

APPENDICES

Appendix A: Glossary of Terms	2
Appendix B: Health Data.....	5
Appendix C: MassDEP Release and Clean Up Reporting for Focus Area.....	45
Appendix D. MassDEP Documentation of Air Monitoring Canisters and Station.....	51
Appendix E. Figures of MassDEP 2018 Air Monitoring Results	56
Appendix F. Real Estate Sales Price History 2015-2017 for Municipalities and Focus Area	76
Appendix G. Community Engagement	79

Appendix A: Glossary of Terms

HIA Glossary¹

Assessment

In relation to HIA, assessment provides a profile of existing health conditions of people and groups affected by a proposed change and estimates the potential health effects if the change were to occur.

Best available evidence

Conclusive evidence of the links between, for example, socio-environmental factors and health or the effectiveness of interventions, is not always available. In such cases, the best available evidence, that which is judged to be most reliable and compelling, can be used but with caution.

Community participation

Involving the community in an activity such as the planning of projects or carrying out a HIA. There are a number of models of community participation, some of which are outlined in the Gothenburg consensus paper on HIA (WHO, 1999). Levels of participation vary (Arnstein, 1969).

Determinants of health

Determinants of health are factors which influence health status and determine health differentials or health inequalities. They include biological factors (e.g. age, gender and ethnicity), behavior and lifestyles (e.g. smoking, alcohol consumption, diet and physical activity), physical and social environment (e.g. housing quality, workplace stressors, and air pollution), and access to health care (Lalonde, 1974; Labonete, 1993).

Disadvantaged / vulnerable / marginalized groups

These terms are applied to groups of people who, due to factors usually considered outside their control, do not have the same opportunities as other, more fortunate groups in society. Examples might include unemployed people, households without access to a personal vehicle, and those who may be more susceptible to disease due to their age.

Evidence base

The evidence base refers to a body of information, drawn from routine statistical analyses, published studies, and "grey" literature, that tells us something about what is already known about factors affecting health. For example, in the field of housing and health, there are a number of studies that demonstrate the links between damp and cold housing and respiratory disease and, increasingly, the links between high quality housing and quality of life (Thomson et al., 2001).

Health impact

A health impact can be positive or negative. A positive health impact is an effect which contributes to good health or to improving health. For example, having a sense of control over one's life and having choices is known to have a beneficial effect on mental health and well-being, making people feel "healthier" (Wilkinson, 1996). A negative health

¹ Modified from the UCLA Health Impact Assessment Clearinghouse: <http://www.ph.ucla.edu/hs/health-impact/>

impact has the opposite effect, causing or contributing to ill health. For example, working in unhygienic or unsafe conditions or spending a lot of time in an area with poor air quality is likely to have an adverse effect on physical health status.

Health impact assessment

Health impact assessment (HIA) is often defined as "A systematic process that uses an array of data sources and analytic methods and considers input from stakeholders to determine the potential effects of a proposed policy, plan, program or project on the health of a population and the distribution of those effects within the population. HIA provides recommendations on monitoring and managing those effects." (National Research Council of the National Academies, 2011).

Indicator

A health indicator is a characteristic of an individual, population, or environment which is subject to measurement (directly or indirectly) and can be used to describe one or more aspects of the health of an individual or population (quality, quantity and time).

Outcomes

The effect the process has had on the people targeted by it. These might include, for example, changes in their self-perceived health status or changes in the distribution of health determinants, or factors which are known to affect their health, well-being and quality of life.

Population (Affected population)

Groups of individuals defined by locality, biological criteria (e.g. age, gender, health condition, or common exposure), or social criteria (e.g. socio-economic status or cultural affiliation). How a population is defined in an HIA will depend on the proposed project/policy being considered, health issues of most concern, the extent and classification of existing evidence on those health issues, and what information is of most value to the policy-making process.

Project

A project is usually a discrete piece of work addressing a single population group or health determinant, usually with a pre-set time limit. Usually (but not always), the term refers to "bricks and mortar" projects involving construction of a discrete structure or group of structures, such as a power plant, highway, or housing development.

Recommendations

Practical solutions and strategies to manage identified adverse health impacts and maximize benefits to health that can be implemented within the political, economic, or technical limitations of the proposed change.

Reporting

In reference to the HIA, preparing the HIA report and sharing the findings with decision makers, affected communities, and other stakeholders.

Qualitative and quantitative

HIA tries to balance qualitative and quantitative evidence. It involves an evaluation of the quantitative, "scientific" evidence when it exists but also recognizes the importance of

more qualitative information. This may include the opinions, experience and expectations of those people most directly affected by public policies. HIA tries to balance the various types of evidence (Barnes and Scott-Samuel, 1999). Generally speaking, quantitative evidence is based on what can be counted or measured objectively whilst qualitative evidence cannot be measured in the usual ways and may be more subjective. People's perceptions, opinions and views are considered examples of qualitative information.

Scoping

Creating objectives for the HIA, in consultation with stakeholders, and outlining the process to identify potential health risks and benefits.

Screening

In relation to HIA, screening usually refers to an initial step being taken in order to determine whether a policy, program or project should be subject to a HIA. It is a step to understand whether the HIA is likely to add value and influence decision-making.

HIA Glossary References

- Arnstein, Sherry R. 1969. A Ladder of Citizen Participation. JAIP. 35(4):216-224.
- Barnes R, Scott-Samuel A. 1999. The Acheson report: beyond parenthood and apple pie. Journal of Epidemiology and Community Health. 53(6):322-3
- Labonete E, Paris J. 1993. Life events in borderline personality disorder. Canadian Journal of Psychiatry, 38(10):638.
- Lalonde M. 1974. A New Perspective on the Health of Canadians. Ottawa, Ontario, Canada: Minister of Supply and Services.
- National Research Council of the National Academies. 2011. Elements of a Health Impact Assessment. Improving Health in the United States: The Role of Health Impact Assessment.
- Thomson A., et al. 2001. Changing Patterns of Management Development. Oxford, UK, Mass., USA: Blackwell Publisher.
- Wilkinson, Richard G. 1996. Unhealthy Societies: The Affliction of Inequality. London: Routledge.
- World Health Organization. 2018. Health Impact Assessment: Glossary of terms used.. Available at: <http://www.who.int/hia/about/glos/en/> .
- World Health Organization. 1999. Health Impact Assessment: main concepts and suggested approach. Gothenburg consensus paper. WHO Regional Office for Europe. Available at: <http://www.euro.who.int/document/PAE/Gothenburgpaper.pdf>.

Appendix B: Health Data

Pediatric Asthma Prevalence per 100 Students for Males and Females Combined for School Years 2009-2010 to 2016-2017 by Community

Braintree						
School Year	Student Case Count	Student Enrollment Count	Prevalence	95% Confidence Interval	Statistical Significance	Stability
2009-2010	498	4,143	12.0	11.0 - 13.1	Not statistically significantly different	
2010-2011	477	4,200	11.4	10.3 - 12.4	Not statistically significantly different	
2011-2012	499	4,204	11.9	10.8 - 12.9	Not statistically significantly different	
2012-2013	466	4,250	11.0	10.0 - 12.0	Statistically significantly lower	
2013-2014	492	4,294	11.5	10.4 - 12.5	Not statistically significantly different	
2014-2015	463	4,250	10.9	9.9 - 11.9	Statistically significantly lower	
2015-2016	521	4,291	12.1	11.1 - 13.2	Not statistically significantly different	
2016-2017	528	4,277	12.3	11.3 - 13.4	Not statistically significantly different	
Braintree - Annual Average	493	4,239	11.6	11.3 - 12.0	Statistically significantly lower	

Hingham						
School Year	Student Case Count	Student Enrollment Count	Prevalence	95% Confidence Interval	Statistical Significance	Stability
2009-2010	276	2,873	9.6	8.5 - 10.7	Statistically significantly lower	
2010-2011	307	3,231	9.5	8.4 - 10.6	Statistically significantly lower	
2011-2012	316	3,277	9.6	8.6 - 10.7	Statistically significantly lower	
2012-2013	316	3,287	9.6	8.6 - 10.7	Statistically significantly lower	
2013-2014	325	3,120	10.4	9.3 - 11.5	Statistically significantly lower	
2014-2015	244	3,303	7.4	6.5 - 8.3	Statistically significantly lower	
2015-2016	337	3,337	10.1	9.0 - 11.2	Statistically significantly lower	
2016-2017	313	3,385	9.2	8.2 - 10.3	Statistically significantly lower	
Hingham - Annual Average	304	3,227	9.4	9.1 - 9.8	Statistically significantly lower	

Quincy						
School Year	Student Case Count	Student Enrollment Count	Prevalence	95% Confidence Interval	Statistical Significance	Stability
2009-2010	735	6,740	10.9	10.1 - 11.7	Not statistically significantly different	
2010-2011	726	6,890	10.5	9.8 - 11.3	Statistically significantly lower	
2011-2012	814	6,977	11.7	10.9 - 12.5	Not statistically significantly different	
2012-2013	748	7,040	10.6	9.9 - 11.4	Statistically significantly lower	
2013-2014	745	7,167	10.4	9.6 - 11.1	Statistically significantly lower	
2014-2015	804	7,112	11.3	10.5 - 12.1	Statistically significantly lower	
2015-2016	730	6,988	10.4	9.7 - 11.2	Statistically significantly lower	
2016-2017	584	7,069	8.3	7.6 - 8.9	Statistically significantly lower	

Quincy - Annual Average	736	6,998	10.5	10.2 - 10.8	Statistically significantly lower
-------------------------	-----	-------	------	-------------	-----------------------------------

Weymouth

School Year	Student Case Count	Student Enrollment Count	Prevalence (%)	95% Confidence Interval	Statistical Significance	Stability
2009-2010	643	5,333	12.1	11.1 - 13.0	Not statistically significantly different	
2010-2011	704	5,383	13.1	12.1 - 14.0	Statistically significantly higher	
2011-2012	752	5,372	14.0	13.0 - 15.0	Statistically significantly higher	
2012-2013	703	5,328	13.2	12.2 - 14.2	Statistically significantly higher	
2013-2014	650	5,317	12.2	11.3 - 13.2	Not statistically significantly different	
2014-2015	641	5,224	12.3	11.3 - 13.2	Not statistically significantly different	
2015-2016	586	5,098	11.5	10.6 - 12.4	Not statistically significantly different	
2016-2017	561	4,933	11.4	10.4 - 12.3	Not statistically significantly different	
Weymouth - Annual Average	655	5,249	12.5	12.1 - 12.8	Statistically significantly higher	

Statewide

School Year	Student Case Count	Student Enrollment Count	Prevalence	95% Confidence Interval
2009-2010	80,440	696,904	11.5	11.4 - 11.6
2010-2011	80,948	693,338	11.7	11.6 - 11.8
2011-2012	82,548	691,614	11.9	11.8 - 12.0
2012-2013	83,568	691,060	12.1	12.0 - 12.2
2013-2014	85,364	689,300	12.4	12.3 - 12.5
2014-2015	83,854	685,649	12.2	12.1 - 12.3
2015-2016	84,230	681,295	12.4	12.3 - 12.5
2016-2017	82,279	679,336	12.1	12.0 - 12.2
Statewide - Annual Average	82,904	688,562	12.0	12.0 - 12.1

- U or Unstable indicates that a rate is unstable, because it has a relative standard error > 30%, and should be interpreted with caution.
- NS indicates number/prevalence not shown due to small numbers. These data are suppressed for confidentiality reasons.
- NA indicates insufficient school enrollment data available to calculate prevalence. NA for both student case count and student enrollment may indicate the school location is no longer in use, or prevalence could not be calculated due to a data collection issue
- School list is based on the current data provided by the Massachusetts Department of Education <http://www.doe.mass.edu/>
- Asthma prevalence is only for children enrolled in grades Kindergarten through 8th grade.
- Community prevalence is based on the residential address of the student.
- When comparing prevalence across geographic areas, a variety of non-environmental factors can impact asthma prevalence.
- Statistical significance indicates that prevalence is different from the state prevalence and the difference is unlikely due to chance.
- 95% confidence intervals represent the precision of the estimates shown. When zero cases are observed in a population, the upper 95% confidence limit is calculated using a method known as the "rule of three." This method calls for substituting a three for the number of cases when calculating the upper 95% confidence interval in order to produce a more accurate upper bound when the observed case count is zero.
- Data source: Bureau of Environmental Health Massachusetts Department of Public Health.
- Numbers and prevalence may differ slightly from those contained in other publications. These differences may be due to file updates, differences in calculating prevalence and updates in population estimates

Pediatric Asthma Prevalence per 100 Students for Males and Females Combined
for School Years 2009-2010 to 2016-2017 by School (within Focus Area)

<u>Quincy - Public - Clifford H Marshall Elementary</u>						
School Year	Student Case Count	Student Enrollment Count	Prevalence	95% Confidence Interval	Statistical Significance	Stability
2009-2010	35	535	6.5	4.3 - 8.7	Statistically significantly lower	
2010-2011	28	530	5.3	3.3 - 7.3	Statistically significantly lower	
2011-2012	61	563	10.8	8.1 - 13.5	Not statistically significantly different	
2012-2013	63	559	11.3	8.5 - 14.1	Not statistically significantly different	
2013-2014	67	577	11.6	8.8 - 14.4	Not statistically significantly different	
2014-2015	86	575	15	11.8 - 18.2	Not statistically significantly different	
2015-2016	86	577	14.9	11.8 - 18.0	Not statistically significantly different	
2016-2017	93	575	16.2	12.9 - 19.5	Statistically significantly higher	
School Annual Average	65	561	11.6	10.6 - 12.6	Not statistically significantly different	

<u>Quincy - Private - Mutanafisun Academy</u>						
School Year	Student Case Count	Student Enrollment Count	Prevalence	95% Confidence Interval	Statistical Significance	Stability
2009-2010	0	NA	NC	NC	NC	
2010-2011	0	NA	NC	NC	NC	
2011-2012	0	NA	NC	NC	NC	
2012-2013	0	33	0	0 - 19.4	Not statistically significantly different	Unstable
2013-2014	0	33	0	0 - 19.4	Not statistically significantly different	Unstable
2014-2015	NS	37	NS	NS	NS	
2015-2016	0	27	0	0 - 23.7	Not statistically significantly different	Unstable
2016-2017	NS	50	NS	NS	NS	
School Annual Average	0	22	1.1	0.0 - 2.7	Statistically significantly lower	

<u>Quincy - Public - Snug Harbor Community School</u>						
School Year	Student Case Count	Student Enrollment Count	Prevalence	95% Confidence Interval	Statistical Significance	Stability
2009-2010	30	252	11.9	7.6 - 16.2	Not statistically significantly different	
2010-2011	31	285	10.9	7.1 - 14.7	Not statistically significantly different	
2011-2012	30	288	10.4	6.7 - 14.1	Not statistically significantly different	
2012-2013	25	291	8.6	5.2 - 12.0	Statistically significantly lower	
2013-2014	26	311	8.4	5.2 - 11.6	Statistically significantly lower	
2014-2015	40	300	13.3	9.2 - 17.4	Not statistically significantly different	
2015-2016	46	302	15.2	10.8 - 19.6	Not statistically significantly different	
2016-2017	43	303	14.2	10.0 - 18.4	Not statistically significantly different	
School Annual Average	34	292	11.6	10.2 - 13.0	Not statistically significantly different	

Pediatric Asthma Prevalence per 100 Students for Males and Females Combined
for School Years 2009-2010 to 2016-2017 by School (within Focus Area)

Weymouth - Private - St Jerome Elementary

School Year	Student Case Count	Student Enrollment Count	Prevalence	95% Confidence Interval	Statistical Significance	Stability
2009-2010	17	184	9.2	4.8 - 13.6	Not statistically significantly different	
2010-2011	15	188	8	4.0 - 12.0	Not statistically significantly different	
2011-2012	15	174	8.6	4.2 - 13.0	Not statistically significantly different	
2012-2013	15	179	8.4	4.1 - 12.7	Not statistically significantly different	
2013-2014	12	159	7.5	3.3 - 11.7	Statistically significantly lower	
2014-2015	13	157	8.3	3.8 - 12.8	Not statistically significantly different	
2015-2016	9	149	6	2.1 - 9.9	Statistically significantly lower	Unstable
2016-2017	11	145	7.6	3.1 - 12.1	Not statistically significantly different	Unstable
School Annual Average	13	167	8	6.5 - 9.5	Statistically significantly lower	

Weymouth - Public - Wessagusset

School Year	Student Case Count	Student Enrollment Count	Prevalence	95% Confidence Interval	Statistical Significance	Stability
2009-2010	33	405	8.1	5.3 - 10.9	Statistically significantly lower	
2010-2011	46	387	11.9	8.5 - 15.3	Not statistically significantly different	
2011-2012	40	375	10.7	7.4 - 14.0	Not statistically significantly different	
2012-2013	77	361	21.3	16.5 - 26.1	Statistically significantly higher	
2013-2014	50	353	14.2	10.3 - 18.1	Not statistically significantly different	
2014-2015	38	348	10.9	7.4 - 14.4	Not statistically significantly different	
2015-2016	21	330	6.4	3.7 - 9.1	Statistically significantly lower	
2016-2017	21	294	7.1	4.1 - 10.1	Statistically significantly lower	
School Annual Average	41	357	11.4	10.2 - 12.7	Not statistically significantly different	

Statewide

School Year	Student Case Count	Student Enrollment Count	Prevalence	95% Confidence Interval
2009-2010	80,440	696,904	11.5	11.4 - 11.6
2010-2011	80,948	693,338	11.7	11.6 - 11.8
2011-2012	82,548	691,614	11.9	11.8 - 12.0
2012-2013	83,568	691,060	12.1	12.0 - 12.2
2013-2014	85,364	689,300	12.4	12.3 - 12.5
2014-2015	83,854	685,649	12.2	12.1 - 12.3
2015-2016	84,230	681,295	12.4	12.3 - 12.5
2016-2017	82,279	679,336	12.1	12.0 - 12.2

Pediatric Asthma Prevalence per 100 Students for Males and Females Combined
for School Years 2009-2010 to 2016-2017 by School (within Focus Area)

Statewide - Annual Average	82,904	688,562	12.0	12.0 - 12.1
-----------------------------------	---------------	----------------	-------------	--------------------

- U or Unstable indicates that a rate is unstable, because it has a relative standard error > 30%, and should be interpreted with caution.
- NS indicates number/prevalence not shown due to small numbers. These data are suppressed for confidentiality reasons.
- NA indicates insufficient school enrollment data available to calculate prevalence. NA for both student case count and student enrollment may indicate the school location is no longer in use, or prevalence could not be calculated due to a data collection issue
- School list is based on the current data provided by the Massachusetts Department of Education <http://www.doe.mass.edu/>
- Asthma prevalence is only for children enrolled in grades Kindergarten through 8th grade.
- School prevalence is based on the school attended by the student.
- When comparing prevalence across geographic areas, a variety of non-environmental factors can impact asthma prevalence.
- Statistical significance indicates that prevalence is different from the state prevalence and the difference is unlikely due to chance.
- 95% confidence intervals represent the precision of the estimates shown. When zero cases are observed in a population, the upper 95% confidence limit is calculated using a method known as the "rule of three." This method calls for substituting a three for the number of cases when calculating the upper 95% confidence interval in order to produce a more accurate upper bound when the observed case count is zero.
- Data source: Bureau of Environmental Health Massachusetts Department of Public Health.
- Numbers and prevalence may differ slightly from those contained in other publications. These differences may be due to file updates, differences in calculating prevalence and updates in population estimates

Age-Adjusted Rates of Hospital Admission for Asthma per 10,000 People,
for Males and Females Combined for 2000 - 2015 by Community

Braintree						
Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2000	44	13.0	12.1	8.5 - 15.7	Not statistically significantly different	
2001	36	10.6	10.6	7.1 - 14.1	Not statistically significantly different	
2002	39	11.4	10.8	7.4 - 14.2	Not statistically significantly different	
2003	43	12.5	12.7	8.9 - 16.5	Not statistically significantly different	
2004	49	14.2	13.4	9.6 - 17.1	Not statistically significantly different	
2005	32	9.2	8.3	5.4 - 11.2	Statistically significantly lower	
2006	45	12.9	11.7	8.3 - 15.2	Not statistically significantly different	
2007	53	15.1	14.3	10.4 - 18.1	Not statistically significantly different	
2008	46	13.0	12.5	8.9 - 16.1	Not statistically significantly different	
2009	59	16.6	15.2	11.3 - 19.0	Not statistically significantly different	
2010	52	14.6	14.2	10.3 - 18.0	Not statistically significantly different	
2011	70	19.3	19.0	14.6 - 23.5	Not statistically significantly different	
2012	37	10.1	9.4	6.4 - 12.5	Statistically significantly lower	
2013	42	11.3	11.2	7.8 - 14.6	Not statistically significantly different	
2014	42	11.1	11.4	8.0 - 14.9	Not statistically significantly different	
2015	31	8.1	7.8	5.1 - 10.5	Statistically significantly lower	
Braintree - Annual Average	45	12.7	12.2	11.3 - 13.1	Statistically significantly lower	

Hingham						
Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2000	NS	NS	NS	NS	NS	
2001	21	10.4	9.2	5.3 - 13.1	Not statistically significantly different	
2002	14	6.9	6.6	3.1 - 10.0	Statistically significantly lower	
2003	11	5.4	4.5	1.2 - 7.1	Statistically significantly lower	Unstable
2004	14	6.7	6.3	3.0 - 9.6	Statistically significantly lower	
2005	24	11.4	9.5	5.7 - 13.3	Statistically significantly lower	
2006	11	5.2	4.9	2.0 - 7.7	Statistically significantly lower	Unstable
2007	19	8.9	7.7	4.3 - 11.2	Statistically significantly lower	
2008	22	10.1	8.6	5.0 - 12.2	Statistically significantly lower	
2009	16	7.3	6.1	3.1 - 9.1	Statistically significantly lower	
2010	27	12.2	9.1	5.7 - 12.6	Statistically significantly lower	
2011	22	9.8	9.4	5.5 - 13.4	Statistically significantly lower	
2012	13	5.8	4.9	2.2 - 7.6	Statistically significantly lower	
2013	18	7.9	6.0	3.2 - 8.7	Statistically significantly lower	
2014	NS	NS	NS	NS	NS	

Age-Adjusted Rates of Hospital Admission for Asthma per 10,000 People,
for Males and Females Combined for 2000 - 2015 by Community

2015	19	8.2	6.0	3.3 - 8.7	Statistically significantly lower
Hingham - Annual Average	17	7.7	6.6	5.8 - 7.4	Statistically significantly lower

Quincy

Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2000	111	12.6	12.5	10.2 - 14.8	Not statistically significantly different	
2001	117	13.2	13.4	10.9 - 15.8	Not statistically significantly different	
2002	104	11.7	12.1	9.8 - 14.5	Not statistically significantly different	
2003	136	15.2	15.7	13.0 - 18.3	Not statistically significantly different	
2004	108	12.0	12.1	9.8 - 14.3	Not statistically significantly different	
2005	131	14.5	14.5	12.0 - 17.0	Not statistically significantly different	
2006	141	15.6	16.0	13.3 - 18.6	Not statistically significantly different	
2007	105	11.5	11.4	9.2 - 13.5	Statistically significantly lower	
2008	121	13.2	13.1	10.7 - 15.4	Statistically significantly lower	
2009	123	13.4	13.9	11.4 - 16.3	Not statistically significantly different	
2010	114	12.4	12.4	10.1 - 14.7	Statistically significantly lower	
2011	119	12.7	12.3	10.1 - 14.5	Statistically significantly lower	
2012	89	9.4	9.7	7.7 - 11.8	Statistically significantly lower	
2013	82	8.6	8.5	6.7 - 10.3	Statistically significantly lower	
2014	104	10.7	10.4	8.4 - 12.4	Not statistically significantly different	
2015	78	8.0	8.5	6.6 - 10.4	Statistically significantly lower	
Quincy - Annual Average	111	12.1	12.3	11.7 - 12.8	Statistically significantly lower	

Weymouth

Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2000	72	13.3	13.1	10.0 - 16.1	Not statistically significantly different	
2001	67	12.4	12.0	9.2 - 14.9	Not statistically significantly different	
2002	70	13.0	13.1	10.0 - 16.1	Not statistically significantly different	
2003	77	14.3	14.0	10.9 - 17.1	Not statistically significantly different	
2004	71	13.2	12.7	9.7 - 15.6	Not statistically significantly different	
2005	86	16.0	15.6	12.3 - 18.9	Not statistically significantly different	
2006	75	13.9	13.9	10.8 - 17.0	Not statistically significantly different	
2007	70	13.0	13.1	10.1 - 16.2	Not statistically significantly different	
2008	110	20.5	21.1	17.2 - 25.1	Statistically significantly higher	
2009	100	18.6	18.2	14.7 - 21.8	Not statistically significantly different	
2010	101	18.8	19.6	15.8 - 23.4	Not statistically significantly different	
2011	89	16.4	17.3	13.7 - 20.9	Not statistically significantly different	

Age-Adjusted Rates of Hospital Admission for Asthma per 10,000 People,
for Males and Females Combined for 2000 - 2015 by Community

2012	89	16.3	16.5	13.1 - 19.9	Not statistically significantly different
2013	73	13.3	13.0	10.0 - 16.0	Not statistically significantly different
2014	92	16.7	16.0	12.7 - 19.3	Statistically significantly higher
2015	81	14.6	13.6	10.6 - 16.6	Not statistically significantly different
Weymouth - Annual Average	83	15.3	15.2	14.4 - 16.0	Statistically significantly higher

State Wide

Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals
2000	8,039	12.7	12.6	12.3 - 12.9
2001	8,287	13.0	13.1	12.8 - 13.4
2002	8,084	12.7	12.8	12.5 - 13.1
2003	9,945	15.5	15.7	15.4 - 16.0
2004	8,855	13.8	13.8	13.5 - 14.1
2005	9,062	14.1	14.1	13.8 - 14.4
2006	9,491	14.7	14.7	14.4 - 15.0
2007	9,385	14.5	14.5	14.2 - 14.8
2008	10,311	15.8	15.9	15.6 - 16.2
2009	10,577	16.2	16.0	15.7 - 16.3
2010	10,133	15.5	15.5	15.2 - 15.8
2011	9,928	15.0	15.0	14.7 - 15.3
2012	8,852	13.3	13.4	13.1 - 13.7
2013	7,957	11.8	11.9	11.6 - 12.2
2014	8,172	12.0	11.9	11.6 - 12.2
2015	7,347	10.8	10.7	10.5 - 11.0
Statewide - Annual Average	9,027	13.8	13.9	13.8 - 13.9

· U or Unstable indicates that a rate is unstable, because it has a relative standard error > 30%, and should be interpreted with caution.

· 95% confidence intervals are calculated using the age adjusted rate when it is displayed in the report.

· NS = Not shown. Statistics are suppressed to protect confidentiality when the number of cases is ≤10.

· 95% confidence intervals represent the precision of the estimates shown. When zero cases are observed in a population, the upper 95% confidence limit is calculated using a method known as the "rule of three." This method calls for substituting a three for the number of cases when calculating the upper 95% confidence interval in order to produce a more accurate upper bound when the observed case count is zero.

· Numbers and rates may differ slightly from those contained in other publications. These differences may be due to file updates, differences in calculating rates and updates in population estimates.

· Difference in counts and rates in years prior to 2015 compared to 2015 could be a result of the change from ICD-9CM to ICD-10CM (coding of medical terminology and disease classification) that took place on October 1, 2015.

· Data source: Center for Health Information and Analysis (CHIA)

· Population estimates for 2000 and 2010 are from the U.S. Decennial Census. Inter-censal year estimates for 2001 through 2009 were created by linear interpolation of U.S. Decennial Census data. Post-censal year estimates for 2011 to present were created by the UMass Donahue Institute.

Age Adjusted Rates of Hospital Admission for Asthma per 10,000 People,
for Males and Females Combined for 2010 - 2015 by Zip Code

Zip Code 02191						
Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2010	18	21.3	21.6	11.6 - 31.6	Not statistically significantly different	
2011	13	14.9	22.5	10.3 - 34.7	Not statistically significantly different	
2012	NS	NS	NS	NS	NS	
2013	NS	NS	NS	NS	NS	
2014	11	13.2	13.8	5.6 - 22.0	Not statistically significantly different	
2015	NS	NS	NS	NS	NS	
Zip Code - 02191 Annual Average	11	12.4	13.8	5.6 - 22.0	Not statistically significantly different	

State Wide				
Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals
2010	10,133	15.5	15.5	15.2 - 15.8
2011	9,928	15.0	15.0	14.7 - 15.3
2012	8,852	13.3	13.4	13.1 - 13.7
2013	7,957	11.8	11.9	11.6 - 12.2
2014	8,172	12.0	11.9	11.6 - 12.2
2015	7,347	10.8	10.7	10.5 - 11.0
Statewide - Annual Average	8,732	13.1	13.1	12.8 - 13.4

- U or Unstable indicates that a rate is unstable, because it has a relative standard error > 30%, and should be interpreted with caution.
- 95% confidence intervals are calculated using the age adjusted rate when it is displayed in the report.
- NS = Not shown. Statistics are suppressed to protect confidentiality when the number of cases is ≤10.
- 95% confidence intervals represent the precision of the estimates shown. When zero cases are observed in a population, the upper 95% confidence limit is calculated using a method known as the "rule of three." This method calls for substituting a three for the number of cases when calculating the upper 95% confidence interval in order to produce a more accurate upper bound when the observed case count is zero.
- Numbers and rates may differ slightly from those contained in other publications. These differences may be due to file updates, differences in calculating rates and updates in population estimates.
- Difference in counts and rates in years prior to 2015 compared to 2015 could be a result of the change from ICD-9CM to ICD-10CM (coding of medical terminology and disease classification) that took place on October 1, 2015.
- Data source: Center for Health Information and Analysis (CHIA)
- Population estimates for 2000 and 2010 are from the U.S. Decennial Census. Post-censal year estimates for 2011 to 2015 were created by the UMass Donahue Institute and used for statewide rates. Post-censal year estimates for 2011 to 2015 from the American Community Survey by the U.S. Census Bureau were used for zip code rates.

Age-Adjusted Rates of Emergency Department Visits for Asthma per 10,000 People,
for Males and Females Combined for 2002 - 2015 by Community

Braintree						
Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2002	139	40.6	42.6	35.5 - 49.7	Statistically significantly lower	
2003	165	48.0	52.3	44.3 - 60.3	Statistically significantly lower	
2004	176	50.9	54.3	46.3 - 62.4	Statistically significantly lower	
2005	173	49.7	53.1	45.2 - 61.0	Statistically significantly lower	
2006	153	43.7	47.3	39.8 - 54.8	Statistically significantly lower	
2007	132	37.5	39.3	32.6 - 46.0	Statistically significantly lower	
2008	127	35.9	38.4	31.7 - 45.0	Statistically significantly lower	
2009	181	50.9	53.8	45.9 - 61.6	Statistically significantly lower	
2010	134	37.5	39.2	32.6 - 45.9	Statistically significantly lower	
2011	185	51.0	53.0	45.4 - 60.7	Statistically significantly lower	
2012	162	44.0	47.0	39.7 - 54.2	Statistically significantly lower	
2013	169	45.3	49.6	42.1 - 57.0	Statistically significantly lower	
2014	201	53.3	58.3	50.3 - 66.4	Statistically significantly lower	
2015	162	42.5	46.0	38.9 - 53.1	Statistically significantly lower	
Braintree - Annual Average	161	45.1	48.2	46.2 - 50.1	Statistically significantly lower	

Hingham						
Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2002	49	24.1	24.2	17.4 - 30.9	Statistically significantly lower	
2003	55	26.7	30.3	22.3 - 38.3	Statistically significantly lower	
2004	66	31.7	31.9	24.2 - 39.6	Statistically significantly lower	
2005	71	33.8	33.8	25.9 - 41.7	Statistically significantly lower	
2006	35	16.5	18.7	12.5 - 24.9	Statistically significantly lower	
2007	60	27.9	31.1	23.2 - 39.0	Statistically significantly lower	
2008	50	23.0	23.4	16.9 - 29.9	Statistically significantly lower	
2009	51	23.3	26.5	19.2 - 33.8	Statistically significantly lower	
2010	55	24.8	26.0	19.1 - 32.9	Statistically significantly lower	
2011	49	21.9	23.1	16.6 - 29.5	Statistically significantly lower	
2012	46	20.4	22.3	15.9 - 28.8	Statistically significantly lower	
2013	51	22.4	22.9	16.6 - 29.2	Statistically significantly lower	
2014	41	17.9	18.7	13.00- 24.5	Statistically significantly lower	
2015	54	23.3	21.7	15.9 - 27.5	Statistically significantly lower	
Hingham - Annual Average	52	24.0	25.3	23.5 - 27.2	Statistically significantly lower	

Quincy

Age-Adjusted Rates of Emergency Department Visits for Asthma per 10,000 People,
for Males and Females Combined for 2002 - 2015 by Community

Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2002	492	55.4	58.3	53.2 - 63.5	Statistically significantly lower	
2003	533	59.7	64.6	59.1 - 70.1	Statistically significantly lower	
2004	529	59.0	63.6	58.2 - 69.0	Statistically significantly lower	
2005	522	57.9	61.9	56.6 - 67.2	Statistically significantly lower	
2006	567	62.6	66.4	61.0 - 71.9	Statistically significantly lower	
2007	500	54.9	57.5	52.5 - 62.5	Statistically significantly lower	
2008	504	55.1	57.8	52.7 - 62.8	Statistically significantly lower	
2009	503	54.8	58.6	53.5 - 63.7	Statistically significantly lower	
2010	472	51.2	54.3	49.4 - 59.2	Statistically significantly lower	
2011	478	51.1	53.9	49.1 - 58.7	Statistically significantly lower	
2012	484	51.1	55.1	50.2 - 60.0	Statistically significantly lower	
2013	458	47.8	50.9	46.3 - 55.6	Statistically significantly lower	
2014	498	51.4	55.8	50.9 - 60.7	Statistically significantly lower	
2015	451	46.2	47.9	43.5 - 52.3	Statistically significantly lower	
Quincy - Annual Average	499	54.0	57.6	56.3 - 59.0	Statistically significantly lower	

Weymouth

Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2002	260	48.2	50.4	44.2 - 56.5	Statistically significantly lower	
2003	249	46.2	47.7	41.8 - 53.7	Statistically significantly lower	
2004	299	55.5	58.1	51.5 - 64.7	Statistically significantly lower	
2005	350	65.0	68.8	61.6 - 76.0	Not statistically significantly different	
2006	275	51.1	54.7	48.2 - 61.1	Statistically significantly lower	
2007	265	49.2	53.5	47.0 - 59.9	Statistically significantly lower	
2008	342	63.6	68.5	61.3 - 75.8	Statistically significantly lower	
2009	344	64.0	68.2	61.0 - 75.4	Statistically significantly lower	
2010	341	63.4	69.4	62.0 - 76.7	Not statistically significantly different	
2011	324	59.7	65.7	58.6 - 72.9	Not statistically significantly different	
2012	348	63.7	68.9	61.6 - 76.1	Not statistically significantly different	
2013	354	64.3	70.1	62.8 - 77.4	Not statistically significantly different	
2014	406	73.5	80.1	72.3 - 87.9	Statistically significantly higher	
2015	324	58.5	62.8	56.0 - 69.7	Not statistically significantly different	
Weymouth - Annual Average	320	59.0	63.3	61.5 - 65.2	Statistically significantly lower	

State Wide

Age-Adjusted Rates of Emergency Department Visits for Asthma per 10,000 People,
for Males and Females Combined for 2002 - 2015 by Community

Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals
2002	47,478	74.3	75.7	75.0 - 76.4
2003	51,063	79.7	81.6	80.9 - 82.3
2004	45,147	70.2	72.0	71.3 - 72.7
2005	46,020	71.4	73.3	72.6 - 74.0
2006	47,119	72.8	75.2	74.5 - 75.9
2007	45,486	70.1	72.8	72.1 - 73.5
2008	49,066	75.4	78.4	77.7 - 79.1
2009	47,869	73.3	76.3	75.6 - 77.0
2010	43,884	67.0	70.1	69.4 - 70.8
2011	45,152	68.2	71.6	70.9 - 72.3
2012	46,284	69.3	73.0	72.3 - 73.7
2013	43,897	65.2	68.7	68.1 - 69.3
2014	45,371	66.8	70.8	70.1 - 71.5
2015	42,887	62.8	66.5	65.9 - 67.2
Statewide - Annual Average	46,195	70.4	73.3	73.1 - 73.4

- U or Unstable indicates that a rate is unstable, because it has a relative standard error > 30%, and should be interpreted with caution.
- 95% confidence intervals are calculated using the age adjusted rate when it is displayed in the report.
- NS = Not shown. Statistics are suppressed to protect confidentiality when the number of cases is ≤10.
- 95% confidence intervals represent the precision of the estimates shown. When zero cases are observed in a population, the upper 95% confidence limit is calculated using a method known as the “rule of three.” This method calls for substituting a three for the number of cases when calculating the upper 95% confidence interval in order to produce a more accurate upper bound when the observed case count is zero.
- Numbers and rates may differ slightly from those contained in other publications. These differences may be due to file updates, differences in calculating rates and updates in population estimates.
- Difference in counts and rates in years prior to 2015 compared to 2015 could be a result of the change from ICD-9CM to ICD-10CM (coding of medical terminology and disease classification) that took place on October 1, 2015.
- Data source: Center for Health Information and Analysis (CHIA)
- Population estimates for 2000 and 2010 are from the U.S. Decennial Census. Inter-censal year estimates for 2001 through 2009 were created by linear interpolation of U.S. Decennial Census data. Post-censal year estimates for 2011 to present were created by the UMass Donahue Institute.

Age Adjusted Rates of Emergency Department Visits for Asthma per 10,000 People,
for Males and Females Combined for 2010 - 2015 by Zip Code

Zip Code 02191						
Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2010	49	57.9	68.3	49.2 - 87.4	Not statistically significantly different	
2011	48	55.3	68.3	60.1 - 107.5	Not statistically significantly different	
2012	41	46.9	59.9	42.4 - 79.8	Not statistically significantly different	
2013	42	50.2	62.6	46.3 - 86.5	Not statistically significantly different	
2014	32	38.2	43.5	30.5 - 62.7	Statistically significantly lower	
2015	27	32.3	36.0	24.8 - 46.0	Statistically significantly lower	
Zip Code - 02191 Annual Average	40	46.8	56.4	38.9 - 73.9	Not statistically significantly different	

State Wide				
Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals
2010	43,884	67.0	70.1	69.4 - 70.8
2011	45,152	68.2	71.6	70.9 - 72.3
2012	46,284	69.3	73.0	72.3 - 73.7
2013	43,897	65.2	68.7	68.1 - 69.3
2014	45,371	66.8	70.8	70.1 - 71.5
2015	42,887	62.8	66.5	65.9 - 67.2
Statewide - Annual Average	44,579	66.5	70.1	69.4 - 70.8

- U or Unstable indicates that a rate is unstable, because it has a relative standard error > 30%, and should be interpreted with caution.
- 95% confidence intervals are calculated using the age adjusted rate when it is displayed in the report.
- NS = Not shown. Statistics are suppressed to protect confidentiality when the number of cases is ≤10.
- 95% confidence intervals represent the precision of the estimates shown. When zero cases are observed in a population, the upper 95% confidence limit is calculated using a method known as the "rule of three." This method calls for substituting a three for the number of cases when calculating the upper 95% confidence interval in order to produce a more accurate upper bound when the observed case count is zero.
- Numbers and rates may differ slightly from those contained in other publications. These differences may be due to file updates, differences in calculating rates and updates in population estimates.
- Difference in counts and rates in years prior to 2015 compared to 2015 could be a result of the change from ICD-9CM to ICD-10CM (coding of medical terminology and disease classification) that took place on October 1, 2015.
- Data source: Center for Health Information and Analysis (CHIA)
- Population estimates for 2000 and 2010 are from the U.S. Decennial Census. Post-censal year estimates for 2011 to 2015 were created by the UMass Donahue Institute and used for statewide rates. Post-censal year estimates for 2011 to 2015 from the American Community Survey by the U.S. Census Bureau were used for zip code rates.

Age-Adjusted Rates of Hospital Admission for COPD per 10,000 People,
for Males and Females Combined for 2000 - 2015 by Community

Braintree						
Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2000	98	40.8	32.8	26.3 - 39.3	Not statistically significantly different	
2001	112	46.4	37.2	30.3 - 44.1	Not statistically significantly different	
2002	96	39.5	32.3	25.8 - 38.7	Not statistically significantly different	
2003	109	44.7	35.6	28.9 - 42.2	Not statistically significantly different	
2004	117	47.7	37.8	30.9 - 44.6	Statistically significantly higher	
2005	110	44.6	35.5	28.9 - 42.1	Statistically significantly higher	
2006	90	36.3	28.3	22.5 - 34.2	Not statistically significantly different	
2007	107	43.0	34.5	28.0 - 41.1	Statistically significantly higher	
2008	127	50.8	41.1	33.9 - 48.2	Statistically significantly higher	
2009	130	51.7	40.5	33.5 - 47.4	Statistically significantly higher	
2010	125	49.5	40.4	33.3 - 47.5	Statistically significantly higher	
2011	139	54.3	43.9	36.6 - 51.2	Statistically significantly higher	
2012	123	47.4	36.6	30.1 - 43.1	Not statistically significantly different	
2013	94	35.8	29.0	23.2 - 34.9	Not statistically significantly different	
2014	92	34.7	28.9	23.0 - 34.9	Not statistically significantly different	
2015	107	40.1	32.1	26.0 - 38.2	Not statistically significantly different	
Braintree - Annual Average	111	44.2	35.4	33.8 - 37.1	Statistically significantly higher	

Hingham						
Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2000	31	22.9	20.5	13.3 - 27.7	Statistically significantly lower	
2001	44	32.2	28.3	19.9 - 36.6	Not statistically significantly different	
2002	36	26.0	22.4	15.1 - 29.7	Not statistically significantly different	
2003	32	22.8	19.1	12.5 - 25.7	Statistically significantly lower	
2004	28	19.7	14.4	9.0 - 19.7	Statistically significantly lower	
2005	41	28.6	20.6	14.3 - 26.9	Statistically significantly lower	
2006	29	20.0	15.8	10.0 - 21.5	Statistically significantly lower	
2007	22	15.0	10.1	5.9 - 14.3	Statistically significantly lower	
2008	53	35.7	19.6	14.3 - 24.8	Statistically significantly lower	
2009	47	31.3	20.0	14.3 - 25.7	Statistically significantly lower	
2010	44	28.9	18.5	13.1 - 24.0	Statistically significantly lower	
2011	49	31.9	19.4	13.9 - 24.8	Statistically significantly lower	
2012	38	24.5	15.4	10.5 - 20.2	Statistically significantly lower	
2013	41	26.1	15.2	10.5 - 19.8	Statistically significantly lower	
2014	33	20.8	12.5	8.2 - 16.7	Statistically significantly lower	

Age-Adjusted Rates of Hospital Admission for COPD per 10,000 People,
for Males and Females Combined for 2000 - 2015 by Community

2015	49	30.5	19.4	14.0 - 24.8	Statistically significantly lower
Hingham - Annual Average	39	26.1	18.2	16.8 - 19.6	Statistically significantly lower

Quincy

Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2000	303	46.2	44.5	39.4 - 49.5	Statistically significantly higher	
2001	304	46.1	43.5	38.6 - 48.4	Statistically significantly higher	
2002	256	38.7	36.4	32.0 - 40.9	Statistically significantly higher	
2003	302	45.4	42.3	37.5 - 47.0	Statistically significantly higher	
2004	345	51.6	48.6	43.5 - 53.7	Statistically significantly higher	
2005	340	50.6	47.7	42.7 - 52.8	Statistically significantly higher	
2006	282	41.7	40.3	35.6 - 45.0	Statistically significantly higher	
2007	286	42.1	40.1	35.4 - 44.7	Statistically significantly higher	
2008	353	51.7	49.0	43.9 - 54.1	Statistically significantly higher	
2009	352	51.3	48.7	43.7 - 53.8	Statistically significantly higher	
2010	304	44.1	41.3	36.6 - 45.9	Statistically significantly higher	
2011	299	42.7	39.8	35.3 - 44.3	Statistically significantly higher	
2012	259	36.5	34.8	30.6 - 39.1	Statistically significantly higher	
2013	220	30.6	28.4	24.7 - 32.2	Not statistically significantly different	
2014	224	30.8	28.4	24.7 - 32.1	Not statistically significantly different	
2015	236	32.2	29.2	25.5 - 32.0	Not statistically significantly different	
Quincy - Annual Average	292	42.5	40.2	39.0 - 41.3	Statistically significantly higher	

Weymouth

Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2000	189	49.0	46.1	39.6 - 52.7	Statistically significantly higher	
2001	176	45.6	42.3	36.1 - 48.6	Statistically significantly higher	
2002	164	42.5	39.5	33.4 - 45.5	Statistically significantly higher	
2003	194	50.2	46.5	40.0 - 53.1	Statistically significantly higher	
2004	166	43.0	39.2	33.2 - 45.1	Statistically significantly higher	
2005	175	45.3	41.4	35.3 - 47.6	Statistically significantly higher	
2006	149	38.6	34.8	29.2 - 40.3	Statistically significantly higher	
2007	157	40.6	37.1	31.3 - 42.9	Statistically significantly higher	
2008	228	58.9	53.0	46.1 - 59.8	Statistically significantly higher	
2009	208	53.8	47.7	41.3 - 54.2	Statistically significantly higher	
2010	216	55.8	49.1	42.5 - 55.6	Statistically significantly higher	
2011	205	52.4	45.3	39.1 - 51.5	Statistically significantly higher	

Age-Adjusted Rates of Hospital Admission for COPD per 10,000 People,
for Males and Females Combined for 2000 - 2015 by Community

2012	215	54.5	47.7	41.3 - 54.1	Statistically significantly higher
2013	226	56.8	48.2	41.9 - 54.5	Statistically significantly higher
2014	273	68.2	56.0	49.3 - 62.6	Statistically significantly higher
2015	244	60.9	50.4	44.0 - 56.7	Statistically significantly higher
Weymouth - Annual Average	199	51.1	45.3	43.7 - 46.8	Statistically significantly higher

State Wide

Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals
2000	14,325	33.6	33.2	32.7 - 33.7
2001	13,320	31.1	30.4	29.9 - 30.9
2002	13,140	30.5	29.5	29.0 - 30.0
2003	12,983	30.0	28.8	28.3 - 29.3
2004	12,259	28.2	26.8	26.3 - 27.3
2005	12,749	29.2	27.7	27.2 - 28.2
2006	12,615	28.8	27.0	26.5 - 27.5
2007	12,588	28.6	26.9	26.4 - 27.4
2008	15,338	34.7	32.3	31.8 - 32.8
2009	15,821	35.7	32.9	32.4 - 33.4
2010	15,846	35.6	32.8	32.3 - 33.3
2011	16,757	37.1	33.7	33.2 - 34.2
2012	15,218	33.3	29.8	29.3 - 30.3
2013	14,074	30.4	26.9	26.5 - 27.3
2014	13,271	28.4	25.0	24.6 - 25.4
2015	14,319	30.3	26.3	25.9 - 26.7
Statewide - Annual Average	14,039	31.6	29.4	29.3 - 29.5

- COPD rates are only calculated among people 25 years of age and older.
- U or Unstable indicates that a rate is unstable, because it has a relative standard error > 30%, and should be interpreted with caution.
- 95% confidence intervals are calculated using the age adjusted rate when it is displayed in the report.
- NS = Not shown. Statistics are suppressed to protect confidentiality when the number of cases is ≤10.
- 95% confidence intervals represent the precision of the estimates shown. When zero cases are observed in a population, the upper 95% confidence limit is calculated using a method known as the "rule of three." This method calls for substituting a three for the number of cases when calculating the upper 95% confidence interval in order to produce a more accurate upper bound when the observed case count is zero.
- Numbers and rates may differ slightly from those contained in other publications. These differences may be due to file updates, differences in calculating rates and updates in population estimates.
- Difference in counts and rates in years prior to 2015 compared to 2015 could be a result of the change from ICD-9CM to ICD-10CM (coding of medical terminology and disease classification) that took place on October 1, 2015.
- Data source: Center for Health Information and Analysis (CHIA)
- Population estimates for 2000 and 2010 are from the U.S. Decennial Census. Inter-censal year estimates for 2001 through 2009 were created by linear interpolation of U.S. Decennial Census data. Post-censal year estimates for 2011 to present were created by the UMass Donahue Institute.

Age Adjusted Rates of Hospital Admission for COPD per 10,000 People,
for Males and Females Combined for 2010 - 2015 by Zip Code

Zip Code 02191						
Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2010	29	45.9	24.5	15.6 - 33.4	Not statistically significantly different	
2011	26	40.8	21.6	13.3 - 29.9	Statistically significantly lower	
2012	24	37.3	21.6	13.0 - 30.2	Not statistically significantly different	
2013	43	68.7	36.7	25.7 - 47.7	Not statistically significantly different	
2014	45	73.3	38.2	27.0 - 49.4	Statistically significantly higher	
2015	35	56.6	29.5	19.7 - 39.3	Not statistically significantly different	
Zip Code - 02191 Annual Average	34	53.8	28.7	19.1 - 38.3	Not statistically significantly different	

State Wide				
Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals
2010	15,846	35.6	32.8	32.3 - 33.3
2011	16,757	37.1	33.7	33.2 - 34.2
2012	15,218	33.3	29.8	29.3 - 30.3
2013	14,074	30.4	26.9	26.5 - 27.3
2014	13,271	28.4	25.0	24.6 - 25.4
2015	14,319	30.3	26.3	25.9 - 26.7
Statewide - Annual Average	14,914	32.5	29.1	28.6 - 29.6

- COPD rates are only calculated among people 25 years of age and older.
- U or Unstable indicates that a rate is unstable, because it has a relative standard error > 30%, and should be interpreted with caution.
- 95% confidence intervals are calculated using the age adjusted rate when it is displayed in the report.
- NS = Not shown. Statistics are suppressed to protect confidentiality when the number of cases is ≤10.
- 95% confidence intervals represent the precision of the estimates shown. When zero cases are observed in a population, the upper 95% confidence limit is calculated using a method known as the "rule of three." This method calls for substituting a three for the number of cases when calculating the upper 95% confidence interval in order to produce a more accurate upper bound when the observed case count is zero.
- Numbers and rates may differ slightly from those contained in other publications. These differences may be due to file updates, differences in calculating rates and updates in population estimates.
- Difference in counts and rates in years prior to 2015 compared to 2015 could be a result of the change from ICD-9CM to ICD-10CM (coding of medical terminology and disease classification) that took place on October 1, 2015.
- Data source: Center for Health Information and Analysis (CHIA)
- Population estimates for 2000 and 2010 are from the U.S. Decennial Census. Post-censal year estimates for 2011 to 2015 were created by the UMass Donahue Institute and used for statewide rates. Post-censal year estimates for 2011 to 2015 from the American Community Survey by the U.S. Census Bureau were used for zip code rates.

Age-Adjusted Rates of Hospital Admission for Myocardial Infarction per 10,000 People Age 35+,
for Males and Females Combined for 2000 - 2015 by Community

Braintree						
Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2000	112	56.9	48.2	39.3 - 57.1	Not statistically significantly different	
2001	145	73.1	61.3	51.3 - 71.3	Not statistically significantly different	
2002	107	53.6	46.4	37.6 - 55.2	Not statistically significantly different	
2003	132	65.6	54.7	45.3 - 64.0	Not statistically significantly different	
2004	114	56.3	47.2	38.5 - 55.9	Not statistically significantly different	
2005	103	50.5	42.0	33.9 - 50.0	Not statistically significantly different	
2006	133	64.8	55.3	45.9 - 64.7	Statistically significantly higher	
2007	102	49.4	41.1	33.1 - 49.1	Not statistically significantly different	
2008	120	57.7	47.6	39.1 - 56.2	Statistically significantly higher	
2009	93	44.4	36.1	28.8 - 43.5	Not statistically significantly different	
2010	88	41.8	34.9	27.6 - 42.1	Not statistically significantly different	
2011	88	41.2	35.8	28.3 - 43.2	Not statistically significantly different	
2012	86	39.8	32.8	25.9 - 39.8	Not statistically significantly different	
2013	76	34.8	28.5	22.1 - 34.9	Not statistically significantly different	
2014	53	24.0	20.5	15.0 - 26.1	Not statistically significantly different	
2015	60	26.9	23.9	17.9 - 30.0	Not statistically significantly different	
Braintree - Annual Average	101	48.3	41.0	39.0 - 43.0	Statistically significantly higher	

Hingham						
Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2000	62	52.9	52.2	39.2 - 65.2	Not statistically significantly different	
2001	43	36.0	34.3	24.0 - 44.5	Statistically significantly lower	
2002	46	37.8	33.9	24.1 - 43.7	Statistically significantly lower	
2003	61	49.3	44.8	33.6 - 56.1	Not statistically significantly different	
2004	48	38.1	34.6	24.8 - 44.4	Statistically significantly lower	
2005	49	38.3	32.1	23.1 - 41.1	Not statistically significantly different	
2006	49	37.6	30.1	21.6 - 38.5	Statistically significantly lower	
2007	51	38.5	30.7	22.2 - 39.1	Not statistically significantly different	
2008	46	34.2	28.2	20.1 - 36.4	Not statistically significantly different	
2009	52	38.0	28.6	20.9 - 36.4	Not statistically significantly different	
2010	41	29.5	22.5	15.6 - 29.4	Statistically significantly lower	
2011	43	30.6	23.7	16.6 - 30.8	Not statistically significantly different	
2012	36	25.4	15.4	10.4 - 20.4	Statistically significantly lower	
2013	42	29.4	19.3	13.5 - 25.2	Statistically significantly lower	
2014	46	31.9	19.6	14.0 - 25.3	Not statistically significantly different	

Age-Adjusted Rates of Hospital Admission for Myocardial Infarction per 10,000 People Age 35+,
for Males and Females Combined for 2000 - 2015 by Community

2015	26	17.8	12.0	7.4 - 16.6	Statistically significantly lower
Hingham -Annual Average	46	34.9	28.9	26.8 - 31.0	Statistically significantly lower

Quincy

Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2000	302	62.7	54.1	48.0 - 60.2	Not statistically significantly different	
2001	307	63.3	54.4	48.3 - 60.5	Not statistically significantly different	
2002	290	59.3	51.4	45.5 - 57.3	Not statistically significantly different	
2003	306	62.1	54.3	48.2 - 60.4	Not statistically significantly different	
2004	280	56.4	48.9	43.1 - 54.6	Not statistically significantly different	
2005	261	52.2	44.8	39.3 - 50.2	Not statistically significantly different	
2006	283	56.2	49.9	44.0 - 55.7	Statistically significantly higher	
2007	256	50.5	43.7	38.4 - 49.1	Statistically significantly higher	
2008	281	55.0	47.2	41.7 - 52.8	Statistically significantly higher	
2009	236	45.9	40.8	35.6 - 46.0	Statistically significantly higher	
2010	235	45.3	40.5	35.3 - 45.7	Statistically significantly higher	
2011	197	37.5	33.3	28.7 - 38.0	Not statistically significantly different	
2012	190	35.6	30.4	26.1 - 34.7	Not statistically significantly different	
2013	167	30.9	27.9	23.7 - 32.1	Not statistically significantly different	
2014	148	27.1	23.5	19.7 - 27.3	Not statistically significantly different	
2015	144	26.0	22.7	19.0 - 26.4	Not statistically significantly different	
Quincy -Annual Average	243	47.4	41.7	40.4 - 43.0	Statistically significantly higher	

Weymouth

Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2000	160	52.8	50.1	42.3 - 57.8	Not statistically significantly different	
2001	175	57.4	54.9	46.8 - 63.0	Not statistically significantly different	
2002	183	59.8	56.1	48.0 - 64.2	Not statistically significantly different	
2003	226	73.5	69.6	60.5 - 78.7	Statistically significantly higher	
2004	185	59.9	56.0	48.0 - 64.1	Statistically significantly higher	
2005	170	54.7	50.5	42.9 - 58.1	Statistically significantly higher	
2006	163	52.3	49.1	41.6 - 56.6	Statistically significantly higher	
2007	150	47.9	44.7	37.6 - 51.9	Not statistically significantly different	
2008	159	50.5	45.7	38.6 - 52.9	Statistically significantly higher	
2009	138	43.6	40.5	33.8 - 47.3	Not statistically significantly different	
2010	111	34.9	32.0	26.0 - 37.9	Not statistically significantly different	
2011	121	37.8	34.4	28.3 - 40.5	Not statistically significantly different	

Age-Adjusted Rates of Hospital Admission for Myocardial Infarction per 10,000 People Age 35+,
for Males and Females Combined for 2000 - 2015 by Community

2012	133	41.2	37.4	31.0 - 43.7	Statistically significantly higher
2013	117	36.0	32.2	26.3 - 38.0	Not statistically significantly different
2014	97	29.6	26.0	20.8 - 31.2	Not statistically significantly different
2015	118	35.9	31.0	25.4 - 36.6	Not statistically significantly different
Weymouth -Annual Average	150	47.7	44.4	42.6 - 46.2	Statistically significantly higher

State Wide

Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals
2000	17,513	52.4	50.8	50.0 - 51.6
2001	17,817	52.9	50.9	50.2 - 51.6
2002	18,022	53.1	50.7	50.0 - 51.4
2003	18,269	53.4	50.8	50.1 - 51.5
2004	16,392	47.5	45.2	44.5 - 45.9
2005	15,346	44.2	41.5	40.8 - 42.2
2006	14,688	42	39.7	39.1 - 40.3
2007	14,116	40	37.4	36.8 - 38.0
2008	13,647	38.4	35.9	35.3 - 36.5
2009	13,128	36.7	34	33.4 - 34.6
2010	12,900	35.8	32.9	32.3 - 33.5
2011	12,214	33.6	30.7	30.2 - 31.2
2012	12,181	33.2	30.2	29.7 - 30.7
2013	11,090	29.9	26.8	26.3 - 27.3
2014	10,442	27.9	24.7	24.2 - 25.2
2015	11,511	30.5	26.8	26.3 - 27.3
Statewide -Annual Average	14,330	40.4	38.0	37.9 - 38.2

- U or Unstable indicates that a rate is unstable, because it has a relative standard error > 30%, and should be interpreted with caution.
- 95% confidence intervals are calculated using the age adjusted rate when it is displayed in the report.
- NS = Not shown. Statistics are suppressed to protect confidentiality when the number of cases is ≤10.
- 95% confidence intervals represent the precision of the estimates shown. When zero cases are observed in a population, the upper 95% confidence limit is calculated using a method known as the "rule of three." This method calls for substituting a three for the number of cases when calculating the upper 95% confidence interval in order to produce a more accurate upper bound when the observed case count is zero.
- Numbers and rates may differ slightly from those contained in other publications. These differences may be due to file updates, differences in calculating rates and updates in population estimates.
- Difference in counts and rates in years prior to 2015 compared to 2015 could be a result of the change from ICD-9CM to ICD-10CM (coding of medical terminology and disease classification) that took place on October 1, 2015.
- Data source: Center for Health Information and Analysis (CHIA)
- Population estimates for 2000 and 2010 are from the U.S. Decennial Census. Inter-censal year estimates for 2001 through 2009 were created by linear interpolation of U.S. Decennial Census data. Post-censal year estimates for 2011 to present were created by the UMass Donahue Institute.

Age Adjusted Rates of Hospital Admission for Myocardial Infarction per 10,000 People Age 35+,
for Males and Females Combined for 2010 - 2015 by Zip Code

Zip Code 02191						
Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals	Statistical Difference	Stability
2010	NS	NS	NS	NS	NS	
2011	19	33.6	16.6	9.2 - 24.3	Statistically significantly lower	
2012	14	24.7	10.4	5.3 - 17.2	Statistically significantly lower	
2013	24	43.7	18.9	12 - 28.1	Not statistically significantly different	
2014	16	30.1	12.3	12 - 28.1	Not statistically significantly different	
2015	20	38.9	18.0	9.4 - 24.2	Statistically significantly lower	
Zip Code - 02191 Annual Average	NS	NS	NS	NS	NS	

State Wide				
Year	Case Count	Crude Rate	Age Adjusted Rate	Confidence Intervals
2010	12,900	35.8	32.9	32.3 - 33.5
2011	12,214	33.6	30.7	30.2 - 31.2
2012	12,181	33.2	30.2	29.7 - 30.7
2013	11,090	29.9	26.8	26.3 - 27.3
2014	10,442	27.9	24.7	24.2 - 25.2
2015	11,511	30.5	26.8	26.3 - 27.3
Statewide -Annual Average	11,723	31.8	28.7	28.2 - 29.2

- U or Unstable indicates that a rate is unstable, because it has a relative standard error > 30%, and should be interpreted with caution.
- 95% confidence intervals are calculated using the age adjusted rate when it is displayed in the report.
- NS = Not shown. Statistics are suppressed to protect confidentiality when the number of cases is ≤10.
- 95% confidence intervals represent the precision of the estimates shown. When zero cases are observed in a population, the upper 95% confidence limit is calculated using a method known as the "rule of three." This method calls for substituting a three for the number of cases when calculating the upper 95% confidence interval in order to produce a more accurate upper bound when the observed case count is zero.
- Numbers and rates may differ slightly from those contained in other publications. These differences may be due to file updates, differences in calculating rates and updates in population estimates.
- Difference in counts and rates in years prior to 2015 compared to 2015 could be a result of the change from ICD-9CM to ICD-10CM (coding of medical terminology and disease classification) that took place on October 1, 2015.
- Data source: Center for Health Information and Analysis (CHIA)
- Population estimates for 2000 and 2010 are from the U.S. Decennial Census. Post-censal year estimates for 2011 to 2015 were created by the UMass Donahue Institute and used for statewide rates. Post-censal year estimates for 2011 to 2015 from the American Community Survey by the U.S. Census Bureau were used for zip code rates.

Percent of Low Birthweight (<2500 grams) Live Term Singleton Births for 2000 to 2015 by Community

Braintree						
Year	Case Count	Total Live Singleton Term Births	Percent	Confidence Intervals	Statistical Difference	Stability
2000	7	365	1.9	0.5 - 3.3	Not statistically significantly different	Unstable
2001	8	360	2.2	0.7 - 3.7	Not statistically significantly different	Unstable
2002	8	380	2.1	0.7 - 3.6	Not statistically significantly different	Unstable
2003	6	370	1.6	0.3 - 2.9	Not statistically significantly different	Unstable
2004	NS	337	NS	NS	NS	Unstable
2005	NS	334	NS	NS	NS	Unstable
2006	9	369	2.4	0.9 - 4.0	Not statistically significantly different	Unstable
2007	9	372	2.4	0.9 - 4.0	Not statistically significantly different	Unstable
2008	8	345	2.3	0.7 - 3.9	Not statistically significantly different	Unstable
2009	5	373	1.3	0.2 - 2.5	Not statistically significantly different	Unstable
2010	NS	326	NS	NS	NS	Unstable
2011	5	356	1.4	0.2 - 2.6	Not statistically significantly different	Unstable
2012	10	357	2.8	1.1 - 4.5	Not statistically significantly different	Unstable
2013	7	362	1.9	0.5 - 3.4	Not statistically significantly different	Unstable
2014	6	339	1.8	0.4 - 3.2	Not statistically significantly different	Unstable
2015	9	373	2.4	0.9 - 4.0	Not statistically significantly different	Unstable
Braintree- Annual Average	6.5	357.4	1.8	1.5 - 2.2	Not statistically significantly different	

Hingham						
Year	Case Count	Total Live Singleton Term Births	Percent	Confidence Intervals	Statistical Difference	Stability
2000	NS	259	NS	NS	NS	Unstable
2001	0	221	0.0	0 - 2.9	Not statistically significantly different	Unstable
2002	6	247	2.4	0.5 - 4.4	Not statistically significantly different	Unstable
2003	NS	238	NS	NS	NS	Unstable
2004	NS	226	NS	NS	NS	Unstable
2005	NS	226	NS	NS	NS	Unstable
2006	NS	213	NS	NS	NS	Unstable
2007	NS	198	NS	NS	NS	Unstable
2008	0	207	0.0	0 - 3.0	Not statistically significantly different	Unstable
2009	0	208	0.0	0 - 3.0	Not statistically significantly different	Unstable
2010	0	177	0.0	0 - 3.6	Not statistically significantly different	Unstable
2011	NS	212	NS	NS	NS	Unstable
2012	NS	184	NS	NS	NS	Unstable

Percent of Low Birthweight (<2500 grams) Live Term Singleton Births for 2000 to 2015 by Community

2013	0	214	0.0	0 - 3.0	Not statistically significantly different	Unstable
2014	NS	175	NS	NS	NS	Unstable
2015	NS	206	NS	NS	NS	Unstable
Hingham- Annual Average	1.9	213.2	0.9	0.6 - 1.2	Statistically significantly lower	Unstable

Quincy

Year	Case Count	Total Live Singleton Term Births	Percent	Confidence Intervals	Statistical Difference	Stability
2000	21	1,016	2.1	1.2 - 2.9	Not statistically significantly different	
2001	17	1,027	1.7	0.9 - 2.4	Not statistically significantly different	
2002	19	1,053	1.8	1.0 - 2.6	Not statistically significantly different	
2003	24	1,077	2.2	1.4 - 3.1	Not statistically significantly different	
2004	18	1,044	1.7	0.9 - 2.5	Not statistically significantly different	
2005	22	1,016	2.2	1.3 - 3.1	Not statistically significantly different	
2006	19	1,033	1.8	1.0 - 2.7	Not statistically significantly different	
2007	18	1,078	1.7	0.9 - 2.4	Not statistically significantly different	
2008	35	1,179	3.0	2.0 - 3.9	Not statistically significantly different	
2009	20	1,135	1.8	1.0 - 2.5	Not statistically significantly different	
2010	20	1,098	1.8	1.0 - 2.6	Not statistically significantly different	
2011	25	1,128	2.2	1.4 - 3.0	Not statistically significantly different	
2012	21	1,119	1.9	1.0 - 2.7	Not statistically significantly different	
2013	20	1,128	1.8	1.0 - 2.5	Not statistically significantly different	
2014	28	1,075	2.6	1.7 - 3.6	Not statistically significantly different	
2015	30	1,100	2.7	1.8 - 3.7	Not statistically significantly different	
Quincy- Annual Average	22.3	1,082	2.1	1.9 - 2.3	Not statistically significantly different	

Weymouth

Year	Case Count	Total Live Singleton Term Births	Percent	Confidence Intervals	Statistical Difference	Stability
2000	16	667	2.4	1.2 - 3.6	Not statistically significantly different	
2001	9	619	1.5	0.5 - 2.4	Not statistically significantly different	Unstable
2002	19	620	3.1	1.7 - 4.4	Not statistically significantly different	
2003	14	652	2.1	1.0 - 3.3	Not statistically significantly different	
2004	7	625	1.1	0.3 - 2.0	Not statistically significantly different	Unstable
2005	7	618	1.1	0.3 - 2.0	Not statistically significantly different	Unstable
2006	12	570	2.1	0.9 - 3.3	Not statistically significantly different	
2007	9	643	1.4	0.5 - 2.3	Not statistically significantly different	Unstable

Percent of Low Birthweight (<2500 grams) Live Term Singleton Births for 2000 to 2015 by Community

2008	8	586	1.4	0.4 - 2.3	Not statistically significantly different	Unstable
2009	7	563	1.2	0.3 - 2.2	Not statistically significantly different	Unstable
2010	11	571	1.9	0.8 - 3.0	Not statistically significantly different	Unstable
2011	14	596	2.3	1.1 - 3.6	Not statistically significantly different	
2012	14	561	2.5	1.2 - 3.8	Not statistically significantly different	
2013	9	554	1.6	0.6 - 2.7	Not statistically significantly different	Unstable
2014	13	591	2.2	1.0 - 3.4	Not statistically significantly different	
2015	12	580	2.1	0.9 - 3.2	Not statistically significantly different	
Weymouth- Annual Average	11.3	601	1.9	1.6 - 2.2	Not statistically significantly different	Unstable

Statewide				
Year	Case Count	Total Live Singleton Term Births	Percent	Confidence Intervals
2000	1,399	71,377	2.0	1.9 - 2.1
2001	1,502	72,311	2.1	2.0 - 2.2
2002	1,491	71,662	2.1	2.0 - 2.2
2003	1,403	70,930	2.0	1.9 - 2.1
2004	1,383	69,382	2.0	1.9 - 2.1
2005	1,430	67,988	2.1	2.0 - 2.2
2006	1,556	68,987	2.3	2.1 - 2.4
2007	1,561	69,362	2.3	2.1 - 2.4
2008	1,466	68,224	2.1	2.0 - 2.3
2009	1,398	66,443	2.1	2.0 - 2.2
2010	1,459	65,024	2.2	2.1 - 2.4
2011	1,407	63,370	2.2	2.1 - 2.3
2012	1,407	63,604	2.2	2.1 - 2.3
2013	1,344	63,691	2.1	2.0 - 2.2
2014	1,364	64,128	2.1	2.0 - 2.2
2015	1,392	64,090	2.2	2.0 - 2.3
Statewide - Annual Average	1,435	67,536	2.1	2.0 - 2.2

- Low birthweight means a singleton, term birth <2500 grams.
- Full term means a clinical estimate of gestational age ≥ 37 weeks.
- U or Unstable indicates that a rate is unstable, because it has a relative standard error $> 30\%$, and should be interpreted with caution.
- NS = Not shown. Statistics are suppressed to protect confidentiality when the number of cases is between 1 and 4 and the numerator is < 1200
- 95% confidence intervals represent the precision of the estimates shown. When zero cases are observed in a population, the upper 95% confidence limit is calculated using a method known as the "rule of three." This method calls for substituting a three for the number of cases when calculating the upper 95% confidence interval in order to produce a more accurate upper bound when the observed case count is zero.
- Numbers and rates may differ slightly from those contained in other publications. These differences may be due to file updates, differences in calculating rates and updates in population estimates.
- Data source: Massachusetts Registry of Vital Records and Statistics

Percent of Low Birthweight (<2500 grams) Live Term Singleton Births for 2010 to 2015 by Census Tract

CT 4178.02 (includes Environmental Justice Areas)						
Year	Case Count	Total Live Singleton Term Births	Percent	Confidence Intervals	Statistical Difference	Stability
2000	NS	33	NS	NS	NS	Unstable
2001	NS	40	NS	NS	NS	Unstable
2002	0	28	0.0	0 - 22.2	Not statistically significantly different	Unstable
2003	NS	35	NS	NS	NS	Unstable
2004	0	37	0.0	0 - 16.9	Not statistically significantly different	Unstable
2005	0	29	0.0	0 - 21.4	Not statistically significantly different	Unstable
2006	0	24	0.0	0 - 25.7	Not statistically significantly different	Unstable
2007	NS	30	NS	NS	NS	Unstable
2008	NS	44	NS	NS	NS	Unstable
2009	NS	41	NS	NS	NS	Unstable
2010	0	22	0.0	0 - 28.0	Not statistically significantly different	Unstable
2011	NS	39	NS	NS	NS	Unstable
2012	0	25	0.0	0- 24.7	Not statistically significantly different	Unstable
2013	0	34	0.0	0 - 18.4	Not statistically significantly different	Unstable
2014	0	23	0.0	0 - 26.8	Not statistically significantly different	Unstable
2015	NS	39	NS	NS	NS	Unstable
CT 4178.02- Annual Average	0.8	32.7	2.5	0 - 7.8	Not statistically significantly different	Unstable

CT 4179.01 (includes Environmental Justice Areas)						
Year	Case Count	Total Live Singleton Term Births	Percent	Confidence Intervals	Statistical Difference	Stability
2000	NS	69	NS	NS	NS	Unstable
2001	NS	77	NS	NS	NS	Unstable
2002	NS	85	NS	NS	NS	Unstable
2003	5	76	6.6	1 - 12.2	Not statistically significantly different	Unstable
2004	NS	79	NS	NS	NS	Unstable
2005	NS	73	NS	NS	NS	Unstable
2006	0	68	0.0	0 - 9.3	Not statistically significantly different	Unstable
2007	NS	79	NS	NS	NS	Unstable
2008	NS	81	NS	NS	NS	Unstable
2009	NS	77	NS	NS	NS	Unstable
2010	NS	75	NS	NS	NS	Unstable
2011	NS	73	NS	NS	NS	Unstable
2012	NS	64	NS	NS	NS	Unstable
2013	6	81	7.4	1.7 - 13.1	Not statistically significantly different	Unstable

Percent of Low Birthweight (<2500 grams) Live Term Singleton Births for 2010 to 2015 by Census Tract

2014	NS	64	NS	NS	NS	Unstable
2015	NS	74	NS	NS	NS	Unstable
CT 4179.01- Annual Average	2.0	74.7	2.7	0 - 6.3	Not statistically significantly different	Unstable

CT 4194

Year	Case Count	Total Live Singleton Term Births	Percent	Confidence Intervals	Statistical Difference	Stability
2000	0	38	0.0	0 - 16.5	Not statistically significantly different	Unstable
2001	NS	44	NS	NS	NS	Unstable
2002	0	41	0.0	0 - 15.3	Not statistically significantly different	Unstable
2003	NS	38	NS	NS	NS	Unstable
2004	NS	36	NS	NS	NS	Unstable
2005	0	40	0.0	0 - 15.7	Not statistically significantly different	Unstable
2006	0	32	0.0	0 - 19.5	Not statistically significantly different	Unstable
2007	NS	50	NS	NS	NS	Unstable
2008	0	30	0.0	0 - 20.7	Not statistically significantly different	Unstable
2009	NS	36	NS	NS	NS	Unstable
2010	NS	24	NS	NS	NS	Unstable
2011	0	30	0.0	0 - 20.7	Not statistically significantly different	Unstable
2012	NS	27	NS	NS	NS	Unstable
2013	0	28	0.0	0 - 22.2	Not statistically significantly different	Unstable
2014	0	25	0.0	0 - 24.7	Not statistically significantly different	Unstable
2015	NS	35	NS	NS	NS	Unstable
CT 4194- Annual Average	0.6	34.6	1.8	0 - 6.2	Not statistically significantly different	Unstable

CT 4227

Year	Case Count	Total Live Singleton Term Births	Percent	Confidence Intervals	Statistical Difference	Stability
2000	0	42	0.0	0 - 15.0	Not statistically significantly different	Unstable
2001	NS	32	NS	NS	NS	Unstable
2002	NS	49	NS	NS	NS	Unstable
2003	0	47	0.0	0 - 13.4	Not statistically significantly different	Unstable
2004	NS	51	NS	NS	NS	Unstable
2005	0	49	0.0	0 - 12.8	Not statistically significantly different	Unstable
2006	NS	36	NS	NS	NS	Unstable
2007	NS	47	NS	NS	NS	Unstable
2008	NS	40	NS	NS	NS	Unstable
2009	0	40	0.0	0 - 15.7	Not statistically significantly different	Unstable

Percent of Low Birthweight (<2500 grams) Live Term Singleton Births for 2010 to 2015 by Census Tract

2010	0	32	0.0	0 - 19.5	Not statistically significantly different	Unstable
2011	NS	48	NS	NS	NS	Unstable
2012	0	40	0.0	0- 15.7	Not statistically significantly different	Unstable
2013	0	35	0.0	0- 17.9	Not statistically significantly different	Unstable
2014	NS	43	NS	NS	NS	Unstable
2015	5	39	12.8	2.3 - 23.3	Not statistically significantly different	Unstable
CT 4227- Annual Average	0.9	41.9	2.2	0 - 6.7	Not statistically significantly different	Unstable

CT 4228

Year	Case Count	Total Live Singleton Term Births	Percent	Confidence Intervals	Statistical Difference	Stability
2000	0	48	0.0	0 - 13.1	Not statistically significantly different	Unstable
2001	0	44	0.0	0 - 14.3	Not statistically significantly different	Unstable
2002	NS	39	NS	NS	NS	Unstable
2003	NS	42	NS	NS	NS	Unstable
2004	0	38	0.0	0 - 16.5	Not statistically significantly different	Unstable
2005	0	35	0.0	0 - 17.9	Not statistically significantly different	Unstable
2006	0	33	0.0	0 - 18.9	Not statistically significantly different	Unstable
2007	NS	26	NS	NS	NS	Unstable
2008	NS	39	NS	NS	NS	Unstable
2009	0	35	0.0	0 - 17.9	Not statistically significantly different	Unstable
2010	NS	27	NS	NS	NS	Unstable
2011	NS	38	NS	NS	NS	Unstable
2012	NS	33	NS	NS	NS	Unstable
2013	NS	29	NS	NS	NS	Unstable
2014	0	27	0.0	0 - 23.0	Not statistically significantly different	Unstable
2015	0	30	0.0	0 - 20.7	Not statistically significantly different	Unstable
CT 4228- Annual Average	0.8	35.2	2.1	0 - 6.9	Not statistically significantly different	Unstable

Statewide

Year	Case Count	Total Live Singleton Term Births	Percent	Confidence Intervals
2000	1399	71377	2.0	1.9 - 2.1
2001	1502	72311	2.1	2.0 - 2.2
2002	1491	71662	2.1	2.0 - 2.2
2003	1403	70930	2.0	1.9 - 2.1
2004	1383	69382	2.0	1.9 - 2.1
2005	1430	67988	2.1	2.0 - 2.2

Percent of Low Birthweight (<2500 grams) Live Term Singleton Births for 2010 to 2015 by Census Tract

2006	1556	68987	2.3	2.1 - 2.4
2007	1561	69362	2.3	2.1 - 2.4
2008	1466	68224	2.1	2.0 - 2.3
2009	1398	66443	2.1	2.0 - 2.2
2010	1,459	65,024	2.2	2.1 - 2.4
2011	1,407	63,370	2.2	2.1 - 2.3
2012	1,407	63,604	2.2	2.1 - 2.3
2013	1,344	63,691	2.1	2.0 - 2.2
2014	1,364	64,128	2.1	2.0 - 2.2
2015	1,392	64,090	2.2	2.0 - 2.3
Statewide - Annual Average	1,435	67,536	2.1	2.0 - 2.2

- Low birthweight means a singleton, term birth <2500 grams.
- Full term means a clinical estimate of gestational age ≥ 37 weeks.
- U or Unstable indicates that a rate is unstable, because it has a relative standard error $> 30\%$, and should be interpreted with caution.
- NS = Not shown. Statistics are suppressed to protect confidentiality when the number of cases is between 1 and 4 and the numerator is < 1200
- 95% confidence intervals represent the precision of the estimates shown. When zero cases are observed in a population, the upper 95% confidence limit is calculated using a method known as the "rule of three." This method calls for substituting a three for the number of cases when calculating the upper 95% confidence interval in order to produce a more accurate upper bound when the observed case count is zero.
- Numbers and rates may differ slightly from those contained in other publications. These differences may be due to file updates, differences in calculating rates and updates in population estimates.
- Data source: Massachusetts Registry of Vital Records and Statistics

Statistical Significance of Cancer Incidence Compared to Statewide During 2006 to 2010

	Braintree		Hingham		Quincy		Weymouth	
	Males	Females	Males	Females	Males	Females	Males	Females
Bladder, Urinary	No Difference	No Difference	Lower	No Difference	No Difference	No Difference	No Difference	No Difference
Brain and Other Nervous System	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Breast	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Cervix Uteri	N/A	No Difference	N/A	No Difference	N/A	No Difference	N/A	No Difference
Colon/Rectum	No Difference	No Difference	No Difference	No Difference	Higher	No Difference	No Difference	No Difference
Esophagus	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Hodgkin Lymphoma	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Kidney & Renal Pelvis	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Larynx	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Leukemia	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Liver & Intrahepatic Bile Duct	No Difference	No Difference	No Difference	No Difference	Higher	No Difference	No Difference	No Difference
Lung & Bronchus	No Difference	Higher	Lower	No Difference	No Difference	Higher	No Difference	Higher
Melanoma of Skin	No Difference	Higher	Higher	Higher	No Difference	No Difference	No Difference	No Difference
Multiple Myeloma	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Non-Hodgkin Lymphoma	No Difference	No Difference	No Difference	Higher	No Difference	No Difference	No Difference	No Difference
Oral Cavity & Pharynx	No Difference	No Difference	No Difference	No Difference	Higher	No Difference	No Difference	No Difference
Ovary	N/A	No Difference	N/A	No Difference	N/A	No Difference	N/A	No Difference
Pancreas	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Prostate	No Difference	N/A	No Difference	N/A	Lower	N/A	Lower	N/A
Stomach	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Testis	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Thyroid	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Uteri Corpus and Uterus	N/A	No Difference	N/A	No Difference	N/A	No Difference	N/A	No Difference
All Sites/Types	Higher	Higher	Lower	No Difference	No Difference	No Difference	No Difference	No Difference

Statistical Significance of Cancer Incidence Compared to Statewide During 2011 to 2015

	Braintree		Hingham		Quincy		Weymouth	
	Males	Females	Males	Females	Males	Females	Males	Females
Bladder, Urinary	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	Higher
Brain and Other Nervous System	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Breast	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Cervix Uteri	N/A	No Difference	N/A	No Difference	N/A	Higher	N/A	No Difference
Colon/Rectum	No Difference	Higher	No Difference	No Difference	Higher	No Difference	No Difference	No Difference
Esophagus	No Difference	No Difference	No Difference	Higher	No Difference	No Difference	No Difference	No Difference
Hodgkin Lymphoma	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Kidney & Renal Pelvis	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Larynx	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	Higher	No Difference
Leukemia	Lower	No Difference	No Difference	No Difference	Lower	No Difference	No Difference	No Difference
Liver & Intrahepatic Bile Duct	No Difference	No Difference	No Difference	No Difference	Higher	No Difference	No Difference	No Difference
Lung & Bronchus	No Difference	No Difference	Lower	No Difference	Higher	Higher	Higher	No Difference
Melanoma of Skin	No Difference	No Difference	Higher	Higher	No Difference	No Difference	No Difference	Higher
Multiple Myeloma	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Non-Hodgkin Lymphoma	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Oral Cavity & Pharynx	No Difference	No Difference	No Difference	No Difference	Higher	No Difference	No Difference	No Difference
Ovary	N/A	No Difference	N/A	No Difference	N/A	No Difference	N/A	No Difference
Pancreas	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Prostate	No Difference	N/A	No Difference	N/A	No Difference	N/A	No Difference	N/A
Stomach	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Testis	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Thyroid	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference	No Difference
Uteri Corpus and Uterus	N/A	No Difference	N/A	No Difference	N/A	No Difference	N/A	No Difference
All Sites/Types	No Difference	No Difference	No Difference	No Difference	Higher	Higher	No Difference	No Difference

Provisional Data: The 2011-2015 Massachusetts cancer incidence data for cities and towns are provisional and subject to revision until they have been thoroughly reviewed for final approval.

Cancer Incidence
Observed and Expected Case Counts, with Standardized Incidence Ratios, 2006-2010

Braintree															
<u>Obs</u>					<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>	<u>Obs</u>					<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>
Bladder, Urinary							Melanoma of Skin								
Male	52				40.1	129.8	(96.9-170.2)	Male	34				25.5	133.4	(92.4-186.4)
Female	20				17	117.8	(71.9-182.0)	Female	33				22.6	146.1	(100.5-205.1)
Brain and Other Nervous System							Multiple Myeloma								
Male	10				7.3	136.4	(65.3-250.8)	Male	8				6.8	117.1	(50.4-230.8)
Female	10				7.1	140.5	(67.3-258.4)	Female	9				6.4	140.4	(64.1-266.6)
Breast							Non-Hodgkin Lymphoma								
Male	0				1.2	nc	(nc-nc)	Male	23				22.5	102.1	(64.7-153.2)
Female	163				164.3	99.2	(84.6-115.7)	Female	20				21.7	92	(56.1-142.0)
Cervix Uteri							Oral Cavity & Pharynx								
Female	6				5.9	102.5	(37.4-223.0)	Male	18				15.8	114	(67.6-180.3)
								Female	9				8.5	105.4	(48.1-200.1)
Colon / Rectum							Ovary								
Male	53				45.8	115.8	(86.8-151.5)	Female	18				15.3	117.5	(69.6-185.6)
Female	66				55.3	119.3	(92.3-151.8)								
Esophagus							Pancreas								
Male	16				10.4	153.3	(87.6-249.0)	Male	6				12.9	46.5	(17.0-101.3)
Female	3				3.6	nc	(nc-nc)	Female	17				16.8	101	(58.8-161.7)
Hodgkin Lymphoma							Prostate								
Male	2				2.9	nc	(nc-nc)	Male	149				149.5	99.7	(84.3-117.0)
Female	1				2.8	nc	(nc-nc)								
Kidney & Renal Pelvis							Stomach								
Male	21				20.8	100.8	(62.4-154.1)	Male	16				9.2	173.8	(99.3-282.3)
Female	16				13.9	114.9	(65.6-186.6)	Female	9				6.7	134.2	(61.2-254.7)
Larynx							Testis								
Male	2				6	nc	(nc-nc)	Male	5				4.4	114.8	(37.0-268.0)
Female	4				2	nc	(nc-nc)								
Leukemia							Thyroid								
Male	15				14.7	102.3	(57.2-168.7)	Male	8				8.3	96.3	(41.5-189.8)
Female	11				12.8	86	(42.9-153.9)	Female	38				27.9	136.2	(96.3-186.9)
Liver and Intrahepatic Bile Ducts							Uteri Corpus and Uterus, NOS								
Male	15				11.8	127.2	(71.2-209.9)	Female	42				37.5	112	(80.7-151.4)
Female	4				4.8	nc	(nc-nc)								
Lung and Bronchus							All Sites / Types								
Male	84				73.3	114.6	(91.4-141.9)	Male	597				529.5	112.7	(103.9-122.2)
Female	107				86.7	123.4	(101.1-149.1)	Female	659				587.8	112.1	(103.7-121.0)
<ul style="list-style-type: none"> • Obs = observed case count; Exp = expected case count; • SIR = standardized incidence ratio ((Obs / Exp) X 100); • 95% CI = 95% confidence intervals, a measure of the statistical significance of the SIR; • Shading indicates the statistical significance of the SIR at 95% level of probability; • nc = The SIR and 95% CI were not calculated when Obs < 5; 															

Cancer Incidence
Observed and Expected Case Counts, with Standardized Incidence Ratios, 2006-2010

Hingham											
	<u>Obs</u>	<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>		<u>Obs</u>	<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>		
Bladder, Urinary						Melanoma of Skin					
Male	11	28.7	38.4	(19.1-68.7)		Male	46	17.8	257.9	(188.8-344.0)	
Female	10	10.8	92.2	(44.1-169.6)		Female	27	14.3	189.3	(124.7-275.5)	
Brain and Other Nervous System						Multiple Myeloma					
Male	0	5	nc	(nc-nc)		Male	3	4.8	nc	(nc-nc)	
Female	4	4.6	nc	(nc-nc)		Female	4	4.1	nc	(nc-nc)	
Breast						Non-Hodgkin Lymphoma					
Male	0	0.9	nc	(nc-nc)		Male	13	15.8	82.4	(43.9-141.0)	
Female	104	106.3	97.9	(80.0-118.6)		Female	24	13.9	172.9	(110.7-257.3)	
Cervix Uteri						Oral Cavity & Pharynx					
						Male	7	11.3	62	(24.8-127.7)	
Female	1	3.7	nc	(nc-nc)		Female	8	5.5	145.3	(62.6-286.4)	
Colon / Rectum						Ovary					
Male	28	32.7	85.7	(56.9-123.8)							
Female	39	35.8	109.1	(77.6-149.1)		Female	11	9.9	111.3	(55.5-199.2)	
Esophagus						Pancreas					
Male	6	7.5	80	(29.2-174.2)		Male	6	9.2	64.9	(23.7-141.4)	
Female	2	2.3	nc	(nc-nc)		Female	12	10.8	111.5	(57.5-194.7)	
Hodgkin Lymphoma						Prostate					
Male	1	1.8	nc	(nc-nc)		Male	114	107.9	105.7	(87.2-127.0)	
Female	2	1.6	nc	(nc-nc)							
Kidney & Renal Pelvis						Stomach					
Male	11	14.7	74.8	(37.3-133.9)		Male	3	6.6	nc	(nc-nc)	
Female	13	8.9	146.5	(77.9-250.5)		Female	1	4.3	nc	(nc-nc)	
Larynx						Testis					
Male	3	4.3	nc	(nc-nc)		Male	3	2.5	nc	(nc-nc)	
Female	0	1.3	nc	(nc-nc)							
Leukemia						Thyroid					
Male	10	10.4	95.8	(45.9-176.2)		Male	7	5.6	124.3	(49.8-256.2)	
Female	9	8.2	109.6	(50.0-208.1)		Female	25	17.4	144	(93.1-212.5)	
Liver and Intrahepatic Bile Ducts						Uteri Corpus and Uterus, NOS					
Male	5	8.4	59.8	(19.3-139.5)							
Female	1	3.1	nc	(nc-nc)		Female	25	24.3	102.9	(66.6-152.0)	
Lung and Bronchus						All Sites / Types					
Male	35	51.8	67.5	(47.0-93.9)		Male	336	376.5	89.2	(79.9-99.3)	
Female	48	54.6	87.8	(64.8-116.5)		Female	402	376.5	106.8	(96.6-117.7)	
<ul style="list-style-type: none"> • Obs = observed case count; Exp = expected case count; • SIR = standardized incidence ratio ((Obs / Exp) X 100); • 95% CI = 95% confidence intervals, a measure of the statistical significance of the SIR; • Shading indicates the statistical significance of the SIR at 95% level of probability; • nc = The SIR and 95% CI were not calculated when Obs < 5; 											

Cancer Incidence
Observed and Expected Case Counts, with Standardized Incidence Ratios, 2011-2015

Braintree											
		Obs	Exp	SIR	95% CI			Obs	Exp	SIR	95% CI
Bladder, Urinary						Melanoma of Skin					
Male		41	40.5	101.3	(72.7-137.5)	Male		26	25.6	101.5	(66.3-148.8)
Female		17	17.3	98.5	(57.4-157.8)	Female		23	22.5	102.4	(64.9-153.7)
Brain and Other Nervous System						Multiple Myeloma					
Male		5	7.5	66.5	(21.4-155.2)	Male		7	8.2	85.6	(34.3-176.4)
Female		7	7.2	96.8	(38.8-199.5)	Female		3	7.8	nc	(nc-nc)
Breast						Non-Hodgkin Lymphoma					
Male		0	1.4	nc	(nc-nc)	Male		21	22.7	92.6	(57.3-141.6)
Female		194	175.3	110.6	(95.6-127.4)	Female		20	22.9	87.4	(53.4-135.0)
Cervix Uteri						Oral Cavity & Pharynx					
Female		6	5.7	105.7	(38.6-230.0)	Male		20	18.4	108.6	(66.3-167.7)
Colon / Rectum						Ovary					
Male		46	41.8	109.9	(80.5-146.6)	Female		16	15.3	104.3	(59.6-169.5)
Female		64	49.2	130.1	(100.2-166.2)						
Esophagus						Pancreas					
Male		9	9.9	90.7	(41.4-172.2)	Male		14	14.7	95.2	(52.0-159.7)
Female		6	3.3	182.3	(66.6-396.8)	Female		19	18.2	104.6	(62.9-163.3)
Hodgkin Lymphoma						Prostate					
Male		6	2.9	207.7	(75.8-452.0)	Male		120	114.1	105.2	(87.2-125.8)
Female		4	2.6	nc	(nc-nc)						
Kidney & Renal Pelvis						Stomach					
Male		25	22.5	111.3	(72.0-164.3)	Male		9	9.4	96.1	(43.9-182.5)
Female		12	14.4	83.6	(43.2-146.1)	Female		7	7	100.5	(40.2-207.0)
Larynx						Testis					
Male		4	5.7	nc	(nc-nc)	Male		6	5.5	109.8	(40.1-239.1)
Female		4	2	nc	(nc-nc)						
Leukemia						Thyroid					
Male		8	16.2	49.5	(21.3-97.4)	Male		10	10.1	99.4	(47.6-182.8)
Female		17	13.7	124.1	(72.3-198.8)	Female		29	31.2	93	(62.2-133.5)
Liver and Intrahepatic Bile Ducts						Uteri Corpus and Uterus, NOS					
Male		16	13.8	116.2	(66.4-188.7)	Female		48	38.7	123.9	(91.4-164.3)
Female		4	5.5	nc	(nc-nc)						
Lung and Bronchus						All Sites / Types					
Male		66	69.5	95	(73.5-120.9)	Male		500	501.4	99.7	(91.2-108.9)
Female		88	86.9	101.3	(81.3-124.8)	Female		651	608	107.1	(99.0-115.6)
<ul style="list-style-type: none"> • Obs = observed case count; Exp = expected case count; • SIR = standardized incidence ratio ((Obs / Exp) X 100); • 95% CI = 95% confidence intervals, a measure of the statistical significance of the SIR; • Shading indicates the statistical significance of the SIR at 95% level of probability; • nc = The SIR and 95% CI were not calculated when Obs < 5; 											

Cancer Incidence
Observed and Expected Case Counts, with Standardized Incidence Ratios, 2011-2015

Hingham									
	<u>Obs</u>	<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>		<u>Obs</u>	<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>
Bladder, Urinary					Melanoma of Skin				
Male	32	31.5	101.6	(69.5-143.4)	Male	34	19.1	178.4	(123.5-249.3)
Female	12	11.8	101.6	(52.4-177.5)	Female	31	14.8	208.9	(141.9-296.5)
Brain and Other Nervous System					Multiple Myeloma				
Male	8	5.2	154	(66.3-303.6)	Male	7	6.1	115.5	(46.3-238.0)
Female	5	4.7	105.7	(34.1-246.7)	Female	5	5.4	92.4	(29.8-215.6)
Breast					Non-Hodgkin Lymphoma				
Male	1	1	nc	(nc-nc)	Male	14	16.7	83.6	(45.7-140.3)
Female	108	119.5	90.4	(74.1-109.1)	Female	21	15.5	135.5	(83.8-207.1)
Cervix Uteri					Oral Cavity & Pharynx				
Female	3	3.6	nc	(nc-nc)	Male	14	13.3	105.4	(57.6-176.9)
Female	3	3.6	nc	(nc-nc)	Female	6	6.8	88.8	(32.4-193.3)
Colon / Rectum					Ovary				
Male	35	31.8	110.2	(76.7-153.2)	Female	9	10.5	85.8	(39.2-163.0)
Female	36	33.8	106.6	(74.6-147.5)	Female	9	10.5	85.8	(39.2-163.0)
Esophagus					Pancreas				
Male	2	7.3	nc	(nc-nc)	Male	9	11.2	80.4	(36.7-152.7)
Female	7	2.3	311.1	(124.6-640.9)	Female	14	12.6	111.4	(60.8-186.8)
Hodgkin Lymphoma					Prostate				
Male	2	1.7	nc	(nc-nc)	Male	93	83.8	110.9	(89.5-135.9)
Female	1	1.4	nc	(nc-nc)	Male	93	83.8	110.9	(89.5-135.9)
Kidney & Renal Pelvis					Stomach				
Male	16	16.3	97.9	(55.9-159.0)	Male	12	7.1	168.6	(87.0-294.5)
Female	7	9.8	71.5	(28.6-147.3)	Female	1	4.7	nc	(nc-nc)
Larynx					Testis				
Male	2	4.2	nc	(nc-nc)	Male	6	3.1	193.1	(70.5-420.2)
Female	0	1.4	nc	(nc-nc)	Male	6	3.1	193.1	(70.5-420.2)
Leukemia					Thyroid				
Male	14	12	116.6	(63.7-195.6)	Male	4	6.8	nc	(nc-nc)
Female	14	9.3	151.3	(82.6-253.9)	Female	22	19.4	113.3	(71.0-171.6)
Liver and Intrahepatic Bile Ducts					Uteri Corpus and Uterus, NOS				
Male	2	9.9	nc	(nc-nc)	Female	19	26.9	70.6	(42.5-110.2)
Female	1	3.8	nc	(nc-nc)	Female	19	26.9	70.6	(42.5-110.2)
Lung and Bronchus					All Sites / Types				
Male	28	52.9	52.9	(35.2-76.5)	Male	368	372.3	98.8	(89.0-109.5)
Female	46	59.6	77.2	(56.5-103.0)	Female	395	412.8	95.7	(86.5-105.6)
Female	46	59.6	77.2	(56.5-103.0)	Female	395	412.8	95.7	(86.5-105.6)

- Obs = observed case count; Exp = expected case count;
- SIR = standardized incidence ratio ((Obs / Exp) X 100);
- 95% CI = 95% confidence intervals, a measure of the statistical significance of the SIR;
- Shading indicates the statistical significance of the SIR at 95% level of probability;
- nc = The SIR and 95% CI were not calculated when Obs < 5;

Cancer Incidence
Observed and Expected Case Counts, with Standardized Incidence Ratios, 2011-2015

Quincy									
	Obs	Exp	SIR	95% CI		Obs	Exp	SIR	95% CI
Bladder, Urinary					Melanoma of Skin				
Male	100	95.9	104.3	(84.9-126.9)	Male	57	62.1	91.8	(69.6-119.0)
Female	35	36	97.2	(67.7-135.2)	Female	55	50	110	(82.9-143.2)
Brain and Other Nervous System					Multiple Myeloma				
Male	19	18.8	100.8	(60.7-157.4)	Male	14	19.7	71.1	(38.9-119.4)
Female	17	16.2	105	(61.1-168.1)	Female	14	16.6	84.5	(46.1-141.7)
Breast					Non-Hodgkin Lymphoma				
Male	5	3.4	149.1	(48.1-348.0)	Male	50	55.1	90.7	(67.3-119.5)
Female	400	389.7	102.6	(92.8-113.2)	Female	57	49	116.4	(88.2-150.9)
Cervix Uteri					Oral Cavity & Pharynx				
					Male	61	45.2	135	(103.3-173.4)
Female	21	12.8	164.7	(101.9-251.8)	Female	29	21.6	134.2	(89.9-192.7)
Colon / Rectum					Ovary				
Male	125	100.6	124.3	(103.5-148.1)					
Female	103	102.4	100.6	(82.1-122.0)	Female	34	34.3	99	(68.6-138.4)
Esophagus					Pancreas				
Male	23	24	95.9	(60.8-143.9)	Male	30	35.4	84.9	(57.2-121.1)
Female	8	6.9	115.7	(49.8-227.9)	Female	29	37.4	77.5	(51.9-111.3)
Hodgkin Lymphoma					Prostate				
Male	10	8.2	122.5	(58.7-225.4)	Male	257	281.8	91.2	(80.4-103.1)
Female	10	7.1	140.5	(67.3-258.4)					
Kidney & Renal Pelvis					Stomach				
Male	53	55.1	96.2	(72.1-125.9)	Male	30	22.5	133.5	(90.0-190.5)
Female	34	31.7	107.1	(74.2-149.7)	Female	17	14.3	118.6	(69.0-189.9)
Larynx					Testis				
Male	18	14	128.4	(76.1-202.9)	Male	17	16.2	105.2	(61.3-168.5)
Female	4	4.4	nc	(nc-nc)					
Leukemia					Thyroid				
Male	23	39.2	58.6	(37.1-88.0)	Male	36	25.7	140.2	(98.2-194.2)
Female	30	29.2	102.6	(69.2-146.5)	Female	65	74.2	87.5	(67.6-111.6)
Liver and Intrahepatic Bile Ducts					Uteri Corpus and Uterus, NOS				
Male	57	33.6	169.6	(128.4-219.7)					
Female	17	11.9	142.5	(83.0-228.2)	Female	87	89	97.8	(78.3-120.6)
Lung and Bronchus					All Sites / Types				
Male	237	167.4	141.6	(124.1-160.8)	Male	1316	1222	107.7	(102.0-113.7)
Female	241	188.2	128	(112.4-145.3)	Female	1406	1330.3	105.7	(100.2-111.4)
<ul style="list-style-type: none"> • Obs = observed case count; Exp = expected case count; • SIR = standardized incidence ratio ((Obs / Exp) X 100); • 95% CI = 95% confidence intervals, a measure of the statistical significance of the SIR; • Shading indicates the statistical significance of the SIR at 95% level of probability; • nc = The SIR and 95% CI were not calculated when Obs < 5; 									

Cancer Incidence
Observed and Expected Case Counts, with Standardized Incidence Ratios, 2011-2015

Weymouth										
	<u>Obs</u>	<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>		<u>Obs</u>	<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>	
Bladder, Urinary						Melanoma of Skin				
Male	68	59.9	113.5	(88.1-143.9)		Male	43	38.7	111 (80.3-149.5)	
Female	37	25.1	147.3	(103.7-203.0)		Female	53	34.3	154.7 (115.9-202.4)	
Brain and Other Nervous System						Multiple Myeloma				
Male	9	11.4	78.8	(36.0-149.6)		Male	12	12.4	97 (50.1-169.5)	
Female	10	11	91.1	(43.6-167.5)		Female	6	11.8	51 (18.6-110.9)	
Breast						Non-Hodgkin Lymphoma				
Male	0	2.1	nc	(nc-nc)		Male	40	34.2	116.9 (83.5-159.2)	
Female	290	279.3	103.8	(92.2-116.5)		Female	29	34.4	84.3 (56.4-121.0)	
Cervix Uteri						Oral Cavity & Pharynx				
						Male	27	28.4	94.9 (62.5-138.1)	
Female	1	8.8	nc	(nc-nc)		Female	23	15.2	150.9 (95.6-226.4)	
Colon / Rectum						Ovary				
Male	70	62.5	112.1	(87.3-141.6)						
Female	68	70.3	96.7	(75.1-122.6)		Female	22	23.9	91.9 (57.6-139.1)	
Esophagus						Pancreas				
Male	19	15.1	125.7	(75.7-196.4)		Male	18	22.2	81.2 (48.1-128.3)	
Female	8	5	161.3	(69.4-317.8)		Female	22	26.1	84.1 (52.7-127.4)	
Hodgkin Lymphoma						Prostate				
Male	6	4.5	133.9	(48.9-291.5)		Male	162	178.7	90.6 (77.2-105.7)	
Female	2	4.1	nc	(nc-nc)						
Kidney & Renal Pelvis						Stomach				
Male	36	34.7	103.7	(72.6-143.5)		Male	14	14.1	99.5 (54.4-167.0)	
Female	28	22.4	125.2	(83.2-180.9)		Female	7	10	70.3 (28.2-144.9)	
Larynx						Testis				
Male	17	8.8	192.4	(112.0-308.0)		Male	10	8.5	117.6 (56.3-216.4)	
Female	3	3.1	nc	(nc-nc)						
Leukemia						Thyroid				
Male	18	24.2	74.4	(44.1-117.7)		Male	14	15.6	89.6 (48.9-150.4)	
Female	14	19.8	70.7	(38.6-118.6)		Female	44	49.4	89 (64.7-119.5)	
Liver and Intrahepatic Bile Ducts						Uteri Corpus and Uterus, NOS				
Male	20	21.2	94.5	(57.7-145.9)						
Female	9	8.4	107	(48.8-203.1)		Female	71	64.9	109.5 (85.5-138.1)	
Lung and Bronchus						All Sites / Types				
Male	134	106.1	126.3	(105.9-149.6)		Male	813	764	106.4 (99.2-114.0)	
Female	154	133.1	115.7	(98.2-135.5)		Female	959	934.4	102.6 (96.2-109.3)	
<ul style="list-style-type: none"> • Obs = observed case count; Exp = expected case count; • SIR = standardized incidence ratio ((Obs / Exp) X 100); • 95% CI = 95% confidence intervals, a measure of the statistical significance of the SIR; • Shading indicates the statistical significance of the SIR at 95% level of probability; • nc = The SIR and 95% CI were not calculated when Obs < 5; 										

Cancer Incidence
Observed and Expected Case Counts, with Standardized Incidence Ratios, 2006-2010

CT 4178.02 (includes Environmental Justice Areas)					CT 4227				
	<u>Obs</u>	<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>		<u>Obs</u>	<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>
<u>Acute Myeloid Leukemia</u>					<u>Acute Myeloid Leukemia</u>				
Male	1	0.4	nc	(nc-nc)	Male	0	0.5	nc	(nc-nc)
Female	0	0.3	nc	(nc-nc)	Female	0	0.4	nc	(nc-nc)
<u>Lung and Bronchus</u>					<u>Lung and Bronchus</u>				
Male	14	6.8	205.8	(112.4-345.4)	Male	13	8.4	154.3	(82.1-263.9)
Female	8	6.9	115.4	(49.7-227.5)	Female	7	8.6	81.5	(32.7-167.9)
<u>Nasal/Nasopharynx</u>					<u>Nasal/Nasopharynx</u>				
Male	0	0.2	nc	(nc-nc)	Male	0	0.2	nc	(nc-nc)
Female	0	0.1	nc	(nc-nc)	Female	0	0.1	nc	(nc-nc)
<u>CT 4179.01 (includes Environmental Justice Areas)</u>					<u>CT 4228</u>				
	<u>Obs</u>	<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>		<u>Obs</u>	<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>
<u>Acute Myeloid Leukemia</u>					<u>Acute Myeloid Leukemia</u>				
Male	1	0.7	nc	(nc-nc)	Male	0	0.6	nc	(nc-nc)
Female	1	0.7	nc	(nc-nc)	Female	0	0.5	nc	(nc-nc)
<u>Lung and Bronchus</u>					<u>Lung and Bronchus</u>				
Male	15	12.1	123.5	(69.1-203.7)	Male	11	10.2	108.1	(53.9-193.5)
Female	15	16.1	93.0	(52.0-153.5)	Female	16	10.5	152.2	(86.9-247.2)
<u>Nasal/Nasopharynx</u>					<u>Nasal/Nasopharynx</u>				
Male	0	0.3	nc	(nc-nc)	Male	0	0.3	nc	(nc-nc)
Female	0	0.2	nc	(nc-nc)	Female	0	0.1	nc	(nc-nc)
<u>CT 4194</u>									
	<u>Obs</u>	<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>					
<u>Acute Myeloid Leukemia</u>									
Male	1	0.3	nc	(nc-nc)					
Female	0	0.3	nc	(nc-nc)					
<u>Lung and Bronchus</u>									
Male	10	5.8	173.1	(82.9-318.4)					
Female	7	7.0	99.3	(39.8-204.6)					
<u>Nasal/Nasopharynx</u>									
Male	0	0.2	nc	(nc-nc)					
Female	0	0.1	nc	(nc-nc)					
• Obs = observed case count; Exp = expected case count;									
• SIR = standardized incidence ratio ((Obs / Exp) X 100);									
• 95% CI = 95% confidence intervals, a measure of the statistical significance of the SIR;									
• Shading indicates the statistical significance of the SIR at 95% level of probability;									
• nc = The SIR and 95% CI were not calculated when Obs < 5;									

Cancer Incidence
Observed and Expected Case Counts, with Standardized Incidence Ratios, 2011-2015

CT 4178.02 (includes Environmental Justice Areas)					CT 4227				
	<u>Obs</u>	<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>		<u>Obs</u>	<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>
<u>Acute Myeloid Leukemia</u>					<u>Acute Myeloid Leukemia</u>				
Male	2	0.4	nc	(nc-nc)	Male	0	0.5	nc	(nc-nc)
Female	1	0.4	nc	(nc-nc)	Female	0	0.4	nc	(nc-nc)
<u>Lung and Bronchus</u>					<u>Lung and Bronchus</u>				
Male	13	6.6	197.7	(105.2-338.1)	Male	7	7.9	88.8	(35.6-182.9)
Female	8	6.7	119.1	(51.3-234.7)	Female	8	8.4	94.9	(40.9-187.0)
<u>Nasal/Nasopharynx</u>					<u>Nasal/Nasopharynx</u>				
Male	3	0.2	nc	(nc-nc)	Male	0	0.3	nc	(nc-nc)
Female	0	0.1	nc	(nc-nc)	Female	0	0.1	nc	(nc-nc)
CT 4179.01 (includes Environmental Justice Areas)					CT 4228				
	<u>Obs</u>	<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>		<u>Obs</u>	<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>
<u>Acute Myeloid Leukemia</u>					<u>Acute Myeloid Leukemia</u>				
Male	1	0.9	nc	(nc-nc)	Male	1	0.6	nc	(nc-nc)
Female	1	1.1	nc	(nc-nc)	Female	0	0.5	nc	(nc-nc)
<u>Lung and Bronchus</u>					<u>Lung and Bronchus</u>				
Male	26	13.2	196.8	(128.5-288.4)	Male	7	9.5	74.0	(29.6-152.5)
Female	26	21.7	119.8	(78.3-175.6)	Female	8	10.5	76.3	(32.9-150.4)
<u>Nasal/Nasopharynx</u>					<u>Nasal/Nasopharynx</u>				
Male	0	0.4	nc	(nc-nc)	Male	0	0.3	nc	(nc-nc)
Female	0	0.2	nc	(nc-nc)	Female	0	0.1	nc	(nc-nc)
CT 4194									
	<u>Obs</u>	<u>Exp</u>	<u>SIR</u>	<u>95% CI</u>					
<u>Acute Myeloid Leukemia</u>									
Male	0	0.4	nc	(nc-nc)					
Female	1	0.4	nc	(nc-nc)					
<u>Lung and Bronchus</u>									
Male	6	5.4	111.6	(40.7-242.9)					
Female	8	7.1	112.3	(48.4-221.4)					
<u>Nasal/Nasopharynx</u>									
Male	0	0.2	nc	(nc-nc)					
Female	1	0.1	nc	(nc-nc)					
<ul style="list-style-type: none"> • Obs = observed case count; Exp = expected case count; • SIR = standardized incidence ratio ((Obs / Exp) X 100); • 95% CI = 95% confidence intervals, a measure of the statistical significance of the SIR; • Shading indicates the statistical significance of the SIR at 95% level of probability; • nc = The SIR and 95% CI were not calculated when Obs < 5; 									

Appendix C: MassDEP Release and Clean Up Reporting for Focus Area

RTN	City/Town	Release Address	Site Name Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
4-3010013	BRAINTREE	385 QUINCY AVE	NEAR GUARD SHACK	TWO HR	10/03/1993	RAO	11/26/1993		A1	Hazardous Material
4-3011233	BRAINTREE	385 QUINCY AVE	TANK A8 IN TANK FARM	TWO HR	07/07/1994	RAO	09/06/1994		A1	Oil
4-3010584	BRAINTREE	385 QUINCY AVE	CITGO TERMINAL	TWO HR	02/14/1994	RAO	11/07/1994		A1	Oil
4-3012574	BRAINTREE	385 QUINCY AVE	CLEAN HARBORS OF BRAINTREE INC	TWO HR	06/14/1995	RAO	08/01/1995		A1	Hazardous Material
4-3012656	BRAINTREE	385 QUINCY AVE	CLEAN HARBORS OF BRAINTREE INC	TWO HR	07/06/1995	RAO	09/05/1995		A1	Hazardous Material
4-3013024	BRAINTREE	385 QUINCY AVE	TANK FARM	TWO HR	10/10/1995	RAO	12/08/1995		A1	Hazardous Material
4-3012630	BRAINTREE	HILL AVE	ON SIDE OF ROAD	TWO HR	06/27/1995	RAO	03/11/1996			
4-3013372	BRAINTREE	385 QUINCY AVE	NO LOCATION AID	TWO HR	01/26/1996	RAO	03/21/1996		A1	Hazardous Material
4-3013502	BRAINTREE	385 QUINCY AVE	CLEAN HARBORS OF BRAINTREE	TWO HR	02/29/1996	RAO	04/22/1996		A1	Hazardous Material
4-3013443	BRAINTREE	385 QUINCY AVE	NO LOCATION AID	TWO HR	02/12/1996	ADEQUATE REG	06/11/1996			Oil
4-3013677	BRAINTREE	385 QUINCY AVE	CLEAN HARBORS OF BRAINTREE INC	TWO HR	04/18/1996	RAO	06/20/1996		A1	Oil and Hazardous Material
4-3013855	BRAINTREE	385 QUINCY AVE	CLEAN HARBORS	TWO HR	06/05/1996	RAO	07/29/1996		A1	Oil
4-3000529	BRAINTREE	385 QUINCY AVE	CLEAN HARBORS INC	NONE	01/15/1987	ADEQUATE REG	02/12/1997			
4-3015193	BRAINTREE	175 WEST HOWARD ST	MOOSE POST	72 HR	06/11/1997	DPS	01/12/1998			Oil
4-3016771	BRAINTREE	385 QUINCY AVE	CLEAN HARBORS	TWO HR	05/07/1998	RAO	06/16/1998		A1	Hazardous Material
4-3016998	BRAINTREE	385 QUINCY AVE	BLDG 6	TWO HR	07/02/1998	ADEQUATE REG	06/11/1999			Hazardous Material
4-3019525	BRAINTREE	1 HILL AVE	CLEAN HARBORS OF BRAINTREE INC	TWO HR	05/08/2000	RAO	07/14/2000		A2	Oil
4-3019811	BRAINTREE	1 HILL AVE	CLEAN HARBORS OF BRAINTREE INC	TWO HR	08/08/2000	RAO	10/11/2000		A2	
4-3019171	BRAINTREE	385 QUINCY AVE	CITGO PETROLEUM TERMINAL	TWO HR	01/15/2000	RTN CLOSED	12/18/2000			Oil
4-	BRAINTREE	100 POTTER	BRAINTREE ELECTRIC LIGHT	72 HR	12/21/1999	RTN CLOSED	12/20/2000			Oil

RTN	City/Town	Release Address	Site Name Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
3019109		DR								
4-3019846	BRAINTREE	385 QUINCY AVE	NO LOCATION AID	TWO HR	08/16/2000	RTN CLOSED	02/14/2001			Oil
4-3019750	BRAINTREE	1 HILL AVE	NO LOCATION AID	TWO HR	07/21/2000	ADEQUATE REG	04/12/2001			Oil
4-3020619	BRAINTREE	1 HILL AVE	NO LOCATION AID	TWO HR	04/23/2001	RAO	06/22/2001		A1	Oil
4-3020975	BRAINTREE	1 HILL AVE	NO LOCATION AID	TWO HR	10/05/2001	RAO	10/05/2001		A1	Oil
4-3021436	BRAINTREE	1 HILL AVE	CLEAN HARBORS SOUTH OF TANK FARM	TWO HR	01/29/2002	RAO	03/29/2002		A1	Oil and Hazardous Material
4-3021753	BRAINTREE	1 HILL AVE	WEST OF TANK FARM	TWO HR	05/12/2002	RAO	07/18/2002		A1	Hazardous Material
4-3022150	BRAINTREE	1 HILL AVE	NO LOCATION AID	TWO HR	09/27/2002	RAO	11/14/2002		A1	Oil and Hazardous Material
4-3021612	BRAINTREE	100 POTTER DR	BRAINTREE ELECTRIC LIGHT	TWO HR	03/26/2002	RTN CLOSED	12/11/2002			Oil
4-3022335	BRAINTREE	HILL AVE	REAR OF 503 QUINCY AVE	TWO HR	11/15/2002	RAO	01/21/2003		A2	
4-3023939	BRAINTREE	385 QUINCY AVE	ON SHORE BY DOCK	TWO HR	06/08/2004	RTN CLOSED	06/07/2005			Oil
4-3025137	BRAINTREE	385 QUINCY AVE	CITGO PETROLEUM BULK STORAGE TERMINAL	TWO HR	08/14/2005	RAO	12/05/2005		A1	Oil
4-0021812	BRAINTREE	385 QUINCY AVE	CITGO STORAGE TERMINAL	TWO HR	03/03/2009	RAO	05/05/2009		A1	Oil
4-0025889	BRAINTREE	385 QUINCY AVE.	CITGO PETROLEUM TERMINAL	TWO HR	11/30/2015	PSNC	01/26/2016		PN	
4-0026018	BRAINTREE	385 QUINCY AVENUE	CITGO BRAINTREE	TWO HR	03/02/2016	PSNC	04/25/2016		PN	
4-3022364	BRAINTREE	441R QUINCY AVE	RESIDENCE	TWO HR	12/03/2002	RAO	07/22/2008	PHASE II	B1	Oil
4-3002059	BRAINTREE	100 POTTER DR	BRAINTREE ELEC POTTER STA	NONE	04/05/1989	RTN CLOSED	08/07/2002	PHASE III		
4-3025628	BRAINTREE	35 LANCASTER RD	NO LOCATION AID	120 DY	02/01/2006	RAO	03/06/2009	PHASE III	B1	Oil and Hazardous Material
4-3000260	BRAINTREE	385 QUINCY AVE	CITGO BRAINTREE TERMINAL	NONE	01/15/1987	REMOPS	11/17/2008	PHASE V		
3-0010363	QUINCY	450 QUINCY AVE	INTERSECTION WITH HOWARD ST	TWO HR	12/28/1993	RAO	02/02/1994		A1	Oil
3-0015782	QUINCY	780 WASHINGTON ST	TWIN RIVERS	TWO HR	12/04/1997	RAO	01/30/1998		A1	Oil
3-0015304	QUINCY	780 WASHINGTON	TWIN RIVERS	TWO HR	07/16/1997	RTN CLOSED	07/31/1998			Oil

RTN	City/Town	Release Address	Site Name Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
		ST								
3-0010266	QUINCY	97 EAST HOWARD ST	FMR GENERAL DYNAMICS SHIPYARD	TWO HR	11/23/1993	RTN CLOSED	04/19/1999			Oil
3-0019527	QUINCY	115 EAST HOWARD ST	QUINCY SHIPYARD BLDG 57 BRAINTREE	TWO HR	05/08/2000	RAO	09/22/2000		A1	Oil and Hazardous Material
3-0021469	QUINCY	740 WASHINGTON ST	TRT TERMINAL	TWO HR	02/07/2002	RAO	06/14/2002		A1	Hazardous Material
3-0022334	QUINCY	EAST HOWARD ST	QUINCY SHIPYARD	TWO HR	11/21/2002	RAO	01/29/2003		A2	Oil
3-0023109	QUINCY	740 WASHINGTON ST	VEGETABLE OIL SPILL TRT TERMINAL	TWO HR	08/20/2003	RAO	10/20/2003		A1	Oil
3-0024539	QUINCY	780 WASHINGTON ST	COCONUT FATTY ACID RELEASE	TWO HR	01/06/2005	RAO	03/07/2005		A1	
3-0024839	QUINCY	780 WASHINGTON ST	ANIMAL FAT RELEASE	TWO HR	05/09/2005	RAO	07/05/2005		A1	
3-0025087	QUINCY	780 WASHINGTON ST	COCONUT FATTY ACID RELEASE	TWO HR	07/31/2005	RAO	10/06/2005		A2	
3-0025135	QUINCY	780 WASHINGTON ST	VEGETABLE OIL/ANIMAL FAT RELEASE	TWO HR	08/14/2005	RAO	10/20/2005		A1	
3-0025274	QUINCY	740 WASHINGTON ST	LOADING RACKS	TWO HR	09/28/2005	RAO	12/05/2005		A1	Hazardous Material
3-0025920	QUINCY	458 QUINCY AVE	NO LOCATION AID	120 DY	05/22/2006	URAM	05/31/2006			Oil
3-0026010	QUINCY	451 QUINCY AVE	GASOLINE STATION	TWO HR	06/21/2006	RAO	08/28/2006		A1	Oil
3-0025565	QUINCY	115 EAST HOWARD ST	FORMER QUINCY SHIPYARD	TWO HR	01/11/2006	DPS	10/27/2006			Oil
3-0026184	QUINCY	780 WASHINGTON ST	TWIN RIVERS TECHNOLOGIES	TWO HR	08/30/2006	RAO	10/30/2006		A1	
3-0027214	QUINCY	780 WASHINGTON ST	TWIN RIVERS TECHNOLOGIES	120 DY	10/24/2007	RAO	11/01/2007		B1	Hazardous Material
3-0027213	QUINCY	780 WASHINGTON ST	TWIN RIVERS TECHNOLOGIES	120 DY	10/24/2007	RAO	11/01/2007		B1	Hazardous Material

RTN	City/Town	Release Address	Site Name Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
3-0022272	QUINCY	115 EAST HOWARD ST	FORMER FORE RIVER SHIPYARD	120 DY	11/01/2002	RAO	02/05/2008		A2	Hazardous Material
3-0027228	QUINCY	780 WASHINGTON ST	TWIN RIVERS TECHNOLOGIES	120 DY	11/01/2007	RAO	03/07/2008		B2	Hazardous Material
3-0027451	QUINCY	740 WASHINGTON ST	SPRAGUE OIL	TWO HR	01/18/2008	RAO	03/12/2008		A1	Oil
3-0027642	QUINCY	64 BROADWAY	NO LOCATION AID	TWO HR	04/22/2008	RAO	09/25/2008		A1	Oil
3-0027955	QUINCY	450 QUINCY AVE	TOWN FAIR TIRE	120 DY	09/05/2008	RAO	11/28/2008		A2	Hazardous Material
3-0028360	QUINCY	780 WASHINGTON ST	TWIN RIVERS TECHNOLOGIES WEST TANK FARM	TWO HR	03/08/2009	RAO	04/10/2009		A2	
3-0028668	QUINCY	740 WASHINGTON ST	INDUSTRIAL PROPERTY	TWO HR	08/12/2009	RAO	09/24/2009		A1	Oil
3-0028828	QUINCY	97 EAST HOWARD ST	QUINCY SHIPYARD	TWO HR	10/24/2009	RAO	02/26/2010		A1	Oil
3-0029025	QUINCY	740 WASHINGTON ST	TERMINAL RACK	TWO HR	01/21/2010	RAO	03/12/2010		A1	Oil
3-0029623	QUINCY	703 WASHINGTON STREET	HARBOR EXPRESS COMMUTER BOAT DOCK	TWO HR	11/04/2010	RAO	11/30/2010		A1	Oil
3-0029686	QUINCY	780 WASHINGTON STREET	NO LOCATION AID	120 DY	12/06/2010	URAM	05/29/2012			Hazardous Material
3-0031493	QUINCY	150 E HOWARD STREET	RDA DOCK	TWO HR	05/01/2013	RAO	06/19/2013		A1	Oil
3-0031766	QUINCY	EAST HOWARD STREET	BARGE ADELAIDE @ FORE RIVER SHIPYARD	TWO HR	09/22/2013	RAO	01/14/2014		A1	
3-0032718	QUINCY	780 WASHINGTON STREET	NO LOCATION AID	TWO HR	02/06/2015	PSNC	06/05/2015		PN	Oil
3-0033360	QUINCY	740 WASHINGTON STREET	NO LOCATION AID	TWO HR	01/13/2016	PSNC	02/29/2016		PN	Oil
3-0033719	QUINCY	479 WASHINGTON STREET	COMMERCIAL PROPERTY	72 HR	07/22/2016	PSNC	09/21/2016		PN	Oil and Hazardous Material

RTN	City/Town	Release Address	Site Name Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
3-0033944	QUINCY	479 WASHINGTON STREET	FORMER PRIME HYUNDAI	120 DY	11/30/2016	PSNC	05/02/2017		PN	Hazardous Material
3-0035093	QUINCY	780 WASHINGTON STREET	TWIN RIVERS TECHNOLOGIES MANUFACTURING	TWO HR	07/27/2018	UNCLASSIFIED	07/27/2018			Oil
3-0012920	QUINCY	780 WASHINGTON ST	WEYMOUTH FORE RIVER	TWO HR	09/13/1995	RTN CLOSED	07/31/1998	PHASE II		Oil
3-0019092	QUINCY	450 QUINCY AVE	NO LOCATION AID	120 DY	12/20/1999	RAO	04/12/2004	PHASE II	B1	Oil and Hazardous Material
3-0029469	QUINCY	140 DOANE STREET	QUINCY FIRE DEPARTMENT BUILDING	TWO HR	08/26/2010	RAO	08/27/2012	PHASE II	A2	Oil
3-0032600	QUINCY	18 SWAN ROAD	RESIDENCE	TWO HR	11/09/2014	PSNC	07/25/2016	PHASE II	PN	Oil
3-0024568	QUINCY	EAST HOWARD ST	DRYDOCKS 11 AND 12	120 DY	01/17/2005	RAO	06/23/2009	PHASE III	B2	Hazardous Material
3-0019676	QUINCY	451 QUINCY AVE	NO LOCATION AID	120 DY	10/16/2000	RAO	09/15/2008	PHASE IV	A3	Oil
3-0000536	QUINCY	97 EAST HOWARD ST	GENERAL DYNAMICS FMR	NONE	01/15/1987	RAO	04/30/2004	PHASE V	C1	
3-0003804	QUINCY	780 WASHINGTON ST	PROCTER & GAMBLE MFG CO	NONE	05/19/1992	REMOPS	07/31/2006	PHASE V		Oil
4-3003941	WEYMOUTH	69 NORTON ST	YACHT CLUB FACILITY	NONE	04/15/1992	WCSPRM	05/05/1994			Oil
4-3010923	WEYMOUTH	252 BRIDGE ST	NO LOCATION AID	120 DY	04/22/1994	RAO	05/13/1994		A3	Oil
4-3011475	WEYMOUTH	230 BRIDGE ST	AUTO PALACE	TWO HR	08/06/1994	RAO	10/05/1994			Oil
4-3012715	WEYMOUTH	296-300 BRIDGE ST	ROUTE 3A	120 DY	07/21/1995	RAO	08/16/1996		A3	Oil
4-3003609	WEYMOUTH	5 BRIDGE ST	CH SPRAGUE & SON CO	NONE	01/24/1989	RAO	07/17/1997		A2	Oil
4-3015472	WEYMOUTH	BRIDGE ST	MA ELEC	TWO HR	08/26/1997	RAO	10/24/1997		A1	Oil
4-3016744	WEYMOUTH	BRIDGE ST	NO LOCATION AID	120 DY	05/01/1998	URAM	05/01/1998			Oil
4-3016796	WEYMOUTH	BRIDGE ST	BECO	72 HR	05/14/1998	RTN CLOSED	12/02/1998			Oil
4-3015814	WEYMOUTH	BRIDGE ST	FMR ELECTRIC GENERATING FACILITY	120 DY	12/04/1997	RAO	12/18/1998		A2	Oil
4-3018816	WEYMOUTH	1 BRIDGE ST	FMR GENERATING FACILITY	TWO HR	09/30/1999	RTN CLOSED	12/08/1999			Hazardous Material

RTN	City/Town	Release Address	Site Name Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
4-3019358	WEYMOUTH	1 BRIDGE ST	FMR GENERATING FACILITY	TWO HR	03/13/2000	RTN CLOSED	05/12/2000			Oil
4-3020775	WEYMOUTH	1 BRIDGE ST	FRM EDGAR STATION	TWO HR	06/12/2001	RAO	08/10/2001		A1	
4-3021150	WEYMOUTH	10 BRIDGE ST	NO LOCATION AID	120 DY	10/11/2001	URAM	10/18/2001			Oil
4-3019012	WEYMOUTH	1 BRIDGE ST	NO LOCATION AID	TWO HR	11/29/1999	RAO	10/22/2001		A2	Oil and Hazardous Material
4-3021295	WEYMOUTH	7 RIVERBANK RD	EAST OF MORELL ST	TWO HR	12/01/2001	RAO	05/31/2002		A2	Oil
4-3021901	WEYMOUTH	EVANS ST	POLE NO 10	TWO HR	06/28/2002	RAO	08/26/2002		A1	Oil
4-3022694	WEYMOUTH	1 BRIDGE ST	42-14-24N 70-57-53W	TWO HR	03/22/2003	RAO	09/02/2003		A2	Oil
4-0026243	WEYMOUTH	6 AND 50 BRIDGE STREET	CALPINE FORE RIVER	72 HR	07/29/2016	RTN CLOSED	07/28/2017			
4-3010636	WEYMOUTH	22 FAIRLAWN RD	PROGRESS ST	TWO HR	03/01/1994	RAO	08/16/1995	PHASE II	A1	Oil
4-3015813	WEYMOUTH	BRIDGE ST	FMR ELECTRIC GENRTR STATION #2 TRANSFER	120 DY	12/04/1997	RAO	09/29/2000	PHASE II	A2	Oil
4-3018690	WEYMOUTH	1 BRIDGE ST	SITHE FMR GENERATING FACILITY	TWO HR	08/27/1999	RAO	12/03/2001	PHASE II	A3	Oil and Hazardous Material
4-0026230	WEYMOUTH	6 & 50 BRIDGE STREET	6 & 50 BRIDGE STREET	120 DY	07/29/2016	TIER 2	07/28/2017	PHASE II		
4-3004395	WEYMOUTH	291 BRIDGE ST	3A AUTO SERVICES	NONE	05/05/1992	RAO	12/12/2002	PHASE III	A2	Oil
4-3004720	WEYMOUTH	5 BRIDGE ST	EDGAR STATION PIPELINE	NONE	10/01/1993	RAO	05/26/2000	PHASE IV	A2	

Appendix D. MassDEP Documentation of Air Monitoring Canisters and Station



Quincy – Clement O'Brien Tower



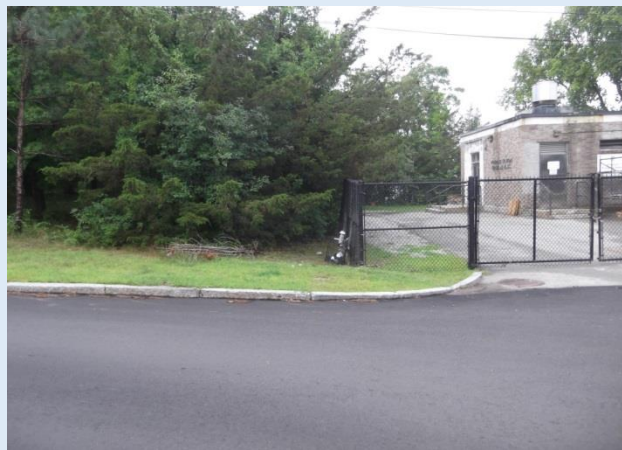
Braintree – Braintree Electric and Light Department



Weymouth 1 – Fore River Energy Center



Weymouth 2 – Enbridge Site

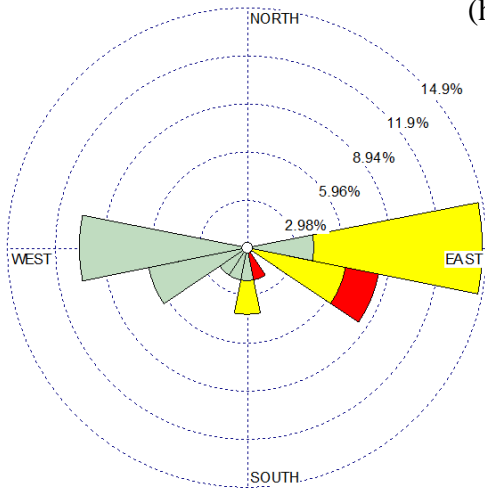


Hingham – MWRA Pumping Station/Stodder's Neck

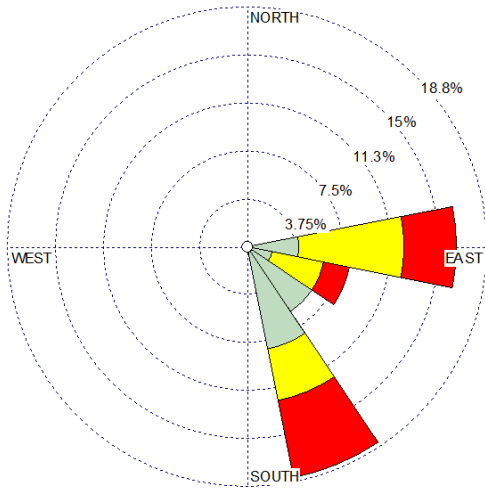
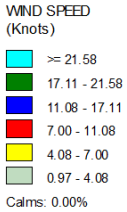


Mini-station at Weymouth MWRA Pump Station

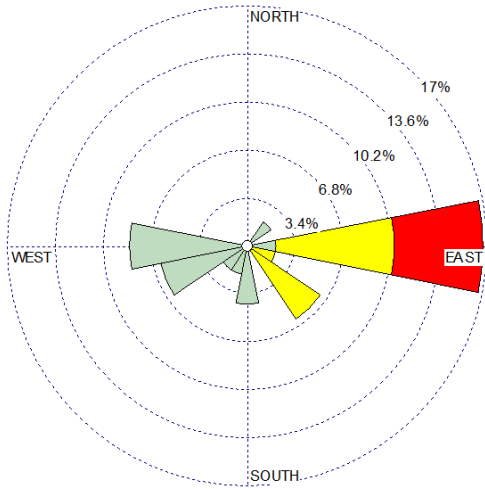
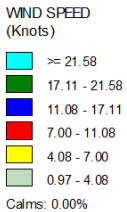
Wind Roses (Wind Direction / Wind Speed) From Von Hillern Street, Boston Monitoring Station
(hour 11 – hour 10)



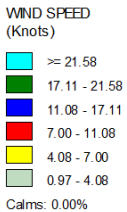
July 7, 2018 – July 8, 2018

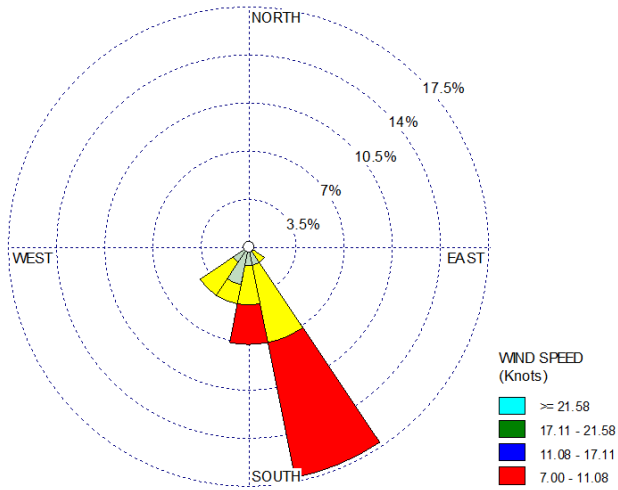


July 13, 2018 – July 14, 2018

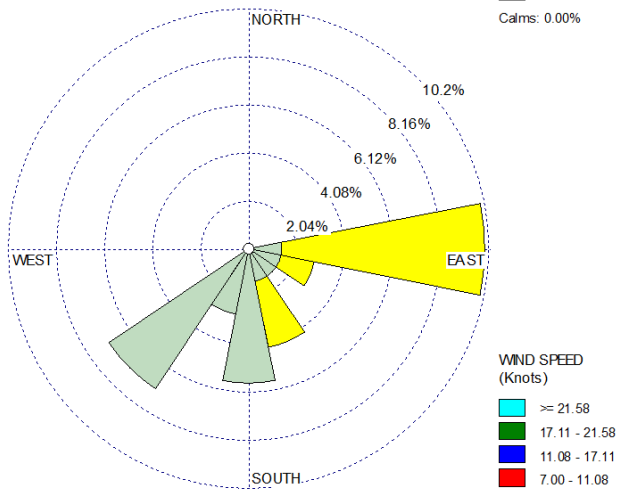


July 19, 2018 – July 20, 2018

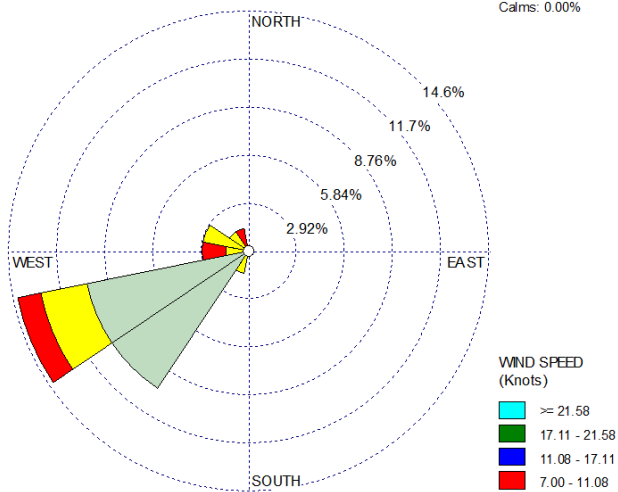




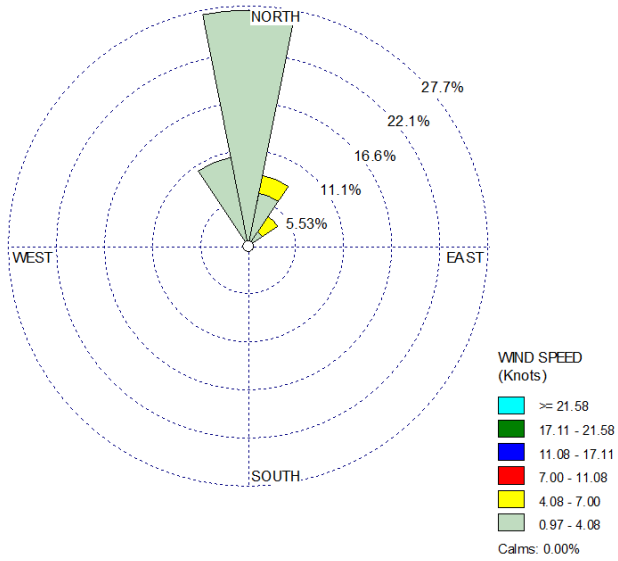
July 25, 2018 – July 26, 2018



July 31, 2018 – August 1, 2018

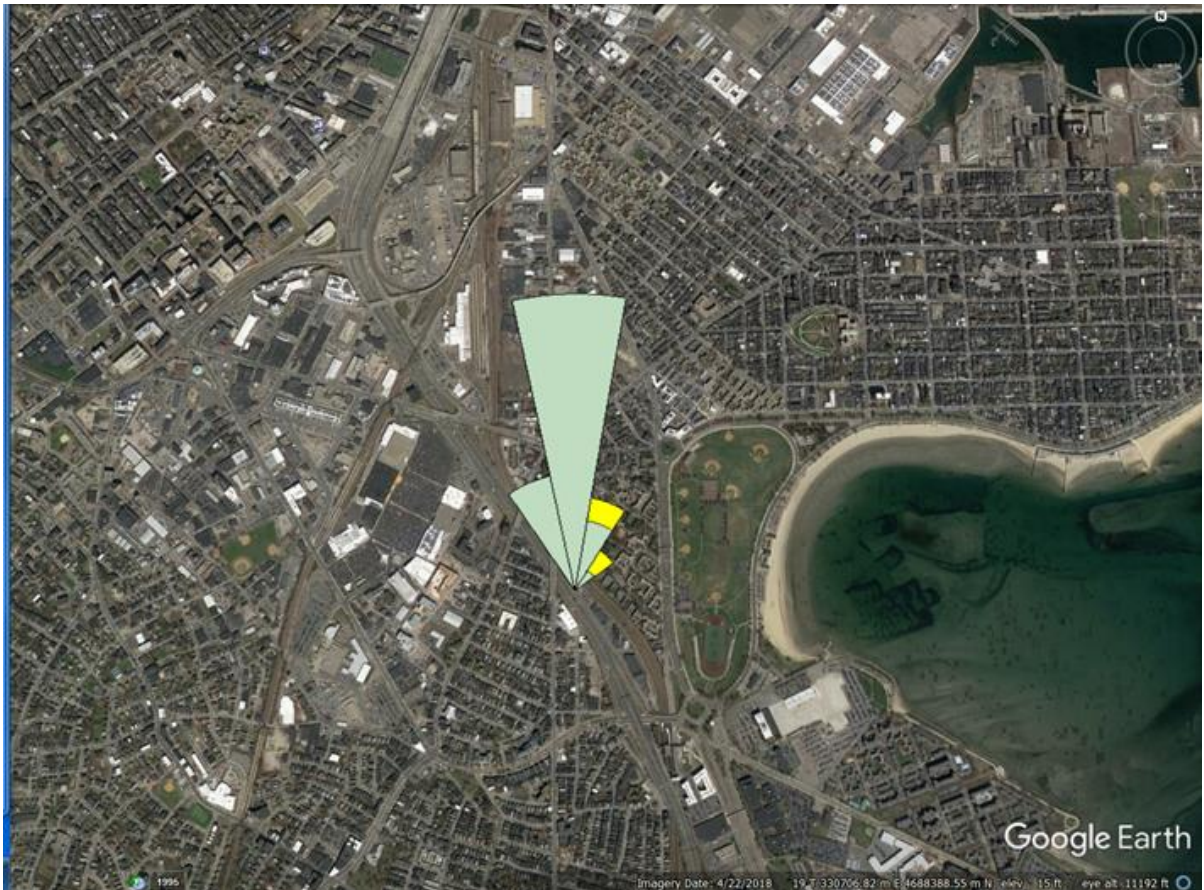


August 6, 2018 – August 7, 2018



August 12, 2018 – August 13, 2018

Location of Von Hillern monitor station shown below with wind rose for August 12 - 13 superimposed.

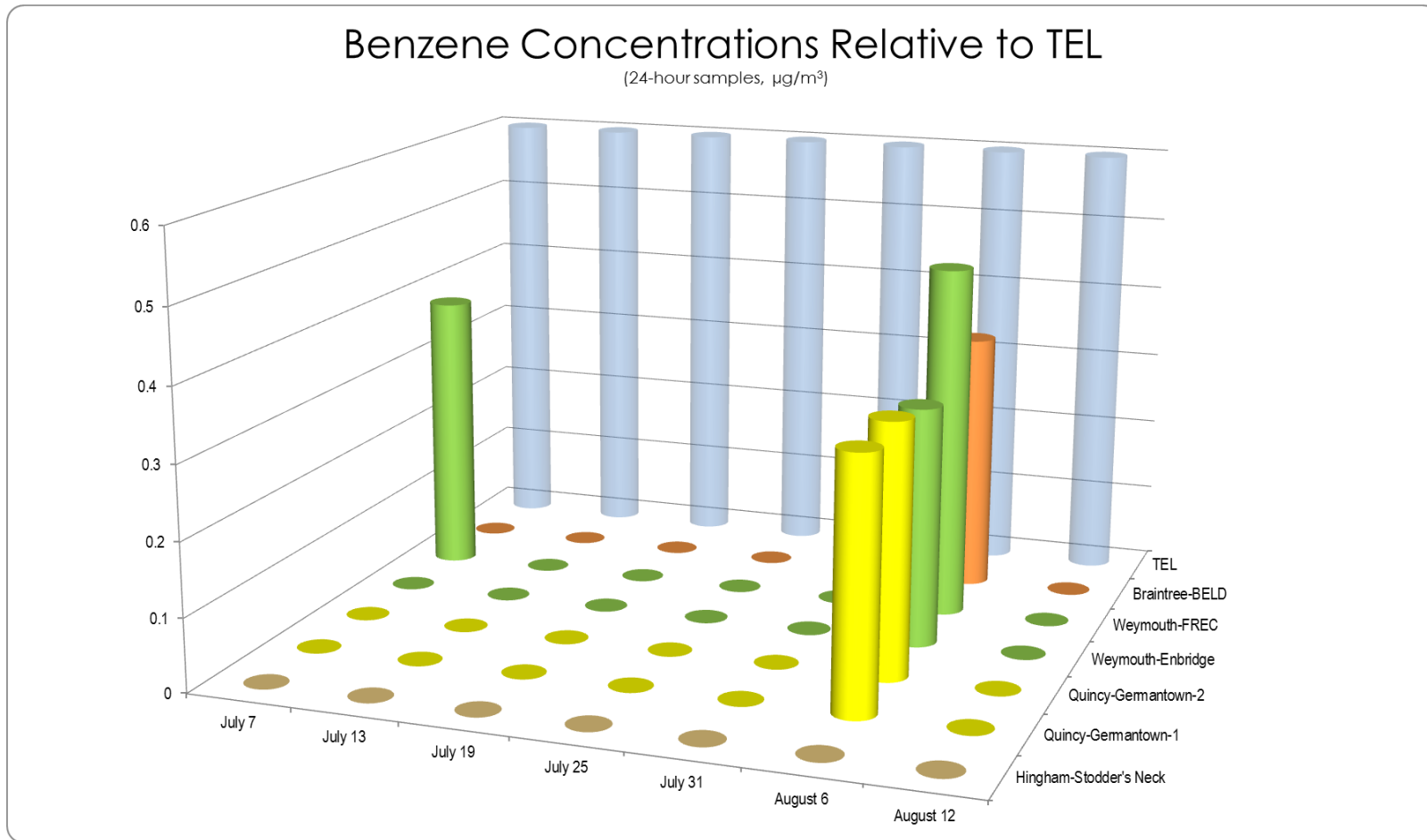


Wind Direction / Wind Speed / Maximum Temperature
 From Von Hillern Street, Boston Monitoring Station (hour 11 – hour 10)

<p>July 7 - 8, 2018</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Wind Direction /</u></th> <th style="text-align: left;"><u>Wind Speed (hours)</u></th> </tr> </thead> <tbody> <tr> <td>E = 9</td> <td>> 5 mph = 11</td> </tr> <tr> <td>SE = 3</td> <td>< 5 mph = 13</td> </tr> <tr> <td>S = 3</td> <td></td> </tr> <tr> <td>SW = 5</td> <td></td> </tr> <tr> <td>W = 4</td> <td></td> </tr> <tr> <td colspan="2" style="padding-top: 20px;">Max Temp July 7: 73 F</td> </tr> <tr> <td colspan="2">Max Temp July 8: 81 F</td> </tr> </tbody> </table>	<u>Wind Direction /</u>	<u>Wind Speed (hours)</u>	E = 9	> 5 mph = 11	SE = 3	< 5 mph = 13	S = 3		SW = 5		W = 4		Max Temp July 7: 73 F		Max Temp July 8: 81 F		<p>July 13 – 14, 2018</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Wind Direction /</u></th> <th style="text-align: left;"><u>Wind Speed (hours)</u></th> </tr> </thead> <tbody> <tr> <td>E = 9</td> <td>> 5 mph = 15</td> </tr> <tr> <td>SE = 15</td> <td>< 5 mph = 9</td> </tr> <tr> <td colspan="2" style="padding-top: 20px;">Max Temp July 13: 77 F</td> </tr> <tr> <td colspan="2">Max Temp July 14: 75 F</td> </tr> </tbody> </table>	<u>Wind Direction /</u>	<u>Wind Speed (hours)</u>	E = 9	> 5 mph = 15	SE = 15	< 5 mph = 9	Max Temp July 13: 77 F		Max Temp July 14: 75 F					
<u>Wind Direction /</u>	<u>Wind Speed (hours)</u>																														
E = 9	> 5 mph = 11																														
SE = 3	< 5 mph = 13																														
S = 3																															
SW = 5																															
W = 4																															
Max Temp July 7: 73 F																															
Max Temp July 8: 81 F																															
<u>Wind Direction /</u>	<u>Wind Speed (hours)</u>																														
E = 9	> 5 mph = 15																														
SE = 15	< 5 mph = 9																														
Max Temp July 13: 77 F																															
Max Temp July 14: 75 F																															
<p>July 19 – 20, 2018</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Wind Direction /</u></th> <th style="text-align: left;"><u>Wind Speed (hours)</u></th> </tr> </thead> <tbody> <tr> <td>NE = 1</td> <td>> 5 mph = 12</td> </tr> <tr> <td>E = 8</td> <td>< 5 mph = 12</td> </tr> <tr> <td>SE = 4</td> <td></td> </tr> <tr> <td>S = 2</td> <td></td> </tr> <tr> <td>SW = 5</td> <td></td> </tr> <tr> <td>W = 4</td> <td></td> </tr> <tr> <td colspan="2" style="padding-top: 20px;">Max Temp July 19: 75 F</td> </tr> <tr> <td colspan="2">Max Temp July 20: 89 F</td> </tr> </tbody> </table>	<u>Wind Direction /</u>	<u>Wind Speed (hours)</u>	NE = 1	> 5 mph = 12	E = 8	< 5 mph = 12	SE = 4		S = 2		SW = 5		W = 4		Max Temp July 19: 75 F		Max Temp July 20: 89 F		<p>July 25 – 26, 2018</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Wind Direction /</u></th> <th style="text-align: left;"><u>Wind Speed (hours)</u></th> </tr> </thead> <tbody> <tr> <td>SE = 14</td> <td>> 10 mph = 3</td> </tr> <tr> <td>S = 4</td> <td>5 – 10 mph = 17</td> </tr> <tr> <td>SW = 6</td> <td>< 5 mph = 4</td> </tr> <tr> <td colspan="2" style="padding-top: 20px;">Max Temp July 25: 84 F</td> </tr> <tr> <td colspan="2">Max Temp July 26: 84 F</td> </tr> </tbody> </table>	<u>Wind Direction /</u>	<u>Wind Speed (hours)</u>	SE = 14	> 10 mph = 3	S = 4	5 – 10 mph = 17	SW = 6	< 5 mph = 4	Max Temp July 25: 84 F		Max Temp July 26: 84 F	
<u>Wind Direction /</u>	<u>Wind Speed (hours)</u>																														
NE = 1	> 5 mph = 12																														
E = 8	< 5 mph = 12																														
SE = 4																															
S = 2																															
SW = 5																															
W = 4																															
Max Temp July 19: 75 F																															
Max Temp July 20: 89 F																															
<u>Wind Direction /</u>	<u>Wind Speed (hours)</u>																														
SE = 14	> 10 mph = 3																														
S = 4	5 – 10 mph = 17																														
SW = 6	< 5 mph = 4																														
Max Temp July 25: 84 F																															
Max Temp July 26: 84 F																															
<p>July 31 – August 1, 2018</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Wind Direction /</u></th> <th style="text-align: left;"><u>Wind Speed (hours)</u></th> </tr> </thead> <tbody> <tr> <td>E = 7</td> <td>> 5 mph = 9</td> </tr> <tr> <td>SE = 6</td> <td>< 5 mph = 15</td> </tr> <tr> <td>S = 4</td> <td></td> </tr> <tr> <td>SW = 7</td> <td></td> </tr> <tr> <td colspan="2" style="padding-top: 20px;">Max Temp July 31: 82 F</td> </tr> <tr> <td colspan="2">Max Temp August 1: 82 F</td> </tr> </tbody> </table>	<u>Wind Direction /</u>	<u>Wind Speed (hours)</u>	E = 7	> 5 mph = 9	SE = 6	< 5 mph = 15	S = 4		SW = 7		Max Temp July 31: 82 F		Max Temp August 1: 82 F		<p>August 6 – 7, 2018</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Wind Direction /</u></th> <th style="text-align: left;"><u>Wind Speed (hours)</u></th> </tr> </thead> <tbody> <tr> <td>SW = 18</td> <td>> 5 mph = 11</td> </tr> <tr> <td>W = 1</td> <td>< 5 mph = 13</td> </tr> <tr> <td>NW = 5</td> <td></td> </tr> <tr> <td colspan="2" style="padding-top: 20px;">Max Temp August 6: 95 F</td> </tr> <tr> <td colspan="2">Max Temp August 7: 95 F</td> </tr> </tbody> </table>	<u>Wind Direction /</u>	<u>Wind Speed (hours)</u>	SW = 18	> 5 mph = 11	W = 1	< 5 mph = 13	NW = 5		Max Temp August 6: 95 F		Max Temp August 7: 95 F					
<u>Wind Direction /</u>	<u>Wind Speed (hours)</u>																														
E = 7	> 5 mph = 9																														
SE = 6	< 5 mph = 15																														
S = 4																															
SW = 7																															
Max Temp July 31: 82 F																															
Max Temp August 1: 82 F																															
<u>Wind Direction /</u>	<u>Wind Speed (hours)</u>																														
SW = 18	> 5 mph = 11																														
W = 1	< 5 mph = 13																														
NW = 5																															
Max Temp August 6: 95 F																															
Max Temp August 7: 95 F																															
<p>August 12 – 13, 2018</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Wind Direction /</u></th> <th style="text-align: left;"><u>Wind Speed (hours)</u></th> </tr> </thead> <tbody> <tr> <td>NW = 4</td> <td>> 5 mph = 3</td> </tr> <tr> <td>N = 14</td> <td>< 5 mph = 21</td> </tr> <tr> <td>NE = 6</td> <td></td> </tr> <tr> <td colspan="2" style="padding-top: 20px;">Max Temp August 12: 73 F</td> </tr> <tr> <td colspan="2">Max Temp August 13: 73 F</td> </tr> </tbody> </table>	<u>Wind Direction /</u>	<u>Wind Speed (hours)</u>	NW = 4	> 5 mph = 3	N = 14	< 5 mph = 21	NE = 6		Max Temp August 12: 73 F		Max Temp August 13: 73 F																				
<u>Wind Direction /</u>	<u>Wind Speed (hours)</u>																														
NW = 4	> 5 mph = 3																														
N = 14	< 5 mph = 21																														
NE = 6																															
Max Temp August 12: 73 F																															
Max Temp August 13: 73 F																															

Appendix E. Figures of MassDEP 2018 Air Monitoring Results

Benzene Concentrations from Canister Samples relative to TEL

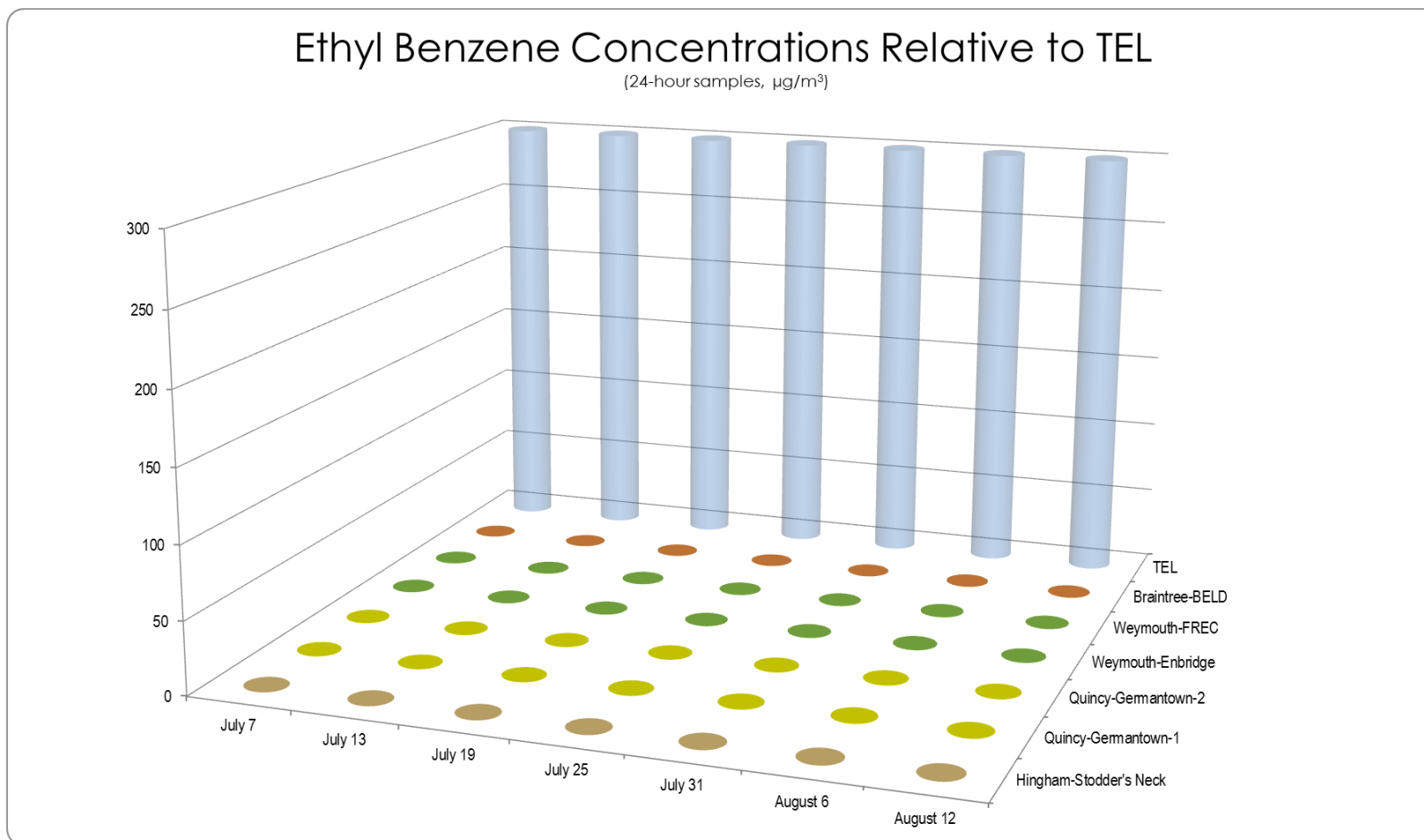


TEL = Threshold Effects Exposure Limit (24-Hour Average)

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

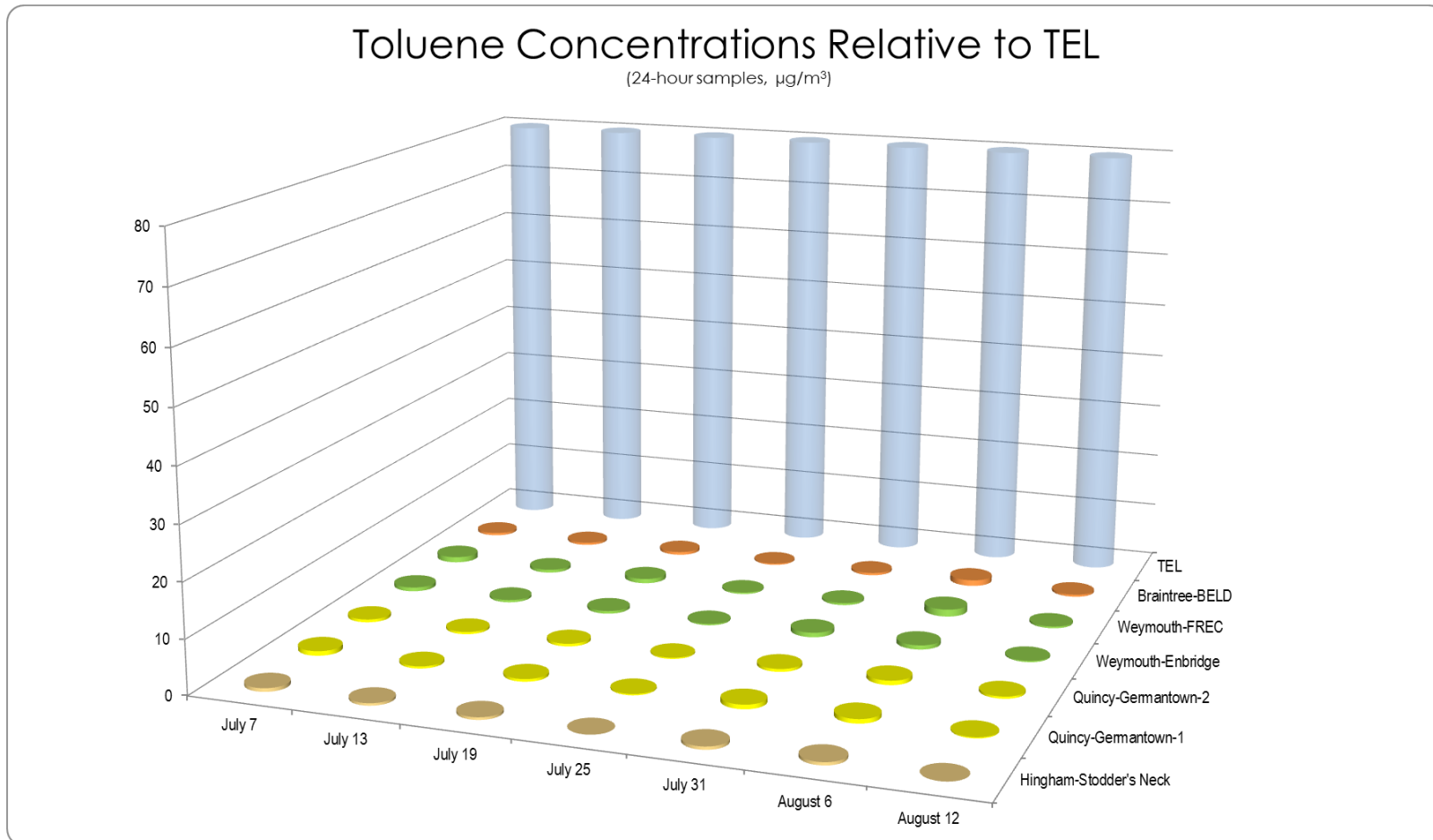
0 = Not detected at the reporting limit

Ethyl Benzene Concentrations from Canister Samples relative to TEL



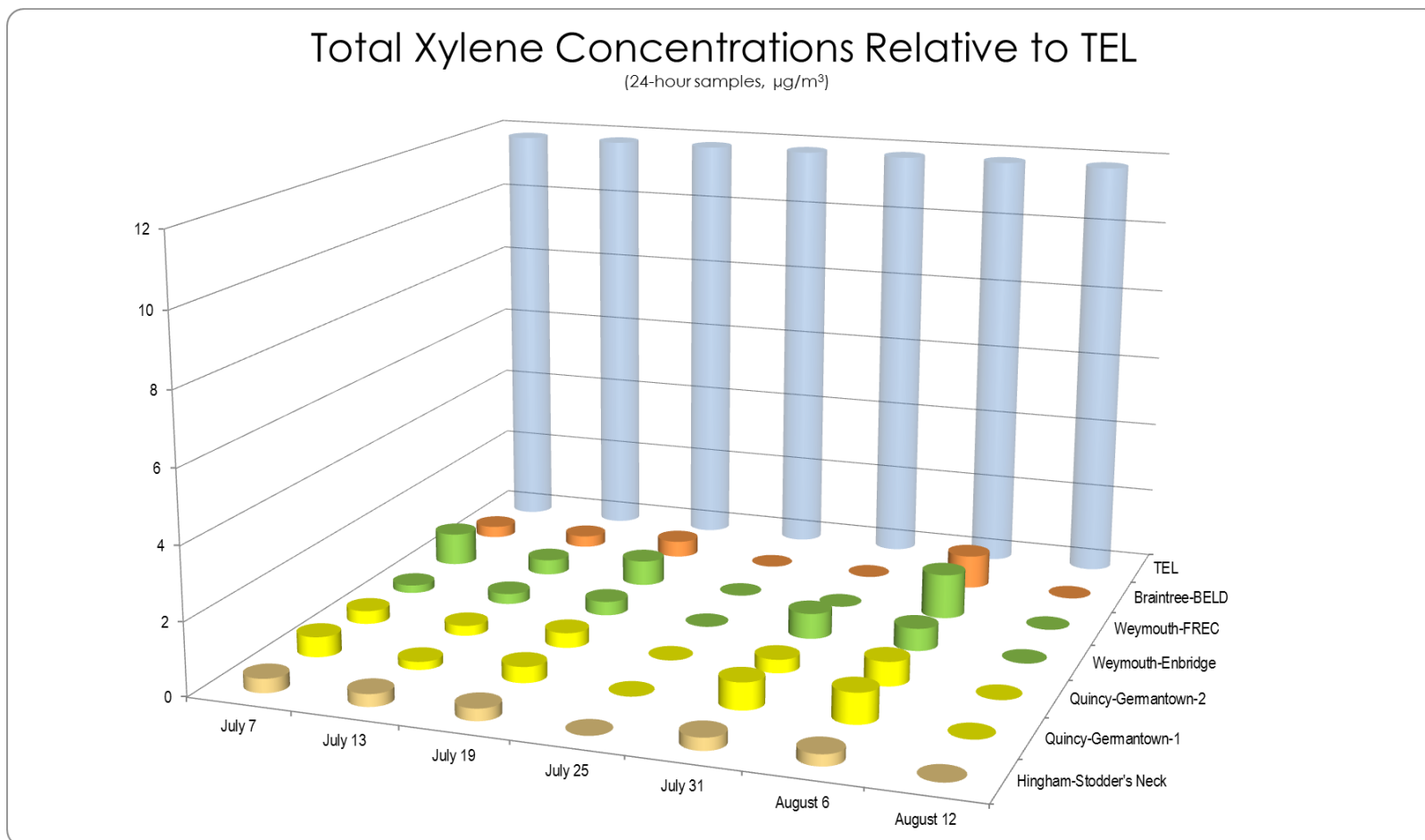
TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 0 = Not detected at the reporting limit

Toluene Concentrations from Canister Samples relative to TEL



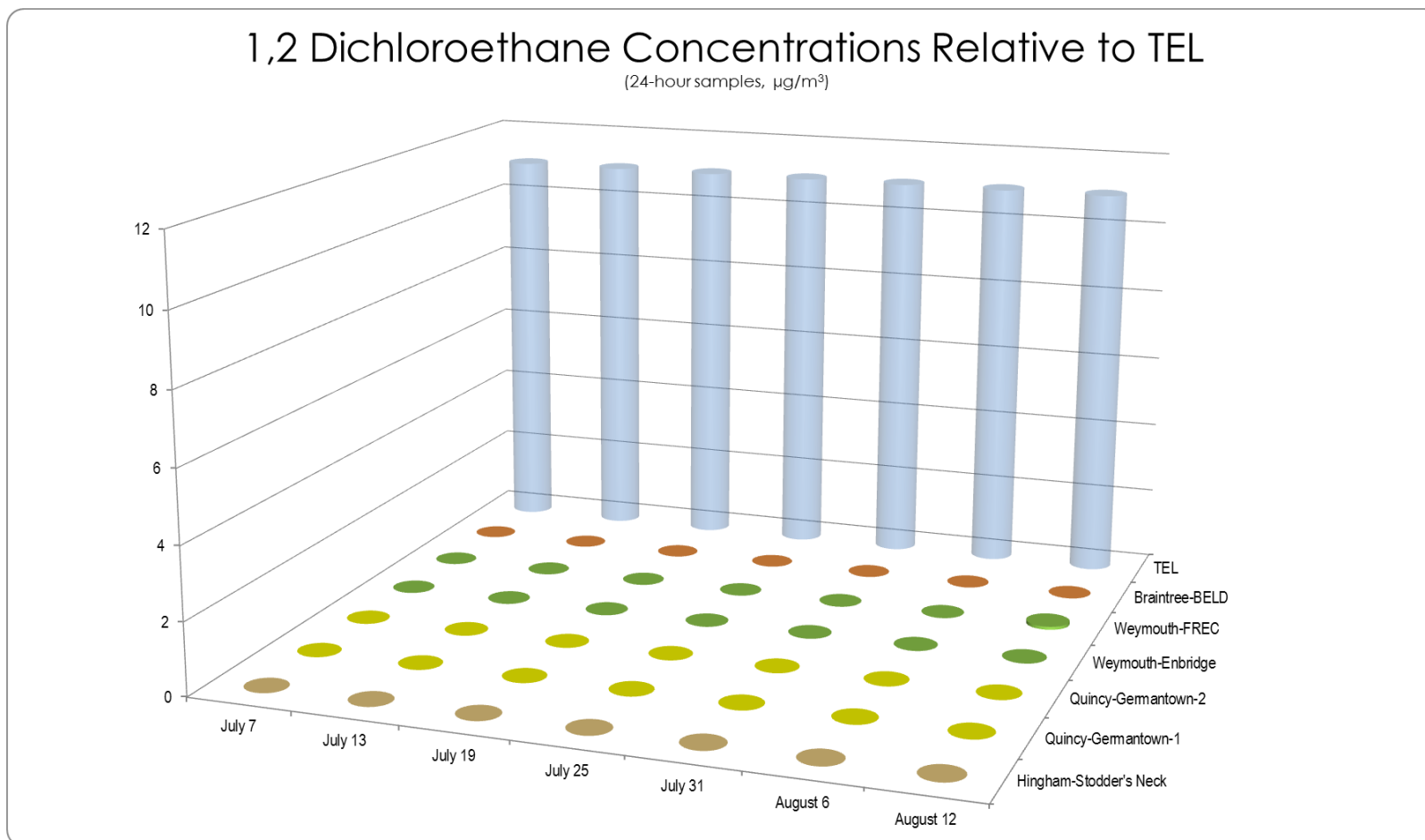
TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 0 = Not detected at the reporting limit

Xylene Concentrations from Canister Samples relative to TEL



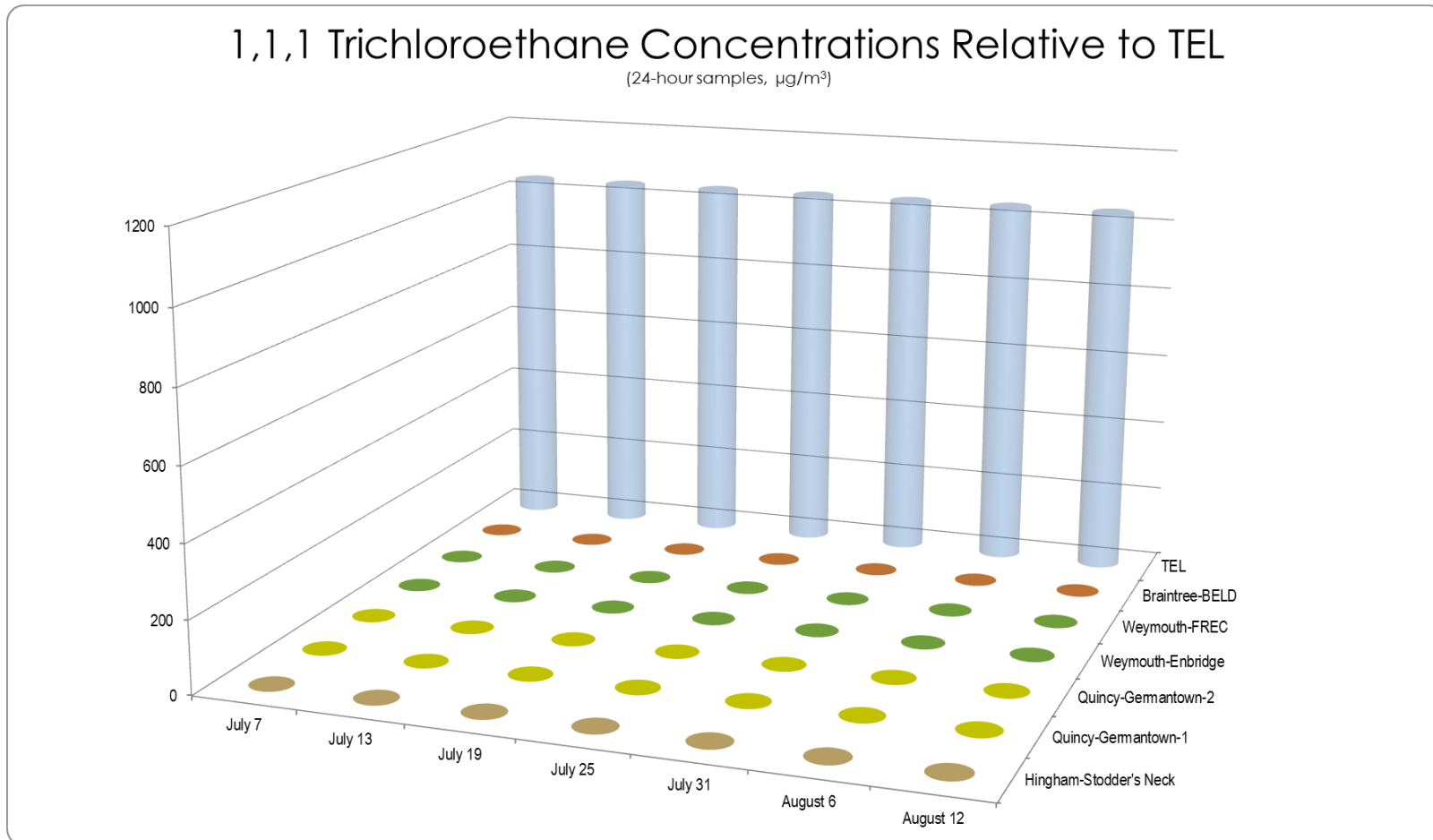
TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 0 = Not detected at the reporting limit

Dichloroethane Concentrations from Canister Samples relative to TEL



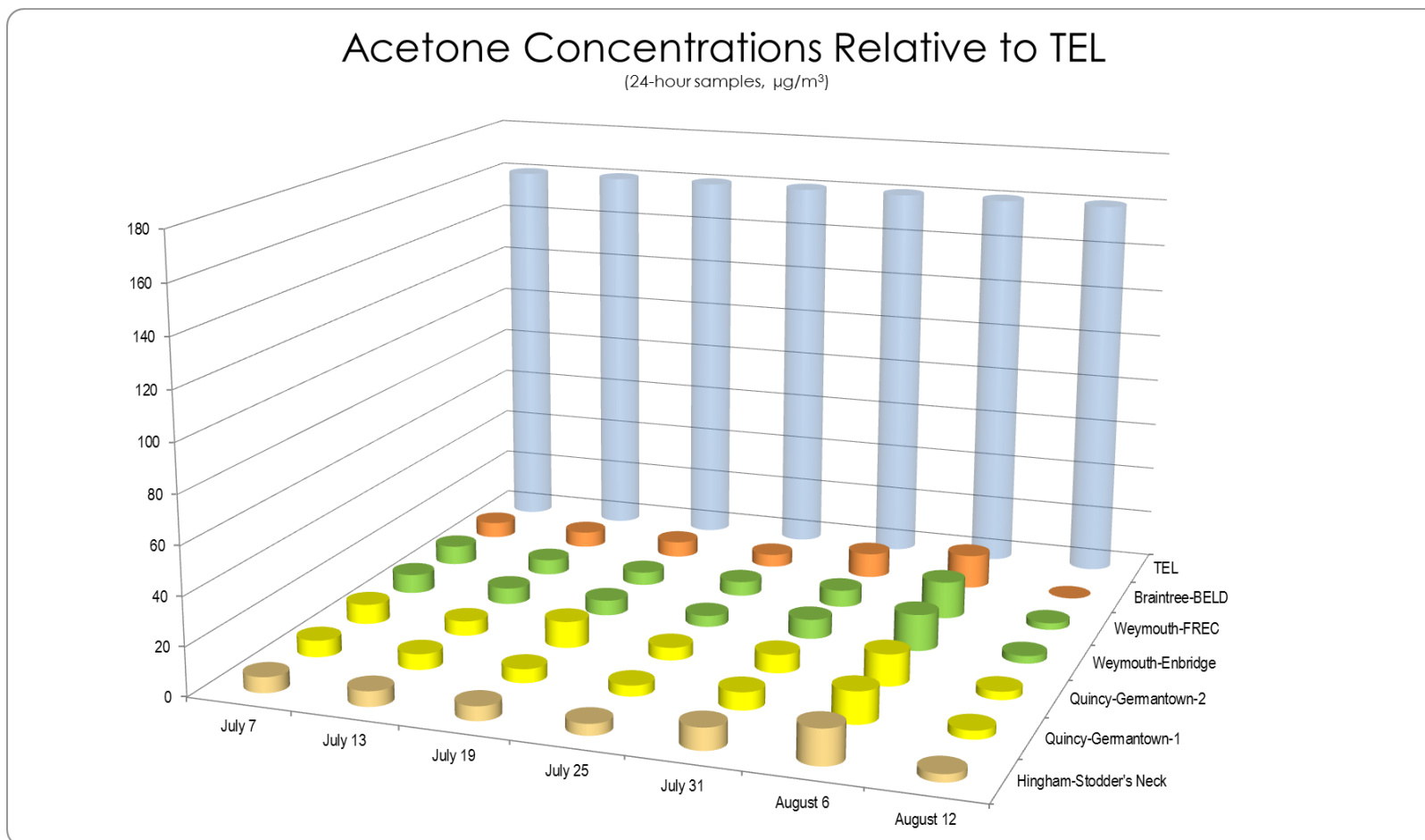
TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
0 = Not detected at the reporting limit

Trichloroethane Concentrations from Canister Samples relative to TEL



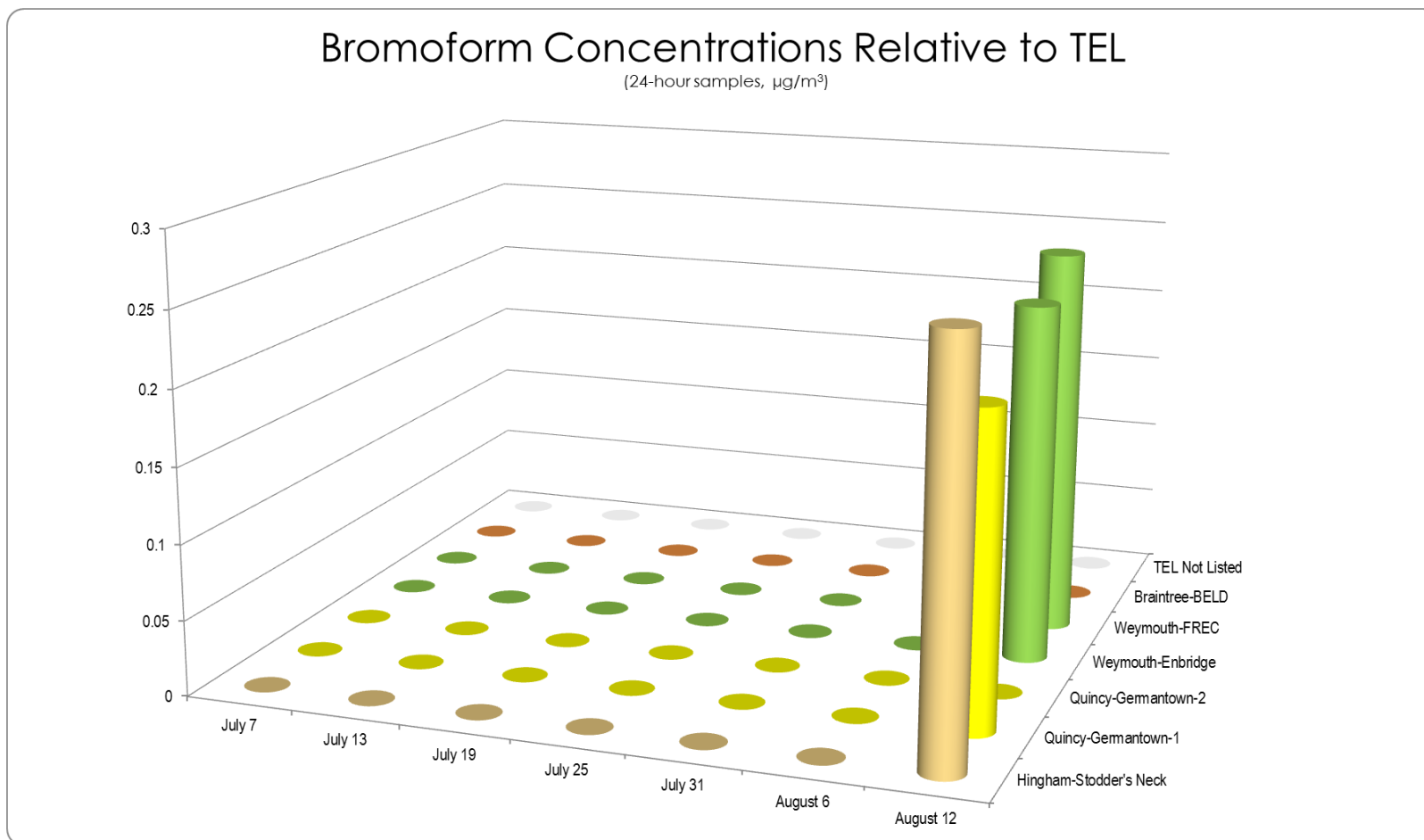
TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 0 = Not detected at the reporting limit

Acetone Concentrations from Canister Samples relative to TEL



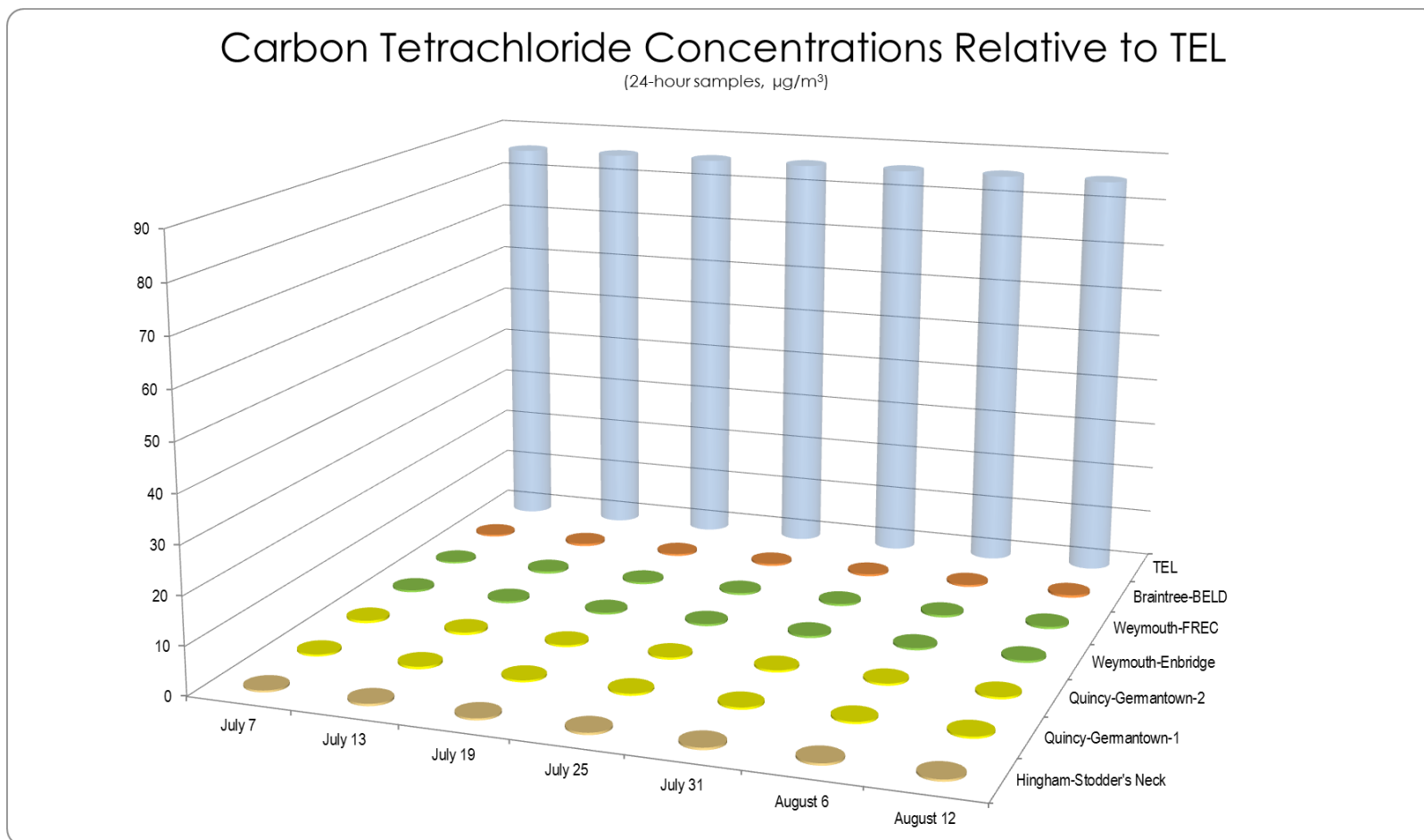
TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 0 = Not detected at the reporting limit

Bromoform Concentrations from Canister Samples relative to TEL



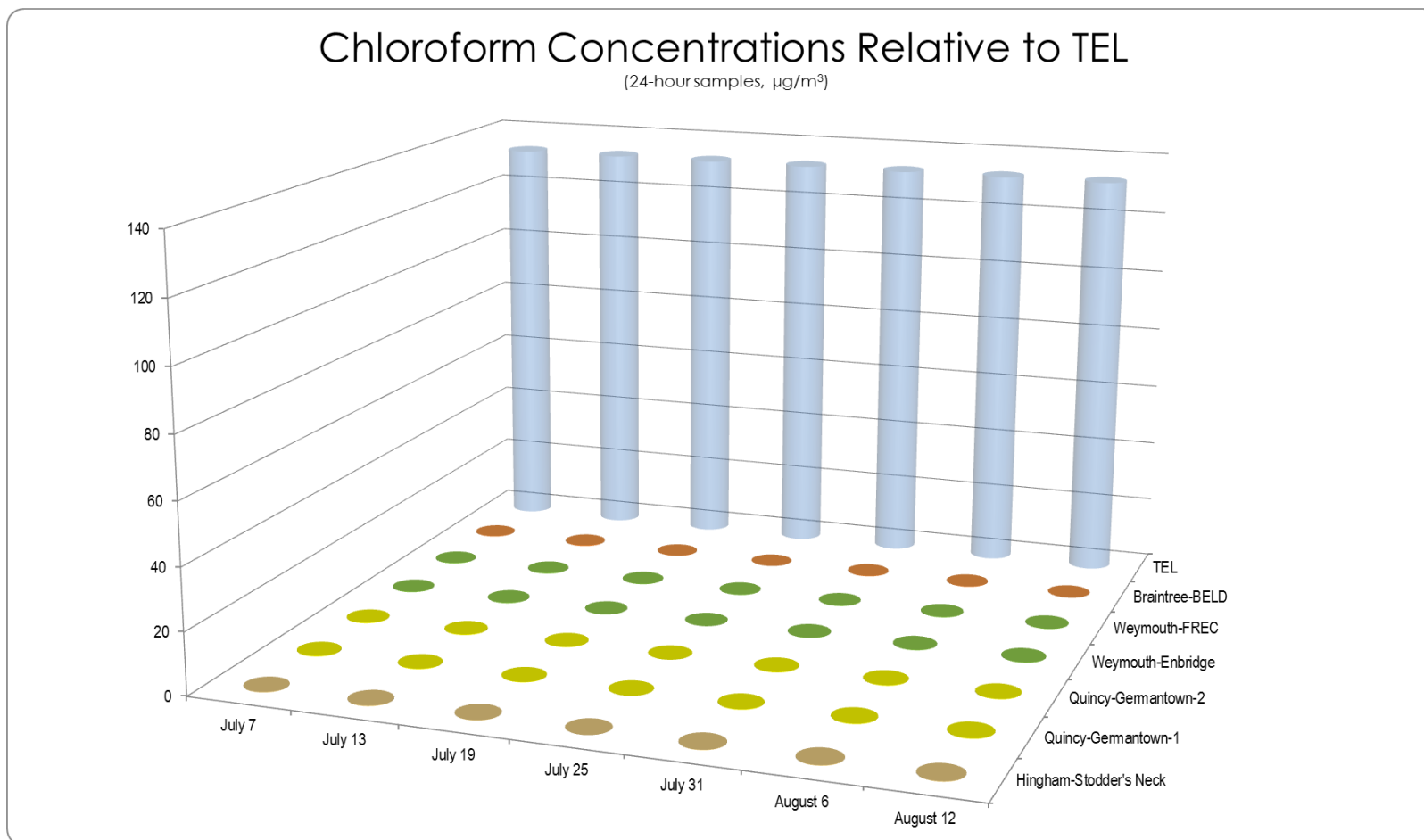
TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 0 = Not detected at the reporting limit

Carbon Tetrachloride Concentrations from Canister Samples relative to TEL



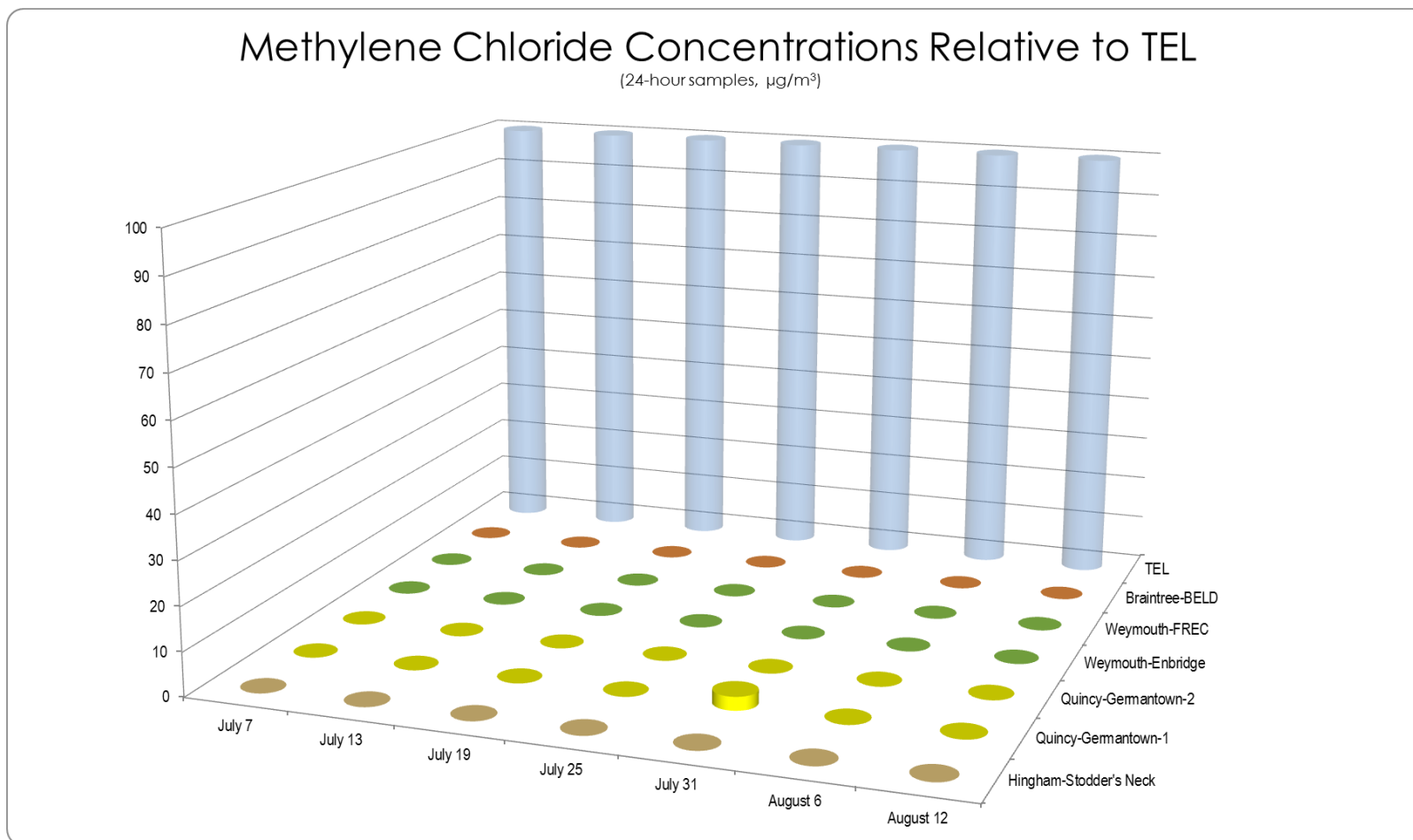
TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 0 = Not detected at the reporting limit

Chloroform Concentrations from Canister Samples relative to TEL



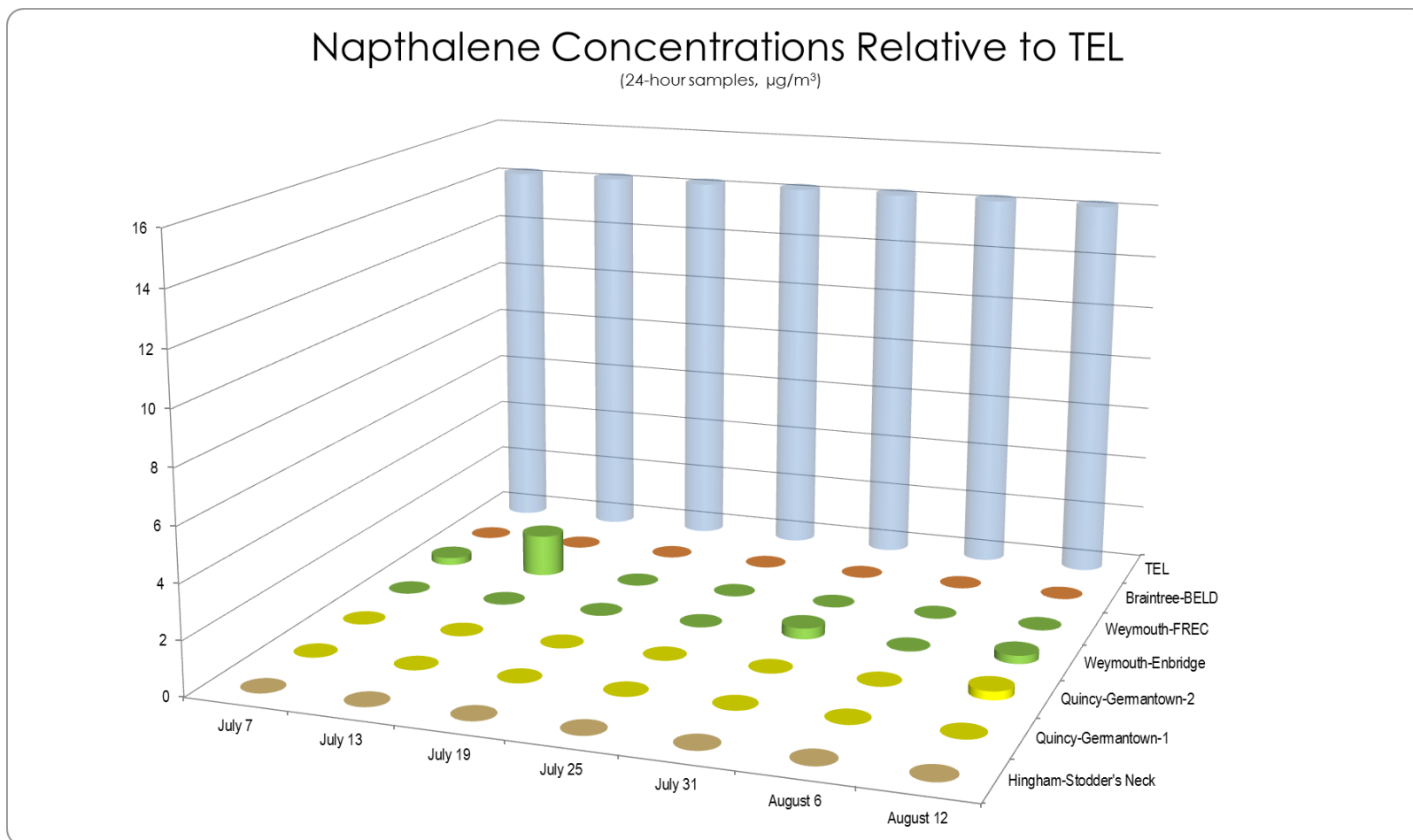
TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 0 = Not detected at the reporting limit

Methylene Concentrations from Canister Samples relative to TEL



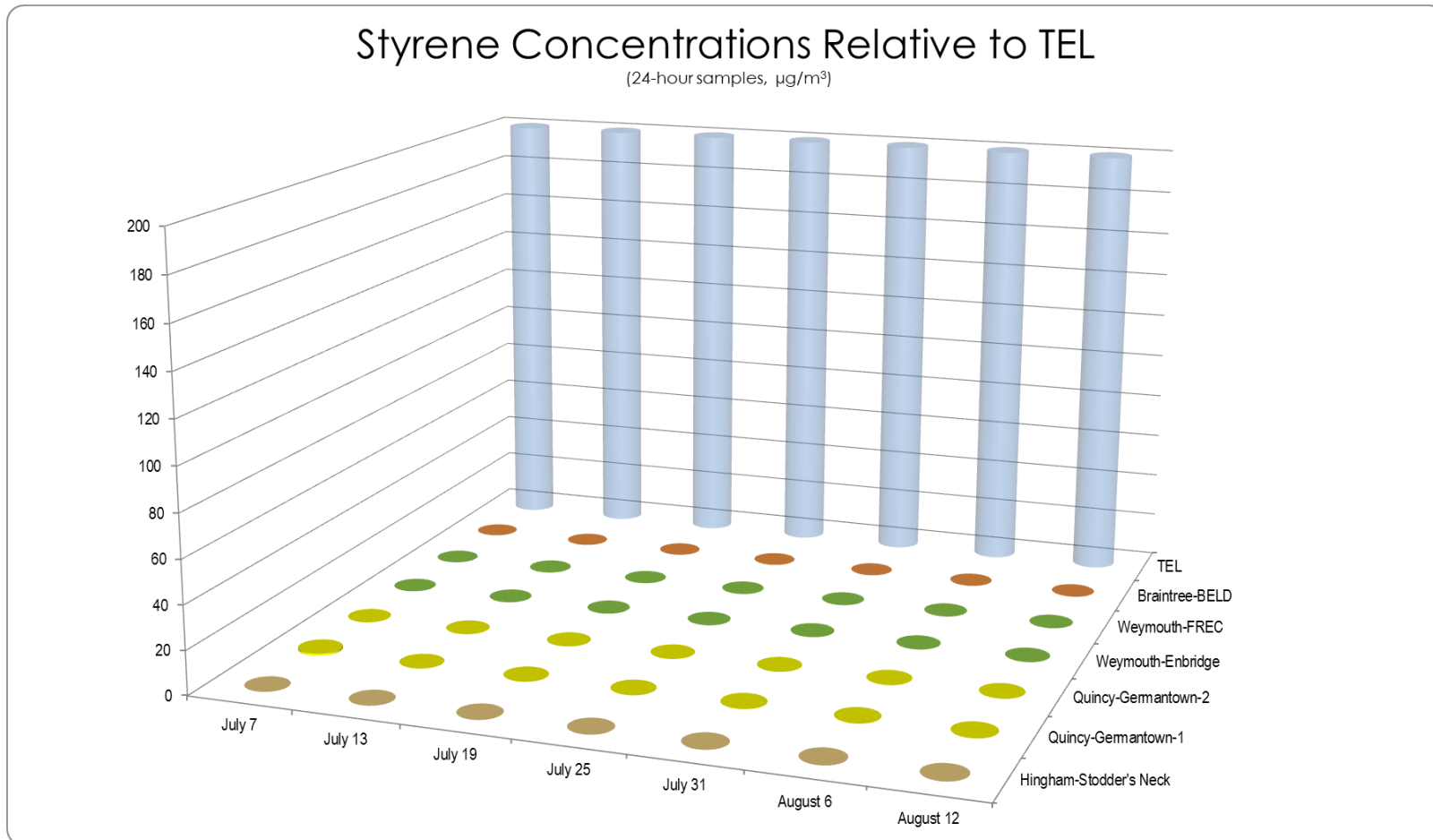
TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 0 = Not detected at the reporting limit

Naphthalene Concentrations from Canister Samples relative to TEL



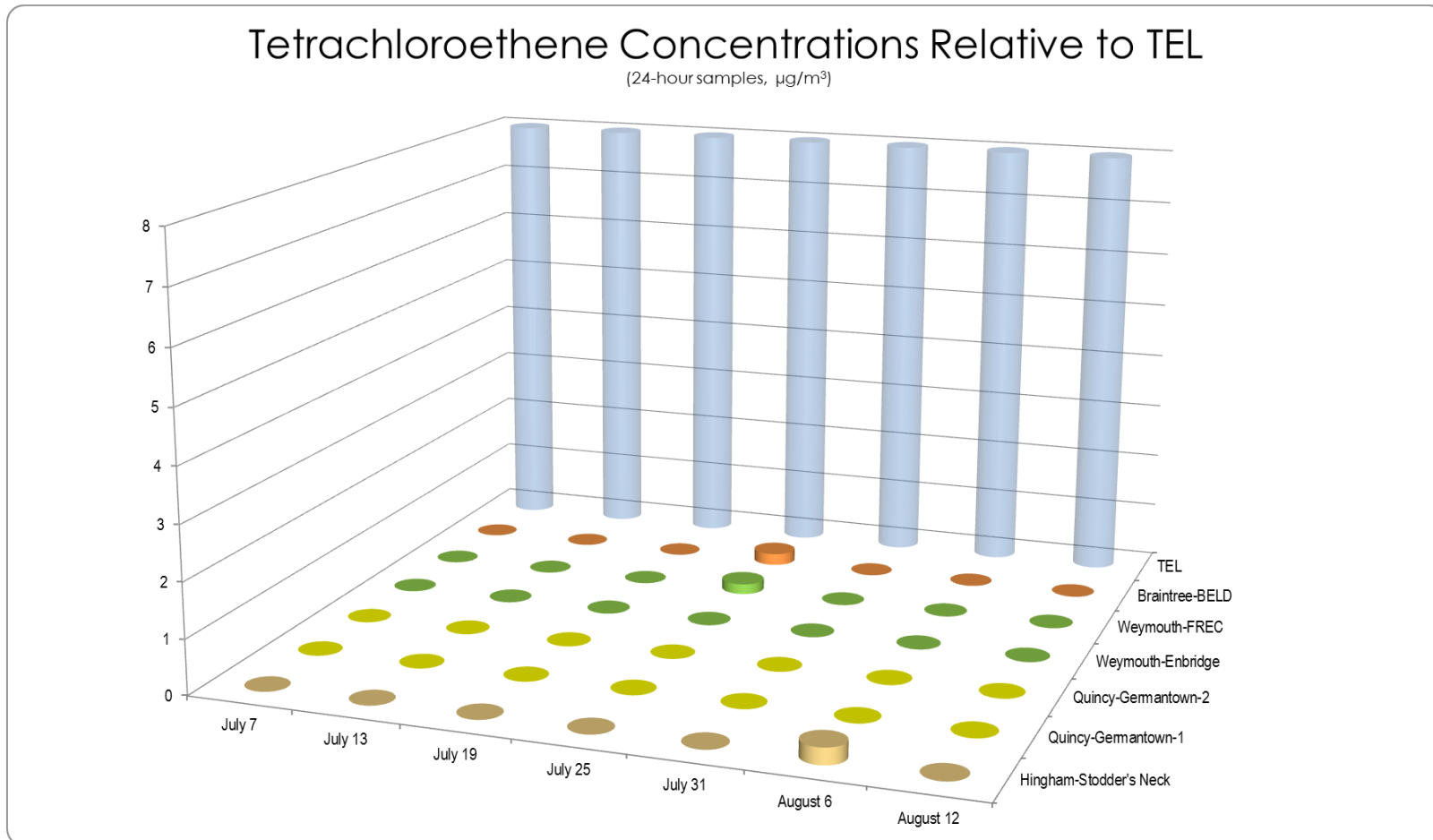
TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 0 = Not detected at the reporting limit

Styrene Concentrations from Canister Samples relative to TEL



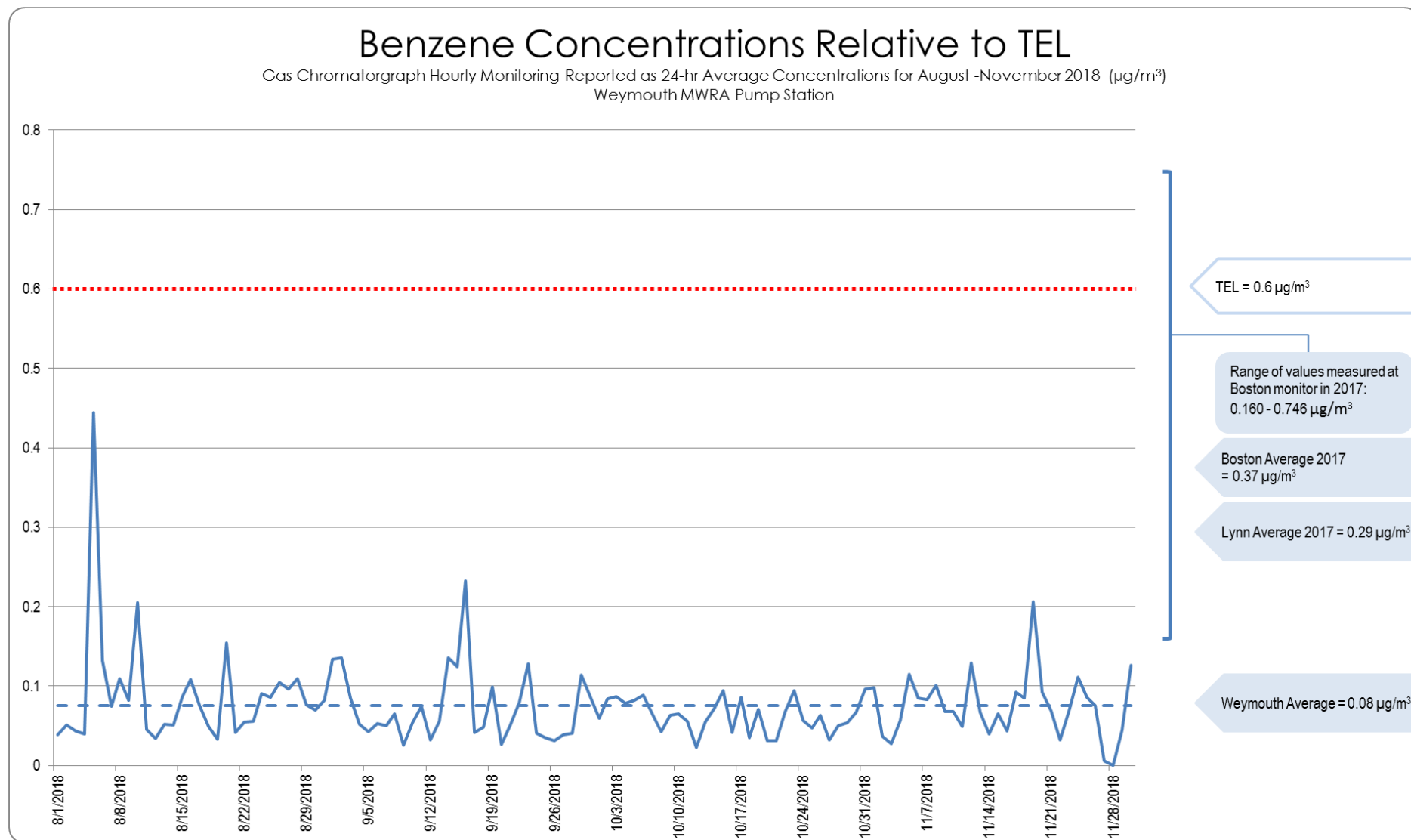
TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 0 = Not detected at the reporting limit

Tetrachloroethane Concentrations from Canister Samples relative to TEL



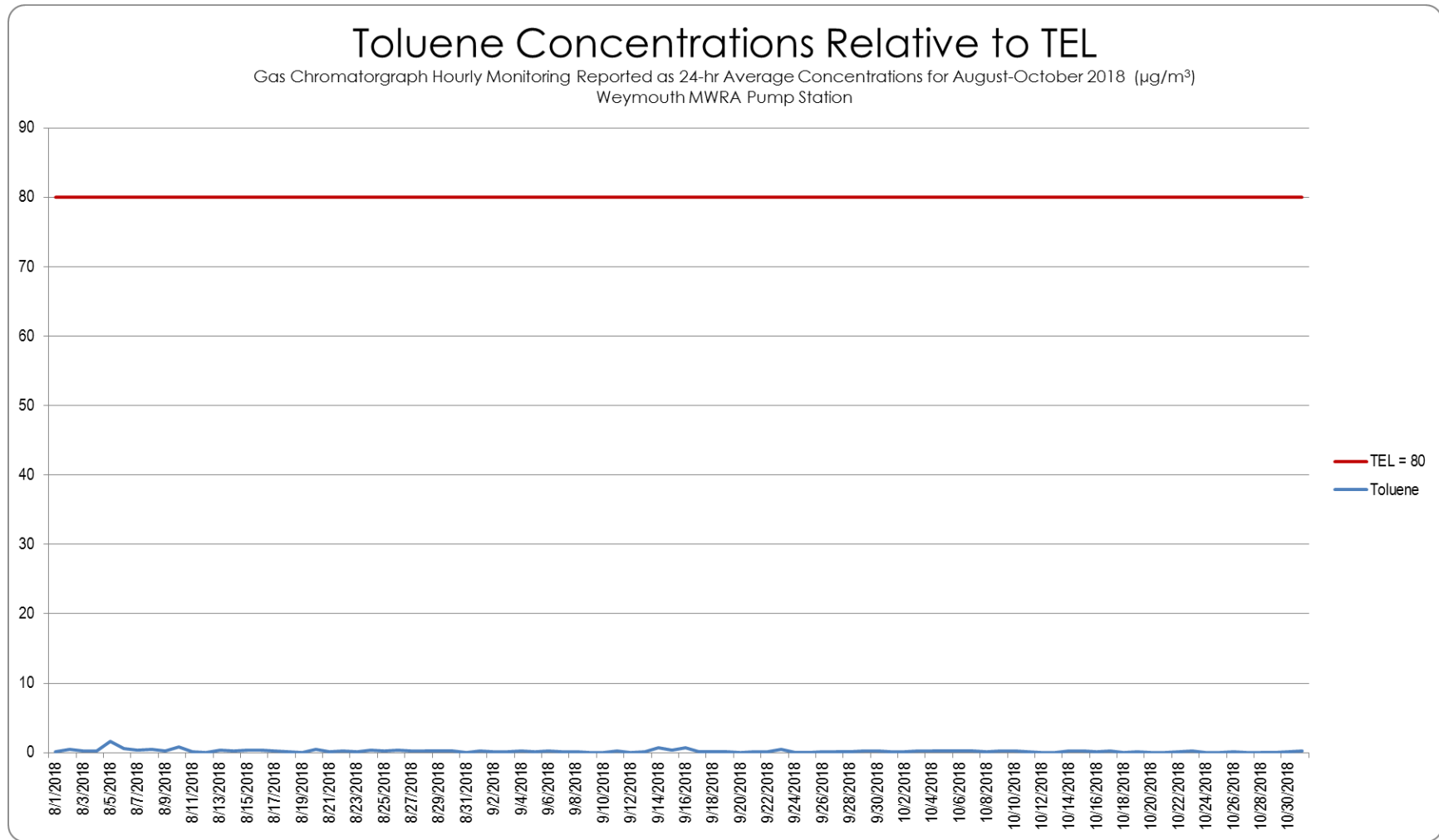
TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 0 = Not detected at the reporting limit

Benzene Concentrations from Air Monitoring at MWRA Pump Station



TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

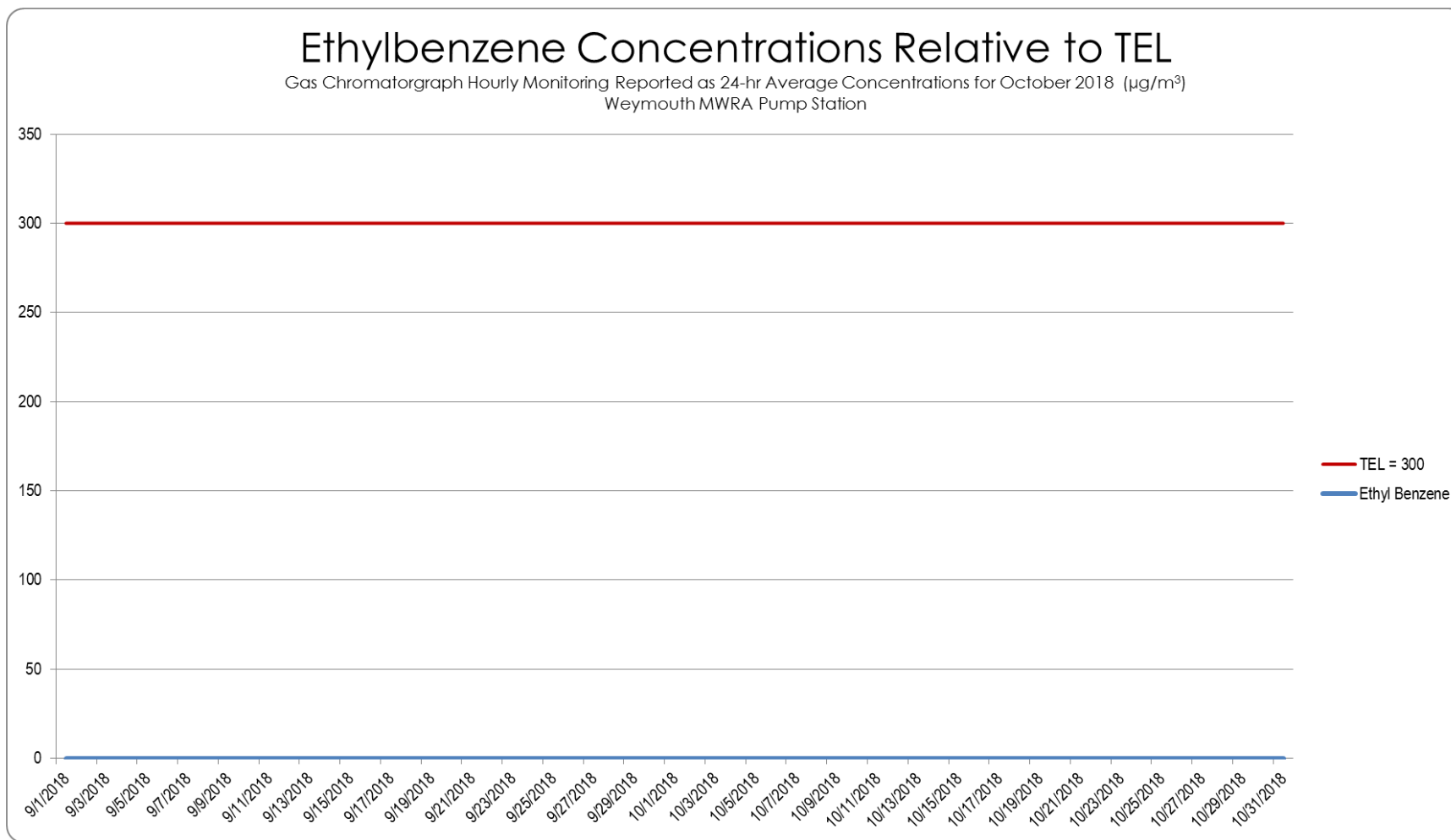
Toluene Concentrations from Air Monitoring at MWRA Pump Station



TEL = Threshold Effects Exposure Limit (24-Hour Average)

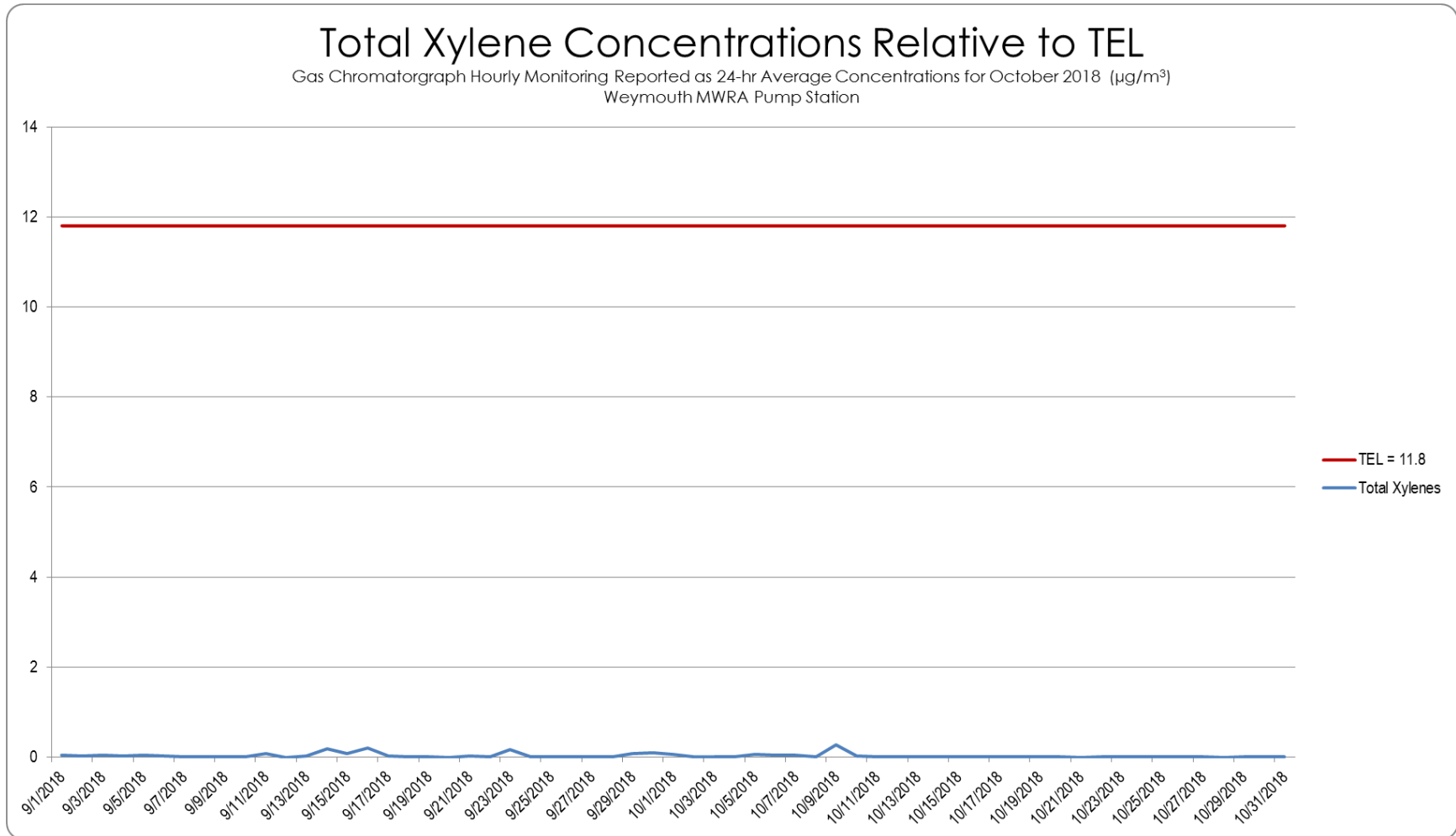
$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

Ethylbenzene Concentrations from Air Monitoring at MWRA Pump Station



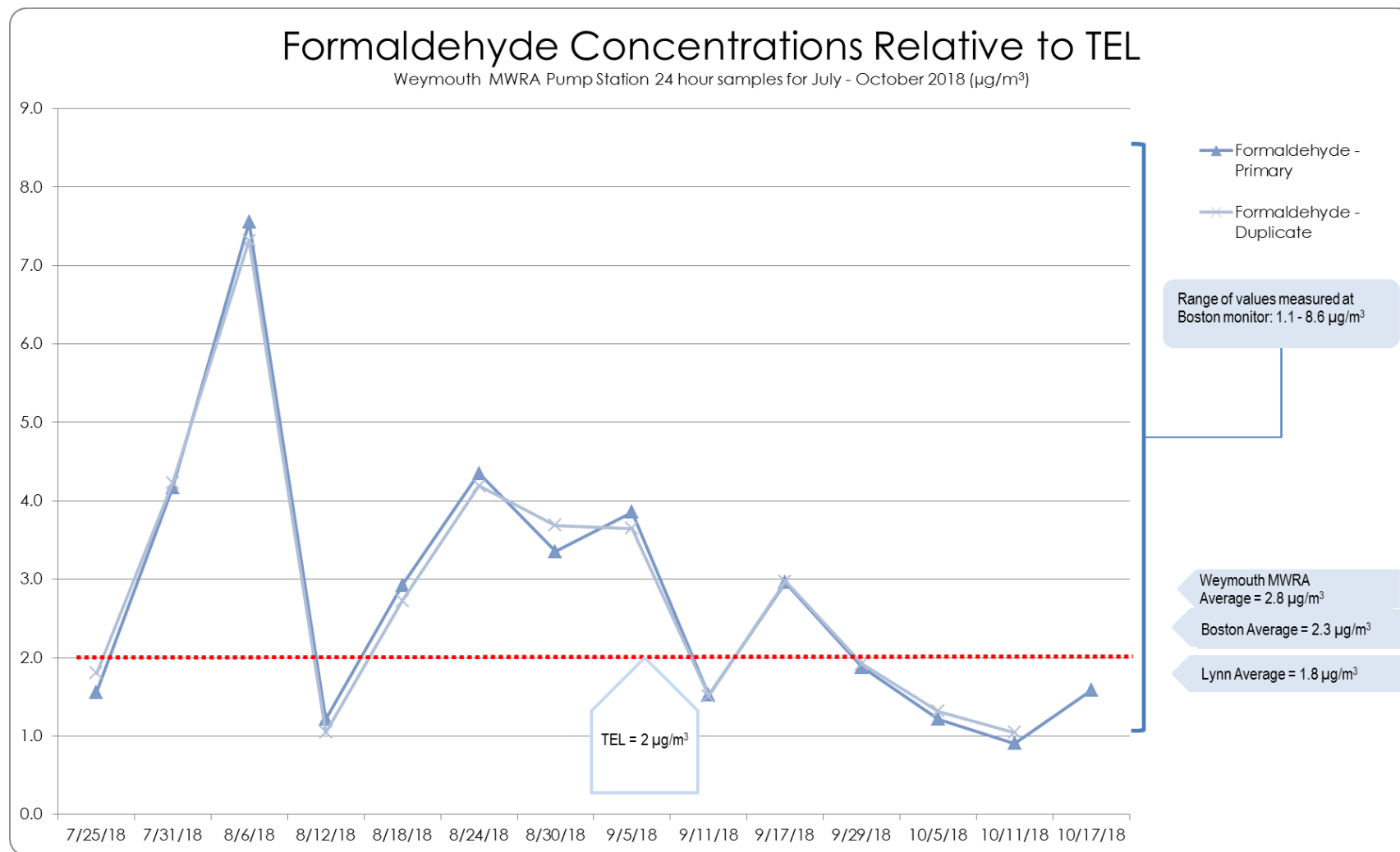
TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

Total Xylene Concentrations from Air Monitoring at MWRA Pump Station



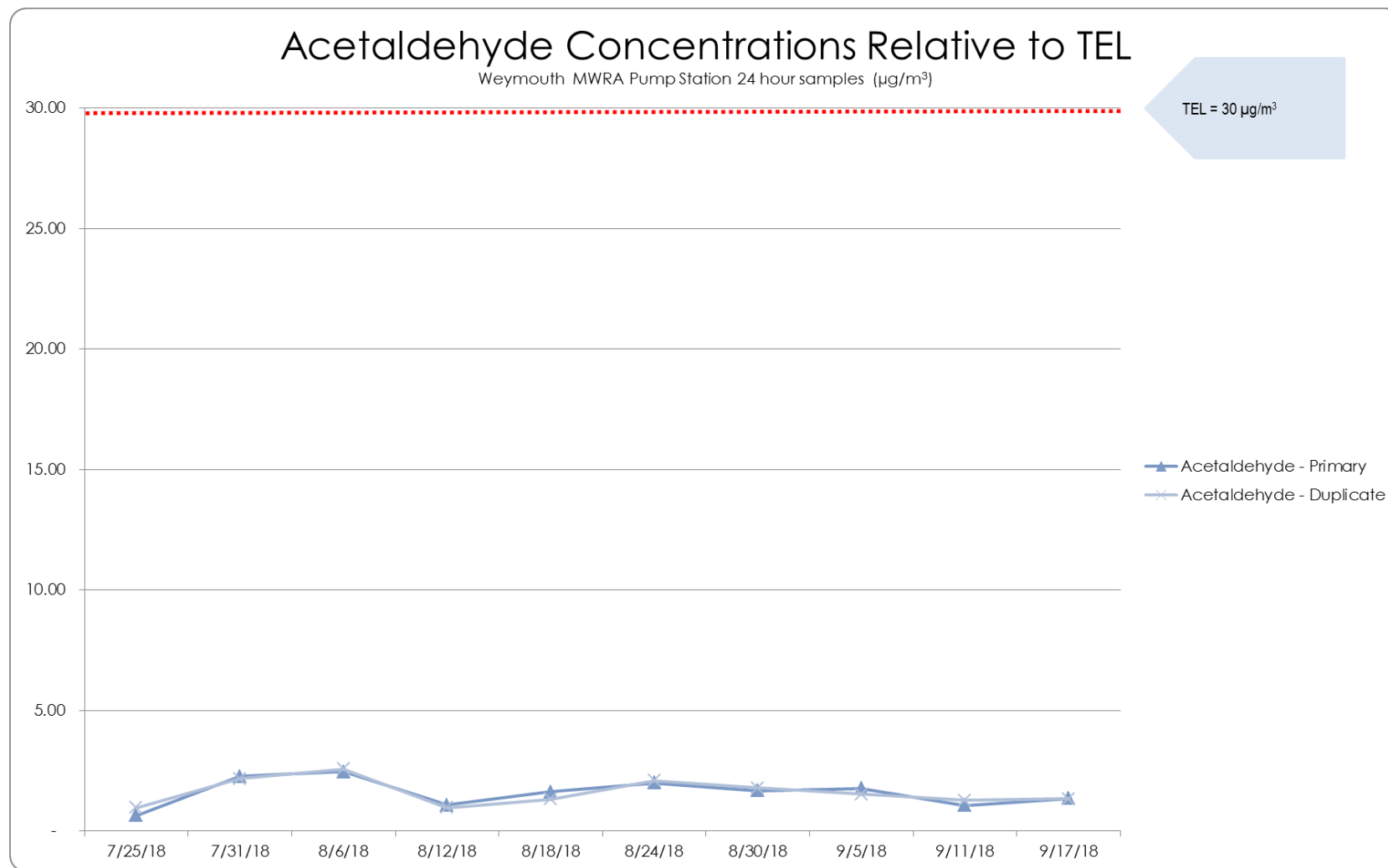
TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

Formaldehyde 24-hr Concentrations from Air Monitoring at MWRA Pump Station



TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

Acetaldehyde 24-hr Concentrations from Air Monitoring at MWRA Pump Station



TEL = Threshold Effects Exposure Limit (24-Hour Average)
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

Appendix F. Real Estate Sales Price History 2015-2017 for Municipalities and Focus Area

Municipality	Sale Year	Residential Type	Average Price	Median Price
Braintree	2015	2 Family Residence	\$ 469,495.00	\$ 452,000.00
Braintree	2016	2 Family Residence	\$ 487,869.00	\$ 490,500.00
Braintree	2017	2 Family Residence	\$ 511,667.00	\$ 490,000.00
Braintree	2015	3 Family Residence	\$ 612,900.00	\$ 612,900.00
Braintree	2016	3 Family Residence	\$ 543,333.00	\$ 500,000.00
Braintree	2017	3 Family Residence	\$ 295,000.00	\$ 295,000.00
Braintree	2015	Condominium	\$ 328,164.00	\$ 310,000.00
Braintree	2016	Condominium	\$ 312,908.00	\$ 295,000.00
Braintree	2017	Condominium	\$ 368,318.00	\$ 328,450.00
Braintree	2015	Single Family Residence	\$ 409,636.00	\$ 385,000.00
Braintree	2016	Single Family Residence	\$ 457,799.00	\$ 424,167.00
Braintree	2017	Single Family Residence	\$ 481,868.00	\$ 455,000.00
Hingham	2015	2 Family Residence	\$ 761,537.00	\$ 485,000.00
Hingham	2016	2 Family Residence	\$ 542,500.00	\$ 529,500.00
Hingham	2017	2 Family Residence	\$ 635,000.00	\$ 635,000.00
Hingham	2017	3 Family Residence	\$ 517,500.00	\$ 517,500.00
Hingham	2015	Condominium	\$ 643,657.00	\$ 643,400.00
Hingham	2016	Condominium	\$ 546,955.00	\$ 340,000.00
Hingham	2017	Condominium	\$ 676,102.00	\$ 439,950.00

Municipality	Sale Year	Residential Type	Average Price	Median Price
Hingham	2015	Single Family Residence	\$ 812,419.00	\$ 718,500.00
Hingham	2016	Single Family Residence	\$ 838,658.00	\$ 732,000.00
Hingham	2017	Single Family Residence	\$ 948,407.00	\$ 775,000.00
Quincy	2015	2 Family Residence	\$ 489,353.00	\$ 481,750.00
Quincy	2016	2 Family Residence	\$ 529,755.00	\$ 540,000.00
Quincy	2017	2 Family Residence	\$ 573,938.00	\$ 565,000.00
Quincy	2015	3 Family Residence	\$ 617,850.00	\$ 630,000.00
Quincy	2016	3 Family Residence	\$ 619,536.00	\$ 626,000.00
Quincy	2017	3 Family Residence	\$ 666,424.00	\$ 630,000.00
Quincy	2015	Condominium	\$ 1,650,550.00	\$ 306,000.00
Quincy	2016	Condominium	\$ 326,183.00	\$ 298,000.00
Quincy	2017	Condominium	\$ 335,296.00	\$ 300,000.00
Quincy	2015	Single Family Residence	\$ 386,607.00	\$ 382,000.00
Quincy	2016	Single Family Residence	\$ 418,554.00	\$ 406,000.00
Quincy	2017	Single Family Residence	\$ 447,470.00	\$ 435,800.00
Weymouth	2015	2 Family Residence	\$ 369,321.00	\$ 356,500.00
Weymouth	2016	2 Family Residence	\$ 407,164.00	\$ 402,000.00
Weymouth	2017	2 Family Residence	\$ 675,471.00	\$ 463,500.00
Weymouth	2015	3 Family Residence	\$ 412,000.00	\$ 402,000.00
Weymouth	2016	3 Family Residence	\$ 393,425.00	\$ 385,000.00
Weymouth	2017	3 Family Residence	\$ 490,067.00	\$ 495,000.00
Weymouth	2015	Condominium	\$ 216,685.00	\$ 200,000.00
Weymouth	2016	Condominium	\$ 215,659.00	\$ 204,950.00

Municipality	Sale Year	Residential Type	Average Price	Median Price
Weymouth	2017	Condominium	\$ 238,900.00	\$ 220,000.00
Weymouth	2015	Single Family Residence	\$ 329,415.00	\$ 325,000.00
Weymouth	2016	Single Family Residence	\$ 347,863.00	\$ 344,475.00
Weymouth	2017	Single Family Residence	\$ 387,387.00	\$ 377,000.00

Appendix G. Community Engagement

A listing of meeting held and materials and information shared during the engagement process can be found on the project website: www.foreriverhia.com.

The screenshot displays the website for the Fore River Health Impact Assessment (HIA). At the top, there is a green navigation bar with the logo "FORE RIVER HIA" and a search icon. The main menu includes "Home", "About", "Participate", "Past Meetings", "Documents", and "Contact". Below the navigation bar, the "Past Meetings" section is highlighted. It features two columns of meeting information. The left column is titled "Advisory Committee Meetings" and lists "Meeting #6: Friday, Nov. 7" and "Meeting #5: Wednesday, Oct. 24". Each meeting entry includes a thumbnail image of the site, a title, and links to download the agenda or read the presentation. The right column is titled "Community Meetings" and lists "Thursday, Nov. 15". It includes a thumbnail image, a title, and a link to read the meeting presentation. Below the "Community Meetings" section, there is a video player for a recording by Quincy Access Television, titled "Community Meeting on the Proposed Fore River Compressor Station" dated November 15, 2018. The video player includes a play button, a "Watch later" button, and a "Share" button.

Past Meetings

Advisory Committee Meetings

Meeting #6: Friday, Nov. 7

[Download the meeting agenda](#)

[Read the meeting presentation here!](#)

HEALTH IMPACT ASSESSMENT of the PROPOSED COMPRESSOR STATION, WEYMOUTH, MA
Advisory Committee Meeting #6
November 7, 2018

Community Meetings

Thursday, Nov. 15

[Read the meeting presentation here!](#)

HEALTH IMPACT ASSESSMENT of the PROPOSED COMPRESSOR STATION, WEYMOUTH, MA
Community Meeting #2
November 15, 2018

[Recording by Quincy Access Television:](#)

Meeting #5: Wednesday, Oct. 24

[Read the meeting presentation here!](#)

HEALTH IMPACT ASSESSMENT of the PROPOSED COMPRESSOR STATION, WEYMOUTH, MA

Community Meeting on the Proposed Fore River Compressor Station
November 15, 2018