Location: **N: Virginia Road S: Virginia Road**
 Location: **E: Atlantic Aviation Driveway W: Concord Business Park Drive**
 City, State: **Hancom, MA**
 Client: **McFarland Johnson/ T. Heise**
 Site Code: **19011.00**
 Count Date: **Tuesday, March 28, 2023**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Bicycles (on Roadway and Crosswalks)

	Virginia Road								Atlantic Aviation Driveway								Virginia Road								Concord Business Park Drive								Total
	from North								from East								from South								from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total		Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total		Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1			
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1			
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Total	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Grand Total	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2			
Approach %	0.0	100.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0			0.0	100.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0				
Total %	0.0	50.0	0.0	0.0	0.0	0.0	50.0		0.0	0.0	0.0	0.0	0.0	0.0			0.0	50.0	0.0	0.0	0.0	0.0	50.0			0.0	0.0	0.0	0.0				
Exiting Leg Total	1								0								1								0								2

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:00 PM	Virginia Road								Atlantic Aviation Driveway								Virginia Road								Concord Business Park Drive								Total
	from North								from East								from South								from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total		Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total		Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1			
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1			
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0			0.0	100.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0				
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000			0.000	0.250	0.000	0.000	0.000	0.000	0.250			0.000	0.000	0.000	0.250				
Entering Leg	0								0								1								0								1
Exiting Leg	1								0								0								0								1
Total	1								0								1								0								2

PDI File #: **239267 A**
 Location: **N: Virginia Road S: Virginia Road**
 Location: **E: Atlantic Aviation Driveway W: Concord Business Park Drive**
 City, State: **Hancom, MA**
 Client: **McFarland Johnson/ T. Heise**
 Site Code: **19011.00**
 Count Date: **Tuesday, March 28, 2023**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



**PRECISION
D A T A
INDUSTRIES, LLC**
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilc.com

Pedestrians

	Virginia Road							Atlantic Aviation Driveway							Virginia Road							Concord Business Park Drive							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Exiting Leg Total	0							0							0							0							

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:00 PM	Virginia Road							Atlantic Aviation Driveway							Virginia Road							Concord Business Park Drive							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Exiting Leg	0							0							0							0							
Total	0							0							0							0							



C.3 2022 Automatic Traffic Recorder (ATR) Counts



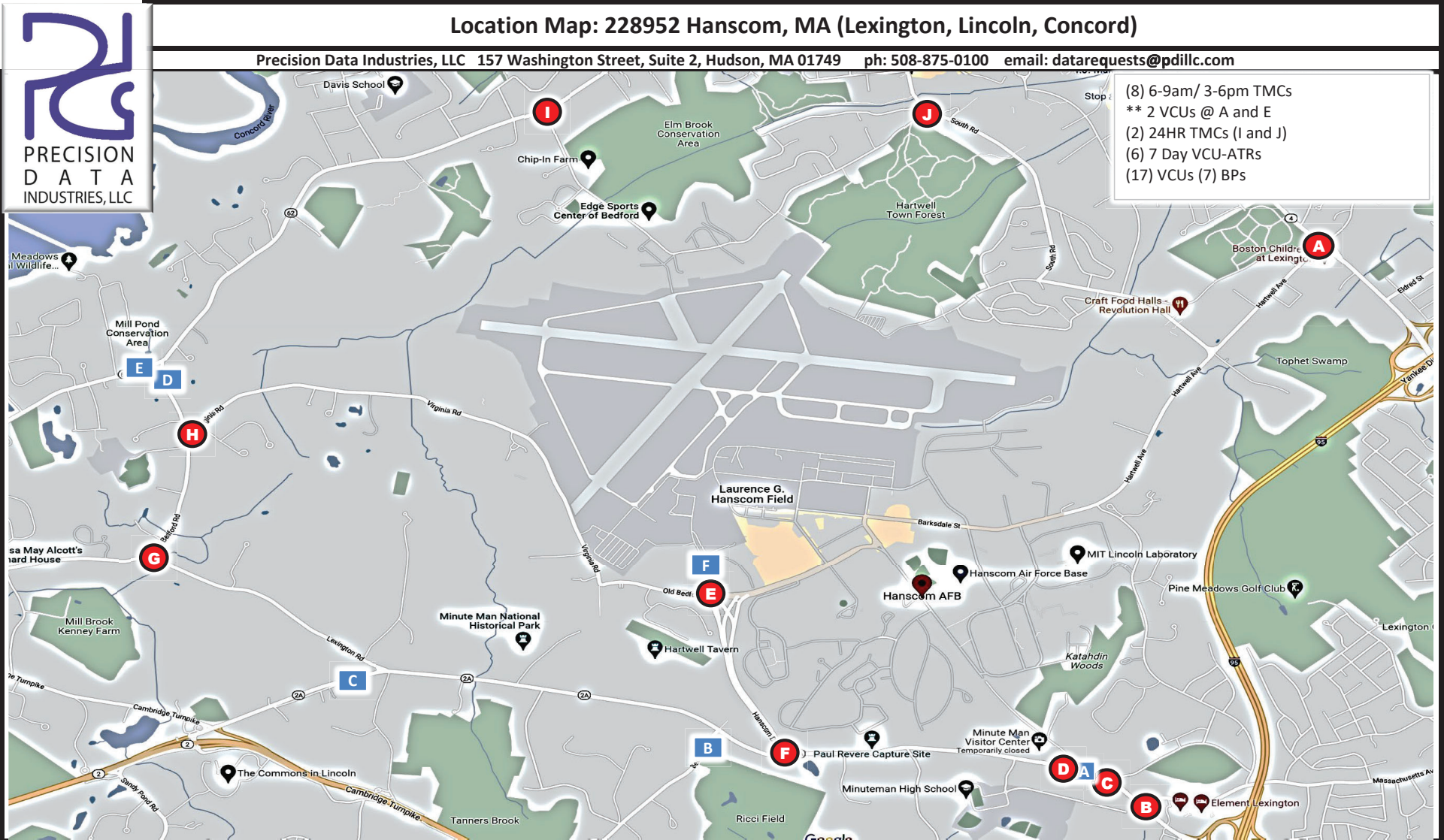
(This page intentionally left blank.)

Location Map: 228952 Hanscom, MA (Lexington, Lincoln, Concord)

Precision Data Industries, LLC 157 Washington Street, Suite 2, Hudson, MA 01749 ph: 508-875-0100 email: datarequests@pdillc.com



- (8) 6-9am/ 3-6pm TMCs
- ** 2 VCUs @ A and E
- (2) 24HR TMCs (I and J)
- (6) 7 Day VCU-ATRs
- (17) VCUs (7) BPs



Client: McFarland Johnson	Engineer: S. Ireland	Site Code:	Date: Tues 11/29 thru Mon 12/5/2022	PDI Job # 228952	City, State: Hanscom, MA (Lexington, Lincoln, Concord)
-------------------------------------	--------------------------------	-------------------	---	----------------------------	--



(This page intentionally left blank.)

Route 2A
 east of Airport Road
 City, State: Lexington, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PDI File #: 228952 ATR-A

Count Date: Tuesday, November 29, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	3	0	0	0	3
12:15 AM	0	0	4	0	0	0	4
12:30 AM	0	0	4	0	0	0	4
12:45 AM	0	0	6	0	0	0	6
1:00 AM	0	0	2	0	0	0	2
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	3	0	0	0	3
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	3	0	0	0	3
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	2	0	0	0	2
4:00 AM	0	0	2	0	0	0	2
4:15 AM	0	0	4	0	0	0	4
4:30 AM	0	0	7	0	0	0	7
4:45 AM	0	0	9	0	0	0	9
5:00 AM	0	0	14	0	0	0	14
5:15 AM	0	0	21	1	0	0	22
5:30 AM	0	0	29	0	0	0	29
5:45 AM	0	0	36	0	0	0	36
6:00 AM	0	0	50	0	1	0	51
6:15 AM	0	0	48	0	2	0	50
6:30 AM	0	0	69	1	1	0	71
6:45 AM	0	0	98	0	3	0	101
7:00 AM	0	0	134	1	5	0	140
7:15 AM	0	0	131	0	4	1	136
7:30 AM	1	0	177	0	9	0	187
7:45 AM	0	0	203	0	5	1	209
8:00 AM	0	0	192	1	2	0	195
8:15 AM	0	0	208	1	5	1	215
8:30 AM	0	1	179	0	4	0	184
8:45 AM	0	0	203	1	6	0	210
9:00 AM	0	0	131	0	5	1	137
9:15 AM	0	0	144	1	2	3	150
9:30 AM	0	0	107	0	9	0	116
9:45 AM	0	0	103	1	1	0	105
10:00 AM	0	0	83	0	3	2	88
10:15 AM	0	0	78	1	3	0	82
10:30 AM	0	0	66	0	5	1	72
10:45 AM	0	2	75	0	4	1	82
11:00 AM	0	0	68	0	6	2	76
11:15 AM	0	0	74	1	12	0	87
11:30 AM	0	0	74	0	3	1	78
11:45 AM	0	0	98	0	0	3	101

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	97	0	9	0	106
12:15 PM	0	0	89	1	8	2	100
12:30 PM	0	0	88	0	5	0	93
12:45 PM	0	0	79	0	4	0	83
1:00 PM	0	0	98	0	4	0	102
1:15 PM	0	0	93	0	3	0	96
1:30 PM	0	0	89	1	5	0	95
1:45 PM	0	0	85	0	3	1	89
2:00 PM	0	0	110	2	7	0	119
2:15 PM	0	0	95	2	5	0	102
2:30 PM	0	0	92	0	4	0	96
2:45 PM	0	0	124	1	7	1	133
3:00 PM	0	0	129	0	0	0	129
3:15 PM	0	0	155	2	4	0	161
3:30 PM	0	0	126	0	3	0	129
3:45 PM	0	0	119	0	1	0	120
4:00 PM	0	0	138	2	0	0	140
4:15 PM	0	0	153	0	2	0	155
4:30 PM	0	0	109	1	1	1	112
4:45 PM	0	0	91	1	0	0	92
5:00 PM	0	0	108	1	0	0	109
5:15 PM	0	0	110	0	0	0	110
5:30 PM	0	0	88	1	0	0	89
5:45 PM	0	0	76	1	1	0	78
6:00 PM	0	0	66	0	0	0	66
6:15 PM	0	0	87	1	0	0	88
6:30 PM	0	0	54	1	0	0	55
6:45 PM	0	0	58	0	0	0	58
7:00 PM	0	0	52	2	0	0	54
7:15 PM	0	0	41	0	0	0	41
7:30 PM	0	0	42	1	0	0	43
7:45 PM	0	0	33	0	0	0	33
8:00 PM	0	0	26	0	0	0	26
8:15 PM	0	0	35	0	1	0	36
8:30 PM	0	0	30	0	0	0	30
8:45 PM	0	0	18	0	0	0	18
9:00 PM	0	0	18	0	0	0	18
9:15 PM	0	0	23	1	0	0	24
9:30 PM	0	0	17	0	0	0	17
9:45 PM	0	0	13	0	0	0	13
10:00 PM	0	0	24	0	0	0	24
10:15 PM	0	0	9	0	0	0	9
10:30 PM	0	0	12	0	0	0	12
10:45 PM	0	0	11	0	0	0	11
11:00 PM	0	0	9	0	0	0	9
11:15 PM	0	0	9	0	0	0	9
11:30 PM	0	0	4	0	0	0	4
11:45 PM	0	0	8	0	0	0	8

AM Total	1	3	2947	10	100	17	3078
Percentage	0.03%	0.10%	95.74%	0.32%	3.25%	0.55%	
AM Peak	6:45 AM	10:00 AM	7:45 AM	8:00 AM	10:30 AM	11:00 AM	7:30 AM
Volume	1	2	782	3	27	6	806

PM Total	0	0	3240	22	77	5	3344
Percentage	0.00%	0.00%	96.89%	0.66%	2.30%	0.15%	
PM Peak	12:00 PM	12:00 PM	3:15 PM	1:30 PM	12:00 PM	12:00 PM	2:45 PM
Volume	0	0	538	5	26	2	552

Day Total	1	3	6187	32	177	22	6422
Percentage	0.02%	0.05%	96.34%	0.50%	2.76%	0.34%	

Route 2A
 east of Airport Road
 City, State: Lexington, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228926 ATR-A

Count Date: Wednesday, November 30, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	6	0	0	0	6
12:15 AM	0	0	8	0	0	1	9
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	3	0	0	1	4
1:00 AM	0	0	4	0	0	0	4
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	2	0	0	0	2
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	2	0	0	0	2
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	3	0	0	0	3
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	1	0	0	0	1
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	9	0	0	0	9
4:45 AM	0	0	8	0	0	0	8
5:00 AM	0	0	13	0	0	0	13
5:15 AM	0	0	22	0	0	0	22
5:30 AM	0	0	29	1	2	0	32
5:45 AM	0	0	33	0	1	1	35
6:00 AM	0	0	56	0	0	1	57
6:15 AM	0	0	54	0	0	0	54
6:30 AM	0	0	70	1	2	1	74
6:45 AM	0	0	103	0	1	0	104
7:00 AM	1	0	113	0	4	2	120
7:15 AM	0	0	131	1	0	1	133
7:30 AM	0	0	153	0	8	2	163
7:45 AM	0	0	190	0	2	0	192
8:00 AM	0	0	157	1	6	3	167
8:15 AM	0	0	182	1	2	0	185
8:30 AM	0	0	175	1	2	0	178
8:45 AM	0	0	162	0	1	0	163
9:00 AM	0	0	131	0	2	0	133
9:15 AM	0	0	114	1	2	1	118
9:30 AM	0	0	119	0	6	2	127
9:45 AM	0	0	104	1	5	2	112
10:00 AM	0	0	88	1	2	0	91
10:15 AM	0	0	81	0	0	0	81
10:30 AM	0	0	102	0	4	2	108
10:45 AM	0	0	89	1	4	0	94
11:00 AM	0	0	75	0	0	0	75
11:15 AM	0	0	76	0	3	0	79
11:30 AM	0	0	88	0	3	1	92
11:45 AM	0	0	108	0	5	1	114

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	101	0	3	1	105
12:15 PM	0	0	80	1	2	0	83
12:30 PM	0	0	114	0	5	2	121
12:45 PM	0	0	91	0	5	2	98
1:00 PM	0	1	79	0	8	1	89
1:15 PM	0	0	94	1	3	2	100
1:30 PM	0	0	104	0	8	0	112
1:45 PM	0	0	102	0	7	2	111
2:00 PM	0	0	127	1	5	1	134
2:15 PM	0	0	117	1	3	0	121
2:30 PM	0	0	100	1	5	1	107
2:45 PM	0	0	87	0	4	0	91
3:00 PM	0	0	115	0	3	0	118
3:15 PM	0	0	110	2	4	0	116
3:30 PM	0	0	122	1	1	2	126
3:45 PM	0	0	124	0	5	0	129
4:00 PM	0	0	106	0	1	0	107
4:15 PM	0	0	106	1	2	0	109
4:30 PM	0	0	79	1	1	1	82
4:45 PM	0	0	93	1	0	0	94
5:00 PM	0	0	71	1	1	1	74
5:15 PM	0	0	84	0	0	0	84
5:30 PM	0	0	101	0	0	0	101
5:45 PM	0	0	90	1	1	0	92
6:00 PM	0	0	80	0	0	0	80
6:15 PM	0	0	53	0	0	0	53
6:30 PM	0	0	38	0	1	0	39
6:45 PM	0	0	29	0	0	0	29
7:00 PM	0	0	27	1	0	0	28
7:15 PM	0	0	46	0	0	0	46
7:30 PM	0	0	37	1	0	0	38
7:45 PM	0	0	28	0	0	0	28
8:00 PM	0	0	39	0	0	0	39
8:15 PM	0	0	36	0	0	0	36
8:30 PM	0	0	27	0	0	0	27
8:45 PM	0	0	20	0	0	0	20
9:00 PM	0	0	19	0	0	0	19
9:15 PM	0	0	13	0	0	0	13
9:30 PM	0	0	8	0	0	0	8
9:45 PM	0	0	7	0	0	0	7
10:00 PM	0	0	23	0	0	0	23
10:15 PM	0	0	23	0	0	0	23
10:30 PM	0	0	12	0	0	0	12
10:45 PM	0	0	8	1	0	0	9
11:00 PM	0	0	20	0	0	0	20
11:15 PM	0	0	6	0	1	0	7
11:30 PM	0	0	1	0	0	0	1
11:45 PM	0	0	11	0	0	0	11

AM Total 1 0 2871 10 67 22 2971
 Percentage 0.03% 0.00% 96.63% 0.34% 2.26% 0.74%
 AM Peak 6:15 AM 12:00 AM 7:45 AM 7:45 AM 7:30 AM 7:15 AM 7:45 AM
 Volume 1 0 704 3 18 6 722

PM Total 0 1 3008 16 79 16 3120
 Percentage 0.00% 0.03% 96.41% 0.51% 2.53% 0.51%
 PM Peak 12:00 PM 12:15 PM 3:00 PM 4:15 PM 1:00 PM 12:30 PM 3:00 PM
 Volume 0 1 471 4 26 7 489

Day Total 1 1 5879 26 146 38 6091
 Percentage 0.02% 0.02% 96.52% 0.43% 2.40% 0.62%

Route 2A
 east of Airport Road
 City, State: Lexington, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilic.com

PDI File #: 228926 ATR-A

Count Date: Thursday, December 1, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	6	1	0	0	7
12:15 AM	0	0	5	0	0	0	5
12:30 AM	0	0	4	0	0	0	4
12:45 AM	0	0	1	0	0	0	1
1:00 AM	0	0	3	0	0	0	3
1:15 AM	0	0	2	0	0	0	2
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	3	0	0	0	3
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	2	0	0	0	2
3:00 AM	0	0	3	0	0	0	3
3:15 AM	0	0	2	0	0	0	2
3:30 AM	0	0	5	0	0	0	5
3:45 AM	0	0	6	0	0	0	6
4:00 AM	0	0	7	0	0	0	7
4:15 AM	0	0	6	0	0	0	6
4:30 AM	0	0	9	0	0	0	9
4:45 AM	0	0	10	0	0	0	10
5:00 AM	0	0	11	0	0	0	11
5:15 AM	0	0	25	0	0	0	25
5:30 AM	0	0	31	1	0	0	32
5:45 AM	0	0	39	1	0	0	40
6:00 AM	0	0	35	0	1	1	37
6:15 AM	0	0	48	0	1	1	50
6:30 AM	0	0	84	1	3	1	89
6:45 AM	0	0	92	0	2	1	95
7:00 AM	0	0	119	1	2	0	122
7:15 AM	0	0	141	2	7	0	150
7:30 AM	0	0	191	2	4	0	197
7:45 AM	1	0	212	1	8	1	223
8:00 AM	0	0	188	3	2	0	193
8:15 AM	1	1	185	1	1	0	189
8:30 AM	0	0	167	1	3	0	171
8:45 AM	0	0	148	0	4	1	153
9:00 AM	0	0	123	0	5	0	128
9:15 AM	0	0	120	1	4	1	126
9:30 AM	0	0	85	0	3	2	90
9:45 AM	0	0	93	1	6	0	100
10:00 AM	0	0	75	1	1	0	77
10:15 AM	0	0	98	0	0	0	98
10:30 AM	0	0	84	0	3	2	89
10:45 AM	0	0	73	1	9	2	85
11:00 AM	0	0	67	0	2	0	69
11:15 AM	0	0	85	1	5	2	93
11:30 AM	0	0	103	0	6	1	110
11:45 AM	0	0	82	0	4	3	89

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	84	0	5	0	89
12:15 PM	0	0	86	1	2	0	89
12:30 PM	0	0	75	0	5	0	80
12:45 PM	0	0	95	0	7	0	102
1:00 PM	0	0	105	1	2	0	108
1:15 PM	0	0	85	2	12	0	99
1:30 PM	0	0	110	0	5	1	116
1:45 PM	0	0	81	0	5	0	86
2:00 PM	0	0	80	1	6	0	87
2:15 PM	0	1	116	1	3	0	121
2:30 PM	0	0	109	0	7	2	118
2:45 PM	0	0	113	2	4	1	120
3:00 PM	0	0	130	0	5	1	136
3:15 PM	0	0	112	2	2	0	116
3:30 PM	0	0	126	0	0	0	126
3:45 PM	0	0	103	0	4	0	107
4:00 PM	0	0	144	2	1	0	147
4:15 PM	0	0	106	1	1	1	109
4:30 PM	0	0	98	0	1	0	99
4:45 PM	0	0	101	2	1	1	105
5:00 PM	0	0	90	1	1	0	92
5:15 PM	0	0	89	0	0	0	89
5:30 PM	0	0	91	0	0	0	91
5:45 PM	0	0	82	1	1	0	84
6:00 PM	0	0	74	0	0	0	74
6:15 PM	0	0	59	0	0	0	59
6:30 PM	0	1	67	1	1	0	70
6:45 PM	0	0	49	0	3	0	52
7:00 PM	0	0	34	1	0	0	35
7:15 PM	0	0	47	0	0	0	47
7:30 PM	0	0	33	1	0	0	34
7:45 PM	0	0	27	0	0	0	27
8:00 PM	0	0	46	0	0	0	46
8:15 PM	0	0	28	0	0	0	28
8:30 PM	0	0	30	0	0	0	30
8:45 PM	0	0	17	0	0	1	18
9:00 PM	0	0	15	0	0	0	15
9:15 PM	0	0	18	1	0	0	19
9:30 PM	0	0	8	0	0	0	8
9:45 PM	0	0	21	0	0	0	21
10:00 PM	0	0	31	0	0	0	31
10:15 PM	0	0	16	0	0	0	16
10:30 PM	0	0	14	0	0	0	14
10:45 PM	0	0	17	0	0	0	17
11:00 PM	0	0	17	0	0	0	17
11:15 PM	0	0	11	0	0	0	11
11:30 PM	0	0	14	0	0	1	15
11:45 PM	0	0	2	0	0	0	2

AM Total	2	1	2880	20	86	19	3008
Percentage	0.07%	0.03%	95.74%	0.66%	2.86%	0.63%	
AM Peak	7:30 AM	7:30 AM	7:30 AM	7:15 AM	10:45 AM	10:30 AM	7:30 AM
Volume	2	1	776	8	22	6	802

PM Total	0	2	3106	21	84	9	3222
Percentage	0.00%	0.06%	96.40%	0.65%	2.61%	0.28%	
PM Peak	12:00 PM	1:30 PM	3:15 PM	4:00 PM	1:15 PM	2:15 PM	2:45 PM
Volume	0	1	485	5	28	4	498

Day Total	2	3	5986	41	170	28	6230
Percentage	0.03%	0.05%	96.08%	0.66%	2.73%	0.45%	

Route 2A
 east of Airport Road
 City, State: Lexington, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228926 ATR-A

Count Date: Friday, December 2, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	6	0	0	0	6
12:15 AM	0	0	3	0	0	0	3
12:30 AM	0	0	4	0	1	0	5
12:45 AM	0	0	2	0	0	0	2
1:00 AM	0	0	3	0	0	0	3
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	3	0	0	0	3
1:45 AM	0	0	4	0	0	0	4
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	2	0	0	0	2
3:30 AM	0	0	2	0	0	0	2
3:45 AM	0	0	3	0	0	0	3
4:00 AM	0	0	3	0	0	0	3
4:15 AM	0	0	3	0	0	0	3
4:30 AM	0	0	2	0	0	0	2
4:45 AM	0	0	8	0	1	0	9
5:00 AM	0	0	13	0	0	0	13
5:15 AM	0	0	24	0	2	0	26
5:30 AM	0	0	36	1	0	0	37
5:45 AM	0	0	22	0	1	0	23
6:00 AM	0	0	35	0	0	1	36
6:15 AM	0	0	61	0	1	0	62
6:30 AM	0	0	57	1	1	0	59
6:45 AM	0	0	94	0	6	1	101
7:00 AM	0	0	87	0	1	1	89
7:15 AM	0	0	100	0	2	1	103
7:30 AM	0	0	132	3	1	1	137
7:45 AM	0	0	124	0	4	1	129
8:00 AM	0	0	131	1	9	0	141
8:15 AM	0	1	119	1	3	1	125
8:30 AM	0	0	121	1	8	0	130
8:45 AM	0	0	113	1	6	1	121
9:00 AM	0	0	93	0	6	0	99
9:15 AM	0	0	97	1	5	0	103
9:30 AM	0	0	97	1	1	1	100
9:45 AM	0	0	98	1	5	0	104
10:00 AM	0	0	94	0	2	0	96
10:15 AM	0	0	72	1	2	1	76
10:30 AM	0	0	64	0	3	0	67
10:45 AM	0	0	89	0	2	0	91
11:00 AM	0	0	79	0	3	0	82
11:15 AM	0	0	91	1	6	1	99
11:30 AM	0	0	100	1	10	3	114
11:45 AM	0	0	104	0	5	1	110

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	94	2	3	2	101
12:15 PM	0	0	91	0	3	0	94
12:30 PM	0	0	100	0	4	1	105
12:45 PM	0	0	101	0	2	1	104
1:00 PM	0	0	87	1	0	0	88
1:15 PM	0	0	83	0	3	1	87
1:30 PM	0	0	99	0	5	1	105
1:45 PM	1	0	96	0	3	0	100
2:00 PM	0	0	122	1	3	2	128
2:15 PM	0	0	86	0	2	0	88
2:30 PM	0	0	104	1	4	0	109
2:45 PM	0	0	97	0	3	0	100
3:00 PM	0	0	141	1	5	0	147
3:15 PM	1	0	138	1	1	2	143
3:30 PM	0	0	116	0	2	1	119
3:45 PM	0	0	103	0	1	1	105
4:00 PM	1	0	112	1	1	0	115
4:15 PM	0	0	110	0	3	1	114
4:30 PM	0	0	87	0	2	0	89
4:45 PM	0	0	107	0	2	0	109
5:00 PM	0	0	82	1	0	0	83
5:15 PM	0	0	87	0	0	1	88
5:30 PM	0	0	86	0	0	0	86
5:45 PM	0	0	78	1	0	0	79
6:00 PM	0	0	74	0	0	0	74
6:15 PM	0	0	55	0	0	0	55
6:30 PM	0	0	56	1	0	0	57
6:45 PM	0	0	58	0	0	0	58
7:00 PM	0	0	56	2	0	0	58
7:15 PM	0	0	46	0	0	0	46
7:30 PM	0	0	43	1	0	0	44
7:45 PM	0	0	41	1	0	0	42
8:00 PM	0	0	34	0	0	0	34
8:15 PM	0	0	27	1	1	0	29
8:30 PM	0	0	17	1	0	0	18
8:45 PM	0	0	20	0	0	0	20
9:00 PM	0	0	13	0	0	0	13
9:15 PM	0	0	26	0	0	0	26
9:30 PM	0	0	17	0	0	0	17
9:45 PM	0	0	19	0	0	0	19
10:00 PM	0	0	28	0	0	0	28
10:15 PM	0	0	27	0	0	0	27
10:30 PM	0	0	22	0	0	0	22
10:45 PM	0	0	19	0	0	0	19
11:00 PM	0	0	19	0	0	0	19
11:15 PM	0	0	8	0	0	0	8
11:30 PM	0	0	9	0	0	0	9
11:45 PM	0	0	8	0	0	1	9

AM Total	0	1	2398	15	97	15	2526
Percentage	0.00%	0.04%	94.93%	0.59%	3.84%	0.59%	
AM Peak	12:00 AM	7:30 AM	7:30 AM	7:30 AM	8:00 AM	11:00 AM	7:30 AM
Volume	0	1	506	5	26	5	532

PM Total	3	0	3149	17	53	15	3237
Percentage	0.09%	0.00%	97.28%	0.53%	1.64%	0.46%	
PM Peak	3:15 PM	12:00 PM	3:00 PM	7:00 PM	1:15 PM	12:00 PM	3:00 PM
Volume	2	0	498	4	14	4	514

Day Total	3	1	5547	32	150	30	5763
Percentage	0.05%	0.02%	96.25%	0.56%	2.60%	0.52%	

Route 2A
 east of Airport Road
 City, State: Lexington, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PDI File #: 228926 ATR-A

Count Date: Saturday, December 3, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	4	0	0	0	4
12:15 AM	0	0	5	0	0	0	5
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	5	0	0	0	5
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	5	0	0	0	5
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	2	0	1	0	3
3:15 AM	0	0	2	0	0	0	2
3:30 AM	0	0	1	0	0	0	1
3:45 AM	0	0	2	0	0	0	2
4:00 AM	0	0	5	0	0	0	5
4:15 AM	0	0	2	0	0	0	2
4:30 AM	0	0	2	0	0	0	2
4:45 AM	0	0	1	0	0	0	1
5:00 AM	0	0	5	0	0	0	5
5:15 AM	0	0	7	0	0	0	7
5:30 AM	0	0	13	0	0	0	13
5:45 AM	0	0	8	0	0	0	8
6:00 AM	0	0	14	0	0	0	14
6:15 AM	0	0	16	0	1	0	17
6:30 AM	0	0	19	0	0	0	19
6:45 AM	0	0	19	0	0	0	19
7:00 AM	0	0	42	0	2	1	45
7:15 AM	0	0	48	0	1	0	49
7:30 AM	0	0	38	1	2	1	42
7:45 AM	0	1	39	0	0	0	40
8:00 AM	1	0	30	0	0	0	31
8:15 AM	0	0	36	1	0	0	37
8:30 AM	0	0	50	1	0	0	51
8:45 AM	1	0	70	0	1	0	72
9:00 AM	0	0	69	0	1	0	70
9:15 AM	0	0	74	0	1	0	75
9:30 AM	2	1	68	1	0	0	72
9:45 AM	0	0	79	1	3	1	84
10:00 AM	0	0	81	0	1	0	82
10:15 AM	0	0	62	0	0	0	62
10:30 AM	0	0	74	1	1	1	77
10:45 AM	0	0	79	0	1	0	80
11:00 AM	0	0	75	1	0	0	76
11:15 AM	0	0	79	0	1	0	80
11:30 AM	0	0	90	0	0	1	91
11:45 AM	0	0	104	0	0	0	104

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	81	0	0	0	81
12:15 PM	0	0	89	2	1	0	92
12:30 PM	0	0	87	0	5	0	92
12:45 PM	0	0	86	0	2	0	88
1:00 PM	0	0	98	1	0	0	99
1:15 PM	0	0	86	0	2	0	88
1:30 PM	0	0	79	0	1	1	81
1:45 PM	0	0	78	0	1	0	79
2:00 PM	0	0	76	0	0	0	76
2:15 PM	0	0	74	1	2	1	78
2:30 PM	0	0	77	2	2	1	82
2:45 PM	0	0	83	0	2	1	86
3:00 PM	0	0	82	0	0	0	82
3:15 PM	0	0	56	1	0	0	57
3:30 PM	0	0	69	1	1	1	72
3:45 PM	0	0	63	0	1	0	64
4:00 PM	0	0	68	0	1	0	69
4:15 PM	0	0	56	1	0	0	57
4:30 PM	0	0	57	0	1	0	58
4:45 PM	0	0	54	1	0	0	55
5:00 PM	0	0	60	0	0	0	60
5:15 PM	0	0	71	1	0	0	72
5:30 PM	0	0	48	1	0	0	49
5:45 PM	0	0	51	0	0	0	51
6:00 PM	0	0	40	0	0	0	40
6:15 PM	0	0	52	1	0	0	53
6:30 PM	0	0	43	1	0	0	44
6:45 PM	0	0	35	0	0	0	35
7:00 PM	0	0	35	0	0	0	35
7:15 PM	0	0	28	1	0	0	29
7:30 PM	0	0	26	1	0	0	27
7:45 PM	0	0	11	0	0	0	11
8:00 PM	0	0	17	0	0	0	17
8:15 PM	0	0	20	1	1	0	22
8:30 PM	0	0	19	0	0	0	19
8:45 PM	0	0	14	0	1	0	15
9:00 PM	0	0	15	0	0	0	15
9:15 PM	0	0	19	0	0	0	19
9:30 PM	0	0	21	0	0	0	21
9:45 PM	0	0	23	0	0	0	23
10:00 PM	0	1	31	1	0	0	33
10:15 PM	0	1	22	0	0	0	23
10:30 PM	0	1	18	0	0	0	19
10:45 PM	0	0	14	0	0	0	14
11:00 PM	0	0	32	0	0	0	32
11:15 PM	0	0	14	0	0	0	14
11:30 PM	0	0	14	0	0	0	14
11:45 PM	0	0	9	0	0	0	9

AM Total	4	2	1431	7	17	5	1466
Percentage	0.27%	0.14%	97.61%	0.48%	1.16%	0.34%	
AM Peak	8:45 AM	7:00 AM	11:00 AM	7:30 AM	6:45 AM	6:45 AM	11:00 AM
Volume	3	1	348	2	5	2	351

PM Total	0	3	2301	18	24	5	2351
Percentage	0.00%	0.13%	97.87%	0.77%	1.02%	0.21%	
PM Peak	12:00 PM	9:45 PM	12:15 PM	12:15 PM	12:30 PM	2:00 PM	12:15 PM
Volume	0	3	360	3	9	3	371

Day Total	4	5	3732	25	41	10	3817
Percentage	0.10%	0.13%	97.77%	0.65%	1.07%	0.26%	

Route 2A
 east of Airport Road
 City, State: Lexington, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228926 ATR-A

Count Date: Sunday, December 4, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	2	0	1	1	4
12:15 AM	0	0	4	0	0	0	4
12:30 AM	0	0	5	0	0	0	5
12:45 AM	0	0	2	0	0	0	2
1:00 AM	0	0	2	0	0	0	2
1:15 AM	0	0	4	0	0	0	4
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	2	0	0	0	2
2:00 AM	0	0	3	0	0	1	4
2:15 AM	0	0	4	0	0	0	4
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	0	0	1	0	1
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	1	0	1
4:00 AM	0	0	2	0	0	0	2
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	3	0	0	0	3
4:45 AM	0	0	1	0	0	0	1
5:00 AM	0	0	3	0	0	0	3
5:15 AM	0	0	3	0	0	0	3
5:30 AM	0	0	4	0	0	0	4
5:45 AM	0	0	6	0	0	0	6
6:00 AM	0	0	3	0	0	0	3
6:15 AM	0	0	8	0	0	0	8
6:30 AM	0	0	7	0	0	0	7
6:45 AM	0	0	13	0	0	0	13
7:00 AM	0	0	24	0	0	0	24
7:15 AM	0	0	23	0	0	0	23
7:30 AM	0	0	23	0	0	0	23
7:45 AM	0	0	32	0	1	0	33
8:00 AM	0	0	30	0	0	0	30
8:15 AM	0	0	32	0	0	0	32
8:30 AM	0	0	48	0	0	0	48
8:45 AM	1	0	67	0	0	0	68
9:00 AM	0	0	75	0	0	0	75
9:15 AM	2	0	55	0	0	0	57
9:30 AM	0	0	46	0	0	0	46
9:45 AM	0	0	63	0	0	0	63
10:00 AM	0	0	57	0	0	0	57
10:15 AM	0	0	76	0	0	0	76
10:30 AM	0	0	71	0	0	1	72
10:45 AM	0	0	98	0	0	0	98
11:00 AM	0	1	75	0	1	0	77
11:15 AM	0	0	83	0	0	0	83
11:30 AM	0	0	67	0	0	0	67
11:45 AM	0	0	75	0	2	0	77

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	1	0	86	0	1	0	88
12:15 PM	0	0	71	0	0	0	71
12:30 PM	1	0	99	0	0	0	100
12:45 PM	0	0	54	0	2	0	56
1:00 PM	0	0	72	0	0	0	72
1:15 PM	0	0	87	0	1	0	88
1:30 PM	0	1	84	0	0	0	85
1:45 PM	0	0	95	0	0	0	95
2:00 PM	0	0	88	0	0	0	88
2:15 PM	0	0	98	0	0	1	99
2:30 PM	1	1	91	0	1	0	94
2:45 PM	0	0	78	0	0	0	78
3:00 PM	0	0	77	0	1	0	78
3:15 PM	1	0	83	0	0	0	84
3:30 PM	1	0	67	0	0	0	68
3:45 PM	1	0	66	0	0	0	67
4:00 PM	0	0	60	0	0	0	60
4:15 PM	4	0	71	0	0	0	75
4:30 PM	0	0	79	0	0	0	79
4:45 PM	0	0	48	0	0	0	48
5:00 PM	0	0	38	0	0	0	38
5:15 PM	0	0	63	0	0	0	63
5:30 PM	0	0	49	0	0	0	49
5:45 PM	0	0	38	0	0	0	38
6:00 PM	0	0	50	0	1	0	51
6:15 PM	0	0	44	0	0	0	44
6:30 PM	0	0	33	0	0	0	33
6:45 PM	0	0	38	0	0	0	38
7:00 PM	0	0	33	0	0	0	33
7:15 PM	0	0	27	0	0	0	27
7:30 PM	0	0	21	0	0	0	21
7:45 PM	0	0	31	1	0	1	33
8:00 PM	0	0	9	0	0	0	9
8:15 PM	0	0	27	0	0	0	27
8:30 PM	0	0	20	0	0	0	20
8:45 PM	0	0	21	0	0	0	21
9:00 PM	0	0	15	0	0	0	15
9:15 PM	0	0	12	0	0	0	12
9:30 PM	0	0	14	0	0	0	14
9:45 PM	0	0	11	0	0	0	11
10:00 PM	0	0	10	0	0	0	10
10:15 PM	0	0	20	0	0	0	20
10:30 PM	0	0	12	0	1	0	13
10:45 PM	0	0	7	0	0	0	7
11:00 PM	0	0	8	0	0	0	8
11:15 PM	0	0	4	0	0	0	4
11:30 PM	0	0	4	0	0	0	4
11:45 PM	0	0	3	0	0	0	3

AM Total	3	1	1205	0	7	3	1219
Percentage	0.25%	0.08%	98.85%	0.00%	0.57%	0.25%	
AM Peak	8:30 AM	10:15 AM	10:30 AM	12:00 AM	11:00 AM	12:00 AM	10:30 AM
Volume	3	1	327	0	3	1	330

PM Total	10	2	2216	1	8	2	2239
Percentage	0.45%	0.09%	98.97%	0.04%	0.36%	0.09%	
PM Peak	3:30 PM	12:45 PM	1:45 PM	7:00 PM	12:00 PM	1:30 PM	1:45 PM
Volume	6	1	372	1	3	1	376

Day Total	13	3	3421	1	15	5	3458
Percentage	0.38%	0.09%	98.93%	0.03%	0.43%	0.14%	

Route 2A
 east of Airport Road
 City, State: Lexington, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228926 ATR-A

Count Date: Monday, December 5, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	7	0	0	0	7
12:15 AM	0	0	2	0	0	0	2
12:30 AM	0	0	3	0	0	0	3
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	2	0	0	0	2
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	2	0	2
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	0	0	1	0	1
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	1	0	1	0	2
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	2	0	0	0	2
3:45 AM	0	0	2	0	0	0	2
4:00 AM	0	0	5	0	0	0	5
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	2	0	1	0	3
4:45 AM	0	0	15	0	4	0	19
5:00 AM	0	0	15	0	0	0	15
5:15 AM	0	0	18	0	1	0	19
5:30 AM	0	0	23	1	2	0	26
5:45 AM	0	0	43	0	1	1	45
6:00 AM	0	0	29	0	1	1	31
6:15 AM	0	0	41	0	0	0	41
6:30 AM	0	0	88	1	3	0	92
6:45 AM	0	0	78	0	3	1	82
7:00 AM	0	0	114	1	4	3	122
7:15 AM	1	0	125	0	1	1	128
7:30 AM	0	0	169	0	3	0	172
7:45 AM	0	0	195	0	3	1	199
8:00 AM	0	0	178	2	3	1	184
8:15 AM	0	0	181	2	4	2	189
8:30 AM	0	0	152	2	5	0	159
8:45 AM	0	0	143	2	6	2	153
9:00 AM	0	0	114	0	3	3	120
9:15 AM	0	0	102	1	5	3	111
9:30 AM	0	0	101	1	3	0	105
9:45 AM	0	0	69	0	2	0	71
10:00 AM	0	0	77	0	3	0	80
10:15 AM	0	0	64	0	2	1	67
10:30 AM	0	0	76	0	4	1	81
10:45 AM	0	0	86	0	3	1	90
11:00 AM	0	0	73	0	4	1	78
11:15 AM	0	0	68	1	3	3	75
11:30 AM	0	0	83	0	5	1	89
11:45 AM	0	0	71	0	3	1	75

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	57	0	4	1	62
12:15 PM	0	0	80	1	2	1	84
12:30 PM	0	0	78	0	4	0	82
12:45 PM	0	0	72	0	1	0	73
1:00 PM	0	0	72	0	3	3	78
1:15 PM	0	2	86	1	9	2	100
1:30 PM	0	0	91	0	3	1	95
1:45 PM	0	0	76	0	6	1	83
2:00 PM	0	0	91	0	6	2	99
2:15 PM	0	0	88	1	5	1	95
2:30 PM	1	1	91	0	7	3	103
2:45 PM	1	0	99	2	2	1	105
3:00 PM	0	0	125	1	6	0	132
3:15 PM	0	0	110	2	5	2	119
3:30 PM	0	0	100	1	2	2	105
3:45 PM	0	0	120	0	2	0	122
4:00 PM	0	0	117	0	1	0	118
4:15 PM	0	0	100	2	1	1	104
4:30 PM	0	0	100	1	3	0	104
4:45 PM	0	0	105	0	0	0	105
5:00 PM	0	0	89	1	0	0	90
5:15 PM	0	0	80	0	0	0	80
5:30 PM	0	0	63	0	0	0	63
5:45 PM	0	0	78	1	0	0	79
6:00 PM	0	0	54	0	1	0	55
6:15 PM	0	0	43	1	0	2	46
6:30 PM	0	0	49	1	0	0	50
6:45 PM	0	0	52	0	0	0	52
7:00 PM	0	0	57	1	0	1	59
7:15 PM	0	0	27	0	0	0	27
7:30 PM	0	0	31	1	0	0	32
7:45 PM	0	0	20	1	0	0	21
8:00 PM	0	0	19	0	0	0	19
8:15 PM	0	0	31	0	0	0	31
8:30 PM	0	0	24	0	0	0	24
8:45 PM	0	0	15	0	0	0	15
9:00 PM	0	0	23	0	0	0	23
9:15 PM	0	0	13	0	0	0	13
9:30 PM	0	0	19	0	0	0	19
9:45 PM	0	0	15	0	0	0	15
10:00 PM	0	0	19	0	0	0	19
10:15 PM	0	0	18	0	0	0	18
10:30 PM	0	0	9	0	0	0	9
10:45 PM	0	0	8	0	0	0	8
11:00 PM	0	0	12	0	0	0	12
11:15 PM	0	0	5	0	0	0	5
11:30 PM	0	0	3	0	0	0	3
11:45 PM	0	0	4	0	0	0	4

AM Total	1	0	2621	14	89	28	2753
Percentage	0.04%	0.00%	95.21%	0.51%	3.23%	1.02%	
AM Peak	6:30 AM	12:00 AM	7:30 AM	8:00 AM	8:30 AM	8:30 AM	7:30 AM
Volume	1	0	723	8	19	8	744

PM Total	2	3	2738	19	73	24	2859
Percentage	0.07%	0.10%	95.77%	0.66%	2.55%	0.84%	
PM Peak	2:00 PM	12:30 PM	3:00 PM	2:45 PM	1:15 PM	1:00 PM	3:00 PM
Volume	2	2	455	6	24	7	478

Day Total	3	3	5359	33	162	52	5612
Percentage	0.05%	0.05%	95.49%	0.59%	2.89%	0.93%	

Route 2A
 east of Airport Road
 City, State: Lexington, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-A

Count Date: Tuesday, November 29, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total	PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0	12:00 PM	0	0	111	1	6	0	118
12:15 AM	0	0	1	0	0	0	1	12:15 PM	0	0	104	1	5	0	110
12:30 AM	0	0	1	0	0	0	1	12:30 PM	0	0	96	0	2	0	98
12:45 AM	0	0	2	0	0	0	2	12:45 PM	0	0	77	0	2	0	79
1:00 AM	0	0	0	0	0	0	0	1:00 PM	0	0	90	0	5	2	97
1:15 AM	0	0	1	0	0	0	1	1:15 PM	0	1	94	1	7	0	103
1:30 AM	0	0	1	0	0	0	1	1:30 PM	1	0	91	0	5	1	98
1:45 AM	0	0	0	0	0	0	0	1:45 PM	0	0	98	0	7	0	105
2:00 AM	0	0	0	0	0	0	0	2:00 PM	0	0	111	1	5	0	117
2:15 AM	0	0	1	0	0	0	1	2:15 PM	0	0	109	1	2	0	112
2:30 AM	0	0	1	0	0	0	1	2:30 PM	0	0	127	0	3	0	130
2:45 AM	0	0	0	0	0	0	0	2:45 PM	0	0	140	1	4	0	145
3:00 AM	0	0	1	0	0	0	1	3:00 PM	0	0	159	0	3	0	162
3:15 AM	0	0	4	0	0	0	4	3:15 PM	0	0	152	3	4	0	159
3:30 AM	0	0	10	0	1	0	11	3:30 PM	0	0	158	0	2	0	160
3:45 AM	0	0	5	0	0	0	5	3:45 PM	0	0	147	1	1	0	149
4:00 AM	0	0	4	0	1	0	5	4:00 PM	0	0	148	0	1	0	149
4:15 AM	0	0	8	0	2	0	10	4:15 PM	0	0	179	0	1	0	180
4:30 AM	0	0	19	0	1	0	20	4:30 PM	0	0	183	0	3	0	186
4:45 AM	0	0	14	0	1	0	15	4:45 PM	0	0	170	0	2	0	172
5:00 AM	0	0	21	0	1	0	22	5:00 PM	0	0	176	0	1	0	177
5:15 AM	0	0	42	1	3	0	46	5:15 PM	0	0	205	1	0	0	206
5:30 AM	0	0	86	0	1	0	87	5:30 PM	0	0	164	1	0	0	165
5:45 AM	0	0	94	0	6	1	101	5:45 PM	0	0	124	0	0	1	125
6:00 AM	0	0	57	0	2	2	61	6:00 PM	0	0	128	0	2	0	130
6:15 AM	0	0	72	0	5	1	78	6:15 PM	0	0	105	1	0	0	106
6:30 AM	0	0	75	1	4	0	80	6:30 PM	0	0	103	0	1	0	104
6:45 AM	0	0	98	0	3	1	102	6:45 PM	1	0	66	1	0	0	68
7:00 AM	0	0	124	1	2	2	129	7:00 PM	0	0	52	0	1	0	53
7:15 AM	0	0	131	0	5	3	139	7:15 PM	0	0	66	1	0	0	67
7:30 AM	0	0	153	1	2	0	156	7:30 PM	0	0	37	0	1	0	38
7:45 AM	0	0	142	1	13	1	157	7:45 PM	0	0	48	0	0	0	48
8:00 AM	0	0	163	0	6	2	171	8:00 PM	0	0	49	0	0	0	49
8:15 AM	0	0	170	0	4	0	174	8:15 PM	0	0	33	0	0	0	33
8:30 AM	0	0	129	1	4	0	134	8:30 PM	0	0	29	0	0	0	29
8:45 AM	0	0	138	0	11	3	152	8:45 PM	0	0	27	0	0	0	27
9:00 AM	0	0	130	1	10	3	144	9:00 PM	0	0	29	0	1	0	30
9:15 AM	0	0	108	0	7	1	116	9:15 PM	0	0	39	0	1	0	40
9:30 AM	0	0	103	1	5	2	111	9:30 PM	0	0	27	0	0	1	28
9:45 AM	0	0	89	0	5	3	97	9:45 PM	0	0	21	0	0	0	21
10:00 AM	0	2	70	1	5	3	81	10:00 PM	0	0	13	0	0	0	13
10:15 AM	0	0	81	0	8	0	89	10:15 PM	0	0	23	0	0	0	23
10:30 AM	0	0	80	0	4	0	84	10:30 PM	0	0	13	0	0	0	13
10:45 AM	0	0	74	0	7	0	81	10:45 PM	0	0	9	0	0	0	9
11:00 AM	0	1	79	1	4	0	85	11:00 PM	0	0	15	0	0	0	15
11:15 AM	0	0	89	0	3	1	93	11:15 PM	0	0	10	0	0	1	11
11:30 AM	0	0	91	0	4	1	96	11:30 PM	0	0	9	0	0	0	9
11:45 AM	0	0	89	0	5	3	97	11:45 PM	0	0	5	0	0	0	5

AM Total	0	3	2851	10	145	33	3042	PM Total	2	1	4169	15	78	6	4271
Percentage	0.00%	0.10%	93.72%	0.33%	4.77%	1.08%		Percentage	0.05%	0.02%	97.61%	0.35%	1.83%	0.14%	
AM Peak	12:00 AM	9:15 AM	7:30 AM	7:00 AM	8:45 AM	8:45 AM	7:30 AM	PM Peak	12:45 PM	12:30 PM	4:30 PM	2:30 PM	1:00 PM	12:45 PM	4:30 PM
Volume	0	2	628	3	33	9	658	Volume	1	1	734	4	24	3	741
								Day Total	2	4	7020	25	223	39	7313
								Percentage	0.03%	0.05%	95.99%	0.34%	3.05%	0.53%	

Route 2A
east of Airport Road
City, State: Lexington, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

PDI File #: 228926 ATR-A

Count Date: Wednesday, November 30, 2022
Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	7	0	0	0	7
12:15 AM	0	0	2	0	0	0	2
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	3	0	0	0	3
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	2	0	0	0	2
2:15 AM	0	0	2	0	0	0	2
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	2	0	0	0	2
3:45 AM	0	0	2	0	0	0	2
4:00 AM	0	0	8	0	1	0	9
4:15 AM	0	0	8	0	0	0	8
4:30 AM	0	0	16	0	0	0	16
4:45 AM	0	0	20	0	0	0	20
5:00 AM	0	0	30	0	3	0	33
5:15 AM	0	0	50	1	3	0	54
5:30 AM	1	0	72	0	2	1	76
5:45 AM	0	0	92	0	5	0	97
6:00 AM	0	0	50	0	0	1	51
6:15 AM	0	0	62	0	3	0	65
6:30 AM	0	0	86	0	4	0	90
6:45 AM	0	0	108	0	1	2	111
7:00 AM	0	0	113	2	5	3	123
7:15 AM	0	0	114	0	4	0	118
7:30 AM	0	0	174	1	4	4	183
7:45 AM	0	0	171	1	6	0	178
8:00 AM	0	0	173	0	10	1	184
8:15 AM	0	0	151	0	6	2	159
8:30 AM	0	0	133	2	7	0	142
8:45 AM	0	0	122	0	9	2	133
9:00 AM	0	0	134	1	7	2	144
9:15 AM	0	0	97	0	1	0	98
9:30 AM	1	0	115	2	3	2	123
9:45 AM	0	0	88	1	4	1	94
10:00 AM	0	0	85	0	3	1	89
10:15 AM	0	0	85	0	6	1	92
10:30 AM	0	0	82	0	2	2	86
10:45 AM	0	0	66	0	7	0	73
11:00 AM	0	0	88	3	3	2	96
11:15 AM	1	0	87	0	7	2	97
11:30 AM	0	0	104	0	5	2	111
11:45 AM	0	0	80	1	6	3	90

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	1	0	85	1	5	0	92
12:15 PM	0	0	108	0	5	1	114
12:30 PM	0	0	101	0	2	0	103
12:45 PM	0	0	91	0	2	5	98
1:00 PM	1	0	110	0	7	0	118
1:15 PM	0	0	98	1	3	0	102
1:30 PM	0	0	108	0	1	3	112
1:45 PM	0	0	117	0	8	1	126
2:00 PM	0	0	98	0	3	1	102
2:15 PM	0	0	115	1	7	1	124
2:30 PM	0	0	149	0	2	1	152
2:45 PM	0	0	193	1	7	0	201
3:00 PM	0	0	198	0	3	2	203
3:15 PM	0	0	190	2	5	2	199
3:30 PM	0	0	229	0	6	0	235
3:45 PM	0	0	209	0	5	1	215
4:00 PM	0	0	230	1	3	0	234
4:15 PM	0	0	188	0	3	0	191
4:30 PM	0	0	240	0	1	0	241
4:45 PM	0	0	270	0	0	2	272
5:00 PM	0	0	206	0	0	1	207
5:15 PM	0	0	154	0	0	0	154
5:30 PM	0	0	206	0	1	1	208
5:45 PM	0	0	206	0	1	1	208
6:00 PM	0	0	158	0	0	0	158
6:15 PM	0	0	160	1	0	0	161
6:30 PM	0	0	72	0	0	0	72
6:45 PM	0	0	58	0	0	1	59
7:00 PM	0	0	54	0	0	0	54
7:15 PM	0	0	52	0	1	0	53
7:30 PM	0	0	59	2	0	0	61
7:45 PM	0	0	45	0	0	0	45
8:00 PM	0	0	46	0	0	0	46
8:15 PM	0	0	38	0	0	0	38
8:30 PM	0	0	37	0	1	0	38
8:45 PM	0	0	28	0	0	0	28
9:00 PM	0	0	30	0	0	1	31
9:15 PM	0	0	28	0	3	0	31
9:30 PM	0	0	25	0	0	0	25
9:45 PM	0	0	23	1	0	0	24
10:00 PM	0	0	19	0	0	1	20
10:15 PM	0	0	17	0	0	0	17
10:30 PM	0	0	13	0	1	0	14
10:45 PM	0	0	13	0	1	0	14
11:00 PM	0	0	4	0	0	0	4
11:15 PM	0	0	2	0	0	0	2
11:30 PM	0	0	4	0	0	0	4
11:45 PM	0	0	1	0	0	0	1

AM Total	3	0	2887	15	127	34	3066
Percentage	0.10%	0.00%	94.16%	0.49%	4.14%	1.11%	
AM Peak	4:45 AM	12:00 AM	7:30 AM	7:00 AM	8:00 AM	6:45 AM	7:30 AM
Volume	1	0	669	4	32	9	704

PM Total	2	0	4885	11	87	26	5011
Percentage	0.04%	0.00%	97.49%	0.22%	1.74%	0.52%	
PM Peak	12:00 PM	12:00 PM	4:00 PM	2:30 PM	2:45 PM	12:45 PM	4:00 PM
Volume	1	0	928	3	21	8	938

Day Total	5	0	7772	26	214	60	8077
Percentage	0.06%	0.00%	96.22%	0.32%	2.65%	0.74%	

Route 2A
 east of Airport Road
 City, State: Lexington, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilic.com

PDI File #: 228926 ATR-A

Count Date: Thursday, December 1, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	7	0	0	0	7
12:15 AM	0	0	3	0	0	0	3
12:30 AM	0	0	2	0	0	0	2
12:45 AM	0	0	5	0	0	0	5
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	2	0	0	0	2
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	2	0	0	0	2
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	1	0	1	2	4
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	7	0	0	0	7
3:45 AM	0	0	4	0	0	0	4
4:00 AM	0	0	8	0	1	0	9
4:15 AM	0	0	9	0	1	0	10
4:30 AM	0	0	12	0	1	0	13
4:45 AM	0	0	22	0	2	0	24
5:00 AM	0	0	22	0	1	0	23
5:15 AM	0	0	39	1	2	0	42
5:30 AM	0	0	75	0	0	0	75
5:45 AM	0	1	89	0	5	0	95
6:00 AM	0	0	42	0	1	2	45
6:15 AM	0	0	67	0	4	0	71
6:30 AM	0	0	73	1	0	0	74
6:45 AM	0	0	86	0	2	1	89
7:00 AM	0	0	95	1	8	2	106
7:15 AM	0	0	128	0	5	1	134
7:30 AM	0	0	156	1	7	3	167
7:45 AM	0	0	169	0	5	2	176
8:00 AM	0	0	140	0	8	2	150
8:15 AM	0	0	128	0	4	2	134
8:30 AM	0	0	143	1	7	0	151
8:45 AM	0	0	149	0	4	1	154
9:00 AM	0	0	134	1	4	1	140
9:15 AM	0	0	97	0	6	1	104
9:30 AM	0	0	104	2	2	0	108
9:45 AM	0	0	104	0	3	0	107
10:00 AM	0	0	76	0	2	1	79
10:15 AM	0	0	96	0	2	0	98
10:30 AM	0	0	76	0	5	0	81
10:45 AM	0	0	74	0	4	2	80
11:00 AM	0	0	81	1	7	1	90
11:15 AM	0	0	86	0	2	0	88
11:30 AM	0	0	75	0	8	2	85
11:45 AM	0	0	102	0	3	1	106

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	87	2	6	0	95
12:15 PM	0	1	90	0	4	2	97
12:30 PM	0	0	92	0	13	1	106
12:45 PM	0	0	113	0	3	0	116
1:00 PM	0	0	95	1	1	0	97
1:15 PM	0	0	86	2	3	0	91
1:30 PM	0	0	98	0	5	2	105
1:45 PM	0	0	95	0	8	0	103
2:00 PM	0	0	94	1	3	0	98
2:15 PM	0	0	114	2	2	0	118
2:30 PM	0	0	157	0	6	0	163
2:45 PM	0	0	183	1	4	0	188
3:00 PM	1	0	171	0	2	1	175
3:15 PM	0	0	153	3	2	0	158
3:30 PM	0	0	171	0	3	0	174
3:45 PM	0	0	199	1	3	0	203
4:00 PM	0	0	209	0	2	0	211
4:15 PM	0	0	220	1	3	0	224
4:30 PM	0	0	229	1	3	0	233
4:45 PM	0	0	203	0	2	1	206
5:00 PM	0	0	275	0	1	0	276
5:15 PM	0	0	221	0	0	1	222
5:30 PM	0	0	223	1	0	1	225
5:45 PM	0	0	150	0	0	0	150
6:00 PM	0	0	161	0	2	0	163
6:15 PM	0	0	150	0	1	0	151
6:30 PM	0	0	96	0	0	0	96
6:45 PM	0	0	75	1	1	1	78
7:00 PM	0	0	61	0	1	0	62
7:15 PM	0	0	58	0	2	0	60
7:30 PM	0	0	36	0	1	0	37
7:45 PM	0	0	50	0	0	0	50
8:00 PM	0	0	37	0	0	0	37
8:15 PM	0	0	33	0	1	0	34
8:30 PM	0	0	23	1	0	0	24
8:45 PM	0	0	30	0	0	0	30
9:00 PM	0	0	24	0	0	1	25
9:15 PM	0	0	31	0	0	1	32
9:30 PM	0	0	18	0	0	0	18
9:45 PM	0	0	23	0	0	0	23
10:00 PM	0	0	25	0	0	0	25
10:15 PM	0	0	19	0	0	0	19
10:30 PM	0	0	16	0	0	0	16
10:45 PM	0	0	16	0	1	0	17
11:00 PM	0	0	17	0	0	0	17
11:15 PM	0	0	5	0	0	0	5
11:30 PM	0	0	12	0	0	1	13
11:45 PM	0	0	8	0	0	1	9

AM Total 0 1 2793 9 117 27 2947
 Percentage 0.00% 0.03% 94.77% 0.31% 3.97% 0.92%

AM Peak 12:00 AM 5:00 AM 7:15 AM 8:45 AM 7:00 AM 7:30 AM 7:15 AM
 Volume 0 1 593 3 25 9 627

PM Total 1 1 4752 18 89 14 4875
 Percentage 0.02% 0.02% 97.48% 0.37% 1.83% 0.29%

PM Peak 2:15 PM 12:00 PM 4:30 PM 2:00 PM 12:00 PM 12:00 PM 4:15 PM
 Volume 1 1 928 4 26 3 939

Day Total 1 2 7545 27 206 41 7822
 Percentage 0.01% 0.03% 96.46% 0.35% 2.63% 0.52%

Route 2A
 east of Airport Road
 City, State: Lexington, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228926 ATR-A

Count Date: Friday, December 2, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	6	0	0	0	6
12:15 AM	0	0	5	0	0	0	5
12:30 AM	0	0	10	0	0	0	10
12:45 AM	0	0	5	0	0	0	5
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	4	0	0	0	4
2:15 AM	0	0	5	0	0	0	5
2:30 AM	0	0	2	0	0	0	2
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	1	0	0	0	1
3:45 AM	0	0	1	0	0	0	1
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	4	0	0	0	4
4:30 AM	0	0	2	0	0	0	2
4:45 AM	0	0	6	0	0	0	6
5:00 AM	0	0	22	0	1	0	23
5:15 AM	0	0	36	1	3	0	40
5:30 AM	0	0	63	0	1	1	65
5:45 AM	0	0	65	0	2	2	69
6:00 AM	0	0	66	0	4	1	71
6:15 AM	0	0	58	0	5	2	65
6:30 AM	0	0	71	1	3	0	75
6:45 AM	0	0	73	0	2	3	78
7:00 AM	0	0	97	1	8	2	108
7:15 AM	0	0	110	0	8	1	119
7:30 AM	0	0	132	1	2	4	139
7:45 AM	0	0	143	1	5	1	150
8:00 AM	0	0	133	0	5	1	139
8:15 AM	0	0	110	0	5	2	117
8:30 AM	0	0	101	2	9	3	115
8:45 AM	0	0	87	0	5	0	92
9:00 AM	0	0	69	2	2	5	78
9:15 AM	0	0	87	0	5	1	93
9:30 AM	0	0	97	2	4	1	104
9:45 AM	0	0	90	1	5	0	96
10:00 AM	0	0	96	1	3	0	100
10:15 AM	0	0	87	0	9	1	97
10:30 AM	0	0	77	0	6	3	86
10:45 AM	0	0	87	0	8	0	95
11:00 AM	0	0	87	1	5	3	96
11:15 AM	0	0	83	1	2	0	86
11:30 AM	0	0	96	0	1	0	97
11:45 AM	0	0	104	0	3	1	108

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	92	1	6	0	99
12:15 PM	0	0	93	0	1	0	94
12:30 PM	0	0	83	0	5	0	88
12:45 PM	0	0	99	1	4	1	105
1:00 PM	0	0	91	0	3	0	94
1:15 PM	0	0	112	1	2	1	116
1:30 PM	0	1	118	0	3	0	122
1:45 PM	0	0	121	0	1	1	123
2:00 PM	0	0	138	0	5	1	144
2:15 PM	0	0	145	1	3	3	152
2:30 PM	0	0	147	0	1	0	148
2:45 PM	0	0	161	1	2	2	166
3:00 PM	0	0	150	0	2	0	152
3:15 PM	0	0	151	1	4	0	156
3:30 PM	0	0	195	0	0	0	195
3:45 PM	0	0	156	1	0	0	157
4:00 PM	0	0	155	1	1	0	157
4:15 PM	0	0	168	0	1	0	169
4:30 PM	0	0	191	1	3	0	195
4:45 PM	0	0	163	1	0	0	164
5:00 PM	0	0	162	0	1	0	163
5:15 PM	0	0	134	0	2	0	136
5:30 PM	0	0	140	0	0	2	142
5:45 PM	0	0	162	0	0	1	163
6:00 PM	0	0	113	0	0	0	113
6:15 PM	0	0	97	1	0	1	99
6:30 PM	0	0	83	0	0	0	83
6:45 PM	0	0	57	0	0	1	58
7:00 PM	0	0	46	0	0	0	46
7:15 PM	0	0	42	0	0	0	42
7:30 PM	0	0	44	2	0	0	46
7:45 PM	0	0	48	0	1	0	49
8:00 PM	0	0	19	0	0	0	19
8:15 PM	0	0	25	0	0	0	25
8:30 PM	0	0	17	0	0	0	17
8:45 PM	0	0	23	0	0	0	23
9:00 PM	0	0	17	0	0	0	17
9:15 PM	0	0	25	0	0	0	25
9:30 PM	0	0	22	0	0	0	22
9:45 PM	0	0	14	0	0	0	14
10:00 PM	0	0	25	0	0	1	26
10:15 PM	0	0	21	0	0	0	21
10:30 PM	0	0	31	1	0	0	32
10:45 PM	0	0	22	0	0	0	22
11:00 PM	0	0	21	0	0	0	21
11:15 PM	0	0	22	0	1	0	23
11:30 PM	0	0	16	0	0	0	16
11:45 PM	0	0	12	0	0	0	12

AM Total	0	0	2481	15	121	38	2655
Percentage	0.00%	0.00%	93.45%	0.56%	4.56%	1.43%	
AM Peak	12:00 AM	12:00 AM	7:15 AM	9:00 AM	10:15 AM	6:45 AM	7:15 AM
Volume	0	0	518	5	28	10	547

PM Total	0	1	4189	14	52	15	4271
Percentage	0.00%	0.02%	98.08%	0.33%	1.22%	0.35%	
PM Peak	12:00 PM	12:45 PM	4:15 PM	3:15 PM	12:00 PM	2:00 PM	4:15 PM
Volume	0	1	684	3	16	6	691

Day Total	0	1	6670	29	173	53	6926
Percentage	0.00%	0.01%	96.30%	0.42%	2.50%	0.77%	

Route 2A
 east of Airport Road
 City, State: Lexington, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PDI File #: 228926 ATR-A

Count Date: Saturday, December 3, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	21	0	0	0	21
12:15 AM	0	0	6	0	0	0	6
12:30 AM	0	0	3	0	0	0	3
12:45 AM	0	0	5	0	0	0	5
1:00 AM	0	0	6	0	0	0	6
1:15 AM	0	0	6	0	0	0	6
1:30 AM	0	0	2	0	0	0	2
1:45 AM	0	0	7	0	0	1	8
2:00 AM	0	0	0	0	0	1	1
2:15 AM	0	0	2	0	0	0	2
2:30 AM	0	0	4	0	0	0	4
2:45 AM	0	0	2	0	0	0	2
3:00 AM	0	0	2	0	0	0	2
3:15 AM	0	0	2	0	0	0	2
3:30 AM	0	0	2	0	0	0	2
3:45 AM	0	0	2	0	0	0	2
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	4	0	0	0	4
4:45 AM	0	0	3	0	0	0	3
5:00 AM	0	0	6	0	0	1	7
5:15 AM	0	0	6	0	0	0	6
5:30 AM	0	0	10	1	0	0	11
5:45 AM	0	0	16	0	2	0	18
6:00 AM	0	0	16	0	2	1	19
6:15 AM	0	0	20	0	0	4	24
6:30 AM	0	0	23	0	1	2	26
6:45 AM	0	0	22	0	2	0	24
7:00 AM	1	0	35	0	1	0	37
7:15 AM	0	0	58	1	3	1	63
7:30 AM	0	0	64	0	0	0	64
7:45 AM	0	0	53	0	1	0	54
8:00 AM	1	0	47	1	2	0	51
8:15 AM	0	0	47	1	2	3	53
8:30 AM	0	0	46	0	1	0	47
8:45 AM	1	0	52	0	1	1	55
9:00 AM	0	0	56	0	2	0	58
9:15 AM	0	0	64	1	0	0	65
9:30 AM	0	0	92	1	0	1	94
9:45 AM	0	0	84	0	2	0	86
10:00 AM	0	0	63	2	0	3	68
10:15 AM	0	0	80	0	0	0	80
10:30 AM	0	1	63	1	0	0	65
10:45 AM	0	0	71	1	0	0	72
11:00 AM	0	0	88	0	1	0	89
11:15 AM	0	0	82	0	1	0	83
11:30 AM	0	0	88	1	2	0	91
11:45 AM	0	0	96	0	0	4	100

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	89	1	1	1	92
12:15 PM	0	0	115	0	2	0	117
12:30 PM	0	0	109	0	0	0	109
12:45 PM	0	0	88	1	0	0	89
1:00 PM	0	0	113	1	1	1	116
1:15 PM	0	0	80	0	1	0	81
1:30 PM	0	0	99	0	2	0	101
1:45 PM	0	0	98	0	0	0	98
2:00 PM	0	0	90	1	1	2	94
2:15 PM	0	0	78	1	3	1	83
2:30 PM	0	0	90	0	0	0	90
2:45 PM	0	0	67	0	0	0	67
3:00 PM	0	0	73	1	1	0	75
3:15 PM	0	0	63	0	0	0	63
3:30 PM	0	0	79	1	0	0	80
3:45 PM	0	0	68	0	0	0	68
4:00 PM	0	0	76	0	1	0	77
4:15 PM	0	0	70	1	1	0	72
4:30 PM	0	0	80	1	0	0	81
4:45 PM	0	0	57	0	0	0	57
5:00 PM	0	0	54	0	0	0	54
5:15 PM	0	0	73	1	1	0	75
5:30 PM	0	0	47	1	0	0	48
5:45 PM	0	0	66	0	0	0	66
6:00 PM	0	0	56	0	0	0	56
6:15 PM	0	0	58	2	0	0	60
6:30 PM	0	0	43	0	0	0	43
6:45 PM	0	0	42	0	0	0	42
7:00 PM	0	0	44	1	1	0	46
7:15 PM	0	0	34	0	0	0	34
7:30 PM	0	0	31	1	0	0	32
7:45 PM	0	0	26	0	0	0	26
8:00 PM	0	0	31	1	2	0	34
8:15 PM	0	0	25	0	0	0	25
8:30 PM	0	0	29	0	0	0	29
8:45 PM	0	0	38	1	0	0	39
9:00 PM	0	0	26	0	0	0	26
9:15 PM	0	0	36	0	0	0	36
9:30 PM	0	0	29	0	0	0	29
9:45 PM	0	0	18	0	1	0	19
10:00 PM	0	0	33	0	0	0	33
10:15 PM	0	0	21	0	0	1	22
10:30 PM	0	0	27	0	0	0	27
10:45 PM	0	0	23	0	0	0	23
11:00 PM	0	0	17	0	0	0	17
11:15 PM	0	0	24	0	0	0	24
11:30 PM	0	0	19	0	0	0	19
11:45 PM	0	0	15	0	0	0	15

AM Total	3	1	1527	11	26	23	1591
Percentage	0.19%	0.06%	95.98%	0.69%	1.63%	1.45%	
AM Peak	8:00 AM	9:45 AM	11:00 AM	9:15 AM	6:30 AM	5:45 AM	11:00 AM
Volume	2	1	354	4	7	7	363

PM Total	0	0	2667	17	19	6	2709
Percentage	0.00%	0.00%	98.45%	0.63%	0.70%	0.22%	
PM Peak	12:00 PM	12:00 PM	12:15 PM	5:30 PM	1:30 PM	1:30 PM	12:15 PM
Volume	0	0	425	3	6	3	431

Day Total	3	1	4194	28	45	29	4300
Percentage	0.07%	0.02%	97.53%	0.65%	1.05%	0.67%	

Route 2A
 east of Airport Road
 City, State: Lexington, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilic.com

PDI File #: 228926 ATR-A

Count Date: Sunday, December 4, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	7	0	1	0	8
12:15 AM	0	0	10	0	0	0	10
12:30 AM	0	0	9	0	0	0	9
12:45 AM	0	0	8	0	0	1	9
1:00 AM	0	0	6	0	0	0	6
1:15 AM	0	0	3	0	0	0	3
1:30 AM	0	0	2	0	0	0	2
1:45 AM	0	0	5	0	0	0	5
2:00 AM	0	0	2	0	0	0	2
2:15 AM	0	0	2	0	0	0	2
2:30 AM	0	0	2	0	0	0	2
2:45 AM	0	0	1	0	1	0	2
3:00 AM	0	0	2	0	0	0	2
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	2	0	1	0	3
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	4	0	0	0	4
4:45 AM	0	0	4	0	0	0	4
5:00 AM	0	0	3	0	1	0	4
5:15 AM	0	0	1	0	0	0	1
5:30 AM	0	0	8	0	0	0	8
5:45 AM	0	0	10	0	0	0	10
6:00 AM	0	0	5	0	0	0	5
6:15 AM	0	0	11	0	0	0	11
6:30 AM	0	0	21	0	0	0	21
6:45 AM	0	0	10	0	0	0	10
7:00 AM	0	0	18	0	0	0	18
7:15 AM	0	0	25	0	0	0	25
7:30 AM	10	1	34	0	0	0	45
7:45 AM	2	0	27	0	0	0	29
8:00 AM	0	2	21	0	0	0	23
8:15 AM	0	0	26	0	0	0	26
8:30 AM	0	0	37	0	0	0	37
8:45 AM	2	0	48	0	0	0	50
9:00 AM	1	0	38	0	1	1	41
9:15 AM	0	0	50	0	0	0	50
9:30 AM	0	0	57	0	0	0	57
9:45 AM	0	0	47	0	0	0	47
10:00 AM	1	0	76	0	0	0	77
10:15 AM	2	0	68	0	1	0	71
10:30 AM	0	0	85	0	0	0	85
10:45 AM	0	0	87	0	1	0	88
11:00 AM	0	1	72	0	0	0	73
11:15 AM	0	0	69	0	0	0	69
11:30 AM	0	0	88	0	0	0	88
11:45 AM	0	0	106	0	1	0	107

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	90	0	0	1	91
12:15 PM	1	0	88	0	1	0	90
12:30 PM	0	0	114	0	0	1	115
12:45 PM	0	0	104	0	1	0	105
1:00 PM	2	0	105	0	1	0	108
1:15 PM	0	0	98	0	1	0	99
1:30 PM	0	0	107	0	0	0	107
1:45 PM	0	0	100	0	0	0	100
2:00 PM	0	0	96	0	1	1	98
2:15 PM	4	0	88	0	0	0	92
2:30 PM	1	0	97	0	2	0	100
2:45 PM	0	1	88	0	0	0	89
3:00 PM	0	0	95	0	0	0	95
3:15 PM	0	0	89	0	0	0	89
3:30 PM	0	0	69	0	0	0	69
3:45 PM	0	0	70	0	2	0	72
4:00 PM	0	1	68	0	0	0	69
4:15 PM	0	0	68	0	1	0	69
4:30 PM	0	0	66	0	0	0	66
4:45 PM	0	0	47	0	0	0	47
5:00 PM	0	0	69	0	0	0	69
5:15 PM	0	0	55	0	1	0	56
5:30 PM	0	0	44	0	0	0	44
5:45 PM	0	0	39	0	0	0	39
6:00 PM	0	0	56	0	0	0	56
6:15 PM	0	0	39	0	0	0	39
6:30 PM	0	0	41	0	1	0	42
6:45 PM	0	0	52	0	0	0	52
7:00 PM	0	0	44	0	0	0	44
7:15 PM	0	0	34	0	0	0	34
7:30 PM	0	0	33	0	0	0	33
7:45 PM	0	0	32	0	0	0	32
8:00 PM	0	0	22	0	1	0	23
8:15 PM	0	0	24	0	0	0	24
8:30 PM	0	0	12	0	0	0	12
8:45 PM	0	0	26	0	0	0	26
9:00 PM	0	0	16	0	1	0	17
9:15 PM	0	0	21	0	0	0	21
9:30 PM	0	0	19	0	0	0	19
9:45 PM	0	0	16	0	0	0	16
10:00 PM	0	0	17	0	0	0	17
10:15 PM	0	0	13	0	0	0	13
10:30 PM	0	0	9	0	0	0	9
10:45 PM	0	0	11	0	0	0	11
11:00 PM	0	0	5	0	0	0	5
11:15 PM	0	0	9	0	0	0	9
11:30 PM	0	0	12	0	0	0	12
11:45 PM	0	0	7	0	0	0	7

AM Total 18 4 1220 0 8 2 1252
 Percentage 1.44% 0.32% 97.44% 0.00% 0.64% 0.16%
 AM Peak 7:00 AM 7:15 AM 11:00 AM 12:00 AM 2:45 AM 12:00 AM 11:00 AM
 Volume 12 3 335 0 2 1 337

PM Total 8 2 2524 0 14 3 2551
 Percentage 0.31% 0.08% 98.94% 0.00% 0.55% 0.12%
 PM Peak 1:45 PM 2:00 PM 12:30 PM 12:00 PM 12:15 PM 12:00 PM 12:30 PM
 Volume 5 1 421 0 3 2 427

Day Total 26 6 3744 0 22 5 3803
 Percentage 0.68% 0.16% 98.45% 0.00% 0.58% 0.13%

Route 2A
 east of Airport Road
 City, State: Lexington, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PDI File #: 228926 ATR-A

Count Date: Monday, December 5, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	6	0	0	0	6
12:15 AM	0	0	2	0	1	0	3
12:30 AM	0	0	1	0	0	1	2
12:45 AM	0	0	2	0	0	0	2
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	2	0	0	0	2
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	2	0	0	0	2
2:15 AM	0	0	1	0	1	0	2
2:30 AM	0	0	3	0	0	0	3
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	3	0	0	0	3
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	5	0	0	0	5
3:45 AM	0	0	2	0	0	0	2
4:00 AM	0	0	5	0	2	0	7
4:15 AM	0	0	9	0	4	0	13
4:30 AM	0	0	9	0	1	0	10
4:45 AM	0	0	14	0	0	0	14
5:00 AM	0	0	26	0	1	0	27
5:15 AM	0	0	39	0	2	0	41
5:30 AM	0	0	69	1	1	0	71
5:45 AM	0	0	83	0	2	1	86
6:00 AM	0	0	60	0	4	3	67
6:15 AM	0	0	56	0	2	2	60
6:30 AM	0	0	65	1	3	0	69
6:45 AM	0	0	85	0	5	1	91
7:00 AM	0	0	98	1	2	2	103
7:15 AM	0	0	127	0	3	2	132
7:30 AM	0	0	132	1	5	1	139
7:45 AM	0	0	146	1	6	1	154
8:00 AM	0	0	135	0	14	0	149
8:15 AM	0	0	139	1	13	0	153
8:30 AM	0	0	130	1	13	2	146
8:45 AM	0	0	75	0	4	0	79
9:00 AM	0	0	87	1	2	4	94
9:15 AM	0	0	68	0	1	2	71
9:30 AM	0	0	86	1	4	1	92
9:45 AM	0	0	81	2	5	0	88
10:00 AM	0	0	76	0	5	0	81
10:15 AM	0	0	60	1	6	2	69
10:30 AM	0	0	65	0	4	2	71
10:45 AM	0	0	75	0	3	2	80
11:00 AM	0	0	78	0	3	0	81
11:15 AM	0	0	73	1	7	1	82
11:30 AM	1	0	79	0	5	4	89
11:45 AM	1	0	81	0	2	1	85

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	82	1	4	2	89
12:15 PM	0	0	99	0	7	0	106
12:30 PM	0	1	94	1	6	1	103
12:45 PM	0	0	94	1	2	2	99
1:00 PM	0	0	98	0	3	1	102
1:15 PM	0	0	72	1	3	3	79
1:30 PM	0	1	93	0	3	1	98
1:45 PM	1	0	94	0	6	0	101
2:00 PM	0	0	105	0	4	1	110
2:15 PM	0	0	88	1	5	0	94
2:30 PM	0	2	127	0	2	2	133
2:45 PM	0	0	126	3	5	0	134
3:00 PM	0	0	138	0	1	0	139
3:15 PM	0	0	114	2	3	0	119
3:30 PM	0	0	153	0	3	1	157
3:45 PM	0	0	127	0	1	0	128
4:00 PM	0	0	147	1	3	0	151
4:15 PM	0	0	136	0	2	0	138
4:30 PM	0	0	171	1	1	0	173
4:45 PM	0	0	114	0	1	0	115
5:00 PM	0	0	159	1	0	0	160
5:15 PM	0	0	174	0	2	1	177
5:30 PM	0	0	191	1	4	1	197
5:45 PM	0	0	107	1	1	0	109
6:00 PM	0	0	121	0	1	0	122
6:15 PM	0	0	106	1	0	0	107
6:30 PM	0	0	82	1	0	0	83
6:45 PM	0	0	72	1	0	0	73
7:00 PM	0	0	59	0	0	0	59
7:15 PM	0	0	47	0	0	1	48
7:30 PM	0	0	44	1	0	0	45
7:45 PM	0	0	36	0	0	0	36
8:00 PM	0	0	28	0	0	0	28
8:15 PM	0	0	39	0	0	0	39
8:30 PM	0	0	31	0	1	0	32
8:45 PM	0	0	26	0	0	0	26
9:00 PM	0	0	29	0	2	0	31
9:15 PM	0	1	33	0	0	0	34
9:30 PM	0	0	24	0	0	0	24
9:45 PM	0	0	25	0	0	1	26
10:00 PM	0	0	14	0	0	0	14
10:15 PM	0	0	15	0	0	0	15
10:30 PM	0	0	8	0	0	0	8
10:45 PM	0	0	11	0	0	0	11
11:00 PM	0	0	16	0	0	0	16
11:15 PM	0	0	9	0	0	0	9
11:30 PM	0	0	10	0	0	0	10
11:45 PM	0	0	5	0	0	0	5

AM Total	2	0	2444	13	136	35	2630
Percentage	0.08%	0.00%	92.93%	0.49%	5.17%	1.33%	
AM Peak	11:00 AM	12:00 AM	7:30 AM	9:00 AM	7:45 AM	8:30 AM	7:45 AM
Volume	2	0	552	4	46	8	602

PM Total	1	5	3793	19	76	18	3912
Percentage	0.03%	0.13%	96.96%	0.49%	1.94%	0.46%	
PM Peak	1:00 PM	1:45 PM	4:45 PM	2:30 PM	12:00 PM	12:30 PM	4:45 PM
Volume	1	2	638	5	19	7	649

Day Total	3	5	6237	32	212	53	6542
Percentage	0.05%	0.08%	95.34%	0.49%	3.24%	0.81%	

Route 2A
 east of Airport Road
 City, State: Lexington, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilc.com

PDI File # 228952 ATR-A

Direction: EB

Weekly Report

Day Date	Tuesday 11/29/22		Wednesday 11/30/22		Thursday 12/01/22		Friday 12/02/22		Saturday 12/03/22		Sunday 12/04/22		Monday 12/05/22		Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	3	106	6	105	7	89	6	101	4	81	4	88	7	62	5	90
12:15	4	100	9	83	5	89	3	94	5	92	4	71	2	84	5	88
12:30	4	93	0	121	4	80	5	105	1	92	5	100	3	82	3	96
12:45	6	83	4	98	1	102	2	104	5	88	2	56	0	73	3	86
1:00	2	102	4	89	3	108	3	88	1	99	2	72	2	78	2	91
1:15	1	96	1	100	2	99	0	87	1	88	4	88	0	100	1	94
1:30	3	95	2	112	1	116	3	105	1	81	1	85	2	95	2	98
1:45	1	89	0	111	0	86	4	100	0	79	2	95	1	83	1	92
2:00	0	119	1	134	1	87	0	128	1	76	4	88	1	99	1	104
2:15	1	102	2	121	3	121	1	88	5	78	4	99	1	95	2	101
2:30	1	96	1	107	0	118	0	109	1	82	1	94	0	103	1	101
2:45	3	133	1	91	2	120	1	100	1	86	1	78	0	105	1	102
3:00	1	129	3	118	3	136	1	147	3	82	1	78	2	132	2	117
3:15	0	161	1	116	2	116	2	143	2	57	0	84	1	119	1	114
3:30	0	129	0	126	5	126	2	119	1	72	0	68	2	105	1	106
3:45	2	120	1	129	6	107	3	105	2	64	1	67	2	122	2	102
4:00	2	140	1	107	7	147	3	115	5	69	2	60	5	118	4	108
4:15	4	155	1	109	6	109	3	114	2	57	1	75	1	104	3	103
4:30	7	112	9	82	9	99	2	89	2	58	3	79	3	104	5	89
4:45	9	92	8	94	10	105	9	109	1	55	1	48	19	105	8	87
5:00	14	109	13	74	11	92	13	83	5	60	3	38	15	90	11	78
5:15	22	110	22	84	25	89	26	88	7	72	3	63	19	80	18	84
5:30	29	89	32	101	32	91	37	86	13	49	4	49	26	63	25	75
5:45	36	78	35	92	40	84	23	79	8	51	6	38	45	79	28	72
6:00	51	66	57	80	37	74	36	74	14	40	3	51	31	55	33	63
6:15	50	88	54	53	50	59	62	55	17	53	8	44	41	46	40	57
6:30	71	55	74	39	89	70	59	57	19	44	7	33	92	50	59	50
6:45	101	58	104	29	95	52	101	58	19	35	13	38	82	52	74	46
7:00	140	54	120	28	122	35	89	58	45	35	24	33	122	59	95	43
7:15	136	41	133	46	150	47	103	46	49	29	23	27	128	27	103	38
7:30	187	43	163	38	197	34	137	44	42	27	23	21	172	32	132	34
7:45	209	33	192	28	223	27	129	42	40	11	33	33	199	21	146	28
8:00	195	26	167	39	193	46	141	34	31	17	30	9	184	19	134	27
8:15	215	36	185	36	189	28	125	29	37	22	32	27	189	31	139	30
8:30	184	30	178	27	171	30	130	18	51	19	48	20	159	24	132	24
8:45	210	18	163	20	153	18	121	20	72	15	68	21	153	15	134	18
9:00	137	18	133	19	128	15	99	13	70	15	75	15	120	23	109	17
9:15	150	24	118	13	126	19	103	26	75	19	57	12	111	13	106	18
9:30	116	17	127	8	90	8	100	17	72	21	46	14	105	19	94	15
9:45	105	13	112	7	100	21	104	19	84	23	63	11	71	15	91	16
10:00	88	24	91	23	77	31	96	28	82	33	57	10	80	19	82	24
10:15	82	9	81	23	98	16	76	27	62	23	76	20	67	18	77	19
10:30	72	12	108	12	89	14	67	22	77	19	72	13	81	9	81	14
10:45	82	11	94	9	85	17	91	19	80	14	98	7	90	8	89	12
11:00	76	9	75	20	69	17	82	19	76	32	77	8	78	12	76	17
11:15	87	9	79	7	93	11	99	8	80	14	83	4	75	5	85	8
11:30	78	4	92	1	110	15	114	9	91	14	67	4	89	3	92	7
11:45	101	8	114	11	89	2	110	9	104	9	77	3	75	4	96	7
Total	3078	3344	2971	3120	3008	3222	2526	3237	1466	2351	1219	2239	2753	2859	2432	2910
Day Total	6422		6091		6230		5763		3817		3458		5612		5342	
Peak HR	7:30 AM	2:45 PM	7:45 AM	3:00 PM	7:30 AM	2:45 PM	7:30 AM	3:00 PM	11:00 AM	12:15 PM	10:30 AM	1:45 PM	7:30 AM	3:00 PM	7:30 AM	3:00 PM
Volume	806	552	722	489	802	498	532	514	351	371	330	376	744	478	551	440

Route 2A
 east of Airport Road
 City, State: Lexington, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilc.com

PDI File # 228952 ATR-A

Direction: WB

Weekly Report

Day Date	Tuesday 11/29/22		Wednesday 11/30/22		Thursday 12/01/22		Friday 12/02/22		Saturday 12/03/22		Sunday 12/04/22		Monday 12/05/22		Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	0	118	7	92	7	95	6	99	21	92	8	91	6	89	8	97
12:15	1	110	2	114	3	97	5	94	6	117	10	90	3	106	4	104
12:30	1	98	1	103	2	106	10	88	3	109	9	115	2	103	4	103
12:45	2	79	3	98	5	116	5	105	5	89	9	105	2	99	4	99
1:00	0	97	1	118	0	97	0	94	6	116	6	108	1	102	2	105
1:15	1	103	1	102	2	91	1	116	6	81	3	99	1	79	2	96
1:30	1	98	0	112	1	105	0	122	2	101	2	107	2	98	1	106
1:45	0	105	0	126	0	103	1	123	8	98	5	100	1	101	2	108
2:00	0	117	2	102	2	98	4	144	1	94	2	98	2	110	2	109
2:15	1	112	2	124	0	118	5	152	2	83	2	92	2	94	2	111
2:30	1	130	0	152	0	163	2	148	4	90	2	100	3	133	2	131
2:45	0	145	0	201	1	188	1	166	2	67	2	89	0	134	1	141
3:00	1	162	0	203	4	175	0	152	2	75	2	95	3	139	2	143
3:15	4	159	0	199	1	158	0	156	2	63	1	89	1	119	1	135
3:30	11	160	2	235	7	174	1	195	2	80	3	69	5	157	4	153
3:45	5	149	2	215	4	203	1	157	2	68	0	72	2	128	2	142
4:00	5	149	9	234	9	211	0	157	0	77	1	69	7	151	4	150
4:15	10	180	8	191	10	224	4	169	0	72	1	69	13	138	7	149
4:30	20	186	16	241	13	233	2	195	4	81	4	66	10	173	10	168
4:45	15	172	20	272	24	206	6	164	3	57	4	47	14	115	12	148
5:00	22	177	33	207	23	276	23	163	7	54	4	69	27	160	20	158
5:15	46	206	54	154	42	222	40	136	6	75	1	56	41	177	33	147
5:30	87	165	76	208	75	225	65	142	11	48	8	44	71	197	56	147
5:45	101	125	97	208	95	150	69	163	18	66	10	39	86	109	68	123
6:00	61	130	51	158	45	163	71	113	19	56	5	56	67	122	46	114
6:15	78	106	65	161	71	151	65	99	24	60	11	39	60	107	53	103
6:30	80	104	90	72	74	96	75	83	26	43	21	42	69	83	62	75
6:45	102	68	111	59	89	78	78	58	24	42	10	52	91	73	72	61
7:00	129	53	123	54	106	62	108	46	37	46	18	44	103	59	89	52
7:15	139	67	118	53	134	60	119	42	63	34	25	34	132	48	104	48
7:30	156	38	183	61	167	37	139	46	64	32	45	33	139	45	128	42
7:45	157	48	178	45	176	50	150	49	54	26	29	32	154	36	128	41
8:00	171	49	184	46	150	37	139	19	51	34	23	23	149	28	124	34
8:15	174	33	159	38	134	34	117	25	53	25	26	24	153	39	117	31
8:30	134	29	142	38	151	24	115	17	47	29	37	12	146	32	110	26
8:45	152	27	133	28	154	30	92	23	55	39	50	26	79	26	102	28
9:00	144	30	144	31	140	25	78	17	58	26	41	17	94	31	100	25
9:15	116	40	98	31	104	32	93	25	65	36	50	21	71	34	85	31
9:30	111	28	123	25	108	18	104	22	94	29	57	19	92	24	98	24
9:45	97	21	94	24	107	23	96	14	86	19	47	16	88	26	88	20
10:00	81	13	89	20	79	25	100	26	68	33	77	17	81	14	82	21
10:15	89	23	92	17	98	19	97	21	80	22	71	13	69	15	85	19
10:30	84	13	86	14	81	16	86	32	65	27	85	9	71	8	80	17
10:45	81	9	73	14	80	17	95	22	72	23	88	11	80	11	81	15
11:00	85	15	96	4	90	17	96	21	89	17	73	5	81	16	87	14
11:15	93	11	97	2	88	5	86	23	83	24	69	9	82	9	85	12
11:30	96	9	111	4	85	13	97	16	91	19	88	12	89	10	94	12
11:45	97	5	90	1	106	9	108	12	100	15	107	7	85	5	99	8
Total	3042	4271	3066	5011	2947	4875	2655	4271	1591	2709	1252	2551	2630	3912	2455	3943
Day Total	7313		8077		7822		6926		4300		3803		6542		6398	
Peak HR	7:30 AM	4:30 PM	7:30 AM	4:00 PM	7:15 AM	4:15 PM	7:15 AM	4:15 PM	11:00 AM	12:15 PM	11:00 AM	12:30 PM	7:45 AM	4:45 PM	7:30 AM	4:15 PM
Volume	658	741	704	938	627	939	547	691	363	431	337	427	602	649	496	622

Bedford Road
 south of Route 2A
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-B

Count Date: Tuesday, November 29, 2022
 Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	4	0	0	0	4
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	1	0	1
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	1	0	1
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	1	0	0	0	1
5:00 AM	0	0	0	0	0	0	0
5:15 AM	0	0	2	0	0	0	2
5:30 AM	0	0	2	0	0	0	2
5:45 AM	0	0	8	0	0	0	8
6:00 AM	0	0	8	0	0	0	8
6:15 AM	0	0	6	0	0	0	6
6:30 AM	0	0	10	0	0	0	10
6:45 AM	0	0	14	0	0	0	14
7:00 AM	0	0	18	1	0	0	19
7:15 AM	0	0	23	1	1	0	25
7:30 AM	0	1	30	1	0	0	32
7:45 AM	0	0	28	0	0	0	28
8:00 AM	0	0	30	0	0	0	30
8:15 AM	0	0	44	1	0	0	45
8:30 AM	0	1	36	0	0	0	37
8:45 AM	0	0	41	0	1	0	42
9:00 AM	0	0	34	0	0	0	34
9:15 AM	0	0	39	0	0	0	39
9:30 AM	0	0	14	0	3	0	17
9:45 AM	0	0	20	0	0	0	20
10:00 AM	0	0	11	0	0	0	11
10:15 AM	0	0	8	0	0	0	8
10:30 AM	0	0	20	0	1	0	21
10:45 AM	0	0	16	0	0	0	16
11:00 AM	0	0	15	0	1	0	16
11:15 AM	0	0	12	0	1	0	13
11:30 AM	0	0	20	0	1	0	21
11:45 AM	0	0	11	0	0	0	11

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	20	0	1	0	21
12:15 PM	0	0	13	0	0	0	13
12:30 PM	0	0	20	0	0	0	20
12:45 PM	0	0	15	0	0	0	15
1:00 PM	0	0	12	0	0	0	12
1:15 PM	0	0	8	0	1	0	9
1:30 PM	0	0	14	0	1	0	15
1:45 PM	0	0	16	0	1	0	17
2:00 PM	0	0	13	1	0	0	14
2:15 PM	0	0	22	0	1	0	23
2:30 PM	0	0	19	0	1	0	20
2:45 PM	0	0	26	0	0	0	26
3:00 PM	0	0	28	1	0	0	29
3:15 PM	0	0	28	1	0	0	29
3:30 PM	0	0	23	0	1	0	24
3:45 PM	0	0	22	0	0	0	22
4:00 PM	0	0	17	1	3	0	21
4:15 PM	0	0	23	0	0	0	23
4:30 PM	0	0	26	0	1	0	27
4:45 PM	0	0	26	0	0	0	26
5:00 PM	0	0	21	0	0	0	21
5:15 PM	0	0	22	0	1	2	25
5:30 PM	0	0	22	1	0	0	23
5:45 PM	0	0	18	0	0	0	18
6:00 PM	0	0	14	0	0	0	14
6:15 PM	0	0	20	1	1	0	22
6:30 PM	0	0	7	0	1	0	8
6:45 PM	0	0	9	0	0	0	9
7:00 PM	0	0	7	0	0	0	7
7:15 PM	0	0	9	0	0	0	9
7:30 PM	0	0	4	0	0	0	4
7:45 PM	0	0	2	0	0	0	2
8:00 PM	0	0	5	0	0	0	5
8:15 PM	0	0	2	0	0	0	2
8:30 PM	0	0	3	0	0	0	3
8:45 PM	0	0	4	0	0	0	4
9:00 PM	0	0	3	0	0	0	3
9:15 PM	0	0	6	0	0	0	6
9:30 PM	0	0	2	0	0	0	2
9:45 PM	0	0	2	0	0	0	2
10:00 PM	0	0	2	0	0	0	2
10:15 PM	0	0	2	0	0	0	2
10:30 PM	0	0	3	0	0	0	3
10:45 PM	0	0	2	0	0	0	2
11:00 PM	0	0	1	0	0	0	1
11:15 PM	0	0	0	0	0	0	0
11:30 PM	0	0	1	0	0	0	1
11:45 PM	0	0	4	0	0	0	4

AM Total	0	2	529	4	11	0	546
Percentage	0.00%	0.37%	96.89%	0.73%	2.01%	0.00%	
AM Peak	12:00 AM	6:45 AM	8:15 AM	6:45 AM	8:45 AM	12:00 AM	8:15 AM
Volume	0	1	155	3	4	0	158

PM Total	0	0	588	6	14	2	610
Percentage	0.00%	0.00%	96.39%	0.98%	2.30%	0.33%	
PM Peak	12:00 PM	12:00 PM	2:45 PM	2:30 PM	3:15 PM	4:30 PM	2:45 PM
Volume	0	0	105	2	4	2	108

Day Total	0	2	1117	10	25	2	1156
Percentage	0.00%	0.17%	96.63%	0.87%	2.16%	0.17%	

Bedford Road
south of Route 2A
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PDI File #: 228952 ATR-B

Count Date: **Wednesday, November 30, 2022**
Direction: **NB**

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	0	1
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	1	0	0	0	1
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	1	0	1
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	2	0	0	0	2
5:00 AM	0	0	2	0	0	0	2
5:15 AM	0	0	3	0	0	0	3
5:30 AM	0	0	7	0	0	0	7
5:45 AM	0	0	6	0	0	0	6
6:00 AM	0	0	8	0	0	0	8
6:15 AM	0	0	8	0	0	0	8
6:30 AM	0	0	9	0	0	0	9
6:45 AM	0	0	9	0	0	0	9
7:00 AM	0	0	15	1	0	0	16
7:15 AM	0	0	33	1	0	0	34
7:30 AM	0	0	25	1	0	0	26
7:45 AM	0	0	48	0	1	0	49
8:00 AM	0	0	39	0	1	0	40
8:15 AM	0	0	47	1	2	0	50
8:30 AM	0	0	40	0	0	1	41
8:45 AM	0	0	30	0	1	0	31
9:00 AM	0	0	29	0	0	0	29
9:15 AM	0	0	35	0	0	0	35
9:30 AM	0	0	31	0	2	0	33
9:45 AM	0	0	30	0	1	0	31
10:00 AM	0	0	39	0	0	0	39
10:15 AM	0	0	21	0	0	0	21
10:30 AM	0	0	32	0	0	0	32
10:45 AM	0	0	21	0	1	0	22
11:00 AM	0	0	21	0	0	0	21
11:15 AM	0	0	17	0	0	0	17
11:30 AM	0	0	25	0	0	0	25
11:45 AM	0	0	28	0	0	0	28

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	31	0	0	0	31
12:15 PM	0	0	37	0	0	0	37
12:30 PM	0	0	26	0	1	0	27
12:45 PM	0	0	35	1	1	0	37
1:00 PM	0	0	19	1	1	0	21
1:15 PM	0	0	23	0	0	0	23
1:30 PM	0	0	33	0	0	0	33
1:45 PM	0	0	39	0	1	0	40
2:00 PM	0	0	24	0	0	0	24
2:15 PM	0	0	28	0	0	0	28
2:30 PM	0	0	32	0	0	0	32
2:45 PM	0	0	38	0	1	0	39
3:00 PM	0	0	28	0	1	1	30
3:15 PM	0	0	43	0	3	0	46
3:30 PM	0	0	33	0	1	0	34
3:45 PM	0	0	25	0	0	0	25
4:00 PM	0	0	19	0	0	0	19
4:15 PM	0	0	20	0	0	0	20
4:30 PM	0	0	18	0	1	0	19
4:45 PM	0	0	24	0	0	0	24
5:00 PM	0	0	21	0	0	1	22
5:15 PM	0	0	18	0	0	0	18
5:30 PM	0	0	20	0	0	0	20
5:45 PM	0	0	18	0	0	0	18
6:00 PM	0	0	19	0	0	0	19
6:15 PM	0	1	16	0	0	0	17
6:30 PM	0	0	22	0	1	0	23
6:45 PM	0	0	15	0	2	0	17
7:00 PM	0	0	21	0	1	0	22
7:15 PM	0	0	10	0	0	0	10
7:30 PM	0	0	9	0	0	0	9
7:45 PM	0	0	3	0	0	0	3
8:00 PM	0	0	2	0	0	0	2
8:15 PM	0	0	4	0	0	0	4
8:30 PM	0	0	1	0	0	0	1
8:45 PM	0	0	1	0	0	0	1
9:00 PM	0	0	1	0	0	0	1
9:15 PM	0	0	4	0	0	0	4
9:30 PM	0	0	3	0	0	0	3
9:45 PM	0	0	3	0	0	0	3
10:00 PM	0	0	6	0	0	0	6
10:15 PM	0	0	0	0	0	0	0
10:30 PM	0	0	1	0	0	0	1
10:45 PM	0	0	1	0	0	0	1
11:00 PM	0	0	3	0	0	0	3
11:15 PM	0	0	16	0	0	0	16
11:30 PM	0	0	6	0	0	0	6
11:45 PM	0	0	1	0	0	0	1

AM Total	0	0	665	4	10	1	680
Percentage	0.00%	0.00%	97.79%	0.59%	1.47%	0.15%	
AM Peak	12:00 AM	12:00 AM	7:45 AM	6:45 AM	7:30 AM	7:45 AM	7:45 AM
Volume	0	0	174	3	4	1	180

PM Total	0	1	820	2	15	2	840
Percentage	0.00%	0.12%	97.62%	0.24%	1.79%	0.24%	
PM Peak	12:00 PM	5:30 PM	2:45 PM	12:15 PM	2:45 PM	2:15 PM	2:45 PM
Volume	0	1	142	2	6	1	149

Day Total	0	1	1485	6	25	3	1520
Percentage	0.00%	0.07%	97.70%	0.39%	1.64%	0.20%	

Bedford Road
 south of Route 2A
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PDI File #: 228952 ATR-B

Count Date: Thursday, December 1, 2022
 Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	4	0	0	0	4
12:15 AM	0	0	1	0	2	0	3
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	2	0	0	0	2
4:30 AM	0	0	0	0	1	0	1
4:45 AM	0	0	1	0	0	0	1
5:00 AM	0	0	2	0	0	0	2
5:15 AM	0	0	0	0	0	0	0
5:30 AM	0	0	5	0	0	0	5
5:45 AM	0	0	7	0	0	0	7
6:00 AM	0	0	2	0	0	0	2
6:15 AM	0	0	7	0	0	0	7
6:30 AM	0	0	11	0	0	0	11
6:45 AM	0	0	12	0	0	0	12
7:00 AM	0	0	16	1	0	0	17
7:15 AM	0	0	29	1	0	0	30
7:30 AM	1	0	31	1	1	0	34
7:45 AM	0	0	32	0	2	0	34
8:00 AM	0	0	39	0	0	0	39
8:15 AM	0	1	36	1	0	0	38
8:30 AM	0	0	31	0	1	0	32
8:45 AM	0	0	31	0	0	0	31
9:00 AM	0	0	21	0	1	0	22
9:15 AM	0	0	27	0	1	0	28
9:30 AM	0	0	20	0	1	0	21
9:45 AM	0	0	14	0	1	0	15
10:00 AM	0	0	11	0	1	1	13
10:15 AM	0	0	18	0	0	0	18
10:30 AM	0	0	12	0	0	0	12
10:45 AM	0	0	11	0	1	0	12
11:00 AM	0	0	11	0	1	0	12
11:15 AM	0	0	10	0	0	0	10
11:30 AM	0	0	12	0	0	0	12
11:45 AM	0	0	22	0	0	0	22

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	22	0	0	1	23
12:15 PM	0	0	9	1	0	0	10
12:30 PM	0	0	10	0	1	1	12
12:45 PM	0	0	12	0	0	0	12
1:00 PM	0	0	16	0	0	0	16
1:15 PM	0	0	13	0	1	0	14
1:30 PM	0	0	21	0	1	0	22
1:45 PM	0	0	14	0	0	0	14
2:00 PM	0	0	16	1	0	0	17
2:15 PM	0	0	24	0	0	0	24
2:30 PM	0	0	23	0	1	0	24
2:45 PM	0	0	19	0	1	0	20
3:00 PM	0	0	44	2	2	0	48
3:15 PM	0	0	36	1	1	0	38
3:30 PM	0	0	27	0	0	1	28
3:45 PM	0	0	18	0	0	0	18
4:00 PM	0	0	24	1	1	0	26
4:15 PM	0	0	17	1	0	0	18
4:30 PM	0	0	22	0	1	0	23
4:45 PM	0	0	27	0	0	0	27
5:00 PM	0	0	29	0	0	0	29
5:15 PM	0	0	14	0	0	0	14
5:30 PM	0	0	23	0	0	0	23
5:45 PM	0	0	23	0	0	0	23
6:00 PM	0	0	14	0	0	0	14
6:15 PM	0	0	15	0	0	0	15
6:30 PM	0	0	16	0	0	0	16
6:45 PM	0	0	13	0	2	0	15
7:00 PM	0	0	2	0	0	0	2
7:15 PM	0	0	3	0	0	0	3
7:30 PM	0	0	6	0	0	0	6
7:45 PM	0	0	5	0	0	0	5
8:00 PM	0	0	4	0	1	0	5
8:15 PM	0	0	3	0	0	0	3
8:30 PM	0	0	3	0	0	0	3
8:45 PM	0	0	4	0	0	0	4
9:00 PM	0	0	2	0	0	0	2
9:15 PM	0	0	1	0	0	0	1
9:30 PM	0	0	1	0	0	0	1
9:45 PM	0	0	2	0	0	0	2
10:00 PM	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0
10:30 PM	0	0	1	0	0	0	1
10:45 PM	0	0	2	0	0	0	2
11:00 PM	0	0	2	0	0	0	2
11:15 PM	0	0	3	0	0	0	3
11:30 PM	0	0	3	0	0	0	3
11:45 PM	0	0	0	0	0	0	0

AM Total	1	1	489	4	14	1	510
Percentage	0.20%	0.20%	95.88%	0.78%	2.75%	0.20%	
AM Peak	6:45 AM	7:30 AM	7:30 AM	6:45 AM	9:00 AM	9:15 AM	7:30 AM
Volume	1	1	138	3	4	1	145

PM Total	0	0	608	7	13	3	631
Percentage	0.00%	0.00%	96.35%	1.11%	2.06%	0.48%	
PM Peak	12:00 PM	12:00 PM	2:45 PM	2:30 PM	2:30 PM	12:00 PM	2:45 PM
Volume	0	0	126	3	5	2	134

Day Total	1	1	1097	11	27	4	1141
Percentage	0.09%	0.09%	96.14%	0.96%	2.37%	0.35%	

Bedford Road
south of Route 2A
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-B

Count Date: Friday, December 2, 2022
Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	3	0	0	0	3
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	1	0	0	0	1
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	1	0	1
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	2	0	0	0	2
5:00 AM	0	0	2	0	0	0	2
5:15 AM	0	0	1	0	0	0	1
5:30 AM	0	0	12	0	0	0	12
5:45 AM	0	0	5	0	0	0	5
6:00 AM	0	0	5	0	0	0	5
6:15 AM	0	0	7	0	0	0	7
6:30 AM	0	0	6	0	0	0	6
6:45 AM	0	0	20	0	0	0	20
7:00 AM	0	0	14	1	0	0	15
7:15 AM	0	0	26	1	0	0	27
7:30 AM	0	0	24	1	0	0	25
7:45 AM	0	0	25	0	0	0	25
8:00 AM	0	0	38	0	1	0	39
8:15 AM	0	1	38	1	1	0	41
8:30 AM	0	0	21	0	0	0	21
8:45 AM	0	0	26	0	0	0	26
9:00 AM	0	0	16	0	1	0	17
9:15 AM	0	0	25	0	1	0	26
9:30 AM	0	0	22	0	0	0	22
9:45 AM	0	0	18	0	1	0	19
10:00 AM	0	0	15	0	0	0	15
10:15 AM	0	0	16	0	0	0	16
10:30 AM	0	0	9	0	0	0	9
10:45 AM	0	0	7	0	0	3	10
11:00 AM	0	0	13	0	0	0	13
11:15 AM	0	0	8	0	1	0	9
11:30 AM	0	0	10	0	0	0	10
11:45 AM	0	0	17	0	1	0	18

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	17	0	0	0	17
12:15 PM	0	0	14	0	1	0	15
12:30 PM	0	0	19	0	0	0	19
12:45 PM	0	0	18	0	0	0	18
1:00 PM	0	0	15	0	1	0	16
1:15 PM	0	1	23	0	1	0	25
1:30 PM	1	0	17	0	0	0	18
1:45 PM	0	0	7	0	0	1	8
2:00 PM	0	0	19	0	0	0	19
2:15 PM	0	0	17	0	2	0	19
2:30 PM	0	0	20	0	0	0	20
2:45 PM	0	0	22	0	1	0	23
3:00 PM	0	0	36	2	0	0	38
3:15 PM	0	0	32	0	2	0	34
3:30 PM	0	0	26	0	0	0	26
3:45 PM	1	0	32	0	0	0	33
4:00 PM	0	0	37	0	0	0	37
4:15 PM	0	0	21	0	1	0	22
4:30 PM	0	0	24	0	0	0	24
4:45 PM	0	0	22	0	0	0	22
5:00 PM	0	0	20	1	1	1	23
5:15 PM	0	0	11	0	1	0	12
5:30 PM	0	0	18	0	0	0	18
5:45 PM	0	0	18	0	0	0	18
6:00 PM	0	0	16	0	0	0	16
6:15 PM	0	0	10	1	0	0	11
6:30 PM	0	0	13	0	0	0	13
6:45 PM	0	0	14	0	0	0	14
7:00 PM	0	0	5	0	0	0	5
7:15 PM	0	0	10	0	0	0	10
7:30 PM	0	0	13	0	0	0	13
7:45 PM	0	0	10	0	0	0	10
8:00 PM	0	0	8	0	0	0	8
8:15 PM	0	0	5	0	0	0	5
8:30 PM	0	0	6	0	0	0	6
8:45 PM	0	0	4	0	0	0	4
9:00 PM	0	0	0	0	0	0	0
9:15 PM	0	0	3	0	0	0	3
9:30 PM	0	0	2	0	0	0	2
9:45 PM	0	0	2	0	0	0	2
10:00 PM	0	0	1	0	0	0	1
10:15 PM	0	0	2	0	0	0	2
10:30 PM	0	0	3	0	0	0	3
10:45 PM	0	0	4	0	0	0	4
11:00 PM	0	0	2	0	0	0	2
11:15 PM	0	0	2	0	0	0	2
11:30 PM	0	0	0	0	0	0	0
11:45 PM	0	0	1	0	0	0	1

AM Total 0 1 455 4 8 3 471
 Percentage 0.00% 0.21% 96.60% 0.85% 1.70% 0.64%

AM Peak 12:00 AM 7:30 AM 7:30 AM 6:45 AM 9:00 AM 10:00 AM 7:30 AM
 Volume 0 1 125 3 3 3 130

PM Total 2 1 641 4 11 2 661
 Percentage 0.30% 0.15% 96.97% 0.61% 1.66% 0.30%

PM Peak 12:45 PM 12:30 PM 3:15 PM 2:15 PM 2:00 PM 1:00 PM 3:00 PM
 Volume 1 1 127 2 3 1 131

Day Total 2 2 1096 8 19 5 1132
 Percentage 0.18% 0.18% 96.82% 0.71% 1.68% 0.44%

Bedford Road
south of Route 2A
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-B

Count Date: Saturday, December 3, 2022
Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	2	0	0	0	2
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0
5:15 AM	0	0	1	0	0	0	1
5:30 AM	0	0	1	0	0	0	1
5:45 AM	0	0	0	0	0	0	0
6:00 AM	0	0	2	0	0	0	2
6:15 AM	0	0	0	0	0	1	1
6:30 AM	0	0	4	0	0	0	4
6:45 AM	0	0	1	0	0	0	1
7:00 AM	0	0	1	0	1	0	2
7:15 AM	0	0	13	0	0	0	13
7:30 AM	0	0	10	0	0	0	10
7:45 AM	0	0	11	0	0	0	11
8:00 AM	0	0	13	0	0	0	13
8:15 AM	0	0	28	0	0	0	28
8:30 AM	1	0	16	0	0	0	17
8:45 AM	0	1	24	0	0	0	25
9:00 AM	1	1	15	0	0	0	17
9:15 AM	0	0	29	0	0	0	29
9:30 AM	1	0	20	0	0	0	21
9:45 AM	0	0	36	0	1	0	37
10:00 AM	3	0	17	0	0	0	20
10:15 AM	0	0	30	0	0	0	30
10:30 AM	0	0	20	0	0	0	20
10:45 AM	0	0	26	0	0	0	26
11:00 AM	0	0	32	0	0	0	32
11:15 AM	0	1	20	0	0	0	21
11:30 AM	0	0	26	0	0	0	26
11:45 AM	0	0	44	0	0	0	44

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	29	0	0	0	29
12:15 PM	0	0	23	0	0	0	23
12:30 PM	0	0	36	0	1	0	37
12:45 PM	0	0	26	0	0	0	26
1:00 PM	0	0	31	0	0	0	31
1:15 PM	0	0	12	0	0	0	12
1:30 PM	0	0	19	0	1	0	20
1:45 PM	0	0	18	0	0	0	18
2:00 PM	0	0	15	0	0	0	15
2:15 PM	0	0	18	0	0	0	18
2:30 PM	0	0	27	0	0	0	27
2:45 PM	0	0	34	0	0	0	34
3:00 PM	0	0	15	0	0	0	15
3:15 PM	0	0	22	0	0	0	22
3:30 PM	0	0	7	0	0	0	7
3:45 PM	0	0	14	0	0	0	14
4:00 PM	0	0	11	0	0	0	11
4:15 PM	0	0	8	0	0	0	8
4:30 PM	0	0	7	0	0	0	7
4:45 PM	0	0	9	0	0	0	9
5:00 PM	0	0	5	0	0	0	5
5:15 PM	0	0	7	0	0	0	7
5:30 PM	0	0	10	0	0	0	10
5:45 PM	0	0	9	0	0	0	9
6:00 PM	0	0	6	0	0	0	6
6:15 PM	0	0	3	0	0	0	3
6:30 PM	0	0	5	0	0	0	5
6:45 PM	0	0	7	0	0	0	7
7:00 PM	0	0	3	0	0	0	3
7:15 PM	0	0	2	0	0	0	2
7:30 PM	0	0	4	0	0	0	4
7:45 PM	0	0	0	0	0	0	0
8:00 PM	0	0	1	0	0	0	1
8:15 PM	0	0	2	0	0	0	2
8:30 PM	0	0	2	0	0	0	2
8:45 PM	0	0	3	0	0	0	3
9:00 PM	0	0	2	0	0	0	2
9:15 PM	0	0	2	0	0	0	2
9:30 PM	0	0	4	0	0	0	4
9:45 PM	0	0	2	0	0	0	2
10:00 PM	0	0	5	0	0	0	5
10:15 PM	0	0	2	0	0	0	2
10:30 PM	0	0	0	0	0	0	0
10:45 PM	0	0	1	0	0	0	1
11:00 PM	0	0	0	0	0	0	0
11:15 PM	0	0	1	0	0	0	1
11:30 PM	0	0	3	0	0	0	3
11:45 PM	0	0	0	0	0	0	0

AM Total 6 3 445 0 2 1 457
Percentage 1.31% 0.66% 97.37% 0.00% 0.44% 0.22%

AM Peak 9:15 AM 8:15 AM 11:00 AM 12:00 AM 6:15 AM 5:30 AM 11:00 AM
Volume 4 2 122 0 1 1 123

PM Total 0 0 472 0 2 0 474
Percentage 0.00% 0.00% 99.58% 0.00% 0.42% 0.00%

PM Peak 12:00 PM 12:00 PM 12:15 PM 12:00 PM 12:00 PM 12:00 PM 12:15 PM
Volume 0 0 116 0 1 0 117

Day Total 6 3 917 0 4 1 931
Percentage 0.64% 0.32% 98.50% 0.00% 0.43% 0.11%

Bedford Road
 south of Route 2A
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-B

Count Date: Sunday, December 4, 2022
 Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0
5:45 AM	0	0	3	0	0	0	3
6:00 AM	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0
6:30 AM	0	0	1	0	0	0	1
6:45 AM	0	0	3	0	0	0	3
7:00 AM	0	0	4	0	0	0	4
7:15 AM	0	0	4	0	0	0	4
7:30 AM	1	0	4	0	0	0	5
7:45 AM	0	0	0	0	0	0	0
8:00 AM	1	0	1	0	0	0	2
8:15 AM	0	0	6	0	0	0	6
8:30 AM	0	0	11	0	0	0	11
8:45 AM	0	0	9	0	0	0	9
9:00 AM	0	0	7	0	0	0	7
9:15 AM	0	0	9	0	1	0	10
9:30 AM	0	0	7	0	0	0	7
9:45 AM	0	0	8	0	0	0	8
10:00 AM	0	0	15	0	0	0	15
10:15 AM	0	0	11	0	0	0	11
10:30 AM	0	0	16	0	0	0	16
10:45 AM	0	0	14	0	0	0	14
11:00 AM	0	0	12	0	0	0	12
11:15 AM	0	0	9	0	0	0	9
11:30 AM	0	0	7	0	0	0	7
11:45 AM	0	0	10	0	0	0	10

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	13	0	0	0	13
12:15 PM	0	0	20	0	0	0	20
12:30 PM	0	0	19	0	0	0	19
12:45 PM	0	0	16	0	1	0	17
1:00 PM	0	0	19	0	1	0	20
1:15 PM	0	0	13	0	0	0	13
1:30 PM	0	0	10	0	0	0	10
1:45 PM	2	0	12	0	0	0	14
2:00 PM	0	0	15	0	0	0	15
2:15 PM	0	0	8	0	0	0	8
2:30 PM	0	0	15	0	0	0	15
2:45 PM	0	0	14	0	0	0	14
3:00 PM	0	0	13	0	0	0	13
3:15 PM	0	0	20	0	0	0	20
3:30 PM	0	0	11	0	0	0	11
3:45 PM	0	0	13	0	0	0	13
4:00 PM	0	0	10	0	0	0	10
4:15 PM	0	0	16	0	0	0	16
4:30 PM	0	0	15	0	0	0	15
4:45 PM	0	0	10	0	0	0	10
5:00 PM	0	0	10	0	0	0	10
5:15 PM	0	0	9	0	0	0	9
5:30 PM	0	0	4	0	0	0	4
5:45 PM	0	0	5	0	0	0	5
6:00 PM	0	0	8	0	0	0	8
6:15 PM	0	0	5	0	0	0	5
6:30 PM	0	0	3	0	0	0	3
6:45 PM	0	0	6	0	0	0	6
7:00 PM	0	0	3	0	0	0	3
7:15 PM	0	0	5	0	0	0	5
7:30 PM	0	0	2	0	0	0	2
7:45 PM	0	0	2	0	0	0	2
8:00 PM	0	0	3	0	0	0	3
8:15 PM	0	0	7	0	0	0	7
8:30 PM	0	0	3	0	0	0	3
8:45 PM	0	0	1	0	0	0	1
9:00 PM	0	0	3	0	0	0	3
9:15 PM	0	0	2	0	0	0	2
9:30 PM	0	0	0	0	0	0	0
9:45 PM	0	0	1	0	0	0	1
10:00 PM	0	0	1	0	0	0	1
10:15 PM	0	0	1	0	0	0	1
10:30 PM	0	0	2	0	0	0	2
10:45 PM	0	0	0	0	0	0	0
11:00 PM	0	0	1	0	0	0	1
11:15 PM	0	0	2	0	0	0	2
11:30 PM	0	0	1	0	0	0	1
11:45 PM	0	0	2	0	0	0	2

AM Total 2 0 174 0 1 0 177
 Percentage 1.13% 0.00% 98.31% 0.00% 0.56% 0.00%

AM Peak 7:15 AM 12:00 AM 10:00 AM 12:00 AM 8:30 AM 12:00 AM 10:00 AM
 Volume 2 0 56 0 1 0 56

PM Total 2 0 374 0 2 0 378
 Percentage 0.53% 0.00% 98.94% 0.00% 0.53% 0.00%

PM Peak 1:00 PM 12:00 PM 12:15 PM 12:00 PM 12:15 PM 12:00 PM 12:15 PM
 Volume 2 0 74 0 2 0 76

Day Total 4 0 548 0 3 0 555
 Percentage 0.72% 0.00% 98.74% 0.00% 0.54% 0.00%

Bedford Road
 south of Route 2A
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-B

Count Date: Monday, December 5, 2022
 Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	0	1
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	1	0	0	0	1
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	2	0	0	0	2
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	1	0	1
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	1	0	0	0	1
5:00 AM	0	0	5	0	0	0	5
5:15 AM	0	0	2	0	0	0	2
5:30 AM	0	0	4	0	0	0	4
5:45 AM	0	0	9	0	0	0	9
6:00 AM	0	0	4	0	0	0	4
6:15 AM	0	0	6	0	0	0	6
6:30 AM	0	0	10	0	0	0	10
6:45 AM	0	0	8	0	0	0	8
7:00 AM	0	0	23	1	0	0	24
7:15 AM	0	0	20	0	0	0	20
7:30 AM	0	0	16	1	0	0	17
7:45 AM	0	0	40	0	1	0	41
8:00 AM	0	0	36	0	1	1	38
8:15 AM	0	0	31	1	0	0	32
8:30 AM	0	0	25	0	0	0	25
8:45 AM	0	0	19	0	0	0	19
9:00 AM	0	0	23	0	0	0	23
9:15 AM	0	0	18	0	0	0	18
9:30 AM	0	0	18	0	0	0	18
9:45 AM	0	0	16	1	0	0	17
10:00 AM	0	0	17	0	0	0	17
10:15 AM	0	0	8	0	0	0	8
10:30 AM	0	0	7	0	0	0	7
10:45 AM	0	0	11	0	1	0	12
11:00 AM	0	0	12	0	0	0	12
11:15 AM	0	0	15	0	0	1	16
11:30 AM	0	0	12	0	1	0	13
11:45 AM	0	0	16	1	0	0	17

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	10	0	0	1	11
12:15 PM	0	0	20	0	0	0	20
12:30 PM	0	0	15	0	0	0	15
12:45 PM	0	0	12	0	0	0	12
1:00 PM	0	0	12	0	0	0	12
1:15 PM	0	0	9	0	0	0	9
1:30 PM	0	0	17	0	1	0	18
1:45 PM	0	0	19	0	4	0	23
2:00 PM	0	0	14	0	1	0	15
2:15 PM	0	0	20	0	3	0	23
2:30 PM	2	0	12	0	0	0	14
2:45 PM	0	0	12	0	1	0	13
3:00 PM	1	0	25	1	0	0	27
3:15 PM	0	0	31	0	0	0	31
3:30 PM	1	0	18	0	1	0	20
3:45 PM	0	0	26	0	0	0	26
4:00 PM	0	0	17	0	1	0	18
4:15 PM	0	0	20	2	1	0	23
4:30 PM	0	0	14	0	0	0	14
4:45 PM	0	0	14	0	0	0	14
5:00 PM	0	0	15	0	0	0	15
5:15 PM	0	0	13	0	0	0	13
5:30 PM	0	0	16	0	0	0	16
5:45 PM	0	0	12	0	0	0	12
6:00 PM	0	0	16	0	0	0	16
6:15 PM	0	0	11	1	0	0	12
6:30 PM	0	0	9	0	0	0	9
6:45 PM	0	0	11	0	0	0	11
7:00 PM	0	0	4	0	0	0	4
7:15 PM	0	0	3	0	0	0	3
7:30 PM	0	0	4	0	0	0	4
7:45 PM	0	0	6	0	0	0	6
8:00 PM	0	0	2	0	0	0	2
8:15 PM	0	0	4	0	0	0	4
8:30 PM	0	0	3	0	0	0	3
8:45 PM	0	0	2	0	0	0	2
9:00 PM	0	0	2	0	0	0	2
9:15 PM	0	0	1	0	0	0	1
9:30 PM	0	0	2	0	0	0	2
9:45 PM	0	0	1	0	0	0	1
10:00 PM	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0
10:30 PM	0	0	1	0	0	0	1
10:45 PM	0	0	1	0	0	0	1
11:00 PM	0	0	1	0	0	0	1
11:15 PM	0	0	1	0	0	0	1
11:30 PM	0	0	1	0	0	0	1
11:45 PM	0	0	1	0	0	0	1

AM Total	0	0	440	5	5	2	452
Percentage	0.00%	0.00%	97.35%	1.11%	1.11%	0.44%	
AM Peak	12:00 AM	12:00 AM	7:45 AM	6:45 AM	7:15 AM	7:15 AM	7:45 AM
Volume	0	0	132	2	2	1	136

PM Total	4	0	480	4	13	1	502
Percentage	0.80%	0.00%	95.62%	0.80%	2.59%	0.20%	
PM Peak	2:15 PM	12:00 PM	3:00 PM	3:30 PM	1:30 PM	12:00 PM	3:00 PM
Volume	3	0	100	2	9	1	104

Day Total	4	0	920	9	18	3	954
Percentage	0.42%	0.00%	96.44%	0.94%	1.89%	0.31%	

Bedford Road
south of Route 2A
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-B

Count Date: Tuesday, November 29, 2022
Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total	PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	0	1	12:00 PM	0	0	28	0	1	0	29
12:15 AM	0	0	0	0	0	0	0	12:15 PM	0	0	16	0	1	1	18
12:30 AM	0	0	0	0	0	0	0	12:30 PM	0	0	17	0	0	1	18
12:45 AM	0	0	0	0	0	0	0	12:45 PM	1	0	10	0	2	0	13
1:00 AM	0	0	0	0	0	0	0	1:00 PM	1	0	15	0	1	0	17
1:15 AM	0	0	0	0	0	0	0	1:15 PM	0	0	11	0	2	0	13
1:30 AM	0	0	0	0	0	0	0	1:30 PM	1	0	20	0	1	0	22
1:45 AM	0	0	1	0	0	0	1	1:45 PM	1	0	19	0	0	0	20
2:00 AM	0	0	0	0	0	0	0	2:00 PM	0	0	23	0	0	0	23
2:15 AM	0	0	0	0	0	0	0	2:15 PM	0	1	21	0	0	0	22
2:30 AM	0	0	0	0	0	0	0	2:30 PM	0	0	26	1	0	0	27
2:45 AM	0	0	0	0	0	0	0	2:45 PM	0	0	30	1	1	0	32
3:00 AM	0	0	0	0	0	0	0	3:00 PM	0	0	39	1	1	0	41
3:15 AM	0	0	0	0	0	0	0	3:15 PM	0	0	26	0	1	0	27
3:30 AM	0	0	0	0	0	0	0	3:30 PM	0	0	29	0	0	0	29
3:45 AM	0	0	0	0	0	0	0	3:45 PM	0	0	33	1	0	0	34
4:00 AM	0	0	0	0	0	0	0	4:00 PM	0	0	37	0	0	0	37
4:15 AM	0	0	2	0	0	0	2	4:15 PM	0	0	49	1	0	0	50
4:30 AM	0	0	0	0	0	0	0	4:30 PM	0	0	44	0	0	0	44
4:45 AM	0	0	1	0	0	0	1	4:45 PM	0	0	36	0	0	0	36
5:00 AM	0	0	4	0	0	0	4	5:00 PM	0	0	45	0	0	0	45
5:15 AM	0	0	1	0	0	0	1	5:15 PM	0	0	48	0	0	0	48
5:30 AM	0	0	1	0	0	0	1	5:30 PM	0	0	46	0	0	0	46
5:45 AM	0	0	2	0	1	0	3	5:45 PM	0	0	23	0	0	0	23
6:00 AM	0	0	10	1	0	0	11	6:00 PM	0	0	21	0	0	0	21
6:15 AM	0	0	15	0	0	1	16	6:15 PM	0	0	24	0	0	0	24
6:30 AM	0	0	18	0	0	0	18	6:30 PM	0	0	23	0	0	0	23
6:45 AM	0	0	20	0	0	0	20	6:45 PM	0	0	6	0	0	0	6
7:00 AM	0	0	38	0	0	0	38	7:00 PM	0	0	6	0	0	0	6
7:15 AM	0	0	91	1	0	0	92	7:15 PM	0	0	7	0	0	0	7
7:30 AM	0	0	91	1	0	0	92	7:30 PM	0	0	4	0	0	0	4
7:45 AM	0	0	105	1	1	0	107	7:45 PM	0	0	3	0	0	0	3
8:00 AM	0	0	67	0	2	1	70	8:00 PM	0	0	2	0	0	0	2
8:15 AM	0	0	58	0	0	0	58	8:15 PM	0	0	6	0	0	0	6
8:30 AM	0	0	57	0	1	0	58	8:30 PM	0	0	4	0	0	0	4
8:45 AM	0	0	36	0	1	0	37	8:45 PM	0	0	1	0	0	0	1
9:00 AM	0	0	38	0	2	0	40	9:00 PM	0	0	3	0	0	0	3
9:15 AM	0	0	22	0	1	0	23	9:15 PM	0	0	2	0	0	0	2
9:30 AM	0	0	14	0	0	0	14	9:30 PM	0	0	1	0	0	0	1
9:45 AM	0	0	14	0	0	0	14	9:45 PM	0	0	3	0	0	0	3
10:00 AM	0	0	9	0	1	0	10	10:00 PM	0	0	0	0	0	0	0
10:15 AM	0	0	18	0	0	0	18	10:15 PM	0	0	1	0	0	0	1
10:30 AM	0	0	9	0	0	0	9	10:30 PM	0	0	0	0	0	0	0
10:45 AM	0	0	11	0	1	0	12	10:45 PM	0	0	0	0	0	0	0
11:00 AM	0	0	8	0	1	0	9	11:00 PM	0	0	2	0	0	0	2
11:15 AM	0	0	13	0	1	0	14	11:15 PM	0	0	0	0	0	0	0
11:30 AM	0	0	11	0	0	0	11	11:30 PM	0	0	0	0	0	0	0
11:45 AM	1	0	7	0	0	0	8	11:45 PM	0	0	0	0	0	0	0

AM Total	1	0	793	4	13	2	813	PM Total	4	1	810	5	11	2	833
Percentage	0.12%	0.00%	97.54%	0.49%	1.60%	0.25%		Percentage	0.48%	0.12%	97.24%	0.60%	1.32%	0.24%	
AM Peak	11:00 AM	12:00 AM	7:15 AM	7:00 AM	8:30 AM	5:30 AM	7:15 AM	PM Peak	12:45 PM	1:30 PM	4:45 PM	2:15 PM	12:45 PM	12:00 PM	4:15 PM
Volume	1	0	354	3	5	1	361	Volume	3	1	175	3	6	2	175
Day Total								Day Total	5	1	1603	9	24	4	1646
Percentage								Percentage	0.30%	0.06%	97.39%	0.55%	1.46%	0.24%	

Bedford Road
south of Route 2A
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-B

Count Date: Wednesday, November 30, 2022
Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	2	0	0	0	2
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	2	0	0	0	2
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	1	0	0	0	1
5:15 AM	0	0	3	0	0	0	3
5:30 AM	0	0	2	0	0	0	2
5:45 AM	0	0	4	0	0	0	4
6:00 AM	0	0	11	0	0	0	11
6:15 AM	0	0	9	0	0	0	9
6:30 AM	0	0	13	0	0	0	13
6:45 AM	0	0	29	0	0	0	29
7:00 AM	0	0	39	0	1	0	40
7:15 AM	1	0	63	1	0	0	65
7:30 AM	0	0	75	2	0	1	78
7:45 AM	0	0	64	1	1	0	66
8:00 AM	0	0	51	0	1	1	53
8:15 AM	0	0	69	0	0	0	69
8:30 AM	0	0	58	1	1	0	60
8:45 AM	0	0	37	0	0	0	37
9:00 AM	0	0	19	0	3	0	22
9:15 AM	0	0	24	0	0	0	24
9:30 AM	0	0	28	0	0	0	28
9:45 AM	0	0	12	0	0	0	12
10:00 AM	0	0	28	0	1	0	29
10:15 AM	0	0	27	0	1	0	28
10:30 AM	0	0	21	0	2	0	23
10:45 AM	0	0	27	0	1	0	28
11:00 AM	0	0	18	0	0	0	18
11:15 AM	0	0	19	0	0	1	20
11:30 AM	0	0	26	0	0	0	26
11:45 AM	0	0	23	0	0	0	23

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	26	0	0	0	26
12:15 PM	0	0	22	0	0	0	22
12:30 PM	0	0	30	0	0	0	30
12:45 PM	0	0	18	1	0	0	19
1:00 PM	0	0	15	0	1	0	16
1:15 PM	0	0	22	0	1	0	23
1:30 PM	0	0	24	0	1	0	25
1:45 PM	0	0	28	0	2	0	30
2:00 PM	0	0	23	0	0	0	23
2:15 PM	0	0	27	0	0	0	27
2:30 PM	0	0	34	1	0	0	35
2:45 PM	0	0	34	1	0	0	35
3:00 PM	0	0	55	0	1	0	56
3:15 PM	0	0	51	0	0	0	51
3:30 PM	0	0	63	0	0	0	63
3:45 PM	0	0	59	0	0	0	59
4:00 PM	0	0	80	0	1	0	81
4:15 PM	0	0	68	0	0	0	68
4:30 PM	0	0	64	0	0	0	64
4:45 PM	0	0	75	0	1	0	76
5:00 PM	0	0	88	0	0	0	88
5:15 PM	0	0	47	0	0	0	47
5:30 PM	0	0	53	0	0	0	53
5:45 PM	0	0	57	0	0	0	57
6:00 PM	0	0	32	0	0	0	32
6:15 PM	0	0	28	0	0	0	28
6:30 PM	0	0	65	0	0	0	65
6:45 PM	0	0	37	0	0	0	37
7:00 PM	0	0	36	0	1	0	37
7:15 PM	0	0	2	0	0	0	2
7:30 PM	0	0	4	0	0	0	4
7:45 PM	0	0	4	0	0	0	4
8:00 PM	0	0	7	0	0	0	7
8:15 PM	0	0	8	0	0	0	8
8:30 PM	0	0	4	0	0	0	4
8:45 PM	0	0	4	0	0	0	4
9:00 PM	0	0	0	0	0	0	0
9:15 PM	0	0	2	0	0	0	2
9:30 PM	0	0	2	0	0	0	2
9:45 PM	0	0	2	0	0	0	2
10:00 PM	0	0	3	0	0	0	3
10:15 PM	0	0	4	0	0	0	4
10:30 PM	0	0	1	0	0	0	1
10:45 PM	0	0	1	0	0	0	1
11:00 PM	0	0	2	0	0	0	2
11:15 PM	0	0	1	0	0	0	1
11:30 PM	0	0	2	0	1	0	3
11:45 PM	0	0	0	0	0	0	0

AM Total	1	0	807	5	12	3	828
Percentage	0.12%	0.00%	97.46%	0.60%	1.45%	0.36%	
AM Peak	6:30 AM	12:00 AM	7:30 AM	7:00 AM	10:00 AM	7:15 AM	7:30 AM
Volume	1	0	259	4	5	2	266

PM Total	0	0	1314	3	10	0	1327
Percentage	0.00%	0.00%	99.02%	0.23%	0.75%	0.00%	
PM Peak	12:00 PM	12:00 PM	4:15 PM	2:00 PM	1:00 PM	12:00 PM	4:15 PM
Volume	0	0	295	2	5	0	296

Day Total	1	0	2121	8	22	3	2155
Percentage	0.05%	0.00%	98.42%	0.37%	1.02%	0.14%	

Bedford Road
 south of Route 2A
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilic.com

PDI File #: 228952 ATR-B

Count Date: Thursday, December 1, 2022
 Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	1	0	1
12:30 AM	0	0	1	0	0	1	2
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	3	0	0	0	3
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	3	0	0	0	3
5:15 AM	0	0	1	0	0	0	1
5:30 AM	0	0	5	0	0	0	5
5:45 AM	0	0	6	0	0	0	6
6:00 AM	0	0	10	0	0	0	10
6:15 AM	0	0	6	0	0	0	6
6:30 AM	0	0	7	0	0	0	7
6:45 AM	0	0	26	0	0	0	26
7:00 AM	0	0	29	0	0	0	29
7:15 AM	0	0	58	2	0	1	61
7:30 AM	0	0	87	1	0	0	88
7:45 AM	0	0	72	1	0	0	73
8:00 AM	0	0	67	0	0	0	67
8:15 AM	0	0	74	0	1	0	75
8:30 AM	0	0	58	1	4	0	63
8:45 AM	0	0	40	0	1	0	41
9:00 AM	0	0	26	0	0	1	27
9:15 AM	0	0	18	0	1	0	19
9:30 AM	1	0	14	0	0	0	15
9:45 AM	0	0	11	0	1	1	13
10:00 AM	0	0	16	0	0	0	16
10:15 AM	0	0	11	0	0	0	11
10:30 AM	0	0	9	0	0	0	9
10:45 AM	0	0	7	0	0	0	7
11:00 AM	0	0	9	0	1	0	10
11:15 AM	1	0	10	0	0	0	11
11:30 AM	0	0	9	0	0	0	9
11:45 AM	0	0	11	0	0	0	11

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	18	0	3	0	21
12:15 PM	0	0	24	0	1	1	26
12:30 PM	0	0	17	0	1	0	18
12:45 PM	0	0	19	0	0	1	20
1:00 PM	0	0	22	0	0	0	22
1:15 PM	0	0	23	0	0	0	23
1:30 PM	0	0	17	0	0	0	17
1:45 PM	0	0	10	0	1	0	11
2:00 PM	0	0	20	0	1	0	21
2:15 PM	0	0	16	0	0	0	16
2:30 PM	0	0	28	1	0	0	29
2:45 PM	1	0	45	1	0	0	47
3:00 PM	0	0	59	1	0	0	60
3:15 PM	1	0	36	0	0	0	37
3:30 PM	0	0	42	0	0	0	42
3:45 PM	0	0	40	1	0	0	41
4:00 PM	0	0	58	0	0	0	58
4:15 PM	0	0	48	1	0	0	49
4:30 PM	0	0	57	0	0	0	57
4:45 PM	0	1	48	0	2	1	52
5:00 PM	0	0	78	0	0	0	78
5:15 PM	0	0	66	0	0	0	66
5:30 PM	0	0	66	0	0	0	66
5:45 PM	0	0	32	0	0	0	32
6:00 PM	0	0	37	0	0	0	37
6:15 PM	0	0	35	0	0	0	35
6:30 PM	0	0	14	0	0	0	14
6:45 PM	0	0	22	0	1	0	23
7:00 PM	0	0	7	0	0	0	7
7:15 PM	0	0	9	0	0	0	9
7:30 PM	0	0	8	0	0	0	8
7:45 PM	0	0	3	0	0	0	3
8:00 PM	0	0	1	0	0	0	1
8:15 PM	0	0	3	0	0	0	3
8:30 PM	0	0	2	0	0	0	2
8:45 PM	0	0	3	0	0	0	3
9:00 PM	0	0	3	0	0	0	3
9:15 PM	0	0	2	0	0	0	2
9:30 PM	0	0	1	0	0	0	1
9:45 PM	0	0	3	0	0	0	3
10:00 PM	0	0	2	0	0	0	2
10:15 PM	0	0	2	0	0	0	2
10:30 PM	0	0	0	0	0	0	0
10:45 PM	0	0	1	0	0	0	1
11:00 PM	0	0	2	0	0	0	2
11:15 PM	0	0	0	0	0	0	0
11:30 PM	0	0	1	0	0	0	1
11:45 PM	0	0	0	0	0	0	0

AM Total 2 0 706 5 10 4 727
 Percentage 0.28% 0.00% 97.11% 0.69% 1.38% 0.55%

AM Peak 8:45 AM 12:00 AM 7:30 AM 7:00 AM 8:00 AM 9:00 AM 7:30 AM
 Volume 1 0 300 4 6 2 303

PM Total 2 1 1050 5 10 3 1071
 Percentage 0.19% 0.09% 98.04% 0.47% 0.93% 0.28%

PM Peak 2:30 PM 4:00 PM 4:45 PM 2:15 PM 12:00 PM 12:00 PM 4:45 PM
 Volume 2 1 258 3 5 2 262

Day Total 4 1 1756 10 20 7 1798
 Percentage 0.22% 0.06% 97.66% 0.56% 1.11% 0.39%

Bedford Road
 south of Route 2A
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-B

Count Date: Friday, December 2, 2022
 Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	2	0	0	0	2
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	2	0	0	0	2
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	2	0	0	0	2
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	1	0	0	0	1
5:15 AM	0	0	0	0	0	0	0
5:30 AM	0	0	3	0	1	0	4
5:45 AM	0	0	5	0	0	0	5
6:00 AM	0	0	6	0	0	0	6
6:15 AM	0	0	7	0	1	0	8
6:30 AM	0	0	9	0	0	0	9
6:45 AM	0	0	13	0	0	0	13
7:00 AM	0	0	27	0	0	0	27
7:15 AM	0	0	27	3	2	0	32
7:30 AM	0	0	40	1	0	0	41
7:45 AM	0	0	31	1	2	0	34
8:00 AM	0	0	26	0	0	0	26
8:15 AM	0	0	16	0	0	0	16
8:30 AM	0	0	26	0	1	0	27
8:45 AM	0	0	13	0	2	0	15
9:00 AM	0	0	11	0	2	0	13
9:15 AM	0	0	6	0	0	0	6
9:30 AM	0	0	13	0	0	1	14
9:45 AM	0	0	9	0	0	0	9
10:00 AM	0	0	16	0	0	0	16
10:15 AM	0	0	17	0	0	0	17
10:30 AM	0	0	14	0	0	0	14
10:45 AM	0	0	12	0	0	0	12
11:00 AM	0	0	10	0	1	0	11
11:15 AM	0	0	14	0	0	0	14
11:30 AM	0	0	13	0	1	0	14
11:45 AM	0	0	12	0	0	0	12

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	25	0	0	0	25
12:15 PM	0	0	17	0	0	0	17
12:30 PM	0	0	19	0	0	0	19
12:45 PM	0	0	11	0	0	0	11
1:00 PM	0	0	20	0	1	0	21
1:15 PM	0	0	17	0	1	0	18
1:30 PM	0	0	24	0	0	0	24
1:45 PM	0	0	20	0	3	0	23
2:00 PM	0	0	24	0	0	0	24
2:15 PM	0	1	27	0	2	0	30
2:30 PM	0	0	35	0	1	0	36
2:45 PM	0	0	39	1	0	0	40
3:00 PM	0	0	38	1	0	0	39
3:15 PM	0	0	32	0	1	0	33
3:30 PM	0	0	33	0	0	0	33
3:45 PM	0	1	30	2	0	0	33
4:00 PM	0	0	46	0	0	0	46
4:15 PM	0	0	34	0	0	0	34
4:30 PM	0	0	36	0	0	0	36
4:45 PM	0	0	26	0	0	0	26
5:00 PM	0	0	28	0	0	0	28
5:15 PM	0	0	26	0	0	0	26
5:30 PM	0	0	25	0	0	0	25
5:45 PM	0	0	25	0	0	0	25
6:00 PM	0	0	36	0	0	0	36
6:15 PM	0	0	33	0	0	0	33
6:30 PM	0	0	17	0	1	0	18
6:45 PM	0	0	14	0	0	0	14
7:00 PM	0	0	11	0	0	0	11
7:15 PM	0	0	7	0	0	0	7
7:30 PM	0	0	8	0	0	0	8
7:45 PM	0	0	8	0	0	0	8
8:00 PM	0	0	1	0	0	0	1
8:15 PM	0	0	4	0	0	0	4
8:30 PM	0	0	4	0	0	0	4
8:45 PM	0	0	2	0	0	0	2
9:00 PM	0	0	2	0	0	0	2
9:15 PM	0	0	2	0	0	0	2
9:30 PM	0	0	5	0	0	0	5
9:45 PM	0	0	3	0	0	0	3
10:00 PM	0	0	2	0	0	0	2
10:15 PM	0	0	4	0	0	0	4
10:30 PM	0	0	3	0	0	0	3
10:45 PM	0	0	3	0	0	0	3
11:00 PM	0	0	2	0	0	0	2
11:15 PM	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0
11:45 PM	0	0	1	0	0	0	1

AM Total 0 0 408 5 13 1 427
 Percentage 0.00% 0.00% 95.55% 1.17% 3.04% 0.23%

AM Peak 12:00 AM 12:00 AM 7:00 AM 7:00 AM 8:15 AM 8:45 AM 7:00 AM
 Volume 0 0 125 5 5 1 134

PM Total 0 2 829 4 10 0 845
 Percentage 0.00% 0.24% 98.11% 0.47% 1.18% 0.00%

PM Peak 12:00 PM 1:30 PM 3:45 PM 3:00 PM 1:45 PM 12:00 PM 3:45 PM
 Volume 0 1 146 3 6 0 149

Day Total 0 2 1237 9 23 1 1272
 Percentage 0.00% 0.16% 97.25% 0.71% 1.81% 0.08%

Bedford Road
 south of Route 2A
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PDI File #: 228952 ATR-B

Count Date: Saturday, December 3, 2022
 Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	2	0	0	0	2
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	3	0	0	0	3
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	2	0	0	0	2
3:30 AM	0	0	2	0	0	0	2
3:45 AM	0	0	1	0	0	0	1
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0
5:15 AM	0	0	2	0	0	0	2
5:30 AM	0	0	0	0	0	0	0
5:45 AM	0	0	1	0	0	0	1
6:00 AM	0	0	2	0	0	0	2
6:15 AM	0	0	2	0	0	0	2
6:30 AM	0	0	0	0	0	0	0
6:45 AM	0	0	4	0	0	0	4
7:00 AM	0	0	5	0	0	0	5
7:15 AM	0	0	2	0	0	0	2
7:30 AM	0	0	8	0	0	0	8
7:45 AM	0	0	11	0	0	0	11
8:00 AM	0	0	8	0	0	0	8
8:15 AM	0	0	12	0	0	0	12
8:30 AM	0	0	17	0	0	0	17
8:45 AM	1	0	24	0	0	0	25
9:00 AM	0	0	17	0	0	0	17
9:15 AM	1	0	26	0	2	0	29
9:30 AM	0	0	18	0	0	0	18
9:45 AM	1	0	25	1	1	0	28
10:00 AM	1	0	24	0	0	0	25
10:15 AM	0	0	27	0	0	0	27
10:30 AM	0	0	26	0	0	0	26
10:45 AM	0	0	18	0	0	0	18
11:00 AM	0	0	27	0	0	0	27
11:15 AM	0	0	26	0	0	0	26
11:30 AM	0	0	27	0	0	0	27
11:45 AM	0	0	22	0	0	0	22

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	21	0	0	0	21
12:15 PM	0	0	25	0	0	0	25
12:30 PM	0	0	25	0	0	0	25
12:45 PM	0	0	22	0	0	0	22
1:00 PM	0	0	29	0	0	0	29
1:15 PM	0	0	29	0	0	0	29
1:30 PM	0	0	24	0	0	0	24
1:45 PM	0	0	23	0	0	0	23
2:00 PM	0	0	20	0	0	0	20
2:15 PM	0	0	10	0	1	0	11
2:30 PM	0	0	19	0	0	0	19
2:45 PM	0	0	25	0	0	0	25
3:00 PM	0	0	25	0	0	0	25
3:15 PM	0	0	23	0	1	0	24
3:30 PM	0	0	16	0	0	0	16
3:45 PM	0	0	12	0	0	0	12
4:00 PM	0	0	16	0	0	0	16
4:15 PM	0	0	6	0	0	0	6
4:30 PM	0	0	13	0	0	0	13
4:45 PM	0	0	8	0	0	0	8
5:00 PM	0	0	7	0	0	0	7
5:15 PM	0	0	7	0	0	0	7
5:30 PM	0	0	6	0	0	0	6
5:45 PM	0	0	7	0	0	0	7
6:00 PM	0	0	8	0	0	0	8
6:15 PM	0	0	9	0	0	0	9
6:30 PM	0	0	8	0	0	0	8
6:45 PM	0	0	7	0	0	0	7
7:00 PM	0	0	5	0	0	0	5
7:15 PM	0	0	4	0	0	0	4
7:30 PM	0	0	4	0	0	0	4
7:45 PM	0	0	6	0	0	0	6
8:00 PM	0	0	2	0	0	0	2
8:15 PM	0	0	4	0	0	0	4
8:30 PM	0	0	3	0	0	0	3
8:45 PM	0	0	4	0	0	0	4
9:00 PM	0	0	2	0	0	0	2
9:15 PM	0	0	4	0	0	0	4
9:30 PM	0	0	3	0	0	0	3
9:45 PM	0	0	2	0	0	0	2
10:00 PM	0	0	3	0	0	0	3
10:15 PM	0	0	4	0	0	0	4
10:30 PM	0	0	2	0	0	0	2
10:45 PM	0	0	1	0	0	0	1
11:00 PM	0	0	0	0	0	0	0
11:15 PM	0	0	2	0	0	0	2
11:30 PM	0	0	2	0	0	0	2
11:45 PM	0	0	2	0	0	0	2

AM Total	4	0	394	1	3	0	402
Percentage	1.00%	0.00%	98.01%	0.25%	0.75%	0.00%	
AM Peak	9:15 AM	12:00 AM	9:45 AM	9:00 AM	9:00 AM	12:00 AM	9:45 AM
Volume	3	0	102	1	3	0	106

PM Total	0	0	509	0	2	0	511
Percentage	0.00%	0.00%	99.61%	0.00%	0.39%	0.00%	
PM Peak	12:00 PM	12:00 PM	12:30 PM	12:00 PM	1:30 PM	12:00 PM	12:30 PM
Volume	0	0	105	0	1	0	105

Day Total	4	0	903	1	5	0	913
Percentage	0.44%	0.00%	98.90%	0.11%	0.55%	0.00%	

Bedford Road
south of Route 2A
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-B

Count Date: Sunday, December 4, 2022
Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	0	1
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0
5:45 AM	0	0	3	0	0	0	3
6:00 AM	0	0	0	0	0	0	0
6:15 AM	0	0	1	0	0	0	1
6:30 AM	0	0	5	0	0	0	5
6:45 AM	0	0	0	0	0	0	0
7:00 AM	0	0	1	0	0	0	1
7:15 AM	2	0	3	0	0	0	5
7:30 AM	0	0	2	0	0	0	2
7:45 AM	1	0	1	0	0	0	2
8:00 AM	0	0	8	0	0	0	8
8:15 AM	0	0	8	0	0	0	8
8:30 AM	0	0	11	0	0	0	11
8:45 AM	1	0	12	0	0	0	13
9:00 AM	0	0	8	0	0	0	8
9:15 AM	0	0	13	0	0	0	13
9:30 AM	0	0	8	0	0	0	8
9:45 AM	1	0	8	0	0	0	9
10:00 AM	0	0	8	0	0	0	8
10:15 AM	0	0	11	0	0	0	11
10:30 AM	0	0	8	0	0	0	8
10:45 AM	0	0	14	0	0	0	14
11:00 AM	3	0	13	0	0	0	16
11:15 AM	0	0	9	0	0	0	9
11:30 AM	0	0	10	0	0	0	10
11:45 AM	1	0	16	0	0	0	17

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	13	0	0	0	13
12:15 PM	0	0	17	0	0	0	17
12:30 PM	0	0	18	0	0	0	18
12:45 PM	0	0	6	0	0	0	6
1:00 PM	0	0	16	0	0	0	16
1:15 PM	0	0	14	0	0	0	14
1:30 PM	1	0	16	0	1	0	18
1:45 PM	1	0	12	0	0	0	13
2:00 PM	0	0	13	0	0	0	13
2:15 PM	0	0	10	0	0	0	10
2:30 PM	1	0	9	0	0	0	10
2:45 PM	0	0	9	0	0	0	9
3:00 PM	0	0	15	0	0	0	15
3:15 PM	2	0	14	0	0	0	16
3:30 PM	0	0	13	0	0	0	13
3:45 PM	1	0	13	0	0	0	14
4:00 PM	0	0	14	0	0	0	14
4:15 PM	0	0	13	0	0	0	13
4:30 PM	0	0	16	0	0	0	16
4:45 PM	0	0	14	0	0	0	14
5:00 PM	0	1	11	0	0	0	12
5:15 PM	0	0	12	0	0	0	12
5:30 PM	0	0	6	0	0	0	6
5:45 PM	0	0	7	0	0	0	7
6:00 PM	0	0	8	0	0	0	8
6:15 PM	0	0	10	0	0	0	10
6:30 PM	0	0	11	0	0	0	11
6:45 PM	0	0	5	0	0	0	5
7:00 PM	0	0	5	0	0	0	5
7:15 PM	0	0	3	0	0	0	3
7:30 PM	0	0	3	0	0	0	3
7:45 PM	0	0	3	0	0	0	3
8:00 PM	0	0	5	0	0	0	5
8:15 PM	0	0	3	0	0	0	3
8:30 PM	0	0	5	0	0	0	5
8:45 PM	0	0	1	0	0	0	1
9:00 PM	0	0	0	0	0	0	0
9:15 PM	0	0	2	0	0	0	2
9:30 PM	0	0	2	0	0	0	2
9:45 PM	0	0	3	0	0	0	3
10:00 PM	0	0	2	0	0	0	2
10:15 PM	0	0	2	0	0	0	2
10:30 PM	0	0	2	0	0	0	2
10:45 PM	0	0	1	0	0	0	1
11:00 PM	0	0	1	0	0	0	1
11:15 PM	0	0	1	0	0	0	1
11:30 PM	0	0	0	0	0	0	0
11:45 PM	0	0	1	0	0	0	1

AM Total 9 0 184 0 0 0 0 193
Percentage 4.66% 0.00% 95.34% 0.00% 0.00% 0.00%
AM Peak 11:00 AM 12:00 AM 11:00 AM 12:00 AM 12:00 AM 12:00 AM 11:00 AM
Volume 4 0 48 0 0 0 52

PM Total 6 1 380 0 1 0 388
Percentage 1.55% 0.26% 97.94% 0.00% 0.26% 0.00%
PM Peak 2:30 PM 4:15 PM 1:00 PM 12:00 PM 12:45 PM 12:00 PM 1:00 PM
Volume 3 1 58 0 1 0 61

Day Total 15 1 564 0 1 0 581
Percentage 2.58% 0.17% 97.07% 0.00% 0.17% 0.00%

Bedford Road
south of Route 2A
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-B

Count Date: Monday, December 5, 2022
Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	2	0	0	0	2
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	2	0	0	0	2
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	2	0	0	0	2
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	2	0	0	0	2
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	1	0	0	0	1
5:00 AM	0	0	1	0	0	0	1
5:15 AM	0	0	1	0	0	0	1
5:30 AM	0	0	2	0	0	0	2
5:45 AM	0	0	5	0	0	0	5
6:00 AM	0	0	14	0	0	0	14
6:15 AM	0	0	7	0	0	0	7
6:30 AM	0	0	16	0	0	0	16
6:45 AM	0	0	23	0	1	0	24
7:00 AM	0	0	28	0	0	0	28
7:15 AM	0	0	43	1	0	0	44
7:30 AM	0	0	76	2	0	0	78
7:45 AM	0	0	80	1	2	0	83
8:00 AM	0	0	57	0	1	0	58
8:15 AM	0	0	57	0	0	1	58
8:30 AM	0	0	40	0	2	0	42
8:45 AM	0	0	21	0	0	0	21
9:00 AM	0	0	18	0	0	0	18
9:15 AM	0	0	13	0	0	0	13
9:30 AM	0	0	11	0	0	0	11
9:45 AM	0	0	9	0	0	0	9
10:00 AM	0	0	17	0	0	0	17
10:15 AM	0	0	11	0	0	1	12
10:30 AM	0	0	8	0	0	0	8
10:45 AM	0	0	8	0	0	0	8
11:00 AM	0	0	21	0	0	0	21
11:15 AM	0	0	7	0	0	0	7
11:30 AM	0	0	14	0	0	0	14
11:45 AM	0	0	19	0	0	0	19

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	15	0	1	0	16
12:15 PM	0	0	15	0	0	0	15
12:30 PM	0	0	18	0	0	0	18
12:45 PM	1	0	12	0	0	1	14
1:00 PM	2	0	8	0	0	0	10
1:15 PM	0	0	21	0	0	0	21
1:30 PM	0	0	12	0	0	0	12
1:45 PM	1	0	16	0	1	0	18
2:00 PM	0	0	19	0	0	0	19
2:15 PM	0	0	14	0	1	0	15
2:30 PM	0	2	23	0	0	0	25
2:45 PM	0	0	31	1	0	0	32
3:00 PM	0	0	40	1	0	0	41
3:15 PM	0	0	22	0	0	0	22
3:30 PM	0	0	30	0	1	0	31
3:45 PM	1	0	30	1	0	0	32
4:00 PM	0	0	36	0	0	0	36
4:15 PM	0	0	44	0	0	0	44
4:30 PM	1	0	43	0	0	0	44
4:45 PM	0	0	32	0	0	0	32
5:00 PM	0	0	31	0	0	0	31
5:15 PM	0	0	17	0	0	0	17
5:30 PM	0	0	27	0	0	0	27
5:45 PM	0	0	23	1	0	0	24
6:00 PM	0	0	20	0	0	0	20
6:15 PM	0	0	20	0	0	0	20
6:30 PM	0	0	13	1	0	0	14
6:45 PM	0	0	12	0	0	0	12
7:00 PM	0	0	11	0	0	0	11
7:15 PM	0	0	9	0	0	0	9
7:30 PM	0	0	3	0	1	0	4
7:45 PM	0	0	1	0	0	0	1
8:00 PM	0	0	7	0	0	0	7
8:15 PM	0	0	8	0	0	0	8
8:30 PM	0	0	8	0	0	0	8
8:45 PM	0	0	2	0	0	0	2
9:00 PM	0	0	4	0	0	0	4
9:15 PM	0	0	10	0	0	0	10
9:30 PM	0	0	3	0	0	0	3
9:45 PM	0	0	3	0	0	0	3
10:00 PM	0	0	1	0	0	0	1
10:15 PM	0	0	1	0	0	0	1
10:30 PM	0	0	1	0	0	0	1
10:45 PM	0	0	0	0	0	0	0
11:00 PM	0	0	2	0	0	0	2
11:15 PM	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0

AM Total	0	0	637	4	6	2	649
Percentage	0.00%	0.00%	98.15%	0.62%	0.92%	0.31%	
AM Peak	12:00 AM	12:00 AM	7:30 AM	7:00 AM	7:45 AM	7:30 AM	7:30 AM
Volume	0	0	270	4	5	1	277

PM Total	6	2	718	5	5	1	737
Percentage	0.81%	0.27%	97.42%	0.68%	0.68%	0.14%	
PM Peak	12:15 PM	1:45 PM	4:00 PM	2:15 PM	1:30 PM	12:00 PM	3:45 PM
Volume	3	2	155	2	2	1	156

Day Total	6	2	1355	9	11	3	1386
Percentage	0.43%	0.14%	97.76%	0.65%	0.79%	0.22%	

Bedford Road
south of Route 2A
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
D A T A
INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File # 228952 ATR-B

Direction: NB

Weekly Report

Day Date	Tuesday 11/29/22		Wednesday 11/30/22		Thursday 12/01/22		Friday 12/02/22		Saturday 12/03/22		Sunday 12/04/22		Monday 12/05/22		Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	0	21	1	31	4	23	3	17	2	29	0	13	1	11	2	21
12:15	1	13	0	37	3	10	1	15	0	23	0	20	1	20	1	20
12:30	0	20	0	27	1	12	0	19	0	37	0	19	1	15	0	21
12:45	0	15	1	37	0	12	1	18	0	26	0	17	1	12	0	20
1:00	0	12	1	21	0	16	0	16	1	31	0	20	0	12	0	18
1:15	4	9	0	23	0	14	1	25	1	12	0	13	2	9	1	15
1:30	0	15	0	33	0	22	0	18	0	20	0	10	0	18	0	19
1:45	1	17	0	40	0	14	0	8	0	18	0	14	0	23	0	19
2:00	0	14	0	24	0	17	0	19	0	15	0	15	0	15	0	17
2:15	0	23	0	28	0	24	0	19	0	18	1	8	0	23	0	20
2:30	0	20	1	32	0	24	0	20	0	27	0	15	0	14	0	22
2:45	1	26	0	39	0	20	0	23	0	34	0	14	1	13	0	24
3:00	0	29	1	30	0	48	0	38	0	15	0	13	0	27	0	29
3:15	0	29	0	46	0	38	0	34	0	22	1	20	0	31	0	31
3:30	0	24	0	34	0	28	1	26	0	7	0	11	0	20	0	21
3:45	0	22	0	25	0	18	0	33	0	14	0	13	0	26	0	22
4:00	1	21	0	19	0	26	0	37	0	11	0	10	1	18	0	20
4:15	1	23	0	20	2	18	0	22	1	8	1	16	0	23	1	19
4:30	1	27	1	19	1	23	1	24	0	7	0	15	1	14	1	18
4:45	1	26	2	24	1	27	2	22	0	9	0	10	1	14	1	19
5:00	0	21	2	22	2	29	2	23	0	5	0	10	5	15	2	18
5:15	2	25	3	18	0	14	1	12	1	7	0	9	2	13	1	14
5:30	2	23	7	20	5	23	12	18	1	10	0	4	4	16	4	16
5:45	8	18	6	18	7	23	5	18	0	9	3	5	9	12	5	15
6:00	8	14	8	19	2	14	5	16	2	6	0	8	4	16	4	13
6:15	6	22	8	17	7	15	7	11	1	3	0	5	6	12	5	12
6:30	10	8	9	23	11	16	6	13	4	5	1	3	10	9	7	11
6:45	14	9	9	17	12	15	20	14	1	7	3	6	8	11	10	11
7:00	19	7	16	22	17	2	15	5	2	3	4	3	24	4	14	7
7:15	25	9	34	10	30	3	27	10	13	2	4	5	20	3	22	6
7:30	32	4	26	9	34	6	25	13	10	4	5	2	17	4	21	6
7:45	28	2	49	3	34	5	25	10	11	0	0	2	41	6	27	4
8:00	30	5	40	2	39	5	39	8	13	1	2	3	38	2	29	4
8:15	45	2	50	4	38	3	41	5	28	2	6	7	32	4	34	4
8:30	37	3	41	1	32	3	21	6	17	2	11	3	25	3	26	3
8:45	42	4	31	1	31	4	26	4	25	3	9	1	19	2	26	3
9:00	34	3	29	1	22	2	17	0	17	2	7	3	23	2	21	2
9:15	39	6	35	4	28	1	26	3	29	2	10	2	18	1	26	3
9:30	17	2	33	3	21	1	22	2	21	4	7	0	18	2	20	2
9:45	20	2	31	3	15	2	19	2	37	2	8	1	17	1	21	2
10:00	11	2	39	6	13	0	15	1	20	5	15	1	17	0	19	2
10:15	8	2	21	0	18	0	16	2	30	2	11	1	8	0	16	1
10:30	21	3	32	1	12	1	9	3	20	0	16	2	7	1	17	2
10:45	16	2	22	1	12	2	10	4	26	1	14	0	12	1	16	2
11:00	16	1	21	3	12	2	13	2	32	0	12	1	12	1	17	1
11:15	13	0	17	16	10	3	9	2	21	1	9	2	16	1	14	4
11:30	21	1	25	6	12	3	10	0	26	3	7	1	13	1	16	2
11:45	11	4	28	1	22	0	18	1	44	0	10	2	17	1	21	1
Total	546	610	680	840	510	631	471	661	457	474	177	378	452	502	470	585
Day Total	1156		1520		1141		1132		931		555		954		1056	
Peak HR	8:15 AM	2:45 PM	7:45 AM	2:45 PM	7:30 AM	2:45 PM	7:30 AM	3:00 PM	11:00 AM	12:15 PM	10:00 AM	12:15 PM	7:45 AM	3:00 PM	7:45 AM	2:30 PM
Volume	158	108	180	149	145	134	130	131	123	117	56	76	136	104	116	106

Bedford Road
 south of Route 2A
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File # 228952 ATR-B

Direction: SB

Weekly Report

Day Date	Tuesday 11/29/22		Wednesday 11/30/22		Thursday 12/01/22		Friday 12/02/22		Saturday 12/03/22		Sunday 12/04/22		Monday 12/05/22		Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	1	29	0	26	0	21	0	25	2	21	1	13	2	16	1	22
12:15	0	18	0	22	1	26	1	17	0	25	0	17	0	15	0	20
12:30	0	18	0	30	2	18	1	19	1	25	0	18	0	18	1	21
12:45	0	13	0	19	0	20	0	11	3	22	0	6	0	14	0	15
1:00	0	17	2	16	0	22	0	21	0	29	0	16	0	10	0	19
1:15	0	13	0	23	0	23	0	18	0	29	0	14	0	21	0	20
1:30	0	22	0	25	0	17	0	24	1	24	0	18	0	12	0	20
1:45	1	20	0	30	0	11	2	23	1	23	0	13	0	18	1	20
2:00	0	23	0	23	0	21	0	24	0	20	0	13	0	19	0	20
2:15	0	22	1	27	0	16	1	30	0	11	0	10	0	15	0	19
2:30	0	27	0	35	0	29	2	36	0	19	0	10	0	25	0	26
2:45	0	32	0	35	0	47	0	40	0	25	0	9	0	32	0	31
3:00	0	41	0	56	0	60	0	39	0	25	0	15	2	41	0	40
3:15	0	27	0	51	0	37	0	33	2	24	1	16	1	22	1	30
3:30	0	29	0	63	0	42	0	33	2	16	0	13	2	31	1	32
3:45	0	34	0	59	0	41	0	33	1	12	0	14	0	32	0	32
4:00	0	37	1	81	1	58	1	46	0	16	1	14	0	36	1	41
4:15	2	50	2	68	3	49	2	34	0	6	0	13	2	44	2	38
4:30	0	44	1	64	1	57	1	36	0	13	0	16	0	44	0	39
4:45	1	36	0	76	0	52	0	26	0	8	0	14	1	32	0	35
5:00	4	45	1	88	3	78	1	28	0	7	0	12	1	31	1	41
5:15	1	48	3	47	1	66	0	26	2	7	0	12	1	17	1	32
5:30	1	46	2	53	5	66	4	25	0	6	0	6	2	27	2	33
5:45	3	23	4	57	6	32	5	25	1	7	3	7	5	24	4	25
6:00	11	21	11	32	10	37	6	36	2	8	0	8	14	20	8	23
6:15	16	24	9	28	6	35	8	33	2	9	1	10	7	20	7	23
6:30	18	23	13	65	7	14	9	18	0	8	5	11	16	14	10	22
6:45	20	6	29	37	26	23	13	14	4	7	0	5	24	12	17	15
7:00	38	6	40	37	29	7	27	11	5	5	1	5	28	11	24	12
7:15	92	7	65	2	61	9	32	7	2	4	5	3	44	9	43	6
7:30	92	4	78	4	88	8	41	8	8	4	2	3	78	4	55	5
7:45	107	3	66	4	73	3	34	8	11	6	2	3	83	1	54	4
8:00	70	2	53	7	67	1	26	1	8	2	8	5	58	7	41	4
8:15	58	6	69	8	75	3	16	4	12	4	8	3	58	8	42	5
8:30	58	4	60	4	63	2	27	4	17	3	11	5	42	8	40	4
8:45	37	1	37	4	41	3	15	2	25	4	13	1	21	2	27	2
9:00	40	3	22	0	27	3	13	2	17	2	8	0	18	4	21	2
9:15	23	2	24	2	19	2	6	2	29	4	13	2	13	10	18	3
9:30	14	1	28	2	15	1	14	5	18	3	8	2	11	3	15	2
9:45	14	3	12	2	13	3	9	3	28	2	9	3	9	3	13	3
10:00	10	0	29	3	16	2	16	2	25	3	8	2	17	1	17	2
10:15	18	1	28	4	11	2	17	4	27	4	11	2	12	1	18	3
10:30	9	0	23	1	9	0	14	3	26	2	8	2	8	1	14	1
10:45	12	0	28	1	7	1	12	3	18	1	14	1	8	0	14	1
11:00	9	2	18	2	10	2	11	2	27	0	16	1	21	2	16	2
11:15	14	0	20	1	11	0	14	0	26	2	9	1	7	0	14	1
11:30	11	0	26	3	9	1	14	0	27	2	10	0	14	0	16	1
11:45	8	0	23	0	11	0	12	1	22	2	17	1	19	0	16	1
Total	813	833	828	1327	727	1071	427	845	402	511	193	388	649	737	577	816
Day Total	1646		2155		1798		1272		913		581		1386		1393	
Peak HR	7:15 AM	4:15 PM	7:30 AM	4:15 PM	7:30 AM	4:45 PM	7:00 AM	3:45 PM	9:45 AM	12:30 PM	11:00 AM	1:00 PM	7:30 AM	3:45 PM	7:15 AM	4:15 PM
Volume	361	175	266	296	303	262	134	149	106	105	52	61	277	156	193	153

Route 2A
 west of Lexington Road
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PDI File #: 228952 ATR-C

Count Date: Tuesday, November 29, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	2	0	0	0	2
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	1	0	0	1	2
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	2	0	0	0	2
4:15 AM	0	0	3	0	0	0	3
4:30 AM	0	0	8	0	0	0	8
4:45 AM	0	0	10	0	0	0	10
5:00 AM	0	0	18	0	0	0	18
5:15 AM	0	0	17	0	0	0	17
5:30 AM	0	0	49	0	0	0	49
5:45 AM	0	0	34	0	0	0	34
6:00 AM	0	0	39	0	2	0	41
6:15 AM	0	0	42	0	1	0	43
6:30 AM	0	0	35	0	0	0	35
6:45 AM	0	0	53	0	0	0	53
7:00 AM	0	0	61	1	0	1	63
7:15 AM	0	0	178	8	2	0	188
7:30 AM	0	0	175	0	5	0	180
7:45 AM	0	0	187	0	3	1	191
8:00 AM	0	0	153	0	1	0	154
8:15 AM	0	0	158	0	4	0	162
8:30 AM	0	0	138	0	3	0	141
8:45 AM	0	0	117	0	4	2	123
9:00 AM	0	0	113	0	1	1	115
9:15 AM	0	0	66	0	1	0	67
9:30 AM	0	0	49	0	4	0	53
9:45 AM	0	0	67	0	1	0	68
10:00 AM	0	0	44	0	0	0	44
10:15 AM	0	0	42	0	1	0	43
10:30 AM	0	0	31	0	3	1	35
10:45 AM	0	0	46	0	2	0	48
11:00 AM	0	0	31	0	1	1	33
11:15 AM	0	0	30	0	4	0	34
11:30 AM	0	0	29	0	1	1	31
11:45 AM	0	0	39	0	1	0	40

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	38	0	1	1	40
12:15 PM	0	0	27	0	2	1	30
12:30 PM	0	0	38	0	0	0	38
12:45 PM	0	0	36	0	1	0	37
1:00 PM	0	0	39	0	2	1	42
1:15 PM	0	0	28	0	1	0	29
1:30 PM	0	0	34	0	2	0	36
1:45 PM	0	0	34	1	3	0	38
2:00 PM	0	0	43	0	5	0	48
2:15 PM	0	0	32	0	1	2	35
2:30 PM	0	0	50	0	0	0	50
2:45 PM	0	0	62	0	0	0	62
3:00 PM	0	0	48	2	1	0	51
3:15 PM	0	0	58	0	2	0	60
3:30 PM	0	0	59	0	1	0	60
3:45 PM	0	0	59	1	0	0	60
4:00 PM	0	0	49	0	0	0	49
4:15 PM	0	0	70	0	0	0	70
4:30 PM	0	0	69	0	0	0	69
4:45 PM	0	0	57	0	0	1	58
5:00 PM	0	0	57	0	0	0	57
5:15 PM	0	0	62	0	0	0	62
5:30 PM	0	0	69	0	0	0	69
5:45 PM	0	0	46	0	1	0	47
6:00 PM	0	0	50	0	0	0	50
6:15 PM	0	0	56	0	0	0	56
6:30 PM	0	0	41	0	0	0	41
6:45 PM	0	0	34	0	0	0	34
7:00 PM	0	0	22	0	0	0	22
7:15 PM	0	0	23	0	0	0	23
7:30 PM	0	0	16	0	0	0	16
7:45 PM	0	0	17	0	0	0	17
8:00 PM	0	0	12	0	0	0	12
8:15 PM	0	0	5	0	0	0	5
8:30 PM	0	0	15	0	0	0	15
8:45 PM	0	0	10	0	0	0	10
9:00 PM	0	0	18	0	0	0	18
9:15 PM	0	0	9	0	0	0	9
9:30 PM	0	0	12	0	0	0	12
9:45 PM	0	0	9	0	0	0	9
10:00 PM	0	0	14	0	0	0	14
10:15 PM	0	0	4	0	0	0	4
10:30 PM	0	0	8	0	0	0	8
10:45 PM	0	0	4	0	0	0	4
11:00 PM	0	0	7	0	0	0	7
11:15 PM	0	0	2	0	0	0	2
11:30 PM	0	0	2	0	0	0	2
11:45 PM	0	0	4	0	0	0	4

AM Total	0	0	2070	9	45	9	2133
Percentage	0.00%	0.00%	97.05%	0.42%	2.11%	0.42%	
AM Peak	12:00 AM	12:00 AM	7:15 AM	6:30 AM	7:30 AM	8:15 AM	7:15 AM
Volume	0	0	693	9	13	3	713

PM Total	0	0	1558	4	23	6	1591
Percentage	0.00%	0.00%	97.93%	0.25%	1.45%	0.38%	
PM Peak	12:00 PM	12:00 PM	4:15 PM	3:00 PM	1:15 PM	12:00 PM	4:15 PM
Volume	0	0	253	3	11	2	254

Day Total	0	0	3628	13	68	15	3724
Percentage	0.00%	0.00%	97.42%	0.35%	1.83%	0.40%	

Route 2A
 west of Lexington Road
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-C

Count Date: Wednesday, November 30, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	3	0	0	0	3
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	6	0	0	0	6
4:45 AM	0	0	6	0	0	0	6
5:00 AM	0	0	17	0	0	0	17
5:15 AM	0	0	23	0	0	0	23
5:30 AM	0	0	48	0	0	1	49
5:45 AM	0	0	55	0	0	0	55
6:00 AM	0	0	48	0	3	0	51
6:15 AM	0	0	33	0	2	0	35
6:30 AM	0	0	39	0	1	0	40
6:45 AM	0	0	55	0	2	0	57
7:00 AM	0	0	92	1	2	1	96
7:15 AM	0	0	119	4	0	1	124
7:30 AM	0	0	162	1	3	1	167
7:45 AM	0	0	139	0	0	0	139
8:00 AM	0	0	135	0	3	0	138
8:15 AM	0	0	116	0	1	0	117
8:30 AM	0	0	120	0	0	0	120
8:45 AM	0	0	78	0	2	1	81
9:00 AM	0	0	77	0	2	0	79
9:15 AM	0	0	77	0	0	0	77
9:30 AM	0	0	64	0	4	0	68
9:45 AM	0	0	61	0	2	0	63
10:00 AM	0	0	40	0	0	0	40
10:15 AM	0	0	45	0	1	0	46
10:30 AM	0	0	47	0	3	0	50
10:45 AM	0	0	42	1	1	0	44
11:00 AM	0	0	27	0	0	0	27
11:15 AM	0	0	37	0	0	0	37
11:30 AM	0	0	34	0	5	1	40
11:45 AM	0	0	60	0	2	0	62

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	43	0	1	1	45
12:15 PM	0	0	51	0	0	0	51
12:30 PM	0	0	55	0	4	0	59
12:45 PM	0	0	35	2	0	0	37
1:00 PM	0	0	43	0	4	0	47
1:15 PM	0	0	46	0	2	0	48
1:30 PM	0	0	38	0	0	1	39
1:45 PM	0	0	43	0	1	0	44
2:00 PM	0	0	42	0	1	0	43
2:15 PM	0	0	48	1	1	0	50
2:30 PM	0	0	46	0	0	0	46
2:45 PM	0	0	64	1	1	0	66
3:00 PM	0	0	75	1	1	0	77
3:15 PM	0	0	52	1	0	0	53
3:30 PM	0	0	63	0	5	1	69
3:45 PM	0	0	68	0	0	0	68
4:00 PM	0	0	59	0	1	0	60
4:15 PM	0	0	71	0	0	0	71
4:30 PM	0	0	62	0	0	0	62
4:45 PM	0	0	42	1	0	0	43
5:00 PM	0	0	66	0	0	0	66
5:15 PM	0	0	47	0	0	0	47
5:30 PM	0	0	51	0	0	1	52
5:45 PM	0	0	63	0	0	0	63
6:00 PM	0	0	46	0	0	0	46
6:15 PM	0	0	27	0	0	0	27
6:30 PM	0	0	27	0	1	0	28
6:45 PM	0	0	33	0	0	0	33
7:00 PM	0	0	17	0	0	0	17
7:15 PM	0	0	26	0	0	0	26
7:30 PM	0	0	18	0	0	0	18
7:45 PM	0	0	15	0	0	0	15
8:00 PM	0	0	14	0	0	0	14
8:15 PM	0	0	21	0	0	0	21
8:30 PM	0	0	16	0	0	0	16
8:45 PM	0	0	10	0	0	0	10
9:00 PM	0	0	12	0	1	0	13
9:15 PM	0	0	12	0	1	0	13
9:30 PM	0	0	7	0	1	0	8
9:45 PM	0	0	8	0	0	0	8
10:00 PM	0	0	7	0	0	0	7
10:15 PM	0	0	6	0	0	0	6
10:30 PM	0	0	7	0	0	0	7
10:45 PM	0	0	6	0	0	0	6
11:00 PM	0	0	8	0	0	0	8
11:15 PM	0	0	1	0	0	0	1
11:30 PM	0	0	4	0	0	0	4
11:45 PM	0	0	0	0	0	0	0

AM Total 0 0 1910 7 39 6 1962
 Percentage 0.00% 0.00% 97.35% 0.36% 1.99% 0.31%
 AM Peak 12:00 AM 12:00 AM 7:15 AM 6:45 AM 6:00 AM 6:45 AM 7:15 AM
 Volume 0 0 555 6 8 3 568

PM Total 0 0 1621 7 26 4 1658
 Percentage 0.00% 0.00% 97.77% 0.42% 1.57% 0.24%
 PM Peak 12:00 PM 12:00 PM 3:30 PM 2:15 PM 12:30 PM 12:00 PM 3:30 PM
 Volume 0 0 261 3 10 1 268

Day Total 0 0 3531 14 65 10 3620
 Percentage 0.00% 0.00% 97.54% 0.39% 1.80% 0.28%

Route 2A
 west of Lexington Road
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PDI File #: 228952 ATR-C

Count Date: Thursday, December 1, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	2	0	0	0	2
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	1	0	0	0	1
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	4	0	1	0	5
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	5	0	0	0	5
4:45 AM	0	0	5	0	1	0	6
5:00 AM	0	0	8	0	0	0	8
5:15 AM	0	0	29	0	0	1	30
5:30 AM	0	0	36	0	1	0	37
5:45 AM	0	0	52	0	1	1	54
6:00 AM	0	0	23	0	0	0	23
6:15 AM	0	0	39	0	0	0	39
6:30 AM	0	0	46	0	3	0	49
6:45 AM	0	0	52	0	1	0	53
7:00 AM	0	0	85	1	1	0	87
7:15 AM	0	0	148	6	2	0	156
7:30 AM	0	0	208	0	4	0	212
7:45 AM	0	0	187	0	1	0	188
8:00 AM	0	0	174	0	0	0	174
8:15 AM	0	0	156	0	2	0	158
8:30 AM	0	0	113	0	0	0	113
8:45 AM	0	0	108	0	1	0	109
9:00 AM	0	0	69	0	2	0	71
9:15 AM	0	0	50	1	2	1	54
9:30 AM	0	0	44	0	0	0	44
9:45 AM	0	0	44	0	4	2	50
10:00 AM	0	0	37	1	1	0	39
10:15 AM	0	0	41	0	3	0	44
10:30 AM	0	0	39	0	1	0	40
10:45 AM	0	0	42	0	1	1	44
11:00 AM	0	0	40	1	4	0	45
11:15 AM	0	0	42	1	1	1	45
11:30 AM	0	0	43	0	3	0	46
11:45 AM	0	0	28	0	0	1	29

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	42	0	2	0	44
12:15 PM	0	0	35	0	4	0	39
12:30 PM	0	0	43	0	1	0	44
12:45 PM	0	0	32	0	2	0	34
1:00 PM	0	0	33	1	3	0	37
1:15 PM	0	0	36	0	3	0	39
1:30 PM	0	0	35	0	2	0	37
1:45 PM	0	0	31	0	3	0	34
2:00 PM	0	0	33	1	1	0	35
2:15 PM	0	0	49	1	2	0	52
2:30 PM	0	0	51	0	2	0	53
2:45 PM	0	0	68	0	1	0	69
3:00 PM	0	0	60	2	0	0	62
3:15 PM	0	0	60	0	0	0	60
3:30 PM	0	0	73	0	0	0	73
3:45 PM	0	0	71	2	0	0	73
4:00 PM	0	0	91	1	3	0	95
4:15 PM	0	0	76	0	1	0	77
4:30 PM	0	0	68	0	0	0	68
4:45 PM	0	0	69	3	2	0	74
5:00 PM	0	0	46	0	0	0	46
5:15 PM	0	0	50	0	0	0	50
5:30 PM	0	0	46	0	0	0	46
5:45 PM	0	0	27	0	0	1	28
6:00 PM	0	0	39	0	0	0	39
6:15 PM	0	0	37	0	0	0	37
6:30 PM	0	0	29	0	1	0	30
6:45 PM	0	0	26	0	0	0	26
7:00 PM	0	0	21	0	0	0	21
7:15 PM	0	0	10	0	0	0	10
7:30 PM	0	0	19	0	0	0	19
7:45 PM	0	0	10	0	0	0	10
8:00 PM	0	0	18	0	0	0	18
8:15 PM	0	0	11	0	0	0	11
8:30 PM	0	0	14	0	0	0	14
8:45 PM	0	0	14	0	0	0	14
9:00 PM	0	0	8	0	0	0	8
9:15 PM	0	0	5	0	0	0	5
9:30 PM	0	0	9	0	0	0	9
9:45 PM	0	0	5	0	0	0	5
10:00 PM	0	0	7	0	0	0	7
10:15 PM	0	0	8	0	0	0	8
10:30 PM	0	0	7	0	0	0	7
10:45 PM	0	0	5	0	0	0	5
11:00 PM	0	0	6	0	0	0	6
11:15 PM	0	0	1	0	0	0	1
11:30 PM	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0

AM Total 0 0 2001 11 41 8 2061
 Percentage 0.00% 0.00% 97.09% 0.53% 1.99% 0.39%

AM Peak 12:00 AM 12:00 AM 7:30 AM 6:30 AM 9:45 AM 9:00 AM 7:30 AM
 Volume 0 0 725 7 9 3 732

PM Total 0 0 1534 11 33 1 1579
 Percentage 0.00% 0.00% 97.15% 0.70% 2.09% 0.06%

PM Peak 12:00 PM 12:00 PM 3:30 PM 3:00 PM 1:00 PM 5:00 PM 3:30 PM
 Volume 0 0 311 4 11 1 318

Day Total 0 0 3535 22 74 9 3640
 Percentage 0.00% 0.00% 97.12% 0.60% 2.03% 0.25%

Route 2A
 west of Lexington Road
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-C

Count Date: Friday, December 2, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	2	0	0	0	2
12:15 AM	0	0	2	0	0	0	2
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	2	0	0	0	2
1:00 AM	0	0	2	0	0	0	2
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	1	0	1	1	3
3:30 AM	0	0	1	0	0	0	1
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	2	0	0	0	2
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	5	0	0	0	5
4:45 AM	0	0	7	0	0	0	7
5:00 AM	0	0	10	0	0	0	10
5:15 AM	0	0	18	0	0	0	18
5:30 AM	0	0	35	0	0	0	35
5:45 AM	0	0	15	0	1	1	17
6:00 AM	0	0	17	0	0	0	17
6:15 AM	0	0	41	0	0	0	41
6:30 AM	0	0	33	0	0	0	33
6:45 AM	0	0	62	0	1	0	63
7:00 AM	0	0	78	1	2	0	81
7:15 AM	0	0	97	5	0	0	102
7:30 AM	0	0	110	0	1	0	111
7:45 AM	0	0	81	0	1	0	82
8:00 AM	0	0	88	0	4	0	92
8:15 AM	0	0	83	0	1	0	84
8:30 AM	0	0	76	0	4	0	80
8:45 AM	0	0	72	0	6	1	79
9:00 AM	0	0	58	0	3	0	61
9:15 AM	0	0	51	0	2	0	53
9:30 AM	0	0	42	0	0	0	42
9:45 AM	0	0	46	0	0	0	46
10:00 AM	0	0	46	0	0	0	46
10:15 AM	0	0	28	0	0	0	28
10:30 AM	0	0	27	0	0	0	27
10:45 AM	0	0	40	0	2	0	42
11:00 AM	0	0	34	0	0	1	35
11:15 AM	0	0	38	1	7	0	46
11:30 AM	0	0	46	0	1	0	47
11:45 AM	0	0	36	0	0	1	37

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	40	0	0	0	40
12:15 PM	0	0	42	0	0	0	42
12:30 PM	0	0	44	0	1	0	45
12:45 PM	0	0	44	0	1	0	45
1:00 PM	0	0	34	0	2	0	36
1:15 PM	0	0	33	1	1	0	35
1:30 PM	0	0	34	0	0	0	34
1:45 PM	0	0	47	0	0	0	47
2:00 PM	0	0	58	0	0	1	59
2:15 PM	0	0	45	0	5	0	50
2:30 PM	0	0	48	0	1	0	49
2:45 PM	0	0	58	0	0	0	58
3:00 PM	0	0	52	1	1	0	54
3:15 PM	0	0	56	0	1	0	57
3:30 PM	0	0	67	0	0	0	67
3:45 PM	0	1	57	1	0	0	59
4:00 PM	0	0	65	0	0	0	65
4:15 PM	0	0	47	0	1	0	48
4:30 PM	0	0	53	1	0	1	55
4:45 PM	0	0	61	0	0	0	61
5:00 PM	0	0	35	0	0	1	36
5:15 PM	0	0	33	0	0	0	33
5:30 PM	0	0	26	0	0	0	26
5:45 PM	0	0	36	0	0	0	36
6:00 PM	0	0	33	1	0	0	34
6:15 PM	0	0	31	0	0	0	31
6:30 PM	0	0	39	0	0	0	39
6:45 PM	0	0	23	0	0	0	23
7:00 PM	0	0	26	0	0	0	26
7:15 PM	0	0	26	0	0	0	26
7:30 PM	0	0	21	1	0	0	22
7:45 PM	0	0	19	0	0	0	19
8:00 PM	0	0	15	0	0	0	15
8:15 PM	0	0	16	0	0	0	16
8:30 PM	0	0	14	0	0	0	14
8:45 PM	0	0	8	0	0	0	8
9:00 PM	0	0	11	0	0	0	11
9:15 PM	0	0	19	0	0	0	19
9:30 PM	0	0	10	0	0	0	10
9:45 PM	0	0	11	0	0	0	11
10:00 PM	0	0	11	0	0	0	11
10:15 PM	0	0	14	0	0	0	14
10:30 PM	0	0	13	0	0	0	13
10:45 PM	0	0	13	0	0	0	13
11:00 PM	0	0	3	0	0	0	3
11:15 PM	0	0	3	0	0	0	3
11:30 PM	0	0	1	0	0	0	1
11:45 PM	0	0	4	0	0	0	4

AM Total 0 0 1434 7 37 5 1483
 Percentage 0.00% 0.00% 96.70% 0.47% 2.49% 0.34%
 AM Peak 12:00 AM 12:00 AM 7:15 AM 6:30 AM 8:00 AM 11:00 AM 7:15 AM
 Volume 0 0 376 6 15 2 387

PM Total 0 1 1499 6 14 3 1523
 Percentage 0.00% 0.07% 98.42% 0.39% 0.92% 0.20%
 PM Peak 12:00 PM 3:00 PM 3:15 PM 3:00 PM 2:15 PM 4:15 PM 3:15 PM
 Volume 0 1 245 2 7 2 248

Day Total 0 1 2933 13 51 8 3006
 Percentage 0.00% 0.03% 97.57% 0.43% 1.70% 0.27%

Route 2A
 west of Lexington Road
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PDI File #: 228952 ATR-C

Count Date: Saturday, December 3, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	3	0	0	0	3
12:15 AM	0	0	4	0	0	0	4
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	2	0	0	0	2
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	1	0	0	0	1
3:45 AM	0	0	1	0	0	0	1
4:00 AM	0	0	2	0	0	0	2
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	1	0	0	0	1
5:00 AM	0	0	5	0	0	0	5
5:15 AM	0	0	6	0	0	0	6
5:30 AM	0	0	6	0	0	0	6
5:45 AM	0	0	8	0	0	0	8
6:00 AM	0	0	6	0	0	0	6
6:15 AM	0	0	12	0	0	0	12
6:30 AM	0	0	18	0	0	0	18
6:45 AM	0	0	16	0	0	0	16
7:00 AM	0	0	40	0	1	0	41
7:15 AM	0	0	42	0	0	0	42
7:30 AM	0	0	23	0	0	0	23
7:45 AM	0	0	23	0	0	0	23
8:00 AM	0	0	20	0	0	0	20
8:15 AM	0	0	19	0	0	0	19
8:30 AM	0	0	36	0	1	0	37
8:45 AM	0	0	47	0	0	0	47
9:00 AM	0	0	28	0	0	0	28
9:15 AM	0	0	33	0	0	0	33
9:30 AM	0	0	42	0	1	0	43
9:45 AM	0	0	36	0	0	0	36
10:00 AM	0	0	39	0	1	0	40
10:15 AM	0	0	31	0	0	0	31
10:30 AM	0	0	37	0	0	0	37
10:45 AM	0	0	32	0	0	0	32
11:00 AM	0	0	39	0	1	0	40
11:15 AM	0	0	48	0	2	0	50
11:30 AM	0	0	43	0	0	0	43
11:45 AM	0	0	52	0	0	0	52

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	47	0	0	0	47
12:15 PM	0	0	41	0	0	0	41
12:30 PM	0	0	43	0	1	0	44
12:45 PM	0	0	40	0	0	0	40
1:00 PM	0	0	50	0	0	0	50
1:15 PM	0	0	39	0	2	0	41
1:30 PM	0	0	45	0	0	0	45
1:45 PM	0	0	48	0	0	0	48
2:00 PM	0	0	48	0	0	0	48
2:15 PM	0	0	47	0	0	0	47
2:30 PM	0	0	30	0	0	0	30
2:45 PM	0	0	37	0	0	0	37
3:00 PM	0	0	39	0	0	0	39
3:15 PM	0	0	36	0	0	0	36
3:30 PM	0	0	24	0	0	0	24
3:45 PM	0	0	24	0	2	0	26
4:00 PM	0	0	40	0	0	0	40
4:15 PM	0	0	29	0	0	0	29
4:30 PM	0	0	29	0	0	0	29
4:45 PM	0	0	38	0	0	0	38
5:00 PM	0	0	35	0	0	0	35
5:15 PM	0	0	31	0	0	0	31
5:30 PM	0	0	24	0	0	0	24
5:45 PM	0	0	17	0	0	0	17
6:00 PM	0	0	20	0	0	0	20
6:15 PM	0	0	25	0	0	0	25
6:30 PM	0	0	25	0	2	0	27
6:45 PM	0	0	16	0	0	0	16
7:00 PM	0	0	18	0	0	0	18
7:15 PM	0	0	13	0	0	0	13
7:30 PM	0	0	6	0	0	0	6
7:45 PM	0	0	13	0	0	0	13
8:00 PM	0	0	17	0	0	0	17
8:15 PM	0	0	12	0	0	0	12
8:30 PM	0	0	10	0	0	0	10
8:45 PM	0	0	14	0	0	0	14
9:00 PM	0	0	8	0	0	0	8
9:15 PM	0	0	9	0	0	0	9
9:30 PM	0	0	9	0	0	0	9
9:45 PM	0	0	9	0	0	0	9
10:00 PM	0	0	9	0	0	0	9
10:15 PM	0	0	11	0	0	0	11
10:30 PM	0	0	10	0	0	0	10
10:45 PM	0	0	11	0	0	0	11
11:00 PM	0	0	13	0	0	0	13
11:15 PM	0	0	9	0	0	0	9
11:30 PM	0	0	6	0	0	0	6
11:45 PM	0	0	8	0	0	0	8

AM Total	0	0	810	0	7	0	817
Percentage	0.00%	0.00%	99.14%	0.00%	0.86%	0.00%	
AM Peak	12:00 AM	12:00 AM	11:00 AM	12:00 AM	10:30 AM	12:00 AM	11:00 AM
Volume	0	0	182	0	3	0	185

PM Total	0	0	1182	0	7	0	1189
Percentage	0.00%	0.00%	99.41%	0.00%	0.59%	0.00%	
PM Peak	12:00 PM	12:00 PM	1:30 PM	12:00 PM	12:30 PM	12:00 PM	1:30 PM
Volume	0	0	188	0	3	0	188

Day Total	0	0	1992	0	14	0	2006
Percentage	0.00%	0.00%	99.30%	0.00%	0.70%	0.00%	

Route 2A
 west of Lexington Road
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-C

Count Date: Sunday, December 4, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	4	0	0	0	4
12:15 AM	0	0	5	0	0	0	5
12:30 AM	0	0	4	0	0	0	4
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	2	0	0	0	2
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	2	0	0	0	2
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	2	0	0	0	2
2:45 AM	0	0	0	0	1	0	1
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	2	0	0	0	2
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	1	0	0	0	1
5:15 AM	0	0	3	0	0	0	3
5:30 AM	0	0	2	0	0	0	2
5:45 AM	0	0	6	0	0	0	6
6:00 AM	0	0	6	0	0	0	6
6:15 AM	0	0	4	0	0	0	4
6:30 AM	0	0	9	0	0	0	9
6:45 AM	0	0	8	0	0	0	8
7:00 AM	0	0	20	0	0	0	20
7:15 AM	0	0	15	0	0	0	15
7:30 AM	0	0	14	0	0	0	14
7:45 AM	0	0	24	0	1	0	25
8:00 AM	0	0	21	0	0	0	21
8:15 AM	0	0	14	0	0	0	14
8:30 AM	0	0	25	0	0	0	25
8:45 AM	0	0	39	0	1	0	40
9:00 AM	0	0	38	0	0	0	38
9:15 AM	0	0	31	0	0	0	31
9:30 AM	0	0	28	0	0	0	28
9:45 AM	0	0	41	0	0	0	41
10:00 AM	0	0	31	0	0	0	31
10:15 AM	0	0	32	0	0	0	32
10:30 AM	0	0	41	0	0	0	41
10:45 AM	0	0	46	0	0	0	46
11:00 AM	0	0	34	0	0	0	34
11:15 AM	0	0	37	0	0	0	37
11:30 AM	0	0	40	0	0	0	40
11:45 AM	1	0	43	0	0	0	44

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	40	0	0	0	40
12:15 PM	0	0	36	0	1	0	37
12:30 PM	0	0	41	0	0	0	41
12:45 PM	0	0	30	0	0	0	30
1:00 PM	0	0	34	0	0	0	34
1:15 PM	0	0	49	0	0	0	49
1:30 PM	0	1	35	0	0	0	36
1:45 PM	0	0	45	0	0	0	45
2:00 PM	0	0	47	0	0	0	47
2:15 PM	0	0	56	0	0	0	56
2:30 PM	0	0	38	0	0	0	38
2:45 PM	0	0	44	0	0	0	44
3:00 PM	0	0	35	0	1	0	36
3:15 PM	0	0	43	0	0	0	43
3:30 PM	0	0	49	0	0	0	49
3:45 PM	0	0	47	0	0	0	47
4:00 PM	0	0	43	0	0	0	43
4:15 PM	0	0	46	0	0	0	46
4:30 PM	0	0	39	0	0	0	39
4:45 PM	0	0	35	0	0	0	35
5:00 PM	0	0	33	0	0	0	33
5:15 PM	0	0	24	0	0	0	24
5:30 PM	0	0	33	0	0	0	33
5:45 PM	0	0	29	0	0	0	29
6:00 PM	0	0	23	0	0	0	23
6:15 PM	0	0	16	0	0	0	16
6:30 PM	0	0	14	0	0	0	14
6:45 PM	0	0	14	0	0	0	14
7:00 PM	0	0	15	0	1	0	16
7:15 PM	0	0	12	0	0	0	12
7:30 PM	0	0	9	0	0	0	9
7:45 PM	0	0	17	0	0	1	18
8:00 PM	0	0	9	0	0	0	9
8:15 PM	0	0	16	0	0	0	16
8:30 PM	0	0	8	0	0	0	8
8:45 PM	0	0	7	0	0	0	7
9:00 PM	0	0	4	0	0	0	4
9:15 PM	0	0	5	0	1	0	6
9:30 PM	0	0	9	0	1	0	10
9:45 PM	0	0	4	0	0	0	4
10:00 PM	0	0	5	0	0	0	5
10:15 PM	0	0	6	0	0	0	6
10:30 PM	0	0	2	0	0	0	2
10:45 PM	0	0	5	0	0	0	5
11:00 PM	0	0	8	0	0	0	8
11:15 PM	0	0	0	0	0	0	0
11:30 PM	0	0	5	0	0	0	5
11:45 PM	0	0	0	0	0	0	0

AM Total 1 0 679 0 3 0 683
 Percentage 0.15% 0.00% 99.41% 0.00% 0.44% 0.00%

AM Peak 11:00 AM 12:00 AM 10:30 AM 12:00 AM 2:00 AM 12:00 AM 10:30 AM
 Volume 1 0 158 0 1 0 158

PM Total 0 1 1164 0 5 1 1171
 Percentage 0.00% 0.09% 99.40% 0.00% 0.43% 0.09%

PM Peak 12:00 PM 12:45 PM 1:45 PM 12:00 PM 8:45 PM 7:00 PM 1:45 PM
 Volume 0 1 186 0 2 1 186

Day Total 1 1 1843 0 8 1 1854
 Percentage 0.05% 0.05% 99.41% 0.00% 0.43% 0.05%

Route 2A
 west of Lexington Road
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-C

Count Date: Monday, December 5, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	3	0	0	0	3
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	2	0	0	0	2
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	2	0	0	0	2
3:45 AM	0	0	3	0	0	0	3
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	3	0	0	0	3
4:30 AM	0	0	6	0	0	0	6
4:45 AM	0	0	6	0	0	0	6
5:00 AM	0	0	6	0	0	0	6
5:15 AM	0	0	24	0	1	0	25
5:30 AM	0	0	33	0	0	0	33
5:45 AM	0	0	44	0	2	0	46
6:00 AM	0	0	29	0	0	0	29
6:15 AM	0	0	38	0	1	0	39
6:30 AM	0	0	42	0	2	0	44
6:45 AM	0	0	52	0	1	0	53
7:00 AM	0	0	71	1	2	0	74
7:15 AM	0	0	102	7	0	1	110
7:30 AM	0	0	183	0	3	0	186
7:45 AM	0	0	182	0	2	1	185
8:00 AM	0	0	152	0	3	0	155
8:15 AM	0	0	113	0	5	0	118
8:30 AM	0	0	86	0	2	1	89
8:45 AM	0	0	89	0	0	0	89
9:00 AM	0	0	62	0	2	2	66
9:15 AM	0	0	57	0	2	0	59
9:30 AM	0	0	57	0	1	1	59
9:45 AM	0	0	42	1	1	0	44
10:00 AM	0	0	47	0	2	0	49
10:15 AM	0	0	35	0	0	1	36
10:30 AM	0	0	29	0	3	0	32
10:45 AM	0	0	37	0	1	0	38
11:00 AM	0	0	33	0	2	0	35
11:15 AM	0	0	37	0	0	0	37
11:30 AM	0	0	36	0	2	1	39
11:45 AM	0	0	34	0	0	0	34

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	24	0	3	0	27
12:15 PM	0	0	40	0	1	0	41
12:30 PM	0	0	42	0	1	0	43
12:45 PM	0	0	21	0	0	1	22
1:00 PM	0	0	37	1	3	0	41
1:15 PM	0	2	33	0	1	0	36
1:30 PM	0	0	31	0	1	0	32
1:45 PM	0	0	45	0	0	0	45
2:00 PM	0	0	29	0	2	0	31
2:15 PM	0	0	29	0	2	0	31
2:30 PM	0	0	41	0	2	0	43
2:45 PM	0	0	48	0	2	0	50
3:00 PM	0	0	58	1	1	1	61
3:15 PM	0	0	58	0	2	0	60
3:30 PM	0	0	54	0	2	0	56
3:45 PM	0	0	54	2	0	0	56
4:00 PM	0	0	54	0	0	0	54
4:15 PM	0	0	48	0	0	0	48
4:30 PM	0	0	57	0	0	0	57
4:45 PM	0	0	61	0	0	0	61
5:00 PM	0	0	64	1	0	0	65
5:15 PM	0	0	46	0	0	0	46
5:30 PM	0	0	35	1	0	0	36
5:45 PM	0	0	39	0	0	0	39
6:00 PM	0	0	27	0	0	0	27
6:15 PM	0	0	37	0	1	0	38
6:30 PM	0	0	23	0	0	0	23
6:45 PM	0	0	21	0	0	0	21
7:00 PM	0	0	13	0	0	0	13
7:15 PM	0	0	16	0	0	0	16
7:30 PM	0	0	6	1	0	0	7
7:45 PM	0	0	20	0	0	0	20
8:00 PM	0	0	11	0	0	0	11
8:15 PM	0	0	15	0	0	0	15
8:30 PM	0	0	10	0	0	0	10
8:45 PM	0	0	13	0	0	0	13
9:00 PM	0	0	10	0	0	0	10
9:15 PM	0	0	13	0	0	0	13
9:30 PM	0	0	2	0	0	0	2
9:45 PM	0	0	11	0	0	0	11
10:00 PM	0	0	4	0	0	0	4
10:15 PM	0	0	5	0	0	0	5
10:30 PM	0	0	5	0	0	0	5
10:45 PM	0	0	5	0	0	0	5
11:00 PM	0	0	8	0	0	0	8
11:15 PM	0	0	3	0	0	0	3
11:30 PM	0	0	5	0	0	0	5
11:45 PM	0	0	1	0	0	0	1

AM Total	0	0	1782	9	40	8	1839
Percentage	0.00%	0.00%	96.90%	0.49%	2.18%	0.44%	
AM Peak	12:00 AM	12:00 AM	7:30 AM	6:30 AM	7:30 AM	8:15 AM	7:30 AM
Volume	0	0	630	8	13	3	644

PM Total	0	2	1332	7	24	2	1367
Percentage	0.00%	0.15%	97.44%	0.51%	1.76%	0.15%	
PM Peak	12:00 PM	12:30 PM	4:15 PM	3:00 PM	2:00 PM	12:00 PM	3:00 PM
Volume	0	2	230	3	8	1	233

Day Total	0	2	3114	16	64	10	3206
Percentage	0.00%	0.06%	97.13%	0.50%	2.00%	0.31%	

Route 2A
 west of Lexington Road
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-C

Count Date: Tuesday, November 29, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	2	0	0	0	2
12:30 AM	0	0	2	0	0	0	2
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	2	0	1	0	3
4:45 AM	0	0	4	0	0	0	4
5:00 AM	0	0	7	0	1	0	8
5:15 AM	0	0	4	0	1	0	5
5:30 AM	0	0	12	0	0	0	12
5:45 AM	0	0	7	0	2	0	9
6:00 AM	0	0	10	0	1	0	11
6:15 AM	0	0	25	0	1	1	27
6:30 AM	0	0	30	0	1	0	31
6:45 AM	0	0	36	0	1	0	37
7:00 AM	0	0	41	0	1	0	42
7:15 AM	0	0	50	0	1	0	51
7:30 AM	0	0	76	0	1	2	79
7:45 AM	0	0	67	0	2	0	69
8:00 AM	0	0	79	0	3	0	82
8:15 AM	0	0	77	0	3	1	81
8:30 AM	0	0	63	1	1	0	65
8:45 AM	0	0	50	0	2	1	53
9:00 AM	0	0	51	0	3	0	54
9:15 AM	0	0	40	0	1	0	41
9:30 AM	0	0	44	0	2	1	47
9:45 AM	0	0	29	0	4	3	36
10:00 AM	0	0	41	0	0	2	43
10:15 AM	0	0	34	0	3	0	37
10:30 AM	0	0	30	0	5	0	35
10:45 AM	0	0	34	0	3	0	37
11:00 AM	0	0	43	0	1	0	44
11:15 AM	0	0	32	0	2	0	34
11:30 AM	0	0	41	0	4	0	45
11:45 AM	0	0	45	0	1	0	46

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	53	0	4	0	57
12:15 PM	0	0	48	0	5	0	53
12:30 PM	0	0	41	0	0	0	41
12:45 PM	0	0	41	0	2	1	44
1:00 PM	0	0	40	0	3	1	44
1:15 PM	0	0	53	0	2	3	58
1:30 PM	0	0	44	0	2	0	46
1:45 PM	0	0	64	0	1	0	65
2:00 PM	0	0	72	0	6	0	78
2:15 PM	0	0	73	0	1	0	74
2:30 PM	0	0	66	5	1	0	72
2:45 PM	0	0	68	0	0	0	68
3:00 PM	0	0	99	0	1	0	100
3:15 PM	0	0	84	1	1	0	86
3:30 PM	0	0	92	0	1	0	93
3:45 PM	0	0	75	1	0	0	76
4:00 PM	0	0	81	1	1	0	83
4:15 PM	0	0	76	0	0	0	76
4:30 PM	0	0	99	0	1	0	100
4:45 PM	0	0	101	0	1	0	102
5:00 PM	0	0	89	0	0	0	89
5:15 PM	0	0	121	0	0	0	121
5:30 PM	0	0	106	0	1	0	107
5:45 PM	0	0	84	0	0	0	84
6:00 PM	0	0	57	0	0	0	57
6:15 PM	0	0	45	0	0	0	45
6:30 PM	0	0	52	0	0	1	53
6:45 PM	0	0	40	0	0	0	40
7:00 PM	0	0	54	0	0	0	54
7:15 PM	0	0	41	0	0	0	41
7:30 PM	0	0	27	0	1	0	28
7:45 PM	0	0	21	0	0	0	21
8:00 PM	0	0	28	0	0	0	28
8:15 PM	0	0	20	0	0	0	20
8:30 PM	0	0	22	0	0	0	22
8:45 PM	0	0	13	0	0	0	13
9:00 PM	0	0	15	0	1	0	16
9:15 PM	0	0	23	0	0	0	23
9:30 PM	0	0	16	0	0	0	16
9:45 PM	0	0	9	0	0	0	9
10:00 PM	0	0	6	0	0	0	6
10:15 PM	0	0	9	0	0	0	9
10:30 PM	0	0	9	0	0	0	9
10:45 PM	0	0	8	0	0	0	8
11:00 PM	0	0	7	0	0	0	7
11:15 PM	0	0	5	0	1	0	6
11:30 PM	0	0	4	0	0	0	4
11:45 PM	0	0	4	0	0	0	4

AM Total	0	0	1112	1	52	11	1176
Percentage	0.00%	0.00%	94.56%	0.09%	4.42%	0.94%	
AM Peak	12:00 AM	12:00 AM	7:30 AM	7:45 AM	9:45 AM	9:15 AM	7:30 AM
Volume	0	0	299	1	12	6	311

PM Total	0	0	2305	8	37	6	2356
Percentage	0.00%	0.00%	97.84%	0.34%	1.57%	0.25%	
PM Peak	12:00 PM	12:00 PM	4:45 PM	2:30 PM	12:00 PM	12:30 PM	4:45 PM
Volume	0	0	417	6	11	5	419

Day Total	0	0	3417	9	89	17	3532
Percentage	0.00%	0.00%	96.74%	0.25%	2.52%	0.48%	

Route 2A
 west of Lexington Road
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-C

Count Date: Wednesday, November 30, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	2	0	0	0	2
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	3	0	0	0	3
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	1	0	0	0	1
3:45 AM	0	0	1	0	0	0	1
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	4	0	0	0	4
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	2	0	0	0	2
5:00 AM	0	0	4	0	0	0	4
5:15 AM	0	0	5	0	0	0	5
5:30 AM	0	0	12	0	0	0	12
5:45 AM	0	0	7	0	1	0	8
6:00 AM	0	0	5	0	0	0	5
6:15 AM	0	0	19	0	1	1	21
6:30 AM	0	0	35	0	1	0	36
6:45 AM	0	0	36	0	0	0	36
7:00 AM	0	0	35	0	1	0	36
7:15 AM	0	0	58	0	2	0	60
7:30 AM	0	0	63	0	3	0	66
7:45 AM	0	0	76	0	1	0	77
8:00 AM	0	0	68	0	5	0	73
8:15 AM	0	0	74	1	4	2	81
8:30 AM	0	0	62	0	6	0	68
8:45 AM	0	0	56	0	4	0	60
9:00 AM	0	0	71	0	3	1	75
9:15 AM	0	1	51	0	2	0	54
9:30 AM	0	0	51	0	1	1	53
9:45 AM	0	0	29	0	0	0	29
10:00 AM	0	0	36	0	4	1	41
10:15 AM	0	0	40	0	3	0	43
10:30 AM	0	0	40	0	3	0	43
10:45 AM	0	0	32	0	7	1	40
11:00 AM	0	0	40	0	3	1	44
11:15 AM	0	0	39	0	4	0	43
11:30 AM	0	0	36	0	4	1	41
11:45 AM	0	0	35	0	3	0	38

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	41	0	0	0	41
12:15 PM	0	0	69	0	2	1	72
12:30 PM	0	0	57	0	1	0	58
12:45 PM	0	0	52	0	2	1	55
1:00 PM	0	0	52	0	2	1	55
1:15 PM	0	0	72	0	6	1	79
1:30 PM	0	0	57	5	1	0	63
1:45 PM	0	0	67	0	5	2	74
2:00 PM	0	0	80	0	3	0	83
2:15 PM	0	0	70	0	3	0	73
2:30 PM	0	0	83	0	4	1	88
2:45 PM	0	0	77	2	1	0	80
3:00 PM	0	0	87	0	0	0	87
3:15 PM	0	0	91	0	2	0	93
3:30 PM	0	0	114	0	0	0	114
3:45 PM	0	0	115	0	6	0	121
4:00 PM	0	0	115	0	0	0	115
4:15 PM	0	0	103	0	1	0	104
4:30 PM	0	0	109	0	1	0	110
4:45 PM	0	0	108	0	1	0	109
5:00 PM	0	0	101	0	1	0	102
5:15 PM	0	0	97	0	0	0	97
5:30 PM	0	0	83	0	0	0	83
5:45 PM	0	0	67	0	0	0	67
6:00 PM	0	0	111	1	0	0	112
6:15 PM	0	0	86	0	1	0	87
6:30 PM	0	0	44	0	0	0	44
6:45 PM	0	0	32	0	2	0	34
7:00 PM	0	0	16	0	0	0	16
7:15 PM	0	0	34	0	1	0	35
7:30 PM	0	0	33	1	0	0	34
7:45 PM	0	0	32	0	0	0	32
8:00 PM	0	0	18	0	0	0	18
8:15 PM	0	0	31	0	0	0	31
8:30 PM	0	0	27	0	0	0	27
8:45 PM	0	0	16	0	0	0	16
9:00 PM	0	0	19	0	0	0	19
9:15 PM	0	0	23	0	0	1	24
9:30 PM	0	0	12	0	0	0	12
9:45 PM	0	0	11	0	0	0	11
10:00 PM	0	0	17	0	0	0	17
10:15 PM	0	0	8	0	0	0	8
10:30 PM	0	0	6	0	0	0	6
10:45 PM	0	0	8	0	0	0	8
11:00 PM	0	0	7	0	2	0	9
11:15 PM	0	0	6	0	0	0	6
11:30 PM	0	0	11	0	0	0	11
11:45 PM	0	0	2	0	0	0	2

AM Total	0	1	1132	1	66	9	1209
Percentage	0.00%	0.08%	93.63%	0.08%	5.46%	0.74%	
AM Peak	12:00 AM	8:30 AM	7:30 AM	7:30 AM	8:00 AM	8:15 AM	7:45 AM
Volume	0	1	281	1	19	3	299

PM Total	0	0	2577	9	48	8	2642
Percentage	0.00%	0.00%	97.54%	0.34%	1.82%	0.30%	
PM Peak	12:00 PM	12:00 PM	3:30 PM	12:45 PM	1:15 PM	1:00 PM	3:30 PM
Volume	0	0	447	5	15	4	454

Day Total	0	1	3709	10	114	17	3851
Percentage	0.00%	0.03%	96.31%	0.26%	2.96%	0.44%	

Route 2A
 west of Lexington Road
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-C

Count Date: Thursday, December 1, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	4	0	0	0	4
12:15 AM	0	0	1	0	1	0	2
12:30 AM	0	0	2	0	0	0	2
12:45 AM	0	0	3	0	0	0	3
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	2	0	0	0	2
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	4	0	0	0	4
5:00 AM	0	0	6	0	1	0	7
5:15 AM	0	0	3	0	0	0	3
5:30 AM	0	0	9	0	0	0	9
5:45 AM	0	0	11	0	0	0	11
6:00 AM	0	0	17	0	0	0	17
6:15 AM	0	0	27	0	1	0	28
6:30 AM	0	0	33	0	0	0	33
6:45 AM	0	0	22	0	1	0	23
7:00 AM	0	0	35	0	2	0	37
7:15 AM	0	0	64	0	0	0	64
7:30 AM	0	0	74	0	1	0	75
7:45 AM	0	0	68	0	1	2	71
8:00 AM	0	0	60	0	5	1	66
8:15 AM	0	0	58	1	3	1	63
8:30 AM	0	0	85	0	0	1	86
8:45 AM	0	0	79	0	0	2	81
9:00 AM	0	0	62	0	1	1	64
9:15 AM	0	0	52	0	2	0	54
9:30 AM	0	0	40	0	2	0	42
9:45 AM	0	0	46	0	3	0	49
10:00 AM	0	0	32	0	0	0	32
10:15 AM	0	0	35	0	1	1	37
10:30 AM	0	0	30	0	0	0	30
10:45 AM	0	0	40	0	6	0	46
11:00 AM	0	0	40	0	1	0	41
11:15 AM	0	0	31	0	0	0	31
11:30 AM	0	0	37	0	0	0	37
11:45 AM	0	0	52	0	1	0	53

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	49	0	2	0	51
12:15 PM	0	0	39	0	1	1	41
12:30 PM	0	0	46	0	8	1	55
12:45 PM	0	0	39	0	2	0	41
1:00 PM	0	0	47	0	2	1	50
1:15 PM	0	0	52	1	2	0	55
1:30 PM	0	0	55	0	5	1	61
1:45 PM	0	0	69	0	3	0	72
2:00 PM	0	0	62	0	6	0	68
2:15 PM	0	0	82	0	1	0	83
2:30 PM	0	0	94	5	0	0	99
2:45 PM	0	0	90	0	3	0	93
3:00 PM	0	0	97	0	1	1	99
3:15 PM	0	0	80	1	2	0	83
3:30 PM	0	0	93	0	1	0	94
3:45 PM	0	0	100	1	1	0	102
4:00 PM	0	0	127	1	2	1	131
4:15 PM	0	0	102	0	1	0	103
4:30 PM	0	0	139	0	0	0	139
4:45 PM	0	0	124	0	0	0	124
5:00 PM	0	0	135	0	0	0	135
5:15 PM	0	0	121	0	1	0	122
5:30 PM	0	0	133	0	1	0	134
5:45 PM	0	0	88	0	0	0	88
6:00 PM	0	0	104	0	0	0	104
6:15 PM	0	0	77	0	2	0	79
6:30 PM	0	0	72	1	0	2	75
6:45 PM	0	0	39	0	0	0	39
7:00 PM	0	0	34	0	2	0	36
7:15 PM	0	0	33	0	0	0	33
7:30 PM	0	0	27	0	1	0	28
7:45 PM	0	0	35	0	0	0	35
8:00 PM	0	0	26	0	0	0	26
8:15 PM	0	0	23	0	0	0	23
8:30 PM	0	0	17	0	0	0	17
8:45 PM	0	0	20	0	0	0	20
9:00 PM	0	0	18	0	0	1	19
9:15 PM	0	0	8	0	0	0	8
9:30 PM	0	0	11	0	0	0	11
9:45 PM	0	0	10	0	0	0	10
10:00 PM	0	0	14	0	0	0	14
10:15 PM	0	0	12	0	0	0	12
10:30 PM	0	0	10	0	0	0	10
10:45 PM	0	0	12	0	0	0	12
11:00 PM	0	0	6	0	0	0	6
11:15 PM	0	0	2	0	0	0	2
11:30 PM	0	0	0	0	0	0	0
11:45 PM	0	0	2	0	0	0	2

AM Total	0	0	1169	1	33	9	1212
Percentage	0.00%	0.00%	96.45%	0.08%	2.72%	0.74%	
AM Peak	12:00 AM	12:00 AM	8:15 AM	7:30 AM	7:30 AM	7:45 AM	8:00 AM
Volume	0	0	284	1	10	5	296

PM Total	0	0	2675	10	50	9	2744
Percentage	0.00%	0.00%	97.49%	0.36%	1.82%	0.33%	
PM Peak	12:00 PM	12:00 PM	4:30 PM	2:30 PM	1:15 PM	12:15 PM	4:30 PM
Volume	0	0	519	6	16	3	520

Day Total	0	0	3844	11	83	18	3956
Percentage	0.00%	0.00%	97.17%	0.28%	2.10%	0.46%	

Route 2A
 west of Lexington Road
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PDI File #: 228952 ATR-C

Count Date: Friday, December 2, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	7	0	0	0	7
12:15 AM	0	0	2	0	0	0	2
12:30 AM	0	0	2	0	0	0	2
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	2	0	0	0	2
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	2	0	0	0	2
5:00 AM	0	0	2	0	0	0	2
5:15 AM	0	0	3	0	0	0	3
5:30 AM	0	0	3	0	0	0	3
5:45 AM	0	0	6	0	0	0	6
6:00 AM	0	0	14	0	0	1	15
6:15 AM	0	0	15	0	0	0	15
6:30 AM	0	0	38	0	1	1	40
6:45 AM	0	0	33	0	0	1	34
7:00 AM	0	0	38	0	0	0	38
7:15 AM	0	0	57	0	7	1	65
7:30 AM	0	0	68	0	3	0	71
7:45 AM	0	0	48	0	1	1	50
8:00 AM	0	0	45	0	2	0	47
8:15 AM	0	0	37	0	3	0	40
8:30 AM	0	0	45	0	1	1	47
8:45 AM	0	0	44	0	4	1	49
9:00 AM	0	0	31	0	1	0	32
9:15 AM	0	0	26	0	3	0	29
9:30 AM	0	0	38	0	0	0	38
9:45 AM	0	0	44	0	3	0	47
10:00 AM	0	0	43	0	1	0	44
10:15 AM	0	0	31	0	3	0	34
10:30 AM	0	0	41	0	4	1	46
10:45 AM	0	0	45	0	1	0	46
11:00 AM	0	0	39	0	1	1	41
11:15 AM	0	0	47	1	4	0	52
11:30 AM	0	0	58	0	1	0	59
11:45 AM	0	0	47	0	0	0	47

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	48	0	2	1	51
12:15 PM	0	0	50	0	3	0	53
12:30 PM	0	0	51	0	1	0	52
12:45 PM	0	0	32	0	1	1	34
1:00 PM	0	0	49	0	2	1	52
1:15 PM	0	0	52	0	0	0	52
1:30 PM	0	1	49	0	0	0	50
1:45 PM	0	0	59	0	1	1	61
2:00 PM	0	0	76	0	1	0	77
2:15 PM	0	0	68	0	1	2	71
2:30 PM	0	0	83	5	2	0	90
2:45 PM	0	0	75	1	3	0	79
3:00 PM	0	0	88	0	1	0	89
3:15 PM	0	0	72	0	0	0	72
3:30 PM	0	0	91	0	2	0	93
3:45 PM	0	0	90	1	0	0	91
4:00 PM	0	0	86	1	0	0	87
4:15 PM	0	0	82	0	0	0	82
4:30 PM	0	0	91	0	0	0	91
4:45 PM	0	0	70	0	0	0	70
5:00 PM	0	0	87	0	0	0	87
5:15 PM	0	0	97	0	0	0	97
5:30 PM	0	0	92	0	0	1	93
5:45 PM	0	0	144	0	1	0	145
6:00 PM	0	0	112	0	1	0	113
6:15 PM	0	0	81	0	0	0	81
6:30 PM	0	0	51	0	0	0	51
6:45 PM	0	0	39	0	0	0	39
7:00 PM	0	0	30	0	0	0	30
7:15 PM	0	0	23	0	0	0	23
7:30 PM	0	0	23	0	1	0	24
7:45 PM	0	0	26	0	0	0	26
8:00 PM	0	0	16	0	0	0	16
8:15 PM	0	0	18	0	2	0	20
8:30 PM	0	0	16	0	0	0	16
8:45 PM	0	0	20	0	0	0	20
9:00 PM	0	0	12	0	0	0	12
9:15 PM	0	0	14	0	0	0	14
9:30 PM	0	0	19	0	0	0	19
9:45 PM	0	0	15	0	0	0	15
10:00 PM	0	0	11	0	0	0	11
10:15 PM	0	0	7	0	0	0	7
10:30 PM	0	0	20	0	0	0	20
10:45 PM	0	0	13	0	0	0	13
11:00 PM	0	0	14	0	0	0	14
11:15 PM	0	0	9	0	0	0	9
11:30 PM	0	0	7	0	0	0	7
11:45 PM	0	0	12	0	0	0	12

AM Total	0	0	1003	1	44	9	1057
Percentage	0.00%	0.00%	94.89%	0.09%	4.16%	0.85%	
AM Peak	12:00 AM	12:00 AM	7:15 AM	10:30 AM	7:15 AM	6:00 AM	7:15 AM
Volume	0	0	218	1	13	3	233

PM Total	0	1	2390	8	25	7	2431
Percentage	0.00%	0.04%	98.31%	0.33%	1.03%	0.29%	
PM Peak	12:00 PM	12:45 PM	5:15 PM	2:00 PM	12:00 PM	1:30 PM	5:15 PM
Volume	0	1	445	6	7	3	448

Day Total	0	1	3393	9	69	16	3488
Percentage	0.00%	0.03%	97.28%	0.26%	1.98%	0.46%	

Route 2A
 west of Lexington Road
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PDI File #: 228952 ATR-C

Count Date: Saturday, December 3, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	4	0	0	0	4
12:15 AM	0	0	5	0	0	0	5
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	2	0	0	0	2
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	3	0	0	0	3
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	2	0	0	1	3
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	2	0	0	0	2
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	3	0	0	0	3
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	2	0	0	0	2
4:45 AM	0	0	1	0	0	0	1
5:00 AM	0	0	0	0	0	0	0
5:15 AM	0	0	4	0	0	0	4
5:30 AM	0	0	3	0	1	0	4
5:45 AM	0	0	3	0	0	0	3
6:00 AM	0	0	9	0	0	0	9
6:15 AM	0	0	14	0	1	1	16
6:30 AM	0	0	14	0	1	1	16
6:45 AM	0	0	12	0	0	0	12
7:00 AM	0	0	19	0	0	0	19
7:15 AM	0	0	15	0	0	0	15
7:30 AM	0	0	31	0	0	0	31
7:45 AM	0	0	29	0	1	0	30
8:00 AM	0	0	18	0	0	0	18
8:15 AM	0	0	30	0	0	1	31
8:30 AM	0	0	29	0	0	0	29
8:45 AM	0	0	24	0	1	0	25
9:00 AM	1	0	28	0	1	0	30
9:15 AM	0	0	30	0	0	0	30
9:30 AM	0	0	35	0	0	0	35
9:45 AM	0	0	33	0	0	0	33
10:00 AM	0	0	42	0	0	0	42
10:15 AM	1	0	46	1	1	0	49
10:30 AM	0	0	39	0	0	0	39
10:45 AM	0	1	35	0	0	0	36
11:00 AM	0	0	52	0	0	0	52
11:15 AM	0	0	43	0	0	0	43
11:30 AM	0	0	50	0	1	0	51
11:45 AM	0	0	46	0	1	1	48

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	49	0	0	1	50
12:15 PM	0	0	59	0	0	0	59
12:30 PM	0	0	57	0	0	0	57
12:45 PM	0	0	66	0	0	0	66
1:00 PM	0	0	51	0	0	0	51
1:15 PM	0	0	48	0	1	0	49
1:30 PM	0	0	44	0	0	0	44
1:45 PM	0	0	47	0	1	0	48
2:00 PM	0	0	54	0	0	0	54
2:15 PM	0	0	49	0	1	0	50
2:30 PM	0	0	54	0	1	0	55
2:45 PM	0	0	47	0	0	0	47
3:00 PM	0	0	33	0	1	0	34
3:15 PM	0	0	37	0	0	0	37
3:30 PM	0	0	48	0	0	0	48
3:45 PM	0	0	52	0	0	0	52
4:00 PM	0	0	40	0	0	0	40
4:15 PM	0	0	40	0	2	0	42
4:30 PM	0	0	42	0	0	0	42
4:45 PM	0	0	33	0	0	0	33
5:00 PM	0	0	26	0	0	0	26
5:15 PM	0	0	38	0	1	0	39
5:30 PM	0	0	38	0	0	0	38
5:45 PM	0	0	32	0	0	0	32
6:00 PM	0	0	36	0	0	0	36
6:15 PM	0	0	29	0	0	0	29
6:30 PM	0	0	21	0	0	0	21
6:45 PM	0	0	17	0	2	0	19
7:00 PM	0	0	23	0	0	0	23
7:15 PM	0	0	21	0	0	0	21
7:30 PM	0	0	14	0	0	0	14
7:45 PM	0	0	9	0	0	0	9
8:00 PM	0	0	22	0	0	0	22
8:15 PM	0	0	12	0	0	0	12
8:30 PM	0	0	17	0	0	0	17
8:45 PM	0	0	20	0	0	0	20
9:00 PM	0	0	13	0	0	0	13
9:15 PM	0	0	11	0	0	0	11
9:30 PM	0	0	16	0	0	0	16
9:45 PM	0	0	12	0	0	0	12
10:00 PM	0	0	17	0	0	0	17
10:15 PM	0	0	14	0	0	0	14
10:30 PM	0	0	12	0	0	0	12
10:45 PM	0	0	15	0	0	0	15
11:00 PM	0	0	10	0	0	0	10
11:15 PM	0	0	7	0	0	0	7
11:30 PM	0	0	7	0	0	0	7
11:45 PM	0	0	9	0	0	0	9

AM Total	2	1	761	1	9	5	779
Percentage	0.26%	0.13%	97.69%	0.13%	1.16%	0.64%	
AM Peak	8:15 AM	10:00 AM	11:00 AM	9:30 AM	5:30 AM	5:45 AM	11:00 AM
Volume	1	1	191	1	2	2	194

PM Total	0	0	1468	0	10	1	1479
Percentage	0.00%	0.00%	99.26%	0.00%	0.68%	0.07%	
PM Peak	12:00 PM	12:00 PM	12:15 PM	12:00 PM	1:45 PM	12:00 PM	12:15 PM
Volume	0	0	233	0	3	1	233

Day Total	2	1	2229	1	19	6	2258
Percentage	0.09%	0.04%	98.72%	0.04%	0.84%	0.27%	

Route 2A
west of Lexington Road
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-C

Count Date: Sunday, December 4, 2022
Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	5	0	0	0	5
12:15 AM	0	0	7	0	0	0	7
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	4	0	0	0	4
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	2	0	0	0	2
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	2	0	0	0	2
3:15 AM	0	0	2	0	0	0	2
3:30 AM	0	0	2	0	0	0	2
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	1	0	0	0	1
5:15 AM	0	0	0	0	0	0	0
5:30 AM	0	0	3	0	0	0	3
5:45 AM	0	0	2	0	0	0	2
6:00 AM	0	0	3	0	0	0	3
6:15 AM	0	0	4	0	0	0	4
6:30 AM	0	0	12	0	0	0	12
6:45 AM	0	0	17	0	0	0	17
7:00 AM	0	0	7	0	1	0	8
7:15 AM	0	0	7	0	0	0	7
7:30 AM	1	1	23	0	0	0	25
7:45 AM	0	0	9	0	0	0	9
8:00 AM	0	0	14	0	0	0	14
8:15 AM	0	0	10	0	0	0	10
8:30 AM	0	0	11	0	0	0	11
8:45 AM	0	0	25	0	1	0	26
9:00 AM	0	0	19	0	0	0	19
9:15 AM	0	0	30	0	0	0	30
9:30 AM	0	0	24	0	0	0	24
9:45 AM	0	0	20	0	1	0	21
10:00 AM	0	0	23	0	0	0	23
10:15 AM	0	0	24	0	1	0	25
10:30 AM	0	0	35	0	0	0	35
10:45 AM	0	0	40	0	0	0	40
11:00 AM	0	0	29	0	0	0	29
11:15 AM	0	0	43	0	1	0	44
11:30 AM	0	0	42	0	0	0	42
11:45 AM	0	0	31	0	0	0	31

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	1	0	53	0	0	1	55
12:15 PM	0	0	40	0	0	0	40
12:30 PM	0	0	56	0	0	0	56
12:45 PM	0	0	74	0	1	0	75
1:00 PM	0	0	58	0	0	0	58
1:15 PM	0	0	53	0	1	0	54
1:30 PM	0	0	63	0	0	0	63
1:45 PM	0	0	55	0	0	0	55
2:00 PM	1	0	57	0	0	1	59
2:15 PM	0	0	38	0	0	0	38
2:30 PM	0	0	48	0	1	0	49
2:45 PM	0	1	49	0	0	0	50
3:00 PM	0	0	53	0	0	0	53
3:15 PM	0	0	41	0	0	0	41
3:30 PM	0	0	41	0	0	0	41
3:45 PM	0	0	33	0	2	0	35
4:00 PM	0	0	42	0	0	0	42
4:15 PM	0	0	28	0	0	0	28
4:30 PM	0	0	43	0	0	0	43
4:45 PM	0	0	35	0	0	0	35
5:00 PM	0	0	37	0	0	0	37
5:15 PM	0	0	27	0	0	0	27
5:30 PM	0	0	31	0	1	0	32
5:45 PM	0	0	21	0	0	0	21
6:00 PM	0	0	28	0	0	0	28
6:15 PM	0	0	23	0	0	0	23
6:30 PM	0	0	19	0	1	0	20
6:45 PM	0	0	27	0	0	0	27
7:00 PM	0	0	19	0	1	0	20
7:15 PM	0	0	20	0	0	0	20
7:30 PM	0	0	11	0	0	0	11
7:45 PM	0	0	19	0	0	0	19
8:00 PM	0	0	10	0	0	0	10
8:15 PM	0	0	13	0	0	0	13
8:30 PM	0	0	11	0	0	0	11
8:45 PM	0	0	12	0	0	0	12
9:00 PM	0	0	10	0	0	0	10
9:15 PM	0	0	12	0	0	0	12
9:30 PM	0	0	10	0	0	0	10
9:45 PM	0	0	8	0	0	0	8
10:00 PM	0	0	10	0	0	0	10
10:15 PM	0	0	6	0	0	0	6
10:30 PM	0	0	5	0	0	0	5
10:45 PM	0	0	4	0	0	0	4
11:00 PM	0	0	9	0	0	0	9
11:15 PM	0	0	4	0	0	0	4
11:30 PM	0	0	2	0	0	0	2
11:45 PM	0	0	5	0	0	0	5

AM Total 1 1 536 0 5 0 543
Percentage 0.18% 0.18% 98.71% 0.00% 0.92% 0.00%

AM Peak 6:45 AM 6:45 AM 10:45 AM 12:00 AM 9:30 AM 12:00 AM 10:45 AM
Volume 1 1 154 0 2 0 155

PM Total 2 1 1373 0 8 2 1386
Percentage 0.14% 0.07% 99.06% 0.00% 0.58% 0.14%

PM Peak 12:00 PM 2:00 PM 12:45 PM 12:00 PM 12:30 PM 12:00 PM 12:45 PM
Volume 1 1 248 0 2 1 250

Day Total 3 2 1909 0 13 2 1929
Percentage 0.16% 0.10% 98.96% 0.00% 0.67% 0.10%

Route 2A
 west of Lexington Road
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-C

Count Date: Monday, December 5, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	3	0	0	0	3
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	3	0	0	0	3
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	1	0	0	0	1
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	1	0	2
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	2	0	0	0	2
4:45 AM	0	0	3	0	0	0	3
5:00 AM	0	0	5	0	0	0	5
5:15 AM	0	0	2	0	0	0	2
5:30 AM	0	0	9	0	1	0	10
5:45 AM	0	0	9	0	0	0	9
6:00 AM	0	0	14	0	1	1	16
6:15 AM	0	0	30	0	0	0	30
6:30 AM	0	0	28	0	1	0	29
6:45 AM	0	0	27	0	0	0	27
7:00 AM	0	0	37	0	2	3	42
7:15 AM	0	0	53	0	1	2	56
7:30 AM	0	0	61	0	2	1	64
7:45 AM	0	0	79	0	0	1	80
8:00 AM	0	0	59	0	3	1	63
8:15 AM	0	0	67	0	2	0	69
8:30 AM	0	0	80	0	4	1	85
8:45 AM	0	0	57	1	1	0	59
9:00 AM	0	0	46	0	0	0	46
9:15 AM	0	0	32	0	0	0	32
9:30 AM	0	0	30	0	3	0	33
9:45 AM	0	0	31	0	0	0	31
10:00 AM	0	0	26	0	1	0	27
10:15 AM	0	0	29	0	4	1	34
10:30 AM	0	0	37	0	2	0	39
10:45 AM	0	0	24	0	2	0	26
11:00 AM	0	0	41	0	2	0	43
11:15 AM	0	0	42	0	1	0	43
11:30 AM	0	0	44	0	3	1	48
11:45 AM	0	1	36	0	2	0	39

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	32	0	3	0	35
12:15 PM	0	0	40	0	2	1	43
12:30 PM	0	0	52	0	2	0	54
12:45 PM	0	0	34	0	4	0	38
1:00 PM	0	0	64	1	1	1	67
1:15 PM	0	0	26	0	0	0	26
1:30 PM	0	0	47	0	1	0	48
1:45 PM	0	0	43	0	2	0	45
2:00 PM	0	0	65	0	0	0	65
2:15 PM	0	0	48	0	3	0	51
2:30 PM	0	0	85	4	3	0	92
2:45 PM	1	0	73	1	1	1	77
3:00 PM	0	0	80	1	0	0	81
3:15 PM	0	0	54	0	5	0	59
3:30 PM	0	0	77	0	4	0	81
3:45 PM	0	0	75	0	1	0	76
4:00 PM	0	0	79	1	0	0	80
4:15 PM	0	0	77	0	0	2	79
4:30 PM	0	0	82	0	0	0	82
4:45 PM	0	0	80	0	0	0	80
5:00 PM	0	0	83	0	0	0	83
5:15 PM	0	0	98	0	0	0	98
5:30 PM	0	0	98	0	3	0	101
5:45 PM	0	0	56	0	0	1	57
6:00 PM	0	0	63	0	1	1	65
6:15 PM	0	0	61	0	0	0	61
6:30 PM	0	0	42	0	0	0	42
6:45 PM	0	0	32	0	0	0	32
7:00 PM	0	0	39	0	0	0	39
7:15 PM	0	0	28	0	0	0	28
7:30 PM	0	0	16	1	0	0	17
7:45 PM	0	0	22	0	0	0	22
8:00 PM	0	0	18	0	0	0	18
8:15 PM	0	0	22	0	0	0	22
8:30 PM	0	0	16	0	0	0	16
8:45 PM	0	0	12	1	0	0	13
9:00 PM	0	0	12	0	0	0	12
9:15 PM	0	0	13	0	0	0	13
9:30 PM	0	0	15	0	0	0	15
9:45 PM	0	0	10	0	0	1	11
10:00 PM	0	0	7	0	0	0	7
10:15 PM	0	0	6	0	0	0	6
10:30 PM	0	0	4	0	0	0	4
10:45 PM	0	0	10	0	0	0	10
11:00 PM	0	0	8	0	0	0	8
11:15 PM	0	0	3	0	0	0	3
11:30 PM	0	0	3	0	0	0	3
11:45 PM	0	0	3	0	0	0	3

AM Total	0	1	1055	1	39	12	1108
Percentage	0.00%	0.09%	95.22%	0.09%	3.52%	1.08%	
AM Peak	12:00 AM	11:00 AM	7:45 AM	8:00 AM	8:00 AM	7:00 AM	7:45 AM
Volume	0	1	285	1	10	7	297

PM Total	1	0	2013	10	36	8	2068
Percentage	0.05%	0.00%	97.34%	0.48%	1.74%	0.39%	
PM Peak	2:00 PM	12:00 PM	4:45 PM	2:15 PM	12:00 PM	12:15 PM	4:45 PM
Volume	1	0	359	6	11	2	362

Day Total	1	1	3068	11	75	20	3176
Percentage	0.03%	0.03%	96.60%	0.35%	2.36%	0.63%	

Route 2A
 west of Lexington Road
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilc.com

PDI File # 228952 ATR-C

Direction: EB

Weekly Report

Day Date	Tuesday 11/29/22		Wednesday 11/30/22		Thursday 12/01/22		Friday 12/02/22		Saturday 12/03/22		Sunday 12/04/22		Monday 12/05/22		Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	0	40	0	45	0	44	2	40	3	47	4	40	3	27	2	40
12:15	2	30	0	51	0	39	2	42	4	41	5	37	0	41	2	40
12:30	0	38	0	59	0	44	1	45	0	44	4	41	0	43	1	45
12:45	0	37	0	37	0	34	2	45	2	40	0	30	0	22	1	35
1:00	0	42	0	47	2	37	2	36	1	50	2	34	0	41	1	41
1:15	0	29	0	48	0	39	0	35	0	41	1	49	1	36	0	40
1:30	0	36	1	39	0	37	1	34	1	45	2	36	0	32	1	37
1:45	1	38	0	44	0	34	0	47	1	48	1	45	2	45	1	43
2:00	0	48	0	43	0	35	0	59	1	48	1	47	1	31	0	44
2:15	0	35	1	50	0	52	0	50	1	47	0	56	1	31	0	46
2:30	2	50	1	46	1	53	0	49	0	30	2	38	0	43	1	44
2:45	1	62	1	66	0	69	0	58	1	37	1	44	0	50	1	55
3:00	0	51	0	77	0	62	0	54	1	39	1	36	1	61	0	54
3:15	1	60	1	53	0	60	3	57	0	36	0	43	0	60	1	53
3:30	0	60	0	69	1	73	1	67	1	24	0	49	2	56	1	57
3:45	0	60	0	68	0	73	0	59	1	26	0	47	3	56	1	56
4:00	2	49	3	60	5	95	2	65	2	40	2	43	1	54	2	58
4:15	3	70	0	71	0	77	0	48	1	29	0	46	3	48	1	56
4:30	8	69	6	62	5	68	5	55	1	29	1	39	6	57	5	54
4:45	10	58	6	43	6	74	7	61	1	38	0	35	6	61	5	53
5:00	18	57	17	66	8	46	10	36	5	35	1	33	6	65	9	48
5:15	17	62	23	47	30	50	18	33	6	31	3	24	25	46	17	42
5:30	49	69	49	52	37	46	35	26	6	24	2	33	33	36	30	41
5:45	34	47	55	63	54	28	17	36	8	17	6	29	46	39	31	37
6:00	41	50	51	46	23	39	17	34	6	20	6	23	29	27	25	34
6:15	43	56	35	27	39	37	41	31	12	25	4	16	39	38	30	33
6:30	35	41	40	28	49	30	33	39	18	27	9	14	44	23	33	29
6:45	53	34	57	33	53	26	63	23	16	16	8	14	53	21	43	24
7:00	63	22	96	17	87	21	81	26	41	18	20	16	74	13	66	19
7:15	188	23	124	26	156	10	102	26	42	13	15	12	110	16	105	18
7:30	180	16	167	18	212	19	111	22	23	6	14	9	186	7	128	14
7:45	191	17	139	15	188	10	82	19	23	13	25	18	185	20	119	16
8:00	154	12	138	14	174	18	92	15	20	17	21	9	155	11	108	14
8:15	162	5	117	21	158	11	84	16	19	12	14	16	118	15	96	14
8:30	141	15	120	16	113	14	80	14	37	10	25	8	89	10	86	12
8:45	123	10	81	10	109	14	79	8	47	14	40	7	89	13	81	11
9:00	115	18	79	13	71	8	61	11	28	8	38	4	66	10	65	10
9:15	67	9	77	13	54	5	53	19	33	9	31	6	59	13	53	11
9:30	53	12	68	8	44	9	42	10	43	9	28	10	59	2	48	9
9:45	68	9	63	8	50	5	46	11	36	9	41	4	44	11	50	8
10:00	44	14	40	7	39	7	46	11	40	9	31	5	49	4	41	8
10:15	43	4	46	6	44	8	28	14	31	11	32	6	36	5	37	8
10:30	35	8	50	7	40	7	27	13	37	10	41	2	32	5	37	7
10:45	48	4	44	6	44	5	42	13	32	11	46	5	38	5	42	7
11:00	33	7	27	8	45	6	35	3	40	13	34	8	35	8	36	8
11:15	34	2	37	1	45	1	46	3	50	9	37	0	37	3	41	3
11:30	31	2	40	4	46	0	47	1	43	6	40	5	39	5	41	3
11:45	40	4	62	0	29	0	37	4	52	8	44	0	34	1	43	2
Total	2133	1591	1962	1658	2061	1579	1483	1523	817	1189	683	1171	1839	1367	1568	1440
Day Total	3724		3620		3640		3006		2006		1854		3206		3008	
Peak HR	7:15 AM	4:15 PM	7:15 AM	3:30 PM	7:30 AM	3:30 PM	7:15 AM	3:15 PM	11:00 AM	1:30 PM	10:30 AM	1:45 PM	7:30 AM	3:00 PM	7:15 AM	3:30 PM
Volume	713	254	568	268	732	318	387	248	185	188	158	186	644	233	460	226

Route 2A
 west of Lexington Road
 City, State: Lincoln, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilc.com

PDI File # 228952 ATR-C

Direction: WB

Weekly Report

Day Date	Tuesday 11/29/22		Wednesday 11/30/22		Thursday 12/01/22		Friday 12/02/22		Saturday 12/03/22		Sunday 12/04/22		Monday 12/05/22		Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	0	57	2	41	4	51	7	51	4	50	5	55	3	35	4	49
12:15	2	53	1	72	2	41	2	53	5	59	7	40	1	43	3	52
12:30	2	41	0	58	2	55	2	52	0	57	1	56	1	54	1	53
12:45	0	44	0	55	3	41	0	34	2	66	0	75	3	38	1	50
1:00	0	44	0	55	1	50	0	52	1	51	4	58	0	67	1	54
1:15	1	58	0	79	0	55	0	52	3	49	0	54	1	26	1	53
1:30	0	46	0	63	1	61	0	50	1	44	1	63	0	48	0	54
1:45	0	65	0	74	0	72	1	61	3	48	2	55	0	45	1	60
2:00	0	78	1	83	0	68	0	77	1	54	0	59	1	65	0	69
2:15	0	74	3	73	1	83	1	71	0	50	1	38	1	51	1	63
2:30	0	72	0	88	0	99	0	90	0	55	1	49	1	92	0	78
2:45	0	68	0	80	0	93	0	79	0	47	0	50	1	77	0	71
3:00	1	100	1	87	0	99	0	89	2	34	2	53	0	81	1	78
3:15	1	86	0	93	0	83	0	72	0	37	2	41	0	59	0	67
3:30	0	93	1	114	2	94	0	93	3	48	2	41	1	81	1	81
3:45	0	76	1	121	0	102	0	91	0	52	0	35	0	76	0	79
4:00	1	83	0	115	1	131	0	87	1	40	0	42	2	80	1	83
4:15	0	76	4	104	1	103	2	82	0	42	0	28	0	79	1	73
4:30	3	100	1	110	0	139	0	91	2	42	0	43	2	82	1	87
4:45	4	102	2	109	4	124	2	70	1	33	0	35	3	80	2	79
5:00	8	89	4	102	7	135	2	87	0	26	1	37	5	83	4	80
5:15	5	121	5	97	3	122	3	97	4	39	0	27	2	98	3	86
5:30	12	107	12	83	9	134	3	93	4	38	3	32	10	101	8	84
5:45	9	84	8	67	11	88	6	145	3	32	2	21	9	57	7	71
6:00	11	57	5	112	17	104	15	113	9	36	3	28	16	65	11	74
6:15	27	45	21	87	28	79	15	81	16	29	4	23	30	61	20	58
6:30	31	53	36	44	33	75	40	51	16	21	12	20	29	42	28	44
6:45	37	40	36	34	23	39	34	39	12	19	17	27	27	32	27	33
7:00	42	54	36	16	37	36	38	30	19	23	8	20	42	39	32	31
7:15	51	41	60	35	64	33	65	23	15	21	7	20	56	28	45	29
7:30	79	28	66	34	75	28	71	24	31	14	25	11	64	17	59	22
7:45	69	21	77	32	71	35	50	26	30	9	9	19	80	22	55	23
8:00	82	28	73	18	66	26	47	16	18	22	14	10	63	18	52	20
8:15	81	20	81	31	63	23	40	20	31	12	10	13	69	22	54	20
8:30	65	22	68	27	86	17	47	16	29	17	11	11	85	16	56	18
8:45	53	13	60	16	81	20	49	20	25	20	26	12	59	13	50	16
9:00	54	16	75	19	64	19	32	12	30	13	19	10	46	12	46	14
9:15	41	23	54	24	54	8	29	14	30	11	30	12	32	13	39	15
9:30	47	16	53	12	42	11	38	19	35	16	24	10	33	15	39	14
9:45	36	9	29	11	49	10	47	15	33	12	21	8	31	11	35	11
10:00	43	6	41	17	32	14	44	11	42	17	23	10	27	7	36	12
10:15	37	9	43	8	37	12	34	7	49	14	25	6	34	6	37	9
10:30	35	9	43	6	30	10	46	20	39	12	35	5	39	4	38	9
10:45	37	8	40	8	46	12	46	13	36	15	40	4	26	10	39	10
11:00	44	7	44	9	41	6	41	14	52	10	29	9	43	8	42	9
11:15	34	6	43	6	31	2	52	9	43	7	44	4	43	3	41	5
11:30	45	4	41	11	37	0	59	7	51	7	42	2	48	3	46	5
11:45	46	4	38	2	53	2	47	12	48	9	31	5	39	3	43	5
Total	1176	2356	1209	2642	1212	2744	1057	2431	779	1479	543	1386	1108	2068	1012	2158
Day Total	3532		3851		3956		3488		2258		1929		3176		3170	
Peak HR	7:30 AM	4:45 PM	7:45 AM	3:30 PM	8:00 AM	4:30 PM	7:15 AM	5:15 PM	11:00 AM	12:15 PM	10:45 AM	12:45 PM	7:45 AM	4:45 PM	7:30 AM	4:30 PM
Volume	311	419	299	454	296	520	233	448	194	233	155	250	297	362	219	331

Old Bedford Road
 south of Bedford Street
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-D

Count Date: Tuesday, November 29, 2022
 Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	3	0	0	0	3
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	3	0	0	0	3
12:45 AM	0	0	1	0	0	0	1
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	3	0	0	0	3
5:00 AM	0	0	2	0	0	0	2
5:15 AM	0	0	1	0	0	0	1
5:30 AM	0	0	3	0	0	0	3
5:45 AM	0	0	5	0	0	0	5
6:00 AM	0	0	3	0	0	0	3
6:15 AM	0	0	7	0	0	0	7
6:30 AM	0	0	4	0	0	0	4
6:45 AM	0	0	14	0	0	0	14
7:00 AM	0	0	20	0	0	0	20
7:15 AM	0	0	28	2	0	0	30
7:30 AM	0	0	24	1	0	0	25
7:45 AM	0	0	31	0	1	0	32
8:00 AM	0	0	31	0	0	0	31
8:15 AM	1	0	44	1	1	0	47
8:30 AM	0	0	43	2	0	0	45
8:45 AM	0	0	40	0	1	0	41
9:00 AM	0	0	50	0	0	0	50
9:15 AM	0	0	24	0	0	0	24
9:30 AM	0	0	18	0	1	1	20
9:45 AM	0	0	22	0	0	2	24
10:00 AM	0	0	22	0	1	0	23
10:15 AM	0	0	25	0	3	0	28
10:30 AM	0	0	26	0	1	0	27
10:45 AM	0	0	18	0	3	0	21
11:00 AM	0	0	23	0	0	0	23
11:15 AM	0	0	27	0	4	0	31
11:30 AM	0	0	27	0	1	0	28
11:45 AM	0	0	32	1	0	0	33

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	43	0	0	0	43
12:15 PM	0	0	43	1	1	0	45
12:30 PM	0	0	28	0	1	1	30
12:45 PM	0	0	26	0	0	0	26
1:00 PM	0	0	31	0	2	2	35
1:15 PM	0	0	39	0	1	0	40
1:30 PM	0	0	28	0	0	0	28
1:45 PM	0	0	33	0	1	0	34
2:00 PM	1	0	36	0	1	0	38
2:15 PM	1	0	46	0	2	0	49
2:30 PM	1	0	48	1	1	0	51
2:45 PM	0	0	66	1	0	0	67
3:00 PM	0	0	81	2	1	0	84
3:15 PM	0	0	82	1	1	0	84
3:30 PM	0	0	76	0	0	0	76
3:45 PM	0	0	76	1	0	0	77
4:00 PM	0	0	130	1	1	0	132
4:15 PM	0	0	78	0	0	0	78
4:30 PM	0	0	90	0	2	0	92
4:45 PM	0	0	101	0	1	0	102
5:00 PM	0	0	100	1	0	0	101
5:15 PM	0	0	96	0	0	0	96
5:30 PM	0	0	80	0	2	0	82
5:45 PM	0	0	72	1	1	0	74
6:00 PM	0	0	39	0	0	0	39
6:15 PM	0	0	43	0	1	0	44
6:30 PM	0	0	32	0	1	0	33
6:45 PM	0	0	29	0	0	0	29
7:00 PM	1	0	22	0	1	0	24
7:15 PM	0	0	18	0	0	0	18
7:30 PM	0	0	13	0	0	0	13
7:45 PM	0	0	17	0	0	0	17
8:00 PM	0	0	13	0	0	0	13
8:15 PM	0	0	13	0	0	0	13
8:30 PM	0	0	14	0	0	0	14
8:45 PM	0	0	11	0	0	0	11
9:00 PM	0	0	16	0	0	0	16
9:15 PM	0	0	9	0	0	0	9
9:30 PM	0	0	7	0	0	0	7
9:45 PM	0	0	12	0	0	0	12
10:00 PM	0	0	7	0	0	0	7
10:15 PM	0	0	5	0	0	0	5
10:30 PM	0	0	5	0	0	0	5
10:45 PM	0	0	7	0	0	0	7
11:00 PM	0	0	7	0	1	0	8
11:15 PM	0	0	2	0	0	0	2
11:30 PM	0	0	2	0	0	0	2
11:45 PM	0	0	1	0	0	0	1

AM Total 1 0 628 7 17 3 656
Percentage 0.15% 0.00% 95.73% 1.07% 2.59% 0.46%

AM Peak 7:30 AM 12:00 AM 8:15 AM 6:45 AM 10:00 AM 9:00 AM 8:15 AM
Volume 1 0 177 3 8 3 183

PM Total 4 0 1873 10 23 3 1913
Percentage 0.21% 0.00% 97.91% 0.52% 1.20% 0.16%

PM Peak 1:45 PM 12:00 PM 4:00 PM 2:30 PM 1:45 PM 12:15 PM 4:00 PM
Volume 3 0 399 5 5 3 404

Day Total 5 0 2501 17 40 6 2569
Percentage 0.19% 0.00% 97.35% 0.66% 1.56% 0.23%

Old Bedford Road
south of Bedford Street
City, State: Concord, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-D

Count Date: Wednesday, November 30, 2022
Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	2	0	1	0	3
12:15 AM	0	0	2	0	0	0	2
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	1	0	1
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	1	0	0	0	1
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	2	0	0	0	2
5:00 AM	0	0	4	0	0	0	4
5:15 AM	0	0	1	0	0	0	1
5:30 AM	0	0	4	0	0	0	4
5:45 AM	0	0	7	0	0	0	7
6:00 AM	0	0	7	0	0	0	7
6:15 AM	0	0	5	0	0	0	5
6:30 AM	0	0	10	0	0	0	10
6:45 AM	0	0	17	0	0	0	17
7:00 AM	0	0	19	0	0	0	19
7:15 AM	1	0	24	2	0	0	27
7:30 AM	1	0	24	1	0	0	26
7:45 AM	0	0	41	1	0	0	42
8:00 AM	0	0	43	0	0	0	43
8:15 AM	1	0	36	0	2	0	39
8:30 AM	0	0	42	1	1	0	44
8:45 AM	0	0	37	1	0	0	38
9:00 AM	0	0	33	0	1	0	34
9:15 AM	1	0	29	0	0	0	30
9:30 AM	1	0	23	0	1	0	25
9:45 AM	1	0	22	0	1	1	25
10:00 AM	0	0	25	0	0	0	25
10:15 AM	1	0	27	0	1	0	29
10:30 AM	0	0	18	0	1	0	19
10:45 AM	2	0	23	0	1	1	27
11:00 AM	0	0	25	0	1	0	26
11:15 AM	2	0	26	0	1	0	29
11:30 AM	0	0	29	0	0	0	29
11:45 AM	0	0	38	0	1	1	40

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	31	0	0	0	31
12:15 PM	1	0	41	0	0	0	42
12:30 PM	0	0	57	1	2	0	60
12:45 PM	0	0	31	1	0	0	32
1:00 PM	0	0	41	0	0	0	41
1:15 PM	0	0	39	3	1	0	43
1:30 PM	0	0	30	1	1	0	32
1:45 PM	0	0	29	0	1	0	30
2:00 PM	0	0	47	1	0	0	48
2:15 PM	0	0	62	0	0	0	62
2:30 PM	0	0	48	0	0	1	49
2:45 PM	0	0	75	1	1	0	77
3:00 PM	0	0	130	1	2	0	133
3:15 PM	0	0	84	0	1	0	85
3:30 PM	0	0	133	0	4	0	137
3:45 PM	0	0	97	0	1	0	98
4:00 PM	0	0	107	1	1	0	109
4:15 PM	0	0	103	0	0	0	103
4:30 PM	0	0	80	0	0	0	80
4:45 PM	0	0	95	0	2	0	97
5:00 PM	0	0	85	0	0	0	85
5:15 PM	0	0	75	0	0	0	75
5:30 PM	0	0	68	0	1	0	69
5:45 PM	0	0	63	0	0	0	63
6:00 PM	0	0	49	1	0	0	50
6:15 PM	0	0	31	0	0	0	31
6:30 PM	0	0	23	0	1	0	24
6:45 PM	0	0	29	0	1	0	30
7:00 PM	0	0	30	0	1	0	31
7:15 PM	0	0	16	0	0	0	16
7:30 PM	0	0	14	0	0	0	14
7:45 PM	0	0	11	0	0	0	11
8:00 PM	0	0	15	0	0	0	15
8:15 PM	0	0	10	0	0	0	10
8:30 PM	0	0	8	0	0	0	8
8:45 PM	0	0	12	0	0	0	12
9:00 PM	0	0	8	0	0	0	8
9:15 PM	0	0	7	0	0	0	7
9:30 PM	0	0	11	0	0	0	11
9:45 PM	0	0	6	0	0	0	6
10:00 PM	0	0	5	0	0	0	5
10:15 PM	0	0	3	0	0	0	3
10:30 PM	0	0	6	0	0	0	6
10:45 PM	0	0	5	0	0	0	5
11:00 PM	0	0	9	0	0	0	9
11:15 PM	0	0	3	0	0	0	3
11:30 PM	0	0	2	0	0	0	2
11:45 PM	0	0	3	0	0	0	3

AM Total 11 0 649 6 14 3 683
Percentage 1.61% 0.00% 95.02% 0.88% 2.05% 0.44%

AM Peak 10:30 AM 12:00 AM 7:45 AM 7:00 AM 8:15 AM 9:00 AM 7:45 AM
Volume 4 0 162 4 4 1 168

PM Total 1 0 1967 11 21 1 2001
Percentage 0.05% 0.00% 98.30% 0.55% 1.05% 0.05%

PM Peak 12:00 PM 12:00 PM 3:00 PM 12:30 PM 2:45 PM 1:45 PM 3:00 PM
Volume 1 0 444 5 8 1 453

Day Total 12 0 2616 17 35 4 2684
Percentage 0.45% 0.00% 97.47% 0.63% 1.30% 0.15%

Old Bedford Road
south of Bedford Street
City, State: Concord, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-D

Count Date: Thursday, December 1, 2022
Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	0	1
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	2	0	0	0	2
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	2	0	0	0	2
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	3	0	0	0	3
5:00 AM	0	0	0	0	0	0	0
5:15 AM	0	0	1	0	0	0	1
5:30 AM	0	0	2	0	3	0	5
5:45 AM	0	0	5	0	0	0	5
6:00 AM	0	0	3	0	0	0	3
6:15 AM	0	0	3	0	0	0	3
6:30 AM	0	0	14	0	0	0	14
6:45 AM	0	0	9	0	0	0	9
7:00 AM	0	0	13	0	0	0	13
7:15 AM	0	0	24	2	0	0	26
7:30 AM	0	0	29	1	0	1	31
7:45 AM	0	0	22	1	0	0	23
8:00 AM	0	0	47	1	1	0	49
8:15 AM	0	0	31	0	0	0	31
8:30 AM	0	0	31	1	0	0	32
8:45 AM	0	0	35	1	1	0	37
9:00 AM	0	0	48	0	1	0	49
9:15 AM	0	0	34	1	2	0	37
9:30 AM	0	0	25	0	2	0	27
9:45 AM	0	0	17	0	0	0	17
10:00 AM	0	0	18	0	0	0	18
10:15 AM	1	0	21	0	1	0	23
10:30 AM	0	0	18	0	0	0	18
10:45 AM	0	0	24	0	0	0	24
11:00 AM	0	0	31	0	4	0	35
11:15 AM	0	0	30	0	0	0	30
11:30 AM	0	0	30	0	1	0	31
11:45 AM	0	0	28	0	1	0	29

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	38	0	0	0	38
12:15 PM	0	0	33	0	3	0	36
12:30 PM	0	0	36	1	0	0	37
12:45 PM	0	0	24	0	1	0	25
1:00 PM	0	0	27	0	0	0	27
1:15 PM	1	0	27	0	0	0	28
1:30 PM	0	0	36	0	2	1	39
1:45 PM	0	0	35	0	1	0	36
2:00 PM	0	0	40	0	0	0	40
2:15 PM	0	0	45	0	2	0	47
2:30 PM	0	0	43	1	0	0	44
2:45 PM	0	0	74	0	1	0	75
3:00 PM	0	0	86	1	0	0	87
3:15 PM	0	0	89	1	0	1	91
3:30 PM	0	0	89	0	0	0	89
3:45 PM	0	0	103	1	1	0	105
4:00 PM	1	0	107	2	3	0	113
4:15 PM	0	0	119	1	3	0	123
4:30 PM	0	0	121	0	2	0	123
4:45 PM	0	0	97	1	0	0	98
5:00 PM	0	0	90	0	0	0	90
5:15 PM	0	0	86	0	1	0	87
5:30 PM	0	0	60	0	0	0	60
5:45 PM	0	0	64	0	0	0	64
6:00 PM	0	0	51	0	1	0	52
6:15 PM	0	0	38	0	0	0	38
6:30 PM	0	0	18	0	0	0	18
6:45 PM	0	0	25	0	1	0	26
7:00 PM	0	0	24	0	0	0	24
7:15 PM	0	0	22	0	0	1	23
7:30 PM	0	0	18	0	1	0	19
7:45 PM	0	0	11	0	0	0	11
8:00 PM	0	0	22	0	0	0	22
8:15 PM	0	0	15	0	1	0	16
8:30 PM	0	0	12	0	0	0	12
8:45 PM	0	0	9	0	0	0	9
9:00 PM	0	0	8	0	0	0	8
9:15 PM	0	0	12	0	0	0	12
9:30 PM	0	0	8	0	0	0	8
9:45 PM	0	0	7	0	0	0	7
10:00 PM	0	0	7	0	0	0	7
10:15 PM	0	0	10	0	0	0	10
10:30 PM	0	0	4	0	0	0	4
10:45 PM	0	0	8	0	0	0	8
11:00 PM	0	0	6	0	0	0	6
11:15 PM	0	0	1	0	0	0	1
11:30 PM	0	0	5	0	0	0	5
11:45 PM	0	0	4	0	0	0	4

AM Total	1	0	606	8	17	1	633
Percentage	0.16%	0.00%	95.73%	1.26%	2.69%	0.16%	
AM Peak	9:30 AM	12:00 AM	8:30 AM	7:15 AM	8:45 AM	6:45 AM	8:30 AM
Volume	1	0	148	5	6	1	155

PM Total	2	0	1914	9	24	3	1952
Percentage	0.10%	0.00%	98.05%	0.46%	1.23%	0.15%	
PM Peak	12:30 PM	12:00 PM	3:45 PM	3:15 PM	3:45 PM	12:45 PM	3:45 PM
Volume	1	0	450	4	9	1	464

Day Total	3	0	2520	17	41	4	2585
Percentage	0.12%	0.00%	97.49%	0.66%	1.59%	0.15%	

Old Bedford Road
 south of Bedford Street
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-D

Count Date: Friday, December 2, 2022
 Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	2	0	0	0	2
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	2	0	0	0	2
1:00 AM	0	0	2	0	0	0	2
1:15 AM	0	0	3	0	0	0	3
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	2	0	0	0	2
5:00 AM	0	0	0	0	0	0	0
5:15 AM	0	0	1	0	0	0	1
5:30 AM	0	0	2	0	0	0	2
5:45 AM	0	0	3	0	0	0	3
6:00 AM	0	0	4	0	0	0	4
6:15 AM	0	0	7	0	0	0	7
6:30 AM	0	0	8	0	0	0	8
6:45 AM	0	0	11	0	0	0	11
7:00 AM	0	0	15	0	0	0	15
7:15 AM	0	0	31	2	0	0	33
7:30 AM	0	0	24	1	2	0	27
7:45 AM	0	0	36	1	0	0	37
8:00 AM	0	0	31	0	1	0	32
8:15 AM	1	0	31	0	0	1	33
8:30 AM	0	0	36	1	1	0	38
8:45 AM	0	0	37	1	1	0	39
9:00 AM	0	0	24	0	1	0	25
9:15 AM	0	0	29	0	0	0	29
9:30 AM	0	0	24	0	0	0	24
9:45 AM	0	0	21	0	0	0	21
10:00 AM	0	0	13	0	1	0	14
10:15 AM	0	0	26	0	2	1	29
10:30 AM	3	0	23	0	2	0	28
10:45 AM	2	0	25	0	1	0	28
11:00 AM	4	0	24	1	0	0	29
11:15 AM	0	0	41	1	0	0	42
11:30 AM	1	0	26	0	0	0	27
11:45 AM	2	0	37	1	0	0	40

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	1	0	36	0	1	0	38
12:15 PM	1	0	37	0	0	0	38
12:30 PM	0	0	34	1	2	0	37
12:45 PM	0	0	35	0	1	0	36
1:00 PM	0	0	34	0	0	0	34
1:15 PM	2	0	24	1	0	0	27
1:30 PM	1	0	35	0	1	0	37
1:45 PM	2	0	32	0	1	0	35
2:00 PM	3	0	42	0	0	0	45
2:15 PM	0	0	49	0	0	0	49
2:30 PM	1	0	51	0	0	0	52
2:45 PM	0	0	58	0	1	0	59
3:00 PM	1	0	108	2	2	0	113
3:15 PM	2	0	70	1	2	0	75
3:30 PM	1	0	84	1	0	0	86
3:45 PM	2	0	90	0	0	0	92
4:00 PM	1	0	89	1	0	0	91
4:15 PM	0	0	74	1	0	0	75
4:30 PM	0	0	62	0	1	0	63
4:45 PM	0	0	68	1	0	0	69
5:00 PM	0	0	51	0	0	0	51
5:15 PM	0	0	55	0	0	0	55
5:30 PM	0	0	47	2	0	0	49
5:45 PM	0	0	37	1	0	0	38
6:00 PM	0	0	36	0	0	0	36
6:15 PM	0	0	24	0	1	0	25
6:30 PM	0	0	28	0	0	0	28
6:45 PM	0	0	28	0	0	0	28
7:00 PM	0	0	29	0	0	0	29
7:15 PM	0	0	18	0	1	0	19
7:30 PM	0	0	15	0	0	0	15
7:45 PM	0	0	11	0	0	0	11
8:00 PM	0	0	8	0	0	0	8
8:15 PM	0	0	13	0	0	0	13
8:30 PM	0	0	19	0	0	0	19
8:45 PM	0	0	4	0	0	0	4
9:00 PM	0	0	6	0	0	0	6
9:15 PM	0	0	13	0	0	0	13
9:30 PM	0	0	5	0	0	0	5
9:45 PM	0	0	9	0	0	0	9
10:00 PM	0	0	10	0	0	0	10
10:15 PM	0	0	12	0	0	0	12
10:30 PM	0	0	8	0	0	0	8
10:45 PM	0	0	8	0	0	0	8
11:00 PM	0	0	12	0	0	0	12
11:15 PM	0	0	4	0	0	0	4
11:30 PM	0	0	3	0	0	0	3
11:45 PM	0	0	10	0	0	0	10

AM Total 13 0 605 9 12 2 641
 Percentage 2.03% 0.00% 94.38% 1.40% 1.87% 0.31%
 AM Peak 10:15 AM 12:00 AM 8:00 AM 7:00 AM 10:00 AM 7:30 AM 8:00 AM
 Volume 9 0 135 4 6 1 142

PM Total 18 0 1635 12 14 0 1679
 Percentage 1.07% 0.00% 97.38% 0.71% 0.83% 0.00%
 PM Peak 1:15 PM 12:00 PM 3:00 PM 2:45 PM 2:30 PM 12:00 PM 3:00 PM
 Volume 8 0 352 4 5 0 366

Day Total 31 0 2240 21 26 2 2320
 Percentage 1.34% 0.00% 96.55% 0.91% 1.12% 0.09%

Old Bedford Road
 south of Bedford Street
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PDI File #: 228952 ATR-D

Count Date: Saturday, December 3, 2022
 Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	3	0	0	0	3
12:15 AM	0	0	6	0	0	0	6
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	1	0	0	0	1
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	3	0	0	0	3
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	1	0	0	0	1
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	2	0	0	0	2
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	2	0	0	0	2
5:15 AM	0	0	3	0	0	0	3
5:30 AM	0	0	1	0	0	0	1
5:45 AM	0	0	0	0	0	0	0
6:00 AM	0	0	2	0	0	1	3
6:15 AM	0	0	3	0	0	0	3
6:30 AM	0	0	3	0	0	0	3
6:45 AM	0	0	3	0	0	0	3
7:00 AM	0	0	3	0	0	0	3
7:15 AM	0	0	16	0	0	0	16
7:30 AM	1	0	7	0	0	0	8
7:45 AM	0	0	12	1	0	0	13
8:00 AM	0	0	13	0	0	0	13
8:15 AM	1	0	10	0	0	0	11
8:30 AM	1	0	22	0	0	0	23
8:45 AM	4	0	24	0	1	0	29
9:00 AM	0	0	15	0	1	0	16
9:15 AM	0	0	16	0	0	0	16
9:30 AM	3	0	25	0	0	0	28
9:45 AM	3	0	29	0	0	0	32
10:00 AM	2	0	28	0	1	0	31
10:15 AM	0	0	13	0	0	0	13
10:30 AM	0	0	24	0	0	0	24
10:45 AM	0	0	29	0	0	0	29
11:00 AM	0	0	38	0	0	0	38
11:15 AM	0	0	34	0	1	0	35
11:30 AM	0	0	23	0	0	0	23
11:45 AM	0	0	39	0	0	0	39

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	33	0	0	0	33
12:15 PM	0	0	40	0	0	0	40
12:30 PM	0	0	33	0	0	0	33
12:45 PM	0	0	41	0	0	0	41
1:00 PM	0	0	30	0	0	0	30
1:15 PM	0	0	29	0	0	0	29
1:30 PM	0	0	33	0	1	0	34
1:45 PM	0	0	50	0	1	0	51
2:00 PM	0	0	36	0	0	0	36
2:15 PM	0	0	41	0	0	0	41
2:30 PM	0	0	40	0	2	0	42
2:45 PM	0	0	34	0	0	0	34
3:00 PM	0	0	25	0	0	0	25
3:15 PM	0	0	34	0	0	0	34
3:30 PM	0	0	32	0	0	0	32
3:45 PM	0	0	35	0	1	0	36
4:00 PM	0	0	30	0	1	0	31
4:15 PM	0	0	24	0	0	0	24
4:30 PM	0	0	27	0	0	0	27
4:45 PM	0	0	29	0	0	0	29
5:00 PM	0	0	25	0	0	0	25
5:15 PM	0	0	36	0	0	0	36
5:30 PM	0	0	25	0	0	0	25
5:45 PM	0	0	12	0	0	0	12
6:00 PM	0	0	20	0	0	0	20
6:15 PM	0	0	12	0	0	0	12
6:30 PM	0	0	16	0	1	0	17
6:45 PM	0	0	16	0	0	0	16
7:00 PM	0	0	11	0	0	0	11
7:15 PM	0	0	10	0	0	0	10
7:30 PM	0	0	8	0	0	0	8
7:45 PM	0	0	19	0	0	0	19
8:00 PM	0	0	9	0	0	0	9
8:15 PM	0	0	9	0	0	0	9
8:30 PM	0	0	0	0	0	0	0
8:45 PM	0	0	9	0	0	0	9
9:00 PM	0	0	9	0	0	0	9
9:15 PM	0	0	6	0	0	0	6
9:30 PM	0	0	7	0	0	0	7
9:45 PM	0	0	7	0	0	0	7
10:00 PM	0	0	5	0	0	0	5
10:15 PM	0	0	9	0	0	0	9
10:30 PM	0	0	10	0	0	0	10
10:45 PM	0	0	9	0	0	0	9
11:00 PM	0	0	8	0	0	0	8
11:15 PM	0	0	5	0	0	0	5
11:30 PM	0	0	3	0	0	0	3
11:45 PM	0	0	4	0	0	1	5

AM Total	15	0	458	1	4	1	479
Percentage	3.13%	0.00%	95.62%	0.21%	0.84%	0.21%	
AM Peak	9:15 AM	12:00 AM	11:00 AM	7:00 AM	8:15 AM	5:15 AM	11:00 AM
Volume	8	0	134	1	2	1	135

PM Total	0	0	995	0	7	1	1003
Percentage	0.00%	0.00%	99.20%	0.00%	0.70%	0.10%	
PM Peak	12:00 PM	12:00 PM	1:45 PM	12:00 PM	1:45 PM	11:00 PM	1:45 PM
Volume	0	0	167	0	3	1	170

Day Total	15	0	1453	1	11	2	1482
Percentage	1.01%	0.00%	98.04%	0.07%	0.74%	0.13%	

Old Bedford Road
south of Bedford Street
City, State: Concord, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-D

Count Date: Sunday, December 4, 2022
Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	2	0	0	0	2
12:15 AM	0	0	4	0	0	0	4
12:30 AM	0	0	3	0	0	0	3
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	3	0	0	0	3
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	2	0	0	0	2
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0
5:30 AM	0	0	1	0	0	0	1
5:45 AM	0	0	1	0	0	0	1
6:00 AM	0	0	1	0	0	0	1
6:15 AM	0	0	2	0	0	0	2
6:30 AM	0	0	3	0	0	0	3
6:45 AM	0	0	6	0	0	0	6
7:00 AM	0	0	3	0	1	0	4
7:15 AM	0	0	8	0	0	0	8
7:30 AM	0	0	3	0	0	0	3
7:45 AM	0	0	11	0	0	0	11
8:00 AM	1	0	8	0	0	0	9
8:15 AM	0	0	6	0	0	0	6
8:30 AM	0	0	10	0	0	0	10
8:45 AM	0	0	17	0	0	0	17
9:00 AM	7	0	13	0	0	0	20
9:15 AM	0	0	19	0	0	1	20
9:30 AM	15	0	15	0	0	0	30
9:45 AM	0	0	20	0	0	0	20
10:00 AM	1	0	27	0	0	0	28
10:15 AM	0	0	25	0	0	0	25
10:30 AM	3	0	31	0	0	0	34
10:45 AM	2	0	27	0	0	0	29
11:00 AM	2	1	27	0	0	0	30
11:15 AM	4	0	26	0	0	0	30
11:30 AM	0	0	32	0	0	0	32
11:45 AM	0	0	47	0	0	0	47

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	1	0	19	0	0	0	20
12:15 PM	0	0	48	0	0	0	48
12:30 PM	1	0	34	0	0	0	35
12:45 PM	0	0	32	0	0	0	32
1:00 PM	4	0	42	0	1	0	47
1:15 PM	3	0	35	0	1	0	39
1:30 PM	0	0	29	0	0	0	29
1:45 PM	3	0	25	0	0	0	28
2:00 PM	4	0	38	0	0	0	42
2:15 PM	0	0	51	0	0	0	51
2:30 PM	1	0	45	0	0	0	46
2:45 PM	0	0	37	0	0	0	37
3:00 PM	4	0	54	0	0	0	58
3:15 PM	1	0	57	0	0	0	58
3:30 PM	0	0	60	0	0	0	60
3:45 PM	1	0	66	0	0	0	67
4:00 PM	0	0	46	0	0	0	46
4:15 PM	0	0	66	0	0	0	66
4:30 PM	0	0	60	0	0	0	60
4:45 PM	0	0	64	0	0	0	64
5:00 PM	0	0	48	0	0	0	48
5:15 PM	0	0	32	0	0	0	32
5:30 PM	0	0	62	0	0	0	62
5:45 PM	0	0	56	0	0	0	56
6:00 PM	0	1	46	0	0	0	47
6:15 PM	0	0	23	0	0	0	23
6:30 PM	0	0	13	0	0	0	13
6:45 PM	0	0	20	0	0	0	20
7:00 PM	0	0	21	0	0	0	21
7:15 PM	0	0	12	0	0	0	12
7:30 PM	0	0	14	0	0	0	14
7:45 PM	0	0	15	0	0	0	15
8:00 PM	0	0	12	0	0	0	12
8:15 PM	0	0	16	0	0	0	16
8:30 PM	0	0	3	0	0	0	3
8:45 PM	0	0	3	0	0	0	3
9:00 PM	0	0	4	0	0	0	4
9:15 PM	0	0	4	0	0	0	4
9:30 PM	0	0	3	0	0	0	3
9:45 PM	0	0	3	0	0	0	3
10:00 PM	0	0	2	0	0	0	2
10:15 PM	0	0	1	0	0	0	1
10:30 PM	0	0	3	0	0	0	3
10:45 PM	0	0	4	0	0	0	4
11:00 PM	0	0	4	0	0	0	4
11:15 PM	0	0	1	0	0	0	1
11:30 PM	0	0	3	0	0	0	3
11:45 PM	0	0	2	0	0	0	2

AM Total 35 1 408 0 1 1 446
Percentage 7.85% 0.22% 91.48% 0.00% 0.22% 0.22%

AM Peak 8:45 AM 10:15 AM 11:00 AM 12:00 AM 6:15 AM 8:30 AM 11:00 AM
Volume 22 1 132 0 1 1 139

PM Total 23 1 1338 0 2 0 1364
Percentage 1.69% 0.07% 98.09% 0.00% 0.15% 0.00%

PM Peak 1:00 PM 5:15 PM 3:30 PM 12:00 PM 12:30 PM 12:00 PM 3:00 PM
Volume 10 1 238 0 2 0 243

Day Total 58 2 1746 0 3 1 1810
Percentage 3.20% 0.11% 96.46% 0.00% 0.17% 0.06%

Old Bedford Road
 south of Bedford Street
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-D

Count Date: Monday, December 5, 2022
 Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	3	0	0	0	3
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	1	0	0	0	1
5:00 AM	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0
5:30 AM	0	0	2	0	0	0	2
5:45 AM	0	0	1	0	0	0	1
6:00 AM	0	0	3	0	0	0	3
6:15 AM	0	0	5	0	0	0	5
6:30 AM	0	0	9	0	0	0	9
6:45 AM	0	0	12	1	0	0	13
7:00 AM	0	0	25	0	0	0	25
7:15 AM	0	0	23	2	1	0	26
7:30 AM	0	0	27	1	2	0	30
7:45 AM	0	0	36	1	0	0	37
8:00 AM	1	0	50	0	1	0	52
8:15 AM	0	0	29	0	0	0	29
8:30 AM	0	0	45	1	1	0	47
8:45 AM	0	0	38	0	0	0	38
9:00 AM	0	0	33	0	0	0	33
9:15 AM	0	0	37	0	1	0	38
9:30 AM	0	0	19	0	0	0	19
9:45 AM	0	0	21	0	0	0	21
10:00 AM	0	0	14	2	1	0	17
10:15 AM	0	0	27	0	0	0	27
10:30 AM	0	0	21	0	0	0	21
10:45 AM	0	0	18	1	0	0	19
11:00 AM	0	0	25	0	0	0	25
11:15 AM	0	0	29	0	2	0	31
11:30 AM	0	0	25	0	1	0	26
11:45 AM	2	0	31	0	0	0	33

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	34	0	1	0	35
12:15 PM	0	0	26	0	0	0	26
12:30 PM	1	1	29	0	0	0	31
12:45 PM	2	0	28	1	0	0	31
1:00 PM	1	0	36	0	1	1	39
1:15 PM	0	0	31	0	1	0	32
1:30 PM	0	0	26	0	0	0	26
1:45 PM	1	0	42	0	1	0	44
2:00 PM	1	0	40	0	1	0	42
2:15 PM	1	0	33	0	1	0	35
2:30 PM	0	0	41	1	0	1	43
2:45 PM	1	0	56	1	0	0	58
3:00 PM	1	0	75	1	0	0	77
3:15 PM	2	0	80	1	1	0	84
3:30 PM	0	1	65	1	0	0	67
3:45 PM	2	0	61	1	1	0	65
4:00 PM	0	0	71	1	0	1	73
4:15 PM	0	0	75	1	0	0	76
4:30 PM	0	0	73	0	2	1	76
4:45 PM	0	1	69	1	1	1	73
5:00 PM	0	0	74	0	0	0	74
5:15 PM	0	0	73	0	0	0	73
5:30 PM	0	0	47	0	0	0	47
5:45 PM	0	0	52	1	1	0	54
6:00 PM	0	0	42	0	1	0	43
6:15 PM	0	0	41	0	2	0	43
6:30 PM	0	0	33	0	0	0	33
6:45 PM	0	0	14	0	0	0	14
7:00 PM	0	0	16	0	0	0	16
7:15 PM	0	0	22	0	0	0	22
7:30 PM	0	0	10	0	0	0	10
7:45 PM	0	0	18	0	0	0	18
8:00 PM	0	0	14	0	0	0	14
8:15 PM	0	0	16	0	0	0	16
8:30 PM	0	0	8	0	0	0	8
8:45 PM	0	0	8	0	0	0	8
9:00 PM	0	0	8	0	0	0	8
9:15 PM	0	0	8	0	0	0	8
9:30 PM	0	0	7	0	0	0	7
9:45 PM	0	0	8	0	0	0	8
10:00 PM	0	0	6	0	0	0	6
10:15 PM	0	0	7	0	0	0	7
10:30 PM	0	0	8	0	0	0	8
10:45 PM	0	0	2	0	0	0	2
11:00 PM	0	0	5	0	0	0	5
11:15 PM	0	0	6	0	0	0	6
11:30 PM	0	0	5	0	0	0	5
11:45 PM	0	0	2	0	0	0	2

AM Total 3 0 615 9 10 0 637
Percentage 0.47% 0.00% 96.55% 1.41% 1.57% 0.00%

AM Peak 11:00 AM 12:00 AM 8:00 AM 6:45 AM 7:15 AM 12:00 AM 8:00 AM
Volume 2 0 162 4 4 0 166

PM Total 13 3 1551 11 15 5 1598
Percentage 0.81% 0.19% 97.06% 0.69% 0.94% 0.31%

PM Peak 3:00 PM 12:00 PM 4:15 PM 2:30 PM 5:30 PM 4:00 PM 4:15 PM
Volume 5 1 291 4 4 3 299

Day Total 16 3 2166 20 25 5 2235
Percentage 0.72% 0.13% 96.91% 0.89% 1.12% 0.22%

Old Bedford Road
 south of Bedford Street
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-D

Count Date: Tuesday, November 29, 2022
 Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total	PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0	12:00 PM	0	0	39	0	1	0	40
12:15 AM	0	0	1	0	0	0	1	12:15 PM	0	0	31	0	0	1	32
12:30 AM	0	0	2	0	0	0	2	12:30 PM	1	0	27	1	0	0	29
12:45 AM	0	0	2	0	0	0	2	12:45 PM	0	0	26	0	1	0	27
1:00 AM	0	0	0	0	0	0	0	1:00 PM	0	0	28	0	1	0	29
1:15 AM	0	0	0	0	0	0	0	1:15 PM	0	0	21	0	3	0	24
1:30 AM	0	0	0	0	0	0	0	1:30 PM	0	0	21	0	0	0	21
1:45 AM	0	0	0	0	0	0	0	1:45 PM	0	0	31	0	1	0	32
2:00 AM	0	0	0	0	0	0	0	2:00 PM	0	0	34	0	1	0	35
2:15 AM	0	0	0	0	0	0	0	2:15 PM	0	0	23	0	1	0	24
2:30 AM	0	0	1	0	0	0	1	2:30 PM	0	0	41	1	1	0	43
2:45 AM	0	0	0	0	0	0	0	2:45 PM	0	0	41	0	0	0	41
3:00 AM	0	0	1	0	0	0	1	3:00 PM	1	0	39	2	0	0	42
3:15 AM	0	0	1	0	0	0	1	3:15 PM	1	0	25	3	2	0	31
3:30 AM	0	0	0	0	0	0	0	3:30 PM	0	0	42	0	2	0	44
3:45 AM	0	0	0	0	0	0	0	3:45 PM	1	0	32	1	0	0	34
4:00 AM	0	0	0	0	0	0	0	4:00 PM	0	0	33	1	0	0	34
4:15 AM	0	0	1	0	0	0	1	4:15 PM	0	0	34	1	0	0	35
4:30 AM	0	0	1	0	0	0	1	4:30 PM	0	0	43	0	0	0	43
4:45 AM	0	0	3	0	0	0	3	4:45 PM	0	0	49	0	1	0	50
5:00 AM	0	0	4	0	0	0	4	5:00 PM	0	0	34	0	1	0	35
5:15 AM	0	0	3	0	0	0	3	5:15 PM	0	0	51	0	0	0	51
5:30 AM	0	0	6	0	0	0	6	5:30 PM	0	0	34	0	0	0	34
5:45 AM	0	0	14	0	0	0	14	5:45 PM	0	0	21	0	1	0	22
6:00 AM	0	0	12	0	0	0	12	6:00 PM	0	0	24	0	0	0	24
6:15 AM	0	0	29	0	0	0	29	6:15 PM	0	0	17	0	0	0	17
6:30 AM	0	0	23	0	0	0	23	6:30 PM	0	0	21	0	0	0	21
6:45 AM	0	0	56	0	0	0	56	6:45 PM	0	0	20	0	0	0	20
7:00 AM	0	0	51	0	0	0	51	7:00 PM	0	0	15	0	0	0	15
7:15 AM	1	0	84	4	0	0	89	7:15 PM	0	0	13	0	0	0	13
7:30 AM	0	0	67	1	2	0	70	7:30 PM	0	0	12	0	0	0	12
7:45 AM	0	0	87	0	3	2	92	7:45 PM	0	0	4	0	0	0	4
8:00 AM	0	0	73	0	2	0	75	8:00 PM	0	0	15	0	0	0	15
8:15 AM	0	0	76	0	3	0	79	8:15 PM	0	0	5	0	0	0	5
8:30 AM	0	0	83	2	2	0	87	8:30 PM	0	0	10	0	0	0	10
8:45 AM	0	0	85	0	1	0	86	8:45 PM	0	0	3	0	0	0	3
9:00 AM	0	0	48	0	0	0	48	9:00 PM	0	0	2	0	0	0	2
9:15 AM	0	0	48	1	0	0	49	9:15 PM	0	0	8	0	0	0	8
9:30 AM	0	0	32	1	1	0	34	9:30 PM	0	0	4	0	0	0	4
9:45 AM	0	0	27	0	2	2	31	9:45 PM	0	0	6	0	0	0	6
10:00 AM	0	0	31	0	2	0	33	10:00 PM	0	0	4	0	0	0	4
10:15 AM	0	0	25	0	1	1	27	10:15 PM	0	0	4	0	0	0	4
10:30 AM	0	0	27	0	4	0	31	10:30 PM	0	0	2	0	0	0	2
10:45 AM	0	0	23	0	1	0	24	10:45 PM	0	0	1	0	0	0	1
11:00 AM	0	0	22	0	1	0	23	11:00 PM	0	0	1	0	0	0	1
11:15 AM	0	0	27	0	1	0	28	11:15 PM	0	0	1	0	1	0	2
11:30 AM	1	0	19	0	0	0	20	11:30 PM	0	0	1	0	0	0	1
11:45 AM	1	0	26	0	0	0	27	11:45 PM	0	0	0	0	0	0	0

AM Total	3	0	1121	9	26	5	1164
Percentage	0.26%	0.00%	96.31%	0.77%	2.23%	0.43%	
AM Peak	11:00 AM	12:00 AM	7:45 AM	6:45 AM	7:30 AM	9:30 AM	7:45 AM
Volume	2	0	319	5	10	3	333

PM Total	4	0	993	10	18	1	1026
Percentage	0.39%	0.00%	96.78%	0.97%	1.75%	0.10%	
PM Peak	3:00 PM	12:00 PM	4:30 PM	2:30 PM	12:30 PM	12:00 PM	4:30 PM
Volume	3	0	177	6	5	1	179

Day Total	7	0	2114	19	44	6	2190
Percentage	0.32%	0.00%	96.53%	0.87%	2.01%	0.27%	

Old Bedford Road
 south of Bedford Street
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-D

Count Date: Wednesday, November 30, 2022
 Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	0	1
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	1	0	0	0	1
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	2	0	0	0	2
4:30 AM	0	0	2	0	0	0	2
4:45 AM	0	0	1	0	0	0	1
5:00 AM	0	0	7	0	0	0	7
5:15 AM	0	0	6	0	0	0	6
5:30 AM	0	0	5	0	0	0	5
5:45 AM	0	0	18	0	0	0	18
6:00 AM	0	0	15	0	0	0	15
6:15 AM	0	0	18	0	0	0	18
6:30 AM	0	0	37	0	0	0	37
6:45 AM	0	0	45	0	1	0	46
7:00 AM	0	0	51	0	1	0	52
7:15 AM	1	0	77	4	1	0	83
7:30 AM	0	0	79	1	0	1	81
7:45 AM	0	0	69	0	4	0	73
8:00 AM	0	0	77	0	1	0	78
8:15 AM	1	0	94	0	1	1	97
8:30 AM	0	0	90	2	1	0	93
8:45 AM	0	0	71	0	0	0	71
9:00 AM	0	0	69	0	2	0	71
9:15 AM	0	0	42	0	0	1	43
9:30 AM	0	0	44	0	1	1	46
9:45 AM	0	0	38	0	1	0	39
10:00 AM	1	0	22	0	2	1	26
10:15 AM	0	0	30	0	1	0	31
10:30 AM	0	0	19	0	2	0	21
10:45 AM	0	0	26	0	1	0	27
11:00 AM	0	0	15	0	1	0	16
11:15 AM	0	0	31	0	1	0	32
11:30 AM	0	0	30	0	0	0	30
11:45 AM	2	0	27	0	0	1	30

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	42	0	1	0	43
12:15 PM	0	0	32	0	0	0	32
12:30 PM	0	0	39	0	2	0	41
12:45 PM	0	0	33	1	1	0	35
1:00 PM	1	0	27	1	1	0	30
1:15 PM	1	0	31	0	0	0	32
1:30 PM	0	0	23	1	0	1	25
1:45 PM	0	0	30	1	1	1	33
2:00 PM	0	0	23	1	1	1	26
2:15 PM	0	0	31	0	2	1	34
2:30 PM	0	0	33	0	0	0	33
2:45 PM	0	0	48	1	1	0	50
3:00 PM	0	0	24	0	0	0	24
3:15 PM	0	0	37	1	0	0	38
3:30 PM	0	0	29	0	0	0	29
3:45 PM	0	0	33	0	1	0	34
4:00 PM	0	0	35	0	0	0	35
4:15 PM	0	0	35	0	0	0	35
4:30 PM	0	0	28	0	0	0	28
4:45 PM	0	0	49	0	1	0	50
5:00 PM	0	0	42	0	0	0	42
5:15 PM	0	0	41	0	2	0	43
5:30 PM	0	0	30	0	0	0	30
5:45 PM	0	0	31	0	0	0	31
6:00 PM	0	0	33	0	0	0	33
6:15 PM	0	0	29	1	0	0	30
6:30 PM	0	0	18	0	0	0	18
6:45 PM	0	0	14	0	0	0	14
7:00 PM	0	0	24	0	0	1	25
7:15 PM	0	0	8	0	0	0	8
7:30 PM	0	0	8	0	0	0	8
7:45 PM	0	0	7	0	0	0	7
8:00 PM	0	0	8	0	1	0	9
8:15 PM	0	0	8	0	0	0	8
8:30 PM	0	0	9	0	0	0	9
8:45 PM	0	0	6	0	0	0	6
9:00 PM	0	0	5	0	0	0	5
9:15 PM	0	0	4	0	0	0	4
9:30 PM	0	0	2	0	0	0	2
9:45 PM	0	0	6	0	0	0	6
10:00 PM	0	0	4	0	0	0	4
10:15 PM	0	0	1	0	0	0	1
10:30 PM	0	0	1	0	0	0	1
10:45 PM	0	0	1	0	0	0	1
11:00 PM	0	0	2	0	0	0	2
11:15 PM	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0
11:45 PM	0	0	1	0	0	0	1

AM Total	5	0	1162	7	22	6	1202
Percentage	0.42%	0.00%	96.67%	0.58%	1.83%	0.50%	
AM Peak	11:00 AM	12:00 AM	8:00 AM	6:45 AM	7:45 AM	9:15 AM	7:45 AM
Volume	2	0	332	5	7	3	341

PM Total	2	0	1005	8	15	5	1035
Percentage	0.19%	0.00%	97.10%	0.77%	1.45%	0.48%	
PM Peak	12:30 PM	12:00 PM	4:45 PM	12:45 PM	12:00 PM	1:30 PM	4:45 PM
Volume	2	0	162	3	4	4	165

Day Total	7	0	2167	15	37	11	2237
Percentage	0.31%	0.00%	96.87%	0.67%	1.65%	0.49%	

Old Bedford Road
 south of Bedford Street
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PDI File #: 228952 ATR-D

Count Date: **Thursday, December 1, 2022**
 Direction: **SB**

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total	PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	0	1	12:00 PM	0	0	30	0	0	0	30
12:15 AM	0	0	0	0	0	0	0	12:15 PM	1	0	30	0	2	0	33
12:30 AM	0	0	0	0	0	0	0	12:30 PM	0	0	28	0	2	0	30
12:45 AM	0	0	0	0	0	0	0	12:45 PM	0	0	21	0	1	0	22
1:00 AM	0	0	0	0	0	0	0	1:00 PM	0	0	37	0	0	2	39
1:15 AM	0	0	0	0	0	0	0	1:15 PM	0	0	34	0	1	2	37
1:30 AM	0	0	0	0	0	0	0	1:30 PM	0	0	15	0	0	0	15
1:45 AM	0	0	0	0	0	0	0	1:45 PM	0	0	24	0	2	0	26
2:00 AM	0	0	1	0	0	0	1	2:00 PM	0	0	32	0	0	0	32
2:15 AM	0	0	0	0	0	0	0	2:15 PM	0	0	36	0	1	0	37
2:30 AM	0	0	0	0	0	0	0	2:30 PM	0	0	36	1	0	0	37
2:45 AM	0	0	0	0	0	0	0	2:45 PM	0	0	39	0	0	1	40
3:00 AM	0	0	0	0	0	0	0	3:00 PM	0	0	22	2	1	0	25
3:15 AM	0	0	1	0	0	0	1	3:15 PM	0	0	44	3	1	1	49
3:30 AM	0	0	0	0	0	0	0	3:30 PM	1	0	62	0	0	0	63
3:45 AM	0	0	0	0	0	0	0	3:45 PM	0	0	35	1	0	1	37
4:00 AM	0	0	2	0	0	0	2	4:00 PM	0	0	53	0	0	0	53
4:15 AM	0	0	0	0	0	0	0	4:15 PM	0	0	40	0	0	0	40
4:30 AM	0	0	1	0	0	0	1	4:30 PM	0	0	44	0	0	0	44
4:45 AM	0	0	7	0	0	0	7	4:45 PM	0	0	49	0	0	0	49
5:00 AM	0	0	4	0	0	0	4	5:00 PM	0	0	47	0	0	1	48
5:15 AM	0	0	3	0	0	0	3	5:15 PM	0	0	54	0	1	0	55
5:30 AM	0	0	10	0	0	0	10	5:30 PM	0	0	42	0	0	0	42
5:45 AM	0	0	13	0	0	0	13	5:45 PM	0	0	35	1	0	0	36
6:00 AM	0	0	12	0	0	0	12	6:00 PM	0	0	41	0	1	0	42
6:15 AM	0	0	23	0	1	0	24	6:15 PM	0	0	24	0	0	0	24
6:30 AM	0	0	30	0	0	0	30	6:30 PM	0	0	28	0	1	0	29
6:45 AM	0	0	44	0	0	0	44	6:45 PM	0	0	14	0	0	0	14
7:00 AM	0	0	61	0	0	0	61	7:00 PM	0	0	16	0	0	0	16
7:15 AM	0	0	75	4	0	0	79	7:15 PM	0	0	11	0	0	0	11
7:30 AM	0	0	77	1	2	0	80	7:30 PM	0	0	15	0	0	0	15
7:45 AM	0	0	81	0	2	0	83	7:45 PM	0	0	13	0	0	0	13
8:00 AM	0	0	79	0	4	0	83	8:00 PM	0	0	8	0	0	0	8
8:15 AM	0	0	85	0	0	1	86	8:15 PM	0	0	5	0	0	0	5
8:30 AM	0	0	73	2	1	0	76	8:30 PM	0	0	5	0	0	0	5
8:45 AM	0	0	86	0	11	0	97	8:45 PM	0	0	8	0	0	0	8
9:00 AM	0	0	45	0	1	0	46	9:00 PM	0	0	9	0	0	0	9
9:15 AM	0	0	37	0	1	0	38	9:15 PM	0	0	4	0	0	0	4
9:30 AM	0	0	37	0	2	0	39	9:30 PM	0	0	5	0	0	0	5
9:45 AM	0	0	35	0	2	1	38	9:45 PM	0	0	0	0	0	0	0
10:00 AM	0	0	29	0	4	1	34	10:00 PM	0	0	6	0	0	0	6
10:15 AM	0	0	31	1	0	0	32	10:15 PM	0	0	4	0	0	0	4
10:30 AM	0	0	20	0	3	0	23	10:30 PM	0	0	7	0	0	0	7
10:45 AM	0	0	24	0	0	0	24	10:45 PM	0	0	2	0	0	0	2
11:00 AM	0	0	27	0	0	0	27	11:00 PM	0	0	2	0	0	0	2
11:15 AM	0	0	19	0	0	0	19	11:15 PM	0	0	1	0	0	0	1
11:30 AM	1	0	18	1	0	0	20	11:30 PM	0	0	2	0	0	0	2
11:45 AM	0	0	30	0	0	1	31	11:45 PM	0	0	1	0	0	0	1

AM Total	1	0	1121	9	34	4	1169
Percentage	0.09%	0.00%	95.89%	0.77%	2.91%	0.34%	
AM Peak	10:45 AM	12:00 AM	8:00 AM	6:45 AM	8:00 AM	9:15 AM	8:00 AM
Volume	1	0	323	5	16	2	342

PM Total	2	0	1120	8	14	8	1152
Percentage	0.17%	0.00%	97.22%	0.69%	1.22%	0.69%	
PM Peak	12:00 PM	12:00 PM	3:15 PM	2:30 PM	12:00 PM	12:30 PM	3:15 PM
Volume	1	0	194	6	5	4	202

Day Total	3	0	2241	17	48	12	2321
Percentage	0.13%	0.00%	96.55%	0.73%	2.07%	0.52%	

Old Bedford Road
south of Bedford Street
City, State: Concord, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
D A T A
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-D

Count Date: Friday, December 2, 2022
Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	2	0	0	0	2
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	2	0	0	0	2
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	4	0	0	0	4
5:00 AM	0	0	4	0	0	0	4
5:15 AM	0	0	3	0	1	0	4
5:30 AM	0	0	4	0	0	0	4
5:45 AM	0	0	7	0	0	0	7
6:00 AM	0	0	10	0	0	0	10
6:15 AM	0	0	20	0	0	0	20
6:30 AM	0	0	24	0	1	0	25
6:45 AM	0	0	29	0	0	0	29
7:00 AM	0	0	35	1	0	0	36
7:15 AM	0	0	52	3	0	0	55
7:30 AM	0	0	48	1	1	0	50
7:45 AM	0	0	45	0	4	0	49
8:00 AM	0	0	57	0	0	0	57
8:15 AM	0	0	38	0	0	0	38
8:30 AM	0	0	70	2	0	0	72
8:45 AM	0	0	45	0	3	0	48
9:00 AM	0	0	44	0	0	1	45
9:15 AM	0	0	23	0	0	1	24
9:30 AM	0	0	49	0	3	0	52
9:45 AM	0	0	21	0	1	0	22
10:00 AM	0	0	37	1	2	0	40
10:15 AM	1	0	23	0	1	0	25
10:30 AM	0	0	21	0	0	0	21
10:45 AM	0	0	26	0	0	0	26
11:00 AM	0	0	23	0	3	0	26
11:15 AM	0	0	28	0	0	0	28
11:30 AM	0	0	36	0	0	0	36
11:45 AM	0	0	28	0	0	0	28

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	26	0	0	0	26
12:15 PM	1	0	28	0	0	0	29
12:30 PM	0	0	41	0	0	0	41
12:45 PM	0	0	31	0	1	0	32
1:00 PM	0	0	31	0	0	0	31
1:15 PM	0	0	27	0	1	0	28
1:30 PM	0	0	24	0	0	0	24
1:45 PM	0	0	32	0	1	0	33
2:00 PM	0	0	29	0	1	0	30
2:15 PM	0	0	25	0	0	0	25
2:30 PM	1	0	23	0	1	0	25
2:45 PM	1	0	32	1	0	0	34
3:00 PM	0	0	37	3	2	0	42
3:15 PM	0	0	36	2	0	0	38
3:30 PM	0	0	38	0	0	0	38
3:45 PM	2	0	33	1	0	0	36
4:00 PM	0	0	28	0	0	0	28
4:15 PM	0	0	40	0	0	1	41
4:30 PM	0	0	32	0	0	0	32
4:45 PM	0	0	35	0	0	0	35
5:00 PM	0	0	38	0	1	0	39
5:15 PM	0	0	33	0	0	0	33
5:30 PM	0	0	46	1	0	0	47
5:45 PM	0	0	88	0	1	0	89
6:00 PM	0	0	58	0	0	0	58
6:15 PM	0	0	28	0	0	0	28
6:30 PM	0	0	20	0	0	0	20
6:45 PM	0	0	19	0	0	0	19
7:00 PM	0	0	20	0	0	0	20
7:15 PM	0	0	10	0	0	0	10
7:30 PM	0	0	10	0	0	0	10
7:45 PM	0	0	9	0	0	0	9
8:00 PM	0	0	9	0	0	0	9
8:15 PM	0	0	5	0	0	0	5
8:30 PM	0	0	6	0	0	0	6
8:45 PM	0	0	3	0	0	0	3
9:00 PM	0	0	4	0	0	0	4
9:15 PM	0	0	3	0	0	0	3
9:30 PM	0	0	3	0	0	0	3
9:45 PM	0	0	5	0	0	0	5
10:00 PM	0	0	3	0	0	0	3
10:15 PM	0	0	4	0	0	0	4
10:30 PM	0	0	3	0	0	0	3
10:45 PM	0	0	3	0	0	0	3
11:00 PM	0	0	1	0	0	0	1
11:15 PM	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0
11:45 PM	0	0	3	0	0	0	3

AM Total	1	0	861	8	20	2	892
Percentage	0.11%	0.00%	96.52%	0.90%	2.24%	0.22%	
AM Peak	9:30 AM	12:00 AM	7:45 AM	6:45 AM	9:30 AM	8:30 AM	7:45 AM
Volume	1	0	210	5	7	2	216

PM Total	5	0	1062	8	9	1	1085
Percentage	0.46%	0.00%	97.88%	0.74%	0.83%	0.09%	
PM Peak	2:00 PM	12:00 PM	5:15 PM	2:30 PM	1:15 PM	3:30 PM	5:15 PM
Volume	2	0	225	6	3	1	227

Day Total	6	0	1923	16	29	3	1977
Percentage	0.30%	0.00%	97.27%	0.81%	1.47%	0.15%	

Old Bedford Road
 south of Bedford Street
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-D

Count Date: Saturday, December 3, 2022
 Direction: SB

AM	Bicycles	Motorcycl e	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total	PM	Bicycles	Motorcycl e	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	0	1	12:00 PM	0	0	33	0	0	0	33
12:15 AM	0	0	2	0	0	0	2	12:15 PM	0	0	27	0	0	0	27
12:30 AM	0	0	0	0	0	0	0	12:30 PM	0	0	32	0	1	0	33
12:45 AM	0	0	4	0	0	0	4	12:45 PM	0	0	19	0	0	0	19
1:00 AM	0	0	0	0	0	0	0	1:00 PM	0	0	28	0	0	0	28
1:15 AM	0	0	1	0	0	0	1	1:15 PM	0	0	30	0	0	0	30
1:30 AM	0	0	1	0	0	0	1	1:30 PM	0	0	38	0	0	0	38
1:45 AM	0	0	0	0	0	0	0	1:45 PM	0	0	21	0	0	0	21
2:00 AM	0	0	1	0	0	0	1	2:00 PM	0	0	28	0	0	0	28
2:15 AM	0	0	0	0	0	0	0	2:15 PM	0	0	17	0	0	0	17
2:30 AM	0	0	0	0	0	0	0	2:30 PM	0	0	31	0	0	0	31
2:45 AM	0	0	0	0	0	0	0	2:45 PM	0	0	20	0	0	0	20
3:00 AM	0	0	1	0	0	0	1	3:00 PM	0	0	20	0	0	0	20
3:15 AM	0	0	2	0	0	0	2	3:15 PM	0	0	18	0	0	0	18
3:30 AM	0	0	1	0	0	0	1	3:30 PM	0	0	24	0	1	0	25
3:45 AM	0	0	0	0	0	0	0	3:45 PM	0	0	31	0	0	0	31
4:00 AM	0	0	0	0	0	0	0	4:00 PM	0	0	26	0	0	0	26
4:15 AM	0	0	0	0	0	0	0	4:15 PM	0	0	24	0	0	0	24
4:30 AM	0	0	0	0	0	0	0	4:30 PM	0	0	27	0	1	0	28
4:45 AM	0	0	0	0	0	0	0	4:45 PM	0	0	24	0	0	0	24
5:00 AM	0	0	1	0	0	0	1	5:00 PM	0	0	17	0	0	0	17
5:15 AM	0	0	0	0	0	0	0	5:15 PM	0	0	25	0	0	0	25
5:30 AM	0	0	1	0	0	0	1	5:30 PM	0	0	27	0	0	0	27
5:45 AM	0	0	2	0	0	0	2	5:45 PM	0	0	17	0	1	0	18
6:00 AM	0	0	4	0	0	0	4	6:00 PM	0	0	21	0	0	0	21
6:15 AM	0	0	5	0	0	0	5	6:15 PM	0	0	16	0	0	0	16
6:30 AM	0	0	4	0	0	0	4	6:30 PM	0	0	10	0	0	0	10
6:45 AM	0	0	5	0	0	0	5	6:45 PM	0	0	21	0	0	0	21
7:00 AM	0	0	8	0	0	0	8	7:00 PM	0	0	15	0	0	0	15
7:15 AM	0	0	7	0	0	0	7	7:15 PM	0	0	12	0	0	0	12
7:30 AM	0	0	4	0	0	0	4	7:30 PM	0	0	8	0	0	0	8
7:45 AM	0	0	16	0	0	0	16	7:45 PM	0	0	3	0	0	0	3
8:00 AM	0	0	16	0	0	0	16	8:00 PM	0	0	5	0	0	0	5
8:15 AM	0	0	18	0	1	0	19	8:15 PM	0	0	7	0	0	0	7
8:30 AM	0	0	11	0	0	0	11	8:30 PM	0	0	6	0	0	0	6
8:45 AM	0	0	20	0	0	0	20	8:45 PM	0	0	5	0	1	0	6
9:00 AM	1	0	27	0	1	0	29	9:00 PM	0	0	1	0	0	0	1
9:15 AM	3	0	24	0	0	0	27	9:15 PM	0	0	2	0	0	0	2
9:30 AM	1	0	22	0	0	0	23	9:30 PM	0	0	3	0	0	0	3
9:45 AM	1	0	22	0	2	0	25	9:45 PM	0	0	8	0	0	0	8
10:00 AM	1	0	26	0	0	0	27	10:00 PM	0	0	7	0	0	0	7
10:15 AM	0	0	22	0	2	0	24	10:15 PM	0	0	4	0	0	0	4
10:30 AM	0	0	25	0	0	0	25	10:30 PM	0	0	2	0	0	0	2
10:45 AM	0	0	24	0	0	0	24	10:45 PM	0	0	6	0	0	0	6
11:00 AM	0	0	28	0	0	0	28	11:00 PM	0	0	4	0	0	0	4
11:15 AM	0	0	30	0	0	0	30	11:15 PM	0	0	1	0	0	0	1
11:30 AM	0	0	28	0	1	0	29	11:30 PM	0	0	1	0	0	0	1
11:45 AM	0	0	23	0	0	0	23	11:45 PM	0	0	2	0	0	0	2

AM Total	7	0	437	0	7	0	451	PM Total	0	0	774	0	5	0	779
Percentage	1.55%	0.00%	96.90%	0.00%	1.55%	0.00%		Percentage	0.00%	0.00%	99.36%	0.00%	0.64%	0.00%	
AM Peak	9:00 AM	12:00 AM	10:45 AM	12:00 AM	9:30 AM	12:00 AM	10:45 AM	PM Peak	12:00 PM	12:00 PM	1:00 PM	12:00 PM	12:00 PM	12:00 PM	1:00 PM
Volume	6	0	110	0	4	0	111	Volume	0	0	117	0	1	0	117
Day Total	7	0	1211	0	12	0	1230	Percentage	0.57%	0.00%	98.46%	0.00%	0.98%	0.00%	

Old Bedford Road
south of Bedford Street
City, State: Concord, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-D

Count Date: Sunday, December 4, 2022
Direction: SB

AM	Bicycles	Motorcycl e	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total	PM	Bicycles	Motorcycl e	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	3	0	0	0	3	12:00 PM	1	0	35	0	1	0	37
12:15 AM	0	0	0	0	0	0	0	12:15 PM	1	0	26	0	0	0	27
12:30 AM	0	0	1	0	0	0	1	12:30 PM	4	0	35	0	0	0	39
12:45 AM	0	0	0	0	0	0	0	12:45 PM	0	0	21	0	1	0	22
1:00 AM	0	0	0	0	0	0	0	1:00 PM	1	0	31	0	0	0	32
1:15 AM	0	0	0	0	0	0	0	1:15 PM	0	0	31	0	0	0	31
1:30 AM	0	0	0	0	0	0	0	1:30 PM	0	0	33	0	0	0	33
1:45 AM	0	0	2	0	0	0	2	1:45 PM	2	0	31	0	1	0	34
2:00 AM	0	0	0	0	0	0	0	2:00 PM	0	0	31	0	0	0	31
2:15 AM	0	0	0	0	0	0	0	2:15 PM	0	0	30	0	0	0	30
2:30 AM	0	0	0	0	0	0	0	2:30 PM	0	0	30	0	0	1	31
2:45 AM	0	0	0	0	0	0	0	2:45 PM	2	0	33	0	0	0	35
3:00 AM	0	0	0	0	0	0	0	3:00 PM	3	0	36	0	0	0	39
3:15 AM	0	0	1	0	0	0	1	3:15 PM	0	0	33	0	0	0	33
3:30 AM	0	0	0	0	0	0	0	3:30 PM	0	0	43	0	0	0	43
3:45 AM	0	0	0	0	0	0	0	3:45 PM	0	0	42	0	0	0	42
4:00 AM	0	0	0	0	0	0	0	4:00 PM	0	0	30	0	0	0	30
4:15 AM	0	0	0	0	0	0	0	4:15 PM	0	0	41	0	0	0	41
4:30 AM	0	0	0	0	0	0	0	4:30 PM	0	0	35	0	0	0	35
4:45 AM	0	0	1	0	0	0	1	4:45 PM	0	0	24	0	0	0	24
5:00 AM	0	0	0	0	0	0	0	5:00 PM	0	0	19	0	0	0	19
5:15 AM	0	0	0	0	0	0	0	5:15 PM	0	0	17	0	0	0	17
5:30 AM	0	0	1	0	0	0	1	5:30 PM	0	0	34	0	0	0	34
5:45 AM	0	0	2	0	0	0	2	5:45 PM	0	0	15	0	1	0	16
6:00 AM	0	0	2	0	0	0	2	6:00 PM	0	0	21	0	0	0	21
6:15 AM	0	0	1	0	0	0	1	6:15 PM	0	0	18	0	0	0	18
6:30 AM	0	0	10	0	0	0	10	6:30 PM	0	0	28	0	0	0	28
6:45 AM	0	0	7	0	0	0	7	6:45 PM	0	0	8	0	0	0	8
7:00 AM	0	0	9	0	0	0	9	7:00 PM	0	0	11	0	0	0	11
7:15 AM	0	0	7	0	0	0	7	7:15 PM	0	0	10	0	0	0	10
7:30 AM	0	0	7	0	0	0	7	7:30 PM	0	0	9	0	0	0	9
7:45 AM	0	0	8	0	0	0	8	7:45 PM	0	0	10	0	0	0	10
8:00 AM	1	0	14	0	0	0	15	8:00 PM	0	0	7	0	0	0	7
8:15 AM	0	0	15	0	0	0	15	8:15 PM	0	0	8	0	0	0	8
8:30 AM	1	0	16	0	0	1	18	8:30 PM	0	0	8	0	0	0	8
8:45 AM	0	0	20	0	0	0	20	8:45 PM	0	0	6	0	0	0	6
9:00 AM	0	0	24	0	0	0	24	9:00 PM	0	0	1	0	0	0	1
9:15 AM	0	0	28	0	0	0	28	9:15 PM	0	0	6	0	0	0	6
9:30 AM	1	0	16	0	0	0	17	9:30 PM	0	0	7	0	0	0	7
9:45 AM	0	0	22	0	0	0	22	9:45 PM	0	0	5	0	0	0	5
10:00 AM	0	0	21	0	0	0	21	10:00 PM	0	0	2	0	0	0	2
10:15 AM	0	0	19	0	0	0	19	10:15 PM	0	0	3	0	0	0	3
10:30 AM	4	0	27	0	0	0	31	10:30 PM	0	0	4	0	0	0	4
10:45 AM	9	0	28	0	0	0	37	10:45 PM	0	0	3	0	0	0	3
11:00 AM	2	0	20	0	0	0	22	11:00 PM	0	0	0	0	0	0	0
11:15 AM	0	0	16	0	0	0	16	11:15 PM	0	0	0	0	0	0	0
11:30 AM	0	0	31	0	0	0	31	11:30 PM	0	0	0	0	0	0	0
11:45 AM	1	0	27	0	0	0	28	11:45 PM	0	0	1	0	0	0	1

AM Total	19	0	406	0	0	1	426
Percentage	4.46%	0.00%	95.31%	0.00%	0.00%	0.23%	
AM Peak	10:15 AM	12:00 AM	10:00 AM	12:00 AM	12:00 AM	7:45 AM	10:15 AM
Volume	15	0	95	0	0	1	109

PM Total	14	0	912	0	4	1	931
Percentage	1.50%	0.00%	97.96%	0.00%	0.43%	0.11%	
PM Peak	12:00 PM	12:00 PM	3:30 PM	12:00 PM	12:00 PM	1:45 PM	3:00 PM
Volume	6	0	156	0	2	1	157

Day Total	33	0	1318	0	4	2	1357
Percentage	2.43%	0.00%	97.13%	0.00%	0.29%	0.15%	

Old Bedford Road
south of Bedford Street
City, State: Concord, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-D

Count Date: Monday, December 5, 2022
Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total	PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	0	1	12:00 PM	0	0	24	0	0	0	24
12:15 AM	0	0	0	0	0	0	0	12:15 PM	0	0	29	1	0	0	30
12:30 AM	0	0	0	0	0	0	0	12:30 PM	0	0	31	0	0	1	32
12:45 AM	0	0	1	0	0	0	1	12:45 PM	0	0	20	0	1	0	21
1:00 AM	0	0	1	0	0	0	1	1:00 PM	0	0	28	0	0	1	29
1:15 AM	0	0	0	0	0	0	0	1:15 PM	0	0	26	0	0	2	28
1:30 AM	0	0	0	0	0	0	0	1:30 PM	0	0	28	0	3	0	31
1:45 AM	0	0	0	0	0	0	0	1:45 PM	0	0	20	0	0	0	20
2:00 AM	0	0	0	0	0	0	0	2:00 PM	0	0	27	0	0	0	27
2:15 AM	0	0	0	0	0	0	0	2:15 PM	1	0	22	0	3	0	26
2:30 AM	0	0	0	0	0	0	0	2:30 PM	0	0	36	0	0	0	36
2:45 AM	0	0	0	0	0	0	0	2:45 PM	0	0	37	1	2	0	40
3:00 AM	0	0	1	0	0	0	1	3:00 PM	1	0	29	2	0	0	32
3:15 AM	0	0	0	0	0	0	0	3:15 PM	1	1	32	2	1	1	38
3:30 AM	0	0	0	0	0	0	0	3:30 PM	0	0	40	0	0	0	40
3:45 AM	0	0	0	0	0	0	0	3:45 PM	0	0	39	1	0	0	40
4:00 AM	0	0	0	0	0	0	0	4:00 PM	0	0	31	0	0	0	31
4:15 AM	0	0	0	0	0	0	0	4:15 PM	0	0	30	0	0	0	30
4:30 AM	0	0	1	0	0	0	1	4:30 PM	0	0	39	0	0	0	39
4:45 AM	0	0	7	0	0	0	7	4:45 PM	0	0	41	0	0	0	41
5:00 AM	0	0	7	0	0	0	7	5:00 PM	0	0	27	0	0	0	27
5:15 AM	0	0	5	0	0	0	5	5:15 PM	0	0	39	0	1	0	40
5:30 AM	0	0	4	0	0	0	4	5:30 PM	0	0	30	0	0	0	30
5:45 AM	0	0	11	0	0	0	11	5:45 PM	0	0	22	0	0	0	22
6:00 AM	0	0	16	0	0	1	17	6:00 PM	0	0	17	0	0	0	17
6:15 AM	0	0	19	0	0	0	19	6:15 PM	0	0	17	0	0	0	17
6:30 AM	0	0	32	0	0	0	32	6:30 PM	0	0	21	0	0	0	21
6:45 AM	0	0	33	0	0	0	33	6:45 PM	0	0	15	0	0	0	15
7:00 AM	0	0	52	0	1	0	53	7:00 PM	0	0	18	0	0	0	18
7:15 AM	0	0	67	4	0	0	71	7:15 PM	0	0	10	0	0	0	10
7:30 AM	0	0	74	1	1	1	77	7:30 PM	0	0	10	0	0	0	10
7:45 AM	0	0	67	0	2	0	69	7:45 PM	0	0	15	0	0	0	15
8:00 AM	0	0	71	0	2	0	73	8:00 PM	0	0	6	0	0	0	6
8:15 AM	0	0	86	0	3	0	89	8:15 PM	0	0	6	0	0	0	6
8:30 AM	0	0	70	2	1	0	73	8:30 PM	0	0	3	0	0	0	3
8:45 AM	0	0	57	0	0	0	57	8:45 PM	0	0	3	0	0	0	3
9:00 AM	0	0	51	0	3	1	55	9:00 PM	0	0	4	0	0	0	4
9:15 AM	0	0	31	0	1	1	33	9:15 PM	0	0	3	0	0	0	3
9:30 AM	0	0	32	1	2	0	35	9:30 PM	0	0	4	0	0	0	4
9:45 AM	0	0	31	0	0	0	31	9:45 PM	0	0	5	0	0	0	5
10:00 AM	1	0	25	0	2	0	28	10:00 PM	0	0	3	0	0	0	3
10:15 AM	0	0	28	0	1	0	29	10:15 PM	0	0	0	0	0	0	0
10:30 AM	0	0	20	1	0	0	21	10:30 PM	0	0	2	0	0	0	2
10:45 AM	0	0	29	0	1	0	30	10:45 PM	0	0	3	0	0	0	3
11:00 AM	0	0	25	1	1	0	27	11:00 PM	0	0	1	0	0	0	1
11:15 AM	0	0	24	0	0	0	24	11:15 PM	0	0	2	0	0	0	2
11:30 AM	0	0	27	0	1	1	29	11:30 PM	0	0	0	0	0	0	0
11:45 AM	0	1	23	0	2	0	26	11:45 PM	0	0	1	0	0	0	1

AM Total	1	1	1029	10	24	5	1070	PM Total	3	1	896	7	11	5	923
Percentage	0.09%	0.09%	96.17%	0.93%	2.24%	0.47%		Percentage	0.33%	0.11%	97.07%	0.76%	1.19%	0.54%	
AM Peak	9:15 AM	11:00 AM	7:30 AM	6:45 AM	7:30 AM	8:30 AM	7:30 AM	PM Peak	2:15 PM	2:30 PM	4:30 PM	2:30 PM	1:30 PM	12:30 PM	2:45 PM
Volume	1	1	298	5	8	2	308	Volume	2	1	146	5	6	4	150
								Day Total	4	2	1925	17	35	10	1993
								Percentage	0.20%	0.10%	96.59%	0.85%	1.76%	0.50%	

Old Bedford Road
 south of Bedford Street
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File # 228952 ATR-D

Direction: NB

Weekly Report

Day Date	Tuesday 11/29/22		Wednesday 11/30/22		Thursday 12/01/22		Friday 12/02/22		Saturday 12/03/22		Sunday 12/04/22		Monday 12/05/22		Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	3	43	3	31	1	38	2	38	3	33	2	20	3	35	2	34
12:15	1	45	2	42	1	36	1	38	6	40	4	48	0	26	2	39
12:30	3	30	0	60	2	37	1	37	1	33	3	35	1	31	2	38
12:45	1	26	0	32	0	25	2	36	1	41	0	32	0	31	1	32
1:00	0	35	0	41	1	27	2	34	0	30	3	47	1	39	1	36
1:15	1	40	0	43	0	28	3	27	3	29	0	39	0	32	1	34
1:30	0	28	1	32	0	39	1	37	1	34	1	29	1	26	1	32
1:45	1	34	0	30	1	36	0	35	0	51	1	28	1	44	1	37
2:00	0	38	0	48	2	40	0	45	1	36	1	42	0	42	1	42
2:15	0	49	0	62	0	47	0	49	0	41	0	51	0	35	0	48
2:30	0	51	0	49	0	44	0	52	1	42	2	46	0	43	0	47
2:45	0	67	0	77	0	75	0	59	0	34	0	37	0	58	0	58
3:00	0	84	1	133	0	87	0	113	0	25	1	58	0	77	0	82
3:15	0	84	1	85	0	91	0	75	0	34	0	58	0	84	0	73
3:30	0	76	1	137	0	89	0	86	1	32	0	60	0	67	0	78
3:45	0	77	0	98	0	105	0	92	0	36	0	67	0	65	0	77
4:00	0	132	1	109	1	113	1	91	1	31	0	46	0	73	1	85
4:15	1	78	0	103	0	123	0	75	0	24	0	66	1	76	0	78
4:30	0	92	0	80	1	123	0	63	2	27	1	60	1	76	1	74
4:45	3	102	2	97	3	98	2	69	0	29	0	64	1	73	2	76
5:00	2	101	4	85	0	90	0	51	2	25	0	48	0	74	1	68
5:15	1	96	1	75	1	87	1	55	3	36	0	32	0	73	1	65
5:30	3	82	4	69	5	60	2	49	1	25	1	62	2	47	3	56
5:45	5	74	7	63	5	64	3	38	0	12	1	56	1	54	3	52
6:00	3	39	7	50	3	52	4	36	3	20	1	47	3	43	3	41
6:15	7	44	5	31	3	38	7	25	3	12	2	23	5	43	5	31
6:30	4	33	10	24	14	18	8	28	3	17	3	13	9	33	7	24
6:45	14	29	17	30	9	26	11	28	3	16	6	20	13	14	10	23
7:00	20	24	19	31	13	24	15	29	3	11	4	21	25	16	14	22
7:15	30	18	27	16	26	23	33	19	16	10	8	12	26	22	24	17
7:30	25	13	26	14	31	19	27	15	8	8	3	14	30	10	21	13
7:45	32	17	42	11	23	11	37	11	13	19	11	15	37	18	28	15
8:00	31	13	43	15	49	22	32	8	13	9	9	12	52	14	33	13
8:15	47	13	39	10	31	16	33	13	11	9	6	16	29	16	28	13
8:30	45	14	44	8	32	12	38	19	23	0	10	3	47	8	34	9
8:45	41	11	38	12	37	9	39	4	29	9	17	3	38	8	34	8
9:00	50	16	34	8	49	8	25	6	16	9	20	4	33	8	32	8
9:15	24	9	30	7	37	12	29	13	16	6	20	4	38	8	28	8
9:30	20	7	25	11	27	8	24	5	28	7	30	3	19	7	25	7
9:45	24	12	25	6	17	7	21	9	32	7	20	3	21	8	23	7
10:00	23	7	25	5	18	7	14	10	31	5	28	2	17	6	22	6
10:15	28	5	29	3	23	10	29	12	13	9	25	1	27	7	25	7
10:30	27	5	19	6	18	4	28	8	24	10	34	3	21	8	24	6
10:45	21	7	27	5	24	8	28	8	29	9	29	4	19	2	25	6
11:00	23	8	26	9	35	6	29	12	38	8	30	4	25	5	29	7
11:15	31	2	29	3	30	1	42	4	35	5	30	1	31	6	33	3
11:30	28	2	29	2	31	5	27	3	23	3	32	3	26	5	28	3
11:45	33	1	40	3	29	4	40	10	39	5	47	2	33	2	37	4
Total	656	1913	683	2001	633	1952	641	1679	479	1003	446	1364	637	1598	596	1644
Day Total	2569		2684		2585		2320		1482		1810		2235		2241	
Peak HR	8:15 AM	4:00 PM	7:45 AM	3:00 PM	8:30 AM	3:45 PM	8:00 AM	3:00 PM	11:00 AM	1:45 PM	11:00 AM	3:00 PM	8:00 AM	4:15 PM	8:00 AM	3:30 PM
Volume	183	404	168	453	155	464	142	366	135	170	139	243	166	299	129	318

Old Bedford Road
south of Bedford Street
City, State: Concord, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File # 228952 ATR-D

Direction: SB

Weekly Report

Day Date	Tuesday 11/29/22		Wednesday 11/30/22		Thursday 12/01/22		Friday 12/02/22		Saturday 12/03/22		Sunday 12/04/22		Monday 12/05/22		Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	0	40	1	43	1	30	0	26	1	33	3	37	1	24	1	33
12:15	1	32	1	32	0	33	1	29	2	27	0	27	0	30	1	30
12:30	2	29	0	41	0	30	0	41	0	33	1	39	0	32	0	35
12:45	2	27	0	35	0	22	0	32	4	19	0	22	1	21	1	25
1:00	0	29	0	30	0	39	1	31	0	28	0	32	1	29	0	31
1:15	0	24	0	32	0	37	0	28	1	30	0	31	0	28	0	30
1:30	0	21	1	25	0	15	2	24	1	38	0	33	0	31	1	27
1:45	0	32	0	33	0	26	0	33	0	21	2	34	0	20	0	28
2:00	0	35	0	26	1	32	0	30	1	28	0	31	0	27	0	30
2:15	0	24	0	34	0	37	0	25	0	17	0	30	0	26	0	28
2:30	1	43	0	33	0	37	0	25	0	31	0	31	0	36	0	34
2:45	0	41	0	50	0	40	0	34	0	20	0	35	0	40	0	37
3:00	1	42	0	24	0	25	0	42	1	20	0	39	1	32	0	32
3:15	1	31	1	38	1	49	1	38	2	18	1	33	0	38	1	35
3:30	0	44	0	29	0	63	0	38	1	25	0	43	0	40	0	40
3:45	0	34	1	34	0	37	2	36	0	31	0	42	0	40	0	36
4:00	0	34	0	35	2	53	0	28	0	26	0	30	0	31	0	34
4:15	1	35	2	35	0	40	0	41	0	24	0	41	0	30	0	35
4:30	1	43	2	28	1	44	0	32	0	28	0	35	1	39	1	36
4:45	3	50	1	50	7	49	4	35	0	24	1	24	7	41	3	39
5:00	4	35	7	42	4	48	4	39	1	17	0	19	7	27	4	32
5:15	3	51	6	43	3	55	4	33	0	25	0	17	5	40	3	38
5:30	6	34	5	30	10	42	4	47	1	27	1	34	4	30	4	35
5:45	14	22	18	31	13	36	7	89	2	18	2	16	11	22	10	33
6:00	12	24	15	33	12	42	10	58	4	21	2	21	17	17	10	31
6:15	29	17	18	30	24	24	20	28	5	16	1	18	19	17	17	21
6:30	23	21	37	18	30	29	25	20	4	10	10	28	32	21	23	21
6:45	56	20	46	14	44	14	29	19	5	21	7	8	33	15	31	16
7:00	51	15	52	25	61	16	36	20	8	15	9	11	53	18	39	17
7:15	89	13	83	8	79	11	55	10	7	12	7	10	71	10	56	11
7:30	70	12	81	8	80	15	50	10	4	8	7	9	77	10	53	10
7:45	92	4	73	7	83	13	49	9	16	3	8	10	69	15	56	9
8:00	75	15	78	9	83	8	57	9	16	5	15	7	73	6	57	8
8:15	79	5	97	8	86	5	38	5	19	7	15	8	89	6	60	6
8:30	87	10	93	9	76	5	72	6	11	6	18	8	73	3	61	7
8:45	86	3	71	6	97	8	48	3	20	6	20	6	57	3	57	5
9:00	48	2	71	5	46	9	45	4	29	1	24	1	55	4	45	4
9:15	49	8	43	4	38	4	24	3	27	2	28	6	33	3	35	4
9:30	34	4	46	2	39	5	52	3	23	3	17	7	35	4	35	4
9:45	31	6	39	6	38	0	22	5	25	8	22	5	31	5	30	5
10:00	33	4	26	4	34	6	40	3	27	7	21	2	28	3	30	4
10:15	27	4	31	1	32	4	25	4	24	4	19	3	29	0	27	3
10:30	31	2	21	1	23	7	21	3	25	2	31	4	21	2	25	3
10:45	24	1	27	1	24	2	26	3	24	6	37	3	30	3	27	3
11:00	23	1	16	2	27	2	26	1	28	4	22	0	27	1	24	2
11:15	28	2	32	0	19	1	28	0	30	1	16	0	24	2	25	1
11:30	20	1	30	0	20	2	36	0	29	1	31	0	29	0	28	1
11:45	27	0	30	1	31	1	28	3	23	2	28	1	26	1	28	1
Total	1164	1026	1202	1035	1169	1152	892	1085	451	779	426	931	1070	923	911	990
Day Total	2190		2237		2321		1977		1230		1357		1993		1901	
Peak HR	7:45 AM	4:30 PM	7:45 AM	4:45 PM	8:00 AM	3:15 PM	7:45 AM	5:15 PM	10:45 AM	1:00 PM	10:15 AM	3:00 PM	7:30 AM	2:45 PM	8:00 AM	3:30 PM
Volume	333	179	341	165	342	202	216	227	111	117	109	157	308	150	236	146

Bedford Street
 west of Old Bedford Road
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilic.com

PDI File #: 228952 ATR-E

Count Date: Tuesday, November 29, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	1	0	0	0	1
3:45 AM	0	0	4	0	0	0	4
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	3	0	0	0	3
4:45 AM	0	0	2	0	0	0	2
5:00 AM	0	0	4	0	0	0	4
5:15 AM	0	0	10	0	0	0	10
5:30 AM	0	0	15	0	0	0	15
5:45 AM	0	0	20	0	0	0	20
6:00 AM	0	0	1	0	0	0	1
6:15 AM	0	0	12	0	0	0	12
6:30 AM	0	0	36	0	1	0	37
6:45 AM	0	0	41	0	0	0	41
7:00 AM	0	0	51	0	0	0	51
7:15 AM	0	0	58	2	1	0	61
7:30 AM	0	0	65	1	1	0	67
7:45 AM	0	0	81	0	1	1	83
8:00 AM	0	0	80	2	1	0	83
8:15 AM	0	0	84	0	0	0	84
8:30 AM	0	0	75	1	1	0	77
8:45 AM	0	0	70	0	1	1	72
9:00 AM	0	0	66	0	0	0	66
9:15 AM	0	0	66	0	0	0	66
9:30 AM	0	0	47	0	0	0	47
9:45 AM	0	0	51	0	2	0	53
10:00 AM	0	0	32	0	1	0	33
10:15 AM	0	0	43	0	0	0	43
10:30 AM	0	0	52	0	3	0	55
10:45 AM	0	0	35	0	1	1	37
11:00 AM	0	0	43	0	0	1	44
11:15 AM	0	0	44	0	0	1	45
11:30 AM	0	0	46	0	0	0	46
11:45 AM	0	0	44	0	3	0	47

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	46	0	0	1	47
12:15 PM	0	0	41	0	1	0	42
12:30 PM	0	0	39	1	0	0	40
12:45 PM	0	0	41	0	1	0	42
1:00 PM	0	0	25	0	0	0	25
1:15 PM	0	0	33	0	1	1	35
1:30 PM	0	0	51	0	0	0	51
1:45 PM	0	0	39	0	0	1	40
2:00 PM	0	0	44	0	0	0	44
2:15 PM	0	0	50	0	0	0	50
2:30 PM	0	0	57	1	0	0	58
2:45 PM	0	0	39	0	0	0	39
3:00 PM	0	0	59	0	0	0	59
3:15 PM	0	0	43	0	0	0	43
3:30 PM	0	0	44	0	0	0	44
3:45 PM	0	0	52	1	1	0	54
4:00 PM	0	0	44	1	0	0	45
4:15 PM	0	0	50	0	0	0	50
4:30 PM	0	0	39	0	0	0	39
4:45 PM	0	0	15	0	0	0	15
5:00 PM	0	0	58	0	0	0	58
5:15 PM	0	0	59	0	0	0	59
5:30 PM	0	0	43	0	0	0	43
5:45 PM	0	0	39	0	1	1	41
6:00 PM	0	0	40	0	1	0	41
6:15 PM	0	0	31	0	0	0	31
6:30 PM	1	0	36	0	0	0	37
6:45 PM	0	0	33	1	0	0	34
7:00 PM	0	0	24	0	0	0	24
7:15 PM	0	0	17	0	0	0	17
7:30 PM	0	0	18	0	0	0	18
7:45 PM	0	0	22	0	0	0	22
8:00 PM	0	0	13	0	1	0	14
8:15 PM	0	0	16	0	0	0	16
8:30 PM	0	0	12	0	0	0	12
8:45 PM	0	0	9	0	0	0	9
9:00 PM	0	0	12	0	0	0	12
9:15 PM	0	0	18	0	0	0	18
9:30 PM	0	0	5	0	0	0	5
9:45 PM	0	0	10	0	0	0	10
10:00 PM	0	0	5	0	0	0	5
10:15 PM	0	0	10	0	0	0	10
10:30 PM	0	0	3	0	0	0	3
10:45 PM	0	0	4	0	0	0	4
11:00 PM	0	0	6	0	0	0	6
11:15 PM	0	0	5	0	0	0	5
11:30 PM	0	0	5	0	0	0	5
11:45 PM	0	0	2	0	0	0	2

AM Total	0	0	1288	6	17	5	1316
Percentage	0.00%	0.00%	97.87%	0.46%	1.29%	0.38%	
AM Peak	12:00 AM	12:00 AM	7:45 AM	7:15 AM	9:45 AM	10:30 AM	7:45 AM
Volume	0	0	320	5	6	3	327

PM Total	1	0	1406	5	7	4	1423
Percentage	0.07%	0.00%	98.81%	0.35%	0.49%	0.28%	
PM Peak	5:45 PM	12:00 PM	2:15 PM	3:15 PM	12:00 PM	1:00 PM	2:15 PM
Volume	1	0	205	2	2	2	206

Day Total	1	0	2694	11	24	9	2739
Percentage	0.04%	0.00%	98.36%	0.40%	0.88%	0.33%	

Bedford Street
 west of Old Bedford Road
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC

157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-E

Count Date: Wednesday, November 30, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total	PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0	12:00 PM	0	0	44	0	0	0	44
12:15 AM	0	0	0	0	0	0	0	12:15 PM	0	0	46	0	0	1	47
12:30 AM	0	0	0	0	0	0	0	12:30 PM	0	0	51	0	0	0	51
12:45 AM	0	0	0	0	0	0	0	12:45 PM	0	0	41	1	1	0	43
1:00 AM	0	0	0	0	0	0	0	1:00 PM	0	0	34	2	3	0	39
1:15 AM	0	0	0	0	0	0	0	1:15 PM	0	0	53	0	0	0	53
1:30 AM	0	0	0	0	0	0	0	1:30 PM	0	0	31	1	0	0	32
1:45 AM	0	0	0	0	0	0	0	1:45 PM	0	0	60	1	1	0	62
2:00 AM	0	0	1	0	0	0	1	2:00 PM	0	0	38	0	0	1	39
2:15 AM	0	0	0	0	0	0	0	2:15 PM	0	0	46	0	0	1	47
2:30 AM	0	0	1	0	0	0	1	2:30 PM	0	0	31	0	0	0	31
2:45 AM	0	0	1	0	0	0	1	2:45 PM	0	0	49	1	0	0	50
3:00 AM	0	0	2	0	0	0	2	3:00 PM	0	0	39	0	1	0	40
3:15 AM	0	0	0	0	1	0	1	3:15 PM	0	0	49	0	0	0	49
3:30 AM	0	0	2	0	0	0	2	3:30 PM	0	0	32	0	0	0	32
3:45 AM	0	0	4	0	0	0	4	3:45 PM	0	0	16	0	0	0	16
4:00 AM	0	0	4	0	0	0	4	4:00 PM	0	0	52	1	0	0	53
4:15 AM	0	0	2	0	0	0	2	4:15 PM	0	0	50	0	2	0	52
4:30 AM	0	0	1	0	0	0	1	4:30 PM	0	0	38	0	0	0	38
4:45 AM	0	0	2	0	0	0	2	4:45 PM	0	0	55	0	0	0	55
5:00 AM	0	0	1	0	0	1	2	5:00 PM	0	0	58	0	1	0	59
5:15 AM	0	0	8	0	0	0	8	5:15 PM	0	0	54	1	2	0	57
5:30 AM	0	0	14	0	0	0	14	5:30 PM	0	0	34	0	0	0	34
5:45 AM	0	0	20	0	0	0	20	5:45 PM	0	0	34	0	0	0	34
6:00 AM	0	0	1	0	0	1	2	6:00 PM	0	0	44	0	1	0	45
6:15 AM	0	0	5	0	0	0	5	6:15 PM	0	0	28	0	0	0	28
6:30 AM	0	0	36	0	0	0	36	6:30 PM	0	0	31	0	1	0	32
6:45 AM	0	0	37	0	0	0	37	6:45 PM	0	0	29	0	0	0	29
7:00 AM	0	0	46	0	0	1	47	7:00 PM	0	0	33	0	1	0	34
7:15 AM	0	0	59	2	2	0	63	7:15 PM	0	0	22	0	1	0	23
7:30 AM	0	0	76	1	0	1	78	7:30 PM	0	0	21	0	1	0	22
7:45 AM	0	0	71	0	1	1	73	7:45 PM	0	0	23	0	0	0	23
8:00 AM	0	0	90	1	0	0	91	8:00 PM	0	0	19	0	0	0	19
8:15 AM	0	0	65	0	1	0	66	8:15 PM	0	0	21	0	0	0	21
8:30 AM	0	0	73	1	0	0	74	8:30 PM	0	0	15	0	0	0	15
8:45 AM	0	0	61	0	0	0	61	8:45 PM	0	0	13	0	0	0	13
9:00 AM	0	0	57	0	2	1	60	9:00 PM	0	0	14	0	0	0	14
9:15 AM	0	0	59	0	0	0	59	9:15 PM	0	0	17	0	0	0	17
9:30 AM	0	0	54	0	1	0	55	9:30 PM	0	0	9	0	0	0	9
9:45 AM	0	0	61	0	0	0	61	9:45 PM	0	0	9	0	0	0	9
10:00 AM	0	0	33	1	0	0	34	10:00 PM	0	0	6	0	0	0	6
10:15 AM	0	0	39	1	4	0	44	10:15 PM	0	0	5	0	0	0	5
10:30 AM	0	0	33	0	0	0	33	10:30 PM	0	0	7	0	0	0	7
10:45 AM	0	0	45	0	1	0	46	10:45 PM	0	0	3	0	0	0	3
11:00 AM	0	0	43	0	1	2	46	11:00 PM	0	0	4	0	0	0	4
11:15 AM	0	0	47	1	2	0	50	11:15 PM	0	0	2	0	0	0	2
11:30 AM	0	0	36	0	1	0	37	11:30 PM	0	0	4	0	0	0	4
11:45 AM	2	0	35	0	2	2	41	11:45 PM	0	0	4	0	1	0	5

AM Total	2	0	1225	8	19	10	1264	PM Total	0	0	1418	8	17	3	1446
Percentage	0.16%	0.00%	96.91%	0.63%	1.50%	0.79%		Percentage	0.00%	0.00%	98.06%	0.55%	1.18%	0.21%	
AM Peak	11:00 AM	12:00 AM	7:30 AM	7:15 AM	10:15 AM	11:00 AM	7:30 AM	PM Peak	12:00 PM	12:00 PM	4:30 PM	12:45 PM	12:15 PM	1:30 PM	4:30 PM
Volume	2	0	302	4	6	4	308	Volume	0	0	205	4	4	2	209
Day Total	2	0	2643	16	36	13	2710	Percentage	0.07%	0.00%	97.53%	0.59%	1.33%	0.48%	

Bedford Street
 west of Old Bedford Road
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-E

Count Date: Thursday, December 1, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	2	0	0	0	2
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	2	0	0	0	2
3:45 AM	0	0	3	0	0	1	4
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	4	0	0	0	4
4:45 AM	0	0	4	0	0	0	4
5:00 AM	0	0	2	0	1	0	3
5:15 AM	0	0	9	0	0	0	9
5:30 AM	0	0	10	0	0	0	10
5:45 AM	0	0	13	0	0	0	13
6:00 AM	0	0	23	0	0	0	23
6:15 AM	0	0	22	0	0	0	22
6:30 AM	0	0	27	0	1	0	28
6:45 AM	0	0	59	0	1	0	60
7:00 AM	0	0	49	0	2	0	51
7:15 AM	1	0	63	2	0	0	66
7:30 AM	2	0	61	1	1	0	65
7:45 AM	0	0	76	0	2	0	78
8:00 AM	0	0	83	5	1	2	91
8:15 AM	0	0	82	0	1	0	83
8:30 AM	0	0	62	1	0	0	63
8:45 AM	0	0	66	0	0	0	66
9:00 AM	0	0	58	0	0	0	58
9:15 AM	0	0	44	0	0	0	44
9:30 AM	0	0	34	0	0	0	34
9:45 AM	0	0	28	0	2	0	30
10:00 AM	0	0	40	0	3	0	43
10:15 AM	0	0	39	0	2	0	41
10:30 AM	0	0	45	0	1	0	46
10:45 AM	0	0	28	0	0	1	29
11:00 AM	0	0	49	0	3	0	52
11:15 AM	0	0	40	0	1	0	41
11:30 AM	0	0	45	1	3	0	49
11:45 AM	0	0	52	0	1	1	54

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	44	0	3	0	47
12:15 PM	1	0	57	0	1	1	60
12:30 PM	0	0	44	1	2	1	48
12:45 PM	0	0	39	0	2	0	41
1:00 PM	0	0	30	0	0	0	30
1:15 PM	0	0	28	0	0	0	28
1:30 PM	0	0	17	0	1	0	18
1:45 PM	0	0	32	0	0	0	32
2:00 PM	0	0	36	0	0	0	36
2:15 PM	0	0	36	0	0	0	36
2:30 PM	0	0	46	1	1	0	48
2:45 PM	0	0	28	0	0	1	29
3:00 PM	0	0	54	2	0	0	56
3:15 PM	0	0	37	0	0	0	37
3:30 PM	0	0	60	0	1	0	61
3:45 PM	0	0	56	1	0	0	57
4:00 PM	0	0	56	0	1	1	58
4:15 PM	1	0	59	0	0	0	60
4:30 PM	0	0	56	0	1	0	57
4:45 PM	0	0	61	0	0	0	61
5:00 PM	0	0	47	0	0	0	47
5:15 PM	0	0	49	0	0	0	49
5:30 PM	0	0	33	0	1	0	34
5:45 PM	0	0	47	1	1	0	49
6:00 PM	0	0	43	0	0	0	43
6:15 PM	0	0	39	0	0	0	39
6:30 PM	0	0	35	0	0	2	37
6:45 PM	0	0	28	0	1	0	29
7:00 PM	0	0	32	0	0	0	32
7:15 PM	0	0	33	0	1	0	34
7:30 PM	0	0	23	0	0	0	23
7:45 PM	0	0	20	0	0	0	20
8:00 PM	0	0	23	0	1	0	24
8:15 PM	0	0	15	0	0	0	15
8:30 PM	0	0	15	0	0	0	15
8:45 PM	0	0	16	0	0	0	16
9:00 PM	0	0	17	0	0	0	17
9:15 PM	0	0	11	0	0	0	11
9:30 PM	0	0	14	0	0	0	14
9:45 PM	0	0	7	0	0	0	7
10:00 PM	0	0	13	0	0	0	13
10:15 PM	0	0	12	0	0	0	12
10:30 PM	0	0	9	0	0	0	9
10:45 PM	0	0	8	0	0	0	8
11:00 PM	0	0	6	0	0	0	6
11:15 PM	0	0	3	0	0	0	3
11:30 PM	0	0	3	0	0	0	3
11:45 PM	0	0	3	0	0	0	3

AM Total	3	0	1227	10	26	5	1271
Percentage	0.24%	0.00%	96.54%	0.79%	2.05%	0.39%	
AM Peak	6:45 AM	12:00 AM	7:45 AM	7:15 AM	9:45 AM	7:15 AM	7:30 AM
Volume	3	0	303	8	8	2	317

PM Total	2	0	1480	6	18	6	1512
Percentage	0.13%	0.00%	97.88%	0.40%	1.19%	0.40%	
PM Peak	12:00 PM	12:00 PM	4:00 PM	2:15 PM	12:00 PM	12:00 PM	3:30 PM
Volume	1	0	232	3	8	2	236

Day Total	5	0	2707	16	44	11	2783
Percentage	0.18%	0.00%	97.27%	0.57%	1.58%	0.40%	

Bedford Street
 west of Old Bedford Road
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-E

Count Date: Friday, December 2, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	0	1
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	3	0	1	0	4
12:45 AM	0	0	1	0	0	0	1
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	2	0	0	0	2
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	2	0	0	0	2
4:30 AM	0	0	3	0	0	0	3
4:45 AM	0	0	3	0	0	0	3
5:00 AM	0	0	3	0	0	0	3
5:15 AM	0	0	13	0	1	0	14
5:30 AM	0	0	13	0	0	0	13
5:45 AM	0	0	16	0	0	0	16
6:00 AM	0	0	0	0	0	0	0
6:15 AM	0	0	10	0	0	0	10
6:30 AM	0	0	33	0	0	0	33
6:45 AM	0	0	34	0	0	0	34
7:00 AM	0	0	48	1	1	1	51
7:15 AM	0	0	61	1	0	0	62
7:30 AM	0	0	52	1	0	0	53
7:45 AM	0	0	73	0	1	0	74
8:00 AM	0	0	74	2	0	0	76
8:15 AM	0	0	59	0	1	0	60
8:30 AM	0	0	69	1	2	1	73
8:45 AM	0	0	56	0	1	0	57
9:00 AM	0	0	36	0	0	0	36
9:15 AM	0	0	34	0	0	0	34
9:30 AM	0	0	53	0	0	0	53
9:45 AM	0	0	44	0	1	0	45
10:00 AM	0	0	42	0	3	0	45
10:15 AM	0	0	28	0	3	0	31
10:30 AM	0	0	40	0	2	0	42
10:45 AM	0	0	42	1	3	1	47
11:00 AM	0	0	31	0	2	0	33
11:15 AM	1	0	43	1	2	1	48
11:30 AM	1	0	44	0	2	1	48
11:45 AM	1	0	48	0	5	0	54

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	38	0	4	0	42
12:15 PM	1	0	35	0	2	0	38
12:30 PM	0	0	31	0	1	0	32
12:45 PM	0	0	45	1	2	1	49
1:00 PM	0	0	44	0	2	1	47
1:15 PM	0	0	37	0	2	0	39
1:30 PM	0	0	31	0	1	0	32
1:45 PM	1	0	42	0	1	1	45
2:00 PM	3	1	43	0	2	0	49
2:15 PM	0	0	51	0	1	0	52
2:30 PM	0	0	41	0	0	2	43
2:45 PM	0	0	33	0	1	0	34
3:00 PM	0	0	31	0	0	0	31
3:15 PM	0	0	55	0	0	0	55
3:30 PM	0	0	43	0	0	0	43
3:45 PM	0	0	61	1	0	0	62
4:00 PM	0	0	51	0	0	0	51
4:15 PM	0	0	46	0	1	1	48
4:30 PM	0	0	54	0	0	0	54
4:45 PM	0	0	65	0	1	0	66
5:00 PM	0	0	49	0	0	0	49
5:15 PM	0	0	44	0	2	0	46
5:30 PM	0	0	53	0	0	0	53
5:45 PM	0	0	57	0	1	0	58
6:00 PM	0	0	30	0	1	0	31
6:15 PM	0	0	30	0	1	0	31
6:30 PM	0	0	33	0	2	0	35
6:45 PM	0	0	36	0	3	0	39
7:00 PM	0	0	26	0	0	0	26
7:15 PM	0	0	23	0	0	0	23
7:30 PM	0	0	18	0	0	0	18
7:45 PM	0	0	19	0	0	0	19
8:00 PM	0	0	21	0	0	0	21
8:15 PM	0	0	18	0	2	0	20
8:30 PM	0	0	15	0	0	0	15
8:45 PM	0	0	12	0	0	0	12
9:00 PM	0	0	23	0	0	0	23
9:15 PM	0	0	10	0	1	0	11
9:30 PM	0	0	8	0	0	0	8
9:45 PM	0	0	9	0	0	0	9
10:00 PM	0	0	27	0	0	0	27
10:15 PM	0	0	15	0	0	0	15
10:30 PM	0	0	8	0	0	0	8
10:45 PM	0	0	15	0	0	0	15
11:00 PM	0	0	8	0	0	0	8
11:15 PM	0	0	2	0	0	0	2
11:30 PM	0	0	4	0	0	0	4
11:45 PM	0	0	5	0	0	0	5

AM Total	3	0	1117	8	31	5	1164
Percentage	0.26%	0.00%	95.96%	0.69%	2.66%	0.43%	
AM Peak	11:00 AM	12:00 AM	7:45 AM	7:15 AM	10:00 AM	10:45 AM	7:45 AM
Volume	3	0	275	4	11	3	283

PM Total	5	1	1495	2	34	6	1543
Percentage	0.32%	0.06%	96.89%	0.13%	2.20%	0.39%	
PM Peak	1:15 PM	1:15 PM	4:00 PM	12:00 PM	12:00 PM	1:45 PM	4:00 PM
Volume	4	1	216	1	9	3	219

Day Total	8	1	2612	10	65	11	2707
Percentage	0.30%	0.04%	96.49%	0.37%	2.40%	0.41%	

Bedford Street
 west of Old Bedford Road
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PDI File #: 228952 ATR-E

Count Date: Saturday, December 3, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	0	1
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	4	0	0	0	4
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	2	0	0	0	2
1:45 AM	0	0	2	0	0	0	2
2:00 AM	0	0	2	0	0	0	2
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	2	0	0	0	2
3:45 AM	0	0	1	0	0	0	1
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	2	0	0	0	2
5:00 AM	0	0	1	0	0	0	1
5:15 AM	0	0	4	0	0	0	4
5:30 AM	0	0	5	0	0	0	5
5:45 AM	0	1	3	0	0	0	4
6:00 AM	0	0	4	0	0	0	4
6:15 AM	0	0	5	0	0	0	5
6:30 AM	0	0	6	0	0	0	6
6:45 AM	0	0	10	0	0	0	10
7:00 AM	0	0	21	0	1	0	22
7:15 AM	0	0	24	0	0	0	24
7:30 AM	0	0	18	0	0	0	18
7:45 AM	0	0	28	0	1	0	29
8:00 AM	1	0	23	0	0	0	24
8:15 AM	1	0	28	1	0	0	30
8:30 AM	1	0	23	0	0	0	24
8:45 AM	0	0	30	0	0	0	30
9:00 AM	0	0	25	0	1	0	26
9:15 AM	4	0	36	0	1	0	41
9:30 AM	1	0	36	0	1	0	38
9:45 AM	2	0	50	0	1	0	53
10:00 AM	0	0	50	0	1	0	51
10:15 AM	0	0	36	1	0	0	37
10:30 AM	2	0	48	0	0	0	50
10:45 AM	0	0	35	0	0	0	35
11:00 AM	0	0	51	0	0	0	51
11:15 AM	0	0	52	0	0	0	52
11:30 AM	0	0	41	0	3	0	44
11:45 AM	0	0	43	0	0	0	43

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	42	0	1	0	43
12:15 PM	0	0	41	0	0	0	41
12:30 PM	0	0	43	0	2	0	45
12:45 PM	0	0	38	0	1	0	39
1:00 PM	1	0	46	0	1	0	48
1:15 PM	0	0	49	0	0	0	49
1:30 PM	0	0	50	0	0	0	50
1:45 PM	0	0	54	0	0	0	54
2:00 PM	0	0	37	0	0	0	37
2:15 PM	0	0	36	0	0	0	36
2:30 PM	0	0	41	0	0	0	41
2:45 PM	0	0	34	0	0	0	34
3:00 PM	0	0	49	0	0	0	49
3:15 PM	0	0	37	0	0	0	37
3:30 PM	0	0	39	0	0	0	39
3:45 PM	0	0	32	0	0	0	32
4:00 PM	0	0	45	0	0	0	45
4:15 PM	0	0	54	1	0	0	55
4:30 PM	0	0	27	0	0	0	27
4:45 PM	0	0	31	0	0	0	31
5:00 PM	0	0	46	0	1	0	47
5:15 PM	0	0	29	0	0	0	29
5:30 PM	0	0	44	0	0	0	44
5:45 PM	0	0	37	0	0	0	37
6:00 PM	0	0	29	0	0	0	29
6:15 PM	0	0	29	0	0	0	29
6:30 PM	0	0	40	0	1	0	41
6:45 PM	0	0	23	0	0	0	23
7:00 PM	0	0	20	0	0	0	20
7:15 PM	0	0	16	0	0	0	16
7:30 PM	0	0	16	0	0	0	16
7:45 PM	0	0	32	0	0	0	32
8:00 PM	0	0	17	0	1	0	18
8:15 PM	0	0	14	0	0	0	14
8:30 PM	0	0	11	0	1	0	12
8:45 PM	0	0	17	0	0	0	17
9:00 PM	0	0	12	0	0	0	12
9:15 PM	0	0	14	0	0	0	14
9:30 PM	0	0	9	0	0	0	9
9:45 PM	0	0	6	0	0	0	6
10:00 PM	0	0	13	0	0	0	13
10:15 PM	0	0	9	0	0	0	9
10:30 PM	0	0	13	0	0	0	13
10:45 PM	0	0	11	0	0	0	11
11:00 PM	0	0	12	0	0	0	12
11:15 PM	0	0	4	0	0	0	4
11:30 PM	0	0	4	0	0	0	4
11:45 PM	0	0	5	0	0	0	5

AM Total	12	1	760	2	10	0	785
Percentage	1.53%	0.13%	96.82%	0.25%	1.27%	0.00%	
AM Peak	9:00 AM	5:00 AM	11:00 AM	7:30 AM	9:00 AM	12:00 AM	9:45 AM
Volume	7	1	187	1	4	0	191

PM Total	1	0	1357	1	9	0	1368
Percentage	0.07%	0.00%	99.20%	0.07%	0.66%	0.00%	
PM Peak	12:15 PM	12:00 PM	1:00 PM	3:30 PM	12:00 PM	12:00 PM	1:00 PM
Volume	1	0	199	1	4	0	201

Day Total	13	1	2117	3	19	0	2153
Percentage	0.60%	0.05%	98.33%	0.14%	0.88%	0.00%	

Bedford Street
 west of Old Bedford Road
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PDI File #: 228952 ATR-E

Count Date: Sunday, December 4, 2022
 Direction: EB

AM	Bicycles	Motorcycl e	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total	PM	Bicycles	Motorcycl e	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	5	0	0	0	5	12:00 PM	1	0	45	0	0	0	46
12:15 AM	0	0	1	0	0	0	1	12:15 PM	2	0	41	0	0	0	43
12:30 AM	0	0	5	0	0	0	5	12:30 PM	2	0	48	0	0	0	50
12:45 AM	0	0	1	0	1	0	2	12:45 PM	0	0	48	0	1	0	49
1:00 AM	0	0	0	0	0	0	0	1:00 PM	2	0	46	0	0	0	48
1:15 AM	0	0	0	0	0	0	0	1:15 PM	2	0	46	0	0	0	48
1:30 AM	0	0	0	0	0	0	0	1:30 PM	1	0	50	0	1	0	52
1:45 AM	0	0	0	0	0	0	0	1:45 PM	3	0	42	0	0	0	45
2:00 AM	0	0	0	0	0	0	0	2:00 PM	3	0	41	0	0	0	44
2:15 AM	0	0	0	0	0	0	0	2:15 PM	1	0	44	0	0	0	45
2:30 AM	0	0	0	0	0	0	0	2:30 PM	0	0	41	0	0	0	41
2:45 AM	0	0	0	0	0	0	0	2:45 PM	2	0	40	0	0	0	42
3:00 AM	0	0	0	0	0	0	0	3:00 PM	1	0	30	0	0	0	31
3:15 AM	0	0	0	0	0	0	0	3:15 PM	1	0	12	0	0	0	13
3:30 AM	0	0	0	0	0	0	0	3:30 PM	1	0	19	0	0	0	20
3:45 AM	0	0	0	0	0	0	0	3:45 PM	0	0	23	0	0	0	23
4:00 AM	0	0	1	0	0	0	1	4:00 PM	0	0	18	0	0	0	18
4:15 AM	0	0	0	0	0	0	0	4:15 PM	0	0	13	0	0	0	13
4:30 AM	0	0	0	0	0	0	0	4:30 PM	1	0	15	0	0	0	16
4:45 AM	0	0	1	0	0	0	1	4:45 PM	0	0	12	0	0	0	12
5:00 AM	0	0	1	0	0	0	1	5:00 PM	0	0	7	0	0	0	7
5:15 AM	0	0	2	0	0	0	2	5:15 PM	0	0	26	0	0	0	26
5:30 AM	0	0	2	0	0	0	2	5:30 PM	0	0	13	0	0	0	13
5:45 AM	0	0	2	0	0	0	2	5:45 PM	0	0	12	0	0	0	12
6:00 AM	0	0	1	0	0	0	1	6:00 PM	0	0	27	0	0	0	27
6:15 AM	0	1	4	0	0	0	5	6:15 PM	0	0	22	0	0	0	22
6:30 AM	0	0	7	0	0	0	7	6:30 PM	0	0	31	0	0	0	31
6:45 AM	0	0	7	0	0	0	7	6:45 PM	0	0	18	0	0	0	18
7:00 AM	0	0	10	0	0	0	10	7:00 PM	0	0	16	0	0	0	16
7:15 AM	0	0	13	0	0	0	13	7:15 PM	0	0	23	0	0	0	23
7:30 AM	0	0	17	0	1	0	18	7:30 PM	0	0	11	0	0	0	11
7:45 AM	0	0	25	0	0	0	25	7:45 PM	0	0	10	0	0	0	10
8:00 AM	0	0	16	0	0	0	16	8:00 PM	0	0	22	0	0	0	22
8:15 AM	0	0	11	0	0	0	11	8:15 PM	0	0	15	0	0	0	15
8:30 AM	1	0	20	0	1	0	22	8:30 PM	0	0	11	0	0	0	11
8:45 AM	1	0	36	0	0	0	37	8:45 PM	0	0	10	0	0	0	10
9:00 AM	0	0	27	0	0	0	27	9:00 PM	0	0	11	0	0	0	11
9:15 AM	0	0	31	0	1	0	32	9:15 PM	0	0	10	0	0	0	10
9:30 AM	0	0	37	0	0	0	37	9:30 PM	0	0	6	0	0	0	6
9:45 AM	0	0	41	0	0	0	41	9:45 PM	0	0	4	0	0	0	4
10:00 AM	0	0	30	0	0	0	30	10:00 PM	0	0	6	0	0	0	6
10:15 AM	2	0	43	0	0	0	45	10:15 PM	0	0	2	0	0	0	2
10:30 AM	4	0	38	0	0	0	42	10:30 PM	0	0	3	0	0	0	3
10:45 AM	10	0	37	0	0	0	47	10:45 PM	0	0	2	0	0	0	2
11:00 AM	4	0	46	0	1	0	51	11:00 PM	0	0	3	0	0	0	3
11:15 AM	3	0	47	0	1	0	51	11:15 PM	0	0	2	0	0	0	2
11:30 AM	0	0	40	0	0	0	40	11:30 PM	0	0	3	0	0	0	3
11:45 AM	0	0	45	0	0	0	45	11:45 PM	0	0	1	0	0	0	1

AM Total	25	1	650	0	6	0	682
Percentage	3.67%	0.15%	95.31%	0.00%	0.88%	0.00%	
AM Peak	10:30 AM	5:30 AM	11:00 AM	12:00 AM	8:30 AM	12:00 AM	10:30 AM
Volume	21	1	178	0	2	0	191

PM Total	23	0	1001	0	2	0	1026
Percentage	2.24%	0.00%	97.56%	0.00%	0.19%	0.00%	
PM Peak	1:15 PM	12:00 PM	12:45 PM	12:00 PM	12:45 PM	12:00 PM	12:45 PM
Volume	9	0	190	0	2	0	197

Day Total	48	1	1651	0	8	0	1708
Percentage	2.81%	0.06%	96.66%	0.00%	0.47%	0.00%	

Bedford Street
 west of Old Bedford Road
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-E

Count Date: Monday, December 5, 2022
 Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	2	0	0	0	2
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	0	0	1	0	1
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	2	0	0	0	2
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	2	0	0	0	2
3:00 AM	0	0	3	0	0	0	3
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	1	0	0	0	1
3:45 AM	0	0	3	0	0	0	3
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	2	0	0	0	2
4:45 AM	0	0	2	0	0	0	2
5:00 AM	0	0	4	0	0	1	5
5:15 AM	0	0	7	0	0	0	7
5:30 AM	0	0	14	0	0	0	14
5:45 AM	0	0	20	0	0	0	20
6:00 AM	0	0	15	0	0	0	15
6:15 AM	0	0	26	0	0	0	26
6:30 AM	0	0	26	0	1	1	28
6:45 AM	0	0	45	0	0	1	46
7:00 AM	0	0	34	0	0	0	34
7:15 AM	0	0	66	2	1	0	69
7:30 AM	0	0	62	1	1	0	64
7:45 AM	0	0	60	0	1	1	62
8:00 AM	0	0	90	3	1	0	94
8:15 AM	0	0	93	0	1	0	94
8:30 AM	0	0	67	1	4	0	72
8:45 AM	0	0	61	0	3	0	64
9:00 AM	0	0	70	0	1	0	71
9:15 AM	1	0	55	0	1	0	57
9:30 AM	1	0	39	1	3	0	44
9:45 AM	0	0	35	0	1	0	36
10:00 AM	0	0	44	0	0	0	44
10:15 AM	0	0	29	0	1	1	31
10:30 AM	0	0	48	1	3	0	52
10:45 AM	0	0	46	0	3	0	49
11:00 AM	0	0	43	0	1	0	44
11:15 AM	0	0	35	0	3	0	38
11:30 AM	0	0	42	0	5	0	47
11:45 AM	1	0	42	0	4	0	47

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	40	0	0	0	40
12:15 PM	1	0	46	0	0	0	47
12:30 PM	0	0	28	0	2	0	30
12:45 PM	1	1	38	0	2	0	42
1:00 PM	0	0	46	0	0	0	46
1:15 PM	1	0	34	0	1	0	36
1:30 PM	1	0	36	0	1	0	38
1:45 PM	0	1	41	0	0	0	42
2:00 PM	0	0	31	0	1	0	32
2:15 PM	1	0	46	0	2	0	49
2:30 PM	0	0	49	0	0	0	49
2:45 PM	0	0	44	1	1	0	46
3:00 PM	0	0	65	2	2	0	69
3:15 PM	2	0	50	1	2	0	55
3:30 PM	0	0	65	0	0	0	65
3:45 PM	0	0	71	2	0	0	73
4:00 PM	0	0	46	0	1	0	47
4:15 PM	1	0	53	0	0	0	54
4:30 PM	0	0	59	0	3	0	62
4:45 PM	0	0	65	0	0	0	65
5:00 PM	0	0	53	0	0	0	53
5:15 PM	0	0	49	0	0	0	49
5:30 PM	0	0	42	0	0	0	42
5:45 PM	0	0	48	0	0	0	48
6:00 PM	0	0	36	0	1	1	38
6:15 PM	0	0	28	0	0	0	28
6:30 PM	0	0	27	1	1	0	29
6:45 PM	0	0	29	0	0	0	29
7:00 PM	0	0	16	0	0	0	16
7:15 PM	0	0	17	0	0	0	17
7:30 PM	0	0	29	0	0	0	29
7:45 PM	0	0	15	0	1	0	16
8:00 PM	0	0	18	0	0	0	18
8:15 PM	0	0	17	0	1	0	18
8:30 PM	0	0	11	0	0	0	11
8:45 PM	0	0	10	0	0	0	10
9:00 PM	0	0	14	0	0	0	14
9:15 PM	0	0	9	0	0	0	9
9:30 PM	0	0	12	0	0	0	12
9:45 PM	0	0	5	0	0	0	5
10:00 PM	0	0	10	0	0	0	10
10:15 PM	0	0	12	0	0	0	12
10:30 PM	0	0	3	0	0	0	3
10:45 PM	0	0	3	0	0	0	3
11:00 PM	0	0	3	0	0	0	3
11:15 PM	0	0	2	0	0	0	2
11:30 PM	0	0	1	0	0	0	1
11:45 PM	0	0	4	0	1	0	5

AM Total 3 0 1241 9 40 5 1298
Percentage 0.23% 0.00% 95.61% 0.69% 3.08% 0.39%

AM Peak 8:45 AM 12:00 AM 8:00 AM 7:15 AM 11:00 AM 6:00 AM 8:00 AM
Volume 2 0 311 6 13 2 324

PM Total 8 2 1476 7 23 1 1517
Percentage 0.53% 0.13% 97.30% 0.46% 1.52% 0.07%

PM Peak 12:45 PM 12:00 PM 3:00 PM 3:00 PM 12:30 PM 5:15 PM 3:00 PM
Volume 3 1 251 5 5 1 262

Day Total 11 2 2717 16 63 6 2815
Percentage 0.39% 0.07% 96.52% 0.57% 2.24% 0.21%

Bedford Street
 west of Old Bedford Road
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PDI File #: 228952 ATR-E

Count Date: Tuesday, November 29, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	4	0	0	0	4
12:15 AM	0	0	5	0	1	0	6
12:30 AM	0	0	2	0	0	0	2
12:45 AM	0	0	1	0	1	0	2
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	1	0	0	0	1
5:00 AM	0	0	4	0	0	0	4
5:15 AM	0	0	2	0	0	0	2
5:30 AM	0	1	4	0	0	0	5
5:45 AM	0	0	4	0	0	0	4
6:00 AM	0	0	18	0	0	0	18
6:15 AM	0	0	14	0	0	0	14
6:30 AM	0	0	23	0	0	0	23
6:45 AM	0	0	27	0	0	0	27
7:00 AM	0	0	24	0	0	0	24
7:15 AM	0	0	45	0	2	0	47
7:30 AM	0	0	57	1	1	0	59
7:45 AM	0	0	52	1	1	1	55
8:00 AM	0	0	54	0	1	0	55
8:15 AM	0	0	52	2	0	0	54
8:30 AM	0	0	56	1	1	0	58
8:45 AM	0	0	51	0	1	0	52
9:00 AM	0	0	53	2	3	1	59
9:15 AM	0	0	43	1	2	0	46
9:30 AM	0	0	34	0	1	0	35
9:45 AM	0	0	49	0	3	0	52
10:00 AM	0	0	41	0	6	0	47
10:15 AM	0	0	40	0	3	0	43
10:30 AM	0	0	38	0	1	0	39
10:45 AM	0	0	38	0	4	0	42
11:00 AM	0	0	43	1	2	0	46
11:15 AM	0	0	31	0	1	0	32
11:30 AM	1	0	48	0	2	0	51
11:45 AM	1	0	45	0	0	0	46

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	47	0	0	0	47
12:15 PM	0	0	49	3	2	0	54
12:30 PM	0	0	46	1	3	0	50
12:45 PM	1	0	54	0	0	1	56
1:00 PM	0	0	54	0	1	0	55
1:15 PM	0	0	40	0	1	0	41
1:30 PM	0	0	35	0	2	0	37
1:45 PM	0	0	38	0	0	0	38
2:00 PM	0	0	53	0	1	0	54
2:15 PM	0	0	60	0	3	0	63
2:30 PM	0	0	63	1	0	0	64
2:45 PM	0	0	71	3	1	0	75
3:00 PM	0	0	73	2	0	1	76
3:15 PM	0	0	96	1	0	0	97
3:30 PM	0	0	95	0	0	0	95
3:45 PM	0	0	87	1	1	0	89
4:00 PM	0	0	93	1	0	0	94
4:15 PM	0	0	101	1	1	0	103
4:30 PM	0	0	79	0	0	0	79
4:45 PM	0	0	60	0	0	0	60
5:00 PM	0	0	84	1	0	0	85
5:15 PM	0	0	126	0	0	0	126
5:30 PM	0	0	106	0	0	0	106
5:45 PM	0	0	55	1	0	0	56
6:00 PM	0	0	44	1	0	0	45
6:15 PM	0	1	48	0	0	0	49
6:30 PM	0	0	49	0	0	0	49
6:45 PM	0	0	38	0	1	0	39
7:00 PM	0	0	28	0	0	0	28
7:15 PM	0	0	31	0	0	0	31
7:30 PM	0	0	29	0	0	0	29
7:45 PM	0	0	19	0	0	0	19
8:00 PM	0	0	13	0	0	0	13
8:15 PM	0	0	20	0	0	0	20
8:30 PM	0	0	16	0	0	0	16
8:45 PM	0	0	14	0	0	0	14
9:00 PM	0	0	15	0	1	0	16
9:15 PM	0	0	13	0	0	0	13
9:30 PM	0	0	10	0	0	0	10
9:45 PM	0	0	14	0	0	0	14
10:00 PM	0	0	3	0	0	0	3
10:15 PM	0	0	4	0	0	0	4
10:30 PM	0	0	6	0	0	0	6
10:45 PM	0	0	1	0	0	0	1
11:00 PM	0	0	8	0	0	0	8
11:15 PM	0	0	1	0	1	0	2
11:30 PM	0	0	8	0	0	0	8
11:45 PM	0	0	3	0	0	0	3

AM Total 2 1 1006 9 37 2 1057
Percentage 0.19% 0.09% 95.18% 0.85% 3.50% 0.19%

AM Peak 11:00 AM 4:45 AM 7:30 AM 8:15 AM 10:00 AM 7:00 AM 7:30 AM
Volume 2 1 215 5 14 1 223

PM Total 1 1 2100 17 19 2 2140
Percentage 0.05% 0.05% 98.13% 0.79% 0.89% 0.09%

PM Peak 12:00 PM 5:30 PM 3:30 PM 2:30 PM 12:15 PM 12:00 PM 3:30 PM
Volume 1 1 376 7 6 1 381

Day Total 3 2 3106 26 56 4 3197
Percentage 0.09% 0.06% 97.15% 0.81% 1.75% 0.13%

Bedford Street
 west of Old Bedford Road
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-E

Count Date: Wednesday, November 30, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	0	1
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	1	0	0	0	1
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	2	0	0	0	2
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	1	0	0	0	1
5:00 AM	0	0	2	0	0	0	2
5:15 AM	0	0	5	0	0	0	5
5:30 AM	0	0	7	0	0	0	7
5:45 AM	0	0	8	0	1	0	9
6:00 AM	0	0	8	1	0	1	10
6:15 AM	0	0	13	0	0	0	13
6:30 AM	0	0	25	0	1	1	27
6:45 AM	0	0	40	0	1	0	41
7:00 AM	0	0	30	0	0	1	31
7:15 AM	0	0	32	0	1	0	33
7:30 AM	0	0	56	1	2	0	59
7:45 AM	0	0	48	2	0	0	50
8:00 AM	0	0	50	0	0	0	50
8:15 AM	0	0	56	1	3	0	60
8:30 AM	0	0	78	0	1	0	79
8:45 AM	0	0	59	2	1	0	62
9:00 AM	0	0	46	0	0	0	46
9:15 AM	0	0	40	1	0	1	42
9:30 AM	0	0	47	1	2	0	50
9:45 AM	0	0	39	0	1	0	40
10:00 AM	0	0	38	0	0	0	38
10:15 AM	0	0	39	1	1	0	41
10:30 AM	0	0	42	0	1	0	43
10:45 AM	0	0	27	0	1	0	28
11:00 AM	0	0	48	0	1	0	49
11:15 AM	0	0	35	0	1	0	36
11:30 AM	0	0	46	0	2	0	48
11:45 AM	0	0	53	0	2	1	56

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	50	0	1	0	51
12:15 PM	0	0	43	1	1	0	45
12:30 PM	0	0	55	0	4	0	59
12:45 PM	0	0	47	3	0	0	50
1:00 PM	0	0	35	1	3	0	39
1:15 PM	0	0	67	2	1	0	70
1:30 PM	0	0	47	1	0	0	48
1:45 PM	0	0	50	1	4	0	55
2:00 PM	0	0	61	1	1	0	63
2:15 PM	0	0	76	0	0	0	76
2:30 PM	0	0	57	0	0	0	57
2:45 PM	0	0	89	0	2	0	91
3:00 PM	0	0	87	2	1	0	90
3:15 PM	0	0	88	0	1	0	89
3:30 PM	0	0	121	0	1	1	123
3:45 PM	0	0	96	0	2	0	98
4:00 PM	0	0	84	1	0	0	85
4:15 PM	0	0	93	0	0	0	93
4:30 PM	0	0	37	0	0	0	37
4:45 PM	0	0	7	0	0	0	7
5:00 PM	0	0	110	0	1	0	111
5:15 PM	0	0	103	0	0	0	103
5:30 PM	0	0	97	0	0	0	97
5:45 PM	0	0	87	0	0	0	87
6:00 PM	0	0	63	0	0	0	63
6:15 PM	0	0	62	0	0	0	62
6:30 PM	0	0	41	0	0	0	41
6:45 PM	0	0	44	0	0	0	44
7:00 PM	0	0	21	0	0	0	21
7:15 PM	0	0	22	2	1	0	25
7:30 PM	0	0	24	0	0	0	24
7:45 PM	0	0	31	0	0	0	31
8:00 PM	0	0	18	0	0	0	18
8:15 PM	0	0	10	0	0	0	10
8:30 PM	0	0	17	0	0	0	17
8:45 PM	0	0	11	0	0	0	11
9:00 PM	0	0	19	0	0	0	19
9:15 PM	0	0	8	0	0	0	8
9:30 PM	0	0	8	0	0	0	8
9:45 PM	0	0	5	0	0	0	5
10:00 PM	0	0	7	0	0	0	7
10:15 PM	0	0	6	0	0	0	6
10:30 PM	0	0	6	0	0	0	6
10:45 PM	0	0	6	0	0	0	6
11:00 PM	0	0	8	0	0	0	8
11:15 PM	0	0	7	0	0	0	7
11:30 PM	0	0	2	0	0	0	2
11:45 PM	0	0	5	0	0	0	5

AM Total	0	0	1028	10	23	5	1066
Percentage	0.00%	0.00%	96.44%	0.94%	2.16%	0.47%	
AM Peak	12:00 AM	12:00 AM	8:00 AM	7:30 AM	11:00 AM	5:45 AM	8:00 AM
Volume	0	0	243	4	6	2	251

PM Total	0	0	2138	15	24	1	2178
Percentage	0.00%	0.00%	98.16%	0.69%	1.10%	0.05%	
PM Peak	12:00 PM	12:00 PM	5:00 PM	12:45 PM	12:15 PM	2:45 PM	3:00 PM
Volume	0	0	397	7	8	1	400

Day Total	0	0	3166	25	47	6	3244
Percentage	0.00%	0.00%	97.60%	0.77%	1.45%	0.18%	

Bedford Street
 west of Old Bedford Road
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PRECISION
 DATA
 INDUSTRIES, LLC
 157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

PDI File #: 228952 ATR-E

Count Date: Thursday, December 1, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total	PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	1	0	3	0	0	0	4	12:00 PM	0	0	37	0	3	1	41
12:15 AM	0	0	3	0	0	0	3	12:15 PM	0	0	49	0	2	0	51
12:30 AM	0	0	2	0	0	0	2	12:30 PM	0	0	54	0	0	0	54
12:45 AM	0	0	2	0	0	0	2	12:45 PM	0	0	41	1	1	0	43
1:00 AM	0	0	1	0	0	0	1	1:00 PM	0	0	46	0	1	0	47
1:15 AM	0	0	1	0	0	0	1	1:15 PM	0	0	39	0	1	0	40
1:30 AM	0	0	1	0	0	0	1	1:30 PM	0	0	43	1	1	1	46
1:45 AM	0	0	0	0	0	0	0	1:45 PM	0	0	42	0	1	0	43
2:00 AM	0	0	0	0	0	0	0	2:00 PM	0	0	62	0	2	0	64
2:15 AM	0	0	0	0	0	0	0	2:15 PM	0	0	46	0	0	0	46
2:30 AM	0	0	0	0	0	0	0	2:30 PM	0	0	73	1	0	0	74
2:45 AM	0	0	0	0	0	0	0	2:45 PM	0	0	72	0	1	0	73
3:00 AM	0	0	0	0	0	0	0	3:00 PM	0	0	67	2	1	0	70
3:15 AM	0	0	0	0	0	0	0	3:15 PM	0	0	101	0	0	0	101
3:30 AM	0	0	0	0	0	0	0	3:30 PM	0	0	106	0	1	0	107
3:45 AM	0	0	0	0	0	0	0	3:45 PM	0	0	89	1	2	0	92
4:00 AM	0	0	0	0	0	0	0	4:00 PM	0	0	99	2	0	0	101
4:15 AM	0	0	0	0	0	0	0	4:15 PM	0	0	114	1	1	0	116
4:30 AM	0	0	2	0	0	0	2	4:30 PM	0	0	125	0	2	0	127
4:45 AM	0	0	1	0	0	0	1	4:45 PM	0	0	99	0	0	0	99
5:00 AM	0	0	0	0	0	0	0	5:00 PM	0	0	96	0	1	0	97
5:15 AM	0	0	2	0	0	0	2	5:15 PM	0	0	114	0	0	0	114
5:30 AM	0	0	3	0	0	0	3	5:30 PM	0	0	96	0	0	0	96
5:45 AM	0	0	6	0	0	0	6	5:45 PM	0	0	85	0	0	0	85
6:00 AM	0	0	14	0	0	0	14	6:00 PM	0	0	65	0	0	0	65
6:15 AM	0	0	11	0	0	0	11	6:15 PM	0	0	73	0	0	0	73
6:30 AM	0	0	23	0	0	0	23	6:30 PM	0	0	49	0	0	0	49
6:45 AM	0	0	37	0	1	0	38	6:45 PM	0	0	35	0	0	0	35
7:00 AM	0	0	31	0	0	0	31	7:00 PM	0	0	51	0	0	0	51
7:15 AM	0	0	46	0	1	0	47	7:15 PM	0	0	33	0	0	0	33
7:30 AM	0	0	60	0	4	0	64	7:30 PM	0	0	31	0	0	0	31
7:45 AM	0	0	42	3	1	0	46	7:45 PM	0	0	18	0	0	0	18
8:00 AM	0	0	56	0	4	0	60	8:00 PM	0	0	24	0	0	0	24
8:15 AM	0	0	57	0	1	0	58	8:15 PM	0	0	31	0	0	0	31
8:30 AM	0	0	44	0	0	1	45	8:30 PM	0	0	17	0	0	0	17
8:45 AM	0	0	59	0	1	0	60	8:45 PM	0	0	19	0	0	0	19
9:00 AM	0	0	41	0	0	0	41	9:00 PM	0	0	22	0	0	0	22
9:15 AM	0	0	39	1	0	0	40	9:15 PM	0	0	19	0	0	0	19
9:30 AM	0	0	52	0	1	0	53	9:30 PM	0	0	11	0	0	0	11
9:45 AM	0	0	34	0	1	0	35	9:45 PM	0	0	9	0	0	0	9
10:00 AM	0	0	39	1	2	0	42	10:00 PM	0	0	9	0	0	0	9
10:15 AM	0	0	30	0	0	0	30	10:15 PM	0	0	8	0	0	0	8
10:30 AM	0	0	37	0	0	1	38	10:30 PM	0	0	6	0	0	0	6
10:45 AM	0	0	37	0	1	0	38	10:45 PM	0	0	9	0	0	0	9
11:00 AM	0	0	34	1	1	0	36	11:00 PM	0	0	4	0	0	0	4
11:15 AM	0	0	42	0	3	0	45	11:15 PM	0	0	5	0	1	0	6
11:30 AM	0	0	41	0	4	0	45	11:30 PM	0	0	5	0	0	0	5
11:45 AM	1	0	37	0	0	0	38	11:45 PM	0	0	4	0	0	0	4

AM Total 2 0 970 6 26 2 1006
Percentage 0.20% 0.00% 96.42% 0.60% 2.58% 0.20%

AM Peak 12:00 AM 12:00 AM 8:00 AM 7:00 AM 7:15 AM 7:45 AM 7:30 AM
Volume 1 0 216 3 10 1 228

PM Total 0 0 2352 9 22 2 2385
Percentage 0.00% 0.00% 98.62% 0.38% 0.92% 0.08%

PM Peak 12:00 PM 12:00 PM 4:00 PM 3:30 PM 12:00 PM 12:00 PM 4:00 PM
Volume 0 0 437 4 6 1 443

Day Total 2 0 3322 15 48 4 3391
Percentage 0.06% 0.00% 97.97% 0.44% 1.42% 0.12%

Bedford Street
west of Old Bedford Road
City, State: Concord, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PDI File #: 228952 ATR-E

Count Date: Friday, December 2, 2022
Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total	PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	2	0	0	0	2	12:00 PM	1	0	49	0	0	0	50
12:15 AM	0	0	2	0	0	0	2	12:15 PM	3	0	34	0	7	0	44
12:30 AM	0	0	0	0	0	0	0	12:30 PM	0	0	43	0	0	0	43
12:45 AM	0	0	0	0	0	0	0	12:45 PM	2	0	46	1	0	0	49
1:00 AM	0	0	1	0	0	0	1	1:00 PM	1	0	46	0	2	2	51
1:15 AM	0	0	1	0	0	0	1	1:15 PM	0	0	59	0	1	0	60
1:30 AM	0	0	0	0	0	0	0	1:30 PM	0	0	54	1	0	0	55
1:45 AM	0	0	0	0	0	0	0	1:45 PM	1	0	48	0	1	0	50
2:00 AM	0	0	0	0	0	0	0	2:00 PM	3	0	45	0	1	0	49
2:15 AM	0	0	0	0	0	0	0	2:15 PM	0	0	61	0	2	0	63
2:30 AM	0	0	0	0	0	0	0	2:30 PM	1	0	68	0	0	0	69
2:45 AM	0	0	0	0	0	0	0	2:45 PM	0	0	85	0	1	0	86
3:00 AM	0	0	0	0	0	0	0	3:00 PM	0	0	37	0	1	0	38
3:15 AM	0	0	0	0	0	0	0	3:15 PM	0	0	80	0	0	1	81
3:30 AM	0	0	0	0	0	0	0	3:30 PM	0	0	89	2	0	0	91
3:45 AM	0	0	0	0	0	0	0	3:45 PM	0	0	90	1	0	0	91
4:00 AM	0	0	0	0	0	0	0	4:00 PM	0	0	80	1	0	0	81
4:15 AM	0	0	0	0	0	0	0	4:15 PM	0	0	71	2	0	0	73
4:30 AM	0	0	2	0	0	0	2	4:30 PM	0	0	77	0	0	0	77
4:45 AM	0	0	3	0	0	0	3	4:45 PM	0	0	57	1	0	0	58
5:00 AM	0	0	3	0	0	0	3	5:00 PM	0	0	62	0	0	0	62
5:15 AM	0	0	3	0	0	0	3	5:15 PM	0	0	110	0	0	0	110
5:30 AM	0	0	5	0	0	0	5	5:30 PM	0	0	88	0	0	0	88
5:45 AM	0	0	2	0	0	0	2	5:45 PM	0	0	95	1	1	0	97
6:00 AM	0	1	12	0	0	0	13	6:00 PM	0	0	73	0	1	0	74
6:15 AM	0	0	18	0	0	0	18	6:15 PM	0	0	50	0	0	0	50
6:30 AM	0	0	26	0	0	0	26	6:30 PM	0	0	52	0	0	0	52
6:45 AM	0	0	25	0	0	0	25	6:45 PM	0	0	41	0	0	0	41
7:00 AM	0	0	31	0	0	0	31	7:00 PM	0	0	40	0	0	0	40
7:15 AM	0	0	34	0	0	0	34	7:15 PM	0	0	40	0	0	0	40
7:30 AM	0	0	54	3	1	0	58	7:30 PM	0	0	21	0	0	0	21
7:45 AM	0	0	43	1	0	0	44	7:45 PM	0	0	15	0	0	0	15
8:00 AM	0	0	50	0	1	2	53	8:00 PM	0	0	6	0	0	0	6
8:15 AM	0	0	51	2	2	0	55	8:15 PM	0	0	12	0	1	0	13
8:30 AM	0	0	67	0	4	0	71	8:30 PM	0	0	12	0	0	0	12
8:45 AM	0	0	37	0	2	0	39	8:45 PM	0	0	9	0	0	0	9
9:00 AM	0	0	40	0	1	0	41	9:00 PM	0	0	12	0	0	0	12
9:15 AM	0	0	43	0	1	0	44	9:15 PM	0	0	20	0	0	0	20
9:30 AM	0	0	41	0	2	0	43	9:30 PM	0	0	13	0	0	0	13
9:45 AM	1	0	48	0	1	0	50	9:45 PM	0	0	16	0	0	0	16
10:00 AM	0	0	41	0	0	0	41	10:00 PM	0	0	4	0	0	0	4
10:15 AM	0	0	37	0	3	0	40	10:15 PM	0	0	9	0	0	0	9
10:30 AM	3	0	39	0	3	1	46	10:30 PM	0	0	5	0	0	0	5
10:45 AM	3	0	45	1	4	0	53	10:45 PM	0	0	3	0	0	0	3
11:00 AM	4	0	41	1	2	0	48	11:00 PM	0	0	6	0	0	0	6
11:15 AM	0	0	43	1	2	0	46	11:15 PM	0	0	6	0	0	0	6
11:30 AM	1	0	41	0	2	0	44	11:30 PM	0	0	1	0	0	0	1
11:45 AM	2	0	48	0	0	0	50	11:45 PM	0	0	4	0	0	0	4

AM Total 14 1 979 9 31 3 1037
Percentage 1.35% 0.10% 94.41% 0.87% 2.99% 0.29%

AM Peak 10:15 AM 5:15 AM 7:45 AM 7:30 AM 10:15 AM 7:15 AM 7:45 AM
Volume 10 1 211 6 12 2 223

PM Total 12 0 2044 10 19 3 2088
Percentage 0.57% 0.00% 97.89% 0.48% 0.91% 0.14%

PM Peak 12:00 PM 12:00 PM 5:15 PM 3:30 PM 12:15 PM 12:15 PM 5:15 PM
Volume 6 0 366 6 9 2 369

Day Total 26 1 3023 19 50 6 3125
Percentage 0.83% 0.03% 96.74% 0.61% 1.60% 0.19%

Bedford Street
 west of Old Bedford Road
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



157 Washington Street, Suite 2
 Hudson, MA 01749
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilic.com

PDI File #: 228952 ATR-E

Count Date: Saturday, December 3, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	5	0	0	0	5
12:15 AM	0	0	6	0	0	0	6
12:30 AM	0	0	4	0	0	0	4
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	2	0	0	0	2
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	2	0	0	0	2
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	1	0	0	0	1
5:00 AM	0	0	4	0	0	0	4
5:15 AM	0	0	0	0	1	0	1
5:30 AM	0	0	2	0	0	0	2
5:45 AM	0	0	3	0	0	0	3
6:00 AM	0	0	7	0	0	0	7
6:15 AM	0	0	5	0	0	0	5
6:30 AM	0	0	5	0	0	0	5
6:45 AM	0	0	11	0	0	0	11
7:00 AM	0	0	15	0	0	0	15
7:15 AM	0	0	27	0	0	0	27
7:30 AM	1	0	13	0	1	0	15
7:45 AM	1	1	20	0	0	0	22
8:00 AM	0	0	30	0	0	0	30
8:15 AM	1	0	34	0	0	0	35
8:30 AM	1	0	39	0	0	0	40
8:45 AM	1	0	30	0	0	1	32
9:00 AM	0	0	28	0	1	0	29
9:15 AM	0	0	38	0	1	0	39
9:30 AM	3	0	38	0	1	0	42
9:45 AM	2	0	43	0	2	0	47
10:00 AM	3	0	38	0	1	0	42
10:15 AM	0	0	51	0	0	0	51
10:30 AM	0	0	45	0	1	0	46
10:45 AM	0	0	61	0	0	0	61
11:00 AM	0	0	56	0	0	0	56
11:15 AM	0	0	47	0	1	0	48
11:30 AM	0	0	45	0	1	0	46
11:45 AM	0	0	44	0	2	0	46

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	39	0	0	0	39
12:15 PM	0	0	65	0	0	0	65
12:30 PM	0	0	44	0	0	0	44
12:45 PM	0	0	50	0	0	0	50
1:00 PM	0	0	59	0	0	0	59
1:15 PM	0	0	51	0	0	0	51
1:30 PM	0	0	35	0	0	0	35
1:45 PM	0	0	63	0	1	0	64
2:00 PM	0	0	45	0	1	0	46
2:15 PM	0	0	57	0	0	0	57
2:30 PM	0	0	40	0	0	0	40
2:45 PM	0	0	44	0	0	0	44
3:00 PM	0	0	39	0	0	0	39
3:15 PM	0	0	42	0	0	0	42
3:30 PM	0	0	46	0	0	0	46
3:45 PM	0	0	43	0	0	0	43
4:00 PM	0	0	45	0	0	0	45
4:15 PM	0	0	31	0	0	0	31
4:30 PM	0	0	43	0	0	0	43
4:45 PM	0	0	36	0	0	0	36
5:00 PM	0	0	38	0	0	0	38
5:15 PM	0	0	47	0	0	0	47
5:30 PM	0	0	39	0	0	0	39
5:45 PM	0	0	22	0	0	0	22
6:00 PM	0	0	26	0	0	0	26
6:15 PM	0	1	37	0	0	0	38
6:30 PM	0	0	26	0	1	0	27
6:45 PM	0	0	34	0	0	0	34
7:00 PM	0	0	36	0	0	0	36
7:15 PM	0	0	22	0	0	0	22
7:30 PM	0	0	21	0	0	0	21
7:45 PM	0	0	18	0	0	0	18
8:00 PM	0	0	19	0	0	0	19
8:15 PM	0	0	19	0	1	0	20
8:30 PM	0	0	15	0	0	0	15
8:45 PM	0	0	14	0	0	0	14
9:00 PM	0	0	14	0	0	0	14
9:15 PM	0	0	6	0	0	0	6
9:30 PM	0	0	13	0	0	0	13
9:45 PM	0	0	21	0	0	0	21
10:00 PM	0	0	23	0	0	0	23
10:15 PM	0	0	17	0	0	0	17
10:30 PM	0	0	15	0	0	0	15
10:45 PM	0	0	15	0	0	0	15
11:00 PM	0	0	8	0	0	0	8
11:15 PM	0	0	8	0	0	0	8
11:30 PM	0	0	3	0	0	0	3
11:45 PM	0	0	3	0	0	0	3

AM Total	13	1	803	0	13	1	831
Percentage	1.56%	0.12%	96.63%	0.00%	1.56%	0.12%	
AM Peak	9:15 AM	7:00 AM	10:15 AM	12:00 AM	9:00 AM	8:00 AM	10:15 AM
Volume	8	1	213	0	5	1	214

PM Total	0	1	1496	0	4	0	1501
Percentage	0.00%	0.07%	99.67%	0.00%	0.27%	0.00%	
PM Peak	12:00 PM	5:30 PM	12:15 PM	12:00 PM	1:15 PM	12:00 PM	12:15 PM
Volume	0	1	218	0	2	0	218

Day Total	13	2	2299	0	17	1	2332
Percentage	0.56%	0.09%	98.58%	0.00%	0.73%	0.04%	

Bedford Street
west of Old Bedford Road
City, State: Concord, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

PDI File #: 228952 ATR-E

Count Date: Sunday, December 4, 2022
Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	5	0	0	0	5
12:15 AM	0	0	4	0	0	0	4
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	2	0	0	0	2
1:15 AM	0	0	2	0	0	0	2
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	1	0	1	0	2
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	2	0	0	0	2
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	2	0	0	0	2
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	2	0	1	0	3
5:15 AM	0	0	2	0	0	0	2
5:30 AM	0	0	2	0	0	0	2
5:45 AM	0	0	2	0	0	0	2
6:00 AM	0	0	3	0	0	0	3
6:15 AM	0	0	5	0	0	0	5
6:30 AM	0	0	6	0	0	0	6
6:45 AM	0	0	8	0	0	0	8
7:00 AM	0	0	5	0	0	0	5
7:15 AM	0	0	10	0	1	0	11
7:30 AM	1	0	16	0	0	0	17
7:45 AM	0	0	18	0	0	0	18
8:00 AM	0	0	11	0	0	0	11
8:15 AM	1	0	26	0	0	0	27
8:30 AM	0	0	22	0	0	0	22
8:45 AM	0	0	23	0	0	0	23
9:00 AM	5	0	25	0	0	0	30
9:15 AM	0	0	34	0	0	0	34
9:30 AM	19	0	30	0	0	0	49
9:45 AM	0	0	26	0	0	0	26
10:00 AM	2	0	46	0	0	0	48
10:15 AM	2	0	30	0	0	0	32
10:30 AM	2	0	42	0	0	0	44
10:45 AM	2	0	33	0	1	0	36
11:00 AM	0	0	47	0	0	0	47
11:15 AM	4	0	36	0	0	0	40
11:30 AM	3	0	37	0	0	0	40
11:45 AM	1	0	54	0	0	0	55

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	32	0	0	0	32
12:15 PM	2	0	69	0	0	0	71
12:30 PM	1	0	62	0	0	0	63
12:45 PM	1	0	47	0	0	0	48
1:00 PM	4	0	57	0	0	0	61
1:15 PM	1	0	48	0	0	0	49
1:30 PM	0	0	51	0	1	0	52
1:45 PM	2	0	61	0	1	0	64
2:00 PM	5	0	71	0	0	0	76
2:15 PM	0	0	49	0	0	0	49
2:30 PM	0	0	55	0	0	0	55
2:45 PM	0	1	47	0	0	0	48
3:00 PM	4	0	59	0	0	0	63
3:15 PM	1	0	64	0	0	0	65
3:30 PM	0	4	56	0	0	0	60
3:45 PM	0	0	64	0	0	0	64
4:00 PM	0	1	60	0	0	0	61
4:15 PM	0	0	56	0	0	0	56
4:30 PM	0	0	54	0	0	0	54
4:45 PM	0	0	44	0	0	0	44
5:00 PM	0	0	26	0	0	0	26
5:15 PM	0	0	28	0	0	0	28
5:30 PM	0	0	47	0	0	0	47
5:45 PM	0	0	51	0	0	0	51
6:00 PM	0	0	33	0	0	0	33
6:15 PM	0	0	26	0	0	0	26
6:30 PM	0	0	27	0	0	0	27
6:45 PM	0	0	27	0	0	0	27
7:00 PM	0	0	18	0	0	0	18
7:15 PM	0	0	27	0	0	0	27
7:30 PM	0	0	17	0	0	0	17
7:45 PM	0	0	15	0	0	0	15
8:00 PM	0	0	13	0	0	0	13
8:15 PM	0	0	12	0	0	0	12
8:30 PM	0	0	16	0	0	0	16
8:45 PM	0	0	8	0	0	0	8
9:00 PM	0	0	6	0	0	0	6
9:15 PM	0	1	9	0	0	0	10
9:30 PM	0	0	5	0	0	0	5
9:45 PM	0	0	11	0	0	0	11
10:00 PM	0	0	13	0	0	0	13
10:15 PM	0	0	6	0	0	0	6
10:30 PM	0	0	7	0	1	0	8
10:45 PM	0	0	2	0	0	0	2
11:00 PM	0	0	3	0	0	0	3
11:15 PM	0	0	1	0	0	0	1
11:30 PM	0	0	2	0	0	0	2
11:45 PM	0	0	1	0	0	0	1

AM Total 42 0 624 0 4 0 670
 Percentage 6.27% 0.00% 93.13% 0.00% 0.60% 0.00%

AM Peak 8:45 AM 12:00 AM 11:00 AM 12:00 AM 1:15 AM 12:00 AM 11:00 AM
 Volume 24 0 174 0 1 0 182

PM Total 21 7 1563 0 3 0 1594
 Percentage 1.32% 0.44% 98.06% 0.00% 0.19% 0.00%

PM Peak 12:15 PM 2:45 PM 3:15 PM 12:00 PM 1:00 PM 12:00 PM 3:00 PM
 Volume 8 5 244 0 2 0 252

Day Total 63 7 2187 0 7 0 2264
 Percentage 2.78% 0.31% 96.60% 0.00% 0.31% 0.00%

Bedford Street
 west of Old Bedford Road
 City, State: Concord, MA
 Client: McFarland Johnson/ S. Ireland
 Site Code: TBA



PDI File #: 228952 ATR-E

Count Date: Monday, December 5, 2022
 Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	2	0	0	0	2
12:15 AM	0	0	2	0	0	0	2
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	1	1
4:30 AM	0	0	3	0	0	0	3
4:45 AM	0	0	1	0	1	0	2
5:00 AM	0	0	3	0	0	0	3
5:15 AM	0	0	6	0	0	0	6
5:30 AM	0	0	3	0	0	0	3
5:45 AM	0	0	4	0	0	0	4
6:00 AM	0	0	17	0	0	0	17
6:15 AM	0	0	17	0	0	0	17
6:30 AM	0	0	20	0	0	0	20
6:45 AM	0	0	28	0	0	1	29
7:00 AM	0	0	38	0	0	0	38
7:15 AM	0	0	36	0	1	0	37
7:30 AM	0	0	53	1	3	0	57
7:45 AM	0	0	50	2	1	0	53
8:00 AM	1	0	51	0	1	0	53
8:15 AM	0	0	55	0	0	0	55
8:30 AM	0	0	53	0	1	0	54
8:45 AM	0	0	55	0	3	0	58
9:00 AM	0	0	60	0	1	0	61
9:15 AM	0	0	43	0	3	0	46
9:30 AM	0	0	26	0	1	0	27
9:45 AM	0	0	36	0	1	0	37
10:00 AM	0	0	34	0	5	0	39
10:15 AM	0	0	35	0	1	0	36
10:30 AM	1	0	39	0	0	0	40
10:45 AM	0	0	34	0	5	1	40
11:00 AM	1	0	34	1	0	0	36
11:15 AM	1	0	41	0	2	0	44
11:30 AM	0	0	41	0	2	0	43
11:45 AM	1	0	37	0	1	1	40

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	2	0	35	0	1	0	38
12:15 PM	1	0	33	0	2	1	37
12:30 PM	2	1	58	0	2	1	64
12:45 PM	0	0	40	0	1	1	42
1:00 PM	1	0	42	0	1	1	45
1:15 PM	0	0	37	0	1	0	38
1:30 PM	0	0	43	0	0	0	43
1:45 PM	0	0	30	0	1	0	31
2:00 PM	0	0	57	0	0	0	57
2:15 PM	1	0	56	0	2	0	59
2:30 PM	1	0	62	1	0	0	64
2:45 PM	0	0	76	2	1	0	79
3:00 PM	4	0	80	0	0	0	84
3:15 PM	0	0	94	0	1	0	95
3:30 PM	0	0	90	0	1	0	91
3:45 PM	1	0	87	2	1	0	91
4:00 PM	0	0	84	1	0	0	85
4:15 PM	0	0	94	1	0	0	95
4:30 PM	0	0	93	0	1	0	94
4:45 PM	0	1	73	1	3	0	78
5:00 PM	0	0	87	0	0	0	87
5:15 PM	0	0	91	1	0	0	92
5:30 PM	0	0	50	0	0	0	50
5:45 PM	0	0	63	1	0	0	64
6:00 PM	0	0	65	0	0	0	65
6:15 PM	0	0	50	0	0	0	50
6:30 PM	0	0	52	0	0	0	52
6:45 PM	0	0	38	0	0	0	38
7:00 PM	0	0	33	0	0	0	33
7:15 PM	0	0	13	0	0	0	13
7:30 PM	0	0	27	0	0	0	27
7:45 PM	0	0	19	0	0	0	19
8:00 PM	0	0	24	0	0	0	24
8:15 PM	0	0	10	0	0	0	10
8:30 PM	0	0	12	0	0	0	12
8:45 PM	0	0	8	0	0	0	8
9:00 PM	0	0	15	0	0	0	15
9:15 PM	0	0	8	0	0	0	8
9:30 PM	0	0	11	0	0	0	11
9:45 PM	0	0	10	0	0	0	10
10:00 PM	0	0	13	0	0	0	13
10:15 PM	0	0	7	0	0	0	7
10:30 PM	0	0	5	0	0	0	5
10:45 PM	0	0	3	0	0	0	3
11:00 PM	0	0	6	0	0	0	6
11:15 PM	0	0	5	0	0	0	5
11:30 PM	0	0	7	0	0	0	7
11:45 PM	0	0	2	0	0	0	2

AM Total	5	0	958	4	33	4	1004
Percentage	0.50%	0.00%	95.42%	0.40%	3.29%	0.40%	
AM Peak	10:30 AM	12:00 AM	8:15 AM	7:00 AM	10:00 AM	3:30 AM	8:15 AM
Volume	3	0	223	3	11	1	228

PM Total	13	2	1998	10	19	4	2046
Percentage	0.64%	0.10%	97.65%	0.49%	0.93%	0.20%	
PM Peak	2:15 PM	12:00 PM	3:45 PM	3:30 PM	12:00 PM	12:15 PM	3:45 PM
Volume	6	1	358	4	6	4	365

Day Total	18	2	2956	14	52	8	3050
Percentage	0.59%	0.07%	96.92%	0.46%	1.70%	0.26%	

Bedford Street
west of Old Bedford Road
City, State: Concord, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File # 228952 ATR-E

Direction: EB

Weekly Report

Day Date	Tuesday 11/29/22		Wednesday 11/30/22		Thursday 12/01/22		Friday 12/02/22		Saturday 12/03/22		Sunday 12/04/22		Monday 12/05/22		Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	0	47	0	44	0	47	1	42	1	43	5	46	2	40	1	44
12:15	0	42	0	47	0	60	1	38	1	41	1	43	0	47	0	45
12:30	0	40	0	51	0	48	4	32	1	45	5	50	1	30	2	42
12:45	0	42	0	43	0	41	1	49	4	39	2	49	0	42	1	44
1:00	0	25	0	39	0	30	0	47	0	48	0	48	1	46	0	40
1:15	0	35	0	53	0	28	1	39	1	49	0	48	1	36	0	41
1:30	0	51	0	32	0	18	2	32	2	50	0	52	1	38	1	39
1:45	0	40	0	62	0	32	0	45	2	54	0	45	0	42	0	46
2:00	1	44	1	39	0	36	0	49	2	37	0	44	1	32	1	40
2:15	0	50	0	47	0	36	0	52	1	36	0	45	2	49	0	45
2:30	1	58	1	31	1	48	0	43	1	41	0	41	0	49	1	44
2:45	1	39	1	50	1	29	0	34	0	34	0	42	2	46	1	39
3:00	1	59	2	40	2	56	0	31	0	49	0	31	3	69	1	48
3:15	0	43	1	49	0	37	0	55	1	37	0	13	0	55	0	41
3:30	1	44	2	32	2	61	0	43	2	39	0	20	1	65	1	43
3:45	4	54	4	16	4	57	0	62	1	32	0	23	3	73	2	45
4:00	1	45	4	53	1	58	1	51	0	45	1	18	1	47	1	45
4:15	1	50	2	52	0	60	2	48	1	55	0	13	1	54	1	47
4:30	3	39	1	38	4	57	3	54	1	27	0	16	2	62	2	42
4:45	2	15	2	55	4	61	3	66	2	31	1	12	2	65	2	44
5:00	4	58	2	59	3	47	3	49	1	47	1	7	5	53	3	46
5:15	10	59	8	57	9	49	14	46	4	29	2	26	7	49	8	45
5:30	15	43	14	34	10	34	13	53	5	44	2	13	14	42	10	38
5:45	20	41	20	34	13	49	16	58	4	37	2	12	20	48	14	40
6:00	1	41	2	45	23	43	0	31	4	29	1	27	15	38	7	36
6:15	12	31	5	28	22	39	10	31	5	29	5	22	26	28	12	30
6:30	37	37	36	32	28	37	33	35	6	41	7	31	28	29	25	35
6:45	41	34	37	29	60	29	34	39	10	23	7	18	46	29	34	29
7:00	51	24	47	34	51	32	51	26	22	20	10	16	34	16	38	24
7:15	61	17	63	23	66	34	62	23	24	16	13	23	69	17	51	22
7:30	67	18	78	22	65	23	53	18	18	16	18	11	64	29	52	20
7:45	83	22	73	23	78	20	74	19	29	32	25	10	62	16	61	20
8:00	83	14	91	19	91	24	76	21	24	18	16	22	94	18	68	19
8:15	84	16	66	21	83	15	60	20	30	14	11	15	94	18	61	17
8:30	77	12	74	15	63	15	73	15	24	12	22	11	72	11	58	13
8:45	72	9	61	13	66	16	57	12	30	17	37	10	64	10	55	12
9:00	66	12	60	14	58	17	36	23	26	12	27	11	71	14	49	15
9:15	66	18	59	17	44	11	34	11	41	14	32	10	57	9	48	13
9:30	47	5	55	9	34	14	53	8	38	9	37	6	44	12	44	9
9:45	53	10	61	9	30	7	45	9	53	6	41	4	36	5	46	7
10:00	33	5	34	6	43	13	45	27	51	13	30	6	44	10	40	11
10:15	43	10	44	5	41	12	31	15	37	9	45	2	31	12	39	9
10:30	55	3	33	7	46	9	42	8	50	13	42	3	52	3	46	7
10:45	37	4	46	3	29	8	47	15	35	11	47	2	49	3	41	7
11:00	44	6	46	4	52	6	33	8	51	12	51	3	44	3	46	6
11:15	45	5	50	2	41	3	48	2	52	4	51	2	38	2	46	3
11:30	46	5	37	4	49	3	48	4	44	4	40	3	47	1	44	3
11:45	47	2	41	5	54	3	54	5	43	5	45	1	47	5	47	4
Total	1316	1423	1264	1446	1271	1512	1164	1543	785	1368	682	1026	1298	1517	1111	1405
Day Total	2739		2710		2783		2707		2153		1708		2815		2516	
Peak HR	7:45 AM	2:15 PM	7:30 AM	4:30 PM	7:30 AM	3:30 PM	7:45 AM	4:00 PM	9:45 AM	1:00 PM	10:30 AM	12:45 PM	8:00 AM	3:00 PM	7:45 AM	3:30 PM
Volume	327	206	308	209	317	236	283	219	191	201	191	197	324	262	247	181

Bedford Street
west of Old Bedford Road
City, State: Concord, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
D A T A
INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File # 228952 ATR-E

Direction: WB

Weekly Report

Day Date	Tuesday 11/29/22		Wednesday 11/30/22		Thursday 12/01/22		Friday 12/02/22		Saturday 12/03/22		Sunday 12/04/22		Monday 12/05/22		Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	4	47	1	51	4	41	2	50	5	39	5	32	2	38	3	43
12:15	6	54	1	45	3	51	2	44	6	65	4	71	2	37	3	52
12:30	2	50	1	59	2	54	0	43	4	44	1	63	0	64	1	54
12:45	2	56	1	50	2	43	0	49	0	50	0	48	0	42	1	48
1:00	1	55	1	39	1	47	1	51	1	59	2	61	0	45	1	51
1:15	0	41	0	70	1	40	1	60	1	51	2	49	0	38	1	50
1:30	0	37	0	48	1	46	0	55	2	35	1	52	1	43	1	45
1:45	1	38	0	55	0	43	0	50	0	64	1	64	0	31	0	49
2:00	0	54	0	63	0	64	0	49	2	46	2	76	0	57	1	58
2:15	0	63	0	76	0	46	0	63	0	57	0	49	0	59	0	59
2:30	0	64	0	57	0	74	0	69	0	40	2	55	0	64	0	60
2:45	0	75	0	91	0	73	0	86	0	44	1	48	0	79	0	71
3:00	0	76	0	90	0	70	0	38	0	39	0	63	0	84	0	66
3:15	0	97	1	89	0	101	0	81	0	42	0	65	0	95	0	81
3:30	0	95	0	123	0	107	0	91	0	46	0	60	0	91	0	88
3:45	0	89	0	98	0	92	0	91	0	43	0	64	0	91	0	81
4:00	0	94	1	85	0	101	0	81	0	45	1	61	0	85	0	79
4:15	0	103	2	93	0	116	0	73	1	31	0	56	1	95	1	81
4:30	1	79	1	37	2	127	2	77	1	43	2	54	3	94	2	73
4:45	1	60	1	7	1	99	3	58	1	36	0	44	2	78	1	55
5:00	4	85	2	111	0	97	3	62	4	38	3	26	3	87	3	72
5:15	2	126	5	103	2	114	3	110	1	47	2	28	6	92	3	89
5:30	5	106	7	97	3	96	5	88	2	39	2	47	3	50	4	75
5:45	4	56	9	87	6	85	2	97	3	22	2	51	4	64	4	66
6:00	18	45	10	63	14	65	13	74	7	26	3	33	17	65	12	53
6:15	14	49	13	62	11	73	18	50	5	38	5	26	17	50	12	50
6:30	23	49	27	41	23	49	26	52	5	27	6	27	20	52	19	42
6:45	27	39	41	44	38	35	25	41	11	34	8	27	29	38	26	37
7:00	24	28	31	21	31	51	31	40	15	36	5	18	38	33	25	32
7:15	47	31	33	25	47	33	34	40	27	22	11	27	37	13	34	27
7:30	59	29	59	24	64	31	58	21	15	21	17	17	57	27	47	24
7:45	55	19	50	31	46	18	44	15	22	18	18	15	53	19	41	19
8:00	55	13	50	18	60	24	53	6	30	19	11	13	53	24	45	17
8:15	54	20	60	10	58	31	55	13	35	20	27	12	55	10	49	17
8:30	58	16	79	17	45	17	71	12	40	15	22	16	54	12	53	15
8:45	52	14	62	11	60	19	39	9	32	14	23	8	58	8	47	12
9:00	59	16	46	19	41	22	41	12	29	14	30	6	61	15	44	15
9:15	46	13	42	8	40	19	44	20	39	6	34	10	46	8	42	12
9:30	35	10	50	8	53	11	43	13	42	13	49	5	27	11	43	10
9:45	52	14	40	5	35	9	50	16	47	21	26	11	37	10	41	12
10:00	47	3	38	7	42	9	41	4	42	23	48	13	39	13	42	10
10:15	43	4	41	6	30	8	40	9	51	17	32	6	36	7	39	8
10:30	39	6	43	6	38	6	46	5	46	15	44	8	40	5	42	7
10:45	42	1	28	6	38	9	53	3	61	15	36	2	40	3	43	6
11:00	46	8	49	8	36	4	48	6	56	8	47	3	36	6	45	6
11:15	32	2	36	7	45	6	46	6	48	8	40	1	44	5	42	5
11:30	51	8	48	2	45	5	44	1	46	3	40	2	43	7	45	4
11:45	46	3	56	5	38	4	50	4	46	3	55	1	40	2	47	3
Total	1057	2140	1066	2178	1006	2385	1037	2088	831	1501	670	1594	1004	2046	953	1990
Day Total	3197		3244		3391		3125		2332		2264		3050		2943	
Peak HR	7:30 AM	3:30 PM	8:00 AM	3:00 PM	7:30 AM	4:00 PM	7:45 AM	5:15 PM	10:15 AM	12:15 PM	11:00 AM	3:00 PM	8:15 AM	3:45 PM	8:00 AM	3:15 PM
Volume	223	381	251	400	228	443	223	369	214	218	182	252	228	365	193	329

Hanscom Drive
north of Old Bedford Road
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-F

Count Date: Tuesday, November 29, 2022
Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	0	1
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	3	0	0	0	3
3:30 AM	0	0	2	0	0	0	2
3:45 AM	0	0	1	0	0	0	1
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	4	0	1	0	5
4:30 AM	0	0	5	0	0	0	5
4:45 AM	0	0	3	0	0	0	3
5:00 AM	0	0	4	0	1	0	5
5:15 AM	0	0	4	1	0	0	5
5:30 AM	0	0	12	0	0	0	12
5:45 AM	0	0	25	0	0	0	25
6:00 AM	0	0	13	0	0	1	14
6:15 AM	0	0	8	0	1	0	9
6:30 AM	0	0	8	0	1	0	9
6:45 AM	0	0	19	0	0	0	19
7:00 AM	0	0	19	1	0	0	20
7:15 AM	0	0	20	0	0	0	20
7:30 AM	0	0	16	0	1	1	18
7:45 AM	0	0	19	1	1	0	21
8:00 AM	0	0	19	0	0	1	20
8:15 AM	0	0	19	0	1	1	21
8:30 AM	0	0	29	1	2	0	32
8:45 AM	0	0	20	0	1	1	22
9:00 AM	0	0	26	0	0	0	26
9:15 AM	0	0	10	1	3	0	14
9:30 AM	0	0	24	0	2	0	26
9:45 AM	0	0	25	1	0	1	27
10:00 AM	0	0	20	1	1	0	22
10:15 AM	0	0	13	0	0	0	13
10:30 AM	0	0	7	0	1	0	8
10:45 AM	0	0	11	0	2	0	13
11:00 AM	0	0	15	0	1	0	16
11:15 AM	0	0	22	1	1	1	25
11:30 AM	0	0	11	0	1	0	12
11:45 AM	0	0	13	0	0	0	13

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	16	0	0	0	16
12:15 PM	0	0	14	1	1	0	16
12:30 PM	0	0	15	0	0	0	15
12:45 PM	0	0	18	0	0	0	18
1:00 PM	0	0	7	0	0	0	7
1:15 PM	0	0	9	1	0	0	10
1:30 PM	0	0	20	0	1	0	21
1:45 PM	0	0	15	0	0	0	15
2:00 PM	0	0	6	0	1	1	8
2:15 PM	0	0	6	1	0	0	7
2:30 PM	0	0	10	0	1	0	11
2:45 PM	0	0	16	0	1	0	17
3:00 PM	0	0	13	0	0	0	13
3:15 PM	0	0	10	2	1	0	13
3:30 PM	0	0	19	0	1	0	20
3:45 PM	0	0	9	0	0	0	9
4:00 PM	0	0	5	1	0	0	6
4:15 PM	0	0	7	0	0	0	7
4:30 PM	0	0	6	0	0	0	6
4:45 PM	0	0	11	0	0	0	11
5:00 PM	0	0	6	1	0	0	7
5:15 PM	0	0	9	0	0	0	9
5:30 PM	0	0	7	0	0	0	7
5:45 PM	0	0	12	2	1	0	15
6:00 PM	0	0	5	0	0	0	5
6:15 PM	0	0	8	0	1	0	9
6:30 PM	0	0	13	1	0	0	14
6:45 PM	0	0	3	0	0	0	3
7:00 PM	0	0	2	1	0	0	3
7:15 PM	0	0	0	0	0	0	0
7:30 PM	0	0	2	1	0	0	3
7:45 PM	0	0	6	0	0	0	6
8:00 PM	0	0	3	0	0	0	3
8:15 PM	0	0	1	0	0	0	1
8:30 PM	0	0	5	0	0	0	5
8:45 PM	0	0	1	0	0	0	1
9:00 PM	0	0	2	0	0	0	2
9:15 PM	0	0	3	0	0	0	3
9:30 PM	0	0	4	0	0	1	5
9:45 PM	0	0	2	0	0	0	2
10:00 PM	0	0	1	0	0	0	1
10:15 PM	0	0	0	0	0	0	0
10:30 PM	0	0	2	0	0	0	2
10:45 PM	0	0	1	0	0	0	1
11:00 PM	0	0	1	0	0	0	1
11:15 PM	0	0	2	0	0	0	2
11:30 PM	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0

AM Total 0 0 472 8 22 7 509
Percentage 0.00% 0.00% 92.73% 1.57% 4.32% 1.38%

AM Peak 12:00 AM 12:00 AM 8:15 AM 9:15 AM 8:30 AM 7:30 AM 8:15 AM
Volume 0 0 94 3 6 3 101

PM Total 0 0 333 12 9 2 356
Percentage 0.00% 0.00% 93.54% 3.37% 2.53% 0.56%

PM Peak 12:00 PM 12:00 PM 12:00 PM 3:15 PM 2:00 PM 1:15 PM 12:00 PM
Volume 0 0 63 3 3 1 65

Day Total 0 0 805 20 31 9 865
Percentage 0.00% 0.00% 93.06% 2.31% 3.58% 1.04%

Hanscom Drive
north of Old Bedford Road
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-F

Count Date: Wednesday, November 30, 2022
Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	1	0	0	0	1
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	1	0	1
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	1	0	0	0	1
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	2	0	0	0	2
4:30 AM	0	0	4	0	0	0	4
4:45 AM	0	0	3	0	0	0	3
5:00 AM	0	0	5	0	0	0	5
5:15 AM	0	0	7	1	2	1	11
5:30 AM	0	0	15	0	0	0	15
5:45 AM	0	0	20	0	0	1	21
6:00 AM	0	0	12	0	1	0	13
6:15 AM	0	0	14	0	0	0	14
6:30 AM	0	0	14	0	0	0	14
6:45 AM	0	0	18	0	1	0	19
7:00 AM	0	0	20	1	1	0	22
7:15 AM	0	0	11	0	0	0	11
7:30 AM	0	0	25	0	1	2	28
7:45 AM	0	0	22	1	0	0	23
8:00 AM	0	0	15	0	0	0	15
8:15 AM	0	0	11	0	0	0	11
8:30 AM	0	0	13	1	1	0	15
8:45 AM	0	0	17	0	2	0	19
9:00 AM	0	0	19	0	0	0	19
9:15 AM	0	0	17	1	1	0	19
9:30 AM	0	0	23	0	0	0	23
9:45 AM	0	0	36	1	3	1	41
10:00 AM	0	0	12	0	2	1	15
10:15 AM	0	0	16	0	2	0	18
10:30 AM	0	0	14	0	1	0	15
10:45 AM	0	0	7	0	0	0	7
11:00 AM	0	0	15	0	0	0	15
11:15 AM	0	0	22	1	1	0	24
11:30 AM	0	0	9	0	0	0	9
11:45 AM	0	0	17	0	3	0	20

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	18	0	1	1	20
12:15 PM	0	0	15	1	1	0	17
12:30 PM	0	0	11	0	1	0	12
12:45 PM	0	0	14	0	0	0	14
1:00 PM	0	0	6	0	0	0	6
1:15 PM	0	0	15	1	0	0	16
1:30 PM	0	0	15	0	1	1	17
1:45 PM	0	0	29	0	1	0	30
2:00 PM	0	0	8	0	1	0	9
2:15 PM	0	0	8	1	0	0	9
2:30 PM	0	0	12	0	0	0	12
2:45 PM	0	0	5	0	0	0	5
3:00 PM	0	0	9	0	0	0	9
3:15 PM	0	0	5	1	0	0	6
3:30 PM	0	0	11	0	1	0	12
3:45 PM	0	0	0	0	0	0	0
4:00 PM	0	0	5	0	0	0	5
4:15 PM	0	0	6	1	1	0	8
4:30 PM	0	0	6	0	0	0	6
4:45 PM	0	0	1	0	0	0	1
5:00 PM	0	0	5	1	0	0	6
5:15 PM	0	0	2	0	0	0	2
5:30 PM	0	0	0	0	0	0	0
5:45 PM	0	0	2	1	0	0	3
6:00 PM	0	0	3	0	0	0	3
6:15 PM	0	0	6	1	0	0	7
6:30 PM	0	0	3	0	0	0	3
6:45 PM	0	0	5	0	1	0	6
7:00 PM	0	0	2	1	0	0	3
7:15 PM	0	0	0	0	0	0	0
7:30 PM	0	0	6	1	0	0	7
7:45 PM	0	0	7	0	0	0	7
8:00 PM	0	0	1	0	0	0	1
8:15 PM	0	0	3	0	0	0	3
8:30 PM	0	0	1	0	1	0	2
8:45 PM	0	0	1	0	0	0	1
9:00 PM	0	0	2	0	0	0	2
9:15 PM	0	0	0	0	0	0	0
9:30 PM	0	0	3	0	0	0	3
9:45 PM	0	0	3	0	0	0	3
10:00 PM	0	0	2	1	0	1	4
10:15 PM	0	0	1	0	0	0	1
10:30 PM	0	0	2	0	0	0	2
10:45 PM	0	0	0	0	1	0	1
11:00 PM	0	0	2	0	0	0	2
11:15 PM	0	0	0	0	0	0	0
11:30 PM	0	0	2	0	0	0	2
11:45 PM	0	0	0	0	0	0	0

AM Total	0	0	459	7	23	6	495
Percentage	0.00%	0.00%	92.73%	1.41%	4.65%	1.21%	
AM Peak	12:00 AM	12:00 AM	9:00 AM	7:00 AM	9:45 AM	5:00 AM	9:00 AM
Volume	0	0	95	2	8	2	102

PM Total	0	0	263	11	11	3	288
Percentage	0.00%	0.00%	91.32%	3.82%	3.82%	1.04%	
PM Peak	12:00 PM	12:00 PM	1:15 PM	4:15 PM	12:00 PM	12:00 PM	1:15 PM
Volume	0	0	67	2	3	1	72

Day Total	0	0	722	18	34	9	783
Percentage	0.00%	0.00%	92.21%	2.30%	4.34%	1.15%	

Hanscom Drive
north of Old Bedford Road
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-F

Count Date: Thursday, December 1, 2022
Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total	PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0	12:00 PM	0	0	18	0	1	0	19
12:15 AM	0	0	0	0	0	0	0	12:15 PM	0	0	8	1	0	0	9
12:30 AM	0	0	1	0	0	0	1	12:30 PM	0	0	13	0	1	0	14
12:45 AM	0	0	0	0	0	0	0	12:45 PM	0	0	14	0	0	0	14
1:00 AM	0	0	0	0	0	0	0	1:00 PM	0	0	13	0	1	0	14
1:15 AM	0	0	1	0	0	0	1	1:15 PM	0	0	12	1	2	0	15
1:30 AM	0	0	0	0	0	0	0	1:30 PM	0	0	8	0	0	0	8
1:45 AM	0	0	0	0	0	0	0	1:45 PM	0	0	10	0	1	0	11
2:00 AM	0	0	0	0	0	0	0	2:00 PM	0	0	10	0	2	0	12
2:15 AM	0	0	0	0	0	0	0	2:15 PM	0	0	4	1	0	0	5
2:30 AM	0	0	0	0	0	0	0	2:30 PM	0	0	8	0	0	0	8
2:45 AM	0	0	0	0	0	0	0	2:45 PM	0	0	6	0	1	0	7
3:00 AM	0	0	1	1	2	0	4	3:00 PM	0	0	6	0	3	0	9
3:15 AM	0	0	0	0	0	0	0	3:15 PM	0	0	6	1	0	1	8
3:30 AM	0	0	1	0	0	0	1	3:30 PM	0	0	5	0	0	0	5
3:45 AM	0	0	0	0	0	0	0	3:45 PM	0	0	5	0	0	0	5
4:00 AM	0	0	2	0	0	0	2	4:00 PM	0	0	7	1	0	0	8
4:15 AM	0	0	5	0	0	0	5	4:15 PM	0	0	9	0	0	0	9
4:30 AM	0	0	1	0	0	0	1	4:30 PM	0	0	10	0	1	0	11
4:45 AM	0	0	6	0	0	0	6	4:45 PM	0	0	3	0	0	0	3
5:00 AM	0	0	4	0	0	0	4	5:00 PM	0	0	8	1	0	0	9
5:15 AM	0	0	6	1	0	0	7	5:15 PM	0	0	4	0	0	0	4
5:30 AM	0	0	5	0	0	0	5	5:30 PM	0	0	7	1	0	0	8
5:45 AM	0	0	23	0	1	0	24	5:45 PM	0	0	6	0	0	0	6
6:00 AM	0	0	12	0	1	0	13	6:00 PM	0	0	9	0	0	0	9
6:15 AM	0	0	10	0	0	0	10	6:15 PM	0	0	4	1	0	0	5
6:30 AM	0	0	15	0	0	1	16	6:30 PM	0	0	3	0	0	0	3
6:45 AM	0	0	20	0	0	0	20	6:45 PM	0	0	4	1	0	0	5
7:00 AM	0	0	11	1	1	0	13	7:00 PM	0	0	6	0	0	0	6
7:15 AM	0	0	16	0	0	0	16	7:15 PM	0	0	0	0	0	0	0
7:30 AM	0	0	13	0	1	1	15	7:30 PM	0	0	5	1	1	0	7
7:45 AM	0	0	23	1	1	0	25	7:45 PM	0	0	2	0	0	0	2
8:00 AM	0	0	13	0	1	1	15	8:00 PM	0	0	6	0	1	0	7
8:15 AM	0	0	19	0	1	0	20	8:15 PM	0	0	4	0	1	0	5
8:30 AM	0	0	25	1	2	0	28	8:30 PM	0	0	1	0	0	0	1
8:45 AM	0	0	25	0	0	0	25	8:45 PM	0	0	2	0	0	0	2
9:00 AM	0	0	26	0	1	0	27	9:00 PM	0	0	0	0	0	0	0
9:15 AM	0	0	15	1	1	0	17	9:15 PM	0	0	2	0	0	0	2
9:30 AM	0	0	19	0	2	0	21	9:30 PM	0	0	1	0	0	1	2
9:45 AM	0	0	19	1	0	0	20	9:45 PM	0	0	5	0	0	0	5
10:00 AM	0	0	11	0	3	1	15	10:00 PM	0	0	0	0	0	0	0
10:15 AM	0	0	16	0	1	0	17	10:15 PM	0	0	3	0	0	0	3
10:30 AM	0	0	12	0	0	0	12	10:30 PM	0	0	0	0	0	0	0
10:45 AM	0	0	13	0	0	1	14	10:45 PM	0	0	1	0	0	0	1
11:00 AM	0	0	8	1	1	0	10	11:00 PM	0	0	0	0	0	0	0
11:15 AM	0	0	16	0	1	0	17	11:15 PM	0	0	0	0	0	0	0
11:30 AM	0	0	11	0	2	0	13	11:30 PM	0	0	1	0	0	0	1
11:45 AM	0	0	8	0	0	1	9	11:45 PM	0	0	0	0	1	0	1
AM Total	0	0	432	8	23	6	469	PM Total	0	0	259	10	17	2	288
Percentage	0.00%	0.00%	92.11%	1.71%	4.90%	1.28%		Percentage	0.00%	0.00%	89.93%	3.47%	5.90%	0.69%	
AM Peak	12:00 AM	12:00 AM	8:15 AM	7:00 AM	9:15 AM	7:15 AM	8:15 AM	PM Peak	12:00 PM	12:00 PM	12:00 PM	3:15 PM	1:15 PM	2:30 PM	12:30 PM
Volume	0	0	95	2	6	2	100	Volume	0	0	53	2	5	1	57
Day Total	0	0	691	18	40	8	757	Percentage	0.00%	0.00%	91.28%	2.38%	5.28%	1.06%	

Hanscom Drive
north of Old Bedford Road
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-F

Count Date: Friday, December 2, 2022
Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	1	0	0	0	1
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	3	0	1	0	4
4:45 AM	0	0	2	0	0	0	2
5:00 AM	0	0	4	0	0	1	5
5:15 AM	0	0	1	1	0	0	2
5:30 AM	0	0	11	0	1	0	12
5:45 AM	0	0	16	0	0	2	18
6:00 AM	0	0	15	0	0	0	15
6:15 AM	0	0	14	0	0	0	14
6:30 AM	0	0	14	0	0	0	14
6:45 AM	0	0	15	0	0	0	15
7:00 AM	0	0	9	1	3	1	14
7:15 AM	0	0	12	0	1	0	13
7:30 AM	0	0	19	0	0	0	19
7:45 AM	0	0	21	1	0	0	22
8:00 AM	0	0	18	0	2	0	20
8:15 AM	0	0	13	0	1	0	14
8:30 AM	0	0	20	1	2	2	25
8:45 AM	0	0	17	0	0	0	17
9:00 AM	0	0	9	0	0	1	10
9:15 AM	0	0	9	1	3	0	13
9:30 AM	0	0	22	1	1	1	25
9:45 AM	0	0	24	1	3	0	28
10:00 AM	0	0	15	0	1	0	16
10:15 AM	0	0	11	0	4	0	15
10:30 AM	0	0	6	0	0	0	6
10:45 AM	0	0	17	0	1	1	19
11:00 AM	0	0	8	0	0	0	8
11:15 AM	0	0	12	2	1	0	15
11:30 AM	0	0	11	0	1	0	12
11:45 AM	0	0	17	0	0	0	17

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	9	0	0	0	9
12:15 PM	0	0	9	1	0	0	10
12:30 PM	0	0	11	0	1	0	12
12:45 PM	0	0	27	0	0	0	27
1:00 PM	0	0	16	0	0	0	16
1:15 PM	0	0	10	1	0	0	11
1:30 PM	0	0	9	0	0	0	9
1:45 PM	0	0	19	0	0	0	19
2:00 PM	0	0	11	0	0	0	11
2:15 PM	0	0	12	1	1	0	14
2:30 PM	0	0	18	0	0	0	18
2:45 PM	0	0	12	0	0	0	12
3:00 PM	0	0	7	0	0	0	7
3:15 PM	0	0	8	1	1	0	10
3:30 PM	0	0	8	0	0	0	8
3:45 PM	0	0	13	0	0	0	13
4:00 PM	0	0	8	1	0	0	9
4:15 PM	0	0	11	0	0	0	11
4:30 PM	0	0	8	0	0	0	8
4:45 PM	0	0	5	0	0	0	5
5:00 PM	0	0	5	1	0	0	6
5:15 PM	0	0	3	0	0	0	3
5:30 PM	0	0	4	1	0	0	5
5:45 PM	0	0	4	0	0	0	4
6:00 PM	0	0	6	0	0	0	6
6:15 PM	0	0	6	1	1	0	8
6:30 PM	0	0	12	0	0	0	12
6:45 PM	0	0	3	0	0	0	3
7:00 PM	0	0	1	1	0	0	2
7:15 PM	0	0	1	0	0	0	1
7:30 PM	0	0	2	1	0	0	3
7:45 PM	0	0	2	0	0	0	2
8:00 PM	0	0	4	0	0	0	4
8:15 PM	0	0	4	0	0	0	4
8:30 PM	0	0	1	0	0	0	1
8:45 PM	0	0	2	0	0	0	2
9:00 PM	0	0	3	0	0	0	3
9:15 PM	0	0	0	0	0	0	0
9:30 PM	0	0	4	0	0	0	4
9:45 PM	0	0	1	0	0	0	1
10:00 PM	0	0	1	0	0	1	2
10:15 PM	0	0	1	0	0	0	1
10:30 PM	0	0	1	0	0	0	1
10:45 PM	0	0	1	0	0	0	1
11:00 PM	0	0	0	0	0	0	0
11:15 PM	0	0	1	0	0	0	1
11:30 PM	0	0	0	0	1	0	1
11:45 PM	0	0	0	0	0	0	0

AM Total	0	0	387	9	26	9	431
Percentage	0.00%	0.00%	89.79%	2.09%	6.03%	2.09%	
AM Peak	12:00 AM	12:00 AM	7:45 AM	9:00 AM	9:30 AM	5:00 AM	9:30 AM
Volume	0	0	72	3	9	3	84

PM Total	0	0	304	10	5	1	320
Percentage	0.00%	0.00%	95.00%	3.13%	1.56%	0.31%	
PM Peak	12:00 PM	12:00 PM	12:30 PM	3:15 PM	12:00 PM	9:15 PM	12:30 PM
Volume	0	0	64	2	1	1	66

Day Total	0	0	691	19	31	10	751
Percentage	0.00%	0.00%	92.01%	2.53%	4.13%	1.33%	

Hanscom Drive
north of Old Bedford Road
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-F

Count Date: **Saturday, December 3, 2022**
Direction: **NB**

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total	PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	0	1	12:00 PM	0	0	11	1	0	0	12
12:15 AM	0	0	1	0	0	0	1	12:15 PM	0	0	9	0	0	0	9
12:30 AM	0	0	0	0	0	0	0	12:30 PM	0	0	17	0	0	0	17
12:45 AM	0	0	2	0	0	0	2	12:45 PM	0	0	9	1	0	0	10
1:00 AM	0	0	0	0	0	0	0	1:00 PM	0	0	14	0	0	0	14
1:15 AM	0	0	0	0	0	0	0	1:15 PM	0	0	13	1	0	0	14
1:30 AM	0	0	0	0	0	0	0	1:30 PM	0	0	22	0	0	0	22
1:45 AM	0	0	1	0	0	0	1	1:45 PM	0	0	18	0	0	0	18
2:00 AM	0	0	0	0	1	0	1	2:00 PM	0	0	6	1	0	0	7
2:15 AM	0	0	0	0	0	0	0	2:15 PM	0	0	3	1	0	0	4
2:30 AM	0	0	1	0	0	0	1	2:30 PM	0	0	2	0	0	0	2
2:45 AM	0	0	0	0	0	0	0	2:45 PM	0	0	1	0	0	0	1
3:00 AM	0	0	0	0	0	0	0	3:00 PM	0	0	3	0	0	0	3
3:15 AM	0	0	0	0	0	0	0	3:15 PM	0	0	6	1	0	0	7
3:30 AM	0	0	1	0	0	0	1	3:30 PM	0	0	4	1	0	0	5
3:45 AM	0	0	0	0	0	0	0	3:45 PM	0	0	3	0	0	0	3
4:00 AM	0	0	0	0	0	0	0	4:00 PM	0	0	3	0	0	0	3
4:15 AM	0	0	0	0	0	0	0	4:15 PM	0	0	8	1	1	0	10
4:30 AM	0	0	1	0	0	0	1	4:30 PM	0	0	1	1	0	0	2
4:45 AM	0	0	1	0	0	0	1	4:45 PM	0	0	2	0	0	0	2
5:00 AM	0	0	1	0	0	0	1	5:00 PM	0	0	0	0	0	0	0
5:15 AM	0	0	2	0	0	0	2	5:15 PM	0	0	0	1	0	0	1
5:30 AM	0	0	3	0	0	0	3	5:30 PM	0	0	2	1	0	0	3
5:45 AM	0	0	10	0	1	0	11	5:45 PM	0	0	1	0	0	0	1
6:00 AM	0	0	2	0	0	0	2	6:00 PM	0	0	4	0	0	0	4
6:15 AM	0	0	3	0	1	0	4	6:15 PM	0	0	4	2	0	0	6
6:30 AM	0	0	12	0	0	0	12	6:30 PM	0	0	4	0	0	0	4
6:45 AM	0	0	6	0	0	0	6	6:45 PM	0	0	1	0	0	0	1
7:00 AM	0	0	6	0	0	0	6	7:00 PM	0	0	1	0	0	0	1
7:15 AM	0	0	4	0	0	0	4	7:15 PM	0	0	0	1	0	0	1
7:30 AM	0	0	6	1	0	0	7	7:30 PM	0	0	1	1	0	0	2
7:45 AM	0	0	13	0	0	0	13	7:45 PM	0	0	2	0	0	0	2
8:00 AM	0	0	9	0	0	0	9	8:00 PM	0	0	2	0	1	0	3
8:15 AM	0	0	9	1	0	0	10	8:15 PM	0	0	0	1	0	0	1
8:30 AM	0	0	7	1	0	0	8	8:30 PM	0	0	0	0	0	0	0
8:45 AM	0	0	7	0	0	1	8	8:45 PM	0	0	3	1	0	0	4
9:00 AM	0	0	9	0	0	0	9	9:00 PM	0	0	0	0	0	0	0
9:15 AM	0	0	10	1	0	0	11	9:15 PM	0	0	0	0	0	0	0
9:30 AM	0	0	9	1	0	1	11	9:30 PM	0	0	3	0	0	0	3
9:45 AM	0	0	9	0	1	0	10	9:45 PM	0	0	1	0	0	0	1
10:00 AM	0	0	6	1	0	0	7	10:00 PM	0	0	3	0	0	0	3
10:15 AM	0	0	2	0	1	0	3	10:15 PM	0	0	2	0	0	1	3
10:30 AM	0	0	2	1	0	0	3	10:30 PM	0	0	0	0	0	0	0
10:45 AM	0	0	4	0	0	0	4	10:45 PM	0	0	1	0	0	0	1
11:00 AM	0	0	3	1	0	0	4	11:00 PM	0	0	1	0	0	0	1
11:15 AM	0	0	5	0	1	0	6	11:15 PM	0	0	0	0	0	0	0
11:30 AM	0	0	6	0	1	0	7	11:30 PM	0	0	1	0	0	0	1
11:45 AM	0	0	13	1	0	0	14	11:45 PM	0	0	0	0	0	0	0

AM Total	0	0	187	9	7	2	205
Percentage	0.00%	0.00%	91.22%	4.39%	3.41%	0.98%	
AM Peak	12:00 AM	12:00 AM	7:45 AM	9:15 AM	5:30 AM	8:45 AM	9:00 AM
Volume	0	0	38	3	2	2	41

PM Total	0	0	192	17	2	1	212
Percentage	0.00%	0.00%	90.57%	8.02%	0.94%	0.47%	
PM Peak	12:00 PM	12:00 PM	1:00 PM	5:30 PM	3:30 PM	9:30 PM	1:00 PM
Volume	0	0	67	3	1	1	68

Day Total	0	0	379	26	9	3	417
Percentage	0.00%	0.00%	90.89%	6.24%	2.16%	0.72%	

Hanscom Drive
north of Old Bedford Road
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-F

Count Date: Sunday, December 4, 2022
Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	1	0	1
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	2	0	0	0	2
3:30 AM	0	0	0	0	0	1	1
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	2	0	0	0	2
5:00 AM	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0
5:30 AM	0	0	2	0	0	0	2
5:45 AM	0	0	14	0	0	0	14
6:00 AM	0	0	8	0	0	0	8
6:15 AM	0	0	7	0	0	0	7
6:30 AM	0	0	8	0	0	0	8
6:45 AM	0	0	8	0	0	0	8
7:00 AM	0	0	7	0	0	0	7
7:15 AM	0	0	5	0	0	0	5
7:30 AM	0	0	13	0	0	0	13
7:45 AM	0	0	10	0	0	0	10
8:00 AM	0	0	8	0	0	0	8
8:15 AM	0	0	4	0	0	0	4
8:30 AM	0	0	3	0	0	0	3
8:45 AM	0	0	6	0	0	0	6
9:00 AM	0	0	4	0	1	1	6
9:15 AM	0	0	3	0	0	0	3
9:30 AM	0	0	4	0	0	0	4
9:45 AM	0	0	9	0	0	0	9
10:00 AM	0	0	15	0	0	0	15
10:15 AM	0	0	9	0	1	0	10
10:30 AM	0	0	10	0	0	0	10
10:45 AM	0	1	10	0	0	0	11
11:00 AM	0	0	9	0	1	0	10
11:15 AM	0	0	8	0	0	0	8
11:30 AM	0	0	9	0	0	0	9
11:45 AM	0	0	11	0	1	0	12

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	10	0	0	0	10
12:15 PM	0	0	4	0	0	0	4
12:30 PM	0	0	8	0	0	1	9
12:45 PM	0	0	11	0	0	0	11
1:00 PM	0	0	7	0	0	0	7
1:15 PM	0	0	5	0	0	0	5
1:30 PM	0	0	8	0	0	0	8
1:45 PM	0	0	20	0	0	0	20
2:00 PM	0	0	1	0	1	0	2
2:15 PM	0	0	7	0	0	0	7
2:30 PM	0	0	8	0	0	0	8
2:45 PM	0	0	5	0	0	0	5
3:00 PM	0	0	6	0	0	0	6
3:15 PM	0	0	6	0	0	0	6
3:30 PM	0	0	5	0	0	0	5
3:45 PM	0	0	11	0	0	0	11
4:00 PM	0	0	6	0	0	0	6
4:15 PM	0	0	10	0	1	0	11
4:30 PM	0	0	7	0	0	0	7
4:45 PM	0	0	8	0	0	0	8
5:00 PM	0	0	7	0	0	0	7
5:15 PM	0	0	6	0	1	0	7
5:30 PM	0	0	2	0	0	0	2
5:45 PM	0	0	3	0	1	0	4
6:00 PM	0	0	4	0	0	0	4
6:15 PM	0	0	8	0	0	0	8
6:30 PM	0	0	1	0	0	0	1
6:45 PM	0	0	3	0	0	0	3
7:00 PM	0	0	0	0	0	0	0
7:15 PM	0	0	1	0	0	0	1
7:30 PM	0	0	3	0	0	0	3
7:45 PM	0	0	2	0	0	0	2
8:00 PM	0	0	6	0	0	0	6
8:15 PM	0	0	3	0	0	0	3
8:30 PM	0	0	0	0	0	0	0
8:45 PM	0	0	2	0	0	0	2
9:00 PM	0	0	2	0	0	0	2
9:15 PM	0	0	2	0	0	0	2
9:30 PM	0	0	3	0	0	0	3
9:45 PM	0	0	5	0	0	0	5
10:00 PM	0	0	2	0	0	0	2
10:15 PM	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0
11:00 PM	0	0	1	0	0	0	1
11:15 PM	0	0	1	0	0	0	1
11:30 PM	0	0	1	0	0	0	1
11:45 PM	0	0	1	0	0	0	1

AM Total 0 1 210 0 5 2 218
Percentage 0.00% 0.46% 96.33% 0.00% 2.29% 0.92%

AM Peak 12:00 AM 10:00 AM 10:00 AM 12:00 AM 10:15 AM 2:45 AM 10:00 AM
Volume 0 1 44 0 2 1 46

PM Total 0 0 222 0 4 1 227
Percentage 0.00% 0.00% 97.80% 0.00% 1.76% 0.44%

PM Peak 12:00 PM 12:00 PM 1:00 PM 12:00 PM 5:00 PM 12:00 PM 1:00 PM
Volume 0 0 40 0 2 1 40

Day Total 0 1 432 0 9 3 445
Percentage 0.00% 0.22% 97.08% 0.00% 2.02% 0.67%

Hanscom Drive
north of Old Bedford Road
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
D A T A
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-F

Count Date: Monday, December 5, 2022
Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	1	0	1
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	1	0	1
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	3	0	0	0	3
4:00 AM	0	0	1	0	1	0	2
4:15 AM	0	0	4	0	0	1	5
4:30 AM	0	0	1	0	0	0	1
4:45 AM	0	0	1	0	0	0	1
5:00 AM	0	0	5	0	0	0	5
5:15 AM	0	0	3	0	1	0	4
5:30 AM	0	0	14	1	0	0	15
5:45 AM	0	0	26	0	1	0	27
6:00 AM	0	0	14	0	0	0	14
6:15 AM	0	0	9	0	1	0	10
6:30 AM	0	0	14	0	1	0	15
6:45 AM	0	0	23	0	0	0	23
7:00 AM	0	0	14	1	0	0	15
7:15 AM	0	0	16	0	0	0	16
7:30 AM	0	0	19	0	0	0	19
7:45 AM	0	0	16	1	0	0	17
8:00 AM	0	0	20	0	0	0	20
8:15 AM	0	0	18	0	2	0	20
8:30 AM	0	0	24	1	0	0	25
8:45 AM	0	0	12	0	0	0	12
9:00 AM	0	0	22	0	0	2	24
9:15 AM	0	0	19	1	0	1	21
9:30 AM	0	0	16	0	0	0	16
9:45 AM	0	0	14	0	2	0	16
10:00 AM	0	0	12	0	0	1	13
10:15 AM	0	0	15	0	3	2	20
10:30 AM	0	0	11	0	0	0	11
10:45 AM	0	0	15	0	0	0	15
11:00 AM	0	0	15	0	0	0	15
11:15 AM	0	0	12	1	0	0	13
11:30 AM	0	0	8	0	0	1	9
11:45 AM	0	0	12	0	2	0	14

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	10	0	0	0	10
12:15 PM	0	0	15	1	1	0	17
12:30 PM	0	0	18	0	0	0	18
12:45 PM	0	0	12	0	0	0	12
1:00 PM	0	0	11	0	0	2	13
1:15 PM	0	0	14	1	1	1	17
1:30 PM	0	0	15	0	1	0	16
1:45 PM	0	0	22	0	1	0	23
2:00 PM	0	0	10	0	1	1	12
2:15 PM	0	0	9	1	0	0	10
2:30 PM	0	0	5	0	0	0	5
2:45 PM	0	0	9	0	0	0	9
3:00 PM	0	0	9	0	2	0	11
3:15 PM	0	0	8	1	0	0	9
3:30 PM	0	0	8	0	1	0	9
3:45 PM	0	0	3	0	0	0	3
4:00 PM	0	0	3	1	0	0	4
4:15 PM	0	0	7	0	0	0	7
4:30 PM	0	0	3	0	0	0	3
4:45 PM	0	0	3	0	0	0	3
5:00 PM	0	0	3	1	0	0	4
5:15 PM	0	0	4	0	1	0	5
5:30 PM	0	0	2	0	0	0	2
5:45 PM	0	0	1	1	0	0	2
6:00 PM	0	0	5	0	0	0	5
6:15 PM	0	0	6	1	0	0	7
6:30 PM	0	0	4	0	0	0	4
6:45 PM	0	0	2	1	0	0	3
7:00 PM	0	0	2	0	0	0	2
7:15 PM	0	0	3	0	0	0	3
7:30 PM	0	0	0	1	0	0	1
7:45 PM	0	0	4	0	0	0	4
8:00 PM	0	0	0	0	0	0	0
8:15 PM	0	0	2	0	0	0	2
8:30 PM	0	0	3	0	0	0	3
8:45 PM	0	0	2	0	0	0	2
9:00 PM	0	0	0	0	1	0	1
9:15 PM	0	0	1	0	0	0	1
9:30 PM	0	0	3	0	0	0	3
9:45 PM	0	0	0	0	0	0	0
10:00 PM	0	0	2	0	0	0	2
10:15 PM	0	0	0	0	0	0	0
10:30 PM	0	0	2	0	0	0	2
10:45 PM	0	0	1	0	0	0	1
11:00 PM	0	0	1	0	0	0	1
11:15 PM	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0
11:45 PM	0	0	3	0	0	0	3

AM Total	0	0	430	6	16	8	460
Percentage	0.00%	0.00%	93.48%	1.30%	3.48%	1.74%	
AM Peak	12:00 AM	12:00 AM	7:45 AM	7:00 AM	9:30 AM	8:30 AM	7:45 AM
Volume	0	0	78	2	5	3	82

PM Total	0	0	250	10	10	4	274
Percentage	0.00%	0.00%	91.24%	3.65%	3.65%	1.46%	
PM Peak	12:00 PM	12:00 PM	1:00 PM	3:15 PM	1:15 PM	12:30 PM	1:00 PM
Volume	0	0	62	2	4	3	69

Day Total	0	0	680	16	26	12	734
Percentage	0.00%	0.00%	92.64%	2.18%	3.54%	1.63%	

Hanscom Drive
north of Old Bedford Road
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

PDI File #: 228952 ATR-F

Count Date: Tuesday, November 29, 2022
Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	2	0	0	0	2
12:45 AM	0	0	2	0	0	0	2
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	2	0	0	0	2
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	1	0	0	0	1
5:00 AM	0	0	1	0	1	0	2
5:15 AM	0	0	0	1	0	0	1
5:30 AM	0	0	1	0	0	0	1
5:45 AM	0	0	1	0	0	0	1
6:00 AM	0	0	3	0	0	0	3
6:15 AM	0	0	1	0	1	0	2
6:30 AM	0	0	4	0	0	0	4
6:45 AM	0	0	3	0	0	0	3
7:00 AM	0	0	4	1	0	0	5
7:15 AM	0	0	5	0	1	1	7
7:30 AM	0	0	7	0	1	0	8
7:45 AM	0	0	3	0	0	0	3
8:00 AM	0	0	5	1	1	0	7
8:15 AM	0	0	4	0	1	1	6
8:30 AM	0	0	7	1	0	0	8
8:45 AM	0	0	7	0	0	0	7
9:00 AM	0	0	12	0	1	0	13
9:15 AM	0	0	8	1	0	2	11
9:30 AM	0	0	15	0	1	0	16
9:45 AM	0	0	6	1	0	1	8
10:00 AM	0	0	10	0	1	0	11
10:15 AM	0	0	12	1	0	0	13
10:30 AM	0	0	9	0	0	1	10
10:45 AM	0	0	11	0	3	0	14
11:00 AM	0	0	16	0	1	0	17
11:15 AM	0	0	7	1	0	0	8
11:30 AM	0	0	9	0	1	0	10
11:45 AM	0	0	21	0	1	1	23

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	16	0	1	0	17
12:15 PM	0	0	18	1	0	0	19
12:30 PM	0	0	16	0	0	0	16
12:45 PM	0	0	15	0	2	0	17
1:00 PM	0	0	18	0	0	0	18
1:15 PM	0	0	13	1	1	0	15
1:30 PM	0	0	12	0	0	0	12
1:45 PM	0	0	22	0	1	0	23
2:00 PM	0	0	26	0	0	0	26
2:15 PM	0	0	13	1	3	0	17
2:30 PM	0	0	9	0	0	0	9
2:45 PM	0	0	23	0	2	0	25
3:00 PM	0	0	18	0	1	0	19
3:15 PM	0	0	20	1	1	0	22
3:30 PM	0	0	21	0	0	0	21
3:45 PM	0	0	19	0	1	0	20
4:00 PM	0	0	25	2	0	0	27
4:15 PM	0	0	12	0	0	0	12
4:30 PM	0	0	17	0	0	0	17
4:45 PM	0	0	14	0	0	0	14
5:00 PM	0	0	21	1	0	0	22
5:15 PM	0	0	11	0	0	0	11
5:30 PM	0	0	15	0	0	0	15
5:45 PM	0	0	13	1	0	0	14
6:00 PM	0	0	17	0	0	0	17
6:15 PM	0	0	13	0	0	0	13
6:30 PM	0	0	6	1	0	0	7
6:45 PM	0	0	14	0	0	0	14
7:00 PM	0	0	11	1	0	0	12
7:15 PM	0	0	10	0	0	0	10
7:30 PM	0	0	9	1	0	0	10
7:45 PM	0	0	15	0	0	0	15
8:00 PM	0	0	10	1	0	0	11
8:15 PM	0	0	18	0	0	0	18
8:30 PM	0	0	8	0	0	0	8
8:45 PM	0	0	5	0	0	0	5
9:00 PM	0	0	6	0	0	0	6
9:15 PM	0	0	1	0	1	0	2
9:30 PM	0	0	4	0	0	0	4
9:45 PM	0	0	5	0	0	0	5
10:00 PM	0	0	5	0	0	0	5
10:15 PM	0	0	2	0	0	0	2
10:30 PM	0	0	6	0	0	0	6
10:45 PM	0	0	3	0	0	0	3
11:00 PM	0	0	1	0	0	0	1
11:15 PM	0	0	4	0	0	0	4
11:30 PM	0	0	5	0	0	0	5
11:45 PM	0	0	1	0	0	0	1

AM Total	0	0	203	8	15	7	233
Percentage	0.00%	0.00%	87.12%	3.43%	6.44%	3.00%	
AM Peak	12:00 AM	12:00 AM	11:00 AM	7:45 AM	10:45 AM	9:00 AM	11:00 AM
Volume	0	0	53	2	5	3	58

PM Total	0	0	586	12	14	0	612
Percentage	0.00%	0.00%	95.75%	1.96%	2.29%	0.00%	
PM Peak	12:00 PM	12:00 PM	3:15 PM	3:15 PM	2:15 PM	12:00 PM	3:15 PM
Volume	0	0	85	3	6	0	90

Day Total	0	0	789	20	29	7	845
Percentage	0.00%	0.00%	93.37%	2.37%	3.43%	0.83%	

Hanscom Drive
north of Old Bedford Road
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

PDI File #: 228952 ATR-F

Count Date: **Wednesday, November 30, 2022**
Direction: **SB**

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	1	1
12:15 AM	0	0	4	0	0	0	4
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	1	0	0	0	1
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	2	0	0	0	2
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	1	0	0	0	1
5:15 AM	0	0	0	1	1	0	2
5:30 AM	0	0	1	0	1	0	2
5:45 AM	0	0	2	0	0	0	2
6:00 AM	0	0	6	0	0	0	6
6:15 AM	0	0	3	0	0	0	3
6:30 AM	0	0	3	0	1	0	4
6:45 AM	0	0	2	0	0	1	3
7:00 AM	0	0	5	1	1	0	7
7:15 AM	0	0	6	0	1	1	8
7:30 AM	0	0	7	0	2	0	9
7:45 AM	0	0	3	0	0	0	3
8:00 AM	0	0	1	1	0	0	2
8:15 AM	0	0	8	0	1	1	10
8:30 AM	0	0	2	1	0	0	3
8:45 AM	0	0	13	0	0	0	13
9:00 AM	0	0	6	0	1	0	7
9:15 AM	0	0	7	1	1	0	9
9:30 AM	0	0	9	0	0	1	10
9:45 AM	0	0	9	1	1	0	11
10:00 AM	0	0	11	0	3	0	14
10:15 AM	0	0	10	0	2	0	12
10:30 AM	0	0	11	0	0	1	12
10:45 AM	0	0	8	0	0	0	8
11:00 AM	0	0	10	0	0	0	10
11:15 AM	0	0	12	1	2	0	15
11:30 AM	0	0	18	0	0	0	18
11:45 AM	0	0	15	0	2	0	17

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	18	0	1	0	19
12:15 PM	0	0	17	1	1	0	19
12:30 PM	0	0	19	0	1	0	20
12:45 PM	0	0	3	0	1	0	4
1:00 PM	0	0	13	0	2	1	16
1:15 PM	0	0	21	1	0	0	22
1:30 PM	0	0	15	0	1	0	16
1:45 PM	0	0	24	0	0	0	24
2:00 PM	0	0	38	0	0	1	39
2:15 PM	0	0	27	1	1	0	29
2:30 PM	0	0	22	0	2	0	24
2:45 PM	0	0	17	0	1	0	18
3:00 PM	0	0	17	0	0	0	17
3:15 PM	0	0	15	1	0	0	16
3:30 PM	0	0	7	0	0	0	7
3:45 PM	0	0	15	0	1	0	16
4:00 PM	0	0	8	0	0	0	8
4:15 PM	0	0	12	1	0	0	13
4:30 PM	0	0	15	0	1	0	16
4:45 PM	0	0	16	0	1	0	17
5:00 PM	0	0	18	1	0	0	19
5:15 PM	0	0	14	0	0	0	14
5:30 PM	0	0	11	0	0	0	11
5:45 PM	0	0	5	1	0	0	6
6:00 PM	0	0	19	0	0	0	19
6:15 PM	0	0	6	1	0	0	7
6:30 PM	0	0	6	0	0	0	6
6:45 PM	0	0	3	0	0	0	3
7:00 PM	0	0	7	1	0	0	8
7:15 PM	0	0	13	0	1	0	14
7:30 PM	0	0	4	1	0	0	5
7:45 PM	0	0	6	0	0	0	6
8:00 PM	0	0	4	0	0	0	4
8:15 PM	0	0	5	0	0	0	5
8:30 PM	0	0	5	0	0	0	5
8:45 PM	0	0	2	0	0	0	2
9:00 PM	0	0	2	0	0	0	2
9:15 PM	0	0	1	0	0	0	1
9:30 PM	0	0	1	0	0	0	1
9:45 PM	0	0	6	0	0	0	6
10:00 PM	0	0	10	0	0	0	10
10:15 PM	0	0	10	1	0	0	11
10:30 PM	0	0	3	0	0	0	3
10:45 PM	0	0	2	0	0	0	2
11:00 PM	0	0	1	0	0	0	1
11:15 PM	0	0	4	0	1	0	5
11:30 PM	0	0	3	0	0	0	3
11:45 PM	0	0	1	0	0	0	1

AM Total 0 0 200 7 20 6 233
Percentage 0.00% 0.00% 85.84% 3.00% 8.58% 2.58%

AM Peak 12:00 AM 12:00 AM 11:00 AM 7:45 AM 9:30 AM 6:30 AM 11:00 AM
Volume 0 0 55 2 6 2 60

PM Total 0 0 511 11 16 2 540
Percentage 0.00% 0.00% 94.63% 2.04% 2.96% 0.37%

PM Peak 12:00 PM 12:00 PM 1:45 PM 4:15 PM 12:15 PM 12:15 PM 1:45 PM
Volume 0 0 111 2 5 1 116

Day Total 0 0 711 18 36 8 773
Percentage 0.00% 0.00% 91.98% 2.33% 4.66% 1.03%

Hanscom Drive
north of Old Bedford Road
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

PDI File #: 228952 ATR-F

Count Date: Thursday, December 1, 2022
Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total	PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0	12:00 PM	0	0	12	0	0	0	12
12:15 AM	0	0	0	0	0	0	0	12:15 PM	0	0	21	1	0	0	22
12:30 AM	0	0	0	0	0	0	0	12:30 PM	0	0	11	1	1	0	13
12:45 AM	0	0	0	0	0	0	0	12:45 PM	0	0	12	0	1	0	13
1:00 AM	0	0	2	0	0	0	2	1:00 PM	0	0	24	0	0	0	24
1:15 AM	0	0	0	0	0	0	0	1:15 PM	0	0	12	1	1	0	14
1:30 AM	0	0	0	0	0	0	0	1:30 PM	0	0	13	0	1	0	14
1:45 AM	0	0	1	0	0	0	1	1:45 PM	0	0	14	0	0	0	14
2:00 AM	0	0	0	0	0	0	0	2:00 PM	0	0	15	0	1	0	16
2:15 AM	0	0	0	0	0	0	0	2:15 PM	0	0	20	1	0	0	21
2:30 AM	0	0	0	0	0	0	0	2:30 PM	0	0	13	0	0	0	13
2:45 AM	0	0	0	0	0	0	0	2:45 PM	0	0	23	0	1	0	24
3:00 AM	0	0	2	0	0	0	2	3:00 PM	0	0	19	0	1	1	21
3:15 AM	0	0	0	0	0	0	0	3:15 PM	0	0	9	1	2	0	12
3:30 AM	0	0	4	0	0	0	4	3:30 PM	0	0	11	0	1	0	12
3:45 AM	0	0	2	1	0	0	3	3:45 PM	0	0	15	0	2	1	18
4:00 AM	0	0	1	0	0	0	1	4:00 PM	0	0	19	1	0	0	20
4:15 AM	0	0	2	0	0	0	2	4:15 PM	0	0	11	0	1	0	12
4:30 AM	0	0	2	0	0	0	2	4:30 PM	0	0	12	0	0	0	12
4:45 AM	0	0	0	0	0	0	0	4:45 PM	0	0	11	0	0	0	11
5:00 AM	0	0	0	0	0	0	0	5:00 PM	0	0	15	1	0	0	16
5:15 AM	0	0	0	1	0	0	1	5:15 PM	0	0	10	0	1	0	11
5:30 AM	0	0	1	0	0	0	1	5:30 PM	0	0	10	0	0	0	10
5:45 AM	0	0	1	0	0	0	1	5:45 PM	0	0	6	1	0	0	7
6:00 AM	0	0	3	0	1	0	4	6:00 PM	0	0	13	0	0	0	13
6:15 AM	0	0	0	0	0	0	0	6:15 PM	0	0	7	1	0	0	8
6:30 AM	0	0	7	0	0	1	8	6:30 PM	0	0	4	0	0	0	4
6:45 AM	0	0	4	0	1	0	5	6:45 PM	0	0	7	1	0	0	8
7:00 AM	0	0	10	1	0	0	11	7:00 PM	0	0	8	0	0	0	8
7:15 AM	0	0	6	0	1	0	7	7:15 PM	0	0	3	0	0	0	3
7:30 AM	0	0	3	0	0	0	3	7:30 PM	0	0	9	1	0	0	10
7:45 AM	0	0	1	1	0	1	3	7:45 PM	0	0	6	0	0	0	6
8:00 AM	0	0	8	0	1	0	9	8:00 PM	0	0	10	0	0	0	10
8:15 AM	0	0	3	0	3	0	6	8:15 PM	0	0	6	0	1	0	7
8:30 AM	0	0	8	1	0	0	9	8:30 PM	0	0	5	0	0	0	5
8:45 AM	0	0	5	0	1	0	6	8:45 PM	0	0	2	0	1	0	3
9:00 AM	0	0	16	0	0	0	16	9:00 PM	0	0	2	0	0	0	2
9:15 AM	0	0	8	1	0	1	10	9:15 PM	0	0	2	0	1	0	3
9:30 AM	0	0	8	0	0	0	8	9:30 PM	0	0	2	0	0	0	2
9:45 AM	0	0	8	1	1	0	10	9:45 PM	0	0	3	0	0	0	3
10:00 AM	0	0	11	0	2	1	14	10:00 PM	0	0	10	0	0	0	10
10:15 AM	0	0	13	0	3	0	16	10:15 PM	0	0	7	0	0	0	7
10:30 AM	0	0	9	0	1	1	11	10:30 PM	0	0	4	0	0	0	4
10:45 AM	0	0	12	0	1	0	13	10:45 PM	0	0	5	0	0	0	5
11:00 AM	0	0	12	0	2	1	15	11:00 PM	0	0	1	0	0	0	1
11:15 AM	0	0	11	1	0	1	13	11:15 PM	0	0	2	0	0	0	2
11:30 AM	0	0	17	0	0	0	17	11:30 PM	0	0	5	0	0	1	6
11:45 AM	0	0	17	0	1	0	18	11:45 PM	0	0	1	0	0	0	1

AM Total	0	0	218	8	19	7	252
Percentage	0.00%	0.00%	86.51%	3.17%	7.54%	2.78%	
AM Peak	12:00 AM	12:00 AM	11:00 AM	7:00 AM	9:45 AM	10:30 AM	11:00 AM
Volume	0	0	57	2	7	3	63

PM Total	0	0	462	11	17	3	493
Percentage	0.00%	0.00%	93.71%	2.23%	3.45%	0.61%	
PM Peak	12:00 PM	12:00 PM	2:15 PM	12:00 PM	3:00 PM	3:00 PM	2:15 PM
Volume	0	0	75	2	6	2	79

Day Total	0	0	680	19	36	10	745
Percentage	0.00%	0.00%	91.28%	2.55%	4.83%	1.34%	

Hanscom Drive
north of Old Bedford Road
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-F

Count Date: Friday, December 2, 2022
Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total	PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0	12:00 PM	0	0	17	1	0	1	19
12:15 AM	0	0	0	0	0	0	0	12:15 PM	0	0	7	2	0	0	9
12:30 AM	0	0	0	0	1	0	1	12:30 PM	0	0	10	0	0	0	10
12:45 AM	0	0	0	0	0	0	0	12:45 PM	0	0	13	0	0	0	13
1:00 AM	0	0	0	0	0	0	0	1:00 PM	0	0	14	0	1	0	15
1:15 AM	0	0	0	0	0	0	0	1:15 PM	0	0	13	1	1	0	15
1:30 AM	0	0	0	0	0	0	0	1:30 PM	0	0	14	0	0	0	14
1:45 AM	0	0	0	0	0	0	0	1:45 PM	0	0	25	0	0	0	25
2:00 AM	0	0	0	0	0	0	0	2:00 PM	0	0	20	0	0	0	20
2:15 AM	0	0	0	0	0	0	0	2:15 PM	0	0	16	0	0	0	16
2:30 AM	0	0	0	0	0	0	0	2:30 PM	0	0	17	1	2	0	20
2:45 AM	0	0	0	0	0	0	0	2:45 PM	0	0	20	0	0	0	20
3:00 AM	0	0	1	0	0	0	1	3:00 PM	0	0	23	0	0	0	23
3:15 AM	0	0	0	0	0	0	0	3:15 PM	0	0	11	1	2	0	14
3:30 AM	0	0	0	0	0	0	0	3:30 PM	0	0	16	0	1	0	17
3:45 AM	0	0	1	0	0	0	1	3:45 PM	0	0	19	0	0	0	19
4:00 AM	0	0	0	0	0	0	0	4:00 PM	0	0	17	1	0	0	18
4:15 AM	0	0	0	0	0	0	0	4:15 PM	0	0	14	0	0	0	14
4:30 AM	0	0	0	0	0	0	0	4:30 PM	0	0	18	0	0	0	18
4:45 AM	0	0	0	0	0	0	0	4:45 PM	0	0	10	0	1	0	11
5:00 AM	0	0	0	0	0	0	0	5:00 PM	0	0	9	1	0	0	10
5:15 AM	0	0	1	1	0	1	3	5:15 PM	0	0	14	0	0	0	14
5:30 AM	0	0	2	0	1	0	3	5:30 PM	0	0	12	1	0	0	13
5:45 AM	0	0	2	0	0	0	2	5:45 PM	0	0	13	0	0	0	13
6:00 AM	0	0	4	0	0	0	4	6:00 PM	0	0	17	0	0	0	17
6:15 AM	0	0	1	0	0	0	1	6:15 PM	0	0	12	1	0	0	13
6:30 AM	0	0	9	0	0	0	9	6:30 PM	0	0	5	0	0	0	5
6:45 AM	0	0	2	0	0	0	2	6:45 PM	0	0	9	0	0	0	9
7:00 AM	0	0	7	1	0	2	10	7:00 PM	0	0	9	1	0	0	10
7:15 AM	0	0	5	0	0	0	5	7:15 PM	0	0	4	0	1	0	5
7:30 AM	0	0	6	0	2	0	8	7:30 PM	0	0	5	1	0	0	6
7:45 AM	0	0	2	1	1	0	4	7:45 PM	0	0	8	0	0	0	8
8:00 AM	0	0	5	0	1	1	7	8:00 PM	0	0	6	0	0	0	6
8:15 AM	0	0	4	0	3	0	7	8:15 PM	0	0	2	0	0	0	2
8:30 AM	0	0	6	1	1	1	9	8:30 PM	0	0	5	0	0	0	5
8:45 AM	0	0	3	0	2	0	5	8:45 PM	0	0	3	0	0	0	3
9:00 AM	0	0	9	0	0	0	9	9:00 PM	0	0	4	0	0	0	4
9:15 AM	0	0	2	1	0	0	3	9:15 PM	0	0	2	0	0	0	2
9:30 AM	0	0	7	2	1	1	11	9:30 PM	0	0	6	0	0	0	6
9:45 AM	0	0	11	0	0	0	11	9:45 PM	0	0	2	0	0	0	2
10:00 AM	0	0	10	0	1	0	11	10:00 PM	0	0	8	0	0	0	8
10:15 AM	0	0	6	0	1	1	8	10:15 PM	0	0	2	0	0	0	2
10:30 AM	0	0	8	0	2	0	10	10:30 PM	0	0	1	0	0	0	1
10:45 AM	0	0	9	0	2	0	11	10:45 PM	0	0	3	0	0	0	3
11:00 AM	0	0	10	0	0	1	11	11:00 PM	0	0	3	0	0	0	3
11:15 AM	0	0	12	1	1	0	14	11:15 PM	0	0	1	0	0	0	1
11:30 AM	0	0	15	1	3	0	19	11:30 PM	0	0	1	0	0	0	1
11:45 AM	0	0	13	0	2	0	15	11:45 PM	0	0	2	0	1	0	3

AM Total	0	0	173	9	25	8	215	PM Total	0	0	482	12	10	1	505
Percentage	0.00%	0.00%	80.47%	4.19%	11.63%	3.72%		Percentage	0.00%	0.00%	95.45%	2.38%	1.98%	0.20%	
AM Peak	12:00 AM	12:00 AM	11:00 AM	8:45 AM	7:30 AM	6:15 AM	11:00 AM	PM Peak	12:00 PM	12:00 PM	1:45 PM	12:00 PM	2:30 PM	12:00 PM	1:45 PM
Volume	0	0	50	3	7	2	59	Volume	0	0	78	3	4	1	81
Day Total	0	0	655	21	35	9	720	Percentage	0.00%	0.00%	90.97%	2.92%	4.86%	1.25%	

Hanscom Drive
north of Old Bedford Road
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PDI File #: 228952 ATR-F

Count Date: Saturday, December 3, 2022
Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	1	2
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	1	0	0	0	1
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	3	0	0	0	3
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	1	0	1	0	2
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	1	0	0	0	1
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	1	0	0	0	1
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	1	0	0	0	1
5:15 AM	0	0	1	0	0	0	1
5:30 AM	0	0	0	0	0	0	0
5:45 AM	0	0	2	0	0	0	2
6:00 AM	0	0	6	0	0	0	6
6:15 AM	0	0	1	0	1	0	2
6:30 AM	0	0	3	0	0	0	3
6:45 AM	0	0	4	0	0	0	4
7:00 AM	0	0	6	0	0	0	6
7:15 AM	0	0	2	0	0	0	2
7:30 AM	0	0	1	1	1	0	3
7:45 AM	0	0	2	0	0	0	2
8:00 AM	0	0	4	0	0	0	4
8:15 AM	0	0	4	1	0	0	5
8:30 AM	0	0	4	1	0	0	5
8:45 AM	0	0	2	0	0	0	2
9:00 AM	0	0	8	0	0	0	8
9:15 AM	0	0	5	1	0	0	6
9:30 AM	0	0	2	0	0	0	2
9:45 AM	0	0	6	1	0	0	7
10:00 AM	0	0	11	0	0	0	11
10:15 AM	0	0	3	0	1	0	4
10:30 AM	0	0	3	1	1	1	6
10:45 AM	0	0	5	0	0	0	5
11:00 AM	0	0	5	1	0	0	6
11:15 AM	0	0	4	0	0	0	4
11:30 AM	0	0	4	0	1	0	5
11:45 AM	0	0	6	1	0	0	7

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	6	2	0	0	8
12:15 PM	0	0	10	0	0	0	10
12:30 PM	0	0	7	0	0	0	7
12:45 PM	0	0	12	0	0	0	12
1:00 PM	0	0	7	1	1	0	9
1:15 PM	0	0	11	1	0	0	12
1:30 PM	0	0	8	0	0	1	9
1:45 PM	0	0	6	0	0	0	6
2:00 PM	0	0	2	1	0	0	3
2:15 PM	0	0	8	1	0	0	9
2:30 PM	0	0	11	0	0	0	11
2:45 PM	0	0	6	0	0	0	6
3:00 PM	0	0	2	0	0	0	2
3:15 PM	0	0	2	1	0	0	3
3:30 PM	0	0	7	1	0	0	8
3:45 PM	0	0	8	0	0	0	8
4:00 PM	0	0	7	0	0	0	7
4:15 PM	0	0	9	1	0	0	10
4:30 PM	0	0	3	1	0	0	4
4:45 PM	0	0	6	0	0	0	6
5:00 PM	0	0	1	0	0	0	1
5:15 PM	0	0	1	1	0	0	2
5:30 PM	0	0	2	1	0	0	3
5:45 PM	0	0	4	0	0	0	4
6:00 PM	0	0	4	0	0	0	4
6:15 PM	0	0	3	1	0	0	4
6:30 PM	0	0	5	1	0	0	6
6:45 PM	0	0	3	0	0	0	3
7:00 PM	0	0	8	0	0	0	8
7:15 PM	0	0	1	1	1	0	3
7:30 PM	0	0	0	1	0	0	1
7:45 PM	0	0	2	0	0	0	2
8:00 PM	0	0	2	0	0	0	2
8:15 PM	0	0	1	1	1	0	3
8:30 PM	0	0	3	0	0	0	3
8:45 PM	0	0	1	0	0	0	1
9:00 PM	0	0	3	0	0	0	3
9:15 PM	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0
9:45 PM	0	0	1	0	0	0	1
10:00 PM	0	0	4	0	0	0	4
10:15 PM	0	0	1	0	0	0	1
10:30 PM	0	0	10	1	0	0	11
10:45 PM	0	0	3	0	0	0	3
11:00 PM	0	0	2	0	0	0	2
11:15 PM	0	0	3	0	0	0	3
11:30 PM	0	0	2	0	0	0	2
11:45 PM	0	0	0	0	0	0	0

AM Total	0	0	116	8	6	2	132
Percentage	0.00%	0.00%	87.88%	6.06%	4.55%	1.52%	
AM Peak	12:00 AM	12:00 AM	9:15 AM	7:30 AM	9:45 AM	12:00 AM	9:45 AM
Volume	0	0	24	2	2	1	28

PM Total	0	0	208	18	3	1	230
Percentage	0.00%	0.00%	90.43%	7.83%	1.30%	0.43%	
PM Peak	12:00 PM	12:00 PM	12:45 PM	12:00 PM	12:15 PM	12:45 PM	12:45 PM
Volume	0	0	38	2	1	1	42

Day Total	0	0	324	26	9	3	362
Percentage	0.00%	0.00%	89.50%	7.18%	2.49%	0.83%	

Hanscom Drive
north of Old Bedford Road
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-F

Count Date: Sunday, December 4, 2022
Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	1	1
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	2	0	0	0	2
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	0	0	0	1	1
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0
5:45 AM	0	0	3	0	0	0	3
6:00 AM	0	0	1	0	0	0	1
6:15 AM	0	0	1	0	0	0	1
6:30 AM	0	0	3	0	0	0	3
6:45 AM	0	0	3	0	0	0	3
7:00 AM	0	0	4	0	0	0	4
7:15 AM	0	0	4	0	0	0	4
7:30 AM	0	0	3	0	0	0	3
7:45 AM	0	0	4	0	0	0	4
8:00 AM	0	0	3	0	0	0	3
8:15 AM	0	0	4	0	0	0	4
8:30 AM	0	0	1	0	0	0	1
8:45 AM	0	0	1	0	0	0	1
9:00 AM	0	0	1	0	0	0	1
9:15 AM	0	0	0	0	0	0	0
9:30 AM	0	0	1	0	0	0	1
9:45 AM	0	0	2	0	0	0	2
10:00 AM	0	0	10	0	0	0	10
10:15 AM	0	0	8	0	0	0	8
10:30 AM	0	0	8	0	0	1	9
10:45 AM	0	1	6	0	1	0	8
11:00 AM	0	0	9	0	0	0	9
11:15 AM	0	0	9	0	0	0	9
11:30 AM	0	0	12	0	0	0	12
11:45 AM	0	0	3	0	1	0	4

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	20	0	1	0	21
12:15 PM	0	0	5	0	0	0	5
12:30 PM	0	0	4	0	0	0	4
12:45 PM	0	0	11	1	0	0	12
1:00 PM	0	0	7	0	0	0	7
1:15 PM	0	0	7	0	0	0	7
1:30 PM	0	0	15	0	0	0	15
1:45 PM	0	0	12	0	0	0	12
2:00 PM	0	0	10	0	0	0	10
2:15 PM	0	0	11	0	1	1	13
2:30 PM	0	0	5	0	0	0	5
2:45 PM	0	0	12	0	0	0	12
3:00 PM	0	0	13	0	0	0	13
3:15 PM	0	0	6	0	0	0	6
3:30 PM	0	0	10	0	0	0	10
3:45 PM	0	0	8	0	0	0	8
4:00 PM	0	0	15	0	0	0	15
4:15 PM	0	0	8	0	0	0	8
4:30 PM	0	0	12	0	0	0	12
4:45 PM	0	0	9	0	0	0	9
5:00 PM	0	0	6	0	0	0	6
5:15 PM	0	0	10	0	0	0	10
5:30 PM	0	0	9	0	1	0	10
5:45 PM	0	0	9	0	0	0	9
6:00 PM	0	0	7	0	0	0	7
6:15 PM	0	0	12	0	1	0	13
6:30 PM	0	0	8	0	0	0	8
6:45 PM	0	0	8	0	0	0	8
7:00 PM	0	0	3	0	0	0	3
7:15 PM	0	0	8	0	0	0	8
7:30 PM	0	0	2	0	0	0	2
7:45 PM	0	0	5	0	0	0	5
8:00 PM	0	0	8	0	0	0	8
8:15 PM	0	0	6	0	0	0	6
8:30 PM	0	0	6	0	0	0	6
8:45 PM	0	0	6	0	0	0	6
9:00 PM	0	0	3	0	0	0	3
9:15 PM	0	0	0	0	0	0	0
9:30 PM	0	0	1	0	0	0	1
9:45 PM	0	0	8	0	0	0	8
10:00 PM	0	0	10	0	0	0	10
10:15 PM	0	0	4	0	0	0	4
10:30 PM	0	0	7	0	1	0	8
10:45 PM	0	0	5	0	0	0	5
11:00 PM	0	0	5	0	0	0	5
11:15 PM	0	0	2	0	0	0	2
11:30 PM	0	0	0	0	0	0	0
11:45 PM	0	0	3	0	0	0	3

AM Total 0 1 109 0 2 3 115
Percentage 0.00% 0.87% 94.78% 0.00% 1.74% 2.61%

AM Peak 12:00 AM 10:00 AM 10:45 AM 12:00 AM 10:00 AM 12:00 AM 10:45 AM
Volume 0 1 36 0 1 1 38

PM Total 0 0 361 1 5 1 368
Percentage 0.00% 0.00% 98.10% 0.27% 1.36% 0.27%

PM Peak 12:00 PM 12:00 PM 1:30 PM 12:00 PM 5:30 PM 1:30 PM 1:30 PM
Volume 0 0 48 1 2 1 50

Day Total 0 1 470 1 7 4 483
Percentage 0.00% 0.21% 97.31% 0.21% 1.45% 0.83%

Hanscom Drive
north of Old Bedford Road
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 228952 ATR-F

Count Date: Monday, December 5, 2022
Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	0	1
12:15 AM	0	0	1	0	0	0	1
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	0	0	1	0	1
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	1	0	1
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	1	1
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	1	0	0	0	1
5:00 AM	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	1	0	1
5:30 AM	0	0	0	1	0	0	1
5:45 AM	0	0	5	0	0	0	5
6:00 AM	0	0	5	0	0	0	5
6:15 AM	0	0	3	0	0	0	3
6:30 AM	0	0	8	0	1	0	9
6:45 AM	0	0	4	0	3	0	7
7:00 AM	0	0	5	1	0	0	6
7:15 AM	0	0	7	0	0	0	7
7:30 AM	0	0	3	0	0	0	3
7:45 AM	0	0	6	0	0	0	6
8:00 AM	0	0	7	1	0	0	8
8:15 AM	0	0	5	0	0	0	5
8:30 AM	0	0	5	1	1	0	7
8:45 AM	0	0	6	0	1	0	7
9:00 AM	0	0	7	0	0	1	8
9:15 AM	0	0	11	1	0	0	12
9:30 AM	0	0	10	0	0	0	10
9:45 AM	0	0	7	0	0	0	7
10:00 AM	0	0	9	0	2	0	11
10:15 AM	0	0	9	0	0	1	10
10:30 AM	0	0	11	0	1	2	14
10:45 AM	0	0	10	0	0	1	11
11:00 AM	0	0	9	0	1	0	10
11:15 AM	0	0	17	1	0	1	19
11:30 AM	0	0	13	0	0	0	13
11:45 AM	0	0	14	0	1	0	15

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	11	0	1	1	13
12:15 PM	0	0	16	1	1	0	18
12:30 PM	1	0	12	0	0	0	13
12:45 PM	0	0	12	0	0	0	12
1:00 PM	0	0	20	0	1	0	21
1:15 PM	0	0	16	1	1	0	18
1:30 PM	0	0	15	0	0	0	15
1:45 PM	0	0	10	0	1	1	12
2:00 PM	0	0	27	0	0	0	27
2:15 PM	0	0	19	1	3	1	24
2:30 PM	0	0	9	0	1	1	11
2:45 PM	0	0	12	0	0	0	12
3:00 PM	0	0	33	0	1	0	34
3:15 PM	0	0	7	1	0	0	8
3:30 PM	0	0	11	0	1	0	12
3:45 PM	0	0	15	0	1	0	16
4:00 PM	0	0	24	0	0	0	24
4:15 PM	0	0	12	1	0	0	13
4:30 PM	0	0	25	0	1	0	26
4:45 PM	0	0	23	0	0	0	23
5:00 PM	0	0	19	1	0	0	20
5:15 PM	0	0	12	0	0	0	12
5:30 PM	0	0	10	0	0	0	10
5:45 PM	0	0	8	1	1	0	10
6:00 PM	0	0	14	0	0	0	14
6:15 PM	0	0	8	1	0	0	9
6:30 PM	0	0	10	0	0	0	10
6:45 PM	0	0	6	0	0	0	6
7:00 PM	0	0	13	1	0	0	14
7:15 PM	0	0	4	0	0	0	4
7:30 PM	0	0	2	1	1	0	4
7:45 PM	0	0	2	0	0	0	2
8:00 PM	0	0	5	0	0	0	5
8:15 PM	0	0	3	0	0	0	3
8:30 PM	0	0	5	0	0	0	5
8:45 PM	0	0	6	0	0	0	6
9:00 PM	0	0	4	0	0	0	4
9:15 PM	0	0	2	0	0	0	2
9:30 PM	0	0	1	0	0	0	1
9:45 PM	0	0	4	0	0	0	4
10:00 PM	0	0	6	0	0	0	6
10:15 PM	0	0	1	0	0	0	1
10:30 PM	0	0	5	0	0	0	5
10:45 PM	0	0	3	0	0	0	3
11:00 PM	0	0	2	0	0	0	2
11:15 PM	0	0	1	0	0	0	1
11:30 PM	0	0	0	0	0	0	0
11:45 PM	0	0	4	0	0	0	4

AM Total	0	0	202	6	14	7	229
Percentage	0.00%	0.00%	88.21%	2.62%	6.11%	3.06%	
AM Peak	12:00 AM	12:00 AM	11:00 AM	7:45 AM	6:00 AM	10:00 AM	11:00 AM
Volume	0	0	53	2	4	4	57

PM Total	1	0	489	10	15	4	519
Percentage	0.19%	0.00%	94.22%	1.93%	2.89%	0.77%	
PM Peak	12:00 PM	12:00 PM	4:00 PM	4:15 PM	1:45 PM	1:45 PM	4:00 PM
Volume	1	0	84	2	5	3	86

Day Total	1	0	691	16	29	11	748
Percentage	0.13%	0.00%	92.38%	2.14%	3.88%	1.47%	

Hanscom Drive
north of Old Bedford Road
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
DATA
INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File # 228952 ATR-F

Direction: NB

Weekly Report

Day Date	Tuesday 11/29/22		Wednesday 11/30/22		Thursday 12/01/22		Friday 12/02/22		Saturday 12/03/22		Sunday 12/04/22		Monday 12/05/22		Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	1	16	0	20	0	19	0	9	1	12	0	10	0	10	0	14
12:15	1	16	0	17	0	9	0	10	1	9	0	4	0	17	0	12
12:30	0	15	0	12	1	14	0	12	0	17	0	9	1	18	0	14
12:45	0	18	1	14	0	14	0	27	2	10	0	11	0	12	0	15
1:00	0	7	1	6	0	14	0	16	0	14	0	7	0	13	0	11
1:15	0	10	0	16	1	15	0	11	0	14	0	5	1	17	0	13
1:30	0	21	0	17	0	8	0	9	0	22	0	8	0	16	0	14
1:45	1	15	1	30	0	11	0	19	1	18	0	20	0	23	0	19
2:00	0	8	0	9	0	12	0	11	1	7	1	2	1	12	0	9
2:15	0	7	0	9	0	5	0	14	0	4	0	7	0	10	0	8
2:30	0	11	0	12	0	8	0	18	1	2	0	8	0	5	0	9
2:45	0	17	0	5	0	7	0	12	0	1	1	5	0	9	0	8
3:00	0	13	0	9	4	9	0	7	0	3	0	6	0	11	1	8
3:15	3	13	0	6	0	8	0	10	0	7	2	6	1	9	1	8
3:30	2	20	0	12	1	5	0	8	1	5	1	5	0	9	1	9
3:45	1	9	1	0	0	5	1	13	0	3	0	11	3	3	1	6
4:00	0	6	1	5	2	8	0	9	0	3	1	6	2	4	1	6
4:15	5	7	2	8	5	9	1	11	0	10	0	11	5	7	3	9
4:30	5	6	4	6	1	11	4	8	1	2	0	7	1	3	2	6
4:45	3	11	3	1	6	3	2	5	1	2	2	8	1	3	3	5
5:00	5	7	5	6	4	9	5	6	1	0	0	7	5	4	4	6
5:15	5	9	11	2	7	4	2	3	2	1	0	7	4	5	4	4
5:30	12	7	15	0	5	8	12	5	3	3	2	2	15	2	9	4
5:45	25	15	21	3	24	6	18	4	11	1	14	4	27	2	20	5
6:00	14	5	13	3	13	9	15	6	2	4	8	4	14	5	11	5
6:15	9	9	14	7	10	5	14	8	4	6	7	8	10	7	10	7
6:30	9	14	14	3	16	3	14	12	12	4	8	1	15	4	13	6
6:45	19	3	19	6	20	5	15	3	6	1	8	3	23	3	16	3
7:00	20	3	22	3	13	6	14	2	6	1	7	0	15	2	14	2
7:15	20	0	11	0	16	0	13	1	4	1	5	1	16	3	12	1
7:30	18	3	28	7	15	7	19	3	7	2	13	3	19	1	17	4
7:45	21	6	23	7	25	2	22	2	13	2	10	2	17	4	19	4
8:00	20	3	15	1	15	7	20	4	9	3	8	6	20	0	15	3
8:15	21	1	11	3	20	5	14	4	10	1	4	3	20	2	14	3
8:30	32	5	15	2	28	1	25	1	8	0	3	0	25	3	19	2
8:45	22	1	19	1	25	2	17	2	8	4	6	2	12	2	16	2
9:00	26	2	19	2	27	0	10	3	9	0	6	2	24	1	17	1
9:15	14	3	19	0	17	2	13	0	11	0	3	2	21	1	14	1
9:30	26	5	23	3	21	2	25	4	11	3	4	3	16	3	18	3
9:45	27	2	41	3	20	5	28	1	10	1	9	5	16	0	22	2
10:00	22	1	15	4	15	0	16	2	7	3	15	2	13	2	15	2
10:15	13	0	18	1	17	3	15	1	3	3	10	0	20	0	14	1
10:30	8	2	15	2	12	0	6	1	3	0	10	0	11	2	9	1
10:45	13	1	7	1	14	1	19	1	4	1	11	0	15	1	12	1
11:00	16	1	15	2	10	0	8	0	4	1	10	1	15	1	11	1
11:15	25	2	24	0	17	0	15	1	6	0	8	1	13	0	15	1
11:30	12	0	9	2	13	1	12	1	7	1	9	1	9	0	10	1
11:45	13	0	20	0	9	1	17	0	14	0	12	1	14	3	14	1
Total	509	356	495	288	469	288	431	320	205	212	218	227	460	274	398	281
Day Total	865		783		757		751		417		445		734		679	
Peak HR	8:15 AM	12:00 PM	9:00 AM	1:15 PM	8:15 AM	12:30 PM	9:30 AM	12:30 PM	9:00 AM	1:00 PM	10:00 AM	1:00 PM	7:45 AM	1:00 PM	9:00 AM	1:00 PM
Volume	101	65	102	72	100	57	84	66	41	68	46	40	82	69	71	57

Hanscom Drive
north of Old Bedford Road
City, State: Lincoln, MA
Client: McFarland Johnson/ S. Ireland
Site Code: TBA



PRECISION
D A T A
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

PDI File # 228952 ATR-F

Direction: SB

Weekly Report

Day Date	Tuesday 11/29/22		Wednesday 11/30/22		Thursday 12/01/22		Friday 12/02/22		Saturday 12/03/22		Sunday 12/04/22		Monday 12/05/22		Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	0	17	1	19	0	12	0	19	2	8	1	21	1	13	1	16
12:15	1	19	4	19	0	22	0	9	0	10	0	5	1	18	1	15
12:30	2	16	0	20	0	13	1	10	1	7	1	4	0	13	1	12
12:45	2	17	1	4	0	13	0	13	1	12	0	12	0	12	1	12
1:00	1	18	1	16	2	24	0	15	1	9	1	7	1	21	1	16
1:15	0	15	0	22	0	14	0	15	0	12	0	7	1	18	0	15
1:30	0	12	0	16	0	14	0	14	0	9	0	15	0	15	0	14
1:45	1	23	1	24	1	14	0	25	0	6	0	12	0	12	0	17
2:00	0	26	0	39	0	16	0	20	0	3	2	10	1	27	0	20
2:15	0	17	0	29	0	21	0	16	3	9	0	13	1	24	1	18
2:30	1	9	0	24	0	13	0	20	1	11	0	5	0	11	0	13
2:45	0	25	0	18	0	24	0	20	0	6	0	12	0	12	0	17
3:00	0	19	1	17	2	21	1	23	2	2	0	13	0	34	1	18
3:15	0	22	0	16	0	12	0	14	0	3	1	6	1	8	0	12
3:30	2	21	0	7	4	12	0	17	1	8	1	10	0	12	1	12
3:45	0	20	0	16	3	18	1	19	0	8	0	8	0	16	1	15
4:00	0	27	1	8	1	20	0	18	0	7	0	15	0	24	0	17
4:15	0	12	0	13	2	12	0	14	1	10	0	8	1	13	1	12
4:30	0	17	2	16	2	12	0	18	0	4	0	12	0	26	1	15
4:45	1	14	0	17	0	11	0	11	0	6	0	9	1	23	0	13
5:00	2	22	1	19	0	16	0	10	1	1	0	6	0	20	1	13
5:15	1	11	2	14	1	11	3	14	1	2	0	10	1	12	1	11
5:30	1	15	2	11	1	10	3	13	0	3	0	10	1	10	1	10
5:45	1	14	2	6	1	7	2	13	2	4	3	9	5	10	2	9
6:00	3	17	6	19	4	13	4	17	6	4	1	7	5	14	4	13
6:15	2	13	3	7	0	8	1	13	2	4	1	13	3	9	2	10
6:30	4	7	4	6	8	4	9	5	3	6	3	8	9	10	6	7
6:45	3	14	3	3	5	8	2	9	4	3	3	8	7	6	4	7
7:00	5	12	7	8	11	8	10	10	6	8	4	3	6	14	7	9
7:15	7	10	8	14	7	3	5	5	2	3	4	8	7	4	6	7
7:30	8	10	9	5	3	10	8	6	3	1	3	2	3	4	5	5
7:45	3	15	3	6	3	6	4	8	2	2	4	5	6	2	4	6
8:00	7	11	2	4	9	10	7	6	4	2	3	8	8	5	6	7
8:15	6	18	10	5	6	7	7	2	5	3	4	6	5	3	6	6
8:30	8	8	3	5	9	5	9	5	5	3	1	6	7	5	6	5
8:45	7	5	13	2	6	3	5	3	2	1	1	6	7	6	6	4
9:00	13	6	7	2	16	2	9	4	8	3	1	3	8	4	9	3
9:15	11	2	9	1	10	3	3	2	6	0	0	0	12	2	7	1
9:30	16	4	10	1	8	2	11	6	2	0	1	1	10	1	8	2
9:45	8	5	11	6	10	3	11	2	7	1	2	8	7	4	8	4
10:00	11	5	14	10	14	10	11	8	11	4	10	10	11	6	12	8
10:15	13	2	12	11	16	7	8	2	4	1	8	4	10	1	10	4
10:30	10	6	12	3	11	4	10	1	6	11	9	8	14	5	10	5
10:45	14	3	8	2	13	5	11	3	5	3	8	5	11	3	10	3
11:00	17	1	10	1	15	1	11	3	6	2	9	5	10	2	11	2
11:15	8	4	15	5	13	2	14	1	4	3	9	2	19	1	12	3
11:30	10	5	18	3	17	6	19	1	5	2	12	0	13	0	13	2
11:45	23	1	17	1	18	1	15	3	7	0	4	3	15	4	14	2
Total	233	612	233	540	252	493	215	505	132	230	115	368	229	519	201	467
Day Total	845		773		745		720		362		483		748		668	
Peak HR	11:00 AM	3:15 PM	11:00 AM	1:45 PM	11:00 AM	2:15 PM	11:00 AM	1:45 PM	9:45 AM	12:45 PM	10:45 AM	1:30 PM	11:00 AM	4:00 PM	11:00 AM	1:30 PM
Volume	58	90	60	116	63	79	59	81	28	42	38	50	57	86	50	69



C.4 2023 Vehicle Occupancy Survey



(This page intentionally left blank.)

Hanscom Drive AM Vehicle Occupancy Counts

Date: 2-May-23
 Time: 6:00AM - 9:00AM
 City, State: Lexington, MA

Start Time	Entering Hanscom Drive				Exiting Hanscom Drive			
	1	2	3+	Total	1	2	3+	Total
6:00 AM	7	0	0	7	2	0	0	2
6:15 AM	12	0	0	12	4	1	0	5
6:30 AM	10	0	0	10	3	0	0	3
6:45 AM	15	0	1	16	9	0	0	9
7:00 AM	13	2	0	15	0	0	0	0
7:15 AM	14	2	0	16	0	0	0	0
7:30 AM	13	1	0	14	5	0	0	5
7:45 AM	17	1	0	18	6	1	0	7
8:00 AM	18	2	0	20	1	1	0	2
8:15 AM	17	2	0	19	8	2	0	10
8:30 AM	21	1	0	22	7	1	0	8
8:45 AM	25	0	0	25	5	0	0	5
Total Vehicles	182	11	1	194	50	6	0	56
Total Passengers	182	22	3	207	50	12	0	62
VOR	1.07				1.11			
	1.09							

Hanscom Drive PM Vehicle Occupancy Counts

Date: 2-May-23
 Time: 3:00 AM - 6:00 AM
 City, State: Lexington, MA

	Entering Hanscom Drive				Exiting Hanscom Drive			
Start Time	1	2	3+	Total	1	2	3+	Total
3:00 PM	5	2	0	7	8	1	0	9
3:15 PM	11	4	0	15	13	0	2	15
3:30 PM	5	1	0	6	11	2	0	13
3:45 PM	12	1	0	13	10	0	0	10
4:00 PM	6	0	0	6	20	0	0	20
4:15 PM	1	0	0	1	12	2	0	14
4:30 PM	3	1	0	4	5	1	0	6
4:45 PM	5	0	0	5	9	2	0	11
5:00 PM	3	0	0	3	19	1	0	20
5:15 PM	5	0	0	5	18	0	0	18
5:30 PM	3	0	0	3	8	1	0	9
5:45 PM	2	0	0	2	7	0	0	7
Total Vehicles	61	9	0	70	140	10	2	152
Total Passengers	61	18	0	79	140	20	6	166
VOR	1.13				1.09			
	1.11							

Hanscom Drive Total Vehicle Occupancy Counts

		Entering Hanscom Drive				Exiting Hanscom Drive			
Start Time		1	2	3+	Total	1	2	3+	Total
AM	Total Vehicles	182	11	1	194	50	6	0	56
	Total Passengers	182	22	3	207	50	12	0	62
	VOR	1.07				1.11			
		1.09							
PM	Total Vehicles	61	9	0	70	20	0	0	20
	Total Passengers	61	18	0	79	12	2	0	14
	VOR	1.13				1.09			
		1.11							
Total	Total Vehicles	243	20	1	264	70	6	0	76
	Total Passengers	243	40	3	286	62	14	0	76
	VOR	1.08				1.00			
		1.04							



(This page intentionally left blank.)



C.5 2023 Parking Survey Counts



(This page intentionally left blank.)



The Airport is easily accessible by bike and has convenient cycling access via the Minuteman Bikeway and other bike paths. Bike racks are available at multiple locations throughout the Airport, including the Civil Air Terminal.

2.4.2 Automobile Parking

There are approximately 1,350 automobile parking spaces at Hanscom Field (excluding USAF Parcel B). This includes both marked and unmarked spaces around the Civil Air Terminal, aircraft hangars, and other facilities on airport property. Parking spaces were counted through visual inspection and recent satellite imagery.

Table 2-3 summarizes available parking by facility. The 2022 ESPR inventory is nearly equivalent in total net capacity compared to the results that were reported in the 2017 ESPR (excluding USAF Parcel B).

Additional automobile parking may be available in the future, as described in the recent Environmental Assessment in the North Airfield Area (property that was formerly leased from Massport by the USAF).

Table 2-3: Summary of Vehicle Parking Spaces

No.	Facility	Primary User	Number of Parking Spaces			Comments
			2012	2017	2022	
1	Hangar 1	Signature Flight Support	37	37*	28	-
2	Hangar 2	Signature Flight Support	20	22*	18	-
3	Hangar 3	Signature Flight Support	20	20*	18	-
4	Hanscom Air Force Base (HAFB) Aero Club	U.S. Air Force	n/a	n/a	18	-
5	HAFB Fire Department	U.S. Air Force	n/a	n/a	n/a	-
6	MIT/LL Flight Facility	Lincoln Laboratory	n/a	n/a	n/a	-
7	Field Maintenance Garage	Massport	18	18*	17	-
7A	Electric Vault	Massport	n/a	n/a	n/a	-
7B	Airport Maintenance	Massport	n/a	4	n/a	-
8	FAA ATCT	FAA-owned property	107	105*	107	-
8A	FAA SSC/Tech Ops	FAA-owned property	n/a	n/a	n/a	-

Commented [CC6]: Any bicycle infrastructure improvements since 2017 ESPR?

Commented [LFC7]: Add in Table 2-3 for auto parking (referenced above).

Commented [CJC8R7]: Table 2-3 inserted

Commented [CC9]: Extreme decrease in parking inventory (1,351 in 2017 to 791 in 2022)?

Commented [LFC10R9]: No, we are still filling in the gaps.

Commented [CC11R9]: Recalculation of spaces show for from 2017 (1,347) to 2022 (1,346) did not change.

No access



Facilities and Infrastructure

No.	Facility	Primary User	Number of Parking Spaces			Comments
			2012	2017	2022	
9	FAA FMP Facility	FAA-owned property	18	18	18	- No access
9A	Sand Storage	Massport	0	0*	0	- No access
10	Hangar 10	Signature Flight Support	64	37	37	- No access
11	Hangar 11	NorthStar	34	11	14	- No access
11A	Hangar 11A	Steam Enterprises	25	18	28	- No access
12	Hangar 12	Signature Flight Support	12	12	12	- 1
12A	Hangar 12A	Boston MedFlight	57	34	40	- 38
13	Hangar 13	Signature Flight Support	15	14	0	Under construction; parking spaces anticipated after construction is complete.
14	FBO Facility	Signature Flight Support	10	10	22	Under construction; parking spaces anticipated after construction is complete.
15	Civilian Air Terminal	Massport	667	444	439	-
16	Hangar 16	Liberty Mutual	45	46	46	-
17	Hangar 17	Jet Aviation	25	31	31	Row of parking in front of the building.
18	Unassigned	n/a	n/a	n/a	n/a	-
19	Unassigned	n/a	n/a	n/a	n/a	-
20	Building Maintenance	Massport	23	0	22	Parking lot line along the southern edge of the big lot.
21	Hangar 21	Jet Aviation	142	178	160	- 38 + 44
22	Jet Aviation GSE Garage	Jet Aviation	0	0	5	- could not see port fence + brush
23	Draper Laboratory	Draper Laboratory	17	17*	0	- 2 gas/oil tanker trucks
24	Hangar 24	Atlantic Aviation	70	97	98	- 53 + 11 = 64
25	MIT/LL Laboratory	Lincoln Laboratory	26	26*	9	- 5

4; still under construction

3

206

21

2

2

No access

↳ now Draper?



Facilities and Infrastructure

No.	Facility	Primary User	Number of Parking Spaces			Comments
			2012	2017	2022	
26	FAA Localizer	FAA	n/a	n/a	n/a	- No access
27	FAA Glide Slope	FAA	n/a	n/a	n/a	- No access
28	FAA Glide Slope	FAA	n/a	n/a	n/a	- No access
29	FAA Localizer	FAA	n/a	n/a	n/a	- No access
30	USCBP / ARFF	U.S. Customs & Border Patrol	5	5*	8	- No access
31	T-Hangar Row A	Massport	12	12	12	Based on aircraft occupancy
32	T-Hangar Row B	Massport	12	12	12	Based on aircraft occupancy
33	T-Hangar Row C	Massport	12	12	12	Based on aircraft occupancy
34	T-Hangar Row D	Massport	12	12	12	Based on aircraft occupancy
35	T-Hangar Row E	Massport	12	12	12	Based on aircraft occupancy
36	T-Hangar Row F	Massport	12	12	12	Based on aircraft occupancy
37	Unassigned	n/a	n/a	n/a	n/a	T-Hangar Row G was removed.
38	Unassigned	n/a	n/a	n/a	n/a	T-Hangar Row H was removed.
39	Unassigned	n/a	n/a	n/a	n/a	T-Hangar Row J was removed
40	Athletic Complex	U.S. Air Force	n/a	n/a	n/a	-
41	Unassigned	n/a	n/a	n/a	n/a	-
42	Unassigned	n/a	n/a	n/a	n/a	-
43	FBO Fuel Farm	Jet Aviation	n/a	n/a	n/a	-
44	FBO Fuel Farm	Atlantic Aviation	n/a	n/a	n/a	- could not see past fence and brush
45	FBO Fuel Farm	Signature Flight Support	n/a	n/a	n/a	- could not see past fence and brush
46	Box Hangars	Massport	n/a	n/a	2	Based on aircraft occupancy
47	Box Hangars	Massport	n/a	n/a	2	Based on aircraft occupancy
48	Box Hangars	Massport	n/a	n/a	2	Based on aircraft occupancy
49	Box Hangars	Massport	n/a	n/a	2	Based on aircraft occupancy
-	Jet Aviation Lot	n/a	n/a	71*	71	Located off Hanscom Drive, near entrance
Total			1,567	1,351	1,267	

0
0
0
0
0
1 pickup truck

No access
11

NO access
18

Notes:

1. FY 2022 – Massport Facilities Annual Report of Conditions does not include USAF or U.S. Navy facilities, except properties leased from Massport.

Commented [CC12]: Sum of 2012 spaces = 1,529
Commented [CC13]: Sum of 2017 spaces = 1,347
Commented [CC14]: Sum of 2022 spaces = 1,346



(This page intentionally left blank.)



C.6 SYNCRO Level of Service Analysis: 2022



(This page intentionally left blank.)

Intersection												
Int Delay, s/veh	8.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗		↕↕			↕			↕	↗
Traffic Vol, veh/h	14	63	94	1	22	3	209	72	0	3	26	3
Future Vol, veh/h	14	63	94	1	22	3	209	72	0	3	26	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	300	-	-	-	-	-	-	-	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	67	67	67	83	83	83	63	63	63
Heavy Vehicles, %	8	0	2	0	0	0	2	6	0	0	21	33
Mvmt Flow	16	72	107	1	33	4	252	87	0	5	41	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	661	642	41	678	642	87	41	0	-	87	0	0
Stage 1	51	51	-	591	591	-	-	-	-	-	-	-
Stage 2	610	591	-	87	51	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.5	6.22	7.1	6.5	6.2	4.12	-	-	4.1	-	-
Critical Hdwy Stg 1	6.18	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4	3.318	3.5	4	3.3	2.218	-	-	2.2	-	-
Pot Cap-1 Maneuver	368	395	1030	369	395	977	1568	-	0	1522	-	-
Stage 1	947	856	-	497	498	-	-	-	0	-	-	-
Stage 2	471	498	-	926	856	-	-	-	0	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	294	327	1030	240	327	977	1568	-	-	1522	-	-
Mov Cap-2 Maneuver	294	327	-	240	327	-	-	-	-	-	-	-
Stage 1	787	853	-	413	414	-	-	-	-	-	-	-
Stage 2	359	414	-	758	853	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13		15.9		5.8		0.7	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1568	-	316	327	1030	317	381	1522	-	-
HCM Lane V/C Ratio	0.161	-	0.164	0.109	0.104	0.056	0.055	0.003	-	-
HCM Control Delay (s)	7.7	0	18.6	17.4	8.9	17	15	7.4	0	-
HCM Lane LOS	A	A	C	C	A	C	C	A	A	-
HCM 95th %tile Q(veh)	0.6	-	0.6	0.4	0.3	0.2	0.2	0	-	-

Intersection

Int Delay, s/veh 106.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗		↖	↗
Traffic Vol, veh/h	270	802	369	355	120	119
Future Vol, veh/h	270	802	369	355	120	119
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	88	88	84	84
Heavy Vehicles, %	1	2	4	6	7	7
Mvmt Flow	321	955	419	403	143	142

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	419	0	-	0	2218 621
Stage 1	-	-	-	-	621 -
Stage 2	-	-	-	-	1597 -
Critical Hdwy	4.11	-	-	-	6.47 6.27
Critical Hdwy Stg 1	-	-	-	-	5.47 -
Critical Hdwy Stg 2	-	-	-	-	5.47 -
Follow-up Hdwy	2.209	-	-	-	3.563 3.363
Pot Cap-1 Maneuver	1145	-	-	-	~46 478
Stage 1	-	-	-	-	526 -
Stage 2	-	-	-	-	178 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1145	-	-	-	~33 478
Mov Cap-2 Maneuver	-	-	-	-	~33 -
Stage 1	-	-	-	-	379 -
Stage 2	-	-	-	-	178 -

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	\$ 882.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1145	-	-	-	33	478
HCM Lane V/C Ratio	0.281	-	-	-	4.329	0.296
HCM Control Delay (s)	9.4	-	-	-	\$ 1742.6	15.7
HCM Lane LOS	A	-	-	-	F	C
HCM 95th %tile Q(veh)	1.2	-	-	-	16.9	1.2

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	3.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Traffic Vol, veh/h	49	28	130	147	123	252
Future Vol, veh/h	49	28	130	147	123	252
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	73	73	84	84
Heavy Vehicles, %	1	1	3	1	2	4
Mvmt Flow	63	36	178	201	146	300

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	871	279	0	0	379
Stage 1	279	-	-	-	-
Stage 2	592	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218
Pot Cap-1 Maneuver	323	762	-	-	1179
Stage 1	770	-	-	-	-
Stage 2	555	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	275	762	-	-	1179
Mov Cap-2 Maneuver	275	-	-	-	-
Stage 1	770	-	-	-	-
Stage 2	472	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.8	0	2.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	358	1179
HCM Lane V/C Ratio	-	-	0.276	0.124
HCM Control Delay (s)	-	-	18.8	8.5
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	1.1	0.4

Intersection												
Int Delay, s/veh	9.9											
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↑			↑			↑			↑	
Traffic Vol, veh/h	0	0	0	0	101	0	0	0	0	0	285	0
Future Vol, veh/h	0	0	0	0	101	0	0	0	0	0	285	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	67	67	67	92	92	92	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	6	2
Mvmt Flow	0	0	0	0	151	0	0	0	0	0	343	0

Major/Minor	Major1		Major2		Minor2		Minor1					
Conflicting Flow All	-	0	-	-	-	0	-	151	-	-	151	-
Stage 1	-	-	-	-	-	-	-	151	-	-	0	-
Stage 2	-	-	-	-	-	-	-	0	-	-	151	-
Critical Hdwy	-	-	-	-	-	-	-	6.52	-	-	6.56	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	5.52	-	-	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	5.52	-	-	5.56	-
Follow-up Hdwy	-	-	-	-	-	-	-	4.018	-	-	4.054	-
Pot Cap-1 Maneuver	0	-	0	0	-	0	0	741	0	0	733	0
Stage 1	0	-	0	0	-	0	0	772	0	0	-	0
Stage 2	0	-	0	0	-	0	0	-	0	0	765	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	741	-	-	733	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	741	-	-	733	-
Stage 1	-	-	-	-	-	-	-	772	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	765	-

Approach	NB	SB	SE	NW
HCM Control Delay, s	0	0	0	14.2
HCM LOS			A	B

Minor Lane/Major Mvmt	NBTNWLn1	SELn1	SBT
Capacity (veh/h)	-	733	-
HCM Lane V/C Ratio	-	0.468	-
HCM Control Delay (s)	-	14.2	0
HCM Lane LOS	-	B	A
HCM 95th %tile Q(veh)	-	2.5	-

HCM Unsignalized Intersection Capacity Analysis
52: Old Bedford Road/Old Bedford Road WB Left

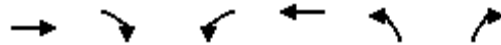
2022 Existing - AM
08/23/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑		
Traffic Volume (veh/h)	66	0	101	24	0	0
Future Volume (Veh/h)	66	0	101	24	0	0
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.67	0.67	0.92	0.92
Hourly flow rate (vph)	75	0	151	36	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	38	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	38	0	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	92	100	83	96	100	
cM capacity (veh/h)	900	1091	911	900	1623	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	
Volume Total	38	38	151	18	18	
Volume Left	0	0	151	0	0	
Volume Right	0	0	0	0	0	
cSH	900	900	911	900	900	
Volume to Capacity	0.04	0.04	0.17	0.02	0.02	
Queue Length 95th (ft)	3	3	15	2	2	
Control Delay (s)	9.2	9.2	9.7	9.1	9.1	
Lane LOS	A	A	A	A	A	
Approach Delay (s)	9.2		9.6			
Approach LOS	A		A			
Intersection Summary						
Average Delay			9.5			
Intersection Capacity Utilization			15.6%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 53: Hanscom Drive NB Right & Old Bedford Road

2022 Existing - AM
 08/23/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↗
Traffic Volume (veh/h)	66	0	0	0	0	197
Future Volume (Veh/h)	66	0	0	0	0	197
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	72	0	0	0	0	214
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			72		72	36
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			72		72	36
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	79
cM capacity (veh/h)			1526		924	1029
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	36	36	214			
Volume Left	0	0	0			
Volume Right	0	0	214			
cSH	1700	1700	1029			
Volume to Capacity	0.02	0.02	0.21			
Queue Length 95th (ft)	0	0	20			
Control Delay (s)	0.0	0.0	9.4			
Lane LOS			A			
Approach Delay (s)	0.0		9.4			
Approach LOS			A			
Intersection Summary						
Average Delay			7.0			
Intersection Capacity Utilization			22.2%	ICU Level of Service		A
Analysis Period (min)			15			

Intersection												
Int Delay, s/veh	7.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗↑	↗		↗↑			↗			↗	↗
Traffic Vol, veh/h	7	19	135	0	86	1	114	32	0	1	56	17
Future Vol, veh/h	7	19	135	0	86	1	114	32	0	1	56	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	300	-	-	-	-	-	-	-	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	86	86	86	69	69	69	74	74	74
Heavy Vehicles, %	20	0	3	0	0	0	4	19	0	100	15	0
Mvmt Flow	9	25	180	0	100	1	165	46	0	1	76	23

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	505	454	76	467	454	46	76	0	-	46	0	0
Stage 1	78	78	-	376	376	-	-	-	-	-	-	-
Stage 2	427	376	-	91	78	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.5	6.23	7.1	6.5	6.2	4.14	-	-	5.1	-	-
Critical Hdwy Stg 1	6.3	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.3	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4	3.327	3.5	4	3.3	2.236	-	-	3.1	-	-
Pot Cap-1 Maneuver	450	505	982	509	505	1029	1510	-	0	1110	-	-
Stage 1	888	834	-	649	620	-	-	-	0	-	-	-
Stage 2	572	620	-	921	834	-	-	-	0	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	341	448	982	363	448	1029	1510	-	-	1110	-	-
Mov Cap-2 Maneuver	341	448	-	363	448	-	-	-	-	-	-	-
Stage 1	789	833	-	576	551	-	-	-	-	-	-	-
Stage 2	415	551	-	729	833	-	-	-	-	-	-	-

Approach	EB		WB			NB			SB		
HCM Control Delay, s	10.3		13.9			6			0.1		
HCM LOS	B		B								

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1510	-	395	448	982	448	454	1110	-	-
HCM Lane V/C Ratio	0.109	-	0.056	0.028	0.183	0.112	0.113	0.001	-	-
HCM Control Delay (s)	7.7	0	14.7	13.3	9.5	14	13.9	8.2	0	-
HCM Lane LOS	A	A	B	B	A	B	B	A	A	-
HCM 95th %tile Q(veh)	0.4	-	0.2	0.1	0.7	0.4	0.4	0	-	-

Intersection						
Int Delay, s/veh	103.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↗		↘	↗
Traffic Vol, veh/h	78	273	1046	95	167	249
Future Vol, veh/h	78	273	1046	95	167	249
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	89	89	84	84
Heavy Vehicles, %	1	1	1	1	3	0
Mvmt Flow	94	329	1175	107	199	296

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1175	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.11	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.209	-	-
Pot Cap-1 Maneuver	598	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	598	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	\$ 458.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	598	-	-	-	79	219
HCM Lane V/C Ratio	0.157	-	-	-	2.517	1.354
HCM Control Delay (s)	12.1	-	-	-	\$ 801.7	228.8
HCM Lane LOS	B	-	-	-	F	F
HCM 95th %tile Q(veh)	0.6	-	-	-	18.9	16.4

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	5.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	68	167	332	38	17	196
Future Vol, veh/h	68	167	332	38	17	196
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	86	86	86	86
Heavy Vehicles, %	5	0	3	0	0	0
Mvmt Flow	82	201	386	44	20	228

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	676	408	0	0	430
Stage 1	408	-	-	-	-
Stage 2	268	-	-	-	-
Critical Hdwy	6.45	6.2	-	-	4.1
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.3	-	-	2.2
Pot Cap-1 Maneuver	414	648	-	-	1140
Stage 1	665	-	-	-	-
Stage 2	770	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	406	648	-	-	1140
Mov Cap-2 Maneuver	406	-	-	-	-
Stage 1	665	-	-	-	-
Stage 2	755	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.1	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	553	1140
HCM Lane V/C Ratio	-	-	0.512	0.017
HCM Control Delay (s)	-	-	18.1	8.2
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	2.9	0.1

Intersection												
Int Delay, s/veh	5.8											
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations					↑			↑			↑	
Traffic Vol, veh/h	0	0	0	0	244	0	0	0	0	0	137	0
Future Vol, veh/h	0	0	0	0	244	0	0	0	0	0	137	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	86	86	86	92	92	92	69	69	69
Heavy Vehicles, %	2	2	2	0	0	0	2	2	2	0	19	0
Mvmt Flow	0	0	0	0	284	0	0	0	0	0	199	0

Major/Minor	Major2	Minor2	Minor1
Conflicting Flow All	-	-	0
Stage 1	-	-	284
Stage 2	-	-	0
Critical Hdwy	-	-	6.52
Critical Hdwy Stg 1	-	-	5.52
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	4.018
Pot Cap-1 Maneuver	0	-	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	625
Mov Cap-2 Maneuver	-	-	625
Stage 1	-	-	676
Stage 2	-	-	-

Approach	SB	SE	NW
HCM Control Delay, s	0	0	14
HCM LOS		A	B

Minor Lane/Major Mvmt	NWLn1	SELn1	SBT
Capacity (veh/h)	598	-	-
HCM Lane V/C Ratio	0.332	-	-
HCM Control Delay (s)	14	0	-
HCM Lane LOS	B	A	-
HCM 95th %tile Q(veh)	1.4	-	-

HCM Unsignalized Intersection Capacity Analysis
52: Old Bedford Road/Old Bedford Road WB Left

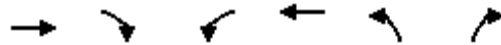
2022 Existing - PM
08/23/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑		
Traffic Volume (veh/h)	20	0	244	87	0	0
Future Volume (Veh/h)	20	0	244	87	0	0
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.75	0.75	0.86	0.86	0.92	0.92
Hourly flow rate (vph)	27	0	284	101	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	14	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	14	0	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	97	100	71	89	100	
cM capacity (veh/h)	900	1091	985	900	1623	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	
Volume Total	14	14	284	50	50	
Volume Left	0	0	284	0	0	
Volume Right	0	0	0	0	0	
cSH	900	900	985	900	900	
Volume to Capacity	0.01	0.01	0.29	0.06	0.06	
Queue Length 95th (ft)	1	1	30	4	4	
Control Delay (s)	9.1	9.1	10.1	9.2	9.2	
Lane LOS	A	A	B	A	A	
Approach Delay (s)	9.1		9.9			
Approach LOS	A		A			
Intersection Summary						
Average Delay			9.8			
Intersection Capacity Utilization			23.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 53: Hanscom Drive NB Right & Old Bedford Road

2022 Existing - PM
 08/23/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↗
Traffic Volume (veh/h)	20	0	0	0	0	98
Future Volume (Veh/h)	20	0	0	0	0	98
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.92	0.92	0.92	0.92	0.94
Hourly flow rate (vph)	25	0	0	0	0	104
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			25		25	12
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			25		25	12
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	90
cM capacity (veh/h)			1588		987	1065
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	12	12	104			
Volume Left	0	0	0			
Volume Right	0	0	104			
cSH	1700	1700	1065			
Volume to Capacity	0.01	0.01	0.10			
Queue Length 95th (ft)	0	0	8			
Control Delay (s)	0.0	0.0	8.7			
Lane LOS			A			
Approach Delay (s)	0.0		8.7			
Approach LOS			A			
Intersection Summary						
Average Delay			7.1			
Intersection Capacity Utilization			16.1%	ICU Level of Service		A
Analysis Period (min)			15			



C.7 SYNCRO Level of Service Analysis: 2030 No Build



(This page intentionally left blank.)

Intersection

Int Delay, s/veh 14.7

Movement WBL WBR SEL SET NWT NWR

Lane Configurations	Y			4	1	
Traffic Vol, veh/h	53	17	126	799	672	7
Future Vol, veh/h	53	17	126	799	672	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	88	88	88	88
Heavy Vehicles, %	0	2	1	2	5	33
Mvmt Flow	59	19	143	908	764	8

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	1962	768	772	0	-	0
Stage 1	768	-	-	-	-	-
Stage 2	1194	-	-	-	-	-
Critical Hdwy	6.4	6.22	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	2.209	-	-	-
Pot Cap-1 Maneuver	70	402	848	-	-	-
Stage 1	461	-	-	-	-	-
Stage 2	290	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 46	402	848	-	-	-
Mov Cap-2 Maneuver	~ 46	-	-	-	-	-
Stage 1	304	-	-	-	-	-
Stage 2	290	-	-	-	-	-

Approach WB SE NW

HCM Control Delay, s\$ 340.9 1.4 0
HCM LOS F

Minor Lane/Major Mvmt NWT NWRWBLn1 SEL SET

Capacity (veh/h)	-	-	59	848	-
HCM Lane V/C Ratio	-	-	1.318	0.169	-
HCM Control Delay (s)	-	-	\$ 340.9	10.1	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	6.7	0.6	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection				
Intersection Delay, s/veh	5.6			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	200	219	353	48
Demand Flow Rate, veh/h	203	219	363	49
Vehicles Circulating, veh/h	231	380	95	484
Vehicles Exiting, veh/h	302	78	339	115
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.0	6.2	5.6	4.9
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LT	LT
Assumed Moves	LTR	LTR	LT	LT
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	203	219	363	49
Cap Entry Lane, veh/h	1090	937	1252	842
Entry HV Adj Factor	0.985	1.000	0.971	0.982
Flow Entry, veh/h	200	219	353	48
Cap Entry, veh/h	1074	937	1217	827
V/C Ratio	0.186	0.234	0.290	0.058
Control Delay, s/veh	5.0	6.2	5.6	4.9
LOS	A	A	A	A
95th %tile Queue, veh	1	1	1	0

Intersection

Int Delay, s/veh 128.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↗		↘	↗
Traffic Vol, veh/h	281	834	384	369	124	123
Future Vol, veh/h	281	834	384	369	124	123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	88	88	84	84
Heavy Vehicles, %	1	2	4	6	7	7
Mvmt Flow	335	993	436	419	148	146

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	436	0	-	0	2309 646
Stage 1	-	-	-	-	646 -
Stage 2	-	-	-	-	1663 -
Critical Hdwy	4.11	-	-	-	6.47 6.27
Critical Hdwy Stg 1	-	-	-	-	5.47 -
Critical Hdwy Stg 2	-	-	-	-	5.47 -
Follow-up Hdwy	2.209	-	-	-	3.563 3.363
Pot Cap-1 Maneuver	1129	-	-	-	~ 41 463
Stage 1	-	-	-	-	512 -
Stage 2	-	-	-	-	165 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1129	-	-	-	~ 29 463
Mov Cap-2 Maneuver	-	-	-	-	~ 29 -
Stage 1	-	-	-	-	360 -
Stage 2	-	-	-	-	165 -

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	\$ 1068.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1129	-	-	-	29	463
HCM Lane V/C Ratio	0.296	-	-	-	5.09	0.316
HCM Control Delay (s)	9.5	-	-	-	\$ 2113.1	16.3
HCM Lane LOS	A	-	-	-	F	C
HCM 95th %tile Q(veh)	1.2	-	-	-	17.9	1.3

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	3.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	51	29	135	153	128	262
Future Vol, veh/h	51	29	135	153	128	262
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	73	73	84	84
Heavy Vehicles, %	1	1	3	1	2	4
Mvmt Flow	65	37	185	210	152	312

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	906	290	0	0	395
Stage 1	290	-	-	-	-
Stage 2	616	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218
Pot Cap-1 Maneuver	308	752	-	-	1164
Stage 1	762	-	-	-	-
Stage 2	541	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	259	752	-	-	1164
Mov Cap-2 Maneuver	259	-	-	-	-
Stage 1	762	-	-	-	-
Stage 2	456	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.1	0	2.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	340	1164
HCM Lane V/C Ratio	-	-	0.302	0.131
HCM Control Delay (s)	-	-	20.1	8.6
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	1.2	0.5

Intersection						
Int Delay, s/veh	128.5					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations	T			T		T
Traffic Vol, veh/h	206	7	39	400	947	5
Future Vol, veh/h	206	7	39	400	947	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	92	92	88	88
Heavy Vehicles, %	17	1	2	3	1	0
Mvmt Flow	264	9	42	435	1076	6

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1598	1079	1082	0	-	0
Stage 1	1079	-	-	-	-	-
Stage 2	519	-	-	-	-	-
Critical Hdwy	6.57	6.21	4.12	-	-	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.309	2.218	-	-	-
Pot Cap-1 Maneuver	~ 108	267	645	-	-	-
Stage 1	305	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 99	267	645	-	-	-
Mov Cap-2 Maneuver	~ 99	-	-	-	-	-
Stage 1	279	-	-	-	-	-
Stage 2	568	-	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, s	\$ 860.2	1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	101	645
HCM Lane V/C Ratio	-	-	2.704	0.066
HCM Control Delay (s)	-	-	\$ 860.2	11
HCM Lane LOS	-	-	F	B
HCM 95th %tile Q(veh)	-	-	25.5	0.2

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection				
Intersection Delay, s/veh	6.1			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	224	373	220	79
Demand Flow Rate, veh/h	232	373	236	92
Vehicles Circulating, veh/h	364	247	40	551
Vehicles Exiting, veh/h	279	29	556	69
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.4	6.9	4.4	6.6
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LT	LT
Assumed Moves	LTR	LTR	LT	LT
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	232	373	236	92
Cap Entry Lane, veh/h	952	1073	1325	787
Entry HV Adj Factor	0.966	1.000	0.932	0.862
Flow Entry, veh/h	224	373	220	79
Cap Entry, veh/h	919	1073	1234	678
V/C Ratio	0.244	0.348	0.178	0.117
Control Delay, s/veh	6.4	6.9	4.4	6.6
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	0

Intersection						
Int Delay, s/veh	131.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↗		↘	↗
Traffic Vol, veh/h	81	283	1088	99	174	259
Future Vol, veh/h	81	283	1088	99	174	259
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	89	89	84	84
Heavy Vehicles, %	1	1	1	1	3	0
Mvmt Flow	98	341	1222	111	207	308

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1222	0	-	0	1815 1278
Stage 1	-	-	-	-	1278 -
Stage 2	-	-	-	-	537 -
Critical Hdwy	4.11	-	-	-	6.43 6.2
Critical Hdwy Stg 1	-	-	-	-	5.43 -
Critical Hdwy Stg 2	-	-	-	-	5.43 -
Follow-up Hdwy	2.209	-	-	-	3.527 3.3
Pot Cap-1 Maneuver	574	-	-	-	~ 85 ~ 205
Stage 1	-	-	-	-	260 -
Stage 2	-	-	-	-	584 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	574	-	-	-	~ 70 ~ 205
Mov Cap-2 Maneuver	-	-	-	-	~ 70 -
Stage 1	-	-	-	-	216 -
Stage 2	-	-	-	-	584 -

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	\$ 581.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	574	-	-	-	70	205
HCM Lane V/C Ratio	0.17	-	-	-	2.959	1.504
HCM Control Delay (s)	12.6	-	-	-	\$ 1009.9	293.3
HCM Lane LOS	B	-	-	-	F	F
HCM 95th %tile Q(veh)	0.6	-	-	-	20.9	19

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	5.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	174	346	39	17	204
Future Vol, veh/h	70	174	346	39	17	204
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	86	86	86	86
Heavy Vehicles, %	5	0	3	0	0	0
Mvmt Flow	84	210	402	45	20	237

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	702	425	0	0	447	0
Stage 1	425	-	-	-	-	-
Stage 2	277	-	-	-	-	-
Critical Hdwy	6.45	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	400	634	-	-	1124	-
Stage 1	653	-	-	-	-	-
Stage 2	763	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	392	634	-	-	1124	-
Mov Cap-2 Maneuver	392	-	-	-	-	-
Stage 1	653	-	-	-	-	-
Stage 2	748	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.4	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	539	1124
HCM Lane V/C Ratio	-	-	0.545	0.018
HCM Control Delay (s)	-	-	19.4	8.3
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	3.3	0.1



C.8 SYNCRO Level of Service Analysis: 2030 Build



(This page intentionally left blank.)

Intersection						
Int Delay, s/veh	15.2					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations	T			T		
Traffic Vol, veh/h	53	18	127	802	672	7
Future Vol, veh/h	53	18	127	802	672	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	88	88	88	88
Heavy Vehicles, %	0	2	1	2	5	33
Mvmt Flow	59	20	144	911	764	8

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1967	768	772	0	0
Stage 1	768	-	-	-	-
Stage 2	1199	-	-	-	-
Critical Hdwy	6.4	6.22	4.11	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.318	2.209	-	-
Pot Cap-1 Maneuver	70	402	848	-	-
Stage 1	461	-	-	-	-
Stage 2	288	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	~ 46	402	848	-	-
Mov Cap-2 Maneuver	~ 46	-	-	-	-
Stage 1	302	-	-	-	-
Stage 2	288	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, s	\$ 347.9	1.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	59	848
HCM Lane V/C Ratio	-	-	1.337	0.17
HCM Control Delay (s)	-	-	\$ 347.9	10.1
HCM Lane LOS	-	-	F	B
HCM 95th %tile Q(veh)	-	-	6.8	0.6

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection				
Intersection Delay, s/veh	5.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	212	228	359	65
Demand Flow Rate, veh/h	216	228	370	66
Vehicles Circulating, veh/h	248	397	115	488
Vehicles Exiting, veh/h	306	88	349	137
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.3	6.4	5.8	5.1
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LT	LT
Assumed Moves	LTR	LTR	LT	LT
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	216	228	370	66
Cap Entry Lane, veh/h	1071	920	1227	839
Entry HV Adj Factor	0.981	1.000	0.971	0.984
Flow Entry, veh/h	212	228	359	65
Cap Entry, veh/h	1052	920	1192	826
V/C Ratio	0.202	0.248	0.302	0.079
Control Delay, s/veh	5.3	6.4	5.8	5.1
LOS	A	A	A	A
95th %tile Queue, veh	1	1	1	0

Intersection

Int Delay, s/veh 141.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗		↖	↗
Traffic Vol, veh/h	284	834	384	371	128	126
Future Vol, veh/h	284	834	384	371	128	126
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	88	88	84	84
Heavy Vehicles, %	1	2	4	6	7	7
Mvmt Flow	338	993	436	422	152	150

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	436	0	-	0	2316 647
Stage 1	-	-	-	-	647 -
Stage 2	-	-	-	-	1669 -
Critical Hdwy	4.11	-	-	-	6.47 6.27
Critical Hdwy Stg 1	-	-	-	-	5.47 -
Critical Hdwy Stg 2	-	-	-	-	5.47 -
Follow-up Hdwy	2.209	-	-	-	3.563 3.363
Pot Cap-1 Maneuver	1129	-	-	-	~ 40 462
Stage 1	-	-	-	-	512 -
Stage 2	-	-	-	-	164 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1129	-	-	-	~ 28 462
Mov Cap-2 Maneuver	-	-	-	-	~ 28 -
Stage 1	-	-	-	-	359 -
Stage 2	-	-	-	-	164 -

Approach

	EB	WB	SB
HCM Control Delay, s	2.4	0	\$ 1156.8
HCM LOS			F

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1129	-	-	-	28	462
HCM Lane V/C Ratio	0.299	-	-	-	5.442	0.325
HCM Control Delay (s)	9.5	-	-	-	\$ 2279.3	16.5
HCM Lane LOS	A	-	-	-	F	C
HCM 95th %tile Q(veh)	1.3	-	-	-	18.6	1.4

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	3.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	53	30	135	154	131	262
Future Vol, veh/h	53	30	135	154	131	262
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	73	73	84	84
Heavy Vehicles, %	1	1	3	1	2	4
Mvmt Flow	68	38	185	211	156	312

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	915	291	0	0	396
Stage 1	291	-	-	-	-
Stage 2	624	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218
Pot Cap-1 Maneuver	304	751	-	-	1163
Stage 1	761	-	-	-	-
Stage 2	536	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	255	751	-	-	1163
Mov Cap-2 Maneuver	255	-	-	-	-
Stage 1	761	-	-	-	-
Stage 2	449	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.7	0	2.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	335	1163
HCM Lane V/C Ratio	-	-	0.318	0.134
HCM Control Delay (s)	-	-	20.7	8.6
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	1.3	0.5

Intersection						
Int Delay, s/veh	130.1					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	206	7	40	403	947	5
Future Vol, veh/h	206	7	40	403	947	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	92	92	88	88
Heavy Vehicles, %	17	1	2	3	1	0
Mvmt Flow	264	9	43	438	1076	6

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1603	1079	1082	0	-	0
Stage 1	1079	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Critical Hdwy	6.57	6.21	4.12	-	-	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.309	2.218	-	-	-
Pot Cap-1 Maneuver	~ 107	267	645	-	-	-
Stage 1	305	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 98	267	645	-	-	-
Mov Cap-2 Maneuver	~ 98	-	-	-	-	-
Stage 1	278	-	-	-	-	-
Stage 2	565	-	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, s	\$ 873	1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	100	645
HCM Lane V/C Ratio	-	-	2.731	0.067
HCM Control Delay (s)	-	-	\$ 873	11
HCM Lane LOS	-	-	F	B
HCM 95th %tile Q(veh)	-	-	25.6	0.2

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection				
Intersection Delay, s/veh	6.2			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	232	373	220	79
Demand Flow Rate, veh/h	241	373	236	92
Vehicles Circulating, veh/h	364	252	45	551
Vehicles Exiting, veh/h	279	29	560	74
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.5	6.9	4.5	6.6
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LT	LT
Assumed Moves	LTR	LTR	LT	LT
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	241	373	236	92
Cap Entry Lane, veh/h	952	1067	1318	787
Entry HV Adj Factor	0.963	1.000	0.932	0.862
Flow Entry, veh/h	232	373	220	79
Cap Entry, veh/h	916	1067	1228	678
V/C Ratio	0.253	0.350	0.179	0.117
Control Delay, s/veh	6.5	6.9	4.5	6.6
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	0

Intersection

Int Delay, s/veh 138.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↗		↘	↗
Traffic Vol, veh/h	82	283	1088	99	178	264
Future Vol, veh/h	82	283	1088	99	178	264
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	89	89	84	84
Heavy Vehicles, %	1	1	1	1	3	0
Mvmt Flow	99	341	1222	111	212	314

Major/Minor

	Major1	Major2	Minor2
Conflicting Flow All	1222	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.11	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.209	-	-
Pot Cap-1 Maneuver	574	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	574	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach

	EB	WB	SB
HCM Control Delay, s	2.8	0	\$ 601.1
HCM LOS			F

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	574	-	-	-	70	205
HCM Lane V/C Ratio	0.172	-	-	-	3.027	1.533
HCM Control Delay (s)	12.6	-	-	-	\$ 1039.9	\$ 305.3
HCM Lane LOS	B	-	-	-	F	F
HCM 95th %tile Q(veh)	0.6	-	-	-	21.4	19.7

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	72	174	346	40	18	204
Future Vol, veh/h	72	174	346	40	18	204
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	86	86	86	86
Heavy Vehicles, %	5	0	3	0	0	0
Mvmt Flow	87	210	402	47	21	237

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	705	426	0	0	449	0
Stage 1	426	-	-	-	-	-
Stage 2	279	-	-	-	-	-
Critical Hdwy	6.45	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	398	633	-	-	1122	-
Stage 1	652	-	-	-	-	-
Stage 2	761	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	389	633	-	-	1122	-
Mov Cap-2 Maneuver	389	-	-	-	-	-
Stage 1	652	-	-	-	-	-
Stage 2	744	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.8	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	535	1122
HCM Lane V/C Ratio	-	-	0.554	0.019
HCM Control Delay (s)	-	-	19.8	8.3
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	3.4	0.1



C.9 SYNCRO Level of Service Analysis: 2040 No Build



(This page intentionally left blank.)

Intersection						
Int Delay, s/veh	21.9					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations	T			T		
Traffic Vol, veh/h	56	18	132	837	704	7
Future Vol, veh/h	56	18	132	837	704	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	88	88	88	88
Heavy Vehicles, %	0	2	1	2	5	33
Mvmt Flow	62	20	150	951	800	8

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	2055	804	808	0	0
Stage 1	804	-	-	-	-
Stage 2	1251	-	-	-	-
Critical Hdwy	6.4	6.22	4.11	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.318	2.209	-	-
Pot Cap-1 Maneuver	~ 62	383	822	-	-
Stage 1	444	-	-	-	-
Stage 2	272	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	~ 38	383	822	-	-
Mov Cap-2 Maneuver	~ 38	-	-	-	-
Stage 1	272	-	-	-	-
Stage 2	272	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, s	511.6	1.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	49	822
HCM Lane V/C Ratio	-	-	1.678	0.182
HCM Control Delay (s)	-	-	511.6	10.4
HCM Lane LOS	-	-	F	B
HCM 95th %tile Q(veh)	-	-	8	0.7

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection				
Intersection Delay, s/veh	5.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	213	229	375	52
Demand Flow Rate, veh/h	216	229	386	53
Vehicles Circulating, veh/h	243	405	103	506
Vehicles Exiting, veh/h	316	84	356	128
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.2	6.5	5.9	5.1
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LT	LT
Assumed Moves	LTR	LTR	LT	LT
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	216	229	386	53
Cap Entry Lane, veh/h	1077	913	1242	824
Entry HV Adj Factor	0.986	1.000	0.972	0.983
Flow Entry, veh/h	213	229	375	52
Cap Entry, veh/h	1062	913	1207	809
V/C Ratio	0.201	0.251	0.311	0.064
Control Delay, s/veh	5.2	6.5	5.9	5.1
LOS	A	A	A	A
95th %tile Queue, veh	1	1	1	0

Intersection						
Int Delay, s/veh	176					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↗		↘	↗
Traffic Vol, veh/h	295	874	402	386	130	129
Future Vol, veh/h	295	874	402	386	130	129
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	88	88	84	84
Heavy Vehicles, %	1	2	4	6	7	7
Mvmt Flow	351	1040	457	439	155	154

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	457	0	-	0	2419 677
Stage 1	-	-	-	-	677 -
Stage 2	-	-	-	-	1742 -
Critical Hdwy	4.11	-	-	-	6.47 6.27
Critical Hdwy Stg 1	-	-	-	-	5.47 -
Critical Hdwy Stg 2	-	-	-	-	5.47 -
Follow-up Hdwy	2.209	-	-	-	3.563 3.363
Pot Cap-1 Maneuver	1109	-	-	-	~ 34 444
Stage 1	-	-	-	-	496 -
Stage 2	-	-	-	-	~ 150 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1109	-	-	-	~ 23 444
Mov Cap-2 Maneuver	-	-	-	-	~ 23 -
Stage 1	-	-	-	-	339 -
Stage 2	-	-	-	-	~ 150 -

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	\$ 1470.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1109	-	-	-	23	444
HCM Lane V/C Ratio	0.317	-	-	-	6.729	0.346
HCM Control Delay (s)	9.7	-	-	-	\$ 2911.8	17.3
HCM Lane LOS	A	-	-	-	F	C
HCM 95th %tile Q(veh)	1.4	-	-	-	19.5	1.5

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↔	↑			↗
Traffic Vol, veh/h	290	248	117	0	0	146
Future Vol, veh/h	290	248	117	0	0	146
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	89	89	85	85
Heavy Vehicles, %	2	2	3	4	2	3
Mvmt Flow	333	285	131	0	0	172

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	131	0	-	0	- 131
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	4.12	-	-	-	- 6.23
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	- 3.327
Pot Cap-1 Maneuver	1454	-	-	0	0 916
Stage 1	-	-	-	0	0 -
Stage 2	-	-	-	0	0 -
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1454	-	-	-	- 916
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SW
HCM Control Delay, s	4.4	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBTSWLn1
Capacity (veh/h)	1454	-	- 916
HCM Lane V/C Ratio	0.229	-	- 0.188
HCM Control Delay (s)	8.2	0	- 9.8
HCM Lane LOS	A	A	- A
HCM 95th %tile Q(veh)	0.9	-	- 0.7

Intersection						
Int Delay, s/veh	4.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	0	248	117	98	179	0
Future Vol, veh/h	0	248	117	98	179	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	89	89	85	85
Heavy Vehicles, %	2	2	3	4	2	3
Mvmt Flow	0	285	131	110	211	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	471
Stage 1	-	-	-	-	186
Stage 2	-	-	-	-	285
Critical Hdwy	-	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	-	-	3.518
Pot Cap-1 Maneuver	0	-	-	-	551
Stage 1	0	-	-	-	846
Stage 2	0	-	-	-	763
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	551
Mov Cap-2 Maneuver	-	-	-	-	551
Stage 1	-	-	-	-	846
Stage 2	-	-	-	-	763

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	551
HCM Lane V/C Ratio	-	-	-	0.382
HCM Control Delay (s)	-	-	-	15.5
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1.8

Intersection						
Int Delay, s/veh	3.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	53	30	141	161	134	274
Future Vol, veh/h	53	30	141	161	134	274
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	73	73	84	84
Heavy Vehicles, %	1	1	3	1	2	4
Mvmt Flow	68	38	193	221	160	326

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	950	304	0	0	414
Stage 1	304	-	-	-	-
Stage 2	646	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218
Pot Cap-1 Maneuver	290	738	-	-	1145
Stage 1	751	-	-	-	-
Stage 2	524	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	240	738	-	-	1145
Mov Cap-2 Maneuver	240	-	-	-	-
Stage 1	751	-	-	-	-
Stage 2	434	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22	0	2.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	317	1145
HCM Lane V/C Ratio	-	-	0.336	0.139
HCM Control Delay (s)	-	-	22	8.7
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	1.4	0.5

Intersection						
Int Delay, s/veh	163.6					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	216	7	41	419	993	5
Future Vol, veh/h	216	7	41	419	993	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	92	92	88	88
Heavy Vehicles, %	17	1	2	3	1	0
Mvmt Flow	277	9	45	455	1128	6

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1676	1131	1134	0	-	0
Stage 1	1131	-	-	-	-	-
Stage 2	545	-	-	-	-	-
Critical Hdwy	6.57	6.21	4.12	-	-	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.309	2.218	-	-	-
Pot Cap-1 Maneuver	~ 96	249	616	-	-	-
Stage 1	288	-	-	-	-	-
Stage 2	552	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 87	249	616	-	-	-
Mov Cap-2 Maneuver	~ 87	-	-	-	-	-
Stage 1	~ 260	-	-	-	-	-
Stage 2	552	-	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, \$	1096.6	1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	89	616
HCM Lane V/C Ratio	-	-	3.212	0.072
HCM Control Delay (s)	-	\$	1096.6	11.3
HCM Lane LOS	-	-	F	B
HCM 95th %tile Q(veh)	-	-	28.4	0.2

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection				
Intersection Delay, s/veh	6.3			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	232	401	216	78
Demand Flow Rate, veh/h	240	401	230	91
Vehicles Circulating, veh/h	382	240	40	587
Vehicles Exiting, veh/h	296	30	582	54
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.6	7.1	4.4	6.9
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LT	LT
Assumed Moves	LTR	LTR	LT	LT
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	240	401	230	91
Cap Entry Lane, veh/h	935	1080	1325	758
Entry HV Adj Factor	0.967	1.000	0.940	0.861
Flow Entry, veh/h	232	401	216	78
Cap Entry, veh/h	903	1080	1245	653
V/C Ratio	0.257	0.371	0.174	0.120
Control Delay, s/veh	6.6	7.1	4.4	6.9
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	0

Intersection

Int Delay, s/veh 169.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↑	↘		↙	↘
Traffic Vol, veh/h	85	297	1140	104	182	272
Future Vol, veh/h	85	297	1140	104	182	272
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	89	89	84	84
Heavy Vehicles, %	1	1	1	1	3	0
Mvmt Flow	102	358	1281	117	217	324

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1281	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.11	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.209	-	-
Pot Cap-1 Maneuver	545	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	545	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	\$ 750.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	545	-	-	-	61	188
HCM Lane V/C Ratio	0.188	-	-	-	3.552	1.722
HCM Control Delay (s)	13.1	-	-	-	\$ 1289.4	\$ 389.8
HCM Lane LOS	B	-	-	-	F	F
HCM 95th %tile Q(veh)	0.7	-	-	-	23	22.4

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 4.4

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↕	↑			↗
Traffic Vol, veh/h	149	97	400	0	0	164
Future Vol, veh/h	149	97	400	0	0	164
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	89	89	87	87
Heavy Vehicles, %	1	0	1	1	1	2
Mvmt Flow	182	118	449	0	0	189

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	449	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.11	-	6.22
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.209	-	3.318
Pot Cap-1 Maneuver	1117	-	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1117	-	610
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SW
HCM Control Delay, s	5.4	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBTSWLn1
Capacity (veh/h)	1117	-	610
HCM Lane V/C Ratio	0.163	-	0.309
HCM Control Delay (s)	8.8	0	13.5
HCM Lane LOS	A	A	B
HCM 95th %tile Q(veh)	0.6	-	1.3

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	0	97	400	225	146	0
Future Vol, veh/h	0	97	400	225	146	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	89	89	87	87
Heavy Vehicles, %	1	0	1	1	1	2
Mvmt Flow	0	118	449	253	168	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	694
Stage 1	-	-	-	-	576
Stage 2	-	-	-	-	118
Critical Hdwy	-	-	-	-	6.41
Critical Hdwy Stg 1	-	-	-	-	5.41
Critical Hdwy Stg 2	-	-	-	-	5.41
Follow-up Hdwy	-	-	-	-	3.509
Pot Cap-1 Maneuver	0	-	-	-	410
Stage 1	0	-	-	-	564
Stage 2	0	-	-	-	910
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	410
Mov Cap-2 Maneuver	-	-	-	-	410
Stage 1	-	-	-	-	564
Stage 2	-	-	-	-	910

Approach	EB	WB	SB
HCM Control Delay, s	0	0	19.7
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	410
HCM Lane V/C Ratio	-	-	-	0.409
HCM Control Delay (s)	-	-	-	19.7
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	2

Intersection						
Int Delay, s/veh	6.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	74	182	362	41	18	214
Future Vol, veh/h	74	182	362	41	18	214
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	86	86	86	86
Heavy Vehicles, %	5	0	3	0	0	0
Mvmt Flow	89	219	421	48	21	249

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	736	445	0	0	469
Stage 1	445	-	-	-	-
Stage 2	291	-	-	-	-
Critical Hdwy	6.45	6.2	-	-	4.1
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.3	-	-	2.2
Pot Cap-1 Maneuver	382	617	-	-	1103
Stage 1	639	-	-	-	-
Stage 2	752	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	374	617	-	-	1103
Mov Cap-2 Maneuver	374	-	-	-	-
Stage 1	639	-	-	-	-
Stage 2	735	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.6	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	519	1103
HCM Lane V/C Ratio	-	-	0.594	0.019
HCM Control Delay (s)	-	-	21.6	8.3
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	3.8	0.1



C.10 SYNCRO Level of Service Analysis: 2040 Build



(This page intentionally left blank.)

Intersection						
Int Delay, s/veh	24.6					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations	T			T		
Traffic Vol, veh/h	56	20	132	842	713	7
Future Vol, veh/h	56	20	132	842	713	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	88	88	88	88
Heavy Vehicles, %	0	2	1	2	5	33
Mvmt Flow	62	22	150	957	810	8

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	2071	814	818	0	0
Stage 1	814	-	-	-	-
Stage 2	1257	-	-	-	-
Critical Hdwy	6.4	6.22	4.11	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.318	2.209	-	-
Pot Cap-1 Maneuver	~ 60	378	815	-	-
Stage 1	439	-	-	-	-
Stage 2	270	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	~ 36	378	815	-	-
Mov Cap-2 Maneuver	~ 36	-	-	-	-
Stage 1	266	-	-	-	-
Stage 2	270	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, s	\$ 567.5	1.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	47	815
HCM Lane V/C Ratio	-	-	1.797	0.184
HCM Control Delay (s)	-	-	\$ 567.5	10.4
HCM Lane LOS	-	-	F	B
HCM 95th %tile Q(veh)	-	-	8.4	0.7

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection				
Intersection Delay, s/veh	6.4			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	237	244	401	89
Demand Flow Rate, veh/h	242	244	414	90
Vehicles Circulating, veh/h	280	457	135	516
Vehicles Exiting, veh/h	326	92	387	185
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.8	7.2	6.4	5.6
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LT	LT
Assumed Moves	LTR	LTR	LT	LT
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	242	244	414	90
Cap Entry Lane, veh/h	1037	866	1202	815
Entry HV Adj Factor	0.979	1.000	0.969	0.983
Flow Entry, veh/h	237	244	401	89
Cap Entry, veh/h	1016	866	1165	802
V/C Ratio	0.233	0.282	0.344	0.110
Control Delay, s/veh	5.8	7.2	6.4	5.6
LOS	A	A	A	A
95th %tile Queue, veh	1	1	2	0

Intersection

Int Delay, s/veh 196.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↗		↘	↗
Traffic Vol, veh/h	306	874	402	397	135	138
Future Vol, veh/h	306	874	402	397	135	138
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	88	88	84	84
Heavy Vehicles, %	1	2	4	6	7	7
Mvmt Flow	364	1040	457	451	161	164

Major/Minor

	Major1	Major2	Minor2		
Conflicting Flow All	457	0	-	0	2451 683
Stage 1	-	-	-	-	683 -
Stage 2	-	-	-	-	1768 -
Critical Hdwy	4.11	-	-	-	6.47 6.27
Critical Hdwy Stg 1	-	-	-	-	5.47 -
Critical Hdwy Stg 2	-	-	-	-	5.47 -
Follow-up Hdwy	2.209	-	-	-	3.563 3.363
Pot Cap-1 Maneuver	1109	-	-	-	~ 33 441
Stage 1	-	-	-	-	492 -
Stage 2	-	-	-	-	~ 146 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1109	-	-	-	~ 22 441
Mov Cap-2 Maneuver	-	-	-	-	~ 22 -
Stage 1	-	-	-	-	331 -
Stage 2	-	-	-	-	~ 146 -

Approach

	EB	WB	SB
HCM Control Delay, s	2.5	0	\$ 1583.7
HCM LOS			F

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1109	-	-	-	22	441
HCM Lane V/C Ratio	0.328	-	-	-	7.305	0.373
HCM Control Delay (s)	9.8	-	-	-	\$ 3184.3	17.9
HCM Lane LOS	A	-	-	-	F	C
HCM 95th %tile Q(veh)	1.4	-	-	-	20.3	1.7

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	4.9					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↔	↑			↗
Traffic Vol, veh/h	300	248	120	0	0	150
Future Vol, veh/h	300	248	120	0	0	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	89	89	85	85
Heavy Vehicles, %	2	2	3	4	2	3
Mvmt Flow	345	285	135	0	0	176

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	135	0	-	0	-	135
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.12	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	-	-	3.327
Pot Cap-1 Maneuver	1449	-	-	0	0	911
Stage 1	-	-	-	0	0	-
Stage 2	-	-	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1449	-	-	-	-	911
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SW
HCM Control Delay, s	4.5	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBTSWLn1	
Capacity (veh/h)	1449	-	-	911
HCM Lane V/C Ratio	0.238	-	-	0.194
HCM Control Delay (s)	8.3	0	-	9.9
HCM Lane LOS	A	A	-	A
HCM 95th %tile Q(veh)	0.9	-	-	0.7

Intersection						
Int Delay, s/veh	4.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	0	248	120	98	179	0
Future Vol, veh/h	0	248	120	98	179	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	89	89	85	85
Heavy Vehicles, %	2	2	3	4	2	3
Mvmt Flow	0	285	135	110	211	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	475
Stage 1	-	-	-	-	190
Stage 2	-	-	-	-	285
Critical Hdwy	-	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	-	-	3.518
Pot Cap-1 Maneuver	0	-	-	-	548
Stage 1	0	-	-	-	842
Stage 2	0	-	-	-	763
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	548
Mov Cap-2 Maneuver	-	-	-	-	548
Stage 1	-	-	-	-	842
Stage 2	-	-	-	-	763

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	548
HCM Lane V/C Ratio	-	-	-	0.384
HCM Control Delay (s)	-	-	-	15.6
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1.8

Intersection						
Int Delay, s/veh	4.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	58	32	141	171	142	274
Future Vol, veh/h	58	32	141	171	142	274
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	73	73	84	84
Heavy Vehicles, %	1	1	3	1	2	4
Mvmt Flow	74	41	193	234	169	326

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	974	310	0	0	427
Stage 1	310	-	-	-	-
Stage 2	664	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218
Pot Cap-1 Maneuver	280	732	-	-	1132
Stage 1	746	-	-	-	-
Stage 2	514	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	229	732	-	-	1132
Mov Cap-2 Maneuver	229	-	-	-	-
Stage 1	746	-	-	-	-
Stage 2	420	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24	0	3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	303	1132
HCM Lane V/C Ratio	-	-	0.381	0.149
HCM Control Delay (s)	-	-	24	8.7
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	1.7	0.5

Intersection						
Int Delay, s/veh	169.5					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations	T			L		R
Traffic Vol, veh/h	216	10	42	433	993	5
Future Vol, veh/h	216	10	42	433	993	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	92	92	88	88
Heavy Vehicles, %	17	1	2	3	1	0
Mvmt Flow	277	13	46	471	1128	6

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1694	1131	1134	0	-	0
Stage 1	1131	-	-	-	-	-
Stage 2	563	-	-	-	-	-
Critical Hdwy	6.57	6.21	4.12	-	-	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.309	2.218	-	-	-
Pot Cap-1 Maneuver	~ 94	249	616	-	-	-
Stage 1	288	-	-	-	-	-
Stage 2	541	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 85	249	616	-	-	-
Mov Cap-2 Maneuver	~ 85	-	-	-	-	-
Stage 1	~ 259	-	-	-	-	-
Stage 2	541	-	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, \$	1133.3	1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	88	616
HCM Lane V/C Ratio	-	-	3.293	0.074
HCM Control Delay (s)	-	\$	1133.3	11.3
HCM Lane LOS	-	-	F	B
HCM 95th %tile Q(veh)	-	-	29	0.2

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection				
Intersection Delay, s/veh	6.6			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	247	401	242	78
Demand Flow Rate, veh/h	256	401	260	91
Vehicles Circulating, veh/h	382	279	49	591
Vehicles Exiting, veh/h	300	30	589	89
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	7.6	4.7	6.9
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LT	LT
Assumed Moves	LTR	LTR	LT	LT
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	256	401	260	91
Cap Entry Lane, veh/h	935	1038	1313	755
Entry HV Adj Factor	0.965	1.000	0.931	0.861
Flow Entry, veh/h	247	401	242	78
Cap Entry, veh/h	902	1038	1222	651
V/C Ratio	0.274	0.386	0.198	0.120
Control Delay, s/veh	6.9	7.6	4.7	6.9
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	0

Intersection

Int Delay, s/veh 202.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↗		↘	↗
Traffic Vol, veh/h	90	297	1140	112	197	285
Future Vol, veh/h	90	297	1140	112	197	285
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	89	89	84	84
Heavy Vehicles, %	1	1	1	1	3	0
Mvmt Flow	108	358	1281	126	235	339

Major/Minor

	Major1	Major2	Minor2
Conflicting Flow All	1281	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.11	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.209	-	-
Pot Cap-1 Maneuver	545	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	545	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach

	EB	WB	SB
HCM Control Delay, s	3.1	0	\$ 859.6
HCM LOS			F

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	545	-	-	-	59	187
HCM Lane V/C Ratio	0.199	-	-	-	3.975	1.814
HCM Control Delay (s)	13.2	-	-	-	\$ 1481.8	\$ 429.5
HCM Lane LOS	B	-	-	-	F	F
HCM 95th %tile Q(veh)	0.7	-	-	-	25.4	24.3

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	4.5					
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↔	↕			↗
Traffic Vol, veh/h	151	99	405	0	0	167
Future Vol, veh/h	151	99	405	0	0	167
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	89	89	87	87
Heavy Vehicles, %	1	0	1	1	1	2
Mvmt Flow	184	121	455	0	0	192

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	455	0	-	0	455
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	4.11	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	2.209	-	-	-	3.318
Pot Cap-1 Maneuver	1111	-	-	0	605
Stage 1	-	-	-	0	-
Stage 2	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1111	-	-	-	605
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	SW
HCM Control Delay, s	5.4	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBTSWLn1
Capacity (veh/h)	1111	-	605
HCM Lane V/C Ratio	0.166	-	0.317
HCM Control Delay (s)	8.9	0	13.7
HCM Lane LOS	A	A	B
HCM 95th %tile Q(veh)	0.6	-	1.4

Intersection

Int Delay, s/veh 3.4

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	0	99	405	225	146	0
Future Vol, veh/h	0	99	405	225	146	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	89	89	87	87
Heavy Vehicles, %	1	0	1	1	1	2
Mvmt Flow	0	121	455	253	168	0

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	-	0	-	0	703	-
Stage 1	-	-	-	-	582	-
Stage 2	-	-	-	-	121	-
Critical Hdwy	-	-	-	-	6.41	-
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	-	-	3.509	-
Pot Cap-1 Maneuver	0	-	-	-	405	0
Stage 1	0	-	-	-	561	0
Stage 2	0	-	-	-	907	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	405	-
Mov Cap-2 Maneuver	-	-	-	-	405	-
Stage 1	-	-	-	-	561	-
Stage 2	-	-	-	-	907	-

Approach EB WB SB

HCM Control Delay, s	0	0	20
HCM LOS			C

Minor Lane/Major Mvmt EBT WBT WBR SBLn1

Capacity (veh/h)	-	-	-	405
HCM Lane V/C Ratio	-	-	-	0.414
HCM Control Delay (s)	-	-	-	20
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	2

Intersection						
Int Delay, s/veh	6.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	77	184	362	43	20	214
Future Vol, veh/h	77	184	362	43	20	214
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	86	86	86	86
Heavy Vehicles, %	5	0	3	0	0	0
Mvmt Flow	93	222	421	50	23	249

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	741	446	0	0	471	0
Stage 1	446	-	-	-	-	-
Stage 2	295	-	-	-	-	-
Critical Hdwy	6.45	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	379	617	-	-	1101	-
Stage 1	639	-	-	-	-	-
Stage 2	749	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	370	617	-	-	1101	-
Mov Cap-2 Maneuver	370	-	-	-	-	-
Stage 1	639	-	-	-	-	-
Stage 2	731	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.3	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	515	1101
HCM Lane V/C Ratio	-	-	0.611	0.021
HCM Control Delay (s)	-	-	22.3	8.3
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	4	0.1



C.11 MassDOT Crash Worksheets



(This page intentionally left blank.)



INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Lincoln COUNT DATE : December 1, 2022

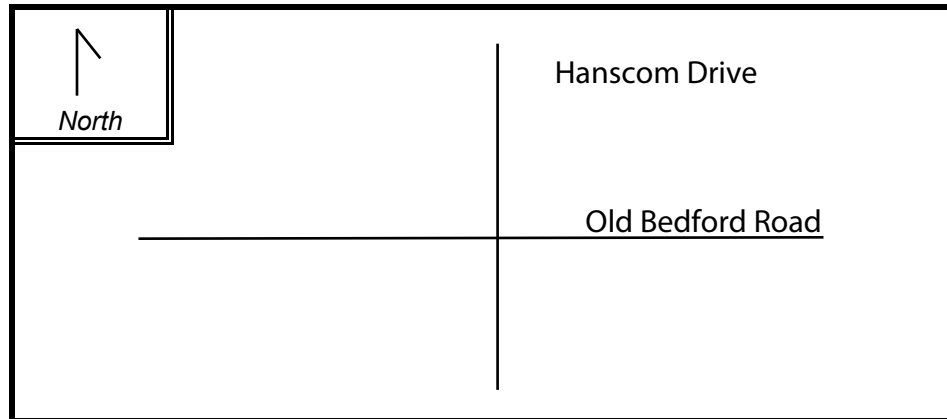
DISTRICT : 4 UNSIGNALIZED : SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Hanscom Drive

MINOR STREET(S) : Old Bedford Road

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	WB	EB		
PEAK HOURLY VOLUMES (AM/PM) :	258	30	24	155		467

" K " FACTOR :	0.09	INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :	5189
----------------	------	---	------

TOTAL # OF CRASHES :	8	# OF YEARS :	5	AVERAGE # OF CRASHES PER YEAR (A) :	1.6
----------------------	---	-----------------	---	--	-----

CRASH RATE CALCULATION : RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

Comments : _____

Project Title & Date: Hanscom 2022 ESPR



INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Concord COUNT DATE : December 1, 2022

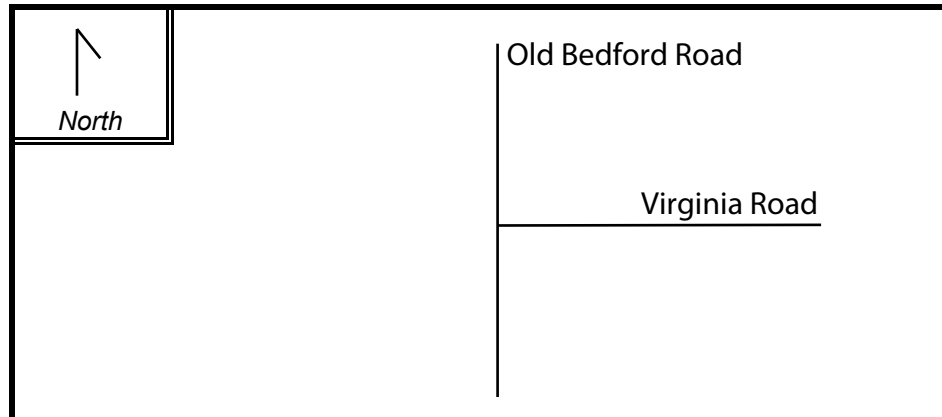
DISTRICT : 4 UNSIGNALIZED : SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Old Bedford Road

MINOR STREET(S) : Virginia Road

INTERSECTION
DIAGRAM
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	WB			
PEAK HOURLY VOLUMES (AM/PM) :	250	338	69			657

" K " FACTOR : INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

TOTAL # OF CRASHES : # OF YEARS : AVERAGE # OF CRASHES PER YEAR (A) :

CRASH RATE CALCULATION : RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

Comments : _____

Project Title & Date: Hanscom 2022 ESPR



INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Lincoln COUNT DATE : December 1, 2022

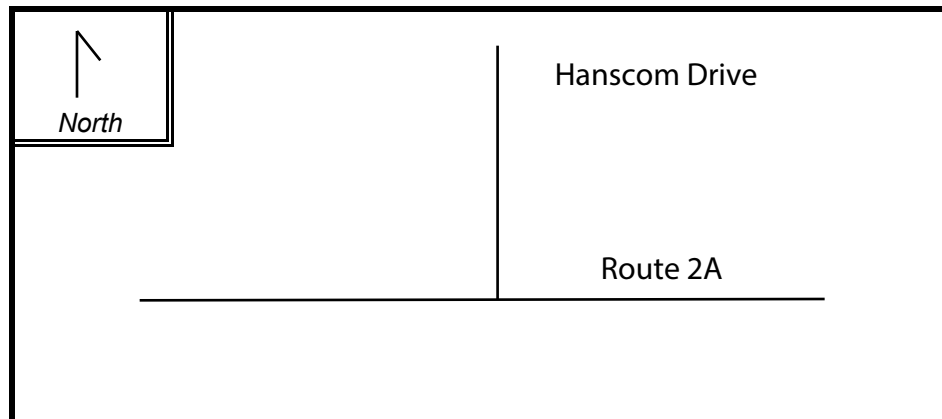
DISTRICT : 4 UNSIGNALIZED : SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Route 2A

MINOR STREET(S) : Hanscom Drive

**INTERSECTION
DIAGRAM**
(Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	SB	WB	EB			
PEAK HOURLY VOLUMES (AM/PM) :	215	653	968			1836

" K " FACTOR :	0.09	INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :	20,400
----------------	------	---	--------

TOTAL # OF CRASHES :	13	# OF YEARS :	5	AVERAGE # OF CRASHES PER YEAR (A) :	2.6
----------------------	----	-----------------	---	--	-----

CRASH RATE CALCULATION : RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

Comments : _____

Project Title & Date: Hanscom 2022 ESPR



(This page intentionally left blank.)



C.12 Count Data on I-95 at Route 2A



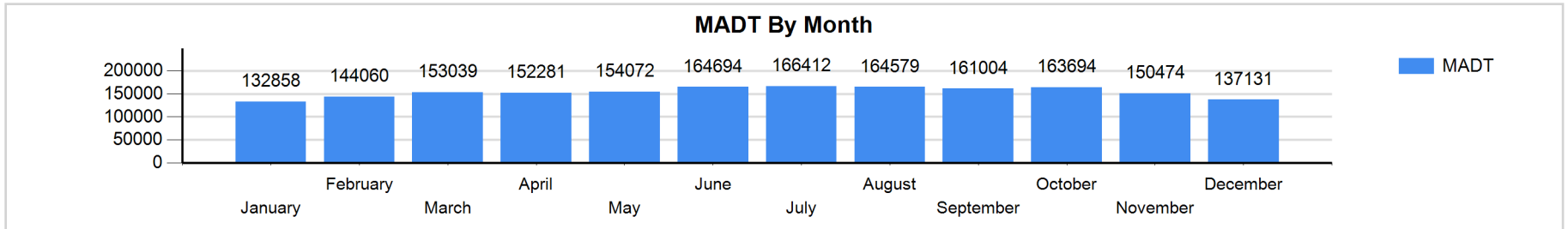
(This page intentionally left blank.)

Massachusetts Highway Department

ADT by Day of Week by Month for 1/1/2022 - 12/31/2022
Criteria: Location ID = 4118, From 1/1/1900 To 12/31/2049 12:00:00 AM

District	Location ID 4118	Located On YANKEE DIVISION HIGHWAY
Community Lexington	Direction 2-WAY	AADT
County Middlesex	RoadBed ML	Collection Type HPMS
Factor Group U1-Boston		Functional Class (1) Interstate

	Average Daily Number of Vehicles							Avg. Day (Mon-Sun)	Avg. Day as % of Year Avg.	Avg. Weekday (Mon-Thu)	Avg. Day as % of Avg. Weekday (Mon-Thu)	Avg. Weekday (Mon-Fri)	Avg. Day as % of Avg. Weekday (Mon-Fri)
	Sun	Mon	Tue	Wed	Thu	Fri	Sat						
JAN	89,575	142,491	140,367	147,307	152,701	158,735	98,834	132,858	86.44%	145,717	91.18%	148,320	89.58%
FEB	108,046	145,890	156,461	161,722	167,150	138,504	130,653	144,060	93.73%	157,806	91.29%	153,945	93.58%
MAR	122,909	153,214	164,131	162,215	165,998	170,599	132,208	153,039	99.58%	161,390	94.83%	163,231	93.76%
APR	120,058	151,998	158,839	163,840	164,986	162,845	143,404	152,281	99.08%	159,916	95.23%	160,502	94.88%
MAY	126,174	160,307	156,437	142,386	169,393	172,071	151,744	154,072	100.25%	157,131	98.05%	160,119	96.22%
JUN	139,476	165,888	161,539	173,412	176,122	179,468	156,960	164,694	107.16%	169,240	97.31%	171,286	96.15%
JUL	137,009	166,818	173,928	179,370	178,052	175,806	153,909	166,412	108.28%	174,542	95.34%	174,795	95.20%
AUG	139,120	165,918	163,344	176,417	179,668	176,013	151,575	164,579	107.08%	171,337	96.06%	172,272	95.53%
SEP	137,377	147,229	162,886	174,317	174,402	176,778	154,046	161,004	104.76%	164,709	97.75%	167,122	96.34%
OCT	140,570	158,899	167,075	169,443	175,931	176,247	157,693	163,694	106.51%	167,837	97.53%	169,519	96.56%
NOV	122,886	153,709	159,678	161,189	156,376	155,071	144,413	150,474	97.91%	157,738	95.39%	157,205	95.72%
DEC	105,691	135,297	146,344	154,898	155,444	140,900	121,351	137,131	89.22%	147,996	92.66%	146,577	93.56%
Year	124,074	153,972	159,252	163,876	168,019	165,253	141,399	153,692		161,280	95.30%	162,074	94.83%



NOTE: VALUES ARE ROUNDED; TOTALS AND PERCENTS MAY NOT ADD UP.



(This page intentionally left blank.)



C.13 Trip Generation, Assignment, and Distribution Estimation Procedures



(This page intentionally left blank.)



Hanscom Drive Volume Adjustment

In order to accurately report Hanscom Field trip generation, a review of peak hour counts on the Automatic Traffic Recorder (ATR) were compared for the week of Tuesday, November 29, 2022 through Monday, December 5, 2022. Because trip generation numbers are primarily derived from turning movement counts at Hanscom Drive and Old Bedford Road, every effort was taken to accurately report Hanscom Field trip distribution. Since the morning peak hour at the Hanscom Drive and Old Bedford intersection was reported as 8:00-9:00 AM and the evening peak hour was reported as 3:00-4:00 PM, ATR counts during this time frame were reviewed. As the turning counts were completed on December 1, 2022, a review of this count versus the counts by the average Tuesday, Wednesday, Thursday count completed by the ATR resulted in a decrease of approximately 4-6 percent during the morning peak hour and an increase of approximately 8 to 33 percent during the evening peak hour. These adjustments are made on all figures throughout the 2022 ESPR, however, these adjustments were not followed through to adjacent intersections.

	IN		OUT	
	AM (8:00 - 9:00 AM)	PM (3:00 - 4:00 PM)	AM (8:00 - 9:00 AM)	PM (3:00 - 4:00 PM)
Tuesday, November 29, 2022	95	55	28	82
Wednesday, November 30, 2022	60	27	28	56
Thursday, December 1, 2022	85	27	30	62
Friday, December 2, 2022	76	38	28	73
Saturday, December 3, 2022	35	18	16	21
Sunday, December 4, 2022	21	28	9	37
Monday, December 5, 2022	77	32	27	86
Tu/W/Th Average	80	36	29	67
M/Tu/W/Th/F Average	79	36	28	72
Tu/W/Th Count Day Adjustment	0.94	1.33	0.96	1.08

Trip Generation Estimate Procedures

An aviation use similar to that found at Hanscom Field is not a standard use in the Institute of Transportation Trip Generation Manual, the 2022 ESPR utilized the trip generation model used in the 2012 and 2017 ESPR. The 2022 ESPR is a composite of 3 factors; 1) general aviation, 2) commercial aviation, and 3) other trips due to non-aviation uses. The following describes the process on how trip generation was estimated for the 2022 ESPR.

Trip Generation Rates from Aviation

Use	AM		PM		Unit
	IN	OUT	IN	OUT	
GA	2.89	0.96	1.79	2.81	Per 10k Annual Operations
Comm	2.93	2.93	2.28	0.57	Per 10k Annual Passengers



Trip Generation due to Aviation

Trip Generation Due to Aviation						
	Weekday Morning Peak			Weekday Afternoon Peak		
	In	Out	Total	In	Out	Total
2022 ESPR Existing Trip Generation from Aviation						
General Aviation	35	12	47	22	34	56
Commercial	0	0	0	0	0	0
Total	35	12	47	22	34	56
2030 Forecast Trip Generation from Aviation						
General Aviation	39	13	52	24	38	62
Commercial	7	7	14	5	1	6
Total	46	20	66	29	39	68
2040 Forecast Trip Generation from Aviation						
General Aviation	44	15	59	27	43	70
Commercial	14	14	28	11	3	14
Total	58	29	87	38	46	84

Trip Generation due to Other Uses

In order to estimate trip generation due to other uses, the following process was followed; 1) the 2022 ESPR Existing Trip Generation Volumes were assigned to the “other” use and 2) grew these trip sin the 2030 and 2040 forecast year based on the proportional growth in the aviation related trips. A summary is provided below:

2022 Trip Generation Due to Other Uses						
	Weekday Morning Peak			Weekday Afternoon Peak		
	In	Out	Total	In	Out	Total
Total 2022 ESPR Trip Generation	110	38	148	48	82	130
Less (Total Trip Generation from Aviation)	-35	-12	-47	-22	-34	-56
Estimated 2022 ESPR Trip Generation Due to Other Uses	75	26	101	26	48	74

Growth in Trip Generation due to Aviation

In order to grow the trip generation from other uses, the growth in trip generation due to aviation was determined as follows:

Growth in Trip Generation Due to Aviation				
	AM Total	PM Total	Total	Ratio Compared to Existing Trip Generation
2022 ESPR	47	56	103	1.00
2030 Forecast	66	68	134	1.30
2040 Forecast	87	84	171	1.66



Future Trip Generation due to Other Uses

Utilizing the trip growth due to aviation, the following trip generation forecast for other uses is calculated:

	Weekday Morning Peak			Weekday Afternoon Peak		
	In	Out	Total	In	Out	Total
Estimated 2022 ESPR Trip Generation Due to Other Uses	75	26	101	26	48	74
2030 Forecast Trip Generation Due to Other Uses	97	34	131	34	62	96
2040 Forecast Trip Generation Due to Other Uses	125	43	168	43	80	123

Final Trip Generation Table

A final trip generation table reflecting peak hour trips due to both aviation and other uses is compiled, as shown below.

	Weekday Morning Peak			Weekday Afternoon Peak		
	In	Out	Total	In	Out	Total
2022 ESPR Existing Trip Generation from Aviation						
General Aviation	35	12	47	22	34	56
Commercial	0	0	0	0	0	0
Other	75	26	101	26	48	74
Total	110	38	148	48	82	130
2030 Forecast Trip Generation from Aviation						
General Aviation	39	13	52	24	38	62
Commercial	7	7	14	5	1	6
Other	97	34	131	34	62	96
Total	143	54	197	63	101	164
2040 Forecast Trip Generation from Aviation						
General Aviation	44	15	59	27	43	70
Commercial	14	14	28	11	3	14
Other	125	43	168	43	80	123
Total	183	72	255	81	126	207

Trip Assignment to Hanscom Field Driveways

In order to demonstrate the continued trend in the development outside the terminal area, it is necessary to show future traffic volumes at the Pine Hill and North Airfield access points. Distribution assumptions are documented in Chapter 6, resulting in the following table which details estimated peak hour trip generation by driveway.



	2030			
	Morning		Afternoon	
	IN	OUT	IN	OUT
Pine Hill	25	7	10	12
North Airfield	8	3	5	8
Terminal Area	110	44	48	81
	2040			
	Morning		Afternoon	
	IN	OUT	IN	OUT
Pine Hill	28	8	12	14
North Airfield	11	4	7	11
Terminal Area	144	60	62	101



Appendix D: Noise

Table of Contents

D.1 Effects of Aircraft Noise on People.....	D-3
D.1.1 Annoyance.....	D-3
D.1.2 Speech Interference	D-6
D.1.3 Sleep Interference.....	D-7
D.2 Noise Prediction Methodology.....	D-9
D.2.1 Flight Tracks.....	D-9
D.2.2 Detailed Operations Tables	D-21
D.2.3 Analysis of Land Use & Population within DNL Contours	D-29
D.3 Detailed Noise Modeling Results.....	D-35
D.3.1 Noise Modeling Results at Noise Analysis Locations.....	D-35
D.3.2 Total Noise Exposure (EXP)	D-47



(This page intentionally left blank.)

D.1 Effects of Aircraft Noise on People

This section addresses the primary ways people are affected by aircraft noise: annoyance, sleep disturbance, and speech interference.

D.1.1 Annoyance

Social survey data have long made it clear that individual reactions to noise vary widely for a given noise level. Nevertheless, as a group, people's aggregate response to factors such as speech and sleep interference and desire for an acceptable environment is predictable and relates well to measures of cumulative noise exposure such as day-night average sound level (DNL).¹ A wide variety of responses have been investigated in social survey research. The concept of "percent highly annoyed" (%HA) in sample populations seems to provide the most consistent response of a community to a particular noise source (see **Figure D-1**).

The most widely recognized relationship between noise and annoyance—regardless of the noise source—was developed by Schultz in the late 1970s. This relationship, also known as the "Schultz Curve," is shown in **Figure D-2**. Schultz based his analysis on data from 18 surveys conducted worldwide; the curve indicates that approximately 5 percent of the people will be highly annoyed at levels as low as 55 dB DNL, with the percentage increasing more rapidly as exposure increases above 65 dB DNL.² Separate work by the U.S. Environmental Protection Agency (EPA) has shown that overall community reaction to a noise environment is also dependent on DNL.³

The FAA Reauthorization Act of 2018 under Section 188 and 173, required FAA to complete an evaluation of alternative metrics to the DNL standard within one year. The Section 188 and 173 Report to Congress was delivered on April 14, 2020⁴ and concluded that while no single noise metric can cover all situations, DNL provides the most comprehensive way to consider the range of factors influencing exposure to aircraft noise. In addition, use of supplemental metrics is both encouraged and supported to further disclose and aid in the public understanding of community noise impacts.

¹ DNL is a metric that reflects a person's cumulative noise exposure over a 24-hour period, expressed as the noise level for the average day based on annual aircraft operations.

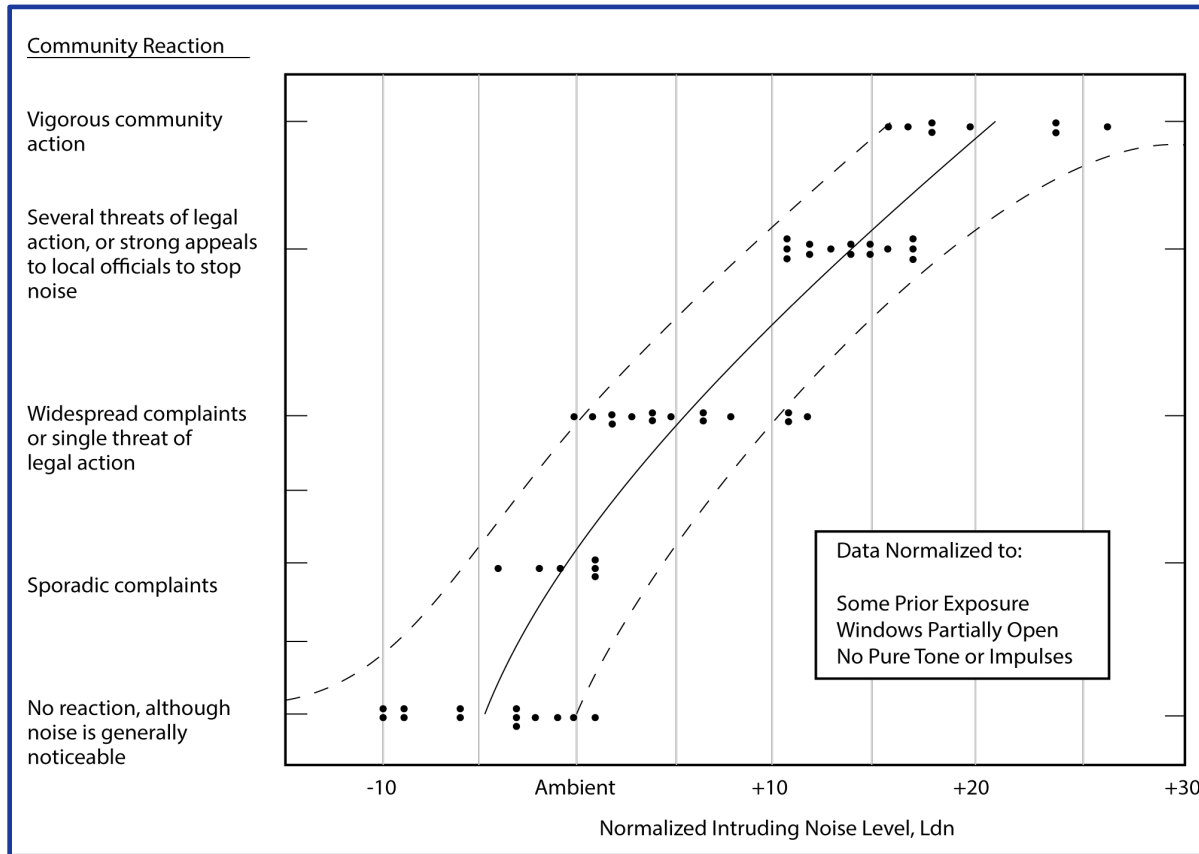
² Schultz, T.J., "Synthesis of Social Surveys on Noise Annoyance", Journal of the Acoustical Society of America, Vol. 64, No. 2, August 1978.

³ Wyle Labs, Community Noise, DOT Report NTID300.3, December 1971.

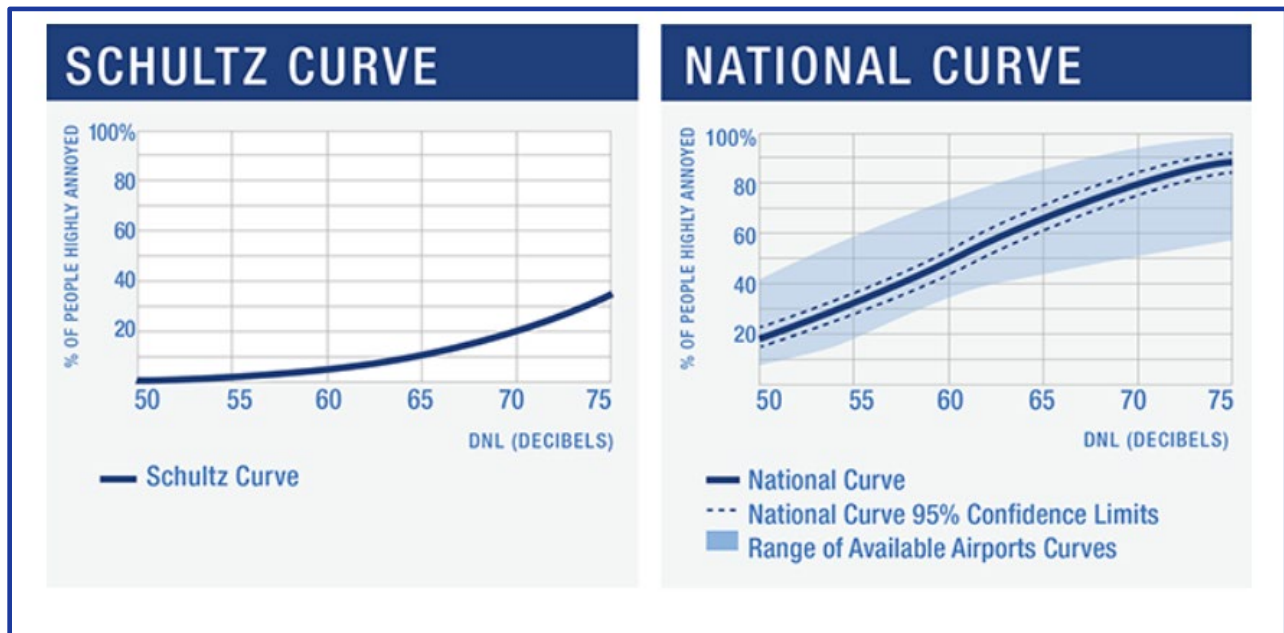
⁴ Federal Aviation Administration. Report to Congress on an evaluation of alternative noise metrics.

https://www.faa.gov/about/plans_reports/congress/media/Day-Night_Average_Sound_Levels_COMPLETED_report_w_letters.pdf

Figure D-1. Community Reaction as a function of Outdoor Noise Level



Source: Wyle Laboratories, "Community Noise," prepared for the U.S. Environmental Protection Agency, Office of Noise Abatement and Control, Washington, D.C., December 1971, pg. 63

Figure D-2. Percentage of People Highly Annoyed as a Function of Exposure


Source: FAA 2021

While the Schultz Curve remains the accepted standard for describing transportation noise exposure annoyance relationships, its original supporting scientific evidence and social survey data were based on information that was available in the 1970s. The last in-depth review and revalidation of the Schultz Curve was conducted in 1992. More recent analyses have shown that aviation noise results in higher annoyance than other modes of transportation. Recent international social surveys have also generally shown higher annoyance than the Schultz Curve. These analyses and survey data indicate that the Schultz Curve may not reflect the current U.S. public perception of aviation noise.

To ensure that FAA's continued efforts to reduce the effects of aircraft noise exposure on communities is based upon accurate information, FAA conducted a nationwide survey to measure the relationship between aircraft noise exposure and annoyance in communities near airports. The Neighborhood Environmental Survey (NES) captured the community response to a modern fleet of aircraft as they are being flown today and used best practices in terms of noise analysis and data collection. The responses from the survey have been used to create a new National Curve. The survey results show that there has been a substantial change in the public perception of aviation noise, relative to the Schultz Curve, which will ultimately inform future FAA noise initiatives. Compared with the existing Schultz Curve, the new National Curve shows a substantial increase in the percentage of people who are highly annoyed by aircraft noise over the entire range of aircraft noise levels considered, including at lower noise levels. The FAA will not make any determinations based on the findings of these research programs for the FAA's noise policies, including any potential revised use of the DNL noise metric, until it has carefully considered public and other stakeholder input along with any additional research needed to improve the understanding of the effects of aircraft noise exposure on communities.

In 2023, the FAA initiated a thorough, and collaborative review of its noise policy including an extensive public comment period. The review is considering findings from ongoing noise research, including the Neighborhood Environmental Survey which provided an updated dose-response curve, and other research related to health impacts, speech interference, sleep disturbance, and economic impacts. The review also examines the distribution of environmental risks, tradeoffs, and resulting impacts across communities.

D.1.2 Speech Interference

One of the primary effects of aircraft noise is its tendency to drown out or "mask" speech, making it difficult or impossible to carry on a normal conversation without interruption. The sound level of speech decreases as distance between a talker and listener increases. As the level of speech decreases in the presence of background noise, it becomes harder and harder to hear. Figure D-3 presents typical distances between talker and listener for satisfactory outdoor conversations, in the presence of different steady A-weighted⁵ background noise levels, for normal, raised, and relaxed efforts of voice levels.⁶ As the background level increases, the talker must raise his/her voice, or the individuals must get closer together to continue their conversation.

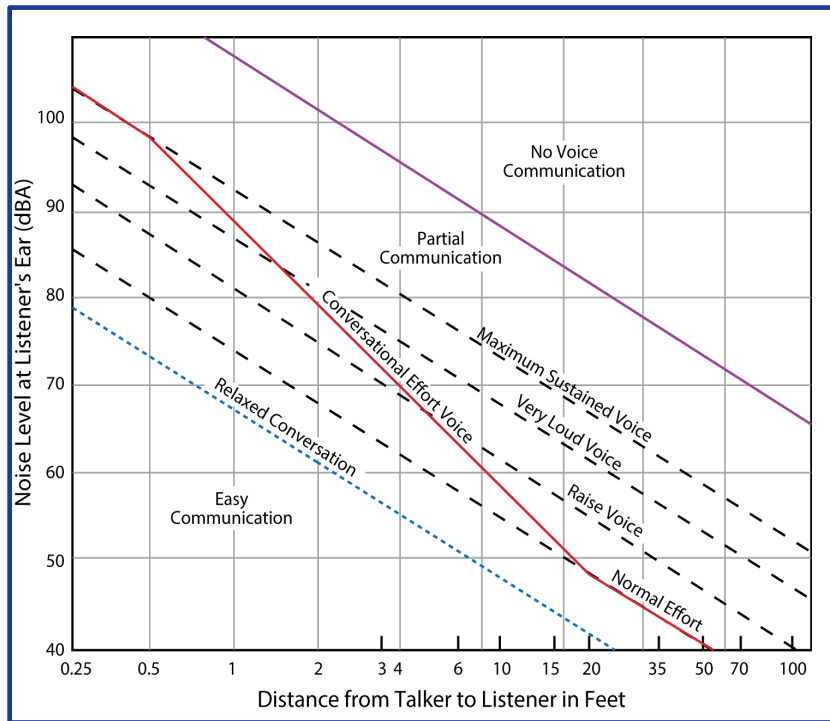
As indicated in **Figure D-3**, satisfactory conversation does not always require hearing every word; 95 percent intelligibility is acceptable for many conversations. This is because a few unheard words can be inferred when they occur in a familiar context. However, in relaxed conversation, we have higher expectations of hearing speech and require complete 100 percent intelligibility. Any combination of talker-listener distances and background noise that falls below the bottom line in the figure represents an ideal environment for outdoor speech communication and is considered necessary for acceptable indoor conversation as well.

One implication of the relationships in the figure is that for typical communication distances of 3 or 4 feet (1 to 1.5 meters), acceptable outdoor conversations where 95 percent intelligibility is acceptable can be carried on in a normal voice as long as the background noise outdoors is less than about 65 dB(A). If 100 percent intelligibility is desired, the interior background level must be less than about 45 dB(A). If the noise exceeds either of these levels, as might occur when an aircraft passes overhead, intelligibility is lost unless vocal effort is increased or communication distance decreased.

⁵ "A-weighting" is a commonly used weighting system to correlate human response to environmental noise and has been adopted as a basic measure of environmental noise by the EPA and other federal and state agencies.

⁶ United States Environmental Protection Agency, Public Health and Welfare Criteria for Noise, 1973.

Figure D-3. Distances at Which Ordinary Speech Can be Understood



Source: U.S. EPA, 1973

D.1.3 Sleep Interference

The effect of aviation noise on sleep is a long-recognized concern of those interested in addressing the impacts of noise on people. Historical studies of sleep disturbance were conducted mainly in laboratories, using various indicators of response (electroencephalographic recordings, verbal response, button push, etc.). Field studies also were conducted, in which subjects were exposed to noise in their own homes, using real or simulated noise. However, in a 1989 assessment of existing research⁷, Pearsons indicated the need for substantially more work in this area, citing the large discrepancy between laboratory and field studies as a major concern.

In 1992, the Federal Interagency Committee on Noise (FICON) recommended an interim dose-response curve to predict the percent of the exposed population expected to be awakened (percent awakening) as a function of the exposure to single-event noise levels expressed in terms of sound exposure level (SEL).⁸ This interim curve was based on the data presented in the 1989 study. The FICON report also recommended continued research into community reactions to aircraft noise, including sleep disturbance.

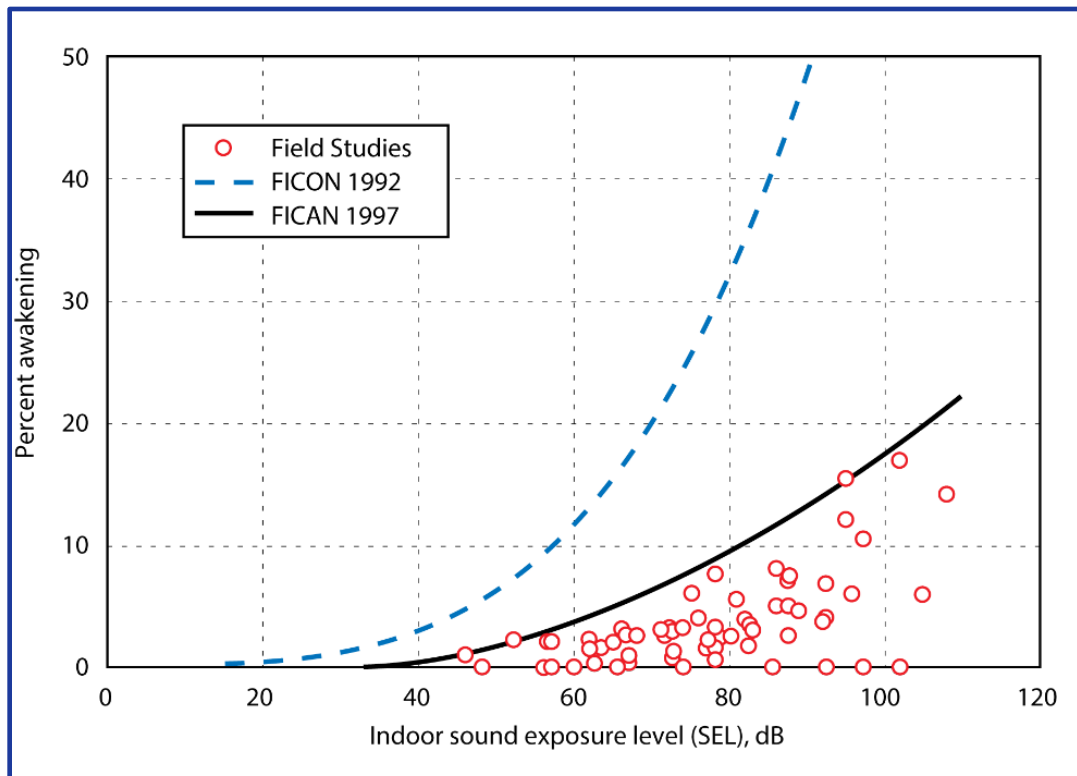
Since the adoption of FICON's interim curve in 1992, substantial field research in the area of sleep disturbance was conducted, using a variety of test methods, and in a number of locations. The data from

⁷ <https://apps.dtic.mil/sti/pdfs/ADA220156.pdf>

⁸ FICON 1992

these studies show a consistent pattern, with considerably less percent of the exposed population expected to be behaviorally awakened than had been shown with laboratory studies. In 1997, FICAN recommended a new dose-response curve for predicting awakening, based on the results of the field studies described above.⁹ This curve is presented in **Figure D-4**. Because the curve represents the upper limit of the data, it should be interpreted as predicting the “maximum percent of the exposed population expected to be behaviorally awakened,” or the “maximum % awakened.” The dose-response relationship presented here relies on behavioral awakening as the indicator of sleep disturbance; relationships between aircraft noise and other potential sleep disturbance or related health effects responses have not been established by any of these newer studies. This curve should be applied only to long-term residential settings and should not be generalized to include children.

Figure D-4. Recommended Sleep Disturbance Dose-Response Relationship



The finding on the relationship between aircraft noise and sleep disturbance does not call into question the nighttime penalty applied to DNL. The 10 dB penalty added to noise levels for the period 10:00 p.m. to 7:00 a.m. is intended to account for the increased intrusiveness of noise at night. The ambient is generally lower and more people are at home during this period than at other times of the day. Thus, the opportunities for activity interference are much higher during nighttime, which could lead to greater annoyance.

⁹ FICAN 1997. Federal Interagency Committee on Aviation Noise (FICAN) Effects of Aviation Noise on Awakenings from Sleep, June 1997.

Apart from two recent pilot studies, no previous study in the U.S. has collected physiologic data (e.g., body movement or heart rate) and measured indoor aircraft noise levels in residents living in the proximity of airports. As such, the Federal Aviation Administration (FAA) has begun a National Sleep Study (NSS) which is a unique and comprehensive study, and the first to go beyond a single or small number of selected airports. Since airports differ in nocturnal flight operations and patterns, it is necessary to investigate several airports across the U.S. that are representative of all U.S. airports with relevant nocturnal air traffic. Furthermore, the NSS will collect information on measured, rather than estimated, levels of aircraft noise inside of residents' bedrooms.¹⁰

D.2 Noise Prediction Methodology

This section provides supplemental information on the noise prediction methodology described in Chapter 7 of the *2022 ESPR*. It specifically addresses the process used to develop AEDT flight tracks from radar data, the detailed aircraft operations input, and methodology used to assess the population within various noise contour intervals.

D.2.1 Flight Tracks

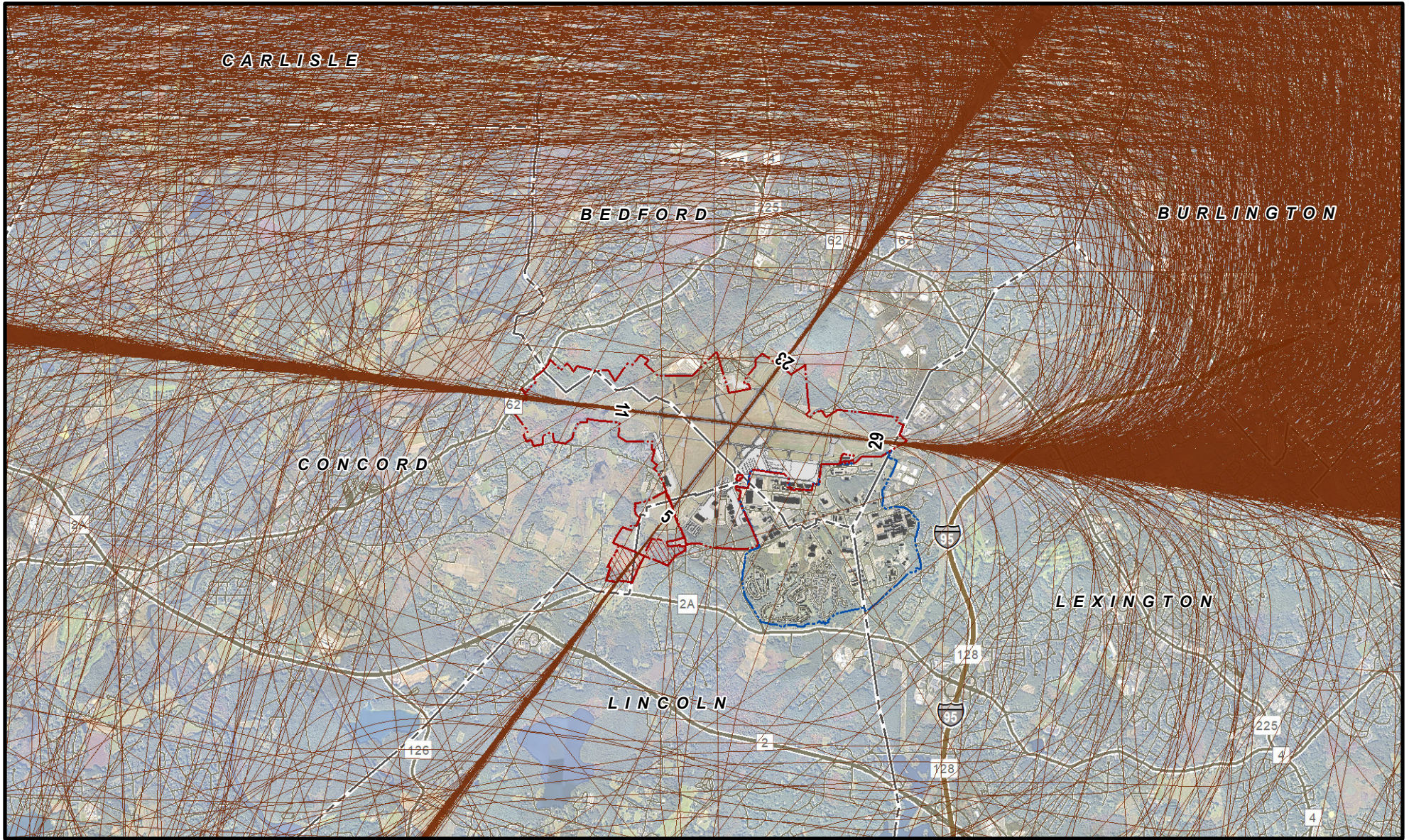
As described in Section 7.3.1 of the *2022 ESPR*, an AEDT pre-processor was used to prepare the modeling input for AEDT. This allowed the direct use of over 80,000 individual radar tracks in the modeling. Each track was assigned the appropriate AEDT aircraft based on the identifying information in the radar data. Additionally, departures tracks were assigned the proper stage length, a surrogate for aircraft takeoff weight, based on filed destination in the radar data. The runway for each operation was assigned automatically based on the proximity of the end of the flight path to the runway ends and then further checked and refined by detailed visual review. Once fully reviewed for quality control, the individual flight tracks were imported to AEDT for modeling.










The following figures display samples of the flight tracks used in the modeling. For clarity, approximately 20 percent of the tracks used in the modeling are displayed. **Figure D-5** and **Figure D-6** present a sample of the arrival and departure tracks for jet aircraft. **Figure D-7** and **Figure D-8** present representative tracks for arrivals and departures by propeller aircraft, including helicopters. **Figure D-9** presents representative radar tracks for local piston aircraft operations.

¹⁰ (2023). Effects of Aircraft Noise on Sleep: Federal Aviation Administration National Sleep Study Protocol. *International Journal of Environmental Research and Public Health*. 20. 7024.



(This page intentionally left blank.)



-  Jet Arrival Flight Tracks
-  Hanscom Field Property Boundary
-  Massport Property within MMNHP
-  Congressional Boundary
-  Hanscom AFB Property Boundary
-  Municipal Boundary
-  Interstate
-  Highway
-  Road



L. G. Hanscom Field
2022 Environmental Status & Planning Report

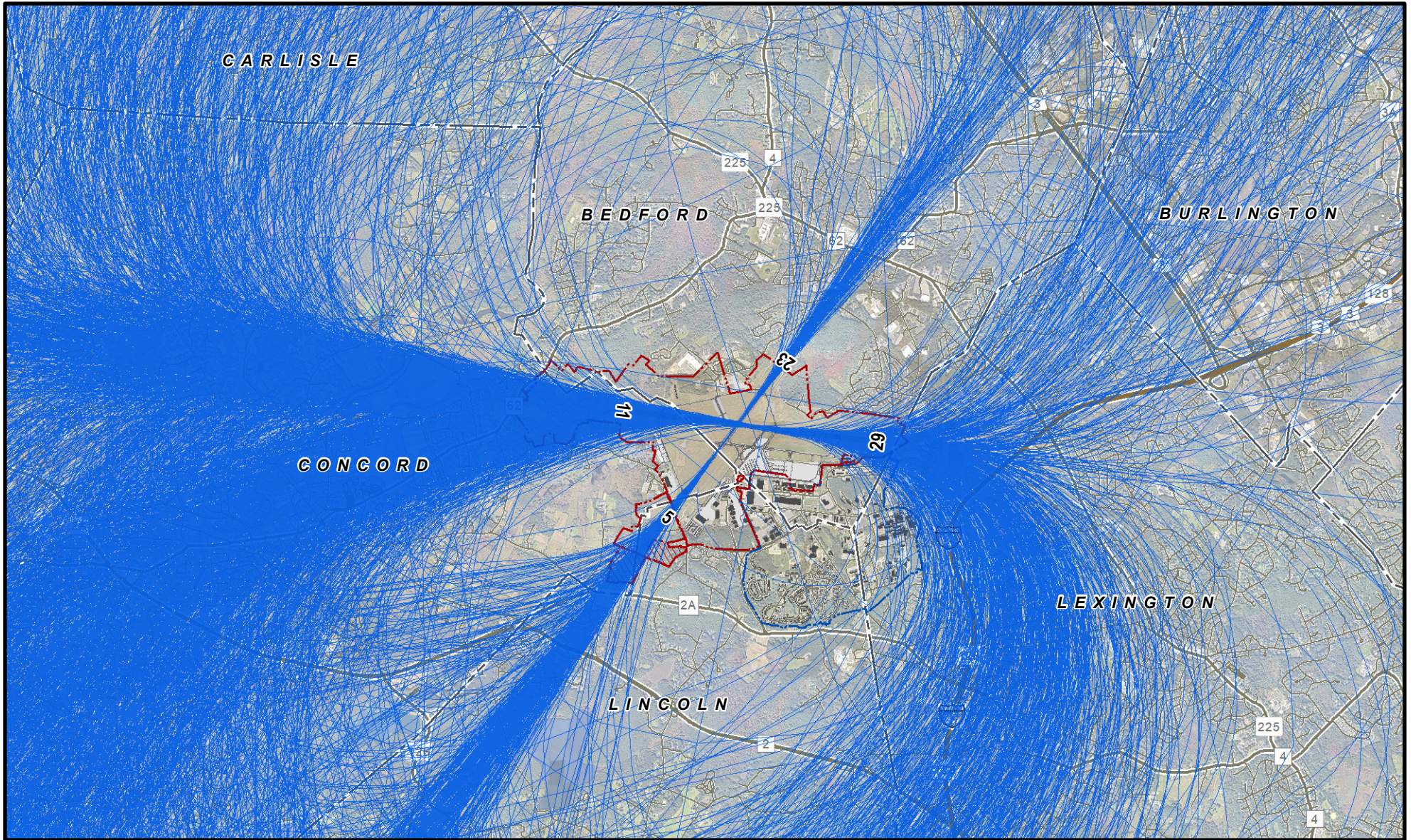
**Representative Jet Arrival
 Flight Tracks**










Data Sources: Massport Noise and Operations Monitoring System (flight tracks) January 10, 2023; MassGIS (Roads, Rail), July 30, 2018; MassGIS (Community Boundaries), July 30, 2018; NPS (Park Boundary), July 30, 2018; NPS (Streets and Trails), July 30, 2018; MassGIS (Building Footprints), July 30, 2018; NearMap USA (Aerial) October 2, 2023

Figure D-5



(This page intentionally left blank.)



-  Jet Departure Flight Tracks
-  Hanscom Field Property Boundary
-  Massport Property within MMNHP
-  Congressional Boundary
-  Hanscom AFB Property Boundary
-  Municipal Boundary
-  Interstate
-  Highway
-  Road



L. G. Hanscom Field
2022 Environmental Status & Planning Report

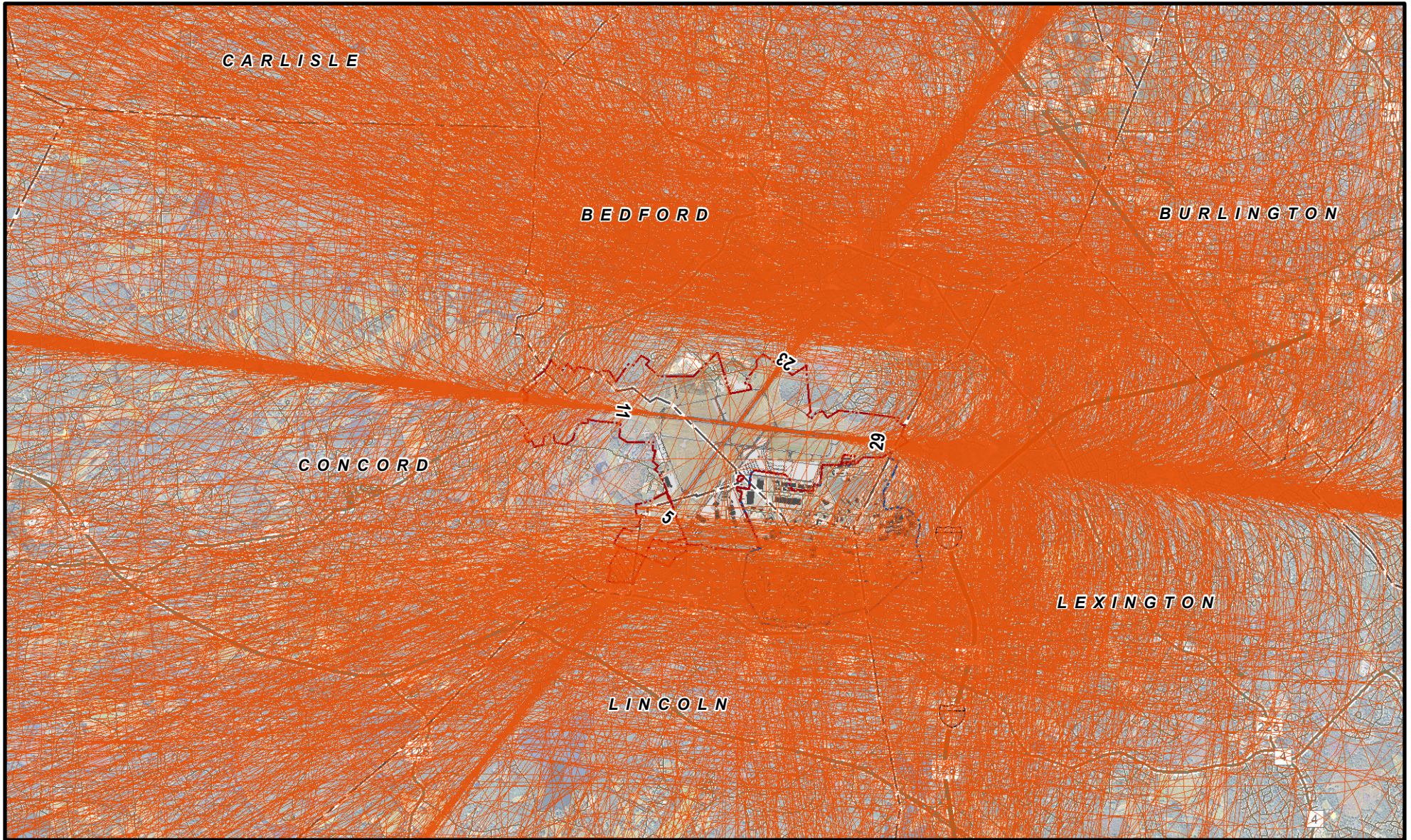
**Representative Jet Departure
 Flight Tracks**









Data Sources: Massport Noise and Operations Monitoring System (flight tracks) January 10, 2023; MassGIS (Roads, Rail), July 30, 2018; MassGIS (Community Boundaries), July 30, 2018; NPS (Park Boundary), July 30, 2018; NPS (Streets and Trails), July 30, 2018; MassGIS (Building Footprints), July 30, 2018; NearMap USA (Aerial) October 2, 2023

Figure D-6



(This page intentionally left blank.)



-  Propeller Arrival Flight Tracks
-  Hanscom Field Property Boundary
-  Massport Property within MMNHP
-  Congressional Boundary
-  Hanscom AFB Property Boundary
-  Municipal Boundary
-  Interstate
-  Highway
-  Road



L. G. Hanscom Field
 2022 Environmental Status & Planning Report

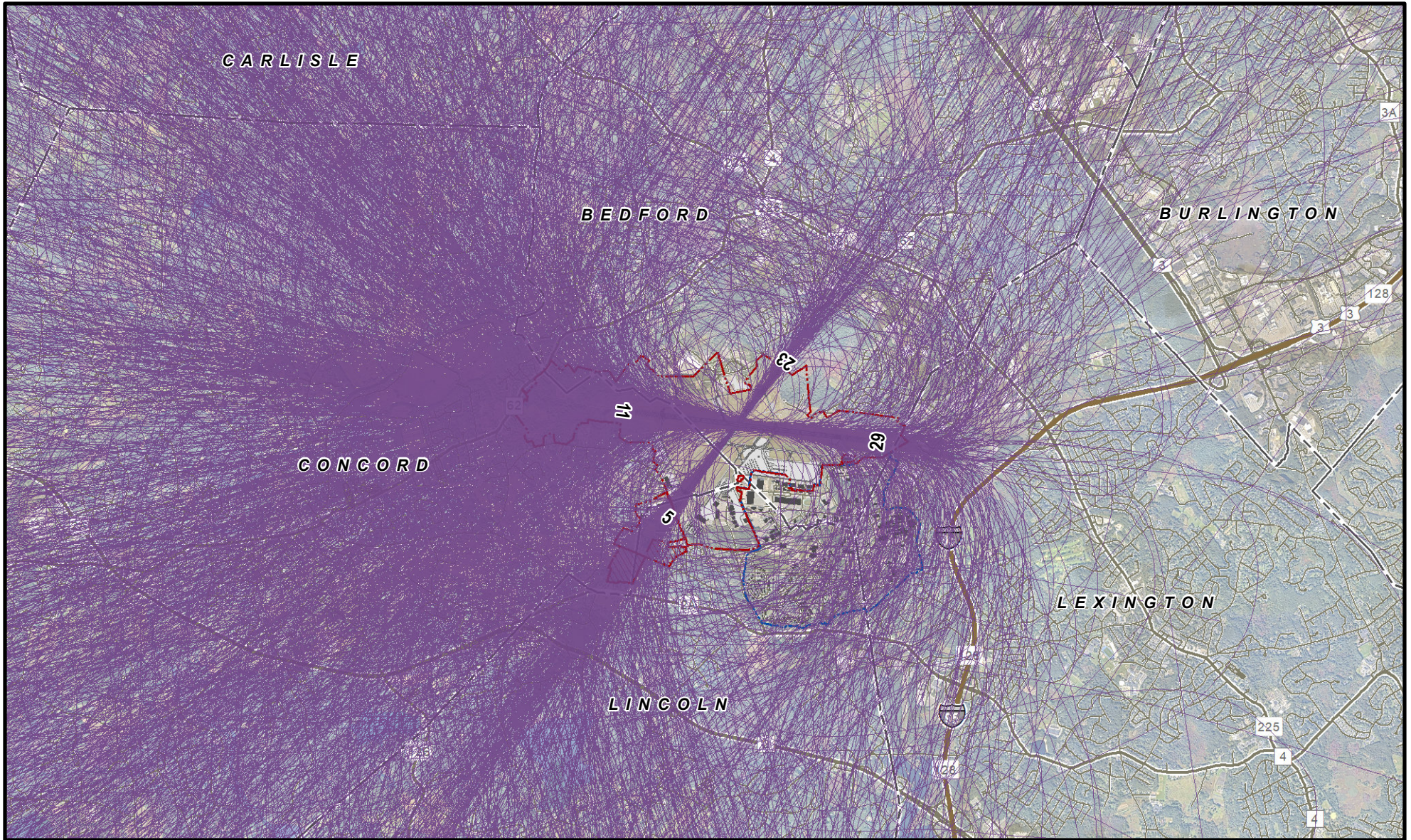
Representative Propeller Arrival Flight Tracks










Data Sources: Massport Noise and Operations Monitoring System (flight tracks) January 10, 2023; MassGIS (Roads, Rail), July 30, 2018; MassGIS (Community Boundaries), July 30, 2018; NPS (Park Boundary), July 30, 2018; NPS (Streets and Trails), July 30, 2018; MassGIS (Building Footprints), July 30, 2018; NearMap USA (Aerial) October 2, 2023

Figure D-7



(This page intentionally left blank.)



-  Propeller Departure Flight Tracks
-  Hanscom Field Property Boundary
-  Massport Property within MMNHP
-  Congressional Boundary
-  Hanscom AFB Property Boundary
-  Municipal Boundary
-  Interstate
-  Highway
-  Road



L. G. Hanscom Field
2022 Environmental Status & Planning Report

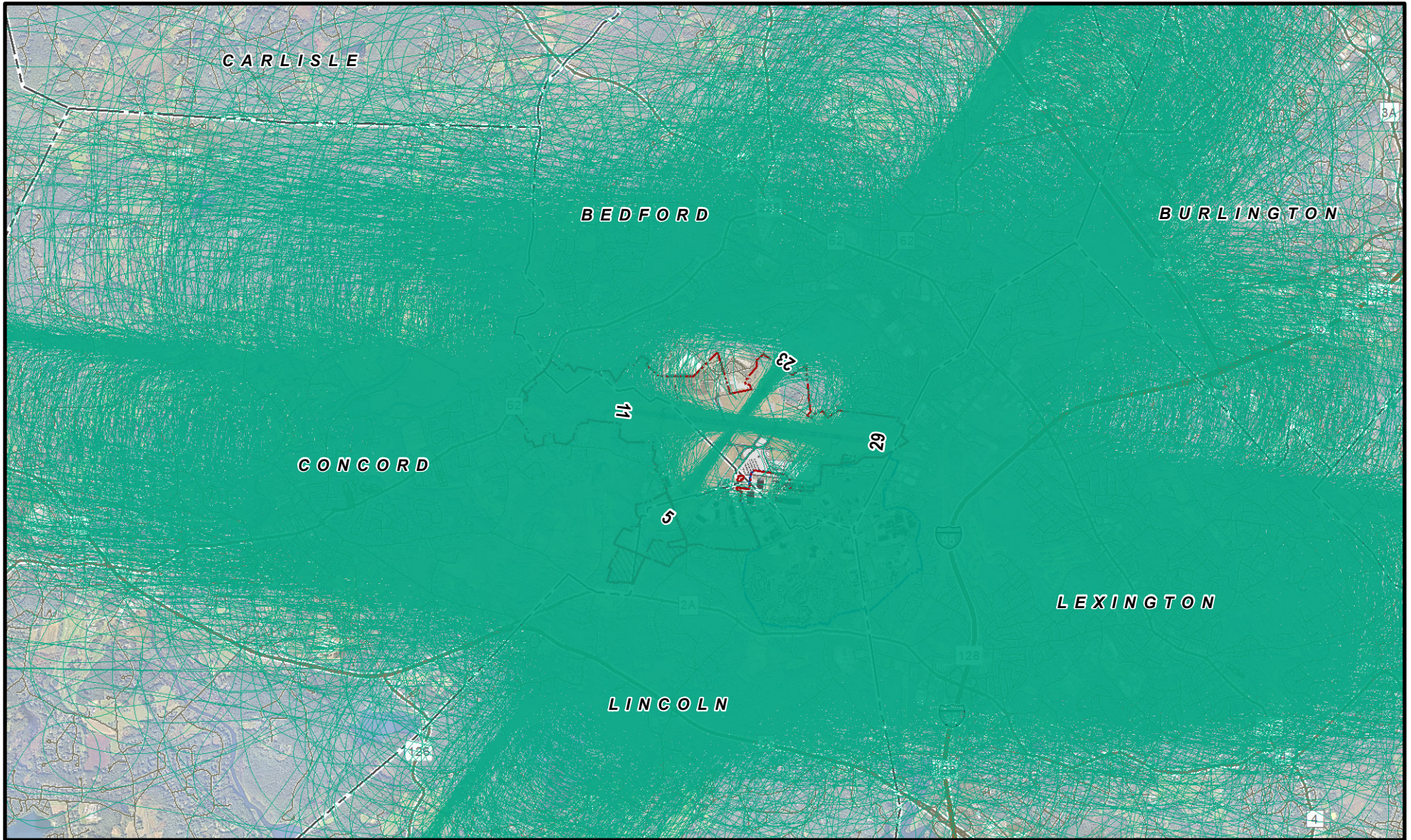
Representative Propeller Departure Flight Tracks










Data Sources: Massport Noise and Operations Monitoring System (flight tracks) January 10, 2023; MassGIS (Roads, Rail), July 30, 2018; MassGIS (Community Boundaries), July 30, 2018; NPS (Park Boundary), July 30, 2018; NPS (Streets and Trails), July 30, 2018; MassGIS (Building Footprints), July 30, 2018; NearMap USA (Aerial) October 2, 2023

Figure D-8



(This page intentionally left blank.)



-  Local Flight Tracks
-  Hanscom Field Property Boundary
-  Massport Property within MMNHP
-  Congressional Boundary
-  Hanscom AFB Property Boundary
-  Municipal Boundary
-  Interstate
-  Highway
-  Road



L. G. Hanscom Field
2022 Environmental Status & Planning Report

Representative Local Flight Tracks

Data Sources: Massport Noise and Operations Monitoring System (flight tracks) January 10, 2023; MassGIS (Roads, Rail), July 30, 2018; MassGIS (Community Boundaries), July 30, 2018; NPS (Park Boundary), July 30, 2018; NPS (Streets and Trails), July 30, 2018; MassGIS (Building Footprints), July 30, 2018; NearMap USA (Aerial) October 2, 2023

Figure D-9



(This page intentionally left blank.)



D.2.2 Detailed Operations Tables

Tables D-1 through D-3 present the average daily operations for 2022 and the 2030 and 2040 scenarios. The operations are organized by AEDT noise aircraft type.

Table D-1. Year 2022 Average Daily Operations

Aircraft Category	AEDT Type	Departures		Arrivals		Total
		Day	Night	Day	Night	
Jet	717200	<0.01	<0.01	<0.01	-	0.02
	737300	0.08	-	0.08	-	0.17
	737400	0.08	0.03	0.07	0.04	0.22
	737700	0.28	0.06	0.22	0.12	0.68
	737800	0.11	0.06	0.12	0.04	0.33
	747400	<0.01	-	<0.01	-	0.02
	737N17	<0.01	-	<0.01	-	0.02
	757PW	0.12	0.08	0.12	0.08	0.40
	7673ER	0.03	-	0.03	-	0.05
	767CF6	0.03	<0.01	0.02	0.01	0.08
	A319-131	0.03	0.02	0.03	0.02	0.10
	A320-211	0.02	0.01	0.02	0.01	0.07
	A320-271N	<0.01	-	<0.01	-	<0.01
	A321-232	<0.01	-	<0.01	-	<0.01
	A330-301	0.03	-	0.03	-	0.05
	BD-700-1A10	1.81	0.11	1.75	0.18	3.85
	BD-700-1A11	0.37	0.03	0.37	0.03	0.81
	C17	0.02	-	0.02	-	0.05
	CIT3	0.18	<0.01	0.18	<0.01	0.38
	CL600	5.00	0.17	4.90	0.26	10.32
	CL601	4.19	0.24	3.96	0.47	8.86
	CNA500	0.17	<0.01	0.17	<0.01	0.35
	CNA510	0.59	<0.01	0.59	0.01	1.19
	CNA525C	2.24	0.20	2.18	0.25	4.87
	CNA55B	3.44	0.11	3.37	0.17	7.09
	CNA560E	0.02	-	0.02	-	0.04
	CNA560U	1.44	0.04	1.44	0.04	2.96
	CNA560XL	4.75	0.09	4.62	0.21	9.67
	CNA680	3.27	0.07	3.17	0.17	6.69
	CNA750	4.27	0.15	4.15	0.28	8.86
	CRJ9-ER	0.02	0.01	0.02	0.01	0.06
	ECLIPSE500	0.25	<0.01	0.24	0.02	0.52
	EMB145	0.26	0.01	0.27	<0.01	0.55



Aircraft Category	AEDT Type	Departures		Arrivals		Total
		Day	Night	Day	Night	
	EMB14L	0.01	-	0.01	-	0.02
	EMB190	0.04	<0.01	0.04	<0.01	0.08
	EMB195	-	<0.01	<0.01	-	<0.01
	F-18	<0.01	-	<0.01	-	0.02
	FAL20	0.13	<0.01	0.14	<0.01	0.28
	FAL900EX	1.56	0.04	1.55	0.06	3.21
	G650ER	0.69	0.04	0.69	0.04	1.45
	GII	0.12	-	0.12	-	0.24
	GIIB	0.02	<0.01	0.02	<0.01	0.04
	GIV	4.22	0.19	4.05	0.36	8.82
	GV	2.09	0.20	2.02	0.27	4.59
	IA1125	0.16	0.01	0.17	-	0.35
	LEAR35	6.86	0.47	6.68	0.65	14.66
	MD81	-	0.01	0.01	-	0.02
	MU3001	1.21	0.03	1.21	0.03	2.49
Subtotal Jet Operations		50.27	2.53	48.92	3.88	105.60
Turboprop	1900D	<0.01	-	<0.01	-	0.01
	C130	0.13	-	0.12	<0.01	0.25
	CNA208	6.06	0.22	6.02	0.27	12.58
	CNA441	0.64	<0.01	0.62	0.02	1.29
	DHC6	3.11	0.14	3.08	0.16	6.50
	DHC830	0.03	-	0.03	-	0.07
	DO328	0.04	<0.01	0.05	-	0.09
	EMB120	0.02	<0.01	0.02	<0.01	0.06
	HS748A	0.01	-	0.01	-	0.02
	PA42	<0.01	-	<0.01	-	<0.01
	SF340	0.06	-	0.06	-	0.12
Subtotal Turboprop Operations		10.12	0.38	10.03	0.47	21.00
Piston	BEC58P	5.50	0.09	5.47	0.12	11.19
	CNA172	16.66	0.04	16.60	0.10	33.39
	CNA182	2.83	<0.01	2.82	0.02	5.68
	CNA206	0.67	<0.01	0.67	<0.01	1.34
	CNA20T	0.03	-	0.03	-	0.06
	COMSEP	10.66	0.05	10.55	0.15	21.42
	GASEPF	51.20	0.11	51.16	0.15	102.63
	GASEPV	4.25	0.02	4.24	0.03	8.53
	PA30	1.18	-	1.17	<0.01	2.36
Subtotal Piston Operations		92.98	0.33	92.71	0.59	186.60
Helicopter	A109	0.07	0.01	0.07	0.01	0.17
	B206L	0.03	-	0.03	-	0.07



Aircraft Category	AEDT Type	Departures		Arrivals		Total
		Day	Night	Day	Night	
	B407	0.06	-	0.06	-	0.11
	B429	9.22	0.81	8.88	1.15	20.06
	EC130	0.16	0.03	0.17	0.02	0.38
	H500D	0.13	-	0.13	-	0.27
	R22	0.02	-	0.02	-	0.04
	R44	0.57	-	0.57	-	1.15
	S70	0.06	-	0.06	-	0.11
	S76	1.59	0.04	1.61	0.02	3.24
	SA330J	1.15	0.02	1.11	0.07	2.35
	SA341G	0.38	-	0.38	-	0.75
	SA350D	0.06	-	0.06	-	0.11
	SA355F	0.03	-	0.03	-	0.07
	SC300C	0.01	-	0.01	-	0.02
Subtotal Helicopter Operations		13.54	0.91	13.18	1.27	28.90
Total Operations		166.91	4.14	164.84	6.21	342.10

Notes:

1. AEDT = Aviation Environmental Design Tool
2. The military operations are included with their specific aircraft types rather than being listed separately.

Source: Hanscom EXP System, Massport NOMS, HMMH 2023



Table D-2. 2030 Forecast Average Daily Operations

Aircraft Category	AEDT Type	Departures		Arrivals		Total
		Day	Night	Day	Night	
Jet	717200	<0.01	<0.01	0.01	-	0.02
	737300	0.05	-	0.05	-	0.09
	737400	0.04	0.02	0.04	0.02	0.12
	737700	0.41	0.08	0.34	0.15	0.99
	737800	0.12	0.06	0.14	0.05	0.36
	747400	<0.01	-	<0.01	-	0.02
	737N17	-	-	-	-	-
	757PW	0.14	0.08	0.13	0.09	0.44
	7673ER	0.03	-	0.03	-	0.06
	767CF6	0.04	<0.01	0.03	0.01	0.08
	A319-131	0.04	0.02	0.03	0.03	0.11
	A320-211	0.02	0.01	0.02	0.01	0.07
	A320-271N	<0.01	-	<0.01	-	<0.01
	A321-232	<0.01	-	<0.01	-	<0.01
	A330-301	0.03	-	0.03	-	0.05
	BD-700-1A10	2.02	0.12	1.95	0.19	4.28
	BD-700-1A11	0.41	0.04	0.42	0.03	0.90
	C17	0.02	-	0.02	-	0.05
	CIT3	0.20	<0.01	0.20	<0.01	0.42
	CL600	5.56	0.18	5.46	0.28	11.48
	CL601	4.68	0.26	4.43	0.51	9.88
	CNA500	0.15	<0.01	0.14	<0.01	0.30
	CNA510	0.66	<0.01	0.65	0.01	1.33
	CNA525C	2.49	0.21	2.43	0.27	5.41
	CNA55B	3.88	0.12	3.81	0.19	7.98
	CNA560E	0.03	-	0.03	-	0.05
	CNA560U	1.60	0.04	1.60	0.05	3.30
	CNA560XL	5.29	0.10	5.15	0.24	10.78
	CNA680	3.65	0.08	3.54	0.19	7.45
	CNA750	4.53	0.15	4.39	0.30	9.37
	CRJ9-ER	0.02	0.01	0.02	0.01	0.07
	ECLIPSE500	0.28	<0.01	0.27	0.02	0.58
	EMB145	0.29	0.02	0.30	<0.01	0.61
	EMB14L	0.01	-	0.01	-	0.02
	EMB190	0.04	<0.01	0.04	<0.01	0.09
	EMB195	-	<0.01	<0.01	-	<0.01
	F-18	<0.01	-	<0.01	-	0.02
	FAL20	-	-	-	-	-
	FAL900EX	1.74	0.05	1.72	0.06	3.58



Aircraft Category	AEDT Type	Departures		Arrivals		Total
		Day	Night	Day	Night	
	G650ER	0.77	0.04	0.76	0.04	1.61
	GII	-	-	-	-	-
	GIIB	-	-	-	-	-
	GIV	4.78	0.21	4.59	0.40	9.98
	GV	2.40	0.22	2.33	0.30	5.24
	IA1125	0.18	0.01	0.19	-	0.39
	LEAR35	8.02	0.53	7.82	0.72	17.10
	MD81	-	0.01	0.01	-	0.03
	MU3001	1.35	0.04	1.35	0.03	2.77
Subtotal Jet Operations		56.01	2.75	54.52	4.24	117.52
Turboprop	1900D	<0.01	-	<0.01	-	0.01
	C130	0.13	-	0.12	<0.01	0.26
	CNA208	6.46	0.21	6.42	0.25	13.33
	CNA441	0.68	<0.01	0.67	0.02	1.38
	DHC6	3.32	0.12	3.29	0.15	6.88
	DHC830	1.43	-	1.43	-	2.86
	DO328	0.04	<0.01	0.05	-	0.10
	EMB120	0.02	<0.01	0.03	<0.01	0.06
	HS748A	0.01	-	0.01	-	0.03
	PA42	<0.01	-	<0.01	-	<0.01
	SF340	0.06	-	0.06	-	0.12
Subtotal Turboprop Operations		12.17	0.35	12.08	0.43	25.02
Piston	BEC58P	5.85	0.23	5.84	0.24	12.16
	CNA172	18.12	0.06	18.03	0.15	36.36
	CNA182	3.21	0.02	3.20	0.04	6.47
	CNA206	0.72	<0.01	0.72	<0.01	1.45
	CNA20T	0.04	-	0.04	-	0.08
	COMSEP	11.42	0.11	11.27	0.25	23.05
	GASEPF	55.48	0.17	55.45	0.21	111.31
	GASEPV	4.36	0.04	4.36	0.04	8.81
	PA30	1.26	-	1.25	0.01	2.52
Subtotal Piston Operations		100.46	0.65	100.16	0.95	202.21
Helicopter	A109	0.09	0.01	0.08	0.01	0.19
	B206L	0.04	-	0.04	-	0.09
	B407	0.05	-	0.05	-	0.11
	B429	9.88	0.70	9.57	1.00	21.15
	EC130	0.15	0.03	0.16	0.02	0.36
	H500D	0.13	-	0.13	-	0.26
	R22	0.02	-	0.02	-	0.05
	R44	0.64	-	0.64	-	1.28



Aircraft Category	AEDT Type	Departures		Arrivals		Total
		Day	Night	Day	Night	
	S70	0.17	-	0.17	-	0.34
	S76	1.66	0.03	1.68	0.01	3.39
	SA330J	1.27	0.02	1.22	0.06	2.57
	SA341G	0.40	-	0.40	-	0.81
	SA350D	0.06	-	0.06	-	0.12
	SA355F	0.04	-	0.04	-	0.07
	SC300C	0.01	-	0.01	-	0.02
Subtotal Helicopter Operations		14.62	0.78	14.29	1.11	30.79
Total Operations		183.25	4.52	181.05	6.72	375.54

Notes:

1. AEDT = Aviation Environmental Design Tool
2. The military operations are included with their specific aircraft types rather than being listed separately.

Source: Hanscom EXP System, Massport NOMS, HMMH, McFarland Johnson 2023

Table D-3. 2040 Forecast Average Daily Operations

Aircraft Category	AEDT Type	Departures		Arrivals		Total
		Day	Night	Day	Night	
Jet	717200	0.01	<0.01	0.01	-	0.03
	737300	0.03	-	0.03	-	0.05
	737400	0.02	<0.01	0.02	0.01	0.07
	737700	0.51	0.10	0.43	0.18	1.22
	737800	0.13	0.07	0.15	0.05	0.40
	747400	<0.01	-	<0.01	-	0.02
	737N17	-	-	-	-	-
	757PW	0.15	0.09	0.14	0.10	0.48
	7673ER	0.04	-	0.04	-	0.07
	767CF6	0.04	<0.01	0.03	0.02	0.09
	A319-131	0.04	0.02	0.03	0.03	0.12
	A320-211	0.03	0.01	0.03	0.01	0.08
	A320-271N	<0.01	-	<0.01	-	<0.01
	A321-232	<0.01	-	<0.01	-	<0.01
	A330-301	0.03	-	0.03	-	0.06
	BD-700-1A10	2.24	0.14	2.17	0.22	4.76
	BD-700-1A11	0.46	0.04	0.46	0.03	1.00
	C17	0.02	-	0.02	-	0.05
	CIT3	0.23	<0.01	0.22	0.01	0.47
	CL600	6.18	0.20	6.07	0.31	12.76
	CL601	5.21	0.29	4.92	0.57	10.99
	CNA500	0.16	<0.01	0.15	0.01	0.33
	CNA510	0.74	<0.01	0.73	0.01	1.48
	CNA525C	2.77	0.24	2.70	0.30	6.01
	CNA55B	4.31	0.13	4.23	0.21	8.88
	CNA560E	0.03	-	0.03	-	0.06
	CNA560U	1.78	0.05	1.78	0.05	3.66
	CNA560XL	5.88	0.11	5.73	0.26	11.98
	CNA680	4.06	0.09	3.93	0.21	8.29
	CNA750	5.04	0.17	4.88	0.33	10.42
	CRJ9-ER	0.02	0.01	0.02	0.01	0.08
	ECLIPSE500	0.31	0.01	0.30	0.02	0.65
	EMB145	0.32	0.02	0.33	0.01	0.68
	EMB14L	0.01	-	0.01	-	0.03
	EMB190	0.04	<0.01	0.04	<0.01	0.10
	EMB195	-	<0.01	<0.01	-	<0.01
F-18	<0.01	-	<0.01	-	0.02	
FAL20	-	-	-	-	-	
FAL900EX	1.93	0.05	1.92	0.07	3.98	



Aircraft Category	AEDT Type	Departures		Arrivals		Total
		Day	Night	Day	Night	
	G650ER	0.85	0.04	0.85	0.05	1.79
	GII	-	-	-	-	-
	GIIB	-	-	-	-	-
	GIV	5.31	0.23	5.10	0.44	11.09
	GV	2.67	0.25	2.59	0.33	5.83
	IA1125	0.20	0.01	0.22	-	0.43
	LEAR35	8.91	0.59	8.69	0.81	19.00
	MD81	-	0.01	0.01	-	0.03
	MU3001	1.50	0.04	1.50	0.04	3.08
Subtotal Jet Operations		62.26	3.06	60.60	4.72	130.64
Turboprop	1900D	<0.01	-	<0.01	-	0.01
	C130	0.13	-	0.12	<0.01	0.26
	CNA208	6.75	0.22	6.70	0.26	13.92
	CNA441	0.71	<0.01	0.70	0.02	1.44
	DHC6	3.46	0.13	3.43	0.16	7.18
	DHC830	2.13	0.70	2.83	-	5.66
	DO328	0.05	<0.01	0.05	-	0.10
	EMB120	0.02	<0.01	0.03	<0.01	0.06
	HS748A	0.01	-	0.01	-	0.03
	PA42	<0.01	-	<0.01	-	<0.01
	SF340	0.07	-	0.07	-	0.13
Subtotal Turboprop Operations		13.34	1.06	13.95	0.45	28.80
Piston	BEC58P	6.11	0.25	6.11	0.25	12.71
	CNA172	18.96	0.06	18.86	0.16	38.04
	CNA182	3.36	0.02	3.34	0.04	6.77
	CNA206	0.75	<0.01	0.75	<0.01	1.52
	CNA20T	0.04	-	0.04	-	0.08
	COMSEP	11.93	0.11	11.78	0.26	24.09
	GASEPF	58.06	0.18	58.02	0.22	116.48
	GASEPV	4.56	0.04	4.55	0.05	9.20
	PA30	1.32	-	1.31	0.01	2.64
Subtotal Piston Operations		105.08	0.68	104.77	0.99	211.52
Helicopter	A109	0.09	0.01	0.09	0.01	0.20
	B206L	0.05	-	0.05	-	0.09
	B407	0.06	-	0.06	-	0.11
	B429	10.34	0.73	10.02	1.05	22.13
	EC130	0.16	0.03	0.17	0.02	0.38
	H500D	0.14	-	0.14	-	0.27
	R22	0.02	-	0.02	-	0.05
	R44	0.67	-	0.67	-	1.34

Aircraft Category	AEDT Type	Departures		Arrivals		Total
		Day	Night	Day	Night	
	S70	0.18	-	0.18	-	0.35
	S76	1.74	0.03	1.76	0.01	3.55
	SA330J	1.33	0.02	1.28	0.06	2.69
	SA341G	0.42	-	0.42	-	0.85
	SA350D	0.06	-	0.06	-	0.12
	SA355F	0.04	-	0.04	-	0.07
	SC300C	0.01	-	0.01	-	0.02
Subtotal Helicopter Operations		15.30	0.82	14.95	1.16	32.22
Total Operations		195.99	5.61	194.28	7.31	403.18

Notes:

1. AEDT = Aviation Environmental Design Tool
2. The military operations are included with their specific aircraft types rather than being listed separately.

Source: Hanscom EXP System, Massport NOMS, HMMH, McFarland Johnson 2023

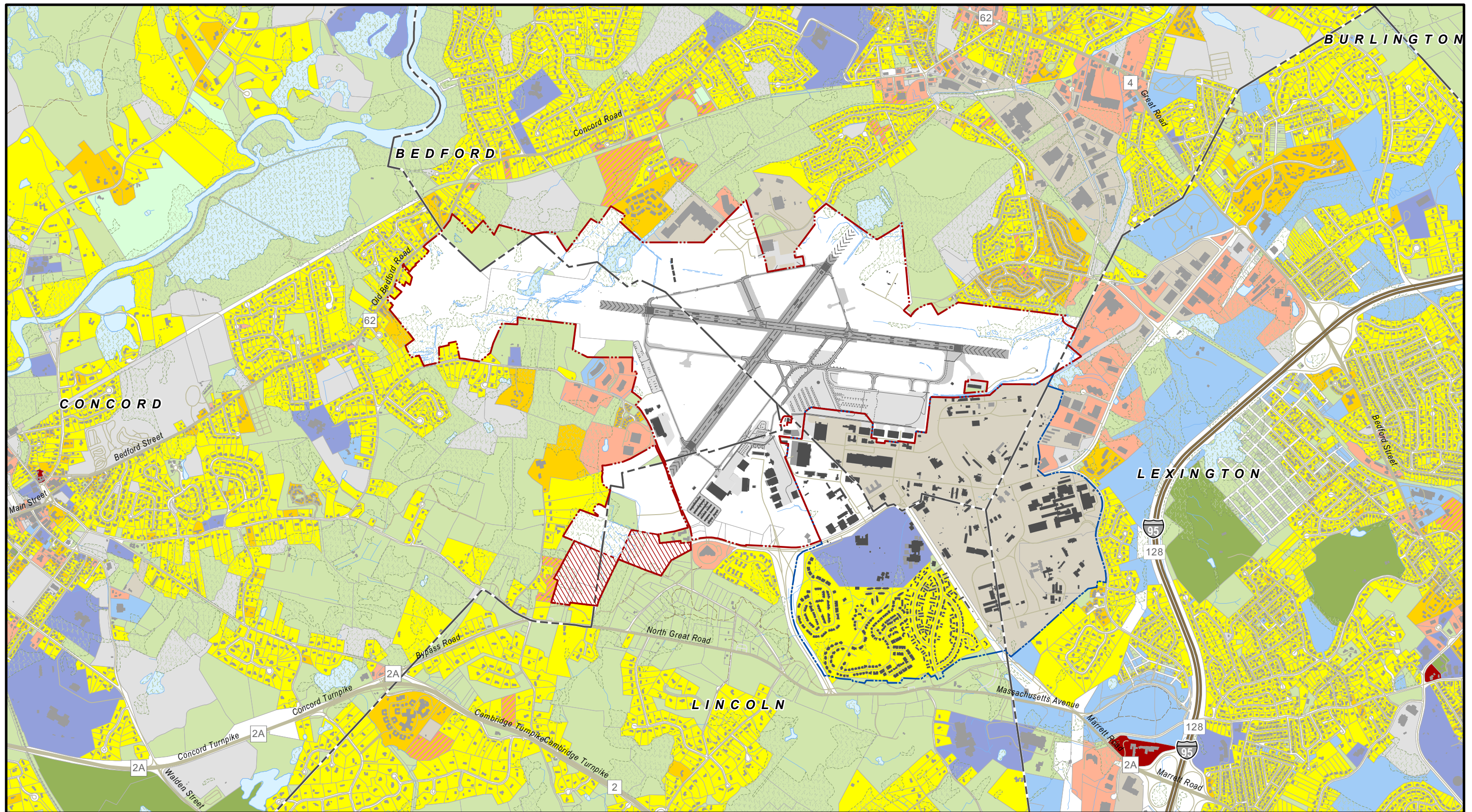
D.2.3 Analysis of Land Use & Population within DNL Contours

In order to estimate the number of people residing within the noise contours, existing land use maps developed by parcel boundary were obtained from MassGIS and overlaid on 2020 U.S. Census TIGER file maps that depict the smallest enumeration unit: Census block data. Polygons were then created using land use that concentrated populated areas into the residential portion of the census block where people actually live; for example, in some areas the population is concentrated along the road, rather than over several square miles of open or undeveloped land.

Using Geographic Information Systems (GIS) tools, the noise contours were intersected with these "Residential/Census" data for each DNL noise contour interval. The resultant wholly or partially encompassed Residential/Census areas were then identified; the proportion of total area within the contour level was then computed to determine the estimated residential population counts and ascribed to that level. **Figure D-11 and Figure D-12** show the land use and census data and the process used for the analysis.



(This page intentionally left blank.)



Data Sources: MassGIS (Roads, Rail), July 30, 2018; MassGIS (Bike Trails, Tracks and Trails), July 30, 2018; MassGIS (Community Boundaries), July 30, 2018; MassGIS (DEP Wetlands), July 30, 2018; MassGIS (Building Footprints), July 30, 2018; MassGIS (Land Use), Aug 29, 2013;

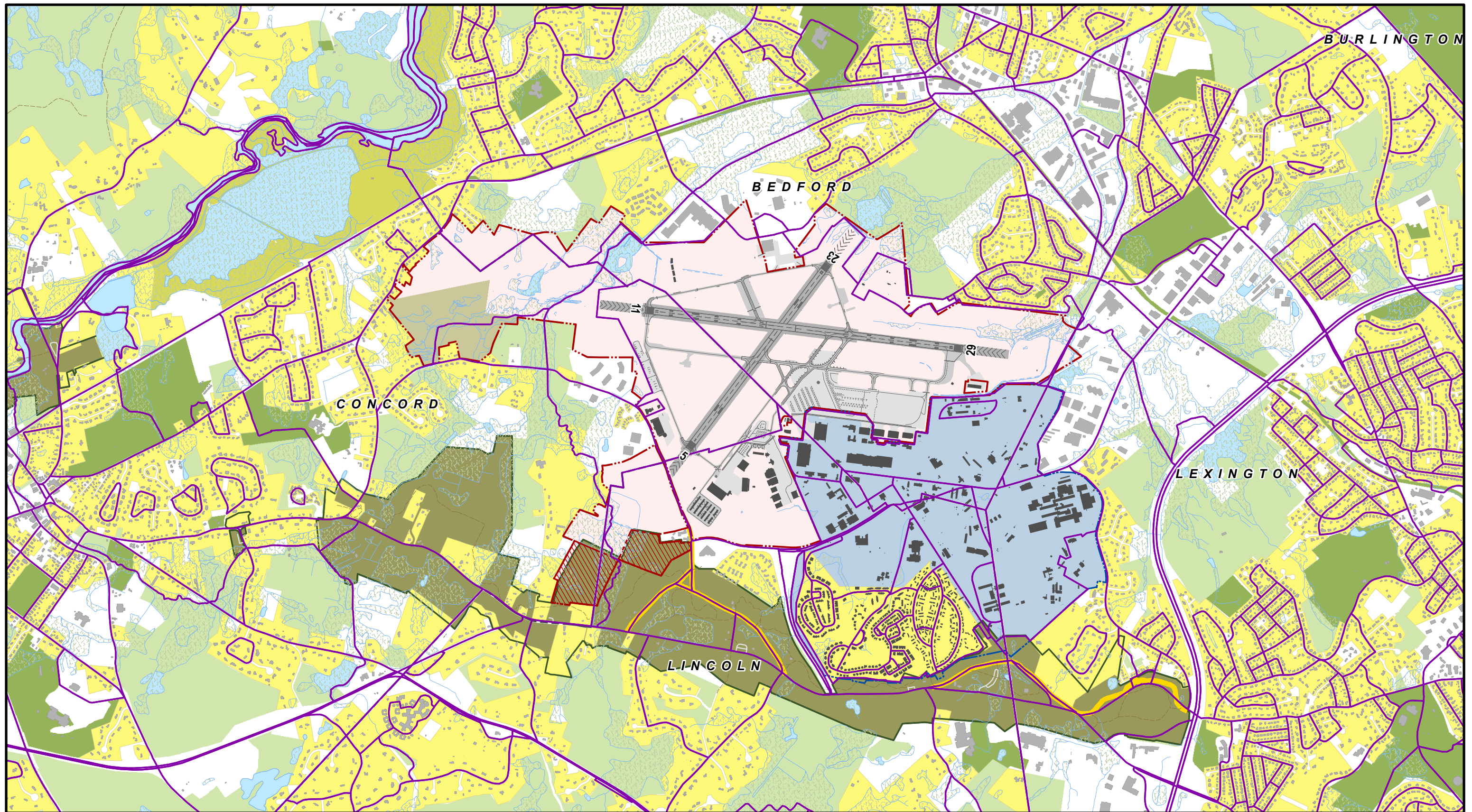
- | | | | | |
|---|------------|-------------------------------|------------------------------|-----------------|
| Hanscom Field Property Boundary | Interstate | Single Family Residential | Agriculture | Open Water |
| Massport Property within MMNHP Congressional Boundary | Highway | Multi-Family Residential | Open Land | Wetland / Marsh |
| Hanscom AFB Property Boundary | Road | Mobile Home | Open Space / Recreation | Wooded Swamp |
| Municipal Boundary | Trail | Transient Lodging | Commercial Use | Buildings |
| | Stream | Mixed Use | Manufacturing and Production | |
| | | Public Use 1 (Non-Compatible) | Vacant / Undefined | |
| | | Public Use 2 (Compatible) | Transportation / Utility | |

L. G. Hanscom Field
2022 Environmental Status & Planning Report

Existing Land Use

Figure D-10

(This page intentionally left blank.)



Data Sources: MassGIS (Roads, Rail), July 30, 2018; MassGIS (Bike Trails, Tracks and Trails), July 30, 2018; MassGIS (Community Boundaries), July 30, 2018; MassGIS (DEP Wetlands), July 30, 2018; MassGIS (Building Footprints), July 30, 2018; MassGIS (Land Use), Aug 29, 2013;

- | | | | |
|---|---------------|------------------------------------|--------|
| 2020 US Census Block Boundary | Historic Road | Open Water | Stream |
| Populated Census/Residential Land Use | Interstate | Wetland/Marsh | |
| Hanscom Field Property Boundary | Highway | MMNHP Boundary | |
| Massport Property within MMNHP Congressional Boundary | Road | Great Meadows | |
| Hanscom AFB Property Boundary | Trail | Open Space Non-protected | |
| Municipal Boundary | Buildings | Open Space Protected in Perpetuity | |



L. G. Hanscom Field
2022 Environmental Status & Planning Report

2020 Census Blocks and Residential Land Use

Figure D-11

(This page intentionally left blank.)

D.3 Detailed Noise Modeling Results

The section presents detailed noise modeling results at noise analysis locations in the towns of Bedford, Concord, Lexington, and Lincoln and in Minute Man National Historical Park (MMNHP). The detailed Total Noise Exposure (EXP) results for 2022 operations and the 2030 and 2040 scenarios are also presented in this section.

D.3.1 Noise Modeling Results at Noise Analysis Locations

Table D-4 and Table D-5 present the calculated Time Above 65 dBA in 2005, 2012, 2017 and the 2025 and 2035 scenarios at noise analysis locations in each town: Bedford, Concord, Lexington, and Lincoln. **Tables D-8 through D-11** present the Time Above 55 dBA (TA55) values, respectively, for the noise analysis locations in 2017, 2022, and the 2030 and 2040 scenarios.

Table D-4. Time Above 65 dB at Noise Sensitive Receptors in Bedford (minutes)

Label ¹	Name ²	Address (Bedford)	2017	2022	2030	2040
HB-1	Veterans Administration Medical Center*	200 Springs Rd	1.0	0.6	0.7	0.7
NB-1	Bedford Historic District	Great Rd.	1.6	0.7	0.8	0.9
NB-2	Old Bedford Center Historic District	Great Rd.	2.1	1.0	1.2	1.2
NB-3	Old Burying Ground	7 Springs Rd.	2.3	1.2	1.3	1.4
NB-4	Old Town Hall	16 South Rd.	2.5	1.3	1.4	1.5
NB-5	Bedford Depot Park Historic District	80 Loomis St./120 South Rd.	6.6	3.7	4.1	4.4
NB-6	Nathaniel Page House	89 Page Rd.	3.9	3.1	3.4	3.7
NB-7	Christopher Page House	50 Old Billerica Rd.	3.0	2.5	2.7	2.9
NB-8	Bacon-Gleason-Blodgett Homestead	118 Wilson Rd.	1.2	0.7	0.8	0.9
NB-9	Historic Wilson Mill-Old Burlington Road Historic Dist.	Old Burlington and Wilson Rds.	1.1	0.7	0.8	0.8
NB-10	Shawsheen Cemetery **	Shawsheen Rd.	2.0	1.0	1.1	1.2
NB-11	David Lane House	137 North Rd.	0.9	0.4	0.5	0.5
NB-12 ³	Col. Timothy Jones House	231 Concord Rd.	-	1.4	1.5	1.6
NB-13 ⁴	Old Billerica Road Area	Old Billerica Rd	3.5	2.9	3.1	3.4
NB-14 ³	Old Billerica Road Historic District**	Old Billerica Rd.	-	1.3	1.4	1.5
PB-1	Town Hall *	10 Mudge Way	2.1	1.0	1.1	1.2
PB-2	Library **	7 Mudge Way	1.8	0.8	0.9	0.9
PB-3	Bedford School District	11Mudge Way	2.1	1.0	1.1	1.2
PB-4	Department of Public Works	314 Great Rd.	2.1	1.2	1.3	1.4
RB-1	The Lutheran Church of the Savior	426 Davis Rd.	4.7	4.7	5.1	5.5
RB-2	First Baptist Church of Bedford	155 Concord Rd.	1.6	0.7	0.8	0.8
RB-3	St. Michael's Church	90 Concord Rd.	1.4	0.6	0.7	0.7
RB-4	Boston Buddha Vararam Temple	125 North Rd.	0.9	0.4	0.5	0.5

Label ¹	Name ²	Address (Bedford)	2017	2022	2030	2040
RB-5	The First Church of Christ Congregational/ United Church of Christ *	25 Great Rd.	1.9	0.9	1.0	1.0
RB-6	The First Parish in Bedford Unitarian Universalist *	75 Great Rd.	2.4	1.2	1.4	1.4
RB-7	St. Paul's Episcopal Church	100 Pine Hill Rd.	1	0.4	0.5	0.5
RB-8	March for Jesus	54 Summer St.	9.3	5.8	6.6	7.2
RB-9	Immanuel Baptist Church	400 Great Rd.	2.2	1.1	1.2	1.3
SB-1	Davis School	Davis Rd.	1.2	0.6	0.7	0.7
SB-2	Bedford High School **	9 Mudge Way	1.7	0.8	0.8	0.9
SB-3	John Glenn Middle School	99 McMahon Rd.	2.3	1.0	1.1	1.1

Notes:

- The first letter of the label indicates the nature of each site: H for hospital, N for sites in the National Register of Historic Places and/or State Register of Historic Places, O for other, P for public facilities, R for religious sites, S for schools. Other is the category for sites that town representatives specifically requested be added to the noise receptor list, but do not fit into the other four categories. The second letter indicates the town where the site is located: B for Bedford, C for Concord, LX for Lexington, LN for Lincoln.
 - Historic districts and cemeteries are evaluated at a central location within the district or cemetery. Sites that are not designated as "N" sites are marked with an asterisk (*) if they are listed in the National Register of Historic Places and two asterisks (**) if they are listed in the State Inventory/MACRIS. Sites are marked with a (+) if they are only listed in the State Register of Historic Places. Sites marked with a (++) contribute to the Old Bedford Center Historic District.
 - New locations that have been added to the 2022 ESPR.
 - The label that has been updated for the 2022 ESPR.
- Source: HMMH 2023

Table D-5. Time Above 65 dB at Noise Sensitive Receptors in Concord (minutes)

Label ¹	Name ²	Address (Concord)	2017	2022	2030	2040
NC-1	Barrett Farm Historic District†	Barrett's Mill Rd.	1.5	1.4	1.5	1.6
NC-2	Jonathan Hildreth House	8 Barrett's Mill Rd.	3.6	3.9	4.3	4.7
NC-3	Joseph Hosmer House	572 Main St.	1.7	2.2	2.5	2.7
NC-4	Thoreau-Alcott House	255 Main St.	3.0	3.0	3.3	3.7
NC-5	Hubbardville Historic District†	324-374 Sudbury Rd.	3.7	1.9	2.1	2.4
NC-6	Hubbard-French Historic District	324-374 Sudbury Rd.	3.7	1.9	2.1	2.3
NC-7	Deacon Thomas Hubbard/ Judge Henry French House	342 Sudbury Rd.	3.6	2.0	2.2	2.5
NC-8	Pest House	158 Fairhaven Rd.	3.4	1.4	1.6	1.8
NC-9	Main Street Historic District†	Main St. between Monument Sq. and Wood St.	4.3	3.7	4.0	4.5
NC-10	North Bridge-Monument Square Historic District†	Monument St., Liberty St. and Lowell St.	4.0	5.1	5.6	6.2
NC-11	Wright Tavern	Lexington Rd. & Main St.	4.4	3.6	4.0	4.4
NC-12	Sleepy Hollow Cemetery	24 Court Ln.	5.0	4.5	4.9	5.4
NC-13	American Mile Historic District†	Lexington Rd.	4.8	3.6	3.9	4.3

Label ¹	Name ²	Address (Concord)	2017	2022	2030	2040
NC-14	Concord Monument Square-Lexington Road Historic District	Monument Sq. and Lexington Rd.	4.3	3.7	4.1	4.5
NC-15	Ralph Waldo Emerson House	28 Cambridge Turnpike	5.4	3.0	3.3	3.6
NC-16	Walden Pond ⁴	MA Rte 126 (Main Beach)	2.5	1.7	1.8	2.0
NC-17	Orchard House	399 Lexington Rd.	6.2	3.3	3.6	3.9
NC-18	Deacon John Wheeler/ Capt. Jonas Minot Farmhouse	341 Virginia Rd.	26.4	23.9	26.2	28.4
NC-19	Wheeler-Meriam House	477 Virginia Rd.	27.6	23.8	26.2	28.4
NC-20	Concord Armory-Concord Veteran's Building	51 Walden St.	4.4	3.4	3.7	4.1
NC-21	Concord School of Philosophy	391 Lexington Rd.	6.3	3.4	3.8	4.1
NC-22	Hosmer Homestead	138 Baker Ave.	0.7	1.0	1.1	1.2
NC-23 ³	North Center Schoolhouse	34A Bedford St.	-	4.2	4.6	5.0
PC-1	Library **	129 Main St.	3.7	3.2	3.6	3.9
PC-2	Town Hall ††	22 Monument Sq.	4.2	3.9	4.3	4.7
PC-3	Middlesex County Court House	305 Walden St.	5.0	2.0	2.2	2.4
RC-1	Trinity Episcopal Church **	81 Elm St.	2.1	2.7	2.9	3.3
RC-2	Redeemer Presbyterian Church	191 Sudbury Rd.	3.7	2.6	2.9	3.2
RC-3	New Life Community Church (meeting at the Emerson School Building **)	40 Stow St.	4.0	3.0	3.3	3.7
RC-4	Trinitarian Congregational Church **	54 Walden St.	4.4	3.2	3.6	3.9
RC-5	First Church of Christ Scientist††	7 Lowell Rd.	3.9	3.8	4.2	4.6
RC-6	St. Bernard's Parish††	70 Monument Square	4.1	3.8	4.2	4.6
RC-7	Christian Science Reading Room	20 Main St.	4.2	3.6	4.0	4.4
RC-8	First Parish in Concord ††	20 Lexington Rd.	4.5	3.5	3.9	4.3
SC-1	Nashoba/Brooks School	200 Strawberry Hill Rd.	3.8	3.6	4.0	4.4
SC-2	Middlesex School**	1400 Lowell Rd.	0.7	0.6	0.6	0.6
SC-3	Fenn School **	498-516 Monument St.	7.6	8.7	9.5	10.5
SC-4	Concord Academy **	166 Main St.	3.2	3.2	3.5	3.9
SC-5	Alcott School	91 Laurel Rd.	4.8	2.1	2.3	2.5
SC-6	Concord/Carlisle High School	500 Walden Rd.	3.7	1.5	1.6	1.8
SC-7	Ripley School	120 Meriam Rd.	10.1	8.7	9.6	10.5

Notes:

- The first letter of the label indicates the nature of each site: H for hospital, N for sites in the National Register of Historic Places and/or State Register of Historic Places, O for other, P for public facilities, R for religious sites, S for schools. Other is the category for sites that town representatives specifically requested be added to the noise receptor list, but do not fit into the other four categories. The second letter indicates the town where the site is located: B for Bedford, C for Concord, LX for Lexington, LN for Lincoln.
- Historic districts and cemeteries are evaluated at a central location within the district or cemetery. Sites that are not designated as "N" sites are marked with an asterisk (*) if they are listed in the National Register of Historic Places and two

Label ¹	Name ²	Address (Concord)	2017	2022	2030	2040
asterisks (**) if they are listed in the State Inventory/MACRIS. Sites marked with a (†) are only listed in the State Register of Historic Places. Sites marked with a (††) contribute to the Concord Monument Square-Lexington Road Historic District. 3. New location that has been added to the 2022 ESPR. Source: HMMH 2023						

Table D-6. Time Above 65 dB at Noise Sensitive Receptors in Lexington (minutes)

Label ¹	Name ²	Address (Lexington)	2017	2022	2030	2040
NLX-1	Simonds Tavern	331 Bedford St.	10.6	10.8	11.9	13.1
NLX-2	Hancock-Clarke Historic District†	Hancock St.	1.0	0.7	0.8	0.8
NLX-3	Hancock-Clarke House	35 Hancock St.	0.9	0.6	0.7	0.8
NLX-4	Garrity House	9 Hancock St.	1.0	0.7	0.8	0.9
NLX-5	Lexington Green Historic District	Mass. Ave., Harrington Rd. and Bedford St.	1.1	0.8	0.9	0.9
NLX-6	Lexington Green	Mass. Ave., Harrington Rd. and Bedford St.	1.0	0.8	0.8	0.9
NLX-7	Buckman Tavern	1 Bedford St.	1.0	0.7	0.8	0.9
NLX-8	General Samuel Chandler House	8 Goodwin Rd.	0.9	0.7	0.8	0.8
NLX-9	Hancock School	33 Forest St.	1.1	0.8	0.9	1.0
NLX-10	U.S. Post Office Building	1661 Mass. Ave.	0.6	0.5	0.5	0.5
NLX-11	Warren E. Shelburne House	11 Percy Rd.	0.4	0.3	0.3	0.3
NLX-12	Munroe Tavern Historic District†	Mass. Ave.	0.2	0.2	0.2	0.2
NLX-13	Sanderson House-Munroe Tavern	1314 & 1332 Mass. Ave.	0.3	0.2	0.2	0.2
NLX-14	John Mason House	1303 Mass. Ave.	0.3	0.2	0.2	0.2
NLX-15	East Village Historical District†	Mass Ave.	0.2	0.1	0.1	0.1
NLX-16	M.H. Merriam and Company	7-9 Oakland Ave.	0.8	0.5	0.6	0.7
OLX-1	Battle Green Historic District**	Worthen Rd., Woburn St., Hastings Rd., Mass. Ave. and B&M Railroad	1.0	0.8	0.8	0.9
OLX-2	National Heritage Museum	33 Marrett Rd.	0.3	0.2	0.2	0.2
PLX-1	Library **	1874 Mass. Ave.	1.1	0.8	0.9	1
PLX-2	Town Hall **	1625 Mass. Ave.	0.4	0.3	0.3	0.4
PLX-3	Lexington School District Administration **	1557 Massachusetts Ave.	0.5	0.4	0.4	0.4
RLX-1	Lexington United Methodist Church/ St. John's Korean United Methodist Church ⁴	2600 Massachusetts Ave.	3.3	2.1	2.3	2.5
RLX-2	Temple Isaiah	55 Lincoln St.	2.1	1.5	1.7	1.8
RLX-3	Grace Chapel of Lexington	59 Worthen Rd.	1.7	1.3	1.4	1.6

Label ¹	Name ²	Address (Lexington)	2017	2022	2030	2040
RLX-4	St. Brigid's Parish *	2001 Mass. Ave.	1.5	1.1	1.2	1.3
RLX-5	First Parish-Unitarian Church††	7 Harrington Rd.	1.2	0.9	0.9	1.0
RLX-6	Hancock United Church of Christ ††	1912 Mass. Ave.	1.1	0.8	0.9	1.0
RLX-7	Church of Our Redeemer	6 Meriam St.	0.9	0.7	0.7	0.8
RLX-8	Christian Science Reading Room	10 Muzzy St. #12	0.8	0.6	0.7	0.8
RLX-9	Greek Orthodox Church of St. Nichols **	17 Meriam St.	0.8	0.6	0.6	0.7
RLX-10	Chabad Center **	9 Burlington St.	6.0	6.9	7.6	8.3
RLX-11	Pilgrim Congregational Church	55 Coolidge Ave.	1.4	1.3	1.4	1.5
RLX-12	First Baptist Church of Lexington **	1580 Mass. Ave.	0.5	0.4	0.4	0.4
RLX-13	Jehovah's Witnesses	196 Woburn St.	0.3	0.1	0.1	0.1
RLX-14	Follen Church Society- Unitarian Universalists *	755 Massachusetts Ave.	0.3	0.1	0.1	0.1
RLX-15	Countryside Bible Chapel	480 Lowell St.	0.4	0.2	0.2	0.2
RLX-16	St. Paul Evangelical Church	451 Lowell St.	0.4	0.1	0.1	0.1
SLX-1	Minuteman Regional Vocational High School	758 Marrett Rd.	1.8	1.5	1.7	1.8
SLX-2	Maria Hastings School	2618 Mass. Ave.	3.0	1.9	2.1	2.3
SLX-3	Methodist Weekday School	2600 Massachusetts Ave.	3.3	2.1	2.3	2.5
SLX-4	Community Nursery School	2325 Massachusetts Ave.	3.0	2.0	2.3	2.5
SLX-5	Bridge Elementary School**	55 Middleby Rd.	1.7	1.2	1.4	1.5
SLX-6	Lexington High School	251 Waltham St.	1.1	0.8	0.9	0.9
SLX-7	Jonas Clarke Middle School	17 Stedman Rd.	1.0	0.4	0.4	0.5
SLX-8	Estabrook School**	117 Grove St.	1.8	1.4	1.5	1.6
SLX-9	Diamond Middle School	99 Hancock St.	6.0	6.9	7.5	8.3
SLX-10	Fiske Elementary School	146 Maple St.	0.9	0.7	0.8	0.8
SLX-11	Armenian Sisters Academy	20 Pelham Rd.	0.4	0.2	0.2	0.3
SLX-12	Harrington Elementary School	148 Maple St.	0.2	0.1	0.1	0.1

Label ¹	Name ²	Address (Lexington)	2017	2022	2030	2040
--------------------	-------------------	---------------------	------	------	------	------

Notes:

1. The first letter of the label indicates the nature of each site: H for hospital, N for sites in the National Register of Historic Places and/or State Register of Historic Places, O for other, P for public facilities, R for religious sites, S for schools. Other is the category for sites that town representatives specifically requested be added to the noise receptor list, but do not fit into the other four categories. The second letter indicates the town where the site is located: B for Bedford, C for Concord, LX for Lexington, LN for Lincoln. The labels are unchanged from the 2017 ESPR.

2. Historic districts and cemeteries are evaluated at a central location within the district or cemetery. Sites that are not designated as “N” sites are marked with an asterisk (*) if they are listed in the National Register of Historic Places and two asterisks (**) if they are listed in the State Inventory/MACRIS. Sites are marked with a (+) if they are only listed in the State Register of Historic Places. Sites marked with a (++) contribute to the Lexington Green Historic District.

3. The Lexington United Methodist Church and St. John’s Korean United Methodist Church are at the same address.

Source: HMMH 2023

Table D-7. Time Above 65 dB at Noise Sensitive Receptors in Lincoln (minutes)

Label ¹	Name ²	Address (Lincoln)	2017	2022	2030	2040
NLN-1	Walden Pond	Rte. 126, Walden St., Concord Rd.	2.5	1.3	1.4	1.5
NLN-2	Henry Higginson House	44 Baker Farm Rd.	2.9	2.2	2.4	2.6
NLN-3	Daniel Brooks House	Brooks Rd.	7.1	5.5	5.9	6.4
NLN-4	Lincoln Center Historic District	Bedford Rd. Lincoln Rd., Old Lexington Rd. Sandy Pond Rd. Trapelo Rd. Weston Rd.	1.1	1	1	1.1
NLN-5	Hoar Tavern	268 Cambridge Tpke.	1.4	1.9	2	2.1
SLN-1	Carroll School	25 Baker Bridge Rd.	1.7	1.2	1.3	1.5
SLN-2	Hanscom Middle School	Hanscom AFB	3.6	2.5	2.6	2.8
SLN-3	Hanscom Primary School	Hanscom AFB	3.6	2.5	2.7	2.8

Notes:

1. The first letter of the label indicates the nature of each site: H for hospital, N for sites in the National Register of Historic Places and/or State Register of Historic Places, O for other, P for public facilities, R for religious sites, S for schools. Other is the category for sites that town representatives specifically requested be added to the noise receptor list, but do not fit into the other four categories. The second letter indicates the town where the site is located: B for Bedford, C for Concord, LX for Lexington, LN for Lincoln. The labels are unchanged from the 2017 ESPR.

2. Historic districts and cemeteries are evaluated at a central location within the district or cemetery. Sites that are not designated as “N” sites are marked with an asterisk (*) if they are listed in the National Register of Historic Places and two asterisks (**) if they are listed in the State Inventory/MACRIS.

Source: HMMH 2023

Table D-8. Time Above 55 dB at Noise Sensitive Receptors in Bedford (minutes)

Label ¹	Name ²	Address (Bedford)	2017	2022	2030	2040
HB-1	Veterans Administration Medical Center*	200 Springs Rd	12.0	6.1	6.5	7.0
NB-1	Bedford Historic District	Great Rd.	21.6	7.6	8.2	8.7
NB-2	Old Bedford Center Historic District	Great Rd.	25.2	8.8	9.5	10.2
NB-3	Old Burying Ground	7 Springs Rd.	24.3	9.1	9.9	10.6
NB-4	Old Town Hall	16 South Rd.	27.4	10.2	11.0	11.8
NB-5	Bedford Depot Park Historic District	80 Loomis St./120 South Rd.	52.9	22.9	24.9	26.7
NB-6	Nathaniel Page House	89 Page Rd.	23.1	13.6	14.7	15.8
NB-7	Christopher Page House	50 Old Billerica Rd.	19.5	11.9	12.9	13.9
NB-8	Bacon-Gleason-Blodgett Homestead	118 Wilson Rd.	11.5	7.4	8.2	8.8
NB-9	Historic Wilson Mill-Old Burlington Road Historic Dist.	Old Burlington and Wilson Rds.	11.4	7.5	8.2	8.9
NB-10	Shawsheen Cemetery **	Shawsheen Rd.	28.2	13.9	15.4	16.5
NB-11	David Lane House	137 North Rd.	12.3	5.2	5.7	6.1
NB-12 ³	Col. Timothy Jones House	231 Concord Rd.	-	29.0	31.7	34.2
NB-13 ⁴	Old Billerica Road Area	Old Billerica Rd	18.4	11.7	12.7	13.8
NB-14 ³	Old Billerica Road Historic District**	Old Billerica Rd.	-	8.9	9.6	10.4
PB-1	Town Hall *	10 Mudge Way	27.7	9.1	9.8	10.5
PB-2	Library **	7 Mudge Way	26.0	8.4	9.0	9.6
PB-3	Bedford School District	11Mudge Way	28.9	9.2	10.0	10.6
PB-4	Department of Public Works	314 Great Rd.	30.0	14.9	16.4	17.6
RB-1	The Lutheran Church of the Savior	426 Davis Rd.	47.9	36.3	39.9	43.2
RB-2	First Baptist Church of Bedford	155 Concord Rd.	39.5	17.0	18.5	19.8
RB-3	St. Michael's Church	90 Concord Rd.	27.7	9.3	9.9	10.5
RB-4	Boston Buddha Vararam Temple	125 North Rd.	12.5	5.3	5.7	6.1
RB-5	The First Church of Christ Congregational/ United Church of Christ *	25 Great Rd.	24.9	8.5	9.1	9.7
RB-6	The First Parish in Bedford Unitarian Universalist *	75 Great Rd.	28.0	9.8	10.6	11.3
RB-7	St. Paul's Episcopal Church	100 Pine Hill Rd.	11.5	5.2	5.6	6.0
RB-8	March for Jesus	54 Summer St.	64.9	38.4	42.6	45.9

Label ¹	Name ²	Address (Bedford)	2017	2022	2030	2040
RB-9	Immanuel Baptist Church	400 Great Rd.	29.8	15.1	16.7	18.0
SB-1	Davis School	Davis Rd.	21.2	7.9	8.5	9.0
SB-2	Bedford High School **	9 Mudge Way	27.6	8.6	9.3	9.9
SB-3	John Glenn Middle School	99 McMahon Rd.	38.9	12.4	13.4	14.3

Notes:

1. The first letter of the label indicates the nature of each site: H for hospital, N for sites in the National Register of Historic Places and/or State Register of Historic Places, O for other, P for public facilities, R for religious sites, S for schools. Other is the category for sites that town representatives specifically requested be added to the noise receptor list, but do not fit into the other four categories. The second letter indicates the town where the site is located: B for Bedford, C for Concord, LX for Lexington, LN for Lincoln. The labels are unchanged from the 2012 ESPR.

2. Historic districts and cemeteries are evaluated at a central location within the district or cemetery. Sites that are not designated as "N" sites are marked with an asterisk (*) if they are listed in the National Register of Historic Places and two asterisks (**) if they are listed in the State Inventory/MACRIS. Sites are marked with a (†) if they are only listed in the State Register of Historic Places. Sites marked with a (††) contribute to the Old Bedford Center Historic District.

3. New locations that have been added to the 2022 ESPR.

4. The label that has been updated for the 2022 ESPR.

Source: HMMH

Table D-9. Time Above 55 dB at Noise Sensitive Receptors in Concord (minutes)

Label ¹	Name ²	Address (Concord)	2017	2022	2030	2040
NC-1	Barrett Farm Historic District†	Barrett's Mill Rd.	16.5	15.5	17.0	18.6
NC-2	Jonathan Hildreth House	8 Barrett's Mill Rd.	27.3	25.3	27.9	30.5
NC-3	Joseph Hosmer House	572 Main St.	22.4	16.1	17.7	19.3
NC-4	Thoreau-Alcott House	255 Main St.	27.8	19.3	21.2	23.1
NC-5	Hubbardville Historic District†	324-374 Sudbury Rd.	28.1	15.7	17.3	18.8
NC-6	Hubbard-French Historic District	324-374 Sudbury Rd.	28.0	15.7	17.2	18.8
NC-7	Deacon Thomas Hubbard/ Judge Henry French House	342 Sudbury Rd.	28.0	16.1	17.6	19.2
NC-8	Pest House	158 Fairhaven Rd.	27.8	13.7	15.0	16.2
NC-9	Main Street Historic District†	Main St. between Monument Sq. and Wood St.	32.8	23.1	25.3	27.6
NC-10	North Bridge-Monument Square Historic District†	Monument St., Liberty St. and Lowell St.	33.6	28.3	31.0	33.8
NC-11	Wright Tavern	Lexington Rd. & Main St.	33.1	23.0	25.2	27.5
NC-12	Sleepy Hollow Cemetery	24 Court Ln.	35.7	26.7	29.2	31.9
NC-13	American Mile Historic District†	Lexington Rd.	34.0	23.2	25.3	27.6
NC-14	Concord Monument Square- Lexington Road Historic District	Monument Sq. and Lexington Rd.	32.9	23.3	25.5	27.9
NC-15	Ralph Waldo Emerson House	28 Cambridge Turnpike	35.7	22.6	24.7	26.8
NC-16	Walden Pond ⁴	MA Rte 126 (Main Beach)	22.2	11.6	12.5	13.5
NC-17	Orchard House	399 Lexington Rd.	40.8	26.9	29.3	31.9

Label ¹	Name ²	Address (Concord)	2017	2022	2030	2040
NC-18	Deacon John Wheeler/ Capt. Jonas Minot Farmhouse	341 Virginia Rd.	115.7	92.2	101.0	108.8
NC-19	Wheeler-Meriam House	477 Virginia Rd.	121.7	95.9	105.3	113.5
NC-20	Concord Armory-Concord Veteran's Building	51 Walden St.	32.9	22.1	24.1	26.3
NC-21	Concord School of Philosophy	391 Lexington Rd.	40.9	27.3	29.7	32.3
NC-22	Hosmer Homestead	138 Baker Ave.	14.1	11.1	12.2	13.3
NC-23 ³	North Center Schoolhouse	34A Bedford St.	-	25.2	27.5	30.0
PC-1	Library **	129 Main St.	30.3	20.7	22.6	24.7
PC-2	Town Hall ††	22 Monument Sq.	33.0	23.9	26.2	28.5
PC-3	Middlesex County Court House	305 Walden St.	34.0	18.6	20.3	22.0
RC-1	Trinity Episcopal Church **	81 Elm St.	24.5	17.8	19.6	21.4
RC-2	Redeemer Presbyterian Church	191 Sudbury Rd.	28.8	18.1	19.8	21.6
RC-3	New Life Community Church (meeting at the Emerson School Building **)	40 Stow St.	30.8	20.0	21.9	23.9
RC-4	Trinitarian Congregational Church **	54 Walden St.	32.5	21.5	23.5	25.6
RC-5	First Church of Christ Scientist††	7 Lowell Rd.	32.2	23.5	25.7	28.1
RC-6	St. Bernard's Parish††	70 Monument Square	32.5	23.4	25.6	27.9
RC-7	Christian Science Reading Room	20 Main St.	32.6	22.9	25.0	27.3
RC-8	First Parish in Concord ††	20 Lexington Rd.	33.2	22.7	24.9	27.1
SC-1	Nashoba/Brooks School	200 Strawberry Hill Rd.	21.3	17.9	19.7	21.6
SC-2	Middlesex School**	1400 Lowell Rd.	11.7	7.0	7.4	8.0
SC-3	Fenn School **	498-516 Monument St.	38.0	34.4	38.0	41.7
SC-4	Concord Academy **	166 Main St.	29.1	20.4	22.3	24.4
SC-5	Alcott School	91 Laurel Rd.	32.6	18.2	19.9	21.6
SC-6	Concord/Carlisle High School	500 Walden Rd.	30.0	14.3	15.6	16.9
SC-7	Ripley School	120 Meriam Rd.	54.6	43.4	47.3	51.3

Notes:

- The first letter of the label indicates the nature of each site: H for hospital, N for sites in the National Register of Historic Places and/or State Register of Historic Places, O for other, P for public facilities, R for religious sites, S for schools. Other is the category for sites that town representatives specifically requested be added to the noise receptor list, but do not fit into the other four categories. The second letter indicates the town where the site is located: B for Bedford, C for Concord, LX for Lexington, LN for Lincoln.
- Historic districts and cemeteries are evaluated at a central location within the district or cemetery. Sites that are not designated as "N" sites are marked with an asterisk (*) if they are listed in the National Register of Historic Places and two asterisks (**) if they are listed in the State Inventory/MACRIS. Sites are marked with a (†) if they are only listed in the State Register of Historic Places. Sites marked with a (††) contribute to the Concord Monument Square-Lexington Road Historic District.
- New location that has been added to the 2022 ESPR.

Label ¹	Name ²	Address (Concord)	2017	2022	2030	2040
Source: HMMH 2023						

Table D-10. Time Above 55 dB at Noise Sensitive Receptors in Lexington (minutes)

Label ¹	Name ²	Address (Lexington)	2017	2022	2030	2040
NLX-1	Simonds Tavern	331 Bedford St.	42.8	35.2	38.8	42.1
NLX-2	Hancock-Clarke Historic District†	Hancock St.	8.4	6.8	7.4	7.9
NLX-3	Hancock-Clarke House	35 Hancock St.	8.3	6.7	7.3	7.8
NLX-4	Garrity House	9 Hancock St.	8.3	6.8	7.4	7.9
NLX-5	Lexington Green Historic District	Mass. Ave., Harrington Rd. and Bedford St.	8.6	7.1	7.7	8.3
NLX-6	Lexington Green	Mass. Ave., Harrington Rd. and Bedford St.	8.4	6.9	7.6	8.1
NLX-7	Buckman Tavern	1 Bedford St.	8.0	6.7	7.3	7.8
NLX-8	General Samuel Chandler House	8 Goodwin Rd.	8.0	6.6	7.1	7.7
NLX-9	Hancock School	33 Forest St.	8.3	7.1	7.8	8.3
NLX-10	U.S. Post Office Building	1661 Mass. Ave.	5.9	5.2	5.6	6
NLX-11	Warren E. Shelburne House	11 Percy Rd.	3.7	3	3.3	3.5
NLX-12	Munroe Tavern Historic District†	Mass. Ave.	2.7	1.9	2.1	2.3
NLX-13	Sanderson House-Munroe Tavern	1314 & 1332 Mass. Ave.	3.2	2.4	2.6	2.8
NLX-14	John Mason House	1303 Mass. Ave.	3.4	2.7	2.9	3.1
NLX-15	East Village Historical District†	Mass Ave.	2.4	1.3	1.3	1.5
NLX-16	M.H. Merriam and Company	7-9 Oakland Ave.	6.8	5.9	6.4	6.8
OLX-1	Battle Green Historic District**	Worthen Rd., Woburn St., Hastings Rd., Mass. Ave. and B&M Railroad	8.4	7	7.6	8.1
OLX-2	National Heritage Museum	33 Marrett Rd.	2.8	1.6	1.7	1.8
PLX-1	Library **	1874 Mass. Ave.	9.0	7.3	7.9	8.5
PLX-2	Town Hall **	1625 Mass. Ave.	4.4	3.8	4.1	4.4
PLX-3	Lexington School District Administration **	1557 Massachusetts Ave.	5.1	4.4	4.8	5.2
RLX-1	Lexington United Methodist Church/ St. John's Korean United Methodist Church ⁴	2600 Massachusetts Ave.	16.1	13.7	15	16.1
RLX-2	Temple Isaiah	55 Lincoln St.	11.6	9.4	10.3	11.1
RLX-3	Grace Chapel of Lexington	59 Worthen Rd.	11.6	9.1	10	10.7
RLX-4	St. Brigid's Parish *	2001 Mass. Ave.	10.5	8.4	9.2	9.9
RLX-5	First Parish-Unitarian Church††	7 Harrington Rd.	9.1	7.4	8.1	8.7

Label ¹	Name ²	Address (Lexington)	2017	2022	2030	2040
RLX-6	Hancock United Church of Christ ††	1912 Mass. Ave.	8.8	7.3	7.9	8.5
RLX-7	Church of Our Redeemer	6 Meriam St.	7.8	6.5	7.1	7.6
RLX-8	Christian Science Reading Room	10 Muzzy St. #12	7.3	6.2	6.8	7.3
RLX-9	Greek Orthodox Church of St. Nichols **	17 Meriam St.	7.2	6.1	6.6	7.1
RLX-10	Chabad Center **	9 Burlington St.	29.1	26.4	29	31.6
RLX-11	Pilgrim Congregational Church	55 Coolidge Ave.	17.0	15.1	16.6	18
RLX-12	First Baptist Church of Lexington **	1580 Mass. Ave.	5.1	4.5	4.9	5.2
RLX-13	Jehovah's Witnesses	196 Woburn St.	2.9	2.2	2.3	2.5
RLX-14	Follen Church Society- Unitarian Universalists *	755 Massachusetts Ave.	2.5	1.8	1.9	2
RLX-15	Countryside Bible Chapel	480 Lowell St.	3.4	2.9	3.1	3.2
RLX-16	St. Paul Evangelical Church	451 Lowell St.	2.8	2.2	2.3	2.5
SLX-1	Minuteman Regional Vocational High School	758 Marrett Rd.	17.0	15.3	16.6	17.6
SLX-2	Maria Hastings School	2618 Mass. Ave.	15.1	12.7	13.9	14.9
SLX-3	Methodist Weekday School	2600 Massachusetts Ave.	16.3	13.8	15.1	16.2
SLX-4	Community Nursery School	2325 Massachusetts Ave.	14.3	11.9	13.0	14.0
SLX-5	Bridge Elementary School**	55 Middleby Rd.	9.9	7.5	8.2	8.8
SLX-6	Lexington High School	251 Waltham St.	7.4	6.2	6.7	7.3
SLX-7	Jonas Clarke Middle School	17 Stedman Rd.	5.0	5.0	5.4	5.7
SLX-8	Estabrook School**	117 Grove St.	15.1	9.1	9.8	10.5
SLX-9	Diamond Middle School	99 Hancock St.	25.8	24.4	26.7	29.1
SLX-10	Fiske Elementary School	146 Maple St.	10.2	9.9	10.7	11.6
SLX-11	Armenian Sisters Academy	20 Pelham Rd.	3.2	2.1	2.3	2.5
SLX-12	Harrington Elementary School	148 Maple St.	1.6	1.0	1.1	1.1

Notes:

1. The first letter of the label indicates the nature of each site: H for hospital, N for sites in the National Register of Historic Places and/or State Register of Historic Places, O for other, P for public facilities, R for religious sites, S for schools. Other is the category for sites that town representatives specifically requested be added to the noise receptor list, but do not fit into the other four categories. The second letter indicates the town where the site is located: B for Bedford, C for Concord, LX for Lexington, LN for Lincoln. The labels are unchanged from the 2017 ESPR.

2. Historic districts and cemeteries are evaluated at a central location within the district or cemetery. Sites that are not designated as "N" sites are marked with an asterisk (*) if they are listed in the National Register of Historic Places and two asterisks (**) if they are listed in the State Inventory/MACRIS. Sites are marked with a (†) if they are only listed in the State Register of Historic Places. Sites marked with a (††) contribute to the Lexington Green Historic District.

3. The Lexington United Methodist Church and St. John's Korean United Methodist Church are at the same address.

Source: HMMH 2023

Table D-11. Time Above 55 dB at Noise Sensitive Receptors in Lincoln (minutes)

Label ¹	Name ²	Address (Lincoln)	2017	2022	2030	2040
NLN-1	Walden Pond	Rte. 126, Walden St., Concord Rd.	22.2	10.1	11.0	11.8
NLN-2	Henry Higginson House	44 Baker Farm Rd.	18.9	10.9	11.8	12.7
NLN-3	Daniel Brooks House	Brooks Rd.	35.0	22.4	23.8	25.5
NLN-4	Lincoln Center Historic District	Bedford Rd. Lincoln Rd., Old Lexington Rd. Sandy Pond Rd. Trapelo Rd. Weston Rd.	10.7	8.2	8.9	9.4
NLN-5	Hoar Tavern	268 Cambridge Tpke.	9.9	11.4	12.3	12.9
SLN-1	Carroll School	25 Baker Bridge Rd.	13.2	9.2	10.0	10.8
SLN-2	Hanscom Middle School	Hanscom AFB	65.9	43.3	47.4	50.6
SLN-3	Hanscom Primary School	Hanscom AFB	64.9	42.5	46.6	49.7

Notes:

1. The first letter of the label indicates the nature of each site: H for hospital, N for sites in the National Register of Historic Places and/or State Register of Historic Places, O for other, P for public facilities, R for religious sites, S for schools. Other is the category for sites that town representatives specifically requested be added to the noise receptor list, but do not fit into the other four categories. The second letter indicates the town where the site is located: B for Bedford, C for Concord, LX for Lexington, LN for Lincoln. The labels are unchanged from the 2017 ESPR.

2. Historic districts and cemeteries are evaluated at a central location within the district or cemetery. Sites that are not designated as "N" sites are marked with an asterisk (*) if they are listed in the National Register of Historic Places and two asterisks (**) if they are listed in the State Inventory/MACRIS.

Source: HMMH 2023

D.3.2 Total Noise Exposure (EXP)

Table D-12 presents detailed total EXP results for 2022 operations and the 2030 and 2040 scenarios, using SELs computed with AEDT version 2d.

Table D-12. Total EXP by Aircraft Group

Aircraft Type/Group		AEDT TYPE	Total Noise Exposure		
			2022	2030	2040
Civil:					
1	Cessna 500, 501, 525	CNA500	96.0	96.4	96.9
2	Cessna 560	CNA560U	93.7	94.2	94.6
3	Lear 31, 35, 40, 45 ,55 ,60, Hawker Siddely 125-700, -800, - 1000, Sabreliner 65, Falcon 10	LEAR35	103.7	104.3	104.8
5	Lear 24, 25, Hawker Siddely 125-400, -600	LEAR25	96.4	-	-
7	Gulfstream III	GIV	75.9	-	-
8	Gulfstream IV, 450	GIV	96.8	97.3	97.8
9	Challenger 600, 604, 300	CL600	100.4	100.9	101.3
10	Challenger 601, Canadair RJ	CI601	93.0	93.4	93.8
11	McDonnell Douglas MD83, Boeing 747, 767, Unknown/Miscellaneous Jets	MD83	88.5	90.1	90.5
14	Douglas DC-9	DC95HW	82.3	-	-
17	Helicopters	S76	103.2	103.1	103.3
18	Large Turboprop	C130	81.9	82.2	82.4
19	Piper PA-42, PA31T, Cessna 441, 424, Twin Engine Turboprop	CNA441	81.5	81.7	81.9
20	Twin Engine Piston Prop	BEC58P	96.5	97.4	97.6
21	Single Engine Piston Prop	SEPMIX	103.5	103.9	104.1
22	Westwind/ Astra 1124, 1125, Gulfstream G150, 280	IA1125	95.2	95.6	96.1
25	Cessna 650	CIT3	84.1	84.5	85.0
26	Falcon 200, 2000, 50/900, 7X	CNA750	101.1	101.3	101.7
29	Beech 1900, Dornier 328, Embraer 120	1900D	80.2	80.4	80.6
30	Saab 340	SF340	75.3	75.6	75.8
32	Boeing 727-100	727EM2	78.7	-	-
33	Beech 200, 300, 350, 90, Dehavilland DHC-6	DHC6	100.5	100.6	100.8
34	Boeing 737-200	737N17	76.9	-	-
35	Dehavilland DHC-8	DHC830	68.3	84.6	88.1
36	Airbus 319, 320, 321, Embraer 190	A319-131	90.9	91.3	91.7
37	Gulfstream V, 550, 650	GV	97.9	98.4	98.8
39	Gulfstream II	GIIB	86.5	-	-

Aircraft Type/Group		AEDT TYPE	Total Noise Exposure		
			2022	2030	2040
40	Cessna 750, IAI Galaxy, Hawker 4000, Dornier 328J	CNA750	99.2	99.6	100.1
41	Boeing 737-400, -700, -800	737400	99.4	99.8	100.2
42	Boeing 757	757RR	94.2	94.5	95.0
43	Embraer Phenom 300, Cessna 550 Bravo, Eclipse 500	CNA55B	98.4	98.4	98.8
44	Cessna 506XL	CNA560XL	99.9	100.3	100.8
45	Beech 400, Mitsubishi MU-300	MU3001	94.9	95.3	95.8
46	Cessna 680, 700	CNA680	95.7	96.1	96.6
47	Embraer 135, 145	EMB145	85.5	86.0	86.5
48	Bombardier Global Express, 5000	BD-700-1A10	96.9	97.3	97.8
49	Cessna 510, Embraer Phenom 100, Legacy 500	CNA510	78.0	86.3	86.7
50	Eclipse 500	ECLIPSE500	76.3	76.7	77.1
Military:					
2M	UC-35 (Cessna 560)	CNA560U	71.7	71.7	71.7
3M	C-21 (Lear 35)	LEAR35	79.6	79.6	79.6
5M	C-11 (Gulfstream II), T-38	LEAR25	93.5	93.5	93.5
14M	C-40, Boeing 757	DC9Q9	79.3	79.3	79.3
15M	Boeing 707	707	92.9	92.9	92.9
17M	Helicopters	S70	84.3	84.3	84.3
18M	C-130, V-22	C130	88.3	88.3	88.3
19M	Twin Engine Turboprop	CNA441	70.1	70.1	70.1
21M	Single Engine Piston Prop	SEPMIX	86.6	86.7	86.7
24	F-15, F-18, EA-6	F15E20	95.0	95.0	95.0
37M	C-37 (Gulfstream V)	GV	71.3	71.3	71.3
All civil aircraft except single piston			112.1	112.3	112.7
All civil aircraft			112.7	112.9	113.3
All military aircraft			99.5	99.5	99.5
All civil and military aircraft except single piston			112.3	112.5	112.9
All civil and military aircraft			112.9	113.1	113.5
Notes: AEDT = Aviation Environmental Design Tool					
Source: HMMH 2023					



Appendix E: Air Quality

Appendix E supplements and provides background information for the materials contained in Chapter 8.

Table of Contents

E.1 Emissions Modeling Tools	E-3
E.1.1 AEDT	E-3
E.1.2 MOVES.....	E-9
E.2 Regulatory Context	E-10
E.2.1 Status of Lead Regulations and Research	E-10
E.2.2 Ultrafine Particulate Matter and Black Carbon.....	E-13
E.2.3 Federal Mobile Source Emissions Standards and Regulations.....	E-15
E.2.4 Massachusetts Mobile Source Emissions Standards and Regulations.....	E-16
E.2.5 Massachusetts Climate Change and Greenhouse Gas Emissions Regulatory Framework.....	E-19
E.3 Motor Vehicle Emissions	E-21
E.4 Greenhouse Gas (GHG) Emissions Inventory	E-27
E.4.1 GHG Emissions Inventory Methodology	E-27
E.4.2 GHG Reductions Attributable to Sustainable Aviation Fuel.....	E-28



(This page intentionally left blank.)

E.1 Emissions Modeling Tools

Analyses of current conditions and modeling of future year scenarios for aircraft-related emissions in the *2022 ESPR* were completed using the FAA's Aviation Environmental Design Tool (AEDT) Version 3e. This updated tool replaced AEDT 2d which was used in the *2017 ESPR* and the older Emissions and Dispersion Modeling System (EDMS)¹ which was used in prior *ESPRs*.

E.1.1 AEDT

AEDT is the FAA's state-of-the-art tool for modeling noise and emissions at airports. It is based on the most currently available science for calculating aircraft-related emissions from main aircraft engines, auxiliary power units, and ground support equipment. As described in Chapter 7, AEDT is also used to assess and model airport noise, and it provides users the ability to model aircraft noise and emissions simultaneously. AEDT is updated regularly by the FAA to improve upon and add features to the user interface, in addition to adding new features in tandem with federal and state environmental standards.

In the years since the *2017 ESPR*, multiple new iterations of AEDT have been issued. FAA requires the current version of AEDT in effect at the time analysis commences². Some of the major changes to AEDT since the *2017 ESPR* that have updated and improved air quality emissions modeling include the following:³

- Ability to select alternative aircraft weights and reduced thrust departure profiles.
 - Aircraft emissions for criteria pollutants are only reported for aircraft operations occurring below the mixing height (3,000 ft) per the FAA Aviation Emissions and Air Quality Handbook.⁴ The ability to customize departure profiles leads to more accurate emissions reported as some aircraft may have a longer or shorter departure profile than AEDT defaults.
- Updated SO_x emission factors for ground support equipment.
- Updates to particulate matter (PM) calculations, including the use of measured non-volatile particulate matter (nvPM) from the ICAO Emissions Databank and revised methods for estimating volatile and non-volatile PM.
- Ability to generate a Ground Emissions Detail report.
 - This reporting feature does not provide new information; it simply allows the user to separately report GSE and APU emissions.⁵

¹ Additional info on EDMS can be found in the *2017 ESPR* in Chapter 8 and Appendix E.

² FAA AEDT Version Guidance Memo. https://aedt.faa.gov/Documents/AEDT_Version_Guidance_Memo.pdf

³ AEDT version 2d was released on September 27, 2017. Several upgrades were released since the *2017 ESPR*: AEDT 3b, (September 24, 2019), AEDT 3c (March 26, 2020, re-released June 19, 2020), AEDT 3d (March 29, 2021), AEDT 3e (May 9, 2022), AEDT 3f (December 15, 2023, after analysis for this *2022 ESPR* was underway)

⁴ FAA Emissions and Air Quality Handbook Version 3 Updated 1.

https://www.faa.gov/sites/faa.gov/files/regulations_policies/policy_guidance/envir_policy/airquality_handbook/Air_Quality_Handbook_Appendices.pdf

⁵ FAA AEDT 3e User Manual. https://aedt.faa.gov/Documents/AEDT3e_UserManual.pdf.

AEDT version 3e was used in the 2022 *ESPR* for both noise and air quality analysis. Appendix D of the 2022 *ESPR*, Table D-1, contains the data that were used in AEDT 3e to represent actual conditions at Hanscom Field in 2022, while Tables D-2 and D-3 contain 2030 and 2040 forecast conditions, respectively. These data include aircraft group, sector (i.e. civil or military), AEDT aircraft type, engine type, departures and landings by day and night in average annual day (AAD), annual landing takeoff cycles (LTOs), and annual touch and goes (TGOs).

AEDT version 3e introduced a number of new features, improvements, and updates including:

- AERMOD and AERMET update to version 21112
 - Aircraft thrust specific in-stack nitrogen dioxide (NO₂)/nitrogen oxide (NO_x) ratios
 - ALPHA NO₂ modeling options
 - Urban population option
 - ALPHA low wind parameters
- Improved performance and speed of AERMOD input file generation during dispersion modeling.
- Updates to emissions calculations for boiler/heater, fuel tank, sand salt pile, and solvent degreaser based on the latest EPA approved methodologies.

In addition to the major AEDT improvements listed above, every new iteration of AEDT includes updates to the airport and fleet databases, which includes updating airfield layout and aircraft emission rates to stay up to date with the most recent rules, regulations, and sustainability advances within the aviation industry.

Emission factors for specific aircraft change with each iteration of AEDT to account for phasing out older aircraft, introducing new aircraft, and complying with the most recent federally mandated air quality standards. Although the aircraft operating at Hanscom Field between the 2017 *ESPR* and 2022 *ESPR* may be similar, the emission factors for each aircraft within AEDT may be different; this leads to changes in calculated emissions between each *ESPR* as a function of not only changes in aircraft operations, but refinement of emission factors within AEDT.

Shown below are AEDT emission rates from the top 10 aircraft types modeled for Hanscom Field in AEDT 2d (used in the 2017 *ESPR*) and AEDT 3e (used in the 2022 *ESPR*). AEDT emission rates within the model are in grams of pollutant per kilogram of fuel used and are calculated as a function of fuel use (based upon the aircraft type and other specific airfield information input into the model).

The 10 most common aircraft operating at Hanscom Field, modeled in the 2017 and 2022 *ESPR*, are as follows:

1. General Aviation Single Engine Piston Fixed Pitch (GASEPF). This aircraft type represents 30 percent of overall flight operations for 2022.
2. Cessna 172 Skyhawk – a single engine piston aircraft (CNA172). This aircraft type represents 10 percent of all 2022 flight operations.
3. Bell 429 Global Ranger – a light twin-engine helicopter (B429). This aircraft type represents 6 percent of overall flight operations for 2022.
4. Composite Single Engine Piston Aircraft (COMSEP) This aircraft type represents 6 percent of overall flight operations for 2022.
5. Cessna Citation Excel – a midsize business jet (CNA560XL). This aircraft type represents 3 percent of overall flight operations for 2022.

6. Learjet 35 – a midsize business jet (LEAR35). This aircraft type represents 4 percent of overall flight operations for 2022.
7. Bombardier Challenger 600 Series- a midsize business jet (CL600). This aircraft type represents 3 percent of overall flight operations for 2022.
8. Cessna Citation X- a midsize business jet (CNA750). This aircraft type represents 3 percent of overall flight operations for 2022.
9. Bombardier Challenger 601- a midsize business jet (CL601). This aircraft type represents 3 percent of overall flight operations for 2022.
10. Gulfstream IV- a midsize business jet (GIV). This aircraft type represents 3 percent of overall flight operations for 2022.

Each of these aircraft types in the AEDT database is used to represent a group of specific aircraft models with similar characteristics. The FAA provides a list of pre-approved substitutions for analysts to reference. The GASEPF and COMSEP both represent several different small single-engine GA aircraft in the AEDT modeling. Emissions factors for each aircraft listed above are provided in **Tables E-1 through E-10** below. The three default emission factors utilized within the AEDT database are CO, Hydrocarbons, and NO_x. Hydrocarbons are a naturally occurring organic chemical compound composed of Hydrogen and Carbon atoms, and form the basis of crude oil, natural gas, and coal. Emissions of the remaining pollutants reported in the *2022 ESRP* are calculated within AEDT based upon aircraft type, fuel flow, and the CO, NO_x, and Hydrocarbon emission factors for each aircraft, respectively.

Table E-1. GASEPF Emission Factors

Pollutant	AEDT Version	Takeoff	Climb Out	Approach	Idle
CO	2d	1077.44	989.51	1221.51	1077.00
	3e	1077.44	989.51	1221.51	1077.00
	Difference	0.00	0.00	0.00	0.00
Hydrocarbons	2d	11.78	12.38	19.25	36.92
	3e	11.78	12.38	19.25	36.92
	Difference	0.00	0.00	0.00	0.00
NO _x	2d	2.19	3.97	0.95	0.52
	3e	2.19	3.97	0.95	0.52
	Difference	0.00	0.00	0.00	0.00

Table E-2. Cessna 172 Skyhawk (CNA172) Emission Factors

Pollutant	AEDT Version	Takeoff	Climb Out	Approach	Idle
CO	2d	1199.03	983.26	691.26	897.40
	3e	1077.44	989.51	1221.51	1077.00
	Difference	-121.59	6.24	530.25	179.60
Hydrocarbons	2d	10.00	8.16	9.70	49.20
	3e	11.78	12.38	19.25	36.92
	Difference	1.78	4.22	9.55	-12.28
NOx	2d	1.99	4.59	10.16	1.16
	3e	2.19	3.97	0.95	0.52
	Difference	0.20	-0.62	-9.22	-0.65

Table E-3. Bell 429 Global Ranger (B429) Emission Factors

Pollutant	AEDT Version	Takeoff	Climb Out	Approach	Idle
CO	2d	1.13	1.98	16.40	159.29
	3e	1.13	1.98	16.40	159.29
	Difference	0.00	0.00	0.00	0.00
Hydrocarbons	2d	0.16	0.05	3.04	299.37
	3e	0.16	0.05	3.04	299.37
	Difference	0.00	0.00	0.00	0.00
NOx	2d	9.58	9.33	8.30	1.52
	3e	9.58	9.33	8.30	1.52
	Difference	0.00	0.00	0.00	0.00

Table E-4. COMSEP Emission Factors

Pollutant	AEDT Version	Takeoff	Climb Out	Approach	Idle
CO	2d	1442.05	1470.90	1261.57	1293.70
	3e	1442.05	1470.90	1261.57	1293.70
	Difference	0.00	0.00	0.00	0.00
Hydrocarbons	2d	12.36	16.63	13.38	68.08
	3e	12.36	16.63	13.38	68.08
	Difference	0.00	0.00	0.00	0.00
NOx	2d	0.36	0.24	1.39	0.39
	3e	0.36	0.24	1.39	0.39
	Difference	0.00	0.00	0.00	0.00

Table E-5. Cessna Citation Excel (CNA560XL) Emission Factors

Pollutant	AEDT Version	Takeoff	Climb Out	Approach	Idle
CO	2d	2.27	2.51	7.11	36.35
	3e	9.07	4.52	29.52	108.63
	Difference	6.80	2.01	22.41	72.28
Hydrocarbons	2d	0.00	0.00	0.00	4.36
	3e	0.70	0.51	5.09	69.73
	Difference	0.70	0.51	5.09	65.37
NOx	2d	20.08	19.26	11.87	4.26
	3e	11.04	7.75	3.88	1.47
	Difference	-9.04	-11.51	-7.99	-2.79

Table E-6. Learjet 35 (LEAR35) Emission Factors

Pollutant	AEDT Version	Takeoff	Climb Out	Approach	Idle
CO	2d	1.13	1.62	15.56	47.70
	3e	1.13	1.62	15.56	47.80
	Difference	0.00	0.00	0.00	0.10
Hydrocarbons	2d	0.06	0.07	1.41	9.04
	3e	0.06	0.07	1.41	8.54
	Difference	0.00	0.00	0.00	-0.50
NOx	2d	19.15	16.02	6.92	3.72
	3e	19.15	16.08	6.90	3.50
	Difference	0.00	0.06	-0.02	-0.22

Table E-7. Bombardier Challenger 600 (CL600) Series Emission Factors

Pollutant	AEDT Version	Takeoff	Climb Out	Approach	Idle
CO	2d	0.58	0.59	5.98	30.90
	3e	0.58	0.59	5.98	30.90
	Difference	0.00	0.00	0.00	0.00
Hydrocarbons	2d	0.05	0.06	0.12	1.00
	3e	0.05	0.06	0.12	1.00
	Difference	0.00	0.00	0.00	0.00
NOx	2d	18.79	16.64	9.03	3.98
	3e	18.79	16.64	9.03	3.98
	Difference	0.00	0.00	0.00	0.00

Table E-8. Cessna Citation X (CNA750) Emission Factors

Pollutant	AEDT Version	Takeoff	Climb Out	Approach	Idle
CO	2d	0.50	0.57	4.18	37.05
	3e	0.50	0.57	4.18	37.05
	Difference	0.00	0.00	0.00	0.00
Hydrocarbons	2d	0.00	0.00	0.00	0.39
	3e	0.00	0.00	0.00	0.39
	Difference	0.00	0.00	0.00	0.00
NOx	2d	19.10	14.96	6.80	3.53
	3e	19.10	14.96	6.80	3.53
	Difference	0.00	0.00	0.00	0.00

Table E-9. Bombardier Challenger 601 (CL601) Emission Factors

Pollutant	AEDT Version	Takeoff	Climb Out	Approach	Idle
CO	2d	0.00	0.00	1.90	42.60
	3e	0.00	0.00	1.90	42.60
	Difference	0.00	0.00	0.00	0.00
Hydrocarbons	2d	0.06	0.06	0.13	3.95
	3e	0.06	0.06	0.13	3.95
	Difference	0.00	0.00	0.00	0.00
NOx	2d	11.61	10.14	6.86	3.82
	3e	11.61	10.14	6.86	3.82
	Difference	0.00	0.00	0.00	0.00

Table E-10. Gulfstream IV (GIV) Emission Factors

Pollutant	AEDT Version	Takeoff	Climb Out	Approach	Idle
CO	2d	0.50	0.95	2.89	24.40
	3e	0.50	0.95	2.89	24.40
	Difference	0.00	0.00	0.00	0.00
Hydrocarbons	2d	0.03	0.05	0.65	1.49
	3e	0.03	0.05	0.65	1.49
	Difference	0.00	0.00	0.00	0.00
NOx	2d	19.30	15.40	5.31	2.53
	3e	19.30	15.40	5.31	2.53
	Difference	0.00	0.00	0.00	0.00

As shown above, many of the emission factors have remained the same from AEDT 2d to 3e. It is evident that the business jets modeled in the 2017 and 2022 *ESPR* have higher NO_x and lower CO values in comparison to the single engine piston aircraft modeled. There is also a large increase in CO emission factors associated with the Cessna 172 Skyhawk during approach and idle operations but a decrease in NO_x emissions. The Cessna Citation also has increases in CO and hydrocarbon values but a decrease in NO_x emission rates.

As stated in Section 8.4.1, emission estimates for CO, CO₂, PM₁₀, and PM_{2.5} decreased between 2017 and 2022, while estimates for NO_x and VOC increased. The increase in NO_x and VOC (precursors to Ozone) emissions from the 2017 *ESPR* to the 2022 *ESPR* can primarily be attributed to the increase in business jet operations and the decrease in piston engine aircraft. Business jets emit more NO_x and VOCs than small piston engine aircraft, but jets emit less CO than piston engine aircraft. As shown in **Table E-11**, while the number of overall operations from 2017 to 2022 has decreased, the ratio of piston engine aircraft to business jets and narrow body aircraft has decreased; in turn, this produced an increase in NO_x and VOCs emissions. Emissions for all other criteria pollutants from aircraft operations have decreased since the 2017 *ESPR*.

Table E-11. Comparison of Average Annual Day Operations by Group

Group	2005	2012	2017	2022
Jets	91.6	67.1	85.8	105.3
Turboprops	19.4	9.1	21.8	20.7
Piston	336.8	356.1	225.1	182.9
Military	1.7	0.6	2.1	4.7
Helicopters	20.6	20.4	23.2	28.6
All Groups	470.1	453.2	358	342.1

It is also important to note that, as stated in Chapter 3, Hanscom Field has shown a historical decline in total operations while business jet activity has been showing a growth trend for the last decade. It is anticipated that the growth in business aviation will continue at Hanscom Field as quantified in the forecasts for the years 2030 and 2040. As shown in Table 8-7, there is a reduction of CO emissions from 2022 to 2030; this can primarily be attributed to the increase in business jet operations and reductions in single engine piston aircraft. Jet emissions emit less CO than piston engine aircraft, which accounts for the reduction in CO despite a forecasted growth in overall operations from 2022 to 2030.

E.1.2 MOVES

The MOTO Vehicle Emissions Simulator (MOVES) is the EPA's tool to estimate emissions of all mobile sources and to help generate mobile sector information for national inventories. MOVES is utilized by U.S. state and local agencies (outside of California) to develop emission inventories for a variety of regulatory purposes, including the development of state implementation plans (SIPS), transportation conformity determinations, general conformity determinations, and analysis required under the National Environmental Policy Act (NEPA).

MOVES4 is the most recent version of the EPA mobile sources model; it is utilized in the 2022 *ESPR* mesoscale traffic analysis. Since the implementation of MOVES2014a, utilized in the 2017 *ESPR*, the EPA

has released four additional primary versions of MOVES (between the release of MOVES2014a and MOVES4). Some of the key differences include:⁶

- Improved emission estimates for nonroad mobile sources.
- Updated outputs used in air quality modeling.
- Updated on-road exhaust emission rates, including heavy-duty greenhouse gas (GHG) emissions, Phase 2 standards, and Safer Affordable Fuel Efficiency (SAFE) rules.
- Updated on-road activity, vehicle populations and fuels.
- Revised inputs for hoteling and starts.
- Improved EV capabilities and EV fleet predictions.
- THC, NO_x, and energy consumption adjusted to account for fleet averaging with electric vehicles.
- Added hoteling for EV and CNG long-haul combination trucks.
- Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards.
- Revised 2023 and later model year Light-Duty Vehicle Greenhouse Gas Emissions Standards.

MOVES4 also includes updates to the emission rates for ammonia (NH₃), nitrous oxide (N₂O), NO_x, and NO₂. Previous emission rates for NH₃ were based upon studies conducted in 2001 with a limited number of vehicles utilized in the study. The rates included in MOVES4 are based on real-world measurements of more than 300,000 light-duty and heavy-duty vehicles, all with manufacture years between 1965 and 2018. The results of this study show a drastic increase in the emission rates of ammonia compared to previous iterations of MOVES. The same methodology was utilized by the EPA to improve emission rates for N₂O, NO_x, and NO₂, showing estimates of N₂O emissions to be much higher than in previous versions of MOVES in addition to estimating more NO and less NO₂ for a given quantity of NO_x emissions.⁷

E.2 Regulatory Context

This section describes relevant air quality regulations and programs at the state and federal levels in addition to the regulations discussed in Chapter 8.

E.2.1 Status of Lead Regulations and Research

The main producers of lead in the atmosphere are generated from industrial sources, including waste oil and solid waste incineration, iron and steel production, lead smelting, and battery and lead manufacturing. The lead content of motor vehicle emissions, which was the major source of air-borne lead in the past, has significantly declined with the widespread use of unleaded fuel. Low-lead fuel used in piston engine GA aircraft is still a source of airport-related lead in the atmosphere. Lead emissions can enter the body through inhalation or can be ingested via plants, water, and soil.

The most recent lead NAAQS were set in 2008 at 0.15 µg/m³, when the EPA revised the prior standard following a finding that serious health effects can occur with much lower levels of lead in the blood stream

⁶ <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockkey=P101861V.pdf>. Accessed February 12, 2024.

⁷ Latest Version of Motor Vehicle Emission Simulator (MOVES) <https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves>. Accessed February 12, 2024.

than previously identified.⁸ On September 16, 2016, the EPA issued a decision following review of the air quality criteria for lead, confirming the existing 2008 standards without revision. Periodic review of the standard is intended to protect public health, specifically protecting at-risk groups in the population, including children.

The EPA provided a summary of a full year of lead concentration data measured at 17 U.S. airports in January 2015. Nantucket Memorial Airport is the closest airport in proximity to Hanscom Field that was included in that study. Maximum three-month average concentrations at Nantucket airport were 0.01 $\mu\text{g}/\text{m}^3$, well below the NAAQS threshold of .15 $\mu\text{g}/\text{m}^3$. The study results show that, “For all but one airport (the Reid-Hillview airport) the [lead] design value is unchanged from the EPA’s 2013 Program Update on Airport Lead Monitoring, either because no more data were collected or because higher concentrations were not measured”. Because of the concentrations measured, four airports (all in California) will continue monitoring for lead.⁹

While levels of airborne lead in the United States have declined 99 percent since 1980, piston-engine aircraft still operate on leaded aviation gasoline. Piston engine aircraft are typically small aircraft that carry 2-10 passengers. Jet aircraft used for commercial transport do not operate on fuel containing lead.

In February 2020, the EPA released a technical update for “Reports on the Impact of Lead Emissions from Piston-Engine Aircraft on Air Quality Near U.S. Airports.” The update summarizes the results of studies utilizing EPA’s modeling and monitoring data and indicates that lead concentrations at and near airports are typically well below the lead NAAQS. It was concluded that at airports with more active piston-engine aircraft operations, there were only a select few airports where lead concentrations may be above the NAAQS for lead. It was also found that these maximum concentrations primarily occur within the fence line of the airport, mainly where the aircraft conduct pre-flight engine checks.¹⁰

On October 20, 2023, the EPA published a “Final Finding that Lead Emissions from Aircraft Engines that Operate on Leaded Fuel Cause or Contribute to Air Pollution that May Reasonably Be Anticipated to Endanger Public Health and Welfare.” With this determination, the EPA is now subject to propose regulatory standards for lead emissions from aircraft engines. The majority of aircraft that operate on leaded aviation gasoline are piston-engine aircraft. The FAA is also now subject to define standards for the composition or chemical or physical properties of aircraft fuel to control or eliminate aircraft lead emissions.¹¹

Hanscom Field is not identified as an airport of concern based on the FAA preliminary monitoring studies. The FAA continues to work with the aviation industry and the EPA to develop a viable, safe, and economical unleaded fuel replacement as part of the transition from leaded avgas.

Status of Lead-Free Avgas in the United States

In February 2022, aviation and petroleum industry leaders and the FAA began new initiative that outlines how the United States can safely eliminate the use of leaded aviation fuel by 2030 without adversely affecting the existing piston-engine aircraft operations. The new initiative is titled “Eliminate Aviation

⁸ National Ambient Air Quality Standards (NAAQS) for Lead (Pb). <https://www.epa.gov/lead-air-pollution/timeline-lead-pb-national-ambient-air-quality-standards-naaqs> Accessed September 17, 2023.

⁹ U.S. EPA. January 2015. *Overview: Airport Lead Monitoring Program*. <https://nepis.epa.gov/Exe/ZyPDF.cgi/P100LJDW.PDF?Dockey=P100LJDW.PDF>

¹⁰ <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100YG46.pdf>. Accessed February 12, 2024

¹¹ <https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-lead-emissions-aircraft>. Accessed Feb 12, 2024

Gasoline Lead Emissions” (EAGLE), a government-industry partnership that includes fuel producers, distributors, airport operators, communities that support GA airports, and environmental experts. The implementation of EAGLE is designed to:¹²

- “Identify at least one unleaded fuel acceptable for safe General Aviation fleet use.
- Minimize the safety and technical impacts associated with high-performance engines using unleaded fuels.
- Facilitate the increased production, distribution, and use of unleaded replacement fuels.
- Ensure that 100 [octane] low-lead fuel remains available during the transition to unleaded fuel.
- Establish policies that support airport infrastructure funding for unleaded fuel.
- Endorse plans that reduce or eliminate reliance upon leaded aviation fuels.”

As of September 2022, the FAA has approved the use of 100UL avgas produced by General Aviation Modifications, Inc. (GAMI). This represents the first approval of a high-octane unleaded fuel for GA aircraft and moves the industry a step closer to an unleaded future. The price for 100UL avgas is not yet determined but will likely be more than traditional avgas. GAMI estimates that 100UL will cost more than the currently used 100 Octane Low Lead (100LL). The price gap between 100UL and traditional leaded avgas is expected to close once 100UL production increases and the market adapts. GAMI notes that the price differential will most likely be offset by a reduction in engine maintenance costs when using 100UL as this fuel also helps aircraft engines remain cleaner and run more efficiently. As of this writing, it is still unknown exactly when 100UL will become a readily available resource at all airports.¹³

In September 2022, the FAA issued an expanded approved aircraft model list to GAMI for a 100 Octane unleaded fuel.¹⁴ Additionally, the FAA is also working closely with Swift Fuels on an approved model list for their iteration of 100 octane unleaded fuel.

Currently, the FAA has developed two pathways to obtain FAA authorization for the use of unleaded aviation gasoline: (1) “FAA fleet authorization process established by Congress in conjunction with the newly created Piston Aviation Fuels Initiative (PAFI)” and (2) “traditional FAA fleet type certification.”¹⁵

In March 2023, the FAA released a policy statement titled “Enabling the Use of Unleaded Aviation Gasoline in Piston Engine Aircraft and Aircraft Engines through the Piston Aviation Fuels Initiative (PAFI) Fleet Authorization Process.”¹⁶ The statement depicts a step-by-step process in which the FAA will authorize the use of qualified unleaded avgas in aircraft and aircraft engines.

Currently, it is necessary for airport operators to continue use of leaded avgas until unleaded avgas has a higher market share and more aircraft are approved to utilize the new fuel. Lead in avgas is utilized as a performance agent to keep piston engines from stalling. Aircraft will continue to become approved for unleaded avgas usage once the FAA deems the engine can safely operate without the need for the increased performance provided by lead. The Airport Cooperative Research Program (ACRP) has published guidance and a tool to inventory lead emissions at GA airports. The publications also present strategies that may be employed to reduce lead emissions and mitigate emissions impacts once they are quantified. This guidance is contained within two reports: *ACRP Report 133: Best Practices Guidebook for Preparing*

¹² FAA, “Building an Unleaded Future by 2030,” <https://www.faa.gov/unleaded>. Accessed February 12, 2024.

¹³ <https://www.aopa.org/news-and-media/all-news/2022/september/01/closer-to-an-unleaded-future> Accessed Feb. 15, 2024.

¹⁴ <https://drs.faa.gov/browse/excelExternalWindow/>. Accessed February 12, 2024.

¹⁵ FAA, “Building an Unleaded Future by 2030,” <https://www.faa.gov/unleaded>. Accessed February 12, 2024.

¹⁶ <https://drs.faa.gov/browse/excelExternalWindow/>, Accessed February 12, 2024.

Lead Emission Inventories from Piston-Powered Aircraft with the Emission Inventory Analysis Tool, published in 2015, and *Report 162: Guidebook for Assessing Airport Lead Impacts*, published in 2016.¹⁷

E.2.2 Ultrafine Particulate Matter and Black Carbon

To date, there are no federal or MassDEP air quality regulations that exist for ultrafine particles (UFPs); however, the EPA has begun to consider developing a standard for UFPs on the basis of unique physical attributes and potential human health hazards. UFPs are defined as air particles with diameters of less than 0.1 microns. On February 7, 2024, the EPA strengthened the NAAQS for Particulate Matter (PM). Particle or “soot” pollution is one of the most dangerous forms of pollution, and extensive science links particle pollution to a range of serious and sometimes deadly illnesses.

In 2023 as part of the TRB Annual and Mid-Year Meetings the following presentations on UFP research studies were given:

- Changes in Ultrafine Particle Concentrations near a Major Airport Following Reduced Transportation Activity during the COVID-19 Pandemic by Sean Mueller et al., 2022.
- Air Quality Impacts of Aviation Activities at a Mid-sized Airport in Central Europe by Ivonne Trebs et al., 2023.

The Mueller et al. study shows the effect of pandemic-related mobility changes on UFP counts in a near-airport community in the U.S. and distinguishes aviation-related and ground transportation source contributions. Notably, this study is an ASCENT supported project.

Additionally, the Trebs et al study performed at a European airport concludes that UFP counts at the studied airport decline at daytime despite significant flight activities during that same time period. The study states that this decline is due to efficient turbulent mixing (high wind speeds and solar radiation) during daytime, causing depletion of nucleation mode particle numbers whereas at nighttime there is a presence of stable nocturnal boundary layer, where pollutants are accumulated.

In 2021, as part of the Center for Air Climate and Energy Solutions (CACES), a team from the University of Washington and Virginia Tech developed the first national model estimate for airborne UFP concentrations. The model will ultimately lead to a better understanding of UFP effects on health and could one day impact air pollution policy.¹⁸

Zurich Airport, located in Switzerland, conducted a recent study to understand the UFP concentrations near the airport and how to monitor these types of particles. Results of the study were released in 2017; it determined that UFP concentrations vary greatly over time and space and are heavily affected by wind direction and speed. It determined that short-term monitoring is not sufficient due to high variability of particle concentration, and that long-term measurement is preferable to capture airport activity levels and weather changes over time, also ensuring that wind speed and direction is simultaneously captured.¹⁹

¹⁷ Airport Cooperative Research Program publications found at <http://www.trb.org/ACRP/ACRP.aspx>.

¹⁸ Provat K. Saha et al, High-Spatial-Resolution Estimates of Ultrafine Particle Concentrations across the Continental United States, *Environmental Science & Technology* (2021). DOI: 10.1021/acs.est.1c03237.

¹⁹ Flughafen Zürich AG, 2017. Ultrafine Particle Measurements at Zurich Airport. https://www.adra-bale-mulhouse.fr/wp-content/uploads/2021/07/PUF_Mesures_Zurich_201703.pdf. Accessed February 12, 2024.

Toronto Pearson International Airport released the results of its Air Quality and Human Health Risk Assessment (HHRA) Study in 2015. This study involved development of an emissions inventory and pollutant dispersion modeling for airport property and surrounding communities, to understand airport contributions. This information was used to assess the human health risks related to exposure to airport-related air pollutants, accounting for UFPs within assessment of PM_{2.5}. The HHRA study concluded that in some limited circumstances, predicted levels of certain air pollutants exceeded acceptable risk levels. However, the circumstances in which those levels were predicted to occur were based on exposure estimates that are highly unlikely in real-life (i.e. this scenario assumed the most sensitive populations were exposed to the highest measured pollutant levels on a consistent basis throughout their lifetime). The other circumstance in which predicted levels of certain air pollutants would exceed acceptable risk levels were based on very intermittent events. Ultimately, results show that the emissions from the airport do not represent a significant health risk.²⁰

A study performed by the University of Southern California demonstrated adverse health effects following exposure to airport-related and roadway traffic-related UFPs near Los Angeles International Airport. To understand the distinct health impacts associated with each source, a source apportionment analysis was conducted.²¹ The University of Washington conducted a Mobile Observations of Ultrafine Particles (MOV-UP) study of air traffic-related air quality impacts for communities located below and near the flight paths of Seattle-Tacoma International Airport. The findings show key differences exist in the particle size distribution and the black carbon (BC) concentration for roadway and aircraft features. These differences are important because they help distinguish between the spatial impact of roadway traffic and aircraft UFP emissions using a combination of mobile monitoring and standard statistical methods.²²

The FAA Center of Excellence for Alternative Jet Fuels & Environment (ASCENT)-funded ongoing project, *Project 18: Community Measurements of Aviation Emissions Contribution to Ambient Air Quality*, studies the impacts and distribution of UFPs specifically associated with arrival flight paths into Logan Airport. Boston University School of Public Health researchers, who designed and implemented new near-airport monitoring protocols, leads the study and intends to determine the impact of arriving aircraft on UFP concentrations. Researchers will utilize regression analysis to account for lags between flight activity and weather conditions, and their effect on UFP concentrations. Field monitoring and analysis for this study is ongoing. As of September 2021, over 200 hours of mobile air pollution data had been collected. Future work to be conducted with Project 18 includes analysis of mobile and stationary data.²³

In 2015, the Airport Cooperative Research Program (ACRP) published *Report 135: Understanding Airport Air Quality and Public Health Studies Related to Airports*. This report provides a concise review of air quality studies and related literature and identifies health impacts and risks in the airport air quality context. In relation to UFPs, the study concludes that based on reviewed public health literature, “ultrafine concentrations tend to be highly elevated near an airport (near runways) with persistence above background levels at distances of 600 meters downwind of an airport. As such, ultrafine [particulate

²⁰ Greater Toronto Airport Authority. August 2015. *Human Health Risk Assessment (HHRA) Report*. Accessed February 12, 2024 <https://cdn.torontopearson.com/-/media/project/pearson/content/community/environment/pdfs/full-hhra-report.pdf>

²¹ Habre, Rima et al. “Short-term effects of airport-associated ultrafine particle exposure on lung function and inflammation in adults with asthma.” *Environment international*, vol. 118 (2018): 48-59, doi:10.1016/j.envint.2018.05.031.

²² University of Washington, Department of Environmental & Occupational Health Sciences, *Mobile Observations of Ultrafine Particles: The MOV-UP study report*, December 2019, <https://deohs.washington.edu/sites/default/files/Mov-Up%20Report.pdf>. Accessed February 12, 2024

²³ FAA, “ASCENT Research Update,” September 15, 2021, <https://www.faa.gov/sites/aa.gov/files/2022-07/eeSC-Sep2021-ASCENTResearchUpdate.pdf>. Accessed February 12, 2024.

matter] generated by airports is suspected of having a broader impact than that generated by roadway vehicles.”²⁴

Black Carbon (BC) particles form as a result of incomplete combustion, particularly at the higher temperatures at which aircraft burn fuel. Therefore, BC emissions are common from aircraft. BC from aviation activities largely contributes to an increase in smaller particle concentrations (i.e., PM_{2.5} and UFPs). BC is known to have negative impacts on both human health and the environment.

According to the EPA, BC is associated with respiratory distress, cardiovascular disease, cancer, and birth defects. A 2009 study using air quality monitors near an airport showed that airports can contribute between 24 and 28 percent of total BC within 4 kilometers.²⁵ However, modeling studies, commonly used to ascertain the extent of impacts on human health and the environment have shown the level of contribution by an airport to be less, or between 2 and 5 percent. Research has been undertaken to determine whether monitoring or modeling BC is more effective for evaluating BC contributions from airports.²⁶

Currently, the FAA conducts research on BC through Project 41 within the ASCENT program. This project aims to bridge the gap between BC emission estimates at cruising altitude and assessed methods of mapping ground emissions to estimates of cruise emissions.²⁷

E.2.3 Federal Mobile Source Emissions Standards and Regulations

The EPA has enacted various vehicle emissions standards and fuel standards to improve air quality and reduce airborne pollutant emissions from mobile sources.

As described in Chapter 8, the Corporate Average Fuel Economy (CAFE) standards were enacted in 1975 with the intention of improving the average fuel economy of passenger cars and light trucks and of decreasing national fuel consumption. Today, the standards set fleet-wide average fuel economy requirements for automakers manufacturing passenger cars and light trucks, as well as medium and heavy-duty vehicles. The standards are regulated by the National Highway Traffic Safety Administration (NHTSA) and supported by EPA GHG standards.²⁸

In September 2022, the NHTSA announced the notice of intent to prepare an Environmental Impact Statement (EIS) for medium and heavy-duty vehicles produced after model year 2030, which was published in draft form in July 2023 for public comments. Additionally, as of July 28, 2023, the NHTSA announced a new proposal for CAFE and Heavy-Duty Pickup Vehicles (HDPUV) standards. NHTSA is proposing new CAFE standards for passenger cars and light trucks built in model years 2027–2032, and new fuel efficiency standards for heavy-duty pickup trucks and vans built in model years 2032–2035. Requiring an industry fleet-wide average of approximately 58 miles per gallon for passenger cars and light

²⁴ ACRP, *Report 135: Understanding Airport Air Quality and Public Health Studies Related to Airports, 2015*, <https://www.trb.org/Publications/Blurbs/172802.aspx>. Accessed February 12, 2024.

²⁵ Dodson R.E.; Houseman E.A.; Morin B.; Levy J.I. *An Analysis of continuous black carbon concentrations in proximity to an airport and major roadways*. Atmos. Environ. 2009, 43243764-3773. Accessed February 12, 2024.

²⁶ Arunachalam S.; Valencia A.; Yang D.; Davis N, Baek B.H.; Dodson R.E.; Houseman A.E.; Levy J.I.; *Comparing Monitoring-Based Approaches for Evaluating Black Carbon Contributions from a US Airport*. Air Pol. Mod. 2011, 619-623. Accessed Feb. 12, 2024.

²⁷ ASCENT, “Project 41, Aircraft Black Carbon Emissions,” <https://ascent.aero/partner-41/>. Accessed February 12, 2024.

²⁸ U.S. Department of Transportation. August 2014. *Corporate Average Fuel Economy (CAFE) Standards*. <https://www.transportation.gov/mission/sustainability/corporate-average-fuel-economy-cafe-standards>. Accessed Jan 2024

trucks in model year 2032, in turn, increasing fuel economy by 2 percent annually for passenger cars and 4 percent annually for light trucks. For heavy-duty pickup trucks and vans, this proposal will increase fuel efficiency by 10 percent each year.²⁹

On December 20, 2022, the EPA adopted a final rule titled “Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards.” This was set forth to strengthen current emission standards to help further reduce air pollution from motor vehicles. This includes pollutants that create ozone and particulate matter emissions from heavy-duty vehicles and engines effective in model years 2027 and beyond. The adoption of this rule includes new and more stringent emission factors that cover a wide range of heavy-duty engine operating conditions in comparison to today’s standards. This rule maintains consistency with President Biden’s Executive Order, “Strengthening American Leadership in Clean Cars and Trucks.” In addition, the final rule includes other limited amendments to the regulations that implement air pollutant emission standards for other sectors.³⁰

E.2.4 Massachusetts Mobile Source Emissions Standards and Regulations

MassDEP has enacted various emissions and fuel standards designed to improve air quality and reduce airborne pollutant emissions from mobile sources, such as the enhanced Motor Vehicle Emissions Inspection and Maintenance (I/M) Program. The program requires all vehicles to pass a vehicle safety inspection and vehicle emissions test annually. Massachusetts set up its emissions testing program with the intent of improving the air quality as well as the health of the citizens of Massachusetts. The program requires vehicles to pass an annual emissions test on vehicles with onboard diagnostic systems manufactured after the year 2008.³¹

As described in Chapter 8, the Commonwealth of Massachusetts has also adopted other state programs to reduce emissions from mobile sources, including the California Low Emissions Vehicle (LEV) program and the California Zero Emissions Vehicle (ZEV) program, as described below:

- The California Low Emissions Vehicle (LEV) program imposes emission limits that are more stringent than the Federal Motor Vehicle Control Program (FMVCP). The program requires that most new vehicles be equipped with certified advanced emission control systems, including passenger cars, light-duty trucks, and sport utility vehicles (1995 and newer). Massachusetts’ law requires the Commonwealth to adopt the stricter federal or California emission standards for motor vehicles.
- The California Zero Emissions Vehicle (ZEV) program, effective in 2007, requires an increasing percentage of new vehicles sold in Massachusetts to be certified to meet certain emissions limits. The MassDEP revised the ZEV program in 2009, requiring automobile manufacturers to comply with lower fleet average GHG emissions levels.

²⁹ NHTSA, “Corporate Average Fuel Economy,” <https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy>. Accessed January 2024.

³⁰ EPA, “Final Rule and Related Materials for Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards,” January 11, 2023, <https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-and-related-materials-control-air-pollution>. Accessed February 12, 2024.

³¹ Massachusetts Vehicle Check. <https://www.mavehiclecheck.com/motorists-basicinfo>. Accessed February 2024.

- Massachusetts recently updated the ZEV action plan in 2018 along with eight other states, reaffirming their commitment to ZEV implementation with a goal of 5 million more ZEVs on their collective roads by 2025.³²
- MassDEP finalized regulations that took effect on December 30, 2021, amending 310 CMR 7.40: Low Emission Vehicle (LEV) Program, to adopt California's:
 - Advanced Clean Trucks (ACT) regulation for medium- and heavy duty (MHD) vehicles.
 - Phase 2 GHG regulation for MHD engines and vehicles.
 - Heavy-Duty Omnibus regulation for heavy-duty engines and vehicles.
- In September 2022, MassDEP is proposing to require a one-time report from certain entities on their medium- and heavy-duty vehicle use. Massport is not required to report as it does not exceed 40 vehicles with a gross vehicle weight rating greater than 8,500 pounds.³³

These regulations and standards are intended to further reduce mobile source emissions while increasing the prevalence of alternative fuel vehicles such as hybrid, electric, and biodiesel vehicles in the fleet mix. Alternative fuel vehicles are more efficient, resulting in much lower emissions, compared to conventional gasoline and diesel vehicles. As these vehicles replace older, less efficient vehicles, emissions are expected to decrease.

As of August 8, 2023, Massachusetts has begun offering rebates for electric vehicles through their flagship MOR-EV program. The goal of this program is to reduce air pollution and greenhouse gas emissions while supporting greater adoption of electric vehicles across the Commonwealth by offering rebates to consumers (residents, corporations, and other entities) who register their on-road zero emissions vehicles in Massachusetts. MOR-EV provides rebates for purchase or lease of eligible battery electric vehicles and fuel-cell electric vehicles, including passenger cars and medium- and heavy-duty trucks and other vehicle types.

Some financial benefits associated with going electric and participating in the MOR-EV program are:

- \$3,500 dollars in rebates on new or used cars.
- Additional rebate of \$1,500 for trading in a qualifying vehicle.
- Rebates for new and used electric vehicles at time of purchase.³⁴

Diesel Engines

The EPA has adopted multiple tiers of emission standards for diesel engines. As of writing, the EPA continues to regulate on-road diesel fuel to utilize Ultra Low Sulfur Diesel (ULSD) and has adopted a comprehensive national program to reduce emissions from non-road diesel engines by engine and fuel controls to gain the greatest emission reductions.^{35,36}

³² Massachusetts Department of Environmental Protection. *Multi-State ZEV Action Plan: Accelerating the Adoption of Zero Emissions Vehicles*. 2018-2021. https://www.mass.gov/files/documents/2018/06/21/zevplan18_0.pdf. Accessed Feb. 12, 2024.

³³ <https://www.mass.gov/how-to/large-entity-reporting-requirement>. Accessed February 12, 2024.

³⁴ Massachusetts Offers Rebates for Electric Vehicles. <https://mor-ev.org/>. Accessed August 23, 2023.

³⁵ EPA, "Regulations for Emissions from Heavy Equipment with Compression-Ignition (Diesel) Engines," February 1, 2024, <https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-emissions-heavy-equipment-compression>. Accessed February 12, 2024.

³⁶ <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-U/part-1039>. Accessed February 12, 2024.

The Tier 4 exhaust emission standards were phased-in between 2008 and 2014 and were intended to cut air pollution emissions from both on-road and non-road diesel engines by over 90 percent. As part of these regulations, ULSD was to be manufactured containing no more than 15 parts per million (ppm) of sulfur content for on-road diesel vehicles was phased-in from 2006 to 2010.³⁷ To meet the Tier 4 emission standards, manufactures will begin to produce new up to date engines with advanced emission control technologies. Because onboard emission control technologies can be damaged and will become inaccurate due to sulfur, the EPA has also adopted new regulations for diesel fuel to decrease sulfur levels by more than 99 percent. The resulting ULSD has a maximum sulfur concentration of 15 ppm.

These diesel standards have helped to reduce harmful emissions from both on-road and non-road diesel sources by more than 90 percent since 1993 when the EPA began to regulate sulfur levels in diesel fuel.

Reformulated Gasoline and Vapor Recovery Systems

Massachusetts has adopted the federal regulations for reformulated gasoline, although it is not a required area under the Clean Air Act. Reformulated gasoline (RFG) is designed to produce lower emissions of toxic substances from evaporation and burn cleaner than conventional gasoline, resulting in improved air quality and less smog-forming pollutants.

In 2000, Phase II of the reformulated gasoline program went into effect, implementing more stringent standards.³⁸ In 2006, Massachusetts phased out the use of methyl tert-butyl ether (MTBE), a gasoline additive designed to boost octane levels, due to environmental and health concerns. MTBE was found in groundwater due to leaky underground tanks, leading to drinking water safety concerns, and resulting in legislation to substitute MTBE with ethanol. Currently, RFG is being blended with ethanol in Massachusetts.

The MassDEP Stage I Vapor Recovery Program is intended to prevent gasoline evaporation during fuel deliveries and while filling vehicles at gasoline dispensing stations. In January 2015, amendments to the program required that Stage II gasoline vapor recovery systems be decommissioned at gasoline dispensing stations starting on January 2, 2017. This regulation was based on the EPA rule that Stage II vapor recovery was no longer cost effective. In addition, Massachusetts finalized Stage I regulatory revisions requiring that gas dispensing facilities with Stage I systems must meet the California Air Resource Board requirements for Stage I Enhanced Vapor Recovery (CARB EVR), as well as maintain monitoring systems for vapor leaks.³⁹

In July 2022, MassDEP reminded Stage I facilities that they have until January 2, 2023, to:⁴⁰

- Install Stage I enhanced vapor recovery (EVR) equipment approved by the California air Resources Board (CARB), and
- Repair and/or replace “slip-on” spill buckets.

³⁷ EPA, “Diesel Fuel Standards and Rulemakings,” August 18, 2023, <https://www.epa.gov/diesel-fuel-standards/diesel-fuel-standards-and-rulemakings>. Accessed February 12, 2024.

³⁸ U.S. EPA. August 2018. “Reformulated Gasoline,” <https://www.epa.gov/gasoline-standards/reformulated-gasoline>. Accessed February 12, 2024.

³⁹ MassDEP. January 2015. *Fact Sheet: MassDEP’s Revised Stage I & II Regulations*. <https://www.mass.gov/files/documents/2016>. Accessed February 12, 2024.

⁴⁰ Commonwealth of Massachusetts, “MassDEP Stage I Vapor Recovery Program,” December 2022, <https://www.mass.gov/guides/massdep-stage-i-vapor-recovery-program>. Accessed February 12, 2024.

In December 2022, MassDEP adopted the revision to “310 CMR 7: Distribution of Motor Vehicle Fuel.” These revisions pertain primarily to Stage I enhanced vapor recovery systems and components that are approved for installation in Massachusetts.⁴¹

All Massport-owned gasoline underground storage tanks are equipped with Stage II vapor control. A survey of fixed based operators (FBOs) at Hanscom Field found that Jet Aviation has Stage I vapor recovery on their fuel storage tanks and Signature Flight Support has Stage I vapor recovery on both their Avgas and gasoline fuel tanks.

E.2.5 Massachusetts Climate Change and Greenhouse Gas Emissions Regulatory Framework

Massachusetts acknowledges climate change as an important environmental and economic issue and has taken a number of actions designed to address both the Commonwealth’s contribution to climate change as well as preparing for the anticipated effects of climate change. State regulatory actions addressing climate change include:

- The Massachusetts Climate Protection Plan, first developed in 2004, aimed to address GHG emissions and improve energy efficiency. The plan supported near-term actions to protect the climate, reduce pollution and energy demand, and to stimulate job growth through the development of sustainable energy resources. Massport was one of 15 state agencies and authorities that participated in development of the initial action plan.
- Massachusetts Global Warming Solutions Act (GWSA), which was signed into law in 2008, and established a comprehensive regulatory program to address climate change. The GWSA set targets for GHG emissions reductions of 10 to 25 percent by 2020 and 80 percent by 2050 compared to 1990 levels.⁴² To aid in implementing the GWSA, the MassDEP issued rules in December 2008 for mandatory GHG reporting requirements from a wide array of sources. The rule required certain facilities to register with the MassDEP by April 2009 and report, certify, and verify emissions annually starting in April 2010.
- Executive Order 569, signed by Governor Baker in 2016 to address climate change and the increasing threat of extreme weather events to the state’s economy.⁴³ The Order acknowledges that the transportation sector continues to be a significant contributor of GHG emissions in Massachusetts and is the only sector identified in the GWSA in which emissions have increased over time. The Order tasks transportation agencies with collaborating to develop regional policies aimed at reducing GHG emissions.

⁴¹ 310 CMR 7.24(3) Distribution of Motor Vehicle Fuel, <https://www.mass.gov/doc/310-cmr-7243-adopted-stage-i-enhanced-vapor-recovery-amendments/download>. Accessed February 12, 2024

⁴² Commonwealth of Massachusetts. 2008. *An Act Establishing the Global Warming Solutions Act*. <https://malegislature.gov/Laws/SessionLaws/Acts/2008/Chapter298>. Accessed September 5, 2023.

⁴³ Mass.gov. September 2016. *Governor Charlie Baker, Executive Order No. 569: Establishing an Integrated Climate Change Strategy for the Commonwealth*. <https://www.mass.gov/executive-orders/no-569-establishing-an-integrated-climate-change-strategy-for-the-commonwealth>. Accessed September 5, 2023.

- In September 2018, the state of Massachusetts adopted a Climate Adaptation Plan, which aims to mitigate climate impacts in tandem with hazard mitigation planning.⁴⁴
- In 2022, Massport Launched their roadmap to net zero emissions by 2031, a comprehensive plan to mitigate impacts to climate approximately 20 years ahead of federal-and state-mandated deadlines. Massport plans to improve energy efficiency in facilities, develop more renewable energy, invest in electric vehicles, and continue to expand their high- occupancy vehicle transportation program.⁴⁵
- On December 21, 2022, the Secretary of the Executive Office of Environmental Affairs released the Clean Energy and Climate Plan for 2050 (2050 CECP), which is defined as “the Commonwealth of Massachusetts’ comprehensive and aggressive plan to achieve Net Zero greenhouse gas emissions in 2050. The 2050 CECP highlights a broad suite of specific goals, strategies, policies, and actions to reduce statewide gross GHG emissions by at least 85 percent below the 1990 baseline level, and to conserve and enhance carbon sequestration on natural and working lands to help achieve Net Zero in 2050. The 2050 CECP charts out the way Massachusetts will achieve the emissions limit and sublimit in 2050 through building a future in which the heat in homes, power in vehicles, and the electric grid can all operate with minimum reliance on fossil fuels.”⁴⁶

In addition, the Massachusetts Executive Office of Energy and Environmental Affairs revised the “MEPA Greenhouse Gas Emissions Policy and Protocol” effective May 2010. The revised policy requires certain projects under MEPA review, not specific to this 2022 *ESPR*, to quantify potential annual GHG emissions for the baseline and preferred alternative. It requires analysis of project specific impacts and evaluation of possible mitigation measures intended to minimize or mitigate potential GHG emissions from the preferred alternative.

⁴⁴ Mass.gov. 2018. Massachusetts Integrated State Hazard Mitigation and Climate Adaptation Plan. <https://www.mass.gov/service-details/massachusetts-integrated-state-hazard-mitigation-and-climate-adaptation-plan> . Accessed September 5, 2023.

⁴⁵ Massport Commitment to Net Zero. <https://www.massport.com/environment/sustainability>. Accessed on January 11, 2024

⁴⁶ Commonwealth of Massachusetts, “Massachusetts Clean Energy and Climate Plan for 2050,” <https://www.mass.gov/info-details/massachusetts-clean-energy-and-climate-plan-for-2050> Accessed September 5, 2023

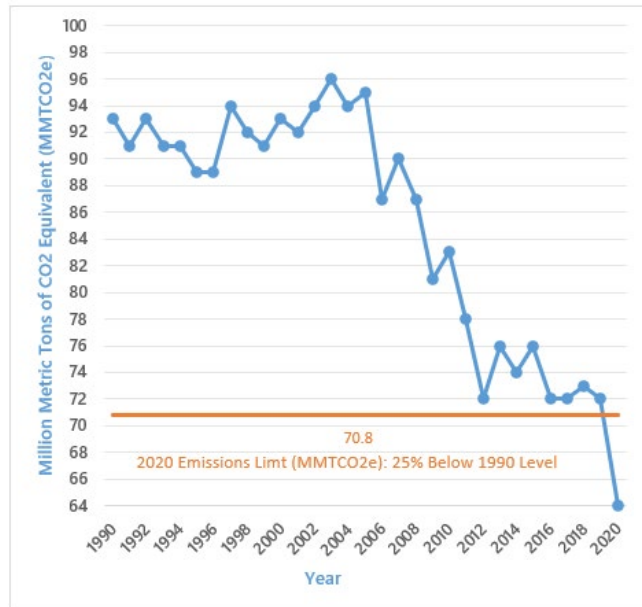
MassDEP recently conducted a state-wide GHG emissions inventory of data from 1990 to 2020, which determined that GHG emissions have decreased 31 percent from approximately 94 million metric tons, or MTs (MMT) of CO₂ equivalent to 63.9 MMT, as shown in **Figure E-1**. The decline in emissions is attributable to numerous factors including the economic downturn, changing fuel prices, and implementation of energy efficient measures. Based on the 2020 inventory for Massachusetts, the transportation sector comprised approximately 37 percent of the GHG emissions, followed by buildings at 35 percent, electric power at 20 percent, and Non-Energy at 8 percent.⁴⁷

While not required under the listed regulations to prepare an annual GHG emissions inventory, the Secretary's Scope Certificate for the 2022 *ESPR* included this as a component of the air quality analysis. The methodology used to develop the Hanscom Field GHG emissions inventory mirrors the methodology used by Massport for Logan Airport and is described in Chapter 8.

E.3 Motor Vehicle Emissions

For the 2022 *ESPR* analysis, the motor vehicle emission factor model MOVES4 was used.⁴⁸ The emission factors derived from the model were multiplied by average daily vehicle miles to calculate daily emissions. Emissions factors from the mesoscale traffic analysis done in MOVES4 are included as **Table E-2**, **Table E-3**, and **Table E-4** for existing conditions in 2022, as well as forecast conditions in 2030 and 2040, respectively.

Figure E-1. Massachusetts GHG Emissions



Source: <https://www.mass.gov/info-details/massachusetts-clean-energy-and-climate-metrics>

⁴⁷ Mass.gov. *Massachusetts greenhouse gas emission trends*. <https://www.mass.gov/info-details/massachusetts-clean-energy-and-climate-metrics>. Accessed February 12, 2024.

⁴⁸ EPA Latest Version of MOVES. <https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves>. Accessed February 12, 2024.



(This page intentionally left blank.)



Table E-2. 2022 Mesoscale Analysis – Hanscom Field Traffic

Link	Distance (miles)	AM Peak	PM Peak	ADT	Daily VMT	Speed (mph)	MOVES4 Vehicle Emissions Factors 2022 (g/mile)							
							CO	CO ₂	VOC	NO _x	PM ₁₀	PM _{2.5}	CH ₄	N ₂ O
Airport Road	0.32	0	0	0	0.00	30	1.18	236.90	0.0138	0.059	0.0009	0.0008	0.005	0.001
Bedford Road	0.35	4	7	70	24.5	35	1.05	224.93	0.0121	0.058	0.0009	0.0008	0.004	0.001
Concord Turnpike	0.60	14	25	250	150.00	40	0.94	217.21	0.0109	0.057	0.0009	0.0008	0.004	0.001
Hanscom Drive	0.65	75	89	890	578.50	30	1.18	236.90	0.0138	0.059	0.0009	0.0008	0.005	0.001
Hartwell Ave	1.24	10	5	100	124.00	40	0.94	217.21	0.0109	0.057	0.0009	0.0008	0.004	0.001
Hartwell Road	1.62	0	0	0.00	0.00	25	1.26	262.56	0.0158	0.063	0.0010	0.0009	0.005	0.002
Mass Ave	0.36	7	9	90	32.40	35	1.05	224.93	0.0121	0.058	0.0009	0.0008	0.004	0.001
Old Bedford Road 1	0.31	42	22	420	130.20	30	1.18	236.90	0.0138	0.059	0.0009	0.0008	0.005	0.001
Old Bedford Road 2	0.49	36	39	390	191.10	30	1.18	236.90	0.0138	0.059	0.0009	0.0008	0.005	0.001
Old Mass Ave	0.53	10	32	320	169.6	35	1.05	224.93	0.0121	0.058	0.0009	0.0008	0.004	0.001
Route 2A (1)	0.46	25	29	290	133.40	40	0.94	217.21	0.0109	0.057	0.0009	0.0008	0.004	0.001
Route 2A (2)	1.67	15	15	150	250.5	40	0.94	217.21	0.0109	0.057	0.0009	0.0008	0.004	0.001
Route 2A (3)	1.08	34	34	340	367.20	40	0.94	217.21	0.0109	0.057	0.0009	0.0008	0.004	0.001
Route 2A (4)	0.23	51	32	510	117.3	40	0.94	217.21	0.0109	0.057	0.0009	0.0008	0.004	0.001
Route 2A (5)	0.92	50	48	500	460.00	40	0.94	217.21	0.0109	0.057	0.0009	0.0008	0.004	0.001
Route 2A (6)	0.11	50	48	500	55	40	0.94	217.21	0.0109	0.057	0.0009	0.0008	0.004	0.001
Route 2A (7)	0.15	45	46	460	69.00	40	0.94	217.21	0.0109	0.057	0.0009	0.0008	0.004	0.001
Route 2A (8)	0.18	25	20	250	45	40	0.94	217.21	0.0109	0.057	0.0009	0.0008	0.004	0.001
Route 62 (1)	1.46	0	0	0	0.00	35	1.05	224.93	0.0121	0.058	0.0009	0.0008	0.004	0.001
Route 62 (2)	1.64	14	25	250	410	35	1.05	224.93	0.0121	0.058	0.0009	0.0008	0.004	0.001
Route 62 (3)	1.12	14	25	250	280.00	30	1.18	236.90	0.0138	0.059	0.0009	0.0008	0.005	0.001
Route 4/225 (1)	2.10	0	0	0	0	35	1.05	224.93	0.0121	0.058	0.0009	0.0008	0.004	0.001
Route 4/225 (2)	0.56	2	2	20	11.20	40	0.94	217.21	0.0109	0.057	0.0009	0.0008	0.004	0.001
Route 4/225 (3)	0.16	2	2	20	3.2	25	1.26	262.56	0.0158	0.063	0.0010	0.0009	0.005	0.002
South Road (1)	0.58	0	0	0	0.00	30	1.18	236.90	0.0138	0.059	0.0009	0.0008	0.005	0.001
South Road (2)	0.85	0	0	0	0	30	1.18	236.90	0.0138	0.059	0.0009	0.0008	0.005	0.001
Virginia Road	2.13	40	43	430	915.90	30	1.18	236.90	0.0138	0.059	0.0009	0.0008	0.005	0.001

Notes:

1. AM and PM peak volumes are Hanscom Traffic only.
2. ADT based on worst case AM or PM hours which represent approximately 10 percent of daily traffic.
3. Vehicle emissions in kg/yr were based on daily emissions and scaled by 365 days.
4. Total kg/1000 kg were divided by 1,000 for consistency with 2005 ESPR.



Table E-3. 2030 Mesoscale Analysis – Hanscom Field Traffic

Link	Distance (miles)	AM Peak	PM Peak	ADT	Daily VMT	Speed (mph)	MOVES4 Vehicle Emission Factors 2030 (g/mile)							
							CO	CO ₂	VOC	NO _x	PM ₁₀	PM _{2.5}	CH ₄	N ₂ O
Airport Road	0.32	0	0	0	0	30	0.82	209.80	0.00782	0.014	0.0007	0.0006	0.002	0.001
Bedford Road	0.35	9	9	90	31.5	35	0.73	199.24	0.00694	0.014	0.0006	0.0006	0.002	0.001
Concord Turnpike	0.6	22	29	290	174	40	0.66	192.45	0.00629	0.014	0.0006	0.0005	0.002	0.001
Hanscom Drive	0.65	113	99	1130	734.5	30	0.82	209.80	0.00782	0.014	0.0007	0.0006	0.002	0.001
Hartwell Ave	1.24	12	8	120	148.8	40	0.66	192.45	0.00629	0.014	0.0006	0.0005	0.002	0.001
Hartwell Road	1.62	11	13	130	210.6	25	0.87	232.51	0.00906	0.015	0.0007	0.0006	0.003	0.001
Mass Ave	0.36	10	3	100	36	35	0.73	199.24	0.00694	0.014	0.0006	0.0006	0.002	0.001
Old Bedford Road 1	0.31	43	28	430	133.3	30	0.82	209.80	0.00782	0.014	0.0007	0.0006	0.002	0.001
Old Bedford Road 2	0.49	43	43	430	210.7	30	0.82	209.80	0.00782	0.014	0.0007	0.0006	0.002	0.001
Old Mass Ave	0.53	12	6	120	63.6	35	0.73	199.24	0.00694	0.014	0.0006	0.0006	0.002	0.001
Route 2A (1)	0.46	29	35	350	161	40	0.66	192.45	0.00629	0.014	0.0006	0.0005	0.002	0.001
Route 2A (2)	1.67	14	18	180	300.6	40	0.66	192.45	0.00629	0.014	0.0006	0.0005	0.002	0.001
Route 2A (3)	1.08	48	38	480	518.4	40	0.66	192.45	0.00629	0.014	0.0006	0.0005	0.002	0.001
Route 2A (4)	0.23	57	47	570	131.1	40	0.66	192.45	0.00629	0.014	0.0006	0.0005	0.002	0.001
Route 2A (5)	0.92	56	52	560	515.2	40	0.66	192.45	0.00629	0.014	0.0006	0.0005	0.002	0.001
Route 2A (6)	0.11	56	52	560	61.6	40	0.66	192.45	0.00629	0.014	0.0006	0.0005	0.002	0.001
Route 2A (7)	0.15	44	49	490	73.5	40	0.66	192.45	0.00629	0.014	0.0006	0.0005	0.002	0.001
Route 2A (8)	0.18	25	37	370	66.6	40	0.66	192.45	0.00629	0.014	0.0006	0.0005	0.002	0.001
Route 62 (1)	1.46	4	4	40	58.4	35	0.73	199.24	0.00694	0.014	0.0006	0.0006	0.002	0.001
Route 62 (2)	1.64	21	29	290	475.6	35	0.73	199.24	0.00694	0.014	0.0006	0.0006	0.002	0.001
Route 62 (3)	1.12	22	27	270	302.4	30	0.82	209.80	0.00782	0.014	0.0007	0.0006	0.002	0.001
Route 4/225 (1)	2.1	0	0	0	0	35	0.73	199.24	0.00694	0.014	0.0006	0.0006	0.002	0.001
Route 4/225 (2)	0.56	4	6	60	33.6	40	0.66	192.45	0.00629	0.014	0.0006	0.0005	0.002	0.001
Route 4/225 (3)	0.16	4	6	60	9.6	25	0.87	232.51	0.00906	0.015	0.0007	0.0006	0.003	0.001
South Road (1)	0.58	0	0	0	0	30	0.82	209.80	0.00782	0.014	0.0007	0.0006	0.002	0.001
South Road (2)	0.85	4	6	60	51	30	0.82	209.80	0.00782	0.014	0.0007	0.0006	0.002	0.001
Virginia Road	2.13	54	55	550	1171.5	30	0.82	209.80	0.00782	0.014	0.0007	0.0006	0.002	0.001

Notes:

1. AM and PM peak volumes are Hanscom Traffic only.
2. ADT based on worst case AM or PM hours which represent approximately 10 percent of daily traffic.
3. Vehicle emissions in kg/yr were based on daily emissions and scaled by 365 days.
4. Total kg/1000 kg were divided by 1,000 for consistency with 2005 ESPR.



Table E-4. 2040 Mesoscale Analysis – Hanscom Field Traffic

Link	Distance (miles)	AM Peak	PM Peak	ADT	Daily VMT	Speed (mph)	MOVES4 Vehicle Emission Factors 2040 (g/mile)							
							CO	CO ₂	VOC	NO _x	PM ₁₀	PM _{2.5}	CH ₄	N ₂ O
Airport Road	0.32	0	0	0	0	30	0.43	194.05	0.00585	0.0025	0.0005	0.0004	0.002	0.001
Bedford Road	0.35	8	11	110	38.5	35	0.39	184.32	0.00520	0.0024	0.0004	0.0004	0.001	0.001
Concord Turnpike	0.6	25	33	330	198	40	0.35	178.07	0.00472	0.0025	0.0004	0.0004	0.001	0.001
Hanscom Drive	0.65	137	130	1370	890.5	30	0.43	194.05	0.00585	0.0025	0.0005	0.0004	0.002	0.001
Hartwell Ave	1.24	13	9	130	161.2	40	0.35	178.07	0.00472	0.0025	0.0004	0.0004	0.001	0.001
Hartwell Road	1.62	15	18	180	291.6	25	0.46	215.05	0.00678	0.0026	0.0005	0.0004	0.002	0.001
Mass Ave	0.36	7	4	70	25.2	35	0.39	184.32	0.00520	0.0024	0.0004	0.0004	0.001	0.001
Old Bedford Road 1	0.31	61	63	630	195.3	30	0.43	194.05	0.00585	0.0025	0.0005	0.0004	0.002	0.001
Old Bedford Road 2	0.49	61	39	610	298.9	30	0.43	194.05	0.00585	0.0025	0.0005	0.0004	0.002	0.001
Old Mass Ave	0.53	12	9	120	63.6	35	0.39	184.32	0.00520	0.0024	0.0004	0.0004	0.001	0.001
Route 2A (1)	0.46	54	41	540	248.4	40	0.35	178.07	0.00472	0.0025	0.0004	0.0004	0.001	0.001
Route 2A (2)	1.67	18	22	220	367.4	40	0.35	178.07	0.00472	0.0025	0.0004	0.0004	0.001	0.001
Route 2A (3)	1.08	114	48	1140	1231.2	40	0.35	178.07	0.00472	0.0025	0.0004	0.0004	0.001	0.001
Route 2A (4)	0.23	71	59	710	163.3	40	0.35	178.07	0.00472	0.0025	0.0004	0.0004	0.001	0.001
Route 2A (5)	0.92	66	71	710	653.2	40	0.35	178.07	0.00472	0.0025	0.0004	0.0004	0.001	0.001
Route 2A (6)	0.11	66	71	710	78.1	40	0.35	178.07	0.00472	0.0025	0.0004	0.0004	0.001	0.001
Route 2A (7)	0.15	54	62	620	93	40	0.35	178.07	0.00472	0.0025	0.0004	0.0004	0.001	0.001
Route 2A (8)	0.18	32	24	320	57.6	40	0.35	178.07	0.00472	0.0025	0.0004	0.0004	0.001	0.001
Route 62 (1)	1.46	7	8	80	116.8	35	0.39	184.32	0.00520	0.0024	0.0004	0.0004	0.001	0.001
Route 62 (2)	1.64	31	37	370	606.8	35	0.39	184.32	0.00520	0.0024	0.0004	0.0004	0.001	0.001
Route 63 (3)	1.12	25	33	330	369.6	30	0.43	194.05	0.00585	0.0025	0.0005	0.0004	0.002	0.001
Route 4/225 (1)	2.1	0	0	0	0	35	0.39	184.32	0.00520	0.0024	0.0004	0.0004	0.001	0.001
Route 4/225 (2)	0.56	4	6	60	33.6	40	0.35	178.07	0.00472	0.0025	0.0004	0.0004	0.001	0.001
Route 4/225 (3)	0.16	4	6	60	9.6	25	0.46	215.05	0.00678	0.0026	0.0005	0.0004	0.002	0.001
South Road (1)	0.58	0	0	0	0	30	0.43	194.05	0.00585	0.0025	0.0005	0.0004	0.002	0.001
South Road (2)	0.85	5	6	60	51	30	0.43	194.05	0.00585	0.0025	0.0005	0.0004	0.002	0.001
Virginia Road	2.13	48	35	480	1022.4	30	0.43	194.05	0.00585	0.0025	0.0005	0.0004	0.002	0.001

Notes:

1. AM and PM peak volumes are Hanscom Traffic only.
2. ADT based on worst case AM or PM hours which represent approximately 10 percent of daily traffic.
3. Vehicle emissions in kg/yr were based on daily emissions and scaled by 365 days.
4. Total kg/1000 kg were divided by 1,000 for consistency with 2005 ESPR.



Appendix E

(This page intentionally left blank.)

E.4 Greenhouse Gas (GHG) Emissions Inventory

The first airport-wide GHG emissions inventory for Hanscom Field was done for the 2017 *ESPR*, with the intent that it would be used as a baseline to measure and compare GHG emissions in future *ESPRs*.

E.4.1 GHG Emissions Inventory Methodology

Airport GHG emissions are calculated in much the same way as criteria pollutants, through the use of input data such as activity levels or material throughput rates (i.e., fuel usage, Vehicle Miles Traveled (VMT), electrical consumption) that are applied to appropriate emission factors (i.e., in units of GHG emissions per gallon of fuel). In this case, the input data were either based on Massport records, or data and information derived from the latest version of the FAA AEDT (AEDT 3e). **Table E-5** summarizes the data and information used in the 2022 GHG inventory.

Table E-5. Hanscom Field GHG Inventory Input Data and Information for 2022

Source Description	Activity	Fuel Type	Value	Unit
Aircraft				
Tenant – Mobile	Aircraft – Ground (Taxi and Idle)	Jet A	702,924	gal
		AvGas	20,641	gal
	Aircraft – Ground to 3000 ft. (Mixing Height)	Jet A	1,634,709	gal
		AvGas	92,228	gal
	Aircraft – Total	Jet A	2,337,633	gal
		AvGas	112,869	gal
Aircraft Support Equipment				
Massport – Mobile	GSE	Propane Gas	151	gal
Tenant – Mobile	GSE	Propane Gas	96	gal
	GSE	Gasoline	10,065	gal
	GSE	Diesel	18,467	gal
Stationary – Boilers/Heaters/Generators				
Massport - Stationary	Boilers/Heaters	Natural Gas	3,070.5	MMBtu
Tenant - Stationary	Boilers/Heaters	Natural Gas	28,856	MMBtu
	Boilers/Heaters	Diesel	N/A	gal
	Emergency Generators	Diesel	392	gal
	Emergency Generators	Diesel	N/A	hours
Off-Airport Vehicle Use				
Massport - Mobile	Motor Vehicles - Employee Commute	Vehicle Miles Traveled	591,959	miles
Tenant - Mobile	Motor Vehicles - Employee Commute	Vehicle Miles Traveled	4,294,996	miles
Public	Motor Vehicles	Vehicle Miles Traveled	1,485,250	miles
Electrical Consumption				
Massport Electricity	Electricity Consumption		1,359,936.5	kWh
Tenant Electricity	Electricity Consumption		5,966,047.59	kWh

Emission factors utilized in this analysis were obtained from the U.S. Energy Information Administration, the Intergovernmental Panel on Climate Change (IPCC), EPA’s MOVES, and the most recent version of EPA’s GHG Emission Factors Hub (March 2018).^{49,50,51,52} Table E-6 presents emission factors for carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), and carbon dioxide equivalent (CO₂e) for 2022.

Table E-6. GHG Emissions Factors for 2022

Sources	Fuel	CO ₂	N ₂ O	CH ₄	CO ₂ e	Unit
Aircraft	Jet A	21	0.0007	0	21	lb/gallon
	AvGas	18	0.0024	0.02	19	lb/gallon
Ground Support Equipment/ Auxiliary Power Units	Propane	13	0.0020	0.001	13	lb/gallon
	Gasoline	19	0.0024	0.002	20	lb/gallon
	Diesel	23	0.0026	0.004	23	lb/gallon
Stationary/Portable	Natural Gas	117	0.0022	0.000	118	lb/MMBtu
	Diesel - Generators by Hour	0	0	0	1.15	lb/hp-hour
	Diesel	23	0.0026	0.004	23	lb/gallon
Motor Vehicles	Composite - Employee Commuting	228	0.0013	0.0013	229	g/mile
	Composite - Public Owned/ Controlled Roadway Use	228	0.0013	0.0013	229	g/mile
Electrical Consumption	Electricity	528	0.074	0.01	528	lb/kWh

E.4.2 GHG Reductions Attributable to Sustainable Aviation Fuel

The equation utilized to quantify the emissions reduction as a result of SAF fuel adoption at Hanscom Field is shown below.⁵³

$$ER = FCF \times \left[MS \times \left(1 - \frac{LS_f}{LC} \right) \right]$$

To maintain consistency with the Logan Airport 2022 *ESPR*, the amount of SAF available to Hanscom Field in the future is calculated using the projected percentage published by the FAA (approximately 10 percent

⁴⁹ IPCC Guidelines for National Greenhouse Gas Inventories, Vol 2, 2006, www.ipccnggip.iges.or.jp/public/2006gl/index.html. Accessed February 12, 2024.

⁵⁰ U.S. Energy Information Administration, Voluntary Reporting of Greenhouse Gases Program. Fuel and Energy Source Codes and Emission Coefficients, www.eia.doe.gov/oiaf/1605/coefficients.html. Accessed February 12, 2024.

⁵¹ EPA, GHG Emissions Factors Hub (September 2023) https://www.epa.gov/system/files/documents/2023-03/ghg_emission_factors_hub.pdf. The most recent version of the Emission Factors Hub includes updates to emission factors for stationary and mobile combustion sources, new electricity emission factors from NEWE NPCC New England and the IPCC Fourth Assessment Report (AR4). Accessed February 12, 2024.

⁵² U.S. Environmental Protection Agency, MOVES Emissions Model, <http://www.epa.gov/otaq/models/moves/>. Accessed February 12, 2024.

⁵³ ICAO, An Overview of CORSIA Eligible Fuels (CEF), https://www.icao.int/environmental-protection/Documents/EnvironmentalReports/2019/ENVReport2019_pg228-231.pdf. Accessed February 12, 2024.

of all aircraft operations by 2030).⁵⁴ The emission inventory calculated by AEDT for the 2030 forecast estimates that the total Jet-A fuel burn at Hanscom field in 2030 will be approximately 9,220 tons. Assuming the 10 percent replacement rate, approximately 922 tons of JET-A fuel would be replaced with SAF in 2030. For purposes of this 2022 *ESPR*, the analysis assumes that all SAF available at Hanscom Field will be produced from used cooking oil feedstocks which has an LS_f value of 13.69. The JET-A fuel it is assumed to partially replace has a Fuel Conversion Factor (FCF) of 3.16.

$$ER = 3.16 \times \left[922 \text{ Tons of SAF} \times \left(1 - \frac{13.9}{89} \right) \right]$$

$$ER = 2,458 \text{ Tons } CO_2$$

$$ER = 2,230 \text{ MT } CO_2$$

As shown in the equation above, in forecast year 2030, it is estimated that an additional 2,230 metric tons of CO_2 could be reduced with the adoption of SAF.

⁵⁴ FAA, Sustainable Aviation Fuels (SAF), March 22, 2022, https://www.faa.gov/sites/faa.gov/files/2022-03/508.20220322_1545_Brown_Oldani_SAF_Update_v04.pdf. Accessed February 12, 2024.



(This page intentionally left blank.)



Appendix F: Wetlands and Rare Species



(This page intentionally left blank.)



Natural Heritage & Endangered Species Program

www.mass.gov/nhesp

Massachusetts Division of Fisheries & Wildlife

Blanding's Turtle *Emydoidea blandingii*

State Status: **Threatened**
Federal Status: **None**

DESCRIPTION: The Blanding's Turtle is a mid-sized turtle ranging between 16 and 22 cm (6-9 in.) in shell length. Its high-domed carapace (top shell) is dark and covered with pale yellow flecking. The lower shell (plastron) is yellow with large black blotches on the outer posterior corner of each scute (scale). The plastron is hinged, allowing movement; however, the shell does not close tightly. In older individuals, the entire plastron may be black. The most distinguishing feature is its long yellow throat and chin, which makes it recognizable at a distance. Males have slightly concave plastrons; females have flat plastrons. The tails of males are thicker and their cloacal opening (the common orifice of the digestive, reproductive and urinary systems) is located beyond the edge of the carapace. Hatchlings have a brown carapace and brown to black plastron, and range between 3.4 and 3.7 cm (1.3-1.5 in.) in length.

SIMILAR SPECIES: This species could be confused with the Eastern Box Turtle (*Terrapene carolina*). The Eastern Box Turtle can have a yellow chin, but lacks the yellow throat and neck. Box Turtles are smaller, 10-18 cm (4-7 in.) in shell length. In addition, the Box Turtle has a prominent mid-line ridge (keel) on the carapace,

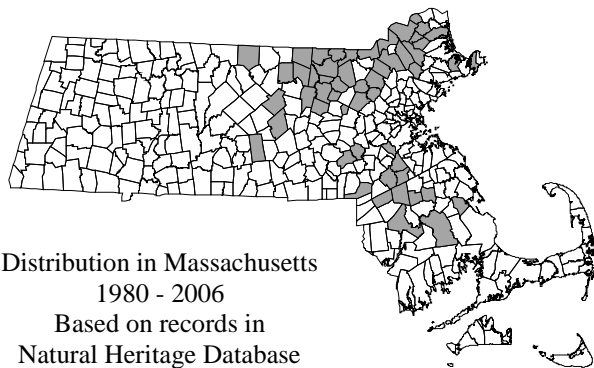


Photo by Susan Speaks

which is absent on Blanding's Turtles. The Blanding's Turtle may also be confused with the Spotted Turtle. However, the Spotted Turtle is much smaller, 3.5-4.5 inches in length and has very distinct round yellow spots.

HABITAT IN MASSACHUSETTS: Blanding's Turtles use a variety of wetland and terrestrial habitat types. Blanding's Turtles have been observed in seasonal pools, marshes, scrub-shrub wetlands, and open uplands (Sievert et al. 2003). Habitat use appears to vary according to the individual and the amount of precipitation, with more upland utilization during dry years (Joyal et al. 2001). Wetlands are used for overwintering during their inactive season (Nov-Mar).

RANGE: The Blanding's Turtle is found primarily in the Great Lakes region, extending to Kansas. Several smaller, disjunct populations occur in the East: in southern Nova Scotia, in an arc extending from eastern Massachusetts through southeastern New Hampshire to southern Maine, and in the lower Hudson Valley of New

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Massachusetts Division of Fisheries & Wildlife

1 Rabbit Hill Rd., Westborough, MA; tel: 508-389-6300; fax: 508-389-7890; www.mass.gov/dfw

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form, as these donations comprise a significant portion of our operating budget.

www.mass.gov/nhesp

York. These populations (with the exception of those in New Hampshire) are all listed as Threatened or Endangered at the state or provincial level.

LIFE CYCLE & BEHAVIOR: Blanding's Turtles overwinter in organic substrate in the deepest parts of marshes, ponds, and, occasionally, vernal pools. Some individuals overwinter under hummocks in red maple or highbush blueberry swamps. Upon emergence from overwintering, Blanding's Turtles often leave permanent wetlands and move overland to vernal pools and scrub-shrub swamps, where they feed and mate. It is during the summer months that females estivate in upland forest or along forest/field edges. At night and during periods of hot weather, Blanding's Turtles retreat to "forms." These small terrestrial shelters are found beneath leaf litter, in the grass, or under logs or brush, located up to 110 m (361 ft) from the nearest wetland. They are called "forms" because when the turtle leaves them, they retain the shape of the turtle's shell.

Blanding's Turtles are omnivores, eating both plants and animals. They eat while on land and in the water. The animals Blanding's Turtles are known to eat, either alive or as carrion, consist of pulmonate snails, crayfish, earthworms, insects, golden shiners, brown bullheads, and other small vertebrates. Vernal pools are an important source of many of these prey items. The plants that Blanding's Turtles have been known to eat include coontail, duckweed, bulrush, and sedge.

Courtship and mating takes place during the spring and early summer and typically occurs in water. Baker and Gillingham (1983) reported that in semi-natural conditions male Blanding's Turtles exhibit a variety of behaviors during mating including: chasing, mounting, chinning, gulping, swaying, violent swaying, and snorkeling. Chinning occurs after the male is mounted; if the female moves forward, the male will start gulping (taking in water and expelling it over the female's head). Gulping is typically followed by swaying and escalates to violent swaying if the female remains motionless.

Females will remain in wetland or vernal pool habitat until they begin nesting. The majority of nesting occurs in June in open areas with well-drained loamy or sandy soils, such as dirt roads, powerline right-of-ways, residential lawns, gravel pits, and early successional fields. Female Blanding's Turtles reach sexual maturity at 14-20 years of age (Congdon et al. 1993; Congdon

and van Loben Sels, 1993) and may travel great distances, often more than 1 km (3280 ft), to find appropriate nesting habitat (Grgurovic and Sievert, 2005). Females typically begin nesting during the daylight and continue the process until after dark.

Blanding's Turtles display temperature-dependent sex determination; eggs incubated below a pivotal temperature that lies between 26.5°C and 30°C (79.7-86°F) produce males, and higher temperatures produce females (Ewert and Nelson 1991). Typical clutch size ranges from 10 to 12 eggs. Hatchlings emerge in the late August and September. The typical size of a hatchling is about 3.5 cm (1.4 in.) and 10 g (0.35 oz).

THREATS: Blanding's Turtles are particularly vulnerable because they travel very long distances during their active season, do not reproduce until late in life (14-20 yrs), and have low nest and juvenile survivorship. These traits make them extremely sensitive to even a 1-2% increase in adult mortality. Roads are the primary cause of adult mortality. Blanding's Turtles travel to multiple wetlands throughout a single year (typically 3-6 wetlands) and adult females travel to nesting habitats, crossing roads in the process.

As this turtle is relatively difficult to study, it is not known how great a decline this species has experienced. In Massachusetts, few nesting sites are currently known and a variety of factors are attributed to this species' low numbers. Habitat loss, degradation, and fragmentation (i.e., roads) are driven by human activities such as commercial and residential expansion. Other threats include illegal collection, unnaturally inflated rates of predation in suburban and urban areas, agricultural and forestry practices, and natural succession (i.e., loss of open nesting habitat).

MANAGEMENT RECOMMENDATIONS: Blanding's Turtle habitat needs to be assessed and prioritized for protection based on the extent, quality, and juxtaposition of habitats and their predicted ability to support self-sustaining populations of Blanding's Turtles, using a turtle habitat model developed by UMass and NHESP records. Other considerations should include the size and lack of fragmentation of both wetland and upland habitats, and proximity and connectivity to other relatively unfragmented habitats, especially within existing protected open space.

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form, as these donations comprise a significant portion of our operating budget.

Given limited conservation funds, alternatives to outright purchase of conservation land are an important component to the conservation strategy. These can include Conservation Restrictions (CRs) and Agricultural Preservation Restrictions (APRs). However, these incur long-term monitoring costs. Another method of protecting large blocks of land is through the regulatory process by allowing the building of small or clustered roadside developments in conjunction with the protection of large areas of unimpacted land.

Habitat management and restoration guidelines should be developed and implemented in order to create and/or maintain consistent access to nesting habitat at key sites. This is most practical on state-owned conservation lands (i.e., DFW, DCR). However, educational materials should be made available to guide private land owners on appropriate management practices for Blanding's Turtle habitat.

Alternative wildlife corridor structures should be considered at strategic sites on existing roads. In particular, appropriate wildlife corridor structures should be considered for bridge and culvert upgrades and road-widening projects within Blanding's Turtle Habitat. Efforts should be made to inform Mass Highways of key locations where these measures would be most effective for turtle conservation.

Educational materials are being developed and distributed to the public in reference to the detrimental effects of keeping our native turtles as pets (an illegal activity that reduces reproduction in the population), releasing pet store turtles (which could spread disease), leaving cats and dogs outdoors unattended (particularly during the nesting season), feeding suburban wildlife (which increases numbers of natural predators to turtles), and driving ATVs in nesting areas from June-October. People should be encouraged, when safe to do so, to help Blanding's Turtles cross roads (always in the direction the animal was heading); however, turtles should never be transported to "better" locations. They will naturally want to return to their original location and likely need to traverse roads to do so.

Increased law enforcement is needed to protect our wild populations, particularly during the nesting season when poaching is most frequent and ATV use is common and most damaging.

Forestry Conservation Management Practice guidelines should be applied on state and private lands to avoid direct turtle mortality. Seasonal timber harvesting restrictions apply to Blanding's Turtle habitat and to stands with wetlands. Motorized vehicle access to timber harvesting sites in Blanding's Turtle habitat is restricted to times when the Blanding's Turtle is overwintering. Hand felling in wetland areas is required in order to maintain structural integrity of overwintering sites.

Finally, a statewide monitoring program is needed to track long-term population trends in Blanding's Turtles.

ACTIVE PERIOD

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

REFERENCES:

Baker, R.E., and J.C. Gillingham. 1983. An analysis of courtship behavior in Blanding's turtle, *Emydoidea blandingi*. *Herpetologica* 39:166-173.

Congdon, J.D., A.E. Dunham, and R.C. van Loben Sels. 1993. Delayed sexual maturity and demographics of Blanding's turtles (*Emydoidea blandingii*)—Implications for conservation and management of long-lived organisms. *Conservation Biology* 7, 826–833.

Congdon, J.D., and R.C. van Loben Sel., 1993. Relationships of reproductive traits and body-size with attainment of sexual maturity and age in Blanding's turtles (*Emydoidea blandingii*). *Journal of Evolutionary Biology* 6, 547–557.

Ewert, M.A., and C.E. Nelson. 1991. Sex determination in turtles: Diverse patterns and some possible adaptive values. *Copeia* 1991:50-69.

Ernst, C.H., J.E. Lovich, and R.W. Barbour. 1994. *Turtles of the United States and Canada*. Smithsonian Institution Press, Washington and London.

Grgurovic, M., and P.R. Sievert. 2005. Movement patterns of Blanding's Turtles (*Emydoidea blandingii*) in the suburban landscape of eastern Massachusetts. *Urban Ecosystems* 8:201-211.

Joyal, L.A., M. McCollough, and J.M.L. Hunter. 2000. Population structure and reproductive ecology of Blanding's Turtle (*Emydoidea blandingii*) in Maine, near the Northeastern edge of its range. *Chelonian Conservation and Biology* 3:580-588.

Sievert, P.R., B.W. Compton, and M. Grgurovic. 2003. Blanding's Turtle (*Emydoidea blandingii*) conservation plan for Massachusetts. Report for Natural Heritage and Endangered Species Program. Westborough, MA.

Updated 2015

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form, as these donations comprise a significant portion of our operating budget.



Natural Heritage & Endangered Species Program

www.mass.gov/nhesp

Massachusetts Division of Fisheries & Wildlife

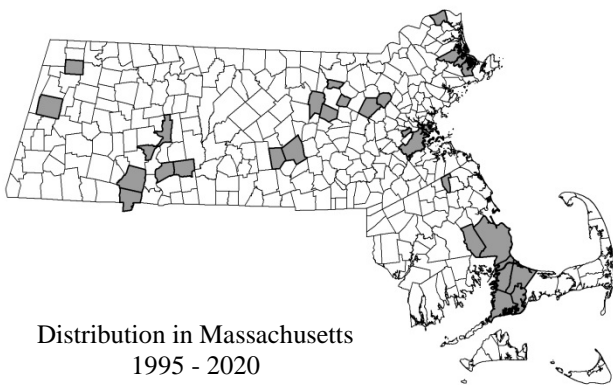
Eastern Meadowlark *Sturnella magna*

State Status: **Special Concern**
Federal Status: **None**

SPECIES DESCRIPTION: The Eastern Meadowlark is a ground-nesting passerine of grasslands, pastures and hayfields. The species breeds throughout the eastern United States, Canada's Maritime Provinces, the desert Southwest, and nearly continuously south to Panama. Individuals breeding in the northern limits of the range are short-distance migrants, often congregating in small flocks and moving south to areas free of snow. The Eastern Meadowlark, like many other birds associated with grasslands, has seen its population fluctuate widely in response to trends in agricultural practices.

DISTRIBUTION AND ABUNDANCE: Eastern Meadowlarks are thinly distributed across the state, and specific breeding sites have become increasingly scarce. They are largely restricted to large grasslands provided by municipal or military airfields, agriculture, or Wildlife Management Areas. Scattered pairs also can be found at other large grasslands throughout the state.

Breeding Bird Survey data shows that the global population of Eastern Meadowlark has experienced an overall decline of 3.3% annually from 1966 to 2015.



Distribution in Massachusetts
1995 - 2020
Based on records in the
Natural Heritage Database

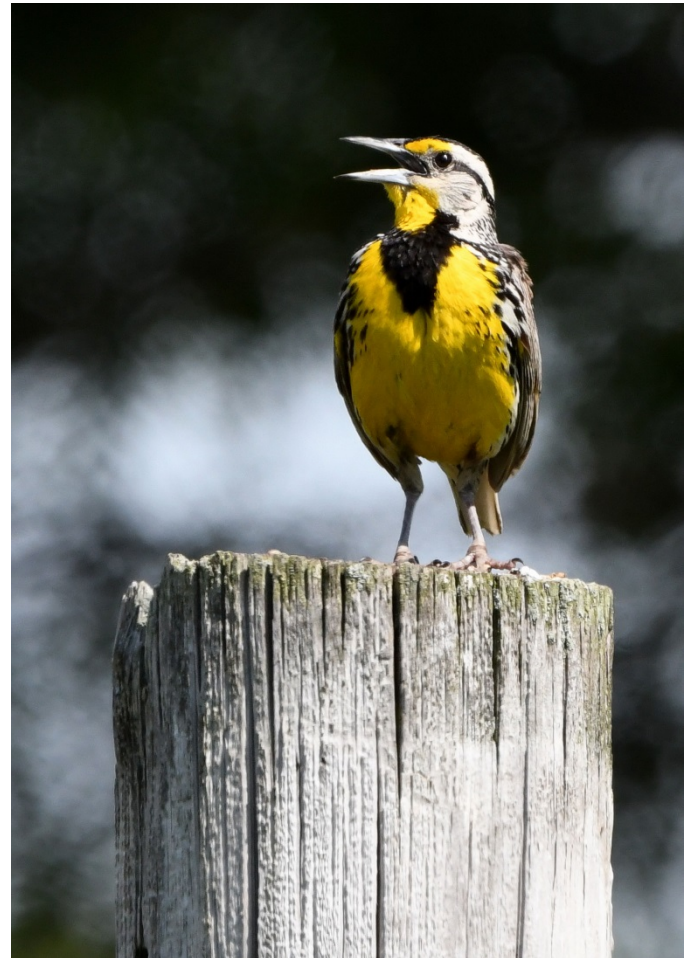


Photo by Jim Hudgins/USFWS

Northeastern states have seen the largest declines, with states such as Rhode Island (10.3%), Connecticut (12.6%) and Massachusetts (9.7%) seeing the sharpest declines during that timeframe. No state has recorded a significant population increase.

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Massachusetts Division of Fisheries & Wildlife

1 Rabbit Hill Rd., Westborough, MA; tel: 508-389-6300; fax: 508-389-7890; www.mass.gov/dfw

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form, as these donations comprise a significant portion of our operating budget.

www.mass.gov/nhesp

HABITAT DESCRIPTION: Eastern Meadowlarks are most common in native grasslands, prairies, and savannah. They prefer moderately tall grasslands with abundant litter cover, a high proportion of grass, moderate to high forb density, and low coverage of woody vegetation. Various types of open habitats are utilized, such as tallgrass prairie, xeric grassland, and cultural grasslands, hayfields, and airports. As with most grassland birds, breeding presence and the relevance of a site for Eastern Meadowlark are directly correlated to unfragmented patch size. Typically, Eastern Meadowlarks will not initiate breeding on grasslands of less than ten acres, and a site will often need greater than 100 acres of contiguously suitable habitat to support a breeding population of multiple pairs.

THREATS: The decline of Eastern Meadowlark populations in Massachusetts is attributed to loss of suitable nesting habitat due to landscape conversion (suburban sprawl, succession, and incompatible agricultural practices). Agriculturally, the main threat to breeding Eastern Meadowlarks in Massachusetts is the mowing of hayfields before the nesting cycle is complete. This results in near complete egg/nestling mortality, some adult mortality, and an overall decrease in species reproductive success. High winter mortality during especially severe winters is also a contributing factor in local declines.

Land-use practices that provide suitable nesting habitat should be encouraged, particularly the development of incentives for ecologically sensitive agricultural practices that promote the increased acreage of hayfields and pastures that are in a delayed harvest (hayfields) or grazed on a rotation (pastures). Mowing should be delayed until August to ensure fledgling survival. On conservation properties with suitable landscapes, large natural grasslands that are mown on a 3-5 year rotation or managed by controlled burning, when appropriate, should be encouraged. However, it should be noted that meadowlarks often will not recolonize a burned area within two years of the initial fire. In areas of more “industrialized” habitats, such as airports, efforts should be made to coordinate with site managers to reduce areas of grassland succession and to minimize mowing during the nesting season. Where suitable habitat currently exists, efforts should be made to protect the landscape from development.

REFERENCES:

- Askins, R. R. 2000. *Restoring North American Birds*. Yale University, New Haven, Connecticut.
- Hull, S.D. 2000 (revised 2002). *Effects of management practices on grassland birds: Eastern Meadowlark*. Northern Prairie Wildlife Research Center, Jamestown, ND. 35 pages.
- Jones, A. L., G. Shriver, and P. Vickery. 2001. Regional Inventory of Grassland Birds in New England and New York, 1997-2000. Massachusetts Audubon Society, Lincoln, Massachusetts.
- Lanyon, W.E. 1995. Eastern Meadowlark (*Sturnella magna*). In *The Birds of North America*, No. 160 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.
- Sauer, J. R., D. K. Niven, J. E. Hines, D. J. Ziolkowski, Jr, K. L. Pardieck, J. E. Fallon, and W. A. Link. 2017. *The North American Breeding Bird Survey, Results and Analysis 1966 - 2015*. Version 2.07.2017 USGS Patuxent Wildlife Research Center, Laurel, MD
- Veit, R., and W.R. Petersen. 1993. *Birds of Massachusetts*. Massachusetts Audubon Society, Lincoln, Massachusetts.
- Walsh, J., and W. Petersen, editors. 2013. *The Massachusetts Breeding Bird Atlas 2*. Massachusetts Audubon Society. Scott & Nix, Inc. New York City, NY.

Updated 2020

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for ‘endangered wildlife conservation’ on your state income tax form, as these donations comprise a significant portion of our operating budget.



Natural Heritage & Endangered Species Program

www.mass.gov/nhesp

Massachusetts Division of Fisheries & Wildlife

Grasshopper Sparrow *Ammodramus savannarum*

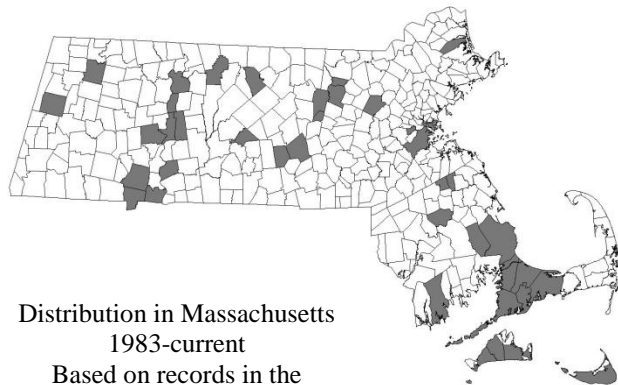
State Status: Threatened
Federal Status: None

DESCRIPTION: The Grasshopper Sparrow is a small sparrow of open fields. It is 4.5 to 5.5 in (11-13 cm) long with a narrow short tail. Each feather of the tail tapers to a point giving it a ragged appearance. It has a flat head which slopes directly into the bill. The upperparts have reddish streaks with contrast with the intervening gray. The dark brown crown is divided by a thin cream-colored center stripe. A yellowish spot extends from the bill in front and below the eye. The sexes are similar. The typical song, often mistaken for the song of a grasshopper, consists of two chip notes followed by “tsk tsick tsurrrr.” Breeding birds also sing a complicated song with many squeaky and buzzy notes intermixed in a long phrase.

SIMILAR SPECIES: Young birds resemble adult Henslow’s Sparrows but have dusky brown streaks or spots on the buffy breast and flanks. Adult Grasshopper Sparrows can be distinguished from the Field Sparrow by the latter’s pinkish bill, rusty cap and white eye ring. Other species similar in appearance and also found in the same type of habitat include the Vesper Sparrow, Savannah Sparrow and Song Sparrow, but Grasshopper



Photo by Chris Buelow, NHESP



Distribution in Massachusetts
1983-current
Based on records in the
Natural Heritage Database

Sparrows differ from these by its buffy, unstreaked throat and breast and the yellowish area around the eye. However, its distinctive call best distinguishes it from all other birds.

ECOLOGY/BEHAVIOR: Grasshopper Sparrows eat, sleep and nest on the ground. When flushed, it usually flies up from the grass, flutters rather low and erratically for a short distance and drops into the grass again. On the ground it either hops or runs.

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Massachusetts Division of Fisheries & Wildlife

1 Rabbit Hill Rd., Westborough, MA; tel: 508-389-6300; fax: 508-389-7890; www.mass.gov/dfw

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for ‘endangered wildlife conservation’ on your state income tax form, as these donations comprise a significant portion of our operating budget.

www.mass.gov/nhesp

HABITAT IN MASSACHUSETTS: It is found in the sandplain grasslands, pastures, hayfields and airfields characterized by bunch grasses (rather than sod-forming grasses). It is also found in open knolls, sandplains within Pine Barrens and coastal heathlands. It requires a patchy grassland habitat with bare ground and bunch grasses such as poverty grass (*Danthonia spicata*), bluestem (*Andropogon* spp.) and fescue (*Fescue* spp.). Preferred habitat is characterized by relatively low stem densities and limited accumulation of ground litter. This species is generally absent from fields with over 35% cover in shrubs. Bare ground is especially important, as Grasshopper Sparrows behave much like field mice in their habit of running along the ground to escape predators and to forage for invertebrates.

MIGRATION: The Grasshopper Sparrows arrive in Massachusetts in late May. The male lays claim to a 1-4-acre exclusive non-overlapping territory by singing the “grasshopper” song all day from a tall weed, fence post, haystack, etc. During the non-breeding season both the male and female sing. Grasshopper Sparrows migrate to the wintering grounds by mid-September.

BREEDING HABITS: Grasshopper Sparrows produce one brood each summer in Massachusetts. The well-hidden nests are walled, domed structures of grasses built at the base of clumps of grass. Only the female incubates the eggs, which take an estimated 12 days to hatch. The usually 3-5 eggs are white with spots or blotches of brown to reddish brown which are concentrated on the larger end of the egg. The young, which are wholly dependent on the mother at hatching, leave the nest after 9 days and follow the parent on the ground until they fledge. If found on the nest, the mother flutters through the grass, feigning lameness. Though the male does not care for the young, he does react to predators near the nest. Nests may be parasitized by cowbirds. Breeding activity diminishes by mid-August after which the families disperse.

FEEDING HABITS: This species is largely insectivorous. Patches of bare ground are critical to this sparrow’s foraging behavior as grasshoppers, a primary food item, are most often pursued on or near the ground. Grasshopper Sparrows also feed on spiders, myriapods, snails, earthworms, and weed and grass seeds.

RANGE: The Grasshopper Sparrow can be found from New Hampshire to California, and south to South Carolina to Mexico, Cuba, the Bahamas and Guatemala. It winters from southern California to El Salvador, and the West Indies.

POPULATION STATUS: The Grasshopper Sparrow is classified as a Threatened Species in Massachusetts, where it is known to nest at fewer than 20 sites. Many of the current locations are in fields adjacent to air fields. This sparrow formerly was abundant on Nantucket, Martha’s Vineyard, and in eastern Massachusetts. Loss of appropriate habitat to land development, changes in agricultural practices (early harvesting and fewer fallow fields), and natural succession (abandoned fields growing up to shrubs and woods) appears to be the primary factor in its decline. Openings created by forest fires once provided habitat but these are now rare.

Updated 2015

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for ‘endangered wildlife conservation’ on your state income tax form, as these donations comprise a significant portion of our operating budget.

www.mass.gov/nhesp



Natural Heritage & Endangered Species Program

www.mass.gov/nhesp

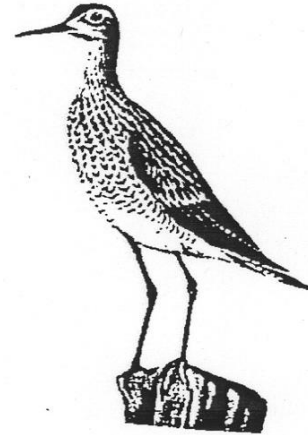
Massachusetts Division of Fisheries & Wildlife

Upland Sandpiper *Bartramia longicauda*

State Status: **Endangered**
Federal Status: **None**

DESCRIPTION: The Upland Sandpiper is a slender, moderate-size shore-bird with a small head, large, shoe-button eye, short and thick dark-brown bill, long, thin neck and relatively long tail. Legs are yellowish. It stands about 12 in (30 cm) tall and has a wingspan of 25 to 27 in (64 to 68 cm). The crown is dark brown with a pale buff crown stripe. The rump, upper tail and wings are much darker than the rest of the bird. Calls include a rapid “quip-ip-ip-ip” alarm call, and a long, drawn-out courtship call which has been described as a windy, whistly, “whiiip-whee-ee-oo.” The sexes are similar. This species often poses with its wings up raised when alighting on utility poles or fence posts.

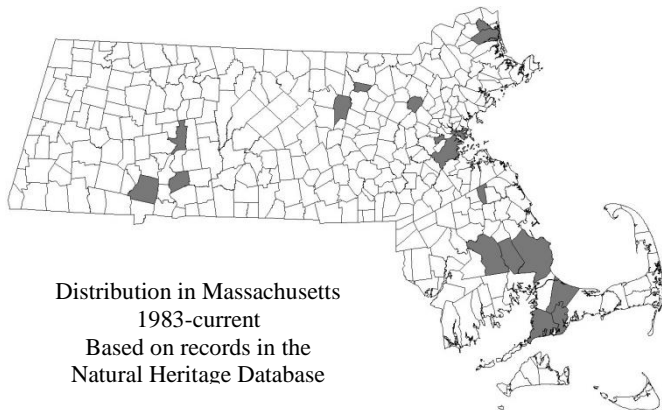
HABITAT IN MASSACHUSETTS: The Upland Sandpiper inhabits large expanses of open grassy uplands, wet meadows, old fields, and pastures. In Massachusetts it is restricted to open expanses of grassy fields, hay fields, and mown grassy strips adjacent to runways and taxiways of airports and military bases. They need feeding and loafing areas as well as nesting areas. It winters in similar landscapes in South America.



Robbins, C.S., B. Braun, and H.S. Zim. Birds of North America. Golden Press, New York. 1966.

ECOLOGY AND BEHAVIOR: The Upland Sandpiper returns to its breeding habitat in Massachusetts mid-April to early May. The birds arrive already paired and usually return to the same area year after year. Their courtship displays include circling flights by individual birds that last 5 to 15 minutes and reach as high as 1000 ft (305 m) during which they give their “windy whistle” call. On the ground, the male will raise his tail and run at his mate stopping suddenly. The nest is a grass-lined depression on the ground. It is well concealed by arched grasses making it invisible from above. Four, or occasionally three, eggs are laid at 26 hour intervals. The eggs are pinkish-buff with fine brown spots. Both sexes incubate the eggs beginning after the clutch is complete. Renesting may occur if the initial clutch is destroyed.

Incubating adults are well-concealed and will tolerate close approach before flushing. The adults are secretive around the nest, approaching it from a distance by walking cautiously through the grass, head held low and squatting lower and lower. Unless flushed, the bird leaves the nest in the same manner. Each bird has a



Distribution in Massachusetts
1983-current
Based on records in the
Natural Heritage Database

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Massachusetts Division of Fisheries & Wildlife

1 Rabbit Hill Rd., Westborough, MA; tel: 508-389-6300; fax: 508-389-7890; www.mass.gov/dfw

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for ‘endangered wildlife conservation’ on your state income tax form, as these donations comprise a significant portion of our operating budget.

www.mass.gov/nhesp

characteristic flushing distance. It becomes less willing to flush as the eggs begin to pip. The adults are very unlikely to abandon the nest even if repeatedly disturbed, but will immediately desert if the eggs are damaged. The chicks are downy and precocial at hatching and leave the nest very soon thereafter. One or both adults care for the chicks, watching for danger as the chicks catch insects and as they sleep. The young reach full size and adult plumage by the time they fledge at 32 to 34 days. The adults do not defend the nest or a nesting territory. They do, however, drive other individuals and animals such as ground squirrels, away if they approach the young. This behavior diminishes as the young mature and disappears when the young fledge. After fledging, families and individuals begin to mix and form flocks. Upland Sandpipers gather in increasingly large flocks in July and begin fall migration from Massachusetts in late July and August.

The Upland Sandpipers primarily pursue grasshoppers, crickets, weevils, beetles, ants, spiders, snails and earthworms on the ground. They chase the insects rapidly and even leap into the air in pursuit.

RANGE: The Upland Sandpiper breeds from Maine to central Canada and Alaska, Maryland to Oklahoma and Colorado. It breeds locally in Massachusetts. It winters in similar habitats in South America, particularly on the pampas of northern Argentina and Uruguay.

POPULATION STATUS: The Upland Sandpiper is classified as Endangered in Massachusetts. In 1985, a total of 25 to 27 breeding pairs nested at only 7 sites in the state.

European settlement created extensive nesting habitat through the clearing of the forest for agriculture and grazing. The Upland Sandpiper was common in the 1850's and at that time was seen in the thousands. Commercial shooting for food reduced its numbers dramatically. Currently, after having been protected from hunting for over sixty years, it is threatened by loss of habitat to development and succession of open lands to forest. The Upland Sandpiper is experiencing population decline over much of its range, particularly in the Midwest and eastern United States.

Updated 2015

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form, as these donations comprise a significant portion of our operating budget.

www.mass.gov/nhesp



Natural Heritage & Endangered Species Program

www.mass.gov/nhesp

Massachusetts Division of Fisheries & Wildlife

Wood Turtle *Glyptemys insculpta*

State Status: **Special Concern**
Federal Status: **None**

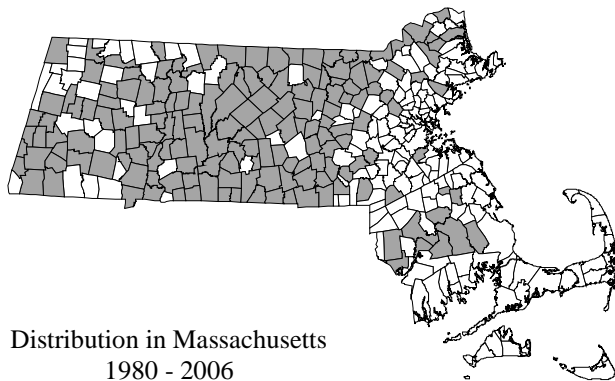
DESCRIPTION: The Wood Turtle is a medium-sized turtle (14-20 cm; 5.5-8 in) that can be recognized by its sculpted shell and orange coloration on the legs and neck. The carapace (upper shell) is rough and each scale (scute) rises upwards in an irregularly shaped pyramid of grooves and ridges. The carapace is tan, grayish-brown or brown, has a mid-line ridge (keel) and often has a pattern of black or yellow lines on the larger scutes. The plastron (lower shell) is yellow with oblong dark patches on the outer, posterior corner of each scute. The head is black, but may be speckled with faint yellow spots. The legs, neck, and chin can have orange to reddish coloration. Males have a concave plastron, thick tail, long front claws, and a wider and more robust head than females. Hatchlings have a dull-colored shell that is broad and low and a tail that is almost as long as their carapace, and they lack orange coloration on the neck and legs.



Photo by Mike Jones

SIMILAR SPECIES: The habitat of the Eastern Box Turtle (*Terrapene carolina*) and the Blanding's Turtle (*Emydoidea blandingii*) may overlap that of the Wood Turtle, but neither has the Wood Turtle's pyramidal shell segments. Unlike the Wood Turtle, the Box and Blanding's turtles have hinged plastrons into which they can withdraw or partially withdraw if threatened. The Northern Diamond-backed Terrapin (*Malaclemys terrapin*) has a shell similar to that of the Wood Turtle. However, its skin is grey and it lives only near brackish water, which the Wood Turtle avoids.

RANGE: The Wood Turtle can be found throughout New England, north to Nova Scotia, west to eastern Minnesota, and south to northern Virginia. The Wood Turtle appears to be widespread in Massachusetts. However, it should be kept in mind that little is known about the status of local populations associated with the majority of these sightings. Most of the towns have fewer than 5 known occurrences.



Distribution in Massachusetts
1980 - 2006
Based on records in
Natural Heritage Database

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Massachusetts Division of Fisheries & Wildlife

1 Rabbit Hill Rd., Westborough, MA; tel: 508-389-6300; fax: 508-389-7890; www.mass.gov/dfw

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form, as these donations comprise a significant portion of our operating budget.

www.mass.gov/nhesp

HABITAT IN MASSACHUSETTS: The preferred habitat of the Wood Turtle is riparian areas. Slower moving mid-sized streams are favored, with sandy bottoms and heavily vegetated stream banks. The stream bottom and muddy banks provide hibernating sites for overwintering, and open areas with sand or gravel substrate near the streams edge are used for nesting. Wood Turtles spend most of the spring and summer in mixed or deciduous forests, fields, hay fields, and riparian wetlands, including wet meadows, bogs, and beaver ponds. Then they return to the streams in late summer or early fall to their favored overwintering location.

LIFE CYCLE & BEHAVIOR: The Wood Turtle typically spends the winter in flowing rivers and perennial streams. Full-time submersion in the water begins in November, once freezing occurs regularly overnight, and continues until temperatures begin to increase in spring. It may hibernate alone or in large groups in community burrows in muddy banks, stream bottoms, deep pools, instream woody debris, and abandoned muskrat burrows. The Wood Turtle may make underwater movements in the stream during the winter; however, extended periods of activity and emergence from the water do not occur until mid-March or early April.

In spring, Wood Turtles are active during the day and are usually encountered within a few hundred meters from the stream banks. They have relatively linear home ranges that can be a half mile in length in Massachusetts (M. Jones, unpubl data). They will use emergent logs or grassy, sandy, and muddy banks to soak up the spring sun. During the summer months they feed in early successional fields, hayfields, and forests.

Wood Turtles are opportunistic omnivores; their diet consists of both plant and animal matter that is consumed on land and in the water. The Wood Turtle occasionally exhibits an unusual feeding behavior referred to as “stomping.” In its search for food, this species will stomp on the ground alternating its front feet, creating vibrations in the ground resembling rainfall. Earthworms respond, rising to the ground’s surface to keep from drowning. Instead of rain, the earthworm is met by the Wood Turtle, and is promptly devoured.

Although the peaks in mating activity occur in the spring and fall, Wood Turtles are known to mate opportunistically throughout their activity period. Males have been observed exhibiting aggressive behavior such as chasing, biting, and butting both during the mating season and at other times. A courtship ritual “dance” typically takes place at the edge of a stream or brook for several hours prior to mating. The dance involves the male and female approaching each other slowly with necks extended and their heads up. Before they actually touch noses, they lower their heads, and swing them from side to side. Copulation usually takes place in the water. Courting adults may produce a very subdued whistle that is rarely heard by observers. A female may mate with multiple individuals over the course of the active season.

In Massachusetts, most nesting occurs over a four-week period, primarily in June. Nesting sites may be a limited resource for Wood Turtles. Females are known to travel long distances in search of appropriate nesting habitat (average straight line distance of 244 m/800 ft). Once they have arrived at a suitable nesting area, there may be multiple nesting attempts or false nests that occur over the course of several days, prior to laying eggs. They abort attempts when disturbed (e.g., by human activities) early in the process or they hit a large rock while digging. Female Wood Turtles lay one clutch a year and often congregate in a good nesting area. Clutch size in Massachusetts averages 7 eggs (Jones, 2004, pers. comm.). Hatchling emergence occurs from August through September. The life span of the adult Wood Turtle is easily 46 years and may reach as much as 100 years.

THREATS: Hatchling and juvenile survival is very low and the time to sexual maturity is long. These characteristics are compensated by adults living a long time and reproducing for many years. Adult survivorship must be very high to sustain a viable population. These characteristics make Wood Turtles vulnerable to human disturbances. Population declines of Wood Turtles have likely been caused by hay-mowing operations, development of wooded stream banks, roadway casualties, incidental collection of specimens for pets, unnaturally inflated rates of predation in suburban and urban areas, forestry and agricultural activities, and pollution of streams.

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for ‘endangered wildlife conservation’ on your state income tax form, as these donations comprise a significant portion of our operating budget.

www.mass.gov/nhesp

MANAGEMENT RECOMMENDATIONS: Using a turtle habitat model developed by UMass and NHESP records, Wood Turtle habitat needs to be assessed and prioritized for protection based on the extent, quality, and juxtaposition of habitats and their predicted ability to support self-sustaining populations of Wood Turtles. Other considerations should include the size and lack of fragmentation of both riverine and upland habitats and proximity and connectivity to other relatively unfragmented habitats, especially within existing protected open space. This information will be used to direct land acquisition and to target areas for Conservation Restrictions (CRs), Agricultural Preservation Restrictions (APRs), and Landowner Incentive Program (LIP) projects.

Mowing and nest site creation guidelines developed by NHESP should be followed on properties managed for Wood Turtles. These practices will be most practical on state-owned conservation lands. However, these materials are also available to town land managers and private landowners.

Alternative wildlife corridor structures should be considered at strategic sites on existing roads. In particular, appropriate wildlife corridor structures should be considered for bridge and culvert upgrades and road-widening projects within or near Wood Turtle habitat. Efforts should be made to inform local regulatory agencies of key locations where these measures would be most effective for Wood Turtle conservation.

Educational materials are being developed and distributed to the public in reference to the detrimental effects of keeping our native Wood Turtles as pets (an illegal activity that reduces reproduction in the population), releasing pet store turtles (which could spread disease), leaving cats and dogs outdoors unattended (particularly during the nesting season), mowing of fields and shrubby areas, feeding suburban wildlife (which increases the number of natural predators on turtles), and driving ATVs in nesting areas from June-October. People should be encouraged, when safe to do so, to help Wood Turtles cross roads (always in the direction the animal was heading); however, turtles should never be transported to “better” locations. They will naturally want to return to their original location and likely need to traverse roads to do so.

Increased law enforcement is needed to protect our wild turtles, particularly during the nesting season when poaching is most frequent and ATV use is common and most damaging.

Forestry Conservation Management Practices should be applied on state and private lands to avoid direct turtle mortality. Seasonal timber harvesting restrictions apply to Wood Turtle habitat and to upland habitat that occurs up to 600 ft (183 m) beyond the stream edge. Motorized vehicle access to timber harvesting sites in Wood Turtle habitat is restricted to times when the Wood Turtle is overwintering. Bridges should be laid down across streams prior to any motorized equipment crossing the stream in order to maintain the structural integrity of overwintering sites.

Finally, a statewide monitoring program is needed to track long-term population trends in Wood Turtles.

ACTIVE PERIOD

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

REFERENCES:

Compton, B. 2006. Personal Communication. University of Massachusetts, Dept of Natural Resources Conservation, Amherst, MA

DeGraaf, R.M., and D.D. Rudis. 1983. *Amphibians and Reptiles of New England*. Amherst, Massachusetts: The University of Massachusetts.

Ernst, C.H., J.E. Lovich, and R.W. Barbour. 1994. *Turtles of the United States and Canada*. Smithsonian Institution Press, Washington and London.

Jones, M. 2006. Personal Communication. University of Massachusetts, Dept. of Natural Resources Conservation, Amherst, MA.

Kaufmann, J.H. 1986. Stomping for earthworms by Wood Turtles, *Clemmys insculpta*: A newly discovered foraging technique. *Copeia* 1986(4), pp.1001-1004.

Updated 2015

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for ‘endangered wildlife conservation’ on your state income tax form, as these donations comprise a significant portion of our operating budget.



Appendix G: Cultural and Historic Resources

List of Tables

G-1. Historic Architectural Resources Located at Traffic Study Intersections	G-3
G-2. Historic Resources in the National and State Registers, Inventory and MACRIS in Bedford	G-4
G-3. Historic Resources in the National and State Registers, Inventory of MACRIS in Concord	G-6
G-4. Historic Resources in the National and State Registers, Inventory of MACRIS in Lexington	G-10
G-5. Historic Resources in the National and State Registers, Inventory of MACRIS in Lincoln	G-17
G-6. Fifty-Year-Old Properties Surveyed in Hanscom Field	G-18
G-7. Fifty-Year-Old Properties at Hanscom Air Force Base	G-18
G-8. Fifty-Year-Old Properties within 2040 55 dB DNL Contour in Bedford, Concord, and Lexington ..	G-20
G-9. Minute Man National Historical Park National Register District Data Sheet Sorted Alphabetically by Town and Street Address	G-21



(This page intentionally left blank.)

Table G-1 Historic Architectural Resources located at Traffic Study Intersections, 2022

Inter-section No.	Town	Intersection	Historic Resource Name (Designation) ¹
1	Lexington	Route 4/225 (Great Rd/Bedford St)/Hartwell Ave	No historic resources identified
2	Lexington	Route 2A (Marrett Rd)/Mass Ave	Minute Man National Historical Park (MMNHP) (NHL, NR)
3	Lexington	Route 2A (Mass Ave)/Old Mass Ave	Minute Man National Historical Park (NHL, NR) LEX.929 Bluff Monument (MMNHP)
4	Lexington	Route 2A (Mass Ave)/Airport Rd (Marrett St)	Minute Man National Historical Park (NHL, NR) LEX.932 Whittemore-Muzzey Stone Walls (MMNHP)
5	Lincoln	Hanscom Drive/Old Bedford Rd	No historic resources identified
6	Lincoln	Route 2A (North Great Rd)/Hanscom Dr	Minute Man National Historical Park (NHL, NR)
7	Concord	Lexington Rd/Old Bedford Rd	Minute Man National Historical Park (NHL, NR) CON.DS American Mile Historic District (LHD, partly in MMNHP) CON.BL Lower Old Bedford Rd/Virginia Road Area (MACRIS) CON.175 Deacon Sampson Mason-Terrence McHugh House (in MMNHP/CON-BL) CON.349 Daniel Taylor House (in MMNHP/CON.BL) CON.9020 Taylor Retaining Wall (in MMNHP/CON.DS) CON.9026 Samuel Brooks Stone Walls (in MMNHP/CON.C) CON.9012 Meriam's Corner Stone Walls (in MMNHP/CON.DS) CON.9015 Meriam's Corner Monument (in MMNHP/CON.DS) CON.9029 Meriam's Corner Stone Culvert (in MMNHP/CON.DS)
8	Concord	Old Bedford Rd/Virginia Rd	CON.BL Lower Old Bedford Rd/Virginia Road Area (MACRIS) CON.1068 Frank Peterson House (in CON.BL) CON.1069 Patrick Dalton House (in CON.BL)
9	Bedford	Route 62 (Concord Rd)/Hartwell Rd	BED.H Concord Road Area (MACRIS) BED.342 230 Concord Road (in BED.H) BED.4 Col. Timothy Jones House (NR, BED.H)
10	Bedford	South Rd/Hartwell Rd	BED.928 Hartwell Town Forest Horse Trough Memorial (MACRIS)
11	Concord	Virginia Rd/Pine Hill Access	No historic resources identified

1. LHD – Local Historic District, MACRIS – Massachusetts Cultural Resource Information System, NHL – National Historic Landmark, NR – National Register of Historic Places

G-2 All Historic Resources listed in the National and State Registers, and in the Inventory and MACRIS in Bedford, reconnaissance survey area (projected 2040 55 dB DNL high growth noise contour or within 200 feet from a traffic study intersection), 2022.

MHC Number	Historic Area/District ¹	Street Address	Historic Property ²	Date	National Register /State Register Status ³	55 dB DNL Contour ⁴			Intersection ⁵
						2022	2030	2040	
BED.H	Concord Road Area	Concord Rd	N/A	Multiple		P	P	P	
BED.O	South Road - Tilden Street	South Rd, Tilden St	N/A	Multiple		✓	✓	✓	
BED.4	BED.H Concord Road Area	231 Concord Rd	Co. Timothy Jones House	1775	NR				TSA 9: Route 62/Hartwell Rd
BED.359	BED.H Concord Road Area	435 Concord Rd	N/A	1947		✓	✓	P	
BED.1	BED.H Concord Road Area	445 Concord Rd	Richard Wheeler House	1695		✓	✓	✓	
BED.555	N/A	154 Hartwell Rd	Raytheon Flight Test Facility	1959	NR DOE	✓	✓	✓	
BED.927	N/A	Hartwell Rd	Hartwell Town Forest	1940		P	P	✓	
BED.928	N/A	Hartwell Rd	Hartwell Town Forest Horse Trough Memorial	1820		✓	✓	✓	
BED.553	N/A	South Rd	Base Picnic Area Services Building #1003	1952		✓	✓	✓	
BED.184	N/A	330 South Rd	Clark Farm	1905		✓	✓	✓	
BED.492	N/A	330 South Rd	Clark Farm Barn	ca. 1905		✓	✓	✓	
BED.493	N/A	330 South Rd	Clark Farm-Out Building	ca. 1905		✓	✓	✓	
BED.494	N/A	330 South Rd	Clark Farm-Out Building	ca. 1905		✓	✓	✓	
BED.495	N/A	330 South Rd	Clark Farm-	ca. 1905		✓	✓	✓	

MHC Number	Historic Area/District ¹	Street Address	Historic Property ²	Date	National Register /State Register Status ³	55 dB DNL Contour ⁴			Intersection ⁵
						2022	2030	2040	
			Out Building						
BED.185	N/A	345 South Rd	Peter Kelley House	1855		P	P	P	
BED.444	BED.O South Road - Tilden Street Area	394 South Rd	N/A	1930		✓	✓	✓	
BED.445	BED.O South Road - Tilden Street Area	398 South Rd	N/A	1930		✓	✓	✓	
BED.446	BED.O South Road - Tilden Street Area	5 Tilden St	N/A	1930		✓	✓	✓	

- Notes**
1. Historic district or area. Noise Analysis Location number is indicated in brackets where applicable. N/A indicates properties that are not located within a historic district or area.
 2. N/A indicates districts, areas, or properties that are only identified by address. Noise analysis location number is indicated in brackets where applicable.
 3. National Register of Historic Places (NR), State Register of Historic Places (LHD or SR), National Historic Landmark (NHL).
 4. Area/property is partially (P) or completely (✓) within the 2022, 2030, or 2040 55 dB DNL contours. All historic resources listed are outside the 2022, 2030, and 2040 65 dB DNL contours.
 5. Intersection that is located within 200 feet from historic district, area, or property.

G-3 All Historic Resources listed in the National and State Registers, and in the Inventory and MACRIS in Concord, reconnaissance survey area (projected 2035 55 dB DNL high growth noise contour or within 200 feet from a traffic study area intersection), 2022.

MHC Number	Historic Area/District ¹	Street Address	Historic Property ²	Date	National Register /State Register Status ³	55 dB DNL Contour ⁴			Intersection ⁵
						2022	2030	2040	
CON.BO	Bedford Street Area II	Bedford St	N/A	Multiple		✓	✓	✓	
CON.BK	Lexington Road – Shadyside Avenue Area	Lexington Rd, Shadyside Ave	N/A	Multiple		P	P	P	None
CON.BL	Lower Old Bedford – Virginia Roads Area	Old Bedford Rd, Virginia Rd	N/A	Multiple		P	P	P	TSA 7: Old Bedford Road & Lexington Road (Route 2A) TSA 8: Old Bedford Road & Virginia Road
CON.B, CON.C, CON.DW, CON.EC	Minute Man National Historical Park	Route 2A	N/A	Multiple	NR/SR NHL				TSA 7: Old Bedford Road & Lexington Road (Route 2A)
CON.BM	Old Bedford Road Area	Old Bedford Rd	N/A	Multiple		✓	✓	✓	
CON.BN	Old Bedford Road Area II	Old Bedford Rd	N/A	Multiple		✓	✓	✓	
CON.BZ	Barrett-Hutchins Farm	Monument St	N/A	Multiple				✓	
CON.1081	CON.BO Bedford Street Area II	643 Bedford St	N/A	1875				✓	
CON.1082	CON.BO Bedford Street Area II	649 Bedford St	N/A	1875				✓	
CON.1083	CON.BO Bedford Street Area II	668 Bedford St	N/A	1895				✓	
CON.1085	CON.BO Bedford Street Area II	689 Bedford St	N/A	1930				✓	
CON.1086	CON.BO Bedford Street Area II	701 Bedford St	N/A	1920				✓	
CON.1088	CON.BO Bedford Street Area II	715 Bedford St	N/A	1880				✓	
CON.1089	CON.BO Bedford Street Area II	737 Bedford St	N/A	1870				✓	
CON.1090	CON.BO Bedford Street Area II	759 Bedford St	N/A	1920				✓	
CON.9012	CON.EC Minute Man National Historical Park	Lexington Rd	Meriam's Corner Stone Walls	1885	NRDIS				TSA 7: Old Bedford Road & Lexington Road (Route 2A)
CON.9015	CON.EC Minute Man National Historical Park	Lexington Rd	Meriam's Corner	1885	NRDIS				TSA 7: Old Bedford Road & Lexington

MHC Number	Historic Area/District ¹	Street Address	Historic Property ²	Date	National Register /State Register Status ³	55 dB DNL Contour ⁴			Intersection ⁵
						2022	2030	2040	
			Monument						Road (Route 2A)
CON.9019	CON.C Minute Man National Historical Park	Lexington Rd	Hardy's Hill Stone Walls	N/A	NRDIS	P	P	P	
CON.175	CON.DS American Mile Historic District	645 Lexington Rd	Dea. Sampson Mason - Terrence McHugh House	1850	LHD/SR NR NHL				TSA 7: Old Bedford Road & Lexington Road (Route 2A)
CON.349	CON.C/CON.EC Minute Man National Historical Park CON.DS American Mile Historic District	663 Lexington Rd	Daniel Taylor House	1804	LHD/SR NR NHL				TSA 7: Old Bedford Road & Lexington Road (Route 2A)
CON.9020	CON.C/CON.EC Minute Man National Historical Park CON.DS American Mile Historic District	663 Lexington Rd	Daniel Taylor Retaining Wall	1810	LHD/SR NR NHL				TSA 7: Old Bedford Road & Lexington Road (Route 2A)
CON.1831		1133 Lexington Rd	Walter Beatteay House	1945	NR NHL			✓	
CON.358	CON.C/CON.EC Minute Man National Historical Park	1175 Lexington Rd	Samuel Brooks House	1733	NR NHL				
CON.930	N/A	Old Bedford Rd	Concord - Bedford Boundary Marker	1903		✓	✓	✓	
CON.1068	CON.BL Lower Old Bedford - Virginia Roads Area	250 Old Bedford Rd	Frank Peterson House	1910					
CON.1069	CON.BL Lower Old Bedford - Virginia Roads Area	275-277 Old Bedford Rd	Patrick Dalton House	1880					TSA 8: Old Bedford Road & Virginia Road
CON.1070	CON.BL Lower Old Bedford - Virginia Roads Area	389 Old Bedford Rd	Daniel McManus House	1905		✓	✓	✓	

MHC Number	Historic Area/District ¹	Street Address	Historic Property ²	Date	National Register /State Register Status ³	55 dB DNL Contour ⁴			Intersection ⁵
						2022	2030	2040	
CON.179	N/A	430 Old Bedford Rd	Waldo Flint House	1890		✓	✓	✓	
CON.180	N/A	472-474 Old Bedford Rd	Benoni and Thomas Fox House	1711		✓	✓	✓	
CON.181	N/A	505 Old Bedford Rd	Samuel Fox House	1702		✓	✓	✓	
CON.1077	CON.BN Old Bedford Road Area II	527 Old Bedford Rd	N/A	1915		✓	✓	✓	
CON.1078	CON.BN Old Bedford Road Area II	537 Old Bedford Rd	N/A	1915		✓	✓	✓	
CON.1079	CON.BN Old Bedford Road Area II	547 Old Bedford Rd	Theodore Barry House	1870		✓	✓	✓	
CON.182		550 Old Bedford Rd	Enos Fox House	1770		✓	✓	✓	
CON.1080	CON.BN Old Bedford Road Area II	595 Old Bedford Rd	Theodore Barry House	1900		✓	✓	✓	
CON.1073	CON.BM Old Bedford Road Area	643 Old Bedford Rd	N/A	1920		✓	✓	✓	
CON.1074	CON.BM Old Bedford Road Area	654 Old Bedford Rd	Sennott House	1875		✓	✓	✓	
CON.1075	CON.BM Old Bedford Road Area	667 Old Bedford Rd	N/A	1920		✓	✓	✓	
CON.1071	CON.BL Lower Old Bedford - Virginia Roads Area	74 Virginia Rd	N/A	1925		✓	✓	✓	
CON.1072	CON.BL Lower Old Bedford - Virginia Roads Area	88 Virginia Rd	J. W. Kenney House	1925		✓	✓	✓	
CON.176	N/A	215-217 Virginia Rd	William Tibbets House - Thoreau Farm	1878		✓	✓	✓	
CON.177	N/A	341 Virginia Rd	Dea. John Wheeler - Capt. Jonas	1730	NR	✓	✓	✓	

MHC Number	Historic Area/District ¹	Street Address	Historic Property ²	Date	National Register /State Register Status ³	55 dB DNL Contour ⁴			Intersection ⁵
						2022	2030	2040	
			Minot Farmhouse [NC-18]						
CON.178	N/A	477 Virginia Rd	Wheeler - Merriam House [NC-19]	1692	NR	✓	✓	✓	

- Notes**
1. Historic district or area. Noise Analysis Location number is indicated in brackets where applicable. N/A indicates properties that are not located within a historic district or area.
 2. N/A indicates districts, areas, or properties that are only identified by address. Noise analysis location number is indicated in brackets where applicable.
 3. National Register of Historic Places (NR), State Register of Historic Places (LHD or SR), National Historic Landmark (NHL).
 4. Area/property is partially (P) or completely (✓) within the 2022, 2030, or 2040 55 dB DNL contours. All historic resources listed are outside the 2022, 2030, and 2040 65 dB DNL contours.
 5. Intersection that is located within 200 feet from historic district, area, or property.

G-4 All Historic Resources listed in the National and State Registers, and in the Inventory and MACRIS in Lexington, reconnaissance survey area (projected 2040 55 dB DNL high growth noise contour or within 200 feet from a traffic study area intersection), 2022.

MHC Number	Historic Area/District ¹	Street Address	Historic Property ²	Date	National Register /State Register Status ³	55 dB DNL Contour ⁴			Intersection ⁵
						2022	2030	2040	
LEX.AJ	Lexington Heights - Meagherville	Avon St, Center St, Earl St, Garfield St, Myrtle St, Reed St, Valley Rd	N/A	Multiple		✓	✓	✓	
LEX.AU	Lexington Manor	Bedford St, Harding Rd, Gleason Rd, Dexter Rd, Bertwell Rd, Williams Rd, Simonds Rd, Fuller Rd, Eaton Rd, Blake Rd, Nichols Rd, Preston Rd	N/A	Multiple		✓	✓	✓	
LEX.AQ, LEX.AF	Minute Man National Historical Park	Old Massachusetts Ave, Marrett St, Massachusetts Ave,	N/A	Multiple	NHL				TSA 2: Route 2A (Marrett Rd)/Mass Ave TSA 3: Route 2A (Mass Ave)/Old Mass Ave TSA 4: Route 2A (Mass Ave)/Airport Rd (Marrett St)
LEX.929	LEX.AQ Minute Man National Historical Park	Old Massachusetts Ave and Marrett St	Bluff Monument		NHL				TSA 3: Old Mass Ave, Mass Ave, & Marrett St
LEX.932	LEX.AQ Minute Man National Historical Park	Massachusetts Ave and Marrett	Whittemore - Muzzey	18th century	NHL				TSA 4: Mass Ave & Marrett St

MHC Number	Historic Area/District ¹	Street Address	Historic Property ²	Date	National Register /State Register Status ³	55 dB DNL Contour ⁴			Intersection ⁵
						2022	2030	2040	
		St	Stone Walls						
LEX.913	N/A	Route 128	Boston and Maine Railroad Bridge over Route 128	1961		✓	✓	✓	
LEX.789	LEX.AJ Lexington Heights - Meagherville	12 Avon St	N/A	1906		✓	✓	✓	
LEX.1652	LEX.AU Lexington Manor	289 Bedford St		1940		✓		✓	
LEX.1653	LEX.AU Lexington Manor	293 Bedford St		1920		✓	✓	✓	
LEX.776	N/A	297 Bedford St	Nathan Reed - James Parker House	1835			✓	✓	
LEX.777	N/A	297 Bedford St	Reed-Parker House Out Building	ca. 1835			✓	✓	
LEX.1654	LEX.AU Lexington Manor	301 Bedford St		1927		✓	✓	✓	
LEX.1655	LEX.AU Lexington Manor	305 Bedford St		1926		✓	✓	✓	
LEX.1656	LEX.AU Lexington Manor	307 Bedford St		1930		✓	✓	✓	
LEX.1657	LEX.AU Lexington Manor	311 Bedford St		1920		✓	✓	✓	
LEX.1028	N/A	315 Bedford St	Basil Hawkins House	1924		✓	✓	✓	
LEX.1658	LEX.AU Lexington Manor	321 Bedford St		1921		✓	✓	✓	
LEX.1659	LEX.AU Lexington Manor	323 Bedford St		1930			✓	✓	
LEX.1660	LEX.AU Lexington Manor	325 Bedford St		1929			✓	✓	
LEX.778	N/A	330 Bedford St	Capt. Christopher Reed House #1	1818			✓	✓	
LEX.413	N/A	331 Bedford St	Simonds Tavern	1795	NR			✓	
LEX.779	N/A	342 Bedford St	Christopher Reed House	1825			P	✓	

MHC Number	Historic Area/District ¹	Street Address	Historic Property ²	Date	National Register /State Register Status ³	55 dB DNL Contour ⁴			Intersection ⁵
						2022	2030	2040	
			#2						
LEX.780	N/A	342 Bedford St	Christopher Reed Barn	ca. 1825			✓	✓	
LEX.1674	LEX.AU Lexington Manor	42 Bertwell Rd		1924			✓	✓	
LEX.1675	LEX.AU Lexington Manor	43 Bertwell Rd		1929			✓	✓	
LEX.1676	LEX.AU Lexington Manor	44 Bertwell Rd		1928			✓	✓	
LEX.1677	LEX.AU Lexington Manor	51 Bertwell Rd		1924			✓	✓	
LEX.1855	LEX.AU Lexington Manor	55 Bertwell Rd		1950		✓	✓	✓	
LEX.1856	LEX.AU Lexington Manor	60 Bertwell Rd		1947		✓	✓	✓	
LEX.1857	LEX.AU Lexington Manor	64 Bertwell Rd		1953		✓	✓	✓	
LEX.1678	LEX.AU Lexington Manor	65 Bertwell Rd		1920			✓	✓	
LEX.1858	LEX.AU Lexington Manor	68 Bertwell Rd		1951		✓	✓	✓	
LEX.1859	LEX.AU Lexington Manor	72 Bertwell Rd		1952			✓	✓	
LEX.1679	LEX.AU Lexington Manor	69 Bertwell Rd		1924			✓	✓	
LEX.1680	LEX.AU Lexington Manor	75 Bertwell Rd		1926			✓	✓	
LEX.1681	LEX.AU Lexington Manor	76 Bertwell Rd		1941			✓	✓	
LEX.1860	LEX.AU Lexington Manor	79 Bertwell Rd		1960			✓		
LEX.1682	LEX.AU Lexington Manor	78 Bertwell Rd		1940			✓	✓	
LEX.1684	LEX.AU Lexington Manor	84 Bertwell Rd		1938			✓		
LEX.1863	LEX.AU Lexington Manor	39 Blake Rd		1950			✓		
LEX.1864	LEX.AU Lexington Manor	40 Blake Rd		1984			✓		
LEX.1689	LEX.AU Lexington Manor	48 Blake Rd		1941			✓	✓	
LEX.1690	LEX.AU Lexington Manor	51 Blake Rd		1941			✓	✓	
LEX.1865	LEX.AU Lexington Manor	54 Blake Rd		1948			✓	✓	
LEX.1691	LEX.AU Lexington Manor	57 Blake Rd		1941			✓	✓	
LEX.1866	LEX.AU Lexington Manor	58 Blake Rd		1948			✓	✓	
LEX.1867	LEX.AU Lexington Manor	60 Blake Rd		1947			✓	✓	
LEX.1868	LEX.AU Lexington Manor	65 Blake Rd		1943				✓	
LEX.1869	LEX.AU Lexington Manor	66 Blake Rd		1943			✓	✓	
LEX.790	LEX.AJ Lexington Heights - Meagherville	33 Center St	N/A	1906		✓	✓	✓	

MHC Number	Historic Area/District ¹	Street Address	Historic Property ²	Date	National Register /State Register Status ³	55 dB DNL Contour ⁴			Intersection ⁵
						2022	2030	2040	
LEX.1701	LEX.AU Lexington Manor	6 Dexter Rd		1935		✓	✓	✓	
LEX.1047	N/A	7 Dexter Rd	Albert W. Emmons House	1926		✓	✓	✓	
LEX.1702	LEX.AU Lexington Manor	10 Dexter Rd		1933		✓	✓	✓	
LEX.1703	LEX.AU Lexington Manor	11 Dexter Rd		1925		✓	✓	✓	
LEX.1704	LEX.AU Lexington Manor	14 Dexter Rd		1931		✓	✓	✓	
LEX.1705	LEX.AU Lexington Manor	15 Dexter Rd		1924		✓	✓	✓	
LEX.1706	LEX.AU Lexington Manor	18 Dexter Rd		1940		✓	✓	✓	
LEX.1707	LEX.AU Lexington Manor	19 Dexter Rd		1923			✓	✓	
LEX.1708	LEX.AU Lexington Manor	22 Dexter Rd		1928		✓	✓	✓	
LEX.1709	LEX.AU Lexington Manor	23 Dexter Rd		1927			✓	✓	
LEX.1880	LEX.AU Lexington Manor	28 Dexter Rd		1948			✓	✓	
LEX.1881	LEX.AU Lexington Manor	29 Dexter Rd		1949			✓		
LEX.1882	LEX.AU Lexington Manor	30 Dexter Rd		1962			✓	✓	
LEX.1710	LEX.AU Lexington Manor	33 Dexter Rd		1920			✓		
LEX.1883	LEX.AU Lexington Manor	38 Dexter Rd		1968			P		
LEX.1899	LEX.AU Lexington Manor	5 Fuller Rd		1943			✓		
LEX.1728	LEX.AU Lexington Manor	9 Fuller Rd		1933			✓	P	
LEX.1729	LEX.AU Lexington Manor	17 Fuller Rd		1940			✓	✓	
LEX.1730	LEX.AU Lexington Manor	25 Fuller Rd		1941			✓	✓	
LEX.1900	LEX.AU Lexington Manor	30 Fuller Rd		1949			✓	✓	
LEX.1901	LEX.AU Lexington Manor	31 Fuller Rd		1946			✓	✓	
LEX.1902	LEX.AU Lexington Manor	36 Fuller Rd		1947			✓	✓	
LEX.1910	LEX.AU Lexington Manor	31 Gleason Rd		1950			✓		
LEX.1911	LEX.AU Lexington Manor	34 Gleason Rd		1956			✓		
LEX.1732	LEX.AU Lexington Manor	43 Gleason Rd		1930			✓	✓	
LEX.1733	LEX.AU Lexington Manor	46 Gleason Rd		1936			✓	✓	
LEX.1912	LEX.AU Lexington Manor	47 Gleason Rd		1946		✓	✓	✓	
LEX.1734	LEX.AU Lexington Manor	50 Gleason Rd		1935		✓	✓	✓	
LEX.1735	LEX.AU Lexington Manor	51 Gleason Rd		1940		✓	✓	✓	

MHC Number	Historic Area/District ¹	Street Address	Historic Property ²	Date	National Register /State Register Status ³	55 dB DNL Contour ⁴			Intersection ⁵
						2022	2030	2040	
LEX.1736	LEX.AU Lexington Manor	52 Gleason Rd		1935		✓	✓	✓	
LEX.1737	LEX.AU Lexington Manor	54 Gleason Rd		1930		✓	✓	✓	
LEX.1738	LEX.AU Lexington Manor	55 Gleason Rd		1970		✓	✓	✓	
LEX.1739	LEX.AU Lexington Manor	57 Gleason Rd		1937		✓	✓	✓	
LEX.1740	LEX.AU Lexington Manor	59 Gleason Rd		1939		✓	✓	✓	
LEX.1741	LEX.AU Lexington Manor	60 Gleason Rd		1942		✓	✓	✓	
LEX.1913	LEX.AU Lexington Manor	62 Gleason Rd		1954		✓	✓	✓	
LEX.1742	LEX.AU Lexington Manor	63 Gleason Rd		1920		✓	✓	✓	
LEX.1743	LEX.AU Lexington Manor	65 Gleason Rd		1928		✓	✓	✓	
LEX.1744	LEX.AU Lexington Manor	67 Gleason Rd		1936			✓	✓	
LEX.1745	LEX.AU Lexington Manor	68 Gleason Rd		1936		✓	✓	✓	
LEX.1914	LEX.AU Lexington Manor	70 Gleason Rd		1950			✓	✓	
LEX.1915	LEX.AU Lexington Manor	82 Gleason Rd		1952			✓	P	
LEX.1747	LEX.AU Lexington Manor	84 Gleason Rd		1934			P		
LEX.1749	LEX.AU Lexington Manor	86 Gleason Rd		1935				✓	
LEX.1759	LEX.AU Lexington Manor	20 Harding Rd		1940			P		
LEX.1760	LEX.AU Lexington Manor	25 Harding Rd		1923			✓	✓	
LEX.1761	LEX.AU Lexington Manor	27 Harding Rd		1926			✓	✓	
LEX.1762	LEX.AU Lexington Manor	28 Harding Rd		1930			✓	✓	
LEX.1763	LEX.AU Lexington Manor	29 Harding Rd		1940		✓	✓	✓	
LEX.1764	LEX.AU Lexington Manor	30 Harding Rd		1929			✓	✓	
LEX.1765	LEX.AU Lexington Manor	31 Harding Rd		1940		✓	✓	✓	
LEX.1766	LEX.AU Lexington Manor	35 Harding Rd		1927		✓	✓	✓	
LEX.1767	LEX.AU Lexington Manor	37 Harding Rd		1920		✓	✓	✓	
LEX.1768	LEX.AU Lexington Manor	40 Harding Rd		1931		✓	✓	✓	
LEX.1769	LEX.AU Lexington Manor	41 Harding Rd		1926		✓	✓	✓	
LEX.1923	LEX.AU Lexington Manor	42 Harding Rd		1973		✓	✓	✓	
LEX.1924	LEX.AU Lexington Manor	43 Harding Rd		1965		✓	✓	✓	
LEX.1925	LEX.AU Lexington Manor	44 Harding Rd		1966		✓	✓	✓	
LEX.1770	LEX.AU Lexington Manor	45 Harding Rd		1925		✓	✓	✓	

MHC Number	Historic Area/District ¹	Street Address	Historic Property ²	Date	National Register /State Register Status ³	55 dB DNL Contour ⁴			Intersection ⁵
						2022	2030	2040	
LEX.1061	N/A	46 Harding Rd	John Andersen House	1925			✓	✓	
LEX.1062	N/A	46 Harding Rd	John Andersen Garage	1931			✓	✓	
LEX.1771	LEX.AU Lexington Manor	47 Harding Rd		1929		✓	✓	✓	
LEX.1772	LEX.AU Lexington Manor	48 Harding Rd		1930		✓	✓	✓	
LEX.1773	LEX.AU Lexington Manor	51 Harding Rd		1921			✓	✓	
LEX.1926	LEX.AU Lexington Manor	52 Harding Rd		1951		✓	✓	✓	
LEX.1774	LEX.AU Lexington Manor	53 Harding Rd		1931			✓		
LEX.1775	LEX.AU Lexington Manor	54 Harding Rd		1930			✓	✓	
LEX.1776	LEX.AU Lexington Manor	55 Harding Rd		1936			✓		
LEX.1777	LEX.AU Lexington Manor	56 Harding Rd		1946			✓	✓	
LEX.1927	LEX.AU Lexington Manor	58 Harding Rd		1947			✓		
LEX.1779	LEX.AU Lexington Manor	60 Harding Rd		1927			P		
LEX.1786	LEX.AU Lexington Manor	7 Preston Rd		1926				✓	
LEX.1949	LEX.AU Lexington Manor	10 Preston Rd		1952				✓	
LEX.1950	LEX.AU Lexington Manor	11 Preston Rd		1949				✓	
LEX.1951	LEX.AU Lexington Manor	15 Preston Rd		1953			✓	✓	
LEX.1952	LEX.AU Lexington Manor	17 Preston Rd		1952			✓	✓	
LEX.1953	LEX.AU Lexington Manor	18 Preston Rd		1955			P		
LEX.1954	LEX.AU Lexington Manor	21 Preston Rd		1950			✓	✓	
LEX.785	LEX.AJ Lexington Heights - Meagherville	153 Reed St	N/A	1906		✓	✓	✓	
LEX.786	LEX.AJ Lexington Heights - Meagherville	159 Reed St	N/A	1906		✓	✓	✓	
LEX.1790	LEX.AU Lexington Manor	31 Simonds Rd		1921			✓	✓	
LEX.1791	LEX.AU Lexington Manor	32 Simonds Rd		1940			P		
LEX.1012	LEX.AJ Lexington Heights - Meagherville	48 Valley Rd	N/A	1906		✓	✓	✓	
LEX.1013	LEX.AJ Lexington Heights -	62 Valley Rd	N/A	1906		✓	✓	✓	

MHC Number	Historic Area/District ¹	Street Address	Historic Property ²	Date	National Register /State Register Status ³	55 dB DNL Contour ⁴			Intersection ⁵
						2022	2030	2040	
	Meagherville								
LEX.1014	LEX.AJ Lexington Heights - Meagherville	67 Valley Rd	N/A	1906		✓	✓	✓	

- Notes**
1. Historic district or area. Noise Analysis Location number is indicated in brackets where applicable. N/A indicates properties that are not located within a historic district or area.
 2. N/A indicates districts, areas, or properties that are only identified by address. Noise analysis location number is indicated in brackets where applicable.
 3. National Register of Historic Places (NR), State Register of Historic Places (LHD or SR), National Historic Landmark (NHL).
 4. Area/property is partially (P) or completely (✓) within the 2022, 2030, or 2040 55 dB DNL contours. All historic resources listed are outside the 2022, 2030, and 2040 65 dB DNL contours.
 5. Intersection that is located within 200 feet from historic district, area, or property.

G-5 All Historic Resources listed in the National and State Registers, and in the Inventory and MACRIS in Lincoln, reconnaissance survey area (projected 2040 55 dB DNL high growth noise contour or within 200 feet from a traffic study area intersection), 2022.

MHC Number	Historic Area/District ¹	Street Address	Historic Property ²	Date	National Register /State Register Status ³	55 dB DNL Contour ⁴			Intersection ⁵
						2022	2030	2040	
LIN.F, LIN.G	Minute Man National Historical Park	Route 2A	N/A	Multiple	NR NHL	P	P	P	TSA 6: Hanscom Drive & Route 2A
LIN.922	LIN.F Minute Man National Historical Park	33 North Great Rd	Noah Brooks Stone Retaining Walls	1810	NR NHL		P		

- Notes**
1. Historic district or area. Noise Analysis Location number is indicated in brackets where applicable. N/A indicates properties that are not located within a historic district or area.
 2. N/A indicates districts, areas, or properties that are only identified by address. Noise analysis location number is indicated in brackets where applicable.
 3. National Register of Historic Places (NR), State Register of Historic Places (LHD or SR), National Historic Landmark (NHL).
 4. Area/property is partially (P) or completely (✓) within the 2022, 2030, or 2040 55 dB DNL contours. All historic resources listed are outside the 2022, 2030, and 2040 65 dB DNL contours.
 5. Intersection that is located within 200 feet from historic district, area, or property.

Table G-6 Fifty Year Old Properties Surveyed in Hanscom Field, 2022

Town	Building Number	Building Name ¹	Date
Bedford	1	Hangar 1 - Signature Flight Services	1955
Bedford	2	Hangar 2 - Signature Flight Services	1955
Bedford	3	Hangar 3 - Signature Flight Services	1955
Bedford	4	Hanscom Air Force Base Aero Club	1955–1957
Bedford	5	Hanscom Air Force Base Fire Department	1955–1957
Bedford	6	MIT/LL Flight Facility	by 1955
Bedford	9	Hangar 9 – FAA FMP Facility	1948–1955
Concord	25	MIT Draper Laboratory Centrifuge Building	1948
Lincoln	10	Hangar 10 – Signature Flight Services	1950s
Lincoln	12A	Boston Medflight	1963–1969
Lincoln	15	Civil Air Terminal	1953
Lincoln	20	Maintenance Building	1954

Notes: 1. Buildings 31 (T-Hangar Row A, 1972), 32 (T-Hangar Row B, 1973), and 33 (T-Hangar Row C, 1973), all in Lincoln, were demolished 2020–2022.

Table G-7 Fifty Year Old Properties at Hanscom Air Force Base, 2022

Town	Building Number ¹	Area Name ²	Street Address	NR Status ³
Bedford	1614	Administrative Complex	11 Barksdale Street	
	1639	Base Center	97 Barksdale Street	
	1723	Hangars	25 Chennault Street	
	1728	Hangars	29 Chennault Street	
	1729	Hangars	51 Chennault Street	
	1642	Base Center	70 Chennault Street	
	1825	Civil Engineering	72 Dow Street	
	1716	Hangars	115 Eglin Street	
	1917	Civil Engineering	Grenier Street	
	1646	Base Center	81 Grenier Street	
	1813	Civil Engineering	119 Grenier Street	
	1809/1810	Civil Engineering	120-131 Grenier Street	
	1843	Civil Engineering	141 Grenier Street	
	1425	Hospitality	60 Kirtland Street	
	1427	Hospitality	75 Kirtland Street	
1426	Hospitality	85 Kirtland Street		
Lexington	1302 D	Lincoln Labs	71 Schilling Circle	
	1302 E	Lincoln Labs	75 Schilling Circle	
	1302 F	Lincoln Labs	51 Schilling Circle	
Lincoln	1712	Hangars	6 Chennault Street	

	1710	Hangars	9 Chennault Street	
	1610	Administrative Complex	111 Eglin Street	
Lincoln, Lexington	Multiple	Air Force Cambridge Research Laboratory (AFCRL) Historic District	Randolph Road, Grenier Street, Wright Street	National Register Eligible

- Notes:**
1. Corresponds with Hanscom AFB building identification number.
 2. AFCRL Historic District was determined eligible (NRDOE) for National Register listing by the USAF and SHPO in 2012. It is in the Hanscom ESPR 2022 General Study Area but is outside the 2040 55 DNL noise contour.
 3. N/A – Not Applicable

Table G-8 *Fifty Year Old Properties Survey Update within the 2040 55 dB DNL Noise Contour in Bedford, Concord, and Lexington, 2022*

Town ¹	Area Name ²	Street Address	Category
Bedford	<i>Hartwell Road</i>	<i>Beacon Street and Hartwell Road</i>	<i>Area</i>
	Hartwell Road	9,11,12 Beacon St	House
	Hartwell Road	23,41,47 Hartwell Rd	House
Concord	N/A	183 Virginia Rd	House
	N/A	201 Virginia Rd	House
Lexington	<i>Bedford Street</i>	<i>Bedford Street</i>	<i>Area</i>
	Bedford Street	197 thru 419 Bedford St	House
	<i>Meagherville Extension</i>	<i>Augustus Road, Hill Street, Kimball Road, Park Street, Reed Street, Sunny Knoll Road, and Vaille Avenue</i>	<i>Area</i>
	Meagherville Extension	4 Augustus Rd	House
	Meagherville Extension	55 Hill St (Lexington Golf Club)	Golf Course
	Meagherville Extension	3,4,5,7,8 Kimball Rd	House
	Meagherville Extension	4,6 Park St	House
	Meagherville Extension	28,36,38,39,40,42,44,45,46,49/51,52,53,54,55,56,57,58,63,65,67, 87,94, 98,104 Reed St	House
	Meagherville Extension	1,3,5,9 Sunny Knoll Rd	House
	Meagherville Extension	6,10,16,17,20,21,24,26,32,35,36,37 Vaille Ave	House

- Notes:**
1. Lincoln did not have any properties within the reconnaissance study area.
 2. Area is a neighborhood or district of multiple streets and/or structures, and Area entries are indicated in italics.
N/A Not Applicable.

**Table G-9 Minute Man National Historical Park National Register District Data Sheet
Sorted Alphabetically by Town and Street Address, 2022**

C/NC ¹	NR CATEGORY	NPS NO.	MHC NO.	ADDRESS/LOCATION	NAME	DATES	STYLE
ALL TOWNS							
C	site	None			Battle of Lexington and Concord Battlefield	1775	n/a
C	structure	000919, 040170			Battle Road	18 th –20 th c.	n/a
NC	structure	None			Battle Road Trail	1996–2001	n/a
C	structure	Various			System of Stone Walls	18 th –20 th c.	n/a
C	site	None			System of Fields (Battle Road Unit)		n/a
CONCORD							
C	building	--	CON.256	448 Barretts Mill Rd	Col. James Barrett House	1705	Colonial
C	object	None		Estabrook and Liberty St	Granite Mile Marker	early 20 th c.	n/a
C	object	None		Estabrook and Liberty St	Granite Line of March Marker	early 20 th c.	n/a
C	object	040260		Estabrook and Liberty St	John Buttrick Bas-Relief	1915	n/a
C	structure	040255		Lexington Rd	Meriam's Corner Area Stone Culvert	18 th c.	n/a
C	site	None		Lexington Rd	(First) East Quarter School House Site	early 19 th c.	n/a
C	structure	040254		Lexington Rd	Ox Pasture Stone Bridge	pre-1775	n/a
C	building	006549	CON.171	455 Lexington Rd	Wayside (Samuel Whitney House)	1716–1717; altered mid-1840s, 1860–1870	Colonial/Victorian Eclectic
C	site	None		455 Lexington Rd	Wayside Site	19 th c.	n/a
C	site	040228, 040194, 040199, 040224		455 Lexington Rd	Wayside Landscape	mid-1840s	n/a
C	building	000926		455 Lexington Rd	Wayside Barn	1716–1778; moved mid-1840s; 1860	No Style
C	site	012007		455 Lexington Rd	Eliphelet Fox House Foundation	by 1666	n/a

**Table G-9 Minute Man National Historical Park National Register District Data Sheet
Sorted Alphabetically by Town and Street Address (continued)**

C/NC ¹	NR CATEGORY	NPS NO.	MHC NO.	ADDRESS/LOCATION	NAME	DATES	STYLE
C	building	006548	CON.349	663 Lexington Rd	Gowing-Clark House	ca. 1836	Federal
C	site	040256		663 Lexington Rd	Gowing-Clark Barn Foundation	19th c.	n/a
C	building	040236	CON.352	737-739 Lexington Rd	(Second) East Quarter Schoolhouse	ca. 1853–1854	Frame Vernacular
C	building	4-119-B		750 Lexington Rd	Palumbo Farm Enclosed Garage	ca. 1950	No Style
C	building	4-119-D		750 Lexington Rd	Palumbo Farm Metal Shed	ca. 1950	No Style
C	building	4-119-C		750 Lexington Rd	Palumbo Farm Open Shed	ca. 1950	No Style
C	building	4-119-E		750 Lexington Rd	Palumbo Farm Wood Shed	ca. 1950	No Style
C	building	040028	CON.354	831 Lexington Rd	Perry House	ca. 1865; ca. 1880	Greek Revival
NC	building	4-103-B		831 Lexington Rd	Perry House Garage	ca. 1960	No Style
NC	building	4-103-C		831 Lexington Rd	Perry Shed	ca. 1960	No Style
C	structure	040231, 040232	CON.355	851 Lexington Rd	Albano House and Garage/Apt. Foundation	1915	Craftsman
C	building	101972		851 Lexington Rd	Albano Produce Stand	1915	No Style
C	site	040246		851 Lexington Rd	Albano Foundation	20th c.	n/a
C	building	023167	CON.356	955 Lexington Rd	Farwell Jones House	pre 1775; remodeled ca. 1870	Frame Vernacular
C	building	040241		955 Lexington Rd	Farwell Jones Dairy Barn and Silo	1870	No Style
C	building	4-101-D		955 Lexington Rd	Edward Nowalk Garage	early 20th c.	No Style
NC	building	4-101-C		955 Lexington Rd	Edward Nowalk Produce Stand	ca. 1960	No Style
C	building	4-101-E		955 Lexington Road	Edward Nowalk 6-Bay Tractor Shed	early 20 th c.	No Style
C	building	4-101-F		955 Lexington Rd	Edward Nowalk Cottage	early 20th c.	No Style
C	building	023166	CON.357	965 Lexington Rd	Olive Stow House	ca. 1760	Colonial
C	building	101975		965 Lexington Rd	Olive Stow House Garage	ca. 1920	No Style
C	building	101976	CON.359	1087 Lexington Rd	D. Inferrara House	ca. 1927	Colonial Revival

**Table G-9 Minute Man National Historical Park National Register District Data Sheet
Sorted Alphabetically by Town and Street Address, 2022**

C/NC ¹	NR CATEGORY	NPS NO.	MHC NO.	ADDRESS/LOCATION	NAME	DATES	STYLE
C	building	101977	CON.360	1087 Lexington Rd	D. Inferrara Farm Stand	ca. 1920s	No Style
C	building	3-118-B		1087 Lexington Rd	D. Inferrara Farm Garage	ca. 1937	No Style
NC	building	3-118-D		1087 Lexington Rd	D. Inferrara Farm Coop	late 20th c.	No Style
NC	building	3-118-F		1087 Lexington Rd	D. Inferrara Farm Field Shed	late 20th c.	No Style
C	building	006547	CON.358	1175 Lexington Rd	Samuel Brooks House	ca. 1692–1728	Colonial
C	object	006545	CON.941	Liberty St	The Minuteman	1875	n/a
C	object	040266		Liberty St	Muster Field Monument	early 20th c.	n/a
C	site	000939		Liberty St	Ephraim and Willard Buttrick House Site	1697–1700	n/a
C	structure	040250		Liberty St	Flint Bridge	1877	n/a
C	site	None		Liberty S	Jonas Bateman Site	18th c.	n/a
C	building	040024	CON.344	174 Liberty St	Buttrick Mansion	1911	Classical Revival
C	building	040026	CON.346	174 Liberty St	Buttrick Carriage House	1911	Colonial Revival
C	building	040025	CON.345	174 Liberty St	Buttrick Caretaker's Cottage	1911	Colonial Revival
C	site	040183, 040182		174 Liberty St	Buttrick Designed Landscape	early 20th c.	n/a
C	site	014011		174 Liberty St	Captain David Brown House Foundation	18th c.	n/a
C	building	000932	CON.343	231 Liberty St	Major John Buttrick House	ca. 1715; 19 th c. alterations	Colonial
C	site	040249		231 Liberty St	John Buttrick Foundation	19th c.	n/a
C	building	040235		231 Liberty St	Major John Buttrick	early 20 th c.	Colonial Revival
NC	building	None		50 Manuel Dr	House	mid–late 20th c.	Modern
NC	building	None		65 Manuel Dr	Korn House	ca. 1960	Modern Cape
NC	building	None		82 Manuel Dr	House	mid–late 20th c.	Modern
NC	building	None		82 Manuel Dr	Shed	mid–late 20th	No Style

**Table G-9 Minute Man National Historical Park National Register District Data Sheet
Sorted Alphabetically by Town and Street Address (continued)**

C/NC ¹	NR CATEGORY	NPS NO.	MHC NO.	ADDRESS/LOCATION	NAME	DATES	STYLE
NC	building	None		95 Manuel Dr	House	mid-late 20th c.	Modern
NC	building	None		95 Manuel Dr	Garage	mid-late 20th c.	No Style
C	object	006544		Monument St	Grave and Monument to British Soldiers	1890–1910	n/a
NC	object	040262		Monument St	DAR Marker	1975	n/a
C	object	006543	CON.939	Monument St	1836 Battle Monument	1836	n/a
C	structure	000945	CON.940	Monument St	North Bridge	1956	n/a
C	site	None	CON HA-13	Monument St	Thomas Flint Site	after 1635	n/a
C	object	040261		Monument St	Concord Fight Marker	early 20th c.	n/a
NC	building	None		Monument St	North Bridge Comfort Station	1984	No Style
C	structure	None		Monument St	Road to North Bridge and Alleé	early 20th c.	n/a
C	building	000924	CON.348	242 Monument St	Elisha Jones House	early 18th c.; rebuilt 1865–1866	Colonial
C	site	None		242 Monument St	Elisha Jones Site		n/a
C	building	None	CON.347	269 Monument St	Old Manse	1769/1770	Colonial
C	site	None		North Bridge	North Bridge Landscape	1836–1956	n/a
C	site	None		North Bridge	Battle Road/North Bridge	ca. 1635–1650	n/a
C	building	000928		North Great Rd	Job Brooks House	1740	Colonial
C	object	040265		Old Bedford Rd	Meriam's Corner Monument	1885	n/a
C	building	040243	CON.350	34 Old Bedford Rd	Meriam House	ca. 1705, ca. 1725	Colonial
C	site	None		34 Old Bedford Rd	John Meriam/ Joseph Meriam House Sites	ca. 1665	n/a
C	building	040234	CON.351	55 Old Bedford Rd	Burke House	ca. 1904	Dutch Colonial Revival
C	building	101974		55 Old Bedford Rd	Burke House Garage	ca. 1940	No Style
LEXINGTON							
C	site	040253		Marrett St	Tabitha Nelson House (Thomas Nelson, Sr.) Site	1754–1757; 1716	n/a

**Table G-9 Minute Man National Historical Park National Register District Data Sheet
Sorted Alphabetically by Town and Street Address, 2022**

C/NC ¹	NR CATEGORY	NPS NO.	MHC NO.	ADDRESS/LOCATION	NAME	DATES	STYLE
C	building	000929	LEX.618	21 Marrett St	Jacob Whittemore House	prior to 1754	Georgian/
C	building	040239		21 Marrett St	Barn at Whittemore House	19th c.; moved 1978	No Style
C	site	None		Marrett St	Jacob Whittemore Blacksmith Shop	18th c.	n/a
C	site	None		Mass. Ave and Marrett St	Barn Foundation Site	1720–1900	n/a
C	site	None	LX HA-1	Mass. Ave at Fiske Hill	Lt. David Fiske Site	1655–1721	n/a
NC	building	1-109-A		Massachusetts Ave	Minute Man Visitors Center	1976	Modern
C	site	040247		Old Massachusetts Ave and Wood St	Bashian Barn Foundation	1872–1875	n/a
C	site	000923		Old Massachusetts Ave and Wood St	Ebenezer Fiske House Foundation	ca. 1729–late 19th c.	n/a
C	structure	006541		Old Massachusetts Ave and Wood St	Fiske Hill Well	1700–1775	n/a
C	object	040264		Old Massachusetts Ave and Wood St	Hayward Well Monument	1885	n/a
C	object	040259		Old Massachusetts Ave and Wood St	Bluff Monument	1885	n/a
C	site	None			Battle Road/ Fiske Hill Site	18th c.	n/a
LINCOLN							
NC	building	2-129-A		58 Bedford Ln	Mrs. Edward Downing House	ca. 1954	Modern Cape
C	site	040248		Great North Rd and Old Bedford Rd	Thomas Brooks Farm Foundation	1800–1850	n/a
C	site	040252		Massachusetts Ave and Virginia Rd	Samuel Hartwell Farm Cellar Hole	18th c.	n/a
C	site	040258		Massachusetts Ave	Unidentified Cut Stone Foundation	early 19th c.	n/a
NC	object	040267		Massachusetts Ave	Paul Revere Capture Marker	pre-1902	n/a
NC	building	2-101-A		190 Massachusetts Ave	Irene Hegenian House	1949–1954	Modern Cape
NC	building	2-101-B		190 Massachusetts Ave	Irene Hegenian Shed	ca. 1960	No Style
C	site	040027		Massachusetts Ave	Josiah Nelson, Jr. Hop House Foundation	1810–1820	n/a
C	building	006551		200 Massachusetts Ave	John Nelson House	1808–1810	Federal

**Table G-9 Minute Man National Historical Park National Register District Data Sheet
Sorted Alphabetically by Town and Street Address (continued)**

C/NC ¹	NR CATEGORY	NPS NO.	MHC NO.	ADDRESS/LOCATION	NAME	DATES	STYLE
C	building	012008		200 Massachusetts Ave	John Nelson Barn	ca. 1810; additions 1830.	No Style
C	site	None		Nelson Rd	Site 22, 23	1700–1800; 1720–1800	n/a
C	site	None		Nelson Rd	Daniel Brown House and Shop Site	18th c.	n/a
C	site	000920		Nelson Rd	Josiah Nelson House Foundation	ca. 1775	n/a
C	site	012006	LN HA-6	Nelson Rd	Thomas Nelson, Jr. House Foundation	1700–1750	n/a
C	site	None		Nelson Rd	Site 24	18th c.	n/a
C	site	None		North Great Rd	Hastings Barn Foundation	19th c.	n/a
C	building	006546, 040233	LIN.64	33 North Great Rd	Noah Brooks Tavern, Noah Brooks Tavern Carriage House	ca. 1798	Federal
C	building	040245		33 North Great Rd	Noah Brooks Barn (Rogers Barn)	1937/1938	No Style
C	site	None		North Great Rd	Brooks House Site	18th c.	n/a
C	building	006552	LIN.65	37 North Great Rd	Joshua Brooks, Jr. House	1780	Federal
C	site	None		North Great Rd	Joshua Brooks Tanyard Site	18th c.	n/a
NC	building	3-111-A		59 North Great Rd	Moodey House	1956	Dutch Colonial Revival
NC	building	None		71 North Great Rd	Bierlich House	ca. 1957	Ranch
C	building	040244		101 North Great Rd	Rego House	1890–1910	Frame Vernacular
NC	building	2-124-B		101 North Great Rd	Rego House Garage	mid–late 20th c.	No Style
NC	building	2-112-A		112 North Great Rd	James Russell House	1954	Modern
NC	building	3-110-A		4 Old Bedford Rd	W.R. Barker House	ca. 1940	Modern Cape
NC	building	3-110-B		4 Old Bedford Rd	W.R. Barker Garage	1940–1945	No Style
NC	building	3-109-A		8 Old Bedford Rd	Janet Swartz House	ca. 1955	Modern Cape
NC	building	3-109-B		8 Old Bedford Rd	Janet Swartz Garage	ca. 1955	No Style
C	site	None		Virginia Rd	Joseph Mason House Site	18th c.	n/a

**Table G-9 Minute Man National Historical Park National Register District Data Sheet
Sorted Alphabetically by Town and Street Address, 2022**

C/NC ¹	NR CATEGORY	NPS NO.	MHC NO.	ADDRESS/LOCATION	NAME	DATES	STYLE
C	building	000931	LIN.66	Virginia Rd	Ephraim Hartwell Tavern	ca. 1733	Colonial
C	site			Virginia Rd	Ephraim Hartwell Site	18th c.	n/a
C	building	006553	LIN.70	Virginia Rd	Captain William Smith House	ca. 1750	Colonial
C	site	None		Virginia Rd	Captain William Smith Site	18th c.	n/a
C	site	000930	LIN.69	Virginia Rd	Sgt. Samuel Hartwell House Site	1693–1716; burned 1968;shelter	n/a
C	building	040029	LIN.140	Virginia Rd	McHugh Barn	ca. 1830; rebuilt 1939	No Style

Notes: 1. Contributing/Non-Contributing per Harrington et al. (PAL), Minute Man National Historical Park National Register of Historic Places Documentation, Concord, Lexington, and Lincoln, Massachusetts, 2001. The National Park Service is currently updating the National Register documentation.



(This page intentionally left blank.)