

# PERFORMANCE MANAGEMENT IN THE CITY OF BOSTON

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*Director of Performance Management, City of Boston*



City of Boston  
Mayor Martin J. Walsh



Innovation & Technology

# AN INTRODUCTION TO BOSTON

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## THE CITY OF BOSTON

17,000+ employees

60+ departments, offices, and agencies

17 cabinet chiefs

Serving a population of ~667,000

## WHAT THE CITY DOES

Measured as a portion of a \$4.9B total budget:\*

31% *education*

18% *streets & infrastructure*

15% *police & fire*

5% *parks & environment*

4% *libraries*

3% *health & human services*

2% *technology*

## (DATA) MILESTONES

2012 - Open Data Portal v.1

2012 - Boston About Results

2014 - Digital Dashboards

2015 - Citywide Analytics Team...

\*these are all approximate figures - refer to the official budget for actual amounts!

# AN INTRODUCTION TO THE CITYWIDE ANALYTICS TEAM

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*Brings together the areas of:*

**PERFORMANCE MANAGEMENT**

**ENTERPRISE ANALYTICS**

**OPEN DATA**

**DATA SCIENCE**

*Through an integrated team of:*

**DATA ANALYSTS**

**PROJECT MANAGERS**

**DATA ENGINEERS**

**GIS SPECIALISTS**

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# PERFORMANCE MANAGEMENT

*Our two primary areas of focus*



**ONE:**

***Building the infrastructure** (tools and processes) to understand how well the City is performing, both operationally and strategically*

*Scorecards, Dashboards,  
Reports, & Structured  
Performance Meetings*



**TWO:**

*Serving as a resource and partner to guide  
improvement projects*

*Conducting Analyses,  
Developing Pilots, Guiding  
Operational Reform*

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# WHAT WE'VE BEEN WORKING ON

*Building the infrastructure*



# DETAILED STAFF REPORTS



**BAR**  
BOSTON ABOUT RESULTS

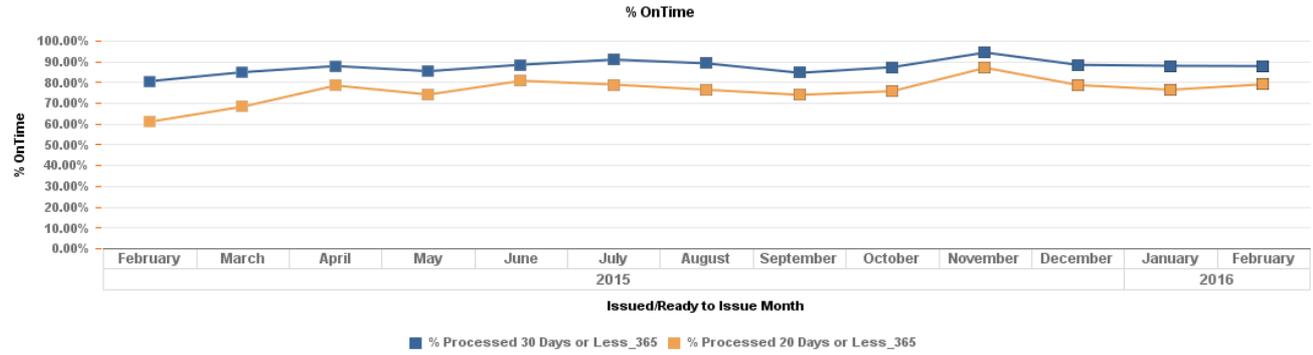
Red = More than 3 apps & more than 25% overdue

## ISD Plans & Zoning Overview -YTD

As of 3/2/16

Plan Examiner	Closed 2/18/16 - 3/2/16				Closed Current YTD - 2016				Open				
	Closed Apps		% Processed OnTime		Closed Apps		% Processed OnTime		Declared Value	Open Apps		% Overdue	
	10	8	60.00%	62.50%	30	22	53.33%	50.00%	3,708,784	14	10	14.29%	10.00%
	6	6	100.00%	100.00%	15	15	100.00%	100.00%	1,869,944	28	28	0.00%	0.00%
	13	11	53.85%	54.55%	45	43	80.00%	81.40%	28,353,504	17	15	23.53%	13.33%
	15	13	80.00%	76.92%	39	35	61.54%	62.86%	5,285,640	44	38	9.09%	7.89%
	12	10	91.67%	100.00%	33	29	87.88%	93.10%	118,086,258	34	30	17.65%	10.00%
	11	9	72.73%	77.78%	26	19	57.69%	63.16%	52,527,855	36	28	16.67%	3.57%
	20	18	90.00%	94.44%	26	24	92.31%	95.83%	6,123,113	23	23	0.00%	0.00%
	22	19	81.82%	89.47%	47	37	70.21%	83.78%	13,906,202	30	26	30.00%	23.08%
	9	9	100.00%	100.00%	17	17	100.00%	100.00%	252,655	4	4	0.00%	0.00%
<b>Total</b>	<b>143</b>	<b>103</b>	<b>66.43%</b>	<b>84.47%</b>	<b>278</b>	<b>241</b>	<b>75.18%</b>	<b>80.08%</b>	<b>230,113,955</b>	<b>230</b>	<b>202</b>	<b>13.48%</b>	<b>7.92%</b>

Yellow background represents metrics for applications which never went to a Board of Appeals milestone



# TOOLS FOR CASE MANAGEMENT



## ISD Plans Examiners Reviews

Click on a Plans Examiner to see more information about the reviews completed. This dashboard shows the last 30 days of reviews completed.

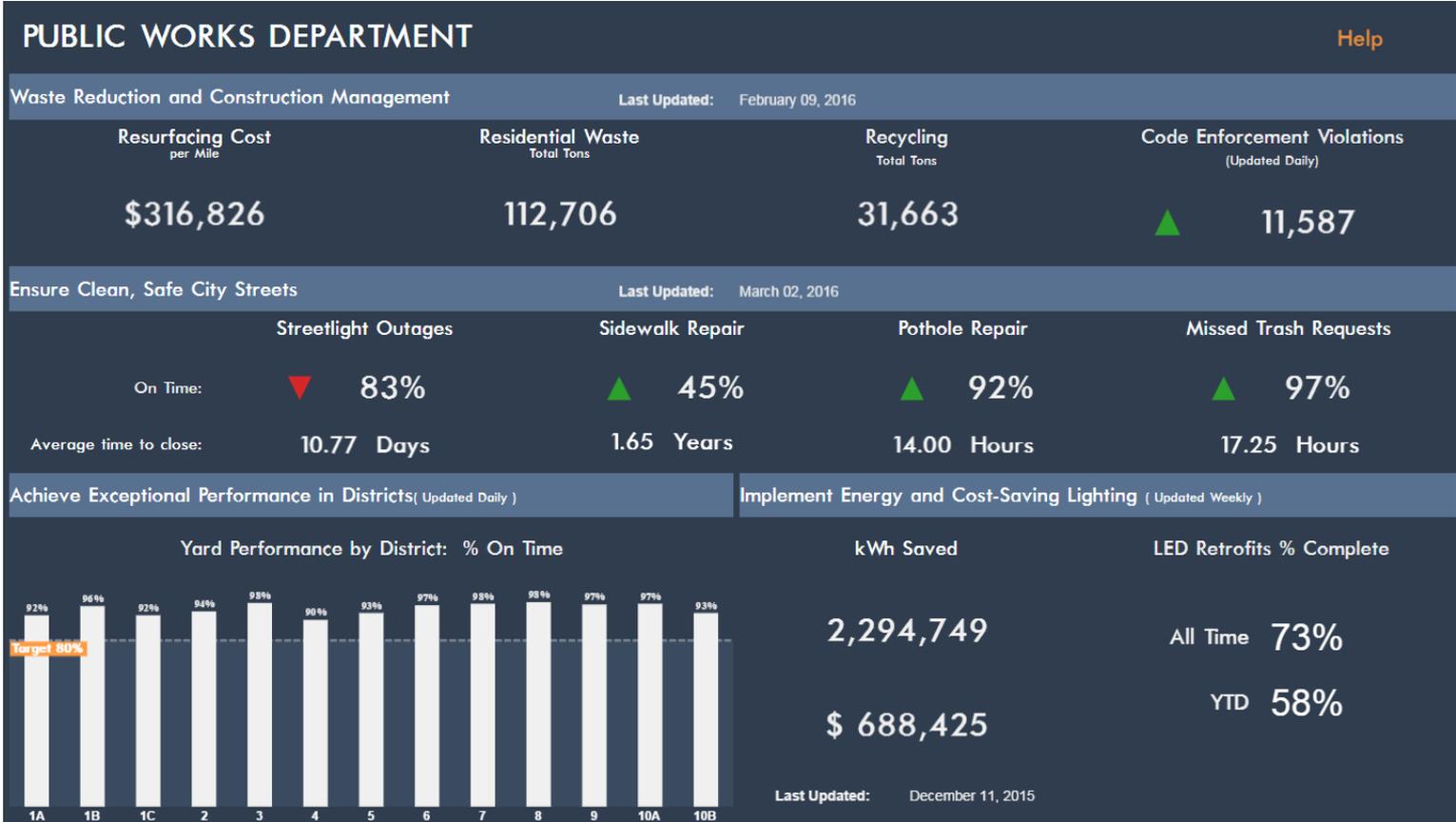


### Detailed Plan Review Information

Plans Examiner	Max. Result Date	Application Number	Address	Review Result	
	3/27/2017	ALT687350	374 to 382 Congress	Approved	13
	2/28/2017	A656844	800 Boylston	Approved	16
	2/28/2017	A677140	18R Huntoon	Approved	22
	2/28/2017	ALT673084	93 to 101 Arch	Approved	6
	2/28/2017	ALT682480	207 to 211 Congress	Approved	5
	2/28/2017	ALT680866	330 Brookline	Approved	5
	3/2/2017	ALT681161	20 Gillette	Approved	7



# EXECUTIVE TOOLS ON DEPARTMENTAL PERFORMANCE



# CITYWIDE OVERSIGHT

## LEGEND

- < 1 (FOLLOW UP)
- = 1 (MAINTAINING)
- > 1 (EXCEEDING)

## CITY SCORE<sup>®</sup>



MAYOR MARTIN J. WALSH

LAST UPDATED  
9/26/2017

	DAY	WEEK	MONTH	QUARTER
STABBINGS (TREND)	3.18	1.39	1.26	1.80
PART I CRIMES	1.59	1.20	1.32	1.29
LIBRARY USERS	1.30	1.11	1.10	1.12
POTHOLE ON-TIME %	1.25	1.05	0.94	0.93
STREETLIGHT ON-TIME %	1.25	0.55	0.71	0.77
TREE MAINTENANCE ON-TIME %	1.25	1.22	1.22	1.21
MISSED TRASH ON-TIME %	1.23	1.17	1.19	1.17
PARKS MAINTENANCE ON-TIME %	1.11	0.94	1.02	1.02
SIGNAL REPAIR ON-TIME %	1.10	1.12	1.11	1.13
311 CONSTITUENT EXPERIENCE SURVEYS	1.08	1.18	1.13	1.11
EMS INCIDENTS	1.03	1.08	1.06	1.08
BPS ATTENDANCE	0.99	0.99	0.95	0.95
BFD INCIDENTS	0.98	1.09	1.05	1.11
EMS RESPONSE TIME	0.95	0.92	0.95	0.95
311 CALL CENTER PERFORMANCE	0.93	0.95	0.88	0.84
BFD RESPONSE TIME	0.89	0.90	0.90	0.90
CITY SERVICES SATISFACTION SURVEYS	0.83	0.90	0.93	0.92
ON-TIME PERMIT REVIEWS	0.81	0.87	0.92	0.87
SIGN INSTALLATION ON-TIME %	0.50	0.88	0.76	0.85
GRAFFITI ON-TIME %		0.87	0.82	0.74
HOMICIDES (TREND)		3.77	3.34	2.17
SHOOTINGS (TREND)		2.74	1.96	2.45
	1.17	1.22	1.16	1.15



# SCORE INTERPRETATION

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If CityScore is...

**Less than 1**

*We are not meeting our targets or are trending negatively*

**Equal to 1**

*We are meeting our targets or matching historical performance*

**Greater than 1**

*We are exceeding our targets or trending positively*

# METHODOLOGY

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## Example: BPS Attendance

*Actual attendance ÷ attendance target = CityScore*

*96% attendance rate ÷ 95% attendance target = 1.01*

## Example: EMS Response Time

*Response time target ÷ actual response time = CityScore*

*6 minutes ÷ 6 minutes 30 seconds = .92*

## Example: Library Users

*Actual user count ÷ historical user baseline = CityScore*

*9000 library users ÷ 8000 historical users = 1.13*

*\*\* Historical baselines are calculated based on the daily average performance of the current month plus or minus the historical daily standard deviation of that metric.*

# CITYSCORE ENHANCEMENTS

## Additional Improvements:

- User-friendly dashboard
- Metric definitions
- Publicly accessible data

TOPIC	DAY	WEEK	MONTH	QTR
311 CALL CENTER PERFORMANCE	0.89	0.91	0.89	0.92
CONSTITUENT SATISFACTION SURVEYS	1.25	0.85	0.91	0.92
GRAFFITI ON-TIME %	1.25	1.13	1.15	1.15
MISSED TRASH ON-TIME %	1.22	1.18	1.21	1.21
PARKS MAINTENANCE ON-TIME %	1.17	1.0	0.88	0.95
POTHOLE ON-TIME %	1.25	1.03	1.0	1.06
SIGN INSTALLATION ON-TIME %	-	1.05	0.89	0.96
SIGNAL REPAIR ON-TIME %	1.25	1.15	1.12	1.11
STREETLIGHT ON-TIME %	1.07	0.96	1.04	0.93
TREE MAINTENANCE ON-TIME %	1.25	1.25	1.2	1.2
ON-TIME PERMIT REVIEWS	0.94	1.07	1.0	1.06

### [Definitions and targets](#)

Learn more about the metrics used in CityScore



### [CityScore on the Open Data Portal](#)

Take a deep dive into the raw data behind CityScore



# SHARING CITYSCORE

Developed a shareable CityScore toolkit that anyone can use to create their own version of CityScore.

## CITYSCORE IN YOUR CITY

Download as CSV

Download All Values

### Highlights:

- Built with all audiences in mind - from the most technically savvy to those who want an out-of-the-box solution.
- Code is publicly available so others can build upon and enhance the application.
- Helps organizations drive performance and

#### LEGEND

< 1 (follow up)  
= 1 (maintaining)  
> 1 (exceeding)

#### TODAY'S BRIEF

This dashboard will show every KPI entered into CityScore. You will see a score for the day, week, month and quarter as well as the percentile for each daily score. To view a summary graph, click on the metric you're interested in. To enter new data, click on any score column. See the legend for details or click here to add a new metric. You last entered metrics on Aug. 15, 2016. Have an idea for CityScore? Contact us!

METRIC	DAILY	WEEKLY	MONTHLY	QUARTERLY	PERCENTILE
Admin & Finance	2.7	1.76	1.71	1.75	93.93
Arts & Culture	1.8	1.92	1.85	1.79	51.87
Constituent Engagement	1.8	1.15	1.45	1.61	64.02
Economic Development	1.8	1.92	1.75	1.72	51.87
Education	2.3	1.99	1.56	1.62	78.98
Environment	2.7	1.76	1.71	1.75	93.93
Public Safety	1.9	1.93	1.85	1.69	60.29
<b>CITYSCORE</b>	2.15	1.78	1.7	1.71	70.7

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# WHAT WE'VE BEEN WORKING ON

*A comprehensive Citywide reporting process*

# OUR REPORTING LOGIC

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## CONTENT

*Departments have revised their scorecards to capture metrics that provide value and insight to managers. We're now focused on tracking fewer, more informative metrics Citywide.*

## UTILITY & VISIBILITY

*Department scorecard metrics will now be integrated into structured cabinet-level reporting processes led by the Performance Team and the Budget Office.*

*The audience for these reports are the Mayor and Chief of Staff.*

## CONTEXT

*This new reporting process will include regular conversations between Budget Analysts and departments to put metrics in context rather than focusing on the numbers alone.*

# CITYSCORE: REPORTING ALIGNMENT

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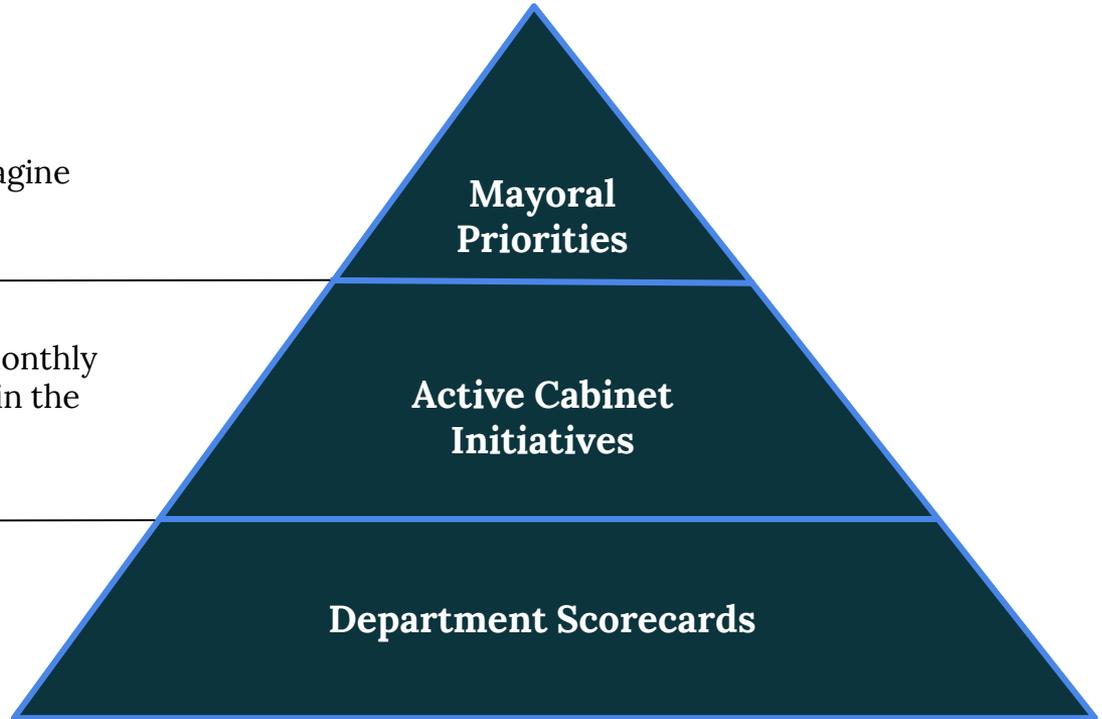
Administration priorities as identified in Imagine Boston 2030 plan.

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Cabinet-level IB2030 strategic initiatives. Monthly reporting will focus on initiatives currently in the implementation phase.

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Outcome-based performance measures tied to department goals.



# TRACKING PROGRESS TOWARD KEY INITIATIVES

## B STREETS CABINET MONTHLY PERFORMANCE REPORT October 2017

**IB2030 GOAL:** Encourage affordability, reduce displacement, and improve quality of life; Improve the walkability of each neighborhood; Invest in open space, arts & culture, transportation, and infrastructure; Facilitate a shift in Bostonians' mode of transit

**BOSTON COMMITS TO:** Increase Walk Score® rankings by neighborhood, including reducing the number of households classified as car dependent by half; Increase the number of Bostonians who walk, bike, and take public transit to work

**81**

Boston's Walk Score® ranking



**99**

the North End's ranking - "a walker's paradise"



**Hyde Park**

Boston's most car dependent neighborhood



**53%**

of Boston residents in 2015 commute to work by public transportation, walking, or biking, up from 46% in 2000.



**83%**

of Longwood residents use a sustainable mode of transportation to get to work



**19%**

of West Roxbury residents commute via a sustainable mode



**Needs Attention**



FY18 Initiatives in Implementation Phase

Milestones listed to complete by 9/30/17

9/30/17 Status

Milestones to complete by 10/31/17

Deliver Exceptional City Services

Establish policies, pilots, and infrastructure to ensure that technological innovations make our streets safer, less congested, and more equitable

# MONITORING OPERATIONAL MEASURES

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## STREETS CABINET MONTHLY PERFORMANCE REPORT September 2017

**OPERATIONAL MEASURES** *(These are department-specific indicators of operational performance and progress toward strategic goals)*

### Public Works:

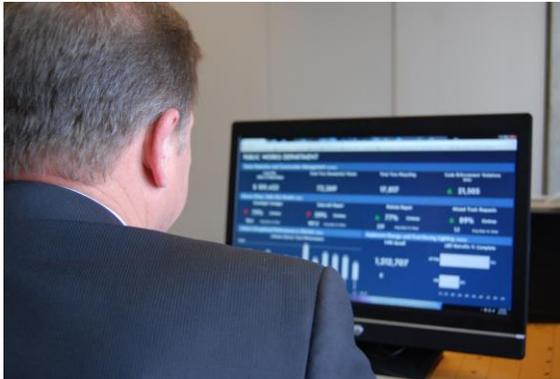
#### **Effectively control and manage Boston's public space**

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METRIC NAME	TARGET	ACTUAL	DEVIATION
Code enforcement - % cases responded to on-time	98	98.14	0.14%
% Code enforcement collection complaints responded to w/in 48 hrs	100	100	0.00%
% Missed Trash cases responded to on time	98	93	-5.10%
# snow-related roadway complaints per storm	80	0	-100.00%

# THESE TOOLS, IN PRACTICE

## Daily



Regular access to data and dashboards

## Weekly

WEEKLY CITYSCORE REPORT - 8/5/16

	PREVIOUS WEEK	CURRENT WEEK	% CHANGE	
BPS ATTENDANCE				
HOMICIDES (TREND)				
STABBINGS (TREND)	2.10	2.53	20.54%	▲
BFD INCIDENTS	0.91	1.05	15.40%	▲
PART 1 CRIMES	1.45	1.66	14.30%	▲
POTHOLE ON-TIME %	0.92	1.02	11.57%	▲
GRAFFITI ON-TIME %	1.13	1.25	10.64%	▲
EMS RESPONSE TIME	1.01	1.10	8.92%	▲
LIBRARY USERS	1.21	1.29	6.33%	▲
311 CALL CENTER PERFORMANCE	0.90	0.93	2.79%	▲
CONSTITUENT SATISFACTION SURVEYS	0.95	0.96	2.03%	▲
EMS INCIDENTS	0.99	1.00	1.23%	▲
MISSED TRASH ON-TIME %	1.22	1.21	-0.13%	●
BFD RESPONSE TIME	0.92	0.91	-0.44%	●

Emailed reports highlighting week-to-week performance

## Monthly



\* Bloomberg - Getty Images

Formal, in-depth discussions

# DEPARTMENT SCORECARDS



Boston About Results  
Performance Management

Back



## Welcome to the Basic City Services Scorecard

This interactive scorecard outlines the top requests the City receives through the Mayor's Hotline, Citizens Connect mobile applications, and online. We've compiled these requests in one convenient location to show the public the various concerns of Bostonians and the actions the City is taking to address them.

Basic City Services

## Achievements

Strategies	Measures
	Poor Conditions of Property (Avg Biz Days to Close Case)
	Request for Pothole Repair (# of Service Requests)
	Request for Pothole Repair (% of SRs Meeting Expectation)
	Request for Pothole Repair (Avg Biz Days to Close Case)
	Request for Recycling Cart (# of Service Requests)
	Request for Recycling Cart (% of SRs Meeting Expectation)

### Request for Pothole Repair (% of SRs Mtg Expectation)



<input type="checkbox"/>	<a href="#">PWD - Schedule a Bulk Item Pickup</a>				
	<a href="#">Schedule a Bulk Item Pickup (# of Service Requests)</a>			717.00	-
	<a href="#">Schedule a Bulk Item Pickup (% of SRs Mtg Expectation)</a>	—		100.00	80.00
	<a href="#">Schedule a Bulk Item Pickup (Avg Biz Days to Close Case)</a>			4.63	-
<input type="checkbox"/>	<a href="#">PWD - Street Light Outages</a>				
	<a href="#">Street Light Outages (# of Service Requests)</a>			372.00	-
	<a href="#">Street Light Outages (% of SRs Meeting Expectation)</a>	—		62.72	80.00
	<a href="#">Street Light Outages (Avg Biz Days to Close Case)</a>	↗		46.90	10.00
<input type="checkbox"/>	<a href="#">PWD - Missed Trash/Recycling/Yard Waste/Bulk Item</a>				
	<a href="#">Missed Trash, Recyc, Yd Waste, Bulk Itm (# of SRs)</a>			535.00	-
	<a href="#">Missed Trash, Recyc, Yd Waste, Bulk Itm (% SRs mtg SLA)</a>	↗		98.50	80.00
	<a href="#">Missed Trash, Recyc, Yd Waste, Bulk Itm (Avg Days - Close)</a>	↘		0.86	1.00
<input type="checkbox"/>	<a href="#">PWD - Requests for Street Cleaning</a>				
	<a href="#">Requests for Street Cleaning (# of Service Requests)</a>			706.00	-
	<a href="#">Requests for Street Cleaning (% of SRs Mtg Expectation)</a>	↗		95.53	80.00
	<a href="#">Requests for Street Cleaning (Avg Biz Days to Close)</a>	↘		0.51	1.00
<input type="checkbox"/>	<a href="#">PWD - Recycling Sticker Request</a>				
	<a href="#">Sticker Request (# of Service Requests)</a>			116.00	-
	<a href="#">Sticker Request (% of SRs Meeting Expectation)</a>	↗		99.18	80.00
	<a href="#">Sticker Request (Avg Biz Days to Close Case)</a>	↘		0.89	1.00
<input type="checkbox"/>	<a href="#">PWD - Pick up Dead Animal</a>				
	<a href="#">Pick Up Dead Animal (# of Service Requests)</a>			131.00	-
	<a href="#">Pick Up Dead Animal (% of SRs Meeting Expectation)</a>	↗		98.47	80.00
	<a href="#">Pick Up Dead Animal (Avg Biz Days to Close Case)</a>	↘		0.22	1.00

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# WHAT WE'VE BEEN WORKING ON

*Guiding improvements*

# EMERGENCY MEDICAL SERVICES

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When CityScore launched January 15th, EMS median priority 1 response time for the previous month averaged 5 minutes 59 seconds, which grew to 6 minutes 11 seconds by April 2015, **causing its CityScore to drop below 1.**

Concerned by increasing response times, Mayor Walsh reached out to the Chief of EMS to get more information on what was going on and what the City could do to **reverse the trend.**



# EMERGENCY MEDICAL SERVICES

In response, the Mayor supported infrastructure needs by funding **20 new EMTs and 10 replacement ambulances.**

The Analytics Team worked with EMS to analyze how best to allocate resources, resulting in **prioritization adjustments and nimble response teams.**



# BOS:311 CALL CENTER

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Boston's 311 Call Center SLA target is **15% higher than other 311 call centers** surveyed nationwide.

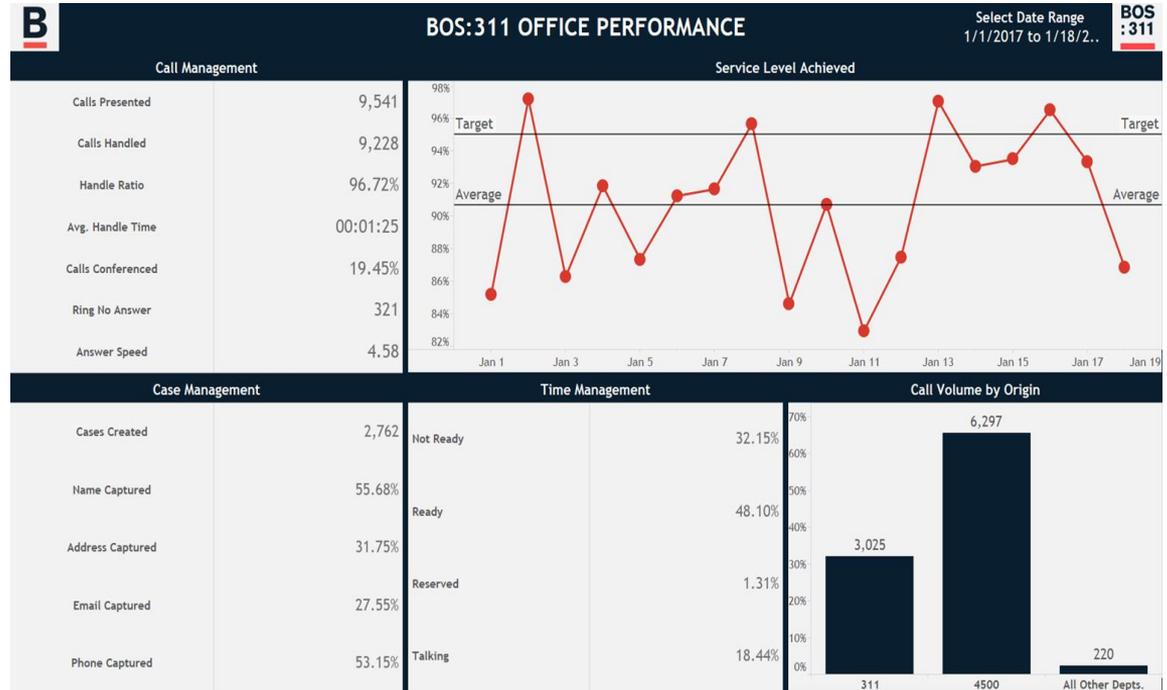
Given current staffing levels and call volume, the 311 Call Center is **only predicted to meet its SLA 7 hours out of each day.**



# BOS:311 CALL CENTER

In partnership with 311 leadership and staff, the Citywide Analytics Team designed and **automated key reports** on individual and overall department performance to better highlight issues.

Additionally, **regular performance meetings were instituted**, along with a troubleshooting guide for common performance issues and how to address them.



# PERMITTING

After hearing of the difficulties faced by constituents interacting with the City's permitting process, Mayor Walsh made reform a priority on his first day in office.

An **Interagency Permitting Team** was created in order to improve the process, technology, and customer experience across the city.



JONATHAN WOODS/GLOBE STAFF, BELOW: LANE TURNER/GLOBE STAFF  
Building inspector John Lyons uses a paperwork-cutting tablet on rounds in South Boston.

## RETIRING THE TYPEWRITER

City's Inspectional Services updating its creaky systems



"You have to physically type your application because it's got to be on City of Boston stationery."

WILLIAM CHRISTOPHER on zoning appeals

By Andrew Ryan  
GLOBE STAFF

**A** typewriter with keys blackened by years of frustrated fingers occupies a prominent counter at what can be Boston's most maddening bureaucracy, the Inspectional Services Department. The IBM Wheelwriter 1500 is not an artifact in a historical display to show how business was once conducted. No, the typewriter is required to file an appeal with the Zoning Board of Appeals.

"This is kind of embarrassing, but kind of comical," says the department's commissioner, William "Buddy" Christopher. "You have to physically type your application because it's got to be on City of Boston stationery."

This week, the typewriter is expected to meet its replacement — a new computer kiosk, as Mayor Martin J. Walsh's administration tries to drag

HD, Page 84

# PERMITTING

Two key themes emerged:

- Constituents wanted a more **predictable, transparent, and clear** process.
- Internal employees **lacked the tools** they needed to manage their work.

The team built simple public-facing tools, made tweaks to internal processes, and built robust reporting tools allowing employees to visualize and track their work.

 Permit Number

ABOUT THIS PERMIT

Please enter a valid permit number. Once submitted, please allow a few seconds for the page content to load.

1 Intake and Payment	2 Project Review	3 Zoning Review	4 Issuance	5 Inspection	6 Occupancy	7 Completed
No Information	No Information	No Information	No Information	No Information	No Information	No Information

CURRENTLY OPEN REVIEWS

 HAVE QUESTIONS ABOUT THIS PERMIT?

Don't know your permit number? Still have questions?  
Call the Boston Inspectional Services Department at (617) 635-5300.

For more information about the City's performance efforts, go to [boston.gov/analytics](https://boston.gov/analytics).

[stefanie.costaleabo@boston.gov](mailto:stefanie.costaleabo@boston.gov)



City of Boston  
Mayor Martin J. Walsh



Innovation & Technology