Data Analytics

A Data-Driven Boston

INTRODUCTION

Recognizing the importance of how data and technology contribute to building a Thriving, Healthy, and Innovative 21st century city, Mayor Walsh announced the formation of a comprehensive data analytics team in January 2015. This team is known as the Citywide Analytics Team.

The Team's mission is to use data to improve quality of life and to enhance government operations in the City of Boston. By combining modern data analysis and visualizations with a deeply engaged approach to performance improvement and change management, the team works with departments across the City to solve challenging problems, build a more effective government, and deliver better outcomes for people who live and work in Boston.

This chapter highlights the Citywide Analytics Team's work, recent accomplishments, and plans for the upcoming year.

CREATING A CULTURE OF "DATA"

Executive Insight. One of the Citywide Analytics Team's top priorities is providing City leadership with data where and when they need it. We provide the Mayor, Cabinet Chiefs, and City leadership with data dashboards and reports that provide up-to-date information so they can stay regularly informed on City operations and progress toward strategic goals.

Optimizing Performance and Process. To complement our data dashboards and reports, the Citywide Analytics Team works across 14 Cabinets to help identify pain points and develop immediate and potential long-term performance and process improvements.

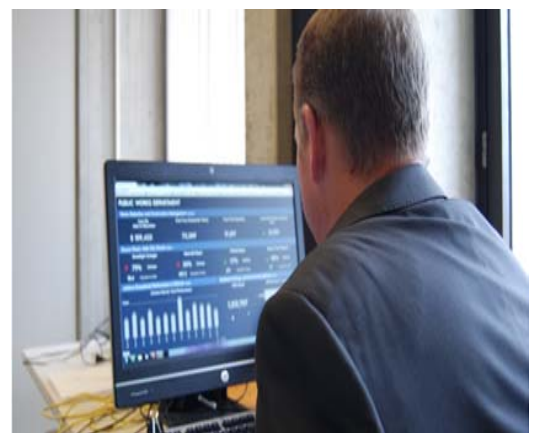**Building Data Tools.** The Citywide Analytics Team builds data tools and web-based applications that

enable Departments to answer questions on how resources can best be allocated.

Engaging with the Public. The public plays a critical role in our work. To promote transparency, we publish City and departmental performance scorecards so people can see how the City is performing at delivering services, and to encourage innovation, we share our data so the public can create new tools and propose new ways for the City to operate.

ACCOMPLISHMENTS THIS YEAR
CityScore. CityScore is a first-of-its kind tool designed to inform the Mayor, City staff, and the public about the overall health of the City at a moment's notice. Providing near real-time data on City operations, CityScore is a tool that allows for the evaluation of the City's performance every day to ensure consistent, quality service delivery throughout the City.

Cabinet Dashboards. Building off the success of the dashboards created for the Mayor in 2014, this past year we developed and released data dashboards for 8 Cabinet Chiefs, providing them with information that is core to their work, quickly and easily.

Building Intelligence. In partnership with the Boston Fire Department, we built a web-based application that displays information regarding hazards at and near the location of the emergency,

as well as assets critical to firefighters doing their job.

Delivering Results

Our work this year has contributed to the following results:

Additional resources so our Emergency Medical Response team can better serve those in need of emergency services.

An 18% increase in fixing street light outages on-time, resulting in brighter, safer streets.

Two new surveys that provide the public with more ways of giving feedback on how departments can further improve service delivery response.

It now takes **5 fewer business days** for the City to review building permits, resulting in less time waiting to start a project.

In targeted areas we have helped **reduce traffic jams by 18%** and decreased commuter delays by 20%.

A clearer understanding of the demographics of City Staff to help **create a workforce that reflects our City's residents**.

Looking Toward Next Year

Predicting Health Violations. Getting sick after a night out at your favorite restaurant is no fun. We are working to prevent this by using advanced analytical techniques and new sources of data to identify where risks of potential food-borne illnesses are high.

Making Sense of Finance. Paying bills and procuring services is more complicated than you may think. We are building visual tools to show the City's budget and financial information quickly and effortlessly for those that depend on the information every day.

Proactively Engaging with Residents. What if the City told you about key services without you having to ask? We are using analytics to identify the most sought after City services and delivering this information to your inbox and mailbox.

Fighting Addiction. Mayor Walsh is committed to fighting the opioid crisis in the City. We are using analytics to identify individuals likely to overdose, so that we can intervene and assist with recovery.

Tracking performance data helps departments and City leaders focus on delivering the highest priority services and goals. The following pages outline the metrics and targets tracked in CityScore as well as those tied to longer-term priorities of the City.

CityScore

CityScore's 21 metrics are monitored daily to get an understanding of the overall health of the City. Since inception, CityScore has prompted key process improvements, increased data-driven decision-making at all levels of city government, and informed the budget process.

The following list details the performance metrics and targets that currently make up CityScore. Daily scores and additional information can be found here: http://boston.gov/cityscore

311 CALL CENTER PERFORMANCE - Target 95% of calls answered within 30 seconds

BOSTON FIRE DEPARTMENT INCIDENTS - Fewer incidents than previous years

BOSTON FIRE DEPARTMENT RESPONSE TIME - Target 90% of responses in 4 minutes or less

BOSTON PUBLIC SCHOOLS ATTENDANCE - Target 95% of all students

CONSTITUENT SATISFACTION SURVEYS - Target 4 on a 5 point rating scale

BOSTON EMERGENCY MEDICAL SERVICES INCIDENTS - Fewer incidents than previous years

BOSTON EMERGENCY MEDICAL SERVICES RESPONSE TIME - Target median of 6 minutes

GRAFFITI ON-TIME % - Target 80% completed within 45 business days

HOMICIDES (TREND) - Fewer incidents than previous years

LIBRARY USERS - More users than previous years

MISSED TRASH ON-TIME % - Target 80% completed within 1 business day

ON-TIME PERMIT REVIEWS - Target 75% completed within 20 business days

PARKS MAINTENANCE ON-TIME % - Target 80% lighting issues completed within 7 business days; 80% all other issues completed within 5 business days

PART 1 CRIMES - Fewer incidents than previous years

POTHOLE ON-TIME % - Target 80% completed within 1 business day

SHOOTINGS (TREND) - Fewer incidents than previous years

SIGN INSTALLATION ON-TIME % - Target 80% completed within 30 business days

SIGNAL REPAIR ON-TIME % - Target 80% completed within 24 hours

STABBINGS (TREND) - Fewer incidents than previous years

STREETLIGHT ON-TIME % - Target 80% completed within 10 business days

TREE MAINTENANCE ON-TIME % - Target 80% completed within 365 calendar days

Boston: Thriving, Healthy, Innovative
Priority FY17 Performance Goals

The Mayor's FY17 budget priorities highlight the vision to create an environment that promotes equity, builds community, and helps fulfill Boston's great promise. The performance measures listed below reflect the City's top priorities and the partnerships necessary to achieve these ambitious goals. To track progress against these goals, visit the Boston About Results website at boston.gov/bar .

Education

Performance Measure	Responsible Department	FY 16 Projected	FY 16 Target	FY 17 Target
New K1 seats available	Schools	100	100	200
Voter registrations from high schools	Election Department	659	750	1,000
High school students receiving services for absenteeism	Public Health Commission	245	160	200

Housing

Performance Measure	Responsible Department	FY 16 Projected	FY 16 Target	FY 17 Target
# of Homeless Veterans Housed	Neighborhood Development	254	175	210
Housing units permitted: Affordable	Neighborhood Development	656	600	600
Housing units permitted: Middle income	Neighborhood Development	1,100	875	1,000
Housing units repaired / rehabbed	Neighborhood Development	1,976	2,000	2,050

Mobility

Performance Measure	Responsible Department	FY 16 Projected	FY 16 Target	FY 17 Target
Miles of roadway resurfaced	Public Works	41	40	40
% of traffic signals on-line	Transportation	87%	90%	90%
% of missing signs completed on time	Transportation	80%	80%	80%
# of Hubway Trips	Transportation	1,300,000	1,250,000	1,500,000

Prosperity & Equity

Performance Measure	Responsible Department	FY 16 Projected	FY 16 Target	FY 17 Target
Average satisfaction level for operation call back	Neighborhood Services	4.3	4.5	4.5
Jobs created through Main Streets program	Economic Development	590	500	500
Businesses assisted with financial or technical assistance	Economic Development	2,887	4,180	3,900

Arts, Culture, and Creativity

Performance Measure	Responsible Department	FY 16 Projected	FY 16 Target	FY 17 Target
Number of grants award via Boston Cultural Council	Arts & Culture	179	165	165
Program attendance total	Boston Public Library	228,547	202,000	234,000
Website visits	Boston Public Library	9,423,893	9,000,000	9,200,000

Health & Safety

Performance Measure	Responsible Department	FY 16 Projected	FY 16 Target	FY 17 Target
EMS median response time (priority 1)	Public Health Commission	6.2 MIN	6 MIN	6 MIN
Number of residential Neighborhood Watch Groups	Boston Police Department	340	330	350
Clients receiving Public Health Commission outpatient addictions services	Public Health Commission	1,095	900	900
Violence Intervention Prevention (VIP) coalition meetings, activities, and youth outreach	Public Health Commission	321	310	300