

# E. Environmental Justice Supporting Documentation

This appendix provides detailed information in support of Chapter 2, *Outreach and Environmental Justice*.

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## E.1 Environmental Justice and Community Outreach

**Table E-1** provides a list of Massport-wide **environmental justice (EJ)** and community outreach initiatives and EDR-specific outreach efforts.

**Table E-1 Massport’s Environmental Justice and Community Outreach Initiatives**

| Date                                                                           | Meeting or Outreach Type                |
|--------------------------------------------------------------------------------|-----------------------------------------|
| <b>Prior to the 2023/2024 EDR Filing</b>                                       |                                         |
| February 10 <sup>th</sup> , 2025                                               | MEPA’s Logan Airport Work Group Meeting |
| March 31 <sup>st</sup> , 2025                                                  | MEPA’s Logan Airport Work Group Meeting |
| June 2 <sup>nd</sup> , 2025                                                    | MEPA’s Logan Airport Work Group Meeting |
| June 16 <sup>th</sup> , 2025                                                   | MEPA’s Logan Airport Work Group Meeting |
| July 21 <sup>st</sup> , 2025                                                   | MEPA’s Logan Airport Work Group Meeting |
| September 15 <sup>th</sup> , 2025                                              | MEPA’s Logan Airport Work Group Meeting |
| <b>After the 2023/2024 EDR Filing</b>                                          |                                         |
| November, 2025 <sup>1</sup>                                                    | 2023/2024 EDR Post Filing Meeting       |
| On-going throughout 2025                                                       | MEPA’s Logan Airport Work Group Meeting |
| <b>Massport-wide, On-going</b>                                                 |                                         |
| Regular Meetings with the Massport Community Advisory Committee (Massport CAC) |                                         |
| Regular Meetings with City of Boston Officials                                 |                                         |
| Regular Meetings with the Winthrop Town Council                                |                                         |
| Regular Meetings with the Harborview Neighborhood Association                  |                                         |
| Regular Meetings with the Jeffries Point Neighborhood Association              |                                         |
| Regular Meetings with the Orient Heights Neighborhood Council                  |                                         |
| Regular Meetings with the Piers Park Advisory Committee (PierPAC)              |                                         |

<sup>1</sup> A public consultation session on the 2023/2024 EDR will be held during the public comment period with meeting details posted in the *Environmental Monitor* and on Massport’s website.

## E.2 Community Existing Conditions Assessment

Logan Airport’s EDRs and ESPRs differ from traditional **Massachusetts Environmental Policy Act (MEPA)** Office project filings as, unlike an individual project filing, Logan Airport’s activities and operations, and their related potential impacts, are cumulatively reported each year, but vary from year to year based on factors both within and outside of Massport’s direct control, like changes in flights offered by airlines or regional economic activity, among others. The following sections reassess findings from the 2022 EDR through the **Massachusetts Department of Environmental Protection (MassDEP)** developed **Cumulative Impact Analysis Framework (MassDEP CIA Framework)**.

## E.3 Community Existing Conditions Assessment Methodology

The following describes how the 2022 *ESPR* methodology for the EJ and public health existing conditions review was expanded in scope for the 2023/2024 *EDR*:

- The MassDEP CIA Mapping Tool was used to assess environmental and public health conditions for EJ populations within the **Designated Geographic Area (DGA)**.
  - o A shapefile representing the perimeter of Logan Airport was uploaded into the MassDEP CIA Mapping Tool, and a 1-mile radius was generated from this boundary to establish the DGA.
  - o The MassDEP CIA Mapping Tool was used to identify the EJ block groups either fully or partially within the DGA, then to generate a list of environmental and public health indicators and associated sensitive receptors.
- The downloaded analysis results included geographic identifiers for each block group within the DGA along with their calculated areas to determine which block groups met the five percent intersect threshold for inclusion in further analyses and visualization.
- The MassDEP CIA Mapping Tool provides seven indicators under the Air Quality and Climate category, and a review of these indicators showed six of the seven overlapped with the previous EJScreen Tool, indicating consistency with earlier assessments.
  - o Indicator data was subset to only those relevant to air quality and climate change and applied to each block group within the DGA.
  - o A summary of these indicators is included in the appendix, while a brief qualitative overview is provided in the main chapter.
- Public health existing conditions were reviewed to identify potential public health consequences, designated by a rate of occurrence greater than 110 percent of the statewide rate of occurrence for Department of Public Health (DPH) EJ Tool Vulnerable Health EJ Criteria data.
  - o Health indicators are available from the MassDEP cumulative impact analysis website for EJ block groups and the most recent time frames useful for CIA reports.<sup>1</sup>
  - o Data for broader areas and timeframes are available from original sources as noted below for each indicator.

### E.3.1 Data Availability and Assessment Limitations

Most of the data provided by the MassDEP CIA Framework<sup>2</sup> are derived from regional and modeled datasets that reflect general environmental burdens, but do not always provide easily quantifiable metrics specific to Logan Airport's contributions. Many air quality and climate indicators, such as particulate

<sup>1</sup> MassDEP Cumulative Impact Analysis. <https://www.mass.gov/info-details/cumulative-impact-analysis-in-air-quality-permitting>

<sup>2</sup> MassDEP. 2024. Guidance for Conducting Cumulative Impact Analysis For Air Quality Comprehensive Plan Applications. <https://www.mass.gov/doc/guidance-for-conducting-cumulative-impact-analysis-for-air-quality-comprehensive-plan-applications-march-28-2024/download>

matter (PM<sub>10</sub>/PM<sub>2.5</sub>), ozone, and traffic proximity, are provided at the **census tract** or **block group** level, but reflect cumulative regional conditions. Noise burdens are not captured in either MassDEP CIA Mapping Tool or DPH EJ Tool, nor do they have data on annoyance or sleep disturbance from noise. As a result, Logan Airport's specific impacts are not readily distinguishable from other sources of pollution or regional transportation activity.

The 2022 EJ Protocols include criteria for identifying Vulnerable Health EJ Populations; however, data for some of the EJ Protocol criteria are not available at the neighborhood (census tract) level. Therefore, the 2021 EJ Policy assessment method uses surrogate datasets derived from populations outside of this study's DGA; for example, modeled estimates of coronary heart disease from the Centers for Disease Control and Prevention (CDC) and DPH school asthma prevalence data are used. This assessment also uses CDC estimates of chronic obstructive pulmonary disease (COPD) and DPH data on premature mortality rates (PMR) as neighborhood-level health indicators. Low birth weight and elevated blood lead levels in this assessment are consistent with the health criteria in the 2021 EJ Policy, except blood lead levels are reported for the past three years rather than five years. The shorter 3-year average more accurately represents current levels because blood lead levels have been decreasing over time.

### E.3.2 EJ Populations within the Assessment DGA

Logan Airport is situated in East Boston, Massachusetts, near the Boston Inner Harbor. Located northeast of downtown Boston, and is surrounded by a mix of residential and commercial areas. Within a 1-mile radius of the Airport's property boundary are various census tracts and block groups with EJ populations, including multiple block groups across Boston, Chelsea, Revere, and Winthrop. The census tracts and block groups detailed in **Table E-2** make up the DGA studied in this analysis.

**Table E-2** Census Tracts and EJ Block Groups within the 1-Mile DGA Boundary

| Census Tract | Block Group | Municipality | EJ Block Group GEOID (12 digits) <sup>1</sup> |
|--------------|-------------|--------------|-----------------------------------------------|
| 408.01       | 2           | Boston       | 250250408012                                  |
| 501.01       | 3           | Boston       | 250250501013                                  |
| 501.01       | 1           | Boston       | 250250501011                                  |
| 501.01       | 2           | Boston       | 250250501012                                  |
| 502          | 3           | Boston       | 250250502003                                  |
| 502          | 4           | Boston       | 250250502004                                  |
| 502          | 2           | Boston       | 250250502002                                  |
| 502          | 1           | Boston       | 250250502001                                  |
| 503          | 2           | Boston       | 250250503002                                  |
| 503          | 3           | Boston       | 250250503003                                  |
| 503          | 1           | Boston       | 250250503001                                  |

Table E-2 Census Tracts and EJ Block Groups within the 1-Mile DGA Boundary

| Census Tract | Block Group | Municipality | EJ Block Group GEOID (12 digits) <sup>1</sup> |
|--------------|-------------|--------------|-----------------------------------------------|
| 504          | 1           | Boston       | 250250504001                                  |
| 504          | 2           | Boston       | 250250504002                                  |
| 505          | 1           | Boston       | 250250505001                                  |
| 506          | 2           | Boston       | 250250506002                                  |
| 506          | 1           | Boston       | 250250506001                                  |
| 507          | 2           | Boston       | 250250507002                                  |
| 507          | 1           | Boston       | 250250507001                                  |
| 507          | 3           | Boston       | 250250507003                                  |
| 509.01       | 2           | Boston       | 250250509012                                  |
| 509.01       | 1           | Boston       | 250250509011                                  |
| 509.01       | 3           | Boston       | 250250509013                                  |
| 510          | 3           | Boston       | 250250510003                                  |
| 510          | 1           | Boston       | 250250510001                                  |
| 510          | 2           | Boston       | 250250510002                                  |
| 511.01       | 1           | Boston       | 250250511011                                  |
| 511.01       | 4           | Boston       | 250250511014                                  |
| 511.01       | 2           | Boston       | 250250511012                                  |
| 511.01       | 3           | Boston       | 250250511013                                  |
| 512          | 3           | Boston       | 250250512003                                  |
| 512          | 2           | Boston       | 250250512002                                  |
| 512          | 1           | Boston       | 250250512001                                  |
| 606.04       | 2           | Boston       | 250250606042                                  |
| 606.04       | 1           | Boston       | 250250606041                                  |
| 701.04       | 2           | Boston       | 250250701042                                  |
| 701.04       | 1           | Boston       | 250250701041                                  |
| 1601.02      | 1           | Chelsea      | 250251601021                                  |
| 1601.02      | 3           | Chelsea      | 250251601023                                  |
| 1601.02      | 2           | Chelsea      | 250251601022                                  |
| 1601.02      | 4           | Chelsea      | 250251601024                                  |
| 1601.03      | 2           | Chelsea      | 250251601032                                  |
| 1601.03      | 1           | Chelsea      | 250251601031                                  |
| 1601.03      | 3           | Chelsea      | 250251601033                                  |

Table E-2 Census Tracts and EJ Block Groups within the 1-Mile DGA Boundary

| Census Tract | Block Group | Municipality | EJ Block Group GEOID (12 digits) <sup>1</sup> |
|--------------|-------------|--------------|-----------------------------------------------|
| 1601.03      | 4           | Chelsea      | 250251601034                                  |
| 1602         | 1           | Chelsea      | 250251602001                                  |
| 1602         | 2           | Chelsea      | 250251602002                                  |
| 1602         | 4           | Chelsea      | 250251602004                                  |
| 1602         | 3           | Chelsea      | 250251602003                                  |
| 1603         | 1           | Chelsea      | 250251603001                                  |
| 1605.02      | 5           | Chelsea      | 250251605025                                  |
| 1605.02      | 3           | Chelsea      | 250251605023                                  |
| 1706.01      | 2           | Revere       | 250251706012                                  |
| 1707.01      | 1           | Revere       | 250251707011                                  |
| 1708         | 2           | Revere       | 250251708002                                  |
| 1708         | 1           | Revere       | 250251708001                                  |
| 1708         | 3           | Revere       | 250251708003                                  |
| 1708         | 4           | Revere       | 250251708004                                  |
| 1801.01      | 4           | Winthrop     | 250251801014                                  |
| 1801.01      | 3           | Winthrop     | 250251801013                                  |
| 1802         | 2           | Winthrop     | 250251802002                                  |
| 1802         | 3           | Winthrop     | 250251802003                                  |
| 1802         | 1           | Winthrop     | 250251802001                                  |
| 1805         | 3           | Winthrop     | 250251805003                                  |
| 9813         | 1           | Boston       | 250259813001                                  |

Source: Massachusetts EEA EJ Block Groups Nov 2022; 2020 EJ Populations include data from 2020 Census and American Community Survey, 2016-2020.

Note: The blue highlighted row indicates the EJ block group where Logan Airport is located.

<sup>1</sup> The geographic identifier (GEOID) is combination of state code + county code + tract + block group. State code for MA is 25. County code for Worcester is 027. Tract is next five digits followed by the single digit block group number. Sometimes tract is written without the trailing "0", for example 7301 rather than 730100. GEOID is used for searching databases.

### E.3.2.2 Languages Spoken Among DGA Populations

Languages within the DGA were identified in part by using data from the Massachusetts Bureau of Geographic Information (MassGIS). **Table E-3** includes these languages by census tract.

**Table E-3 Languages Spoken by Percent of Population Within the Logan Airport DGA**

| Census Tract | Languages                                                        |
|--------------|------------------------------------------------------------------|
| 408.01       | Spanish or Spanish Creole (10.5%), Chinese (9.2%)                |
| 501.01       | Spanish or Spanish Creole (34.5%)                                |
| 502          | Spanish or Spanish Creole (49.1%), Arabic (3.8%)                 |
| 503          | Spanish or Spanish Creole (24.3%), Chinese (3.6%)                |
| 504          | Spanish or Spanish Creole (36.5%)                                |
| 505          | Spanish or Spanish Creole (45.7%)                                |
| 506          | Spanish or Spanish Creole (60.0%)                                |
| 507          | Spanish or Spanish Creole (49.8%), Arabic (4.8%)                 |
| 509.01       | Spanish or Spanish Creole (51.0%), Arabic (4.0%)                 |
| 510          | Spanish or Spanish Creole (19.6%)                                |
| 511.01       | Spanish or Spanish Creole (24.6%), Chinese (3.2%), Arabic (3.3%) |
| 512          | Spanish or Spanish Creole (23.0%), Arabic (2.7%)                 |
| 701.01       | Chinese (9.8%)                                                   |
| 1601.01      | Spanish or Spanish Creole (49.8%)                                |
| 1602         | Spanish or Spanish Creole (60.8%)                                |
| 1603         | Spanish or Spanish Creole (9.5%)                                 |
| 1605.01      | Spanish or Spanish Creole (48.0%)                                |
| 1605.02      | Spanish or Spanish Creole (28.6%)                                |
| 1706.01      | Spanish or Spanish Creole (16.3%), Arabic (3.1%)                 |
| 1707.01      | Spanish or Spanish Creole (24.5%), Arabic (3.5%)                 |
| 1708         | Spanish or Spanish Creole (13.7%), Arabic (6.1%)                 |
| 9813         | Spanish or Spanish Creole (20.2%)                                |

Source: U.S. Census Bureau, American Communities Survey (ACS), 2015.

Note: Data in this table is from a 2015 survey; therefore, census tracts presented in this table may not be consistent with census tracts in described in other sections of this appendix or the 2023/2024 EDR.

## E.4 Community Existing Conditions Assessment Results

The results presented in the following sections were developed using MassDEP's guidance and assessment methodology for conducting Cumulative Impact Analyses.<sup>3</sup> Data for EJ block groups used in this analysis, including socioeconomic indicators for the most recent time frames available, were sourced from the EEA and MassDEP CIA Mapping Tool, and data for broader areas and time frames are available from original sources for each indicator as noted in the indicator-specific sections below.<sup>4</sup>

3 Massachusetts DEP. Guidance for Conducting Cumulative Impact Analysis For Air Quality Comprehensive Plan Applications. 2024. <https://www.mass.gov/doc/guidance-for-conducting-cumulative-impact-analysis-for-air-quality-comprehensive-plan-applications-march-28-2024/download>

4 Massachusetts EEA CIA Mapping Tool. 2022. [https://masseoea.maps.arcgis.com/apps/webappviewer/index.html?id=5a876b759df24d10b4a9e9e5b39213\\_10](https://masseoea.maps.arcgis.com/apps/webappviewer/index.html?id=5a876b759df24d10b4a9e9e5b39213_10)

### E.4.1 EJ Populations and Socioeconomic Conditions

There are 36 census tracts within a 1-mile radius of the Airport and 26 of the 36 census tracts contain EJ block groups. A total of 64 block groups partially or fully located within a 1-mile radius met the criteria for EJ populations. Logan Airport is within block group 1, an EJ block group, in census tract 9813. See **User's Guide Section U2.3** for the **Executive Office of Energy and Environmental Affairs (EEA)** definitions and sources for EJ population data. The current EJ population determinations were based on recently available U.S. Census data for minority, income, and language isolation.<sup>5</sup> Specifically, **Table E-2** lists the EJ block groups with populations near the Airport, while **Table E-4** provides socioeconomic indicators for each group. A visual of the EJ block groups within a 1-mile radius of the Airport can be viewed in Chapter 2, *Outreach and Environmental Justice*, Section 2.3.

User's  
Guide  
Section  
U2.3

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5 Massachusetts EEA. Environmental Justice Populations. 2022. <https://www.mass.gov/info-details/environmental-justicepopulations-in-massachusetts>

Table E-4 Socioeconomic Indicators for Block Groups (EJ and Non EJ) with DGA

| Census Tract | Block Group | Municipality | Population | Block Group Median Household Income (MHHI) | Block Group MHHI as % of MA MHHI | Percent Minority | Percent Limited English Households | Percent of Population under 5 (%) | Percent of Population Over 65 (%) | EJ Criteria Description                |
|--------------|-------------|--------------|------------|--------------------------------------------|----------------------------------|------------------|------------------------------------|-----------------------------------|-----------------------------------|----------------------------------------|
| 303.01       | 1           | Boston       | 1,103      | \$111,745                                  | 132.4%                           | 16.9%            | 0.0%                               | -                                 | -                                 | -                                      |
| 303.01       | 2           | Boston       | 282        | \$144,034                                  | 167.8%                           | 16.0%            | 0.0%                               | -                                 | -                                 | -                                      |
| 304          | 1           | Boston       | 599        | \$87,321                                   | 103.5%                           | 14.5%            | 0.0%                               | -                                 | -                                 | -                                      |
| 304          | 4           | Boston       | 1,558      | \$155,559                                  | 184.3%                           | 18.3%            | 0.0%                               | -                                 | -                                 | -                                      |
| 305          | 1           | Boston       | 823        | \$150,000                                  | 177.8%                           | 16.0%            | 4.7%                               | -                                 | -                                 | -                                      |
| 305          | 2           | Boston       | 1,067      | \$115,950                                  | 137.4%                           | 8.9%             | 5.8%                               | -                                 | -                                 | -                                      |
| 305          | 3           | Boston       | 825        | \$98,750                                   | 117.0%                           | 11.3%            | 5.4%                               | -                                 | -                                 | -                                      |
| 408.01       | 2           | Boston       | 765        | \$31,151                                   | <b>36.9%</b>                     | <b>82.7%</b>     | 8.3%                               | 4.3%                              | 22.1%                             | Minority and income                    |
| 408.01       | 3           | Boston       | 2,081      | \$172,813                                  | 204.8%                           | 15.6%            | 1.2%                               | -                                 | -                                 | -                                      |
| 501.01       | 1           | Boston       | 1,643      | \$82,583                                   | 97.9%                            | <b>76.6%</b>     | 23.7%                              | 3.1%                              | 7.0%                              | Minority                               |
| 501.01       | 2           | Boston       | 1,389      | \$22,910                                   | <b>27.1%</b>                     | <b>76.4%</b>     | <b>37.5%</b>                       | 10.2%                             | 4.2%                              | Minority, income and English isolation |
| 501.01       | 3           | Boston       | 1,885      | \$71,053                                   | 84.2%                            | <b>71.9%</b>     | 22.6%                              | 2.9%                              | 16.0%                             | Minority                               |
| 502          | 1           | Boston       | 2,140      | \$67,564                                   | 80.1%                            | <b>72.9%</b>     | 13.2%                              | 9.5%                              | 6.5%                              | Minority                               |
| 502          | 2           | Boston       | 1,238      | \$76,635                                   | 90.8%                            | <b>64.5%</b>     | 24.0%                              | 6.3%                              | 7.8%                              | Minority                               |
| 502          | 3           | Boston       | 788        | \$54,911                                   | 65.1%                            | <b>71.3%</b>     | <b>53.7%</b>                       | 3.7%                              | 3.0%                              | Minority, income and English isolation |
| 502          | 4           | Boston       | 1,031      | \$63,438                                   | 75.2%                            | <b>78.6%</b>     | <b>53.4%</b>                       | 4.3%                              | 8.0%                              | Minority and English isolation         |
| 503          | 1           | Boston       | 1,475      | \$66,250                                   | 78.5%                            | <b>55.2%</b>     | 9.9%                               | 1.4%                              | 29.8%                             | Minority                               |
| 503          | 2           | Boston       | 777        | \$44,464                                   | <b>52.7%</b>                     | <b>79.0%</b>     | 24.3%                              | 12.1%                             | 0.8%                              | Minority and income                    |
| 503          | 3           | Boston       | 1,006      | \$12,013                                   | <b>14.2%</b>                     | <b>57.6%</b>     | 24.6%                              | 10.8%                             | 9.0%                              | Minority, income and English isolation |
| 504          | 1           | Boston       | 603        | \$65,441                                   | 77.6%                            | <b>73.0%</b>     | 3.3%                               | 1.9%                              | 1.2%                              | Minority                               |
| 504          | 2           | Boston       | 1,769      | \$80,268                                   | 95.1%                            | <b>47.6%</b>     | 20.0%                              | 1.9%                              | 18.2%                             | Minority                               |

Table E-4 Socioeconomic Indicators for Block Groups (EJ and Non EJ) with DGA

| Census Tract | Block Group | Municipality | Population | Block Group Median Household Income (MHHI) | Block Group MHHI as % of MA MHHI | Percent Minority | Percent Limited English Households | Percent of Population under 5 (%) | Percent of Population Over 65 (%) | EJ Criteria Description                |
|--------------|-------------|--------------|------------|--------------------------------------------|----------------------------------|------------------|------------------------------------|-----------------------------------|-----------------------------------|----------------------------------------|
| 505          | 1           | Boston       | 2,174      | \$86,750                                   | 102.8%                           | <b>57.1%</b>     | 20.8%                              | 5.9%                              | 2.5%                              | Minority                               |
| 505          | 2           | Boston       | 0          | \$128,000                                  | 149.1%                           | 0.0%             | 0.0%                               | -                                 | -                                 | -                                      |
| 506          | 1           | Boston       | 1,162      | \$73,750                                   | 87.4%                            | <b>68.7%</b>     | <b>38.6%</b>                       | 5.4%                              | 10.5%                             | Minority and English isolation         |
| 506          | 2           | Boston       | 912        | \$106,071                                  | 125.7%                           | <b>63.0%</b>     | 19.1%                              | 9.5%                              | 3.1%                              | Minority                               |
| 507          | 1           | Boston       | 1,766      | \$61,339                                   | 72.7%                            | <b>72.5%</b>     | <b>33.9%</b>                       | 10.1%                             | 6.7%                              | Minority and English isolation         |
| 507          | 2           | Boston       | 1,341      | \$52,491                                   | <b>62.2%</b>                     | <b>71.9%</b>     | <b>58.5%</b>                       | 0.0%                              | 6.7%                              | Minority, income and English isolation |
| 507          | 3           | Boston       | 1,413      | \$81,897                                   | 97.1%                            | <b>71.3%</b>     | <b>62.1%</b>                       | 3.8%                              | 2.3%                              | Minority and English isolation         |
| 509.01       | 1           | Boston       | 1,421      | \$76,591                                   | 90.8%                            | <b>82.6%</b>     | <b>36.4%</b>                       | 1.9%                              | 5.0%                              | Minority and English isolation         |
| 509.01       | 2           | Boston       | 1,860      | \$81,250                                   | 96.3%                            | <b>68.2%</b>     | 18.3%                              | 4.6%                              | 4.0%                              | Minority                               |
| 509.01       | 3           | Boston       | 961        | \$37,333                                   | <b>44.2%</b>                     | <b>73.8%</b>     | <b>43.4%</b>                       | 5.8%                              | 4.2%                              | Minority, income and English isolation |
| 510          | 1           | Boston       | 2,134      | \$66,845                                   | 79.2%                            | <b>55.2%</b>     | 15.9%                              | 0.0%                              | 27.0%                             | Minority                               |
| 510          | 2           | Boston       | 1,055      | \$21,438                                   | <b>25.4%</b>                     | <b>56.2%</b>     | 15.5%                              | 1.8%                              | 8.2%                              | Minority and income                    |
| 510          | 3           | Boston       | 1,128      | \$84,784                                   | 100.5%                           | <b>56.8%</b>     | 8.0%                               | 6.7%                              | 7.4%                              | Minority                               |
| 511.01       | 1           | Boston       | 1,803      | \$67,930                                   | 80.5%                            | <b>62.1%</b>     | <b>26.4%</b>                       | 2.3%                              | 22.4%                             | Minority and English isolation         |
| 511.01       | 2           | Boston       | 1,831      | \$48,707                                   | <b>57.7%</b>                     | <b>68.2%</b>     | <b>28.9%</b>                       | 10.0%                             | 12.2%                             | Minority, income and English isolation |
| 511.01       | 3           | Boston       | 1,727      | \$121,875                                  | 144.4%                           | <b>53.0%</b>     | 0.0%                               | 9.0%                              | 8.5%                              | Minority                               |
| 511.01       | 4           | Boston       | 1,099      | \$77,870                                   | 92.3%                            | 39.6%            | 4.5%                               | 5.6%                              | 3.7%                              | Minority                               |
| 512          | 1           | Boston       | 833        | \$150,313                                  | 178.1%                           | 37.5%            | <b>25.7%</b>                       | 3.3%                              | 13.3%                             | Minority and English isolation         |

Table E-4 Socioeconomic Indicators for Block Groups (EJ and Non EJ) with DGA

| Census Tract | Block Group | Municipality | Population | Block Group Median Household Income (MHHI) | Block Group MHHI as % of MA MHHI | Percent Minority | Percent Limited English Households | Percent of Population under 5 (%) | Percent of Population Over 65 (%) | EJ Criteria Description                |
|--------------|-------------|--------------|------------|--------------------------------------------|----------------------------------|------------------|------------------------------------|-----------------------------------|-----------------------------------|----------------------------------------|
| 512          | 2           | Boston       | 1,703      | \$69,103                                   | 81.9%                            | <b>50.0%</b>     | 8.5%                               | 7.4%                              | 4.7%                              | Minority                               |
| 512          | 3           | Boston       | 918        | \$90,917                                   | 107.7%                           | 29.8%            | 7.3%                               | 0.8%                              | 1.5%                              | Minority                               |
| 606.03       | 1           | Boston       | 1,502      | \$186,250                                  | 220.7%                           | 23.3%            | 0.0%                               | -                                 | -                                 | -                                      |
| 606.04       | 1           | Boston       | 1,814      | \$243,719                                  | 288.8%                           | 24.8%            | 0.7%                               | 5.2%                              | 14.9%                             | Minority                               |
| 606.04       | 2           | Boston       | 989        | \$176,000                                  | 208.6%                           | 24.7%            | 0.0%                               | 1.2%                              | 4.6%                              | Minority                               |
| 701.04       | 1           | Boston       | 890        | \$129,792                                  | 153.8%                           | 30.1%            | 5.4%                               | 3.3%                              | 19.8%                             | Minority                               |
| 701.04       | 2           | Boston       | 610        | \$196,250                                  | 228.6%                           | 31.5%            | 0.0%                               | 0.0%                              | 7.9%                              | Minority                               |
| 1601.02      | 1           | Chelsea      | 798        | \$59,201                                   | 70.2%                            | <b>79.6%</b>     | <b>25.7%</b>                       | 0.0%                              | 24.2%                             | Minority and English isolation         |
| 1601.02      | 2           | Chelsea      | 1,613      | \$63,469                                   | 75.2%                            | <b>95.6%</b>     | <b>39.3%</b>                       | 10.2%                             | 12.3%                             | Minority and English isolation         |
| 1601.02      | 3           | Chelsea      | 864        | \$81,313                                   | 96.4%                            | <b>89.7%</b>     | 7.4%                               | 11.6%                             | 7.2%                              | Minority                               |
| 1601.02      | 4           | Chelsea      | 548        | \$25,451                                   | <b>30.2%</b>                     | <b>88.7%</b>     | <b>34.1%</b>                       | 7.8%                              | 3.9%                              | Minority, income and English isolation |
| 1601.03      | 1           | Chelsea      | 1,599      | -                                          | <b>0.0%</b>                      | <b>92.0%</b>     | <b>40.5%</b>                       | 5.6%                              | 2.3%                              | Minority and English isolation         |
| 1601.03      | 2           | Chelsea      | 1,081      | \$69,713                                   | 82.6%                            | <b>93.3%</b>     | <b>67.9%</b>                       | 2.3%                              | 9.6%                              | Minority and English isolation         |
| 1601.03      | 3           | Chelsea      | 994        | \$65,865                                   | 78.1%                            | <b>75.8%</b>     | 14.1%                              | 7.7%                              | 10.5%                             | Minority                               |
| 1601.03      | 4           | Chelsea      | 972        | \$198,000                                  | 234.6%                           | <b>75.2%</b>     | <b>32.3%</b>                       | 9.9%                              | 25.5%                             | Minority and English isolation         |
| 1602         | 1           | Chelsea      | 1,393      | \$61,679                                   | 73.1%                            | <b>92.7%</b>     | <b>45.7%</b>                       | 10.4%                             | 1.9%                              | Minority and English isolation         |
| 1602         | 2           | Chelsea      | 1,063      | \$40,450                                   | <b>47.9%</b>                     | <b>93.9%</b>     | <b>59.0%</b>                       | 6.3%                              | 2.5%                              | Minority, income and English isolation |
| 1602         | 3           | Chelsea      | 852        | \$58,688                                   | 69.5%                            | <b>90.7%</b>     | <b>48.8%</b>                       | 11.7%                             | 2.4%                              | Minority and English isolation         |

Table E-4 Socioeconomic Indicators for Block Groups (EJ and Non EJ) with DGA

| Census Tract | Block Group | Municipality | Population | Block Group Median Household Income (MHHI) | Block Group MHHI as % of MA MHHI | Percent Minority | Percent Limited English Households | Percent of Population under 5 (%) | Percent of Population Over 65 (%) | EJ Criteria Description |
|--------------|-------------|--------------|------------|--------------------------------------------|----------------------------------|------------------|------------------------------------|-----------------------------------|-----------------------------------|-------------------------|
| 1602         | 4           | Chelsea      | 846        | \$51,827                                   | <b>61.4%</b>                     | <b>82.6%</b>     | 21.6%                              | 14.2%                             | 8.4%                              | Minority and income     |
| 1603         | 1           | Chelsea      | 728        | \$78,427                                   | 92.9%                            | <b>48.9%</b>     | 20.5%                              | 0.0%                              | 18.6%                             | Minority                |
| 1605.02      | 3           | Chelsea      | 1,616      | \$60,479                                   | 71.7%                            | <b>80.0%</b>     | 14.5%                              | 5.1%                              | 13.6%                             | Minority                |
| 1605.02      | 5           | Chelsea      | 905        | \$67,818                                   | 80.4%                            | <b>78.5%</b>     | 24.2%                              | 2.2%                              | 4.8%                              | Minority                |
| 1706.01      | 2           | Revere       | 1,719      | \$117,436                                  | 139.2%                           | <b>61.4%</b>     | 2.6%                               | 9.2%                              | 14.4%                             | Minority                |
| 1707.01      | 1           | Revere       | 1,181      | \$34,420                                   | <b>40.8%</b>                     | <b>55.9%</b>     | 7.4%                               | 1.5%                              | 11.0%                             | Minority and income     |
| 1708         | 1           | Revere       | 1,974      | \$65,455                                   | 77.6%                            | <b>52.5%</b>     | 19.7%                              | 3.9%                              | 16.9%                             | Minority                |
| 1708         | 2           | Revere       | 1,572      | \$53,420                                   | <b>63.3%</b>                     | <b>55.2%</b>     | 4.6%                               | 9.6%                              | 14.3%                             | Minority and income     |
| 1708         | 3           | Revere       | 1,184      | \$44,250                                   | <b>52.4%</b>                     | <b>53.1%</b>     | 20.9%                              | 3.7%                              | 11.5%                             | Minority and income     |
| 1708         | 4           | Revere       | 1,043      | \$76,974                                   | 91.2%                            | <b>53.3%</b>     | 22.8%                              | 0.0%                              | 25.7%                             | Minority                |
| 1801.01      | 1           | Winthrop     | 1,426      | \$57,986                                   | 68.7%                            | 22.9%            | 0.0%                               | -                                 | -                                 | -                       |
| 1801.01      | 2           | Winthrop     | 1,292      | \$74,212                                   | 87.9%                            | 12.8%            | 0.0%                               | -                                 | -                                 | -                       |
| 1801.01      | 3           | Winthrop     | 766        | \$42,485                                   | <b>50.3%</b>                     | 19.2%            | 13.2%                              | 7.8%                              | 4.4%                              | Income                  |
| 1801.01      | 4           | Winthrop     | 2,320      | \$75,941                                   | 90.0%                            | 28.6%            | 6.3%                               | 1.2%                              | 56.3%                             | Minority                |
| 1802         | 1           | Winthrop     | 1,429      | \$87,194                                   | 103.3%                           | 26.2%            | 0.0%                               | 5.4%                              | 16.7%                             | Minority                |
| 1802         | 2           | Winthrop     | 749        | \$53,587                                   | <b>63.5%</b>                     | 18.3%            | 3.2%                               | 7.4%                              | 17.1%                             | Income                  |
| 1802         | 3           | Winthrop     | 695        | \$52,118                                   | <b>61.8%</b>                     | 20.9%            | 0.0%                               | 1.7%                              | 48.6%                             | Income                  |
| 1802         | 4           | Winthrop     | 1,453      | \$74,000                                   | 87.7%                            | 20.6%            | 1.0%                               | -                                 | -                                 | -                       |
| 1803.01      | 1           | Winthrop     | 661        | \$123,500                                  | 146.4%                           | 19.8%            | 0.0%                               | -                                 | -                                 | -                       |
| 1803.01      | 2           | Winthrop     | 838        | \$71,667                                   | 84.9%                            | 12.8%            | 0.0%                               | -                                 | -                                 | -                       |
| 1803.01      | 3           | Winthrop     | 812        | \$104,152                                  | 123.4%                           | 10.1%            | 2.7%                               | -                                 | -                                 | -                       |
| 1803.01      | 4           | Winthrop     | 858        | \$103,824                                  | 123.0%                           | 14.3%            | 0.0%                               | -                                 | -                                 | -                       |
| 1804         | 1           | Winthrop     | 1,016      | \$72,132                                   | 85.5%                            | 19.1%            | 0.0%                               | -                                 | -                                 | -                       |
| 1804         | 2           | Winthrop     | 912        | \$130,093                                  | 154.2%                           | 19.7%            | 2.0%                               | -                                 | -                                 | -                       |
| 1805         | 2           | Winthrop     | 628        | \$126,376                                  | 149.8%                           | 18.9%            | 0.0%                               | -                                 | -                                 | -                       |

Table E-4 Socioeconomic Indicators for Block Groups (EJ and Non EJ) with DGA

| Census Tract                       | Block Group | Municipality | Population | Block Group Median Household Income (MHHI) | Block Group MHHI as % of MA MHHI | Percent Minority | Percent Limited English Households | Percent of Population under 5 (%) | Percent of Population Over 65 (%) | EJ Criteria Description |
|------------------------------------|-------------|--------------|------------|--------------------------------------------|----------------------------------|------------------|------------------------------------|-----------------------------------|-----------------------------------|-------------------------|
| 1805                               | 3           | Winthrop     | 1,244      | \$72,292                                   | 85.7%                            | 30.9%            | 9.4%                               | 5.1%                              | 17.1%                             | Minority                |
| 1805                               | 4           | Winthrop     | 940        | \$109,309                                  | 129.5%                           | 14.8%            | 7.1%                               | -                                 | -                                 | -                       |
| 9801.01                            | 1           | Boston       | 0          | -                                          | -                                | -                | -                                  | -                                 | -                                 | -                       |
| 9812.01                            | 1           | Boston       | 0          | -                                          | -                                | -                | -                                  | -                                 | -                                 | -                       |
| 9812.02                            | 1           | Boston       | 0          | -                                          | -                                | -                | -                                  | -                                 | -                                 | -                       |
| 9812.02                            | 2           | Boston       | 6          | -                                          | 0.0%                             | <b>83.3%</b>     | 0.0%                               | -                                 | -                                 | -                       |
| 9813                               | 1           | Boston       | 79         | \$128,000                                  | 149.1%                           | 31.6%            | 0.0%                               | 0.0%                              | 0.0%                              | Minority                |
| 9815.02                            | 1           | Revere       | 7          | -                                          | 0%                               | 100%             | 0%                                 | -                                 | -                                 | -                       |
| 9815.02                            | 1           | Boston       | 7          | -                                          | 0%                               | 100%             | 0%                                 | -                                 | -                                 | -                       |
| 9816                               | 1           | Boston       | 2          | -                                          | 0%                               | 100%             | 0%                                 | -                                 | -                                 | -                       |
| <b>DGA Block Groups Average</b>    |             |              |            | <b>\$86,016</b>                            | <b>101.8%</b>                    | <b>52.6%</b>     | <b>21.7%</b>                       | <b>5.9%</b>                       | <b>11.7%</b>                      | -                       |
| <b>DGA EJ Block Groups Average</b> |             |              |            | <b>\$76,629</b>                            | <b>90.7%</b>                     | <b>61.2%</b>     | <b>24.2%</b>                       | <b>5.9%</b>                       | <b>11.7%</b>                      | -                       |

Source: Massachusetts EEA EJ Block Groups Nov 2022; 2020 EJ Populations include data from 2020 Census and American Community Survey, 2016-2020.

Sources for state values are American Community Survey, 2020: American Communities Survey (ACS) 5-Year Estimates Detailed Tables: B19013 Median Household Income in the Past 12 Months (In 2020 Inflation-Adjusted Dollars), B02001RACE, and B16001LANGUAGE Spoken at Home by Ability to Speak English for the Population five Years and Over, and for Massachusetts percent of population under five years of age and over 65 years is 5% and 17%, respectively: EJScreen Standard Report, EJScreen Report (Version 2.1)

Notes: Bolded values in the table are indicators that meet the criteria for an EJ population.

Logan Airport is located in Census Tract 9813, highlighted in blue.

Gray highlighted rows indicate census tracts with EJ block groups.

Cells with a dash "-" indicate that data was not available for the associated block group.

1 These census tracts do not contain EJ block groups, but do include languages spoken by more than 5 percent of the population who do not speak English well or at all within the DGA.

## E.4.2 Existing Conditions for Public Health

**Table E-5** shows the health indicator data for census tracts in the DGA within 1-mile of Logan Airport.

**Table E-6** shows pediatric asthma rates among schools in the DGA or serving children in EJ block groups within the 1-mile DGA. Section E.3 provides more information on the assessment methodology and data sources used.

### E.4.2.1 Low Birth Weight

DPH uses low birth weight to identify vulnerable health EJ populations because exposure to environmental contaminants can increase this risk, and low birth weight is significantly correlated with maternal and infant health. Low birth weight is measured as a 5-year average of the number of infants born weighing less than or equal to 2,500 grams at birth out of every 100 full-term, singleton births. A singleton birth refers to the delivery of one infant birth per pregnancy.

**Table E-5** shows the low-birth-weight data as an indicator of public health for the census tracts within 1-mile of Logan Airport, or the DGA. The data for nine of the census tracts was suppressed by DPH for confidentiality reasons. Of the 24 census tracts with reported low birth rate data, 9 census tracts, or 38 percent of the DGA, had a low-birth-weight rate greater than 110 percent of the statewide rate. Of the 25 census tracts that contain EJ block groups, 8 census tracts or 28 percent, had a rate of incidence for low-birth-weight greater than 110 percent of the statewide rate. Within the DGA, the average rate of low-birth-weight across all census tracts containing data was 65 percent of the statewide rate.<sup>6</sup>

### E.4.2.2 Chronic Obstructive Pulmonary Disease (COPD)

COPD can be caused by exposure to lung irritants including air pollution, cigarette smoke, dust, and chemical fumes. COPD among adults aged 18 years or older was measured as the crude prevalence, or the total number of cases documented within a given population without making adjustments for demographic factors like gender or ethnicity.

**Table E-5** shows the COPD indicator of public health for the census tracts within the DGA. The data for five of the census tracts was suppressed by CDC for confidentiality reasons. Of the 32 census tracts with reported COPD data, 9 census tracts, or 28 percent of the DGA, had a COPD rate greater than 110 percent of the statewide rate. Of the census tracts with a higher rate of COPD, eight belonged to a census tract that contained EJ block groups. Within the DGA, the average rate of COPD across all census tracts containing data was 90 percent of the statewide rate.

### E.4.2.3 Coronary Heart Disease

Coronary heart disease among adults aged 18 years or older is measured as the crude prevalence, as previously defined in Section E.4.2.2. **Table E-5** shows the coronary heart disease indicator of public

<sup>6</sup> DPH Environmental Justice Tool. <https://matracking.ehs.state.ma.us/Environmental-Data/ejvulnerable-health/environmental-justice.html>

health for the census tracts within the DGA. The data for five of the census tracts was suppressed by DPH for confidentiality reasons. Of the 32 census tracts with reported, 18 census tracts, or 56 percent of the DGA, had a coronary heart disease rate greater than 110 percent of the statewide rate, and 16 of these census tracts contained EJ block groups. Of the 26 total EJ containing census tracts, 62 percent had occurrence rates greater than 110 percent of the state rate. Within the DGA, the average rate of coronary heart disease across all census tracts with available data was 109 percent of the statewide rate.<sup>7</sup>

#### E.4.2.4 Elevated Blood Lead Levels

DPH uses childhood lead exposure to identify Vulnerable Health EJ populations because lead exposure disproportionately impacts lower income communities and communities of color. Elevated blood lead levels are measured as the 3-year average rate per 1,000 cases screened confirmed blood lead levels above 5 micrograms per deciliter (µg/dL) for ages 9 to 47 months. **Table E-5** shows the elevated blood lead levels data for the census tracts within the DGA, save for the census tract data suppressed by DPH for confidentiality reasons. Of the 18 census tracts with reported elevated blood lead levels, 6 census tracts, or 33 percent of the DGA, had levels greater than 110 percent of the statewide rate. EJ block groups were within 16 of the 18 census tracts, of which 31 percent had rates greater than 110 percent of the state rate. Within the DGA, the average rate across all census tracts was 84 percent of the statewide rate.<sup>8</sup>

#### E.4.2.5 Premature Mortality

Premature mortality rates can reflect the overall health conditions of a community and community-related environmental stressors. Premature mortality is measured as a 5-year average of the number of individuals who die before reaching 75 years of age for every 100,000 persons in a given population. **Table E-5** shows premature mortality indicator data for populations within the DGA. The data for five of the census tracts was suppressed by DPH for confidentiality reasons. Of the 32 census tracts with premature mortality data, 10 census tracts had premature mortality rate greater than 110 percent of the statewide rate; 8 of which contained EJ block groups. Of the 26 EJ containing census tracts, 35 percent had premature mortality rates greater than 110 percent of the state rate. Within the DGA, the average rate of premature mortality across all census tracts containing data was 92 percent of the statewide rate.<sup>9</sup>

#### E.4.2.6 Pediatric Asthma

Pediatric asthma is measured as the 3-year average of the number of students with asthma per every 100 students for each individual school, including public and private schools, serving kindergarten through 8<sup>th</sup> grade students (K-8 schools). Data used were from the most recent three school years available. There are 15 total K-8 schools within the DGA with data on pediatric asthma rates. As shown in **Table E-6**, 8 schools within the DGA have a rate of pediatric asthma 110 percent greater than the statewide average rate.

7 DPH Massachusetts Environmental Public Health Tracking system. <https://matracking.ehs.state.ma.us/index.html>

8 DPH Massachusetts Environmental Public Health Tracking system. <https://matracking.ehs.state.ma.us/index.html>

9 Massachusetts Registry of Vital Records and Statistics.

Table E-5 Health Indicator Data for Census Tracts Containing EJ Block Groups

| Census Tract | Low Birth Weight Rate <sup>1</sup> | Low Birth Weight (percent of Statewide Rate) | COPD (crude prevalence percentage) | COPD (percent of Statewide Rate) | Coronary Heart Disease (crude prevalence percentage) | Coronary Heart Disease (percent of Statewide Rate) | Elevated Blood Lead Rate <sup>2</sup> | Elevated Blood Lead (percent of Statewide Rate) | Premature Mortality Rate (PMR) <sup>3</sup> | PMR (percent of Statewide Rate) |
|--------------|------------------------------------|----------------------------------------------|------------------------------------|----------------------------------|------------------------------------------------------|----------------------------------------------------|---------------------------------------|-------------------------------------------------|---------------------------------------------|---------------------------------|
| 303.01       | 3.43                               | 63%                                          | 4.2%                               | <b>138%</b>                      | 7%                                                   | 65%                                                | -                                     | -                                               | 231.3                                       | <b>126%</b>                     |
| 304          | 1.3                                | 58%                                          | 2.8%                               | 48%                              | 3.5%                                                 | 76%                                                | -                                     | -                                               | 201.3                                       | 69%                             |
| 305          | -                                  | -                                            | 3.1%                               | 53%                              | 3.8%                                                 | 83%                                                | -                                     | -                                               | 106.6                                       | 36%                             |
| 408.01       | 1.8                                | 82%                                          | 6.8%                               | <b>117%</b>                      | 6.3%                                                 | <b>137%</b>                                        | -                                     | -                                               | 177.8                                       | 61%                             |
| 501.01       | 2.8                                | <b>129%</b>                                  | 5.9%                               | 102%                             | 5.4%                                                 | <b>117%</b>                                        | 26                                    | <b>143%</b>                                     | 315.0                                       | 108%                            |
| 502          | 1.8                                | 81%                                          | 5.2%                               | 90%                              | 4.6%                                                 | 100%                                               | 26                                    | <b>139%</b>                                     | 212.2                                       | 73%                             |
| 503          | -                                  | -                                            | 5.2%                               | 90%                              | 5.3%                                                 | <b>115%</b>                                        | -                                     | -                                               | 507.8                                       | <b>174%</b>                     |
| 504          | -                                  | -                                            | 5.6%                               | 97%                              | 5.1%                                                 | <b>111%</b>                                        | -                                     | -                                               | 273.5                                       | 94%                             |
| 505          | -                                  | -                                            | 3.6%                               | 62%                              | 3.3%                                                 | 72%                                                | -                                     | -                                               | 40.8                                        | 14%                             |
| 506          | 0.0                                | 1%                                           | 3.5%                               | 60%                              | 3.5%                                                 | 76%                                                | 0                                     | 2%                                              | 274.1                                       | 94%                             |
| 507          | 2.2                                | 101%                                         | 5.0%                               | 86%                              | 4.5%                                                 | 98%                                                | 24                                    | <b>131%</b>                                     | 239.0                                       | 82%                             |
| 509.01       | 3.8                                | <b>175%</b>                                  | 5.5%                               | 95%                              | 4.7%                                                 | 102%                                               | 17                                    | 92%                                             | 179.9                                       | 62%                             |
| 510          | 3.3                                | <b>151%</b>                                  | 5.7%                               | 98%                              | 5.4%                                                 | <b>117%</b>                                        | 0                                     | 0%                                              | 283.6                                       | 97%                             |
| 511.01       | 1.7                                | 79%                                          | 5.7%                               | 98%                              | 5.7%                                                 | <b>124%</b>                                        | 0                                     | 0%                                              | 290.0                                       | 99%                             |
| 512          | 2.5                                | <b>113%</b>                                  | 3.0%                               | 52%                              | 3.0%                                                 | 65%                                                | 26                                    | <b>143%</b>                                     | 192.4                                       | 66%                             |
| 606.03       | 2.8                                | <b>128%</b>                                  | 1.8%                               | 31%                              | 1.9%                                                 | 41%                                                | -                                     | -                                               | 281.8                                       | 96%                             |
| 606.04       | 2.8                                | <b>128%</b>                                  | 2.0%                               | 34%                              | 2.5%                                                 | 54%                                                | -                                     | -                                               | 281.9                                       | 96%                             |
| 701.04       | 2.9                                | <b>134%</b>                                  | 4.3%                               | 74%                              | 5.0%                                                 | 109%                                               | -                                     | -                                               | 191.9                                       | 66%                             |
| 1601.02      | 1.7                                | 79%                                          | 5.2%                               | 90%                              | 4.9%                                                 | 107%                                               | 12                                    | 63%                                             | 479.3                                       | <b>164%</b>                     |
| 1601.03      | 1.7                                | 79%                                          | 6.4%                               | <b>110%</b>                      | 6.4%                                                 | <b>139%</b>                                        | 12                                    | 63%                                             | 479.3                                       | <b>164%</b>                     |
| 1602         | 2.9                                | <b>135%</b>                                  | 6.3%                               | 109%                             | 5.7%                                                 | <b>124%</b>                                        | 24                                    | <b>129%</b>                                     | 287.1                                       | 98%                             |
| 1603         | 0.0                                | 1%                                           | 6.5%                               | <b>112%</b>                      | 7.4%                                                 | <b>161%</b>                                        | 0                                     | 0%                                              | 477.9                                       | <b>163%</b>                     |
| 1605.02      | 3.0                                | <b>137%</b>                                  | 7.2%                               | <b>124%</b>                      | 6.1%                                                 | <b>133%</b>                                        | 18                                    | 100%                                            | 459.0                                       | <b>157%</b>                     |
| 1706.01      | 1.8                                | 82%                                          | 6.4%                               | <b>110%</b>                      | 6.1%                                                 | <b>133%</b>                                        | 13                                    | 73%                                             | 243.1                                       | 83%                             |

Table E-5 Health Indicator Data for Census Tracts Containing EJ Block Groups

| Census Tract                  | Low Birth Weight Rate <sup>1</sup> | Low Birth Weight (percent of Statewide Rate) | COPD (crude prevalence percentage) | COPD (percent of Statewide Rate) | Coronary Heart Disease (crude prevalence percentage) | Coronary Heart Disease (percent of Statewide Rate) | Elevated Blood Lead Rate <sup>2</sup> | Elevated Blood Lead (percent of Statewide Rate) | Premature Mortality Rate (PMR) <sup>3</sup> | PMR (percent of Statewide Rate) |
|-------------------------------|------------------------------------|----------------------------------------------|------------------------------------|----------------------------------|------------------------------------------------------|----------------------------------------------------|---------------------------------------|-------------------------------------------------|---------------------------------------------|---------------------------------|
| 1707.01                       | -                                  | -                                            | 5.5%                               | 95%                              | 5.3%                                                 | <b>115%</b>                                        | 0                                     | 0%                                              | 333.3                                       | <b>114%</b>                     |
| 1708                          | 1.5                                | 69%                                          | 7.2%                               | <b>124%</b>                      | 6.5%                                                 | <b>141%</b>                                        | 13                                    | 73%                                             | 332.2                                       | <b>114%</b>                     |
| 1801.01                       | 2.2                                | 101%                                         | 6.5%                               | <b>112%</b>                      | 7.6%                                                 | <b>165%</b>                                        | -                                     | -                                               | 332.8                                       | <b>114%</b>                     |
| 1802                          | -                                  | -                                            | 8.3%                               | <b>143%</b>                      | 7.7%                                                 | <b>167%</b>                                        | 18                                    | 96%                                             | 212.1                                       | 73%                             |
| 1803.01                       | -                                  | -                                            | 5.6%                               | 97%                              | 6.1%                                                 | <b>133%</b>                                        | 17                                    | 91%                                             | 179.3                                       | 61%                             |
| 1804                          | -                                  | -                                            | 5.2%                               | 90%                              | 5.3%                                                 | <b>115%</b>                                        | 33                                    | <b>181%</b>                                     | 225.6                                       | 77%                             |
| 1805                          | 2.3                                | 105%                                         | 5.3%                               | 91%                              | 5.4%                                                 | <b>117%</b>                                        | 0                                     | 0%                                              | 325.3                                       | <b>111%</b>                     |
| 9801.01                       | -                                  | -                                            | -                                  | -                                | -                                                    | -                                                  | -                                     | -                                               | -                                           | -                               |
| 9812.01                       | 0.0                                | 1%                                           | -                                  | -                                | -                                                    | -                                                  | -                                     | -                                               | 2.0                                         | 1%                              |
| 9812.02                       | -                                  | -                                            | -                                  | -                                | -                                                    | -                                                  | -                                     | -                                               | -                                           | -                               |
| <b>9813</b>                   | -                                  | -                                            | 3.5%                               | 60%                              | 3.1%                                                 | 67%                                                | -                                     | -                                               | -                                           | -                               |
| 9815.02                       | -                                  | -                                            | -                                  | -                                | -                                                    | -                                                  | -                                     | -                                               | -                                           | -                               |
| 9816                          | -                                  | -                                            | -                                  | -                                | -                                                    | -                                                  | -                                     | -                                               | -                                           | -                               |
| <b>DGA Average</b>            | <b>2.1</b>                         | <b>92%</b>                                   | <b>5.1%</b>                        | <b>90%</b>                       | <b>5.1%</b>                                          | <b>109%</b>                                        | <b>15.5</b>                           | <b>84%</b>                                      | <b>270.3</b>                                | <b>94%</b>                      |
| <b>EJ Block Group Average</b> | <b>2.1</b>                         | <b>98%</b>                                   | <b>5.4%</b>                        | <b>94%</b>                       | <b>5.3%</b>                                          | <b>114%</b>                                        | <b>14.4</b>                           | <b>78%</b>                                      | <b>296.9</b>                                | <b>101%</b>                     |
| <b>State Average</b>          | <b>2.2</b>                         |                                              | <b>5.8%</b>                        |                                  | <b>4.6%</b>                                          |                                                    | <b>18.4</b>                           |                                                 | <b>292.5</b>                                |                                 |

Source: Massachusetts DPH (low birth weight, elevated blood lead, premature mortality); CDC Places (COPD and coronary heart disease).

Notes: Gray highlighted rows indicate census tracts with EJ block groups.

Bolded values are at or above 110% of the statewide average rate.

Logan Airport is located in Census Tract 9813, highlighted in blue.

A value of 0.0 indicates a rate less than 0.05, but greater than zero.

Cells with a dash "-" indicate that data was not available for the health indicator for the census tract. Data on health indicators for some census tracts are unavailable because they are suppressed by DPH for confidentiality.

COPD: Chronic Obstructive Pulmonary Disease

1 Low birth weight is measured as the rate per 100 full-term singleton births less than or equal to 2500 grams, averaged for five years.

2 Elevated blood lead levels are measured as the rate per 1,000 cases screened confirmed blood lead levels above 5 micrograms per deciliter (µg/dL) for ages 9–47 months, averaged for three years.

3 Premature mortality is measured as deaths per 100,000 residents before age 75 years averaged for five years.

### E.4.3 Sensitive Receptors

Sensitive receptors include schools, long-term care facilities, prisons, public and subsidized housing, and childcare centers. Sensitive receptors are places where individuals congregate or reside who are potentially sensitive to the adverse effects of exposure of air pollution. Sensitive receptors within 1-mile of Logan Airport are listed in **Table E-7** and shown on **Figure E-1**.

#### E.4.3.1 Schools

There are 21 schools that serve approximately 6,700 local students within 1-mile of Logan Airport, 13 of which are within a half-mile of Logan Airport's property boundary. All of the 21 schools are within EJ block groups. See **Table E-6** for a list and details of the nearby schools.<sup>10</sup>

#### E.4.3.2 Long-term Care Residences

There are three long-term care residences within the DGA, as shown in **Table E-7** and **Figure E-1**. The closest long-term care residence, Parc at Harbor View Senior Living, is an assisted living residence only 0.18 miles from the Airport. The two nursing homes are approximately a half mile from the Airport.<sup>11</sup>

#### E.4.3.3 Public and Subsidized Housing

The Boston Housing Authority has three subsidized housing buildings with a combined 405 units within 1-mile of Logan Airport, as shown in **Table E-7** and **Figure E-1**. Two of the public housing developments are approximately a half mile from Logan Airport and are within EJ block groups.

#### E.4.3.4 Childcare Centers

There are 23 childcare centers within 1-mile of Logan Airport, 19 of which are within EJ block groups. The closest childcare facilities, YMCA of Greater Boston at the McKay K-8 School and Harbor City School, are less than 0.1 miles from the Airport, as shown in **Table E-7** and **Figure E-1**.

#### E.4.3.5 Prisons

There are no prisons within 1-mile of the Airport. Suffolk County Jail is the closest prison, and is approximately 2.5 miles from the Airport.<sup>12</sup>

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10 Massachusetts Department of Elementary and Secondary Education (DESE). School Profiles Database.

11 Data on nursing homes and rest homes was provided by the DPH Division of Health Care Quality (DHCQ) and assisted living facilities information was provided by the Massachusetts Executive Office of Elder Affairs (EOEA).

12 Department of Criminal Justice Information Services (DCJIS). <https://www.mass.gov/orgs/departments-of-criminal-justice-information-services>

Table E-6 Pediatric Asthma Prevalence for K-8 Schools within the DGA

| School Name                             | Street Address      | Municipality | Distance from Airport (miles) | EJ Block Group  | Average Enrollment Count | Prevalence per 100 students (%) | Percentage of State Rate |
|-----------------------------------------|---------------------|--------------|-------------------------------|-----------------|--------------------------|---------------------------------|--------------------------|
| Donald Mckay                            | 122 Cottage Street  | Boston       | 0.07                          | CT 505 BG 1     | 700.0                    | 14.3%                           | <b>116%</b>              |
| East Boston Early Childhood Center      | 135 Grove Street    | Boston       | 0.07                          | CT 505 BG 1     | 114.3                    | 17.8%                           | <b>145%</b>              |
| Brooke Charter School East Boston       | 94 Horace Street    | Boston       | 0.10                          | CT 510 BG 1     | -                        | -                               | -                        |
| Excel Academy Charter School            | 58 Moore Street     | Boston       | 0.12                          | CT 510 BG 1     | 876.7                    | 7.9%                            | 64%                      |
| Patrick J Kennedy                       | 343 Saratoga Street | Boston       | 0.20                          | CT 502 BG 4     | 275.7                    | 22.7%                           | <b>185%</b>              |
| James Otis                              | 218 Marion Street   | Boston       | 0.20                          | CT 507 BG 2     | 346.3                    | 19.4%                           | <b>158%</b>              |
| Samuel Adams                            | 165 Webster Street  | Boston       | 0.20                          | CT 512 BG 3     | 256.7                    | 17.9%                           | <b>146%</b>              |
| Curtis Guild                            | 195 Leyden Street   | Boston       | 0.31                          | CT 511.01 BG 1  | 309.7                    | 13.5%                           | 110%                     |
| Dante Alighieri Montessori School       | 37 Gove Street      | Boston       | 0.31                          | CT 506 BG 2     | 62.0                     | 14.0%                           | <b>114%</b>              |
| E Boston Central Catholic School        | 69 London Street    | Boston       | 0.41                          | CT 503 BG 1     | -                        | -                               | -                        |
| Arthur T. Cummings Elementary School    | 40 Hermon Street    | Winthrop     | 0.47                          | CT 1802 BG 3    | 559.7                    | 8.9%                            | 72%                      |
| East Boston High School                 | 86 White Street     | Boston       | 0.47                          | CT 501.01 BG 1  | -                        | -                               | -                        |
| Hugh Roe O'Donnell                      | 33 Trenton Street   | Boston       | 0.47                          | CT 502 BG 1     | 266.0                    | 17.3%                           | <b>141%</b>              |
| Manassah E Bradley                      | 110 Beachview Road  | Boston       | 0.53                          | CT 511.01 BG 4  | 260.7                    | 12.9%                           | 105%                     |
| Mario Umana Academy                     | 312 Border Street   | Boston       | 0.59                          | CT 503 BG 1     | 839.3                    | 19.9%                           | <b>162%</b>              |
| Winthrop Sr High                        | 400 Main Street     | Winthrop     | 0.80                          | CT 1801.01 BG 4 | -                        | -                               | -                        |
| William P. Gorman/Fort Banks Elementary | 101 Kennedy Drive   | Winthrop     | 0.80                          | CT 1801.01 BG 3 | 522.7                    | 7.7%                            | 63%                      |
| Winthrop Middle School                  | 60 Payson Street    | Winthrop     | 0.80                          | CT 1801.01 BG 4 | -                        | -                               | -                        |
| Seacoast School                         | 15 Everard Street   | Revere       | 0.84                          | CT 1708 BG 4    | -                        | -                               | -                        |
| Beachmont Veterans Memorial School      | 15 Everard Street   | Revere       | 0.84                          | CT 1708 BG 4    | 343.7                    | 8.5%                            | 69%                      |
| Shurtleff Early Childhood               | 99 Hawthorn Street  | Chelsea      | 0.93                          | CT 1602 BG 2    | 579.7                    | 12.2%                           | 99%                      |
| <b>DGA Average</b>                      |                     |              |                               |                 | <b>420.9</b>             | <b>14.3%</b>                    | <b>116%</b>              |
| <b>State Average</b>                    |                     |              |                               |                 |                          | <b>12.3%</b>                    |                          |

Source: Massachusetts DPH.

Notes: **Bolded values** are at or above 110% of the statewide average rate of prevalence per 100 students (12.3%).

Cells with a dash "-" indicate that data was not available for the associated school.

Table E-7 Sensitive Receptors within 1 Mile of Logan Airport

| Category                      | Name                                                            | Address                      | Municipality | EJ Block Group                   | Details                   |
|-------------------------------|-----------------------------------------------------------------|------------------------------|--------------|----------------------------------|---------------------------|
| Long Term Care Residences     | Eastpointe Rehabilitation Center                                | 255 Central Avenue           | Chelsea      | CT 255 Central Avenue BG Chelsea | Nursing Home              |
|                               | Advocate Healthcare of East Boston, LLC                         | 111 Orient Avenue            | Boston       | CT 511.01 BG 4                   | Nursing Home              |
|                               | The Parc at Harbor View Senior Living                           | 46 Lincoln Street            | Winthrop     | No                               | Assisted Living Residence |
| Public and Subsidized Housing | Boston Housing Authority                                        | 185 Fulton Street            | Boston       | No                               | 100 Units                 |
|                               | Boston Housing Authority                                        | 100 Sumner Street            | Boston       | CT 503 BG 2                      | 244 Units                 |
|                               | Boston Housing Authority                                        | 119 Sumner Street            | Boston       | CT 503 BG 3                      | 61 Units                  |
| Child Care Centers            | Bright Horizons at Seaport                                      | 30 World Trade Center Avenue | Boston       | No                               | Capacity of 52            |
|                               | Seaport KinderCare                                              | 130 Autumn Lane              | Boston       | No                               | Capacity of 77            |
|                               | Bright Horizons at Fan Pier                                     | 19 Bond Drive                | Boston       | CT 606 BG 4                      | Capacity of 142           |
|                               | Jeffries Point Child Care                                       | 425 Sumner Street            | Boston       | CT 512 BG 2                      | Capacity of 40            |
|                               | YMCA of Greater Boston at the McKay K - 8 School                | 122 Cottage Street           | Boston       | CT 505 BG 1                      | Capacity of 26            |
|                               | East Boston - Head Start / Elbow                                | 5 Elbow Street               | Boston       | CT 506 BG 2                      | Capacity of 39            |
|                               | Shining Star Day Care                                           | 80 Border Street             | Boston       | CT 503 BG 1                      | Capacity of 36            |
|                               | The Social Sprouts Extended Day Program / Central Square Center | 68 Central Square            | Boston       | CT 503 BG 1                      | Capacity of 179           |
|                               | YMCA of Greater Boston Children's Center at Bremen Street       | 215 Bremen Street            | Boston       | CT 507 BG 3                      | Capacity of 93            |
|                               | Harbor City School                                              | 196 Putnam Street            | Boston       | CT 507 BG 3                      | Capacity of 40            |
|                               | Central Avenue Children's Center                                | 127 Marion Street            | Boston       | CT 502 BG 2                      | Capacity of 41            |
|                               | Swift Waters After School Programs                              | 172 Saratoga Street          | Boston       | CT 502 BG 2                      | Capacity of 29            |
|                               | Little Folks Community Day Care Center                          | 65 Trenton Street            | Boston       | CT 502 BG 1                      | Capacity of 69            |
|                               | East Boston Head Start St. Johns                                | 80 Lexington Street          | Boston       | CT 502 BG 1                      | Capacity of 109           |

Table E-7 Sensitive Receptors within 1 Mile of Logan Airport

| Category | Name                                    | Address                         | Municipality | EJ Block Group | Details         |
|----------|-----------------------------------------|---------------------------------|--------------|----------------|-----------------|
|          | East Boston Head Start                  | 120 Condor Street<br>Number 130 | Boston       | CT 509.01 BG 3 | Capacity of 68  |
|          | YMCA of Greater Boston at Ashley Street | 54 Ashley Street                | Boston       | CT 511.01 BG 2 | Capacity of 65  |
|          | Oh Yes Orient Heights Young Explorers   | 1222 Bennington Street          | Boston       | CT 511.01 BG 4 | Capacity of 60  |
|          | AlphaBest at Beachmont                  | 15 Everard Street               | Revere       | CT 1708 BG 4   | Capacity of 39  |
|          | Bright Beginnings Learning Center       | 89 Veterans Road                | Winthrop     | No             | Capacity of 47  |
|          | For Kids Only Afterschool - Winthrop    | 233 Winthrop Street             | Winthrop     | CT 1802 BG 2   | Capacity of 130 |
|          | CAPIC Head Start Winthrop               | 45 Pauline Street               | Winthrop     | CT 1802 BG 3   | Capacity of 20  |
|          | Pleasant Time Learning Center, LLC      | 65 Putnam Street                | Winthrop     | CT 1802 BG 3   | Capacity of 37  |
|          | Winthrop Children's Corner Preschool    | 210 Pauline Street              | Winthrop     | No             | Capacity of 27  |

Source: Massachusetts Department of Elementary and Secondary Education (DESE) school profiles database provided by EEA; Massachusetts DPH and Massachusetts Executive Office of Elder Affairs (EOEA); U.S. Department of Housing and Urban Development (HUD); Homeland Infrastructure Foundation-Level Data (HIFLD), provided by Oak Ridge National Laboratory (ORNL).

CT: Census Tract

BG: Block Group

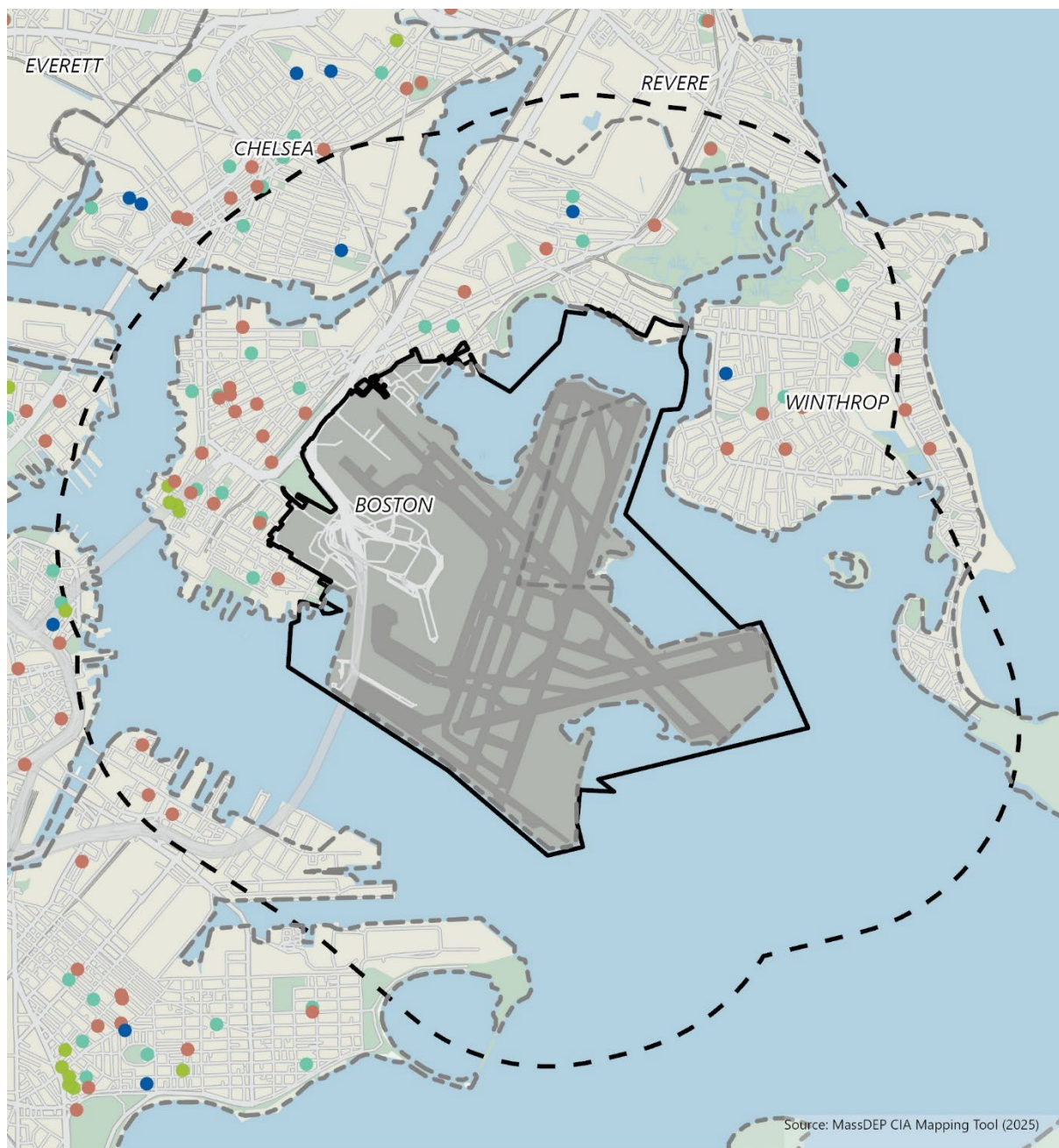


Figure E-1 Sensitive Receptors within 1 mile of Logan Airport

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- |                   |                             |
|-------------------|-----------------------------|
| Massport Boundary | Massachusetts PK-12 Schools |
| One Mile Buffer   | Public Housing Developments |
| Municipalities    | Long Term Care Residences   |
|                   | Child Care Centers          |

↑ 0 825 1,650 3,300 Feet

## E.4.4 Air Quality and Climate Indicators

This section presents air quality and climate indicators for census tracts within 1-mile of Logan Airport.

**Table E-8** provides the indicator values for each census tract in comparison to statewide averages for MA, including MA percentile rankings (0 - 100 percentile rank) for comparison to other tracts or block groups in the state. Air quality and climate indicators above the 80<sup>th</sup> percentile of the statewide average are considered well above statewide rates. Air quality and climate indicator data are available from the MassDEP Cumulative Impact Analysis Mapping Tool for EJ block groups. Data for broader areas and time frames are available from original sources as noted below for each indicator.

### E.4.4.1 Particulate Matter (PM<sub>2.5</sub>)

Exposure to PM is associated with several adverse cardiovascular and pulmonary health effects. EJScreen estimates PM<sub>2.5</sub> levels based on monitoring data from the U.S. Environmental Protection Agency's (U.S.EPA's) Office of Air and Radiation. EJScreen reports the annual average PM<sub>2.5</sub> concentrations in micrograms per cubic meter (µg/m<sup>3</sup>).

**Table E-8** shows that estimated PM<sub>2.5</sub> levels are between 6.26 and 6.53 µg/m<sup>3</sup> in the DGA and only one census tract had PM<sub>2.5</sub> levels above the statewide average of 6.52 µg/m<sup>3</sup>. The average PM<sub>2.5</sub> levels between the EJ groups and non-EJ census tracts are nearly equal, and the state percentiles within the DGA range from 28 to 47. This result does not indicate elevated PM<sub>2.5</sub> levels in areas near the Airport, including in EJ populations, relative to other parts of the state.

### Diesel PM Levels in Air

Exposure to diesel PM can lead to worsening asthma and emphysema-related symptoms and adverse cardiovascular effects. In children living near roadways, diesel exposure also may lead to reduced lung function. EJScreen provides modeled diesel PM concentrations from AirToxScreen. EJScreen reports diesel PM levels in air in micrograms per cubic meter (µg/m<sup>3</sup>).

**Table E-8** shows that each census tract with diesel PM data within 1-mile of Logan Airport is exposed to elevated diesel PM levels, compared to the state average of 0.18 µg/m<sup>3</sup>. Between the 34 census tracts with Diesel PM data, the estimated levels are between 0.22 and 0.46 µg/m<sup>3</sup>. Census tract populations with and without EJ containing block groups average in the 88<sup>th</sup> percentile for the state, with 8 census tracts between the 99<sup>th</sup> and 100<sup>th</sup> percentile.

### E.4.4.2 Ozone Levels in Air

Exposure to ozone is associated with respiratory health effects, and EJScreen estimates ozone levels based on monitoring data from EPA's Office of Air and Radiation. EJScreen reports the average of daily maximum 8-hour-average ozone concentrations in parts per billion (ppb) for the May through September ozone season.

Estimated ozone levels in the DGA are very close, but slightly higher than the statewide average of 56.7 ppb. The state percentiles range from 50 to 71, and average in the 57<sup>th</sup> percentile for the state, indicating slightly elevated ozone levels in nearby populations relative to other parts of the state. Average ozone levels are nearly equivalent between census tracts in the DGA containing EJ block groups and those that do not. See **Table E-8** for the ozone levels for each census tract and comparison to the state average as a percentile.

#### E.4.4.3 Impervious Surfaces

**Table E-8** shows that census tracts within the DGA range from 5 to 100 percent **impervious surfaces**, with 34 out of the 37 census tracts with a higher percentage of impervious surfaces compared to the state average of 35 percent. Each of the 26 census tracts containing EJ block groups are comprised of 45 percent impervious surface or greater, with an average of 73 percent impervious surface. Six of census tracts within the DGA contain 90 to 100 percent impervious surfaces.<sup>13</sup>

These values indicate a higher potential for heat island effects relative to other parts of the state. Impervious surfaces and lack of tree canopy can contribute to heat island effects. Areas with more impervious surface tend to be warmer than average, while areas with more tree canopy cover tend to be cooler than average. Increased impervious surface and higher surface temperatures can increase heat-related deaths and illnesses, which can be exacerbated by air pollution.

#### E.4.4.4 Air Toxics Cancer Risk

Air toxics are pollutants that may cause cancer. Living near facilities that release air toxics at sufficiently high levels has been linked to increased cancer rates. AirToxScreen estimates air toxics concentrations, human exposure, and potential cancer risk. AirToxScreen reports estimated incremental lifetime cancer risk from inhalation of combined air toxics as risk (probability) per lifetime per million people. This risk estimate only considers outdoor sources of air pollution, not indoor air.<sup>14</sup>

**Table E-8** shows that estimated incremental lifetime cancer risks are approximately 28 in one million in the EJ and non-EJ census tracts that are within 1-mile of the Airport, which is above the statewide average cancer risk of 23 in one million. Between the 35 census tracts with reported **air toxics cancer risk**, the percentiles of the state range from 37 to 100, with 28 of the census tracts at or above the 90<sup>th</sup> percentile. These percentiles indicate elevated air toxics cancer risk from outdoor air in nearby populations relative to other parts of the state.

#### E.4.4.5 Air Toxics Respiratory Hazard Index (HI)

People chronically exposed to air toxics at sufficiently high levels may have an increased chance of getting negative health effects, including damage to the immune, neurological, reproductive, developmental, and

<sup>13</sup> Massachusetts EEA and MassDEP GIS calculations from 2016 USDA National Agricultural Imagery Program aerial multispectral imagery.

<sup>14</sup> U.S. EPA. AirToxScreen. <https://www.epa.gov/AirToxScreen>.

respiratory systems. AirToxScreen reports the potential noncancer effects of air toxics as **air toxics respiratory hazard index (HI)**, which is the ratio of an exposure concentration to a health-based reference concentration at the census tract level. The reference concentration is the level of the toxic in air at or below which adverse health effects are expected to be unlikely. Therefore, an HI less than or equal to 1 indicates that the exposure is not likely to result in adverse noncancer health effects.

**Table E-8** shows that estimated respiratory HI ranges from less than 0.001 to 0.51 in the census tracts within the DGA, with 35 of the 37 census tracts exceeding the statewide average of 0.25. The average air toxics respiratory HI was slightly higher in census tracts containing EJ block groups than in census tracts without EJ block groups, with an average of 0.37. The state percentiles for the DGA range from less than one to 99.7, with the DGA averaging at the 88<sup>th</sup> percentile for the state. These percentiles indicate an elevated respiratory hazard in nearby populations relative to other parts of the state, but do not indicate adverse noncancer health effects.

#### E.4.4.6 Traffic Proximity and Volume

Proximity to traffic on roads can increase exposure to pollution, which increases the risk of related health impacts. EJScreen reports traffic proximity as the count of vehicles per day, or the **average annual daily traffic (AADT)** at major roads within 500 meters (or nearest one beyond 500 m), divided by distance in meters. In other words, the indicator is traffic counts weighted by distance from the block group.

Traffic proximity results are based on data from the U.S. Department of Transportation National Transportation Atlas Database, Highway Performance Monitoring System. The average traffic proximity in the EJ block groups is more than twice the state average, with 22 of the 26 block groups over the 80<sup>th</sup> percentile for the state, as shown in Table E-8. Only one census tract's traffic proximity value was slightly below the state average, but 62<sup>nd</sup> percentile for the state. On average, the traffic proximity for the EJ groups within 1-mile of Logan Airport is in the 87<sup>th</sup> percentile for the state, indicating that populations residing near the Airport experience higher volumes of traffic and traffic-related air pollution compared to other parts of the state.

Table E-8 Air Quality and Impervious Surface Data for DGA Census Tracts with EJ Block Groups

| Census Tract | PM <sub>2.5</sub> (µg/m <sup>3</sup> ) | PM <sub>2.5</sub> (%tile for state) | Ozone (ppb) | Ozone (%tile for state) | Diesel PM (µg/m <sup>3</sup> ) | Diesel PM (%tile for state) | Impervious Surface (percent) | Impervious Surface (%tile for state) | Cancer Risk (per 1 million) | Cancer Risk (%tile for state) | Respiratory HI <sup>1</sup> | Respiratory HI <sup>1</sup> (%tile for state) | Traffic Proximity <sup>2</sup> | Traffic Proximity <sup>2</sup> (%tile for state) |
|--------------|----------------------------------------|-------------------------------------|-------------|-------------------------|--------------------------------|-----------------------------|------------------------------|--------------------------------------|-----------------------------|-------------------------------|-----------------------------|-----------------------------------------------|--------------------------------|--------------------------------------------------|
| 303.01       | 6.49                                   | 44                                  | 56.5        | 52                      | 0.46                           | 100                         | 95                           | 99                                   | 28.9                        | 99                            | 0.42                        | 99                                            |                                |                                                  |
| 304          | 6.5                                    | 44                                  | 56.4        | 50                      | 0.443                          | 100                         | 94                           | 99                                   | 28.8                        | 98                            | 0.43                        | 99                                            |                                |                                                  |
| 305          | 6.48                                   | 43                                  | 56.4        | 51                      | 0.433                          | 99                          | 90                           | 98                                   | 29                          | 99                            | 0.42                        | 98                                            |                                |                                                  |
| 408.01       | 6.46                                   | 42                                  | 56.4        | 51                      | 0.363                          | 93                          | 90                           | 98                                   | 28.7                        | 97                            | 0.38                        | 96                                            | 16,483,060                     | 95                                               |
| 501.01       | 6.43                                   | 40                                  | 56.5        | 53                      | 0.308                          | 85                          | 85                           | 96                                   | 28.9                        | 99                            | 0.37                        | 95                                            | 14,291,807                     | 90                                               |
| 502          | 6.43                                   | 39                                  | 56.6        | 54                      | 0.309                          | 86                          | 86                           | 97                                   | 28.7                        | 97                            | 0.39                        | 96                                            | 14,678,566                     | 91                                               |
| 503          | 6.46                                   | 41                                  | 56.5        | 52                      | 0.422                          | 98                          | 65                           | 82                                   | 28.9                        | 99                            | 0.42                        | 99                                            | 16,196,212                     | 94                                               |
| 504          | 6.45                                   | 41                                  | 56.7        | 55                      | 0.442                          | 99                          | 86                           | 96                                   | 28.1                        | 92                            | 0.42                        | 98                                            | 15,551,271                     | 93                                               |
| 505          | 6.44                                   | 40                                  | 56.7        | 56                      | 0.434                          | 99                          | 73                           | 88                                   | 27.9                        | 89                            | 0.42                        | 98                                            | 15,295,859                     | 93                                               |
| 506          | 6.44                                   | 41                                  | 56.6        | 54                      | 0.42                           | 98                          | 87                           | 97                                   | 28.4                        | 96                            | 0.41                        | 98                                            | 16,409,592                     | 95                                               |
| 507          | 6.43                                   | 39                                  | 56.6        | 54                      | 0.311                          | 86                          | 76                           | 91                                   | 28.8                        | 98                            | 0.4                         | 97                                            | 15,484,655                     | 93                                               |
| 509.01       | 6.41                                   | 38                                  | 56.7        | 55                      | 0.293                          | 84                          | 81                           | 93                                   | 29                          | 99                            | 0.38                        | 96                                            | 14,079,399                     | 90                                               |
| 510          | 6.37                                   | 36                                  | 56.9        | 59                      | 0.272                          | 83                          | 67                           | 83                                   | 29.2                        | 100                           | 0.4                         | 97                                            | 12,032,209                     | 84                                               |
| 511.01       | 6.34                                   | 34                                  | 57          | 60                      | 0.269                          | 81                          | 55                           | 73                                   | 28.8                        | 98                            | 0.38                        | 96                                            | 10,112,276                     | 79                                               |
| 512          | 6.45                                   | 41                                  | 56.7        | 55                      | 0.401                          | 97                          | 76                           | 90                                   | 27.7                        | 88                            | 0.42                        | 98                                            | 15,048,361                     | 92                                               |
| 606.03       | 6.51                                   | 45                                  | 56.6        | 54                      | 0.443                          | 99                          | 87                           | 97                                   | 28.2                        | 93                            | 0.39                        | 97                                            |                                |                                                  |
| 606.04       | 6.5                                    | 44                                  | 56.6        | 53                      | 0.46                           | 100                         | 100                          | 100                                  | 28.3                        | 95                            | 0.39                        | 97                                            | 19,260,565                     | 97                                               |
| 701.04       | 6.53                                   | 47                                  | 56.5        | 51                      | 0.437                          | 99                          | 98                           | 100                                  | 28.1                        | 93                            | 0.42                        | 98                                            | 26,194,883                     | 99                                               |
| 1601.02      | 6.39                                   | 37                                  | 56.6        | 54                      | 0.303                          | 85                          | 81                           | 94                                   | 28.5                        | 96                            | 0.35                        | 92                                            | 12,671,683                     | 85                                               |
| 1601.03      | 6.4                                    | 37                                  | 56.7        | 55                      | 0.304                          | 85                          | 82                           | 95                                   | 28.6                        | 97                            | 0.35                        | 92                                            | 12,997,996                     | 87                                               |
| 1602         | 6.41                                   | 38                                  | 56.5        | 53                      | 0.305                          | 85                          | 88                           | 97                                   | 28.8                        | 99                            | 0.35                        | 92                                            | 14,457,084                     | 91                                               |
| 1603         | 6.43                                   | 39                                  | 56.4        | 50                      | 0.314                          | 86                          | 63                           | 80                                   | 29.2                        | 100                           | 0.36                        | 93                                            | 15,994,808                     | 94                                               |
| 1605.02      | 6.36                                   | 35                                  | 56.7        | 56                      | 0.288                          | 84                          | 77                           | 91                                   | 28.2                        | 94                            | 0.34                        | 88                                            | 12,054,031                     | 84                                               |

Table E-8 Air Quality and Impervious Surface Data for DGA Census Tracts with EJ Block Groups

| Census Tract       | PM <sub>2.5</sub> (µg/m <sup>3</sup> ) | PM <sub>2.5</sub> (%tile for state) | Ozone (ppb)  | Ozone (%tile for state) | Diesel PM (µg/m <sup>3</sup> ) | Diesel PM (%tile for state) | Impervious Surface (percent) | Impervious Surface (%tile for state) | Cancer Risk (per 1 million) | Cancer Risk (%tile for state) | Respiratory HI <sup>1</sup> | Respiratory HI <sup>1</sup> (%tile for state) | Traffic Proximity <sup>2</sup> | Traffic Proximity <sup>2</sup> (%tile for state) |
|--------------------|----------------------------------------|-------------------------------------|--------------|-------------------------|--------------------------------|-----------------------------|------------------------------|--------------------------------------|-----------------------------|-------------------------------|-----------------------------|-----------------------------------------------|--------------------------------|--------------------------------------------------|
| 1706.01            | 6.32                                   | 32                                  | 56.9         | 58                      | 0.263                          | <b>80</b>                   | 63                           | <b>80</b>                            | 28.1                        | <b>92</b>                     | 0.32                        | <b>84</b>                                     | 12,046,203                     | <b>84</b>                                        |
| 1707.01            | 6.29                                   | 30                                  | 57.2         | 63                      | 0.264                          | <b>80</b>                   | 55                           | 73                                   | 28.3                        | <b>94</b>                     | 0.33                        | <b>87</b>                                     | 10,636,699                     | <b>80</b>                                        |
| 1708               | 6.28                                   | 29                                  | 57.3         | 65                      | 0.263                          | <b>80</b>                   | 52                           | 71                                   | 28.4                        | <b>95</b>                     | 0.33                        | <b>86</b>                                     | 8,621,257                      | 75                                               |
| 1801.01            | 6.26                                   | 28                                  | 57.5         | 68                      | 0.244                          | 78                          | 48                           | 68                                   | 25.7                        | 60                            | 0.33                        | <b>87</b>                                     | 7,564,110                      | 71                                               |
| 1802               | 6.31                                   | 31                                  | 57.3         | 64                      | 0.266                          | <b>81</b>                   | 56                           | 74                                   | 29                          | <b>99</b>                     | 0.39                        | <b>97</b>                                     | 7,840,071                      | 72                                               |
| 1803.01            | 6.32                                   | 33                                  | 57.3         | 65                      | 0.271                          | <b>83</b>                   | 53                           | 72                                   | 30.2                        | <b>100</b>                    | 0.51                        | <b>100</b>                                    | -                              | -                                                |
| 1804               | 6.28                                   | 30                                  | 57.5         | 68                      | 0.238                          | 78                          | 40                           | 62                                   | 25.9                        | 62                            | 0.36                        | <b>94</b>                                     | -                              | -                                                |
| 1805               | 6.27                                   | 29                                  | 57.7         | 70                      | 0.221                          | 76                          | 45                           | 66                                   | 23.9                        | 37                            | 0.27                        | 61                                            | 6,070,070                      | 62                                               |
| 9801.01            | 6.29                                   | 30                                  | 57.7         | 71                      | -                              | -                           | 17                           | 34                                   | -                           | -                             | 0.29                        | 73                                            | -                              | -                                                |
| 9812.01            | 6.49                                   | 44                                  | 56.8         | 57                      | -                              | -                           | 25                           | 45                                   | -                           | -                             | 0                           | 0                                             | -                              | -                                                |
| 9812.02            | 6.48                                   | 43                                  | 56.8         | 57                      | 0.418                          | <b>97</b>                   | 88                           | <b>97</b>                            | 26.5                        | 68                            | 0.33                        | <b>87</b>                                     | -                              | -                                                |
| 9813               | 6.39                                   | 37                                  | 57           | 60                      | 0.336                          | <b>90</b>                   | 59                           | 76                                   | 30.5                        | <b>100</b>                    | 0.42                        | <b>98</b>                                     | 13,736,924                     | <b>88</b>                                        |
| 9815.02            | 6.32                                   | 32                                  | 57           | 60                      | 0.265                          | <b>80</b>                   | 68                           | <b>85</b>                            | 29                          | <b>99</b>                     | 0.32                        | <b>84</b>                                     | -                              | -                                                |
| 9816               | 6.31                                   | 31                                  | 57.2         | 63                      | 0.266                          | <b>81</b>                   | 5                            | 7                                    | 27                          | 77                            | 0                           | 0                                             | -                              | -                                                |
| <b>DGA Average</b> | <b>6.40</b>                            | <b>37.41</b>                        | <b>56.84</b> | <b>57.46</b>            | <b>0.34</b>                    | <b>88.43</b>                | <b>69.08</b>                 | <b>82.27</b>                         | <b>28.29</b>                | <b>91.37</b>                  | <b>0.36</b>                 | <b>87.76</b>                                  | -                              | -                                                |
| <b>EJ Average</b>  | <b>6.39</b>                            | <b>37.12</b>                        | <b>56.80</b> | <b>56.85</b>            | <b>0.33</b>                    | <b>87.62</b>                | <b>72.85</b>                 | <b>86.50</b>                         | <b>28.33</b>                | <b>92.42</b>                  | <b>0.37</b>                 | <b>92.92</b>                                  | <b>13,684,987</b>              | <b>87</b>                                        |
| <b>State</b>       | <b>6.52</b>                            |                                     | <b>56.7</b>  |                         | <b>0.176</b>                   |                             | <b>35%</b>                   |                                      | <b>23.3</b>                 |                               | <b>0.25</b>                 |                                               | <b>6,100,000</b>               |                                                  |

Source: EJScreen, 2018; AirToxScreen, 2019; Massachusetts MassDEP GIS analysis, 2016; U.S. Department of Agriculture (USDA) National Agricultural Imagery Program aerial multispectral imagery, 2016.

Notes: Gray highlighted rows indicate census tracts with EJ block groups.

Bolded values are at or above the 80<sup>th</sup> percentile of the state rate.

Logan Airport is located in Census Tract 9813, highlighted in blue

1 Air Toxics Respiratory Hazard Index (HI) reports the potential noncancer effects of air toxics as a respiratory HI, which is the ratio of an exposure concentration to a health-based reference concentration at the census tract level. The reference concentration is the level of the toxic in air at or below which adverse health effects are expected to be unlikely.

2 The Traffic Proximity indicator in EJScreen is based on data from the U.S. Department of Transportation National Transportation Atlas Database, Highway Performance Monitoring System. EJScreen reports traffic proximity as the count of vehicles per day, or the average annual daily traffic (AADT) at major roads within 500 meters (or nearest one beyond 500 m), divided by distance in meters (that is, the indicator is traffic counts weighted by distance from the block group). For Census Tract values, block groups within the DGA have been averaged.

### E.4.5 Nearby Regulated Facilities

Hazardous substances from regulated facilities have the potential to move offsite and may negatively affect the health of nearby residents. For example, studies show an association between proximity to municipal solid waste sites, such as landfills, dumpsites, incinerators, open burning, recycling facilities, and anaerobic digestors, and adverse health effects in nearby residents including adverse birth and neonatal outcomes and increased risk of mortality, respiratory disease, and negative mental health effects. Studies evaluating the health of populations near hazardous waste sites show an association between exposure and liver, breast, testis, and bladder cancers; non-Hodgkin lymphoma; asthma; low birth weight; and pre-term birth. Regulated facilities within 1-mile of Logan Airport's property boundary are listed in **Table E-9** and **Figure E-2**.

#### E.4.5.1 Facilities with MassDEP Air Permits

Facilities with MassDEP air permits are sources of air emissions. Facilities that have the potential to emit higher amounts of air pollutants are classified as "major sources" of emissions and must obtain an Operating Permit, in addition to an air permit, that summarizes the requirements and emissions standards the facility must comply with. Examples of major sources include power plants, wastewater treatment plants, universities, municipal waste combustors, landfills, large manufacturers, airports, and fuel storage facilities. Facilities that do not require an Operating Permit are classified as "minor sources" of air emissions. Examples of minor sources include small manufacturers, crematories, schools/colleges, hospitals, asphalt/concrete plants, food processing facilities, and laboratories.

As shown in **Figure E-2** there are 19 facilities with a MassDEP air operating permit within a 1-mile radius of Logan Airport, including Logan Airport, which is classified as a major source of emissions. There are 4 other facilities in the DGA classified as major sources of emissions, while the remaining 14 facilities are classified as minor sources. Ten of the nearby facilities with a MassDEP air operating permit are located in EJ block groups. See **Table E-9** for the full list of facilities within the DGA.

#### E.4.5.2 Facilities that Report Under TRI

Facilities that use certain amounts of toxic chemicals are required to report their toxic chemical use and releases to EPA under the Toxics Use Release (TRI) program. **Table E-9** shows there are three TRI facilities within a 1-mile radius of the Airport. Facilities that report under Toxics Use Reduction Act (TURA) use certain amounts of toxic chemicals, and therefore, are required to report their toxics chemical use and releases to MassDEP. There are two large quantity toxic users within a 1-mile radius of the facility. The five facilities reporting under the TRI or TURA are all over  $\frac{3}{4}$  miles from the Airport.

#### E.4.5.3 Large Quantity Hazardous Waste Generators

Facilities that generate large quantities of hazardous waste must register with MassDEP. **Table E-9** shows there are 32 large quantity generators of hazardous waste regulated by the state of MassDEP within a 1-mile radius of the Airport. Facilities that generate 1,000 kilograms per month or more of hazardous

waste or more than one kilogram per month of acutely hazardous waste are considered Large Quantity Generators by the EPA. There are 18 EPA-regulated large quantity waste generators within the DGA.

#### **E.4.5.4 Port Facilities**

Excluding Logan Airport, there are seven other port facilities, all of which are seaports, within a 1-mile radius of Logan Airport.

Table E-9 Regulated Facilities Within 1-Mile of Logan Airport

| Category                                                            | Name                                          | Address                   | Municipality | EJ Block Group  | Details            |
|---------------------------------------------------------------------|-----------------------------------------------|---------------------------|--------------|-----------------|--------------------|
| Facilities with DEP Air Permits                                     | Boston Ship Repair                            | 32A Drydock Road          | Boston       | No              | Major Air Facility |
|                                                                     | IDB 17-19 Drydock LP                          | 1 Design Center Suite 337 | Boston       | No              | Minor Air Facility |
|                                                                     | Vertex Pharmaceuticals Incorporated           | 316-318 Northern Avenue   | Boston       | No              | Minor Air Facility |
|                                                                     | Vertex Pharmaceuticals Incorporated           | 1 Harbor Street           | Boston       | No              | Minor Air Facility |
|                                                                     | Coastal Cement Corp                           | 660 Summer Street         | Boston       | No              | Minor Air Facility |
|                                                                     | MassDOT Highway Division                      | 300 Massport Haul Road    | Boston       | No              | Minor Air Facility |
|                                                                     | BRE BMR Congress LLC                          | 601 Congress Street       | Boston       | No              | Minor Air Facility |
|                                                                     | Seaport Hotel Limited Partnership             | 1 Seaport Lane            | Boston       | No              | Minor Air Facility |
|                                                                     | Rowes Wharf Condominium                       | 50 Rowes Wharf Street     | Boston       | No              | Minor Air Facility |
|                                                                     | Vertex Pharmaceuticals Incorporated           | 50 Northern Avenue        | Boston       | CT 606.04 BG 1  | Minor Air Facility |
|                                                                     | World Trade Center West Office Building       | 155 Seaport Boulevard     | Boston       | CT 606.04 BG 1  | Minor Air Facility |
|                                                                     | Seaport World Trade Center                    | 200 Seaport Boulevard     | Boston       | CT 606.04 BG 1  | Minor Air Facility |
|                                                                     | U.S. Coast Guard                              | 427 Commercial Street     | Boston       | CT BG           | Minor Air Facility |
|                                                                     | Spaulding Rehabilitation Hospital Corpor      | 300 First Avenue          | Boston       | CT BG           | Minor Air Facility |
|                                                                     | Sunoco Partners Marketing & Terminals LP      | 467-580 Chelsea Street    | Boston       | CT 509.01 BG 3  | Major Air Facility |
|                                                                     | Gulf Oil Limited Partnership                  | 281 Eastern Avenue        | Chelsea      | CT 1605.02 BG 3 | Major Air Facility |
|                                                                     | Irving Oil Terminals Inc                      | 41 Lee Burbank Highway    | Revere       | CT BG           | Major Air Facility |
|                                                                     | MA Bay Transportation Authority               | Barnes Avenue             | Boston       | CT 511.01 BG 3  | Minor Air Facility |
|                                                                     | Massport Logan Airport                        | 1 Harborside Drive        | Boston       | CT 9813 BG 1    | Major Air Facility |
| Facilities reporting under the EPA Toxics Use Release (TRI) program | Global Cos LLC - Chelsea Eastern Ave Terminal | 281 Eastern Avenue        | Chelsea      | CT 1605.02 BG 3 |                    |
|                                                                     | Irving Oil Terminals Inc                      | 41 Lee Burbank Highway    | Revere       | No              |                    |
|                                                                     | Global Companies LLC                          | 140 Lee Burbank Highway   | Revere       | No              |                    |
| Facilities reporting under the Toxics Use Reduction Act             | Massachusetts Bay Brewing Company Inc         | 306 Northern Avenue       | Boston       | No              |                    |
|                                                                     | Boston Ship Repair                            | 32A Drydock Road          | Boston       | No              |                    |
| EPA Regulated Large quantity hazardous waste generators             | Ginkgo Bioworks                               | 25-27 Drydock Avenue      | Boston       | No              |                    |
|                                                                     | Vertex Pharmaceuticals Incorporated           | 1 Harbor Street           | Boston       | No              |                    |
|                                                                     | SmartLabs 6 Tide                              | 6 Tide Street             | Boston       | No              |                    |
|                                                                     | Vertex Pharmaceuticals Incorporated           | 50 Northern Avenue        | Boston       | CT 606.04 BG 1  |                    |

## Boston Logan International Airport 2023/2024 EDR

Table E-9 Regulated Facilities Within 1-Mile of Logan Airport

| Category                                               | Name                                     | Address                 | Municipality | EJ Block Group | Details |
|--------------------------------------------------------|------------------------------------------|-------------------------|--------------|----------------|---------|
|                                                        | 150 Seaport Boulevard Project            | 150 Seaport Boulevard   | Boston       | CT 606.04 BG 1 |         |
|                                                        | CVS Pharmacy 10517                       | 85 Seaport Boulevard    | Boston       | CT 606.04 BG 2 |         |
|                                                        | U.S. Coast Guard                         | 427 Commercial Street   | Boston       | No             |         |
|                                                        | Harbor Fuels                             | 256 Marginal Street     | Boston       | CT 512 BG 3    |         |
|                                                        | CVS 1265                                 | 210 Border Street       | Boston       | CT 503 BG 1    |         |
|                                                        | Eastern Minerals Inc                     | 37 Marginal Street      | Chelsea      | CT 1603 BG 1   |         |
|                                                        | HUSPP 250 Marginal LLC                   | 22 Willow Street        | Chelsea      | CT 1601 BG 3   |         |
|                                                        | Gulf Oil Limited Partnership             | 281 Eastern Avenue      | Chelsea      | CT 1605 BG 2   |         |
|                                                        | Irving Oil Terminals Inc                 | 41 Lee Burbank Highway  | Revere       | No             |         |
|                                                        | Global Companies LLC                     | 140 Lee Burbank Highway | Revere       | No             |         |
|                                                        | Sunoco Partners Marketing & Terminals LP | 467-580 Chelsea Street  | Boston       | CT 509 BG 1    |         |
|                                                        | Massport Logan Airport                   | 1 Harborside Drive      | Boston       | CT 9813 BG 1   |         |
|                                                        | CVS 619                                  | 1150 Saratoga Street    | Boston       | CT 511.01 BG 3 |         |
|                                                        | CVS 0140                                 | 3 Woodside Avenue       | Winthrop     | No             |         |
| MA Regulated Large quantity hazardous waste generators | Former Coastal Oil of New England Inc SI | 935 East First Street   | Boston       | No             |         |
|                                                        | HMS Scott Vessel                         | 1 Black Falcon Avenue   | Boston       | No             |         |
|                                                        | M/V UBC Chile                            | 36 Drydock Avenue       | Boston       | No             |         |
|                                                        | Boston Ship Repair                       | 32A Drydock Road        | Boston       | No             |         |
|                                                        | MBTA Silverline Courthouse Station       | 73 Seaport Boulevard    | Boston       | CT 606.04 BG 2 |         |
|                                                        | Hornblower Cruises and Events            | 60 Rowes Wharf          | Boston       | No             |         |
|                                                        | Boston Harbor Cruises                    | 1 Long Wharf            | Boston       | No             |         |
|                                                        | U.S. Coast Guard                         | 427 Commercial Street   | Boston       | No             |         |
|                                                        | Harbor Fuels                             | 256 Marginal Street     | Boston       | No             |         |
|                                                        | Delta Air Lines Inc BOS                  | 152 Harborside Drive    | Boston       | CT 9813 BG 1   |         |
|                                                        | Federal Express Corporation-BOSR         | 142 Harborside Drive    | Boston       | CT 9813 BG 1   |         |
|                                                        | Boston Harbor Cruises                    | 100 Terminal Street     | Boston       | CT 9813 BG 1   |         |
|                                                        | Massport Logan Airport                   | 1 Harborside Drive      | Boston       | CT 9813 BG 1   |         |
|                                                        | Alamo Rent a Car LLC                     | 2 Tomahawk Drive        | Boston       | CT 9813 BG 1   |         |

Table E-9 Regulated Facilities Within 1-Mile of Logan Airport

| Category                                    | Name                                     | Address                 | Municipality | EJ Block Group  | Details |
|---------------------------------------------|------------------------------------------|-------------------------|--------------|-----------------|---------|
|                                             | Enterprise Rent a Car Company of Boston  | 50 Tomahawk Drive       | Boston       | CT 9813 BG 1    |         |
|                                             | Avis Budget Conrac QTA 1                 | 150 Tomahawk Drive      | Boston       | CT 9813 BG 1    |         |
|                                             | Hertz Corporation                        | 154 Tomahawk Drive      | Boston       | CT 9813 BG 1    |         |
|                                             | Avis Rent a Car System Inc               | 202 Porter Street       | Boston       | CT 9813 BG 1    |         |
|                                             | United Airlines Inc                      | 10 Airport Service Road | Boston       | CT 9813 BG 1    |         |
|                                             | MBTA Airport Station                     | Transportation Way      | Boston       | CT 9813 BG 1    |         |
|                                             | Swissport Fueling Inc DBA BosFuel Corp   | 196 Prescott Street     | Boston       | CT 9813 BG 1    |         |
|                                             | AutoZone Northeast Inc DBA AutoZone 3745 | 184 Border Street       | Boston       | CT 503 BG 1     |         |
|                                             | Eastern Minerals Inc                     | 37 Marginal Street      | Chelsea      | CT 1603 BG 1    |         |
|                                             | HUSPP 250 Marginal LLC                   | 22 Willow Street        | Chelsea      | CT 1601 BG 3    |         |
|                                             | Sunoco Partners Marketing & Terminals LP | 467-580 Chelsea Street  | Boston       | CT 509 BG 1     |         |
|                                             | Get Spiffy Inc                           | 324 Marginal Street     | Chelsea      | CT 1601.03 BG 4 |         |
|                                             | Gulf Oil Limited Partnership             | 281 Eastern Avenue      |              | CT 1605.02 BG 2 |         |
|                                             | Hertz Corp 1798-01                       | 450 McClellan Highway   | Boston       | CT 510 BG 2     |         |
|                                             | Avis Rent a Car System LLC               | 375 McClellan Highway   | Boston       | CT 510 BG 2     |         |
|                                             | Irving Oil Terminals Inc                 | 41 Lee Burbank Highway  | Revere       | No              |         |
|                                             | Global Companies LLC                     | 140 Lee Burbank Highway | Revere       | No              |         |
|                                             | Glen Mor Fuel Oil Co                     | 40 Lee Burbank Highway  | Revere       | No              |         |
| Wastewater Treatment Plants                 | None                                     | N/A                     | N/A          | N/A             |         |
| Handling facilities                         | None                                     | N/A                     | N/A          | N/A             |         |
| Solid Waste Diversion and Transfer Stations | None                                     | N/A                     | N/A          | N/A             |         |
| Airports                                    | Massport Logan Airport                   | 1 Harborside Drive      | Boston       | CT 9813 BG 1    |         |
| Freight rail yards                          | None                                     | N/A                     | N/A          | N/A             |         |
| Seaports                                    | Conley Terminal, Port of Boston          | 700 Summer Street       | Boston       | No              |         |
|                                             | Black Falcon Cruise Terminal             | 1 Black Falcon Ave      | Boston       | No              |         |
|                                             | World Trade Center Ferry Terminal        | 164 Northern Ave        | Boston       | CT 606.04 BG 1  |         |
|                                             | Rowe's Wharf                             | 20 Rowes Wharf          | Boston       | No              |         |

**Table E-9      Regulated Facilities Within 1-Mile of Logan Airport**

| Category | Name                               | Address         | Municipality | EJ Block Group | Details |
|----------|------------------------------------|-----------------|--------------|----------------|---------|
|          | Long Wharf                         | 66 Long Wharf   | Boston       | No             |         |
|          | Logan Airport Ferry Terminal       | Harborside Dr   | Boston       | CT 9813 BG 1   |         |
|          | Rte 1A Petroleum Terminals, Boston | Lee Burbank Hwy | Boston       | No             |         |

Source: MassDEP CIA Mapping Tool.

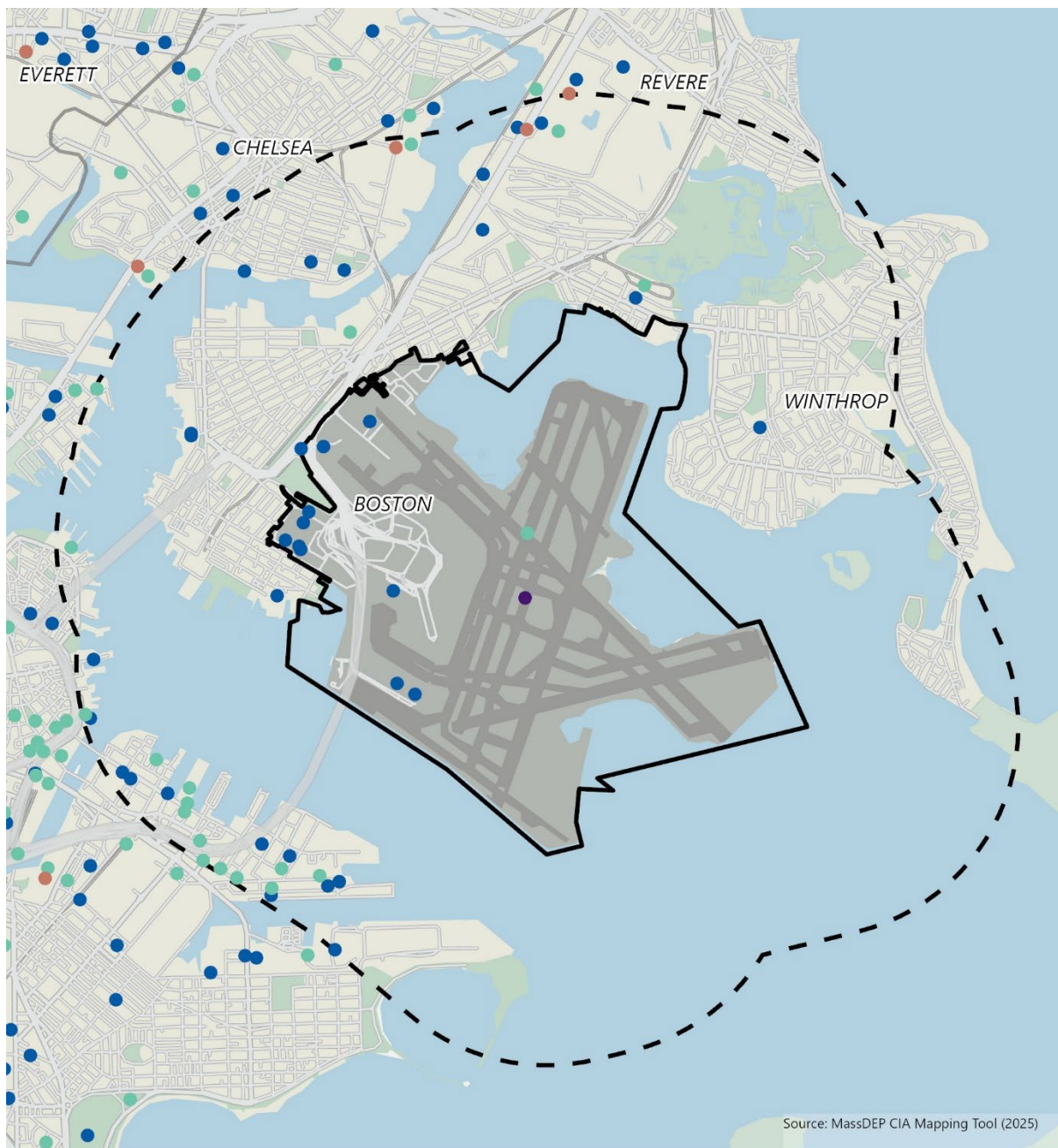


Figure E-2 Regulated Facilities within 1 mile of Logan Airport

2023/2024 Environmental  
Data Report

- Massport Boundary
- One Mile Buffer
- MassDEP Major Facilities
- MassDEP Air Facilities
- TRI Reporting Facilities
- Airports

↑ 0 825 1,650 3,300 Feet