

# Public Health Addresses Climate Change

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Director, Environmental & Occupational Health Division

Boston Public Health Commission

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# Agenda

- BPHC Overview
- Climate Change Impacts of Public Health Concern
- Boston's Climate Adaptation Efforts
- CleanAir Cabs – a win/win/win example
- Extreme Temperature Planning – looking to the future and building systems



# BPHC Overview

- Board of Health for the City of Boston
- Mission: To protect, preserve, and promote the health and well being of Boston's residents, particularly the most vulnerable





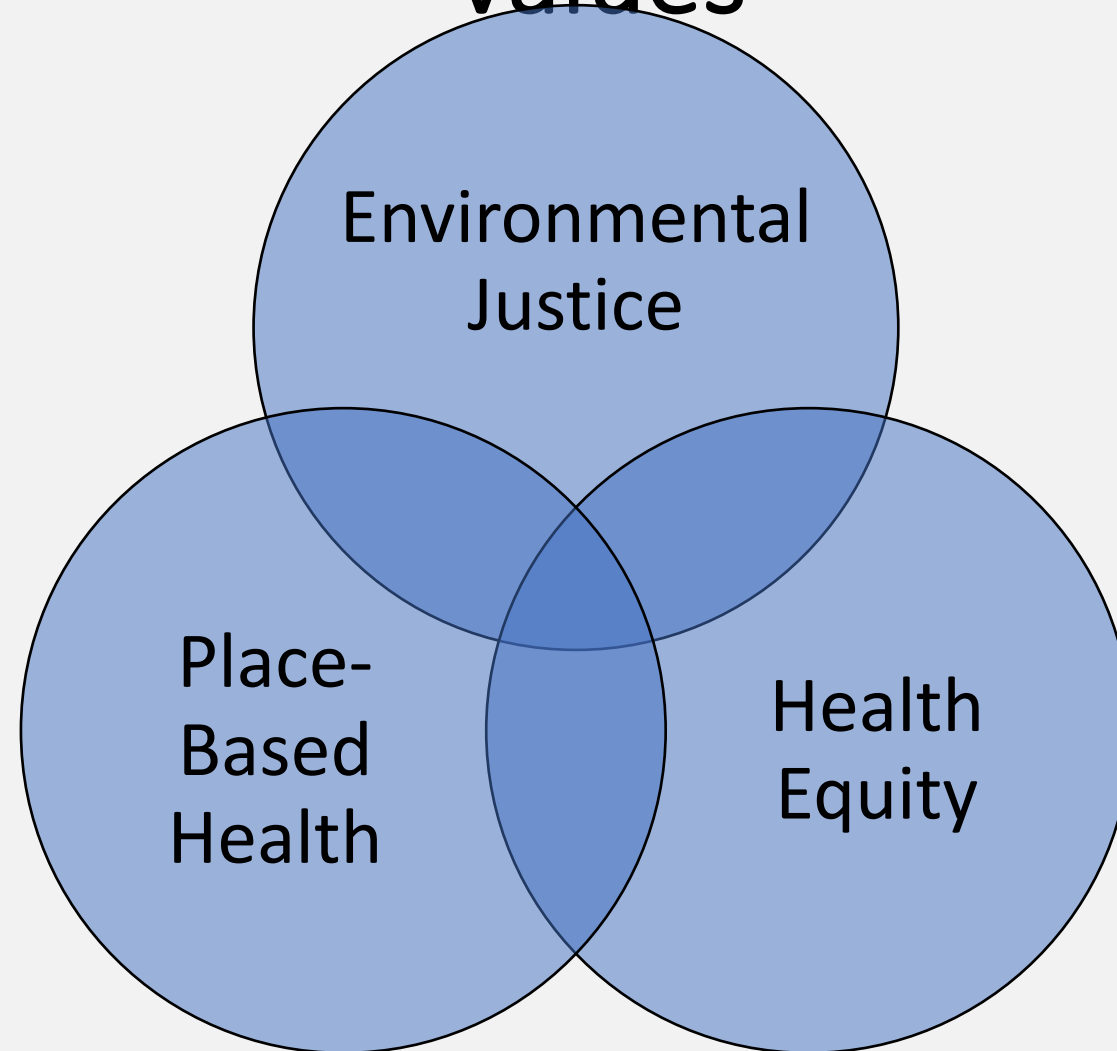
# Environmental & Occupational Health Division Mission

To respond to the full range of environmental and occupational public health issues in residences, public buildings, businesses, industry, and the environment, which pose a health threat to the citizens of Boston, particularly those most vulnerable.

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# Environmental & Occupational Health Division Values

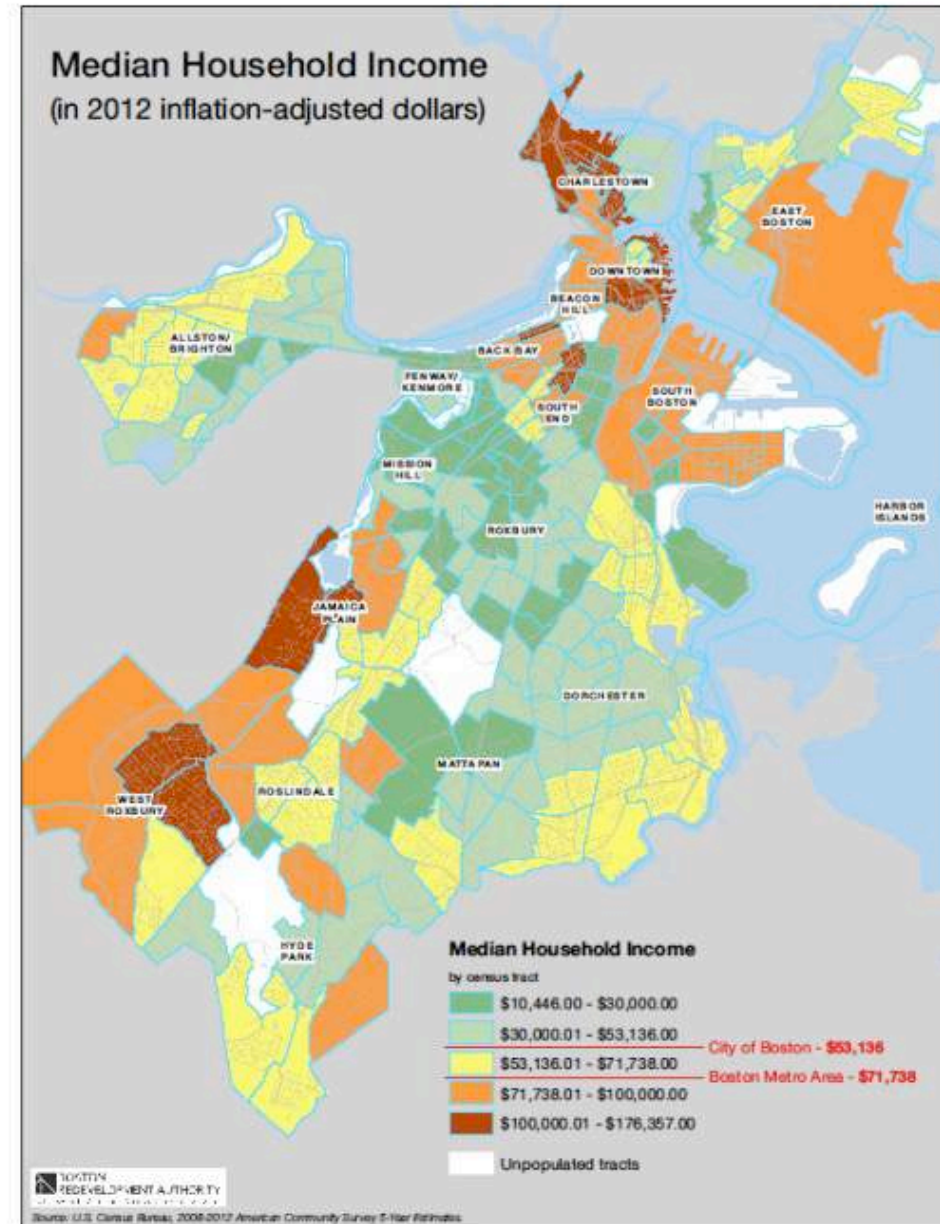


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# Social Determinants of Health

- Residents can fall into many categories.
- Though the experience of climate change is often shared among an entire population, not everyone is equally at risk of having a related poor health outcome. Age, economic resources, location, and other factors all contribute to differential impact that climate change may have on health (Health of Boston Report)
- **Nothing about someone's race. national origin, age, etc.. makes them inherently vulnerable: we see acknowledging vulnerability as an assessment of the system's deficiencies. rather than a judgment of Boston residents. (Resilient Boston)**



# Climate Change Impacts of Public Health Concern

- Acute Impacts
- Chronic Impacts

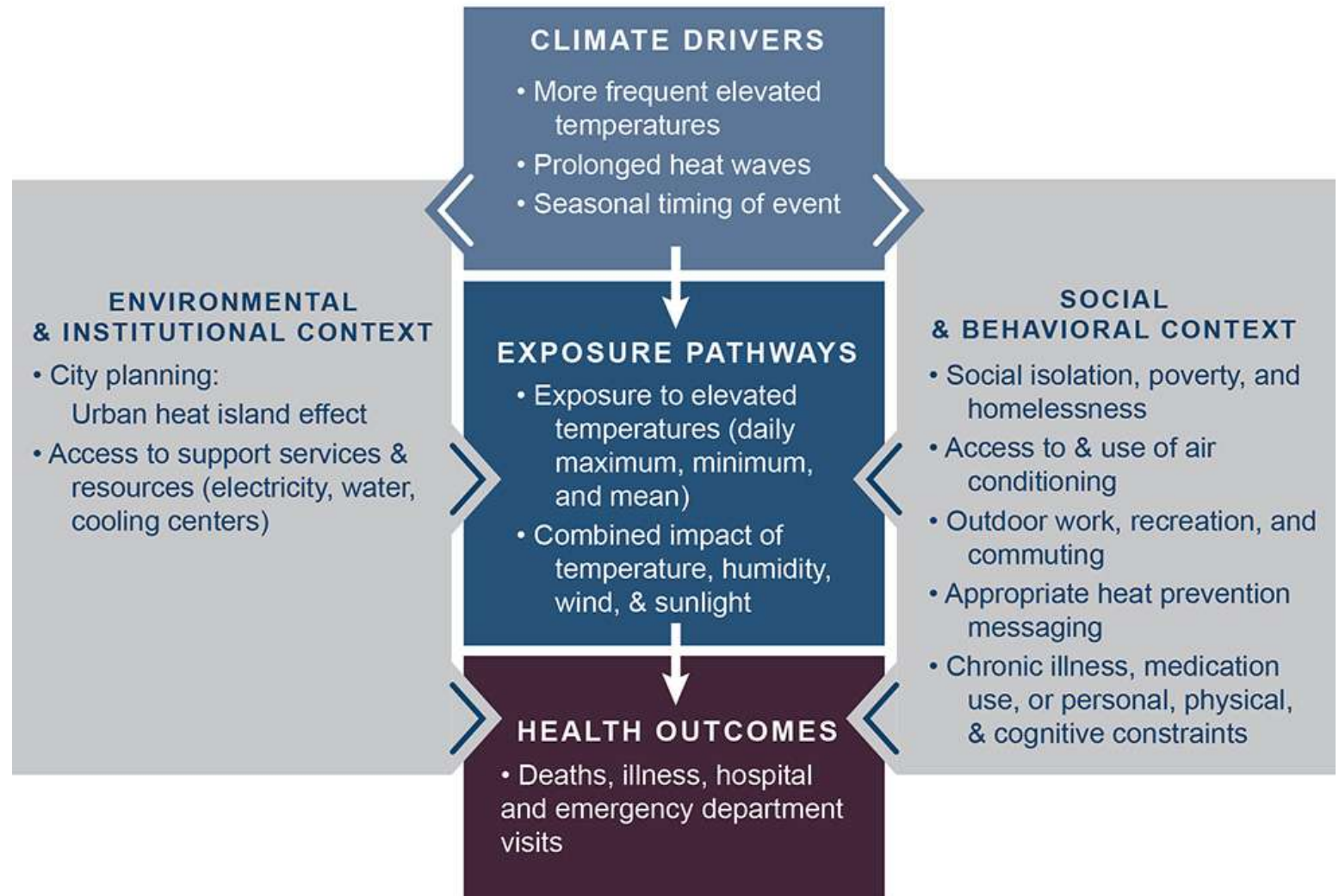
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# Climate Change and Health

## Climate Change and Health — Extreme Heat

The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment (2016). U.S. Global Change Research Program.



# Acute Public Health Concerns for Climate Change

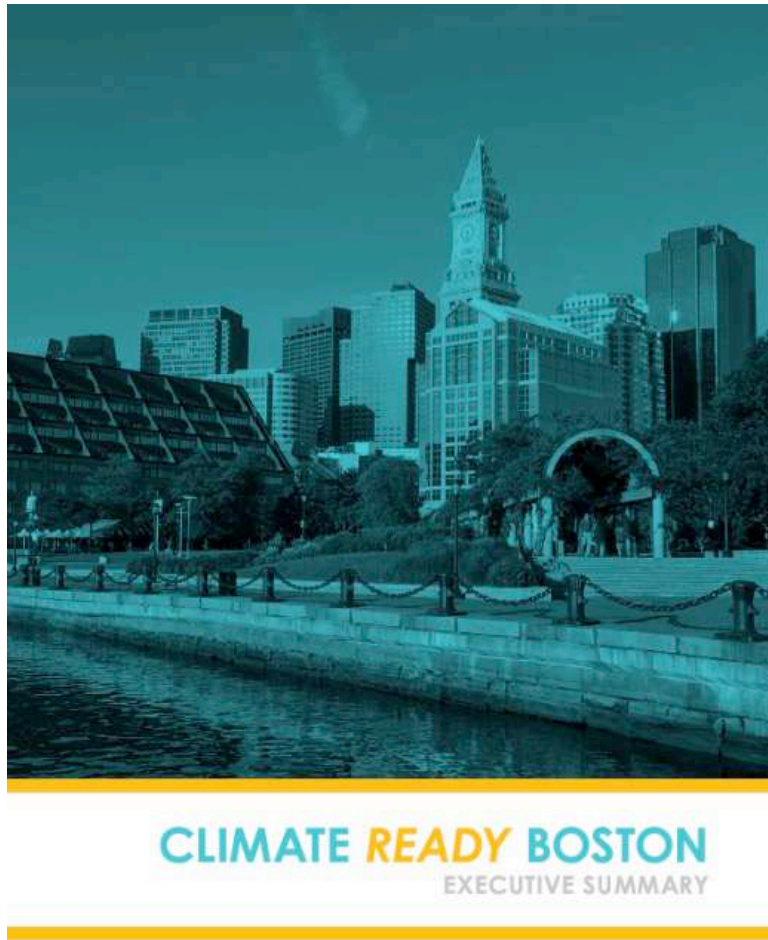
Extreme temperature events	Sea level rise & flooding	Storm events/extreme weather
Hypo/hyperthermia	Flood displacement & homelessness	Direct injuries & property damage
Frostbite	Mold growth & respiratory impacts	Mold growth & respiratory impacts
Dehydration	Chemical exposures	Chemical exposures
Cardiovascular disease	Prevention of service delivery	Cardiovascular disease
Injuries	Impacts of systems disruption	Prevention of service delivery
Crime		Impacts of systems disruption



# Chronic Public Health Concerns for Climate Change

Vector-borne illnesses	Chronic diseases	Drought	Economic impacts	Disparate impacts & displacement
Longer seasons/wider areas for existing diseases – Lyme, WNV, etc.	Asthma worsened by longer, more intense pollen seasons; worsening air quality; etc.	Food insecurity	Rising prices for food and other necessities	Green gentrification
Disease migration due to vector range extension	Cardiovascular disease		Flood insurance & flood map impacts on property values	
Emerging illnesses	Effective management of others		Equipment and operating costs of adaptation	

# Boston's Guiding Documents



CLIMATE **READY** BOSTON  
EXECUTIVE SUMMARY

MAYOR MARTIN J. WALSH



DECEMBER 2014

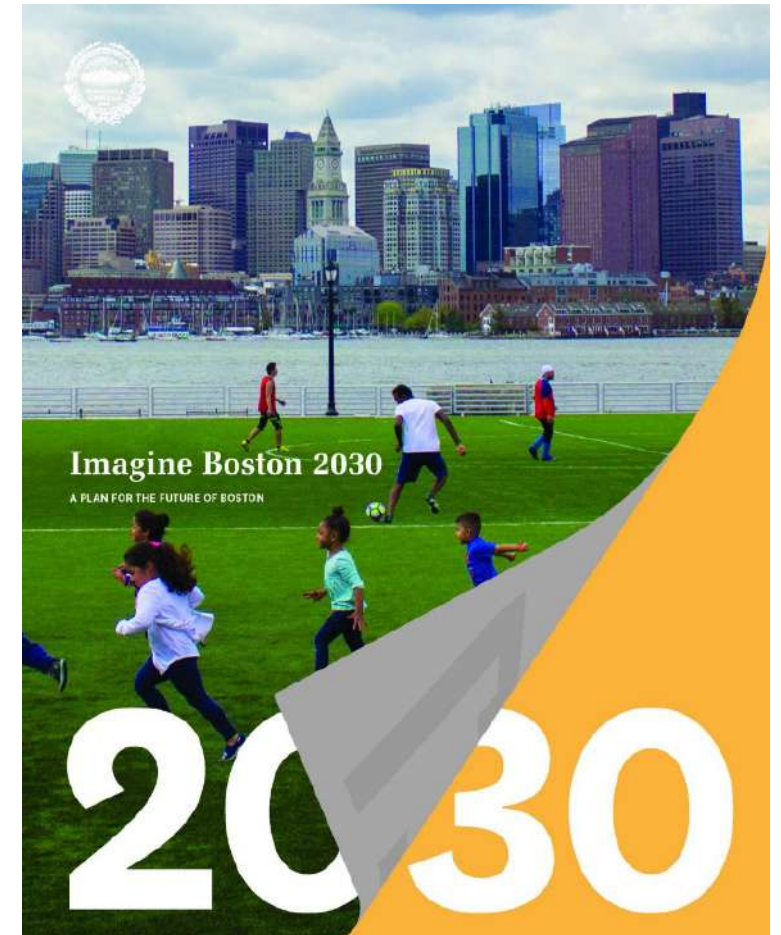


## RESILIENT BOSTON

AN EQUITABLE AND CONNECTED CITY



MAYOR'S OFFICE OF  
RESILIENCE &  
RACIAL EQUITY  
— MARTIN J. WALSH, MAYOR



Imagine Boston 2030

A PLAN FOR THE FUTURE OF BOSTON

2030

# Boston's Climate Adaptation Efforts

- Boston Climate Action Plan
- Zero Waste Boston
- Carbon Free Boston
- Extreme Temperature Planning
- Resilient Boston Harbor, etc.
- City of Boston Hazard Mitigation Plan
- Municipal Aggregate Power Purchasing
- Greenovate Boston

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# BPHC's Role

- Emergency Medical Services and Medical Intelligence Center
- Integrate climate change into programming
- Office of Public Health Preparedness
- Extreme Temperature Planning
- Participate in city planning processes



## Boston Public Health Commission Emergency Operations Plan (EOP) Revised: February 2017

This Record Is Maintained By:  
BPHC Office of Public Health Preparedness  
785 Albany Street, 6<sup>th</sup> Floor  
Boston, MA 02118  
Office: 617-343-6920

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# Boston CleanAir Cabs

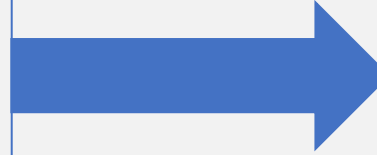
Addresses:

- Health
- Environmental quality
- Climate change
- Economics



# The Issues

- 1,825 licensed taxi cabs in Boston
- Majority Crown Victoria (10mpg)
- 60,000 – 100,000 miles/year/car



- Tailpipe emissions – asthma and other illness
- Greenhouse gas emissions
- Economic considerations



# Boston's Taxi Industry in 2005



**Limited  
number  
(1,825) of  
medallions  
controlled by  
a small pool  
of owners**



**Most  
medallion  
owners also  
own the cars**



**Owner leases  
the  
car/medallion  
to a driver**

- \$700/week (14 consecutive 12-hour shifts)
- \$170/week premium for a hybrid
- 12-hour shift rates are \$77/\$18



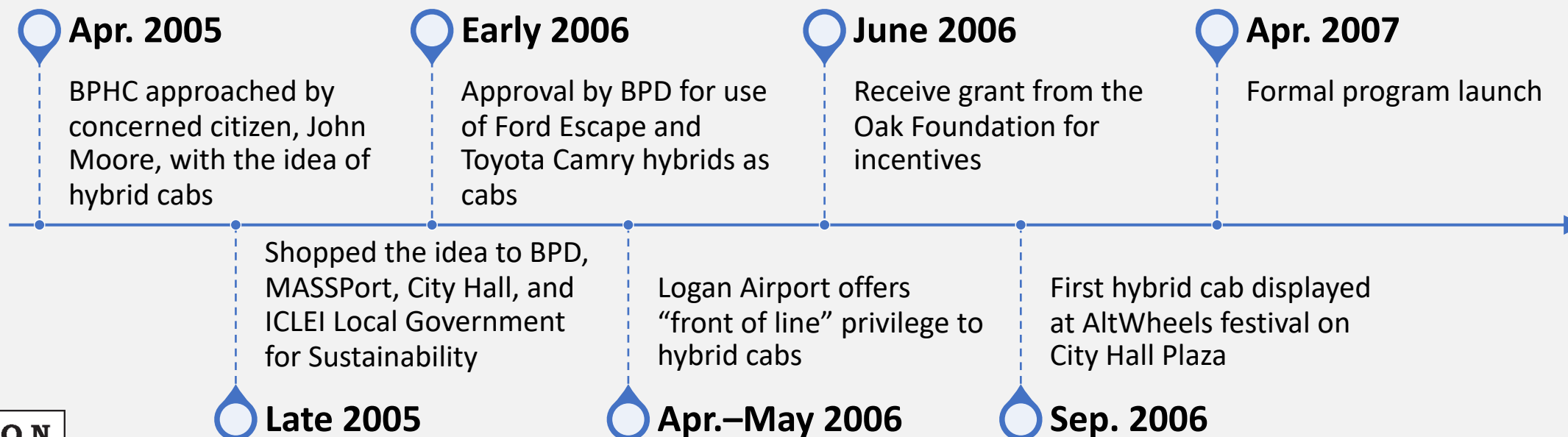
**Driver pays  
for all fuel  
costs and  
tolls/fees**



**Driver's  
income =  
fares - costs**



# History of CleanAir Cabs



# The taxicab goes green

TONY LEE  
tonylee@metro.us



**BOSTON** That's not a racing stripe seen running down the side of a Boston taxicab. More accurately, it's a sign of hope for a cleaner city.

Adorned with a unique green stripe that sets it apart from the rest of the fleet, the city's first hybrid taxi was introduced to the streets this weekend as part of the Alt Wheels Festival.

"This is yet another example of how we can partner with an important industry serving Boston's residents and visitors to reduce impacts on public health and environment," Mayor Thomas Menino said.

A hybrid cab in Boston was originally the idea of John Moore, a local architect who first pitched the idea to the city but was told he needed some numbers to back up his proposal. So Moore went to work, following a cab for 10 hours in a hybrid to see how much of a difference it would make.

While the cab burned 12 gallons of gas, the hybrid spent just over three.

"That was all they needed to see," said Moore, who launched Boston CleanAir



**MAYOR THOMAS MENINO** steps into the city's first hybrid taxi, a Toyota Camry introduced to Boston's streets this past weekend.

Cabs soon thereafter.

Moore thought he would surrender the idea if and when he met objections, but he never did. "It's just a great idea," he said. "It helps everyone — the driver, the passenger, the citizens [of Boston]."

Chosen by the Boston Cab

Association to be the first to drive the Toyota Camry, Festus Igharo, a native of Nigeria, has received nothing but positive returns.

"When people get in the car they say, 'I wish all taxis in Boston were like this,'" Igharo said.

Moore hopes to have 100 hybrid taxis on the road within a year. No new medallions are being offered, so the new vehicles would simply replace the old Crown Victorias currently clogging both cab stands and, in reality, the city's air.

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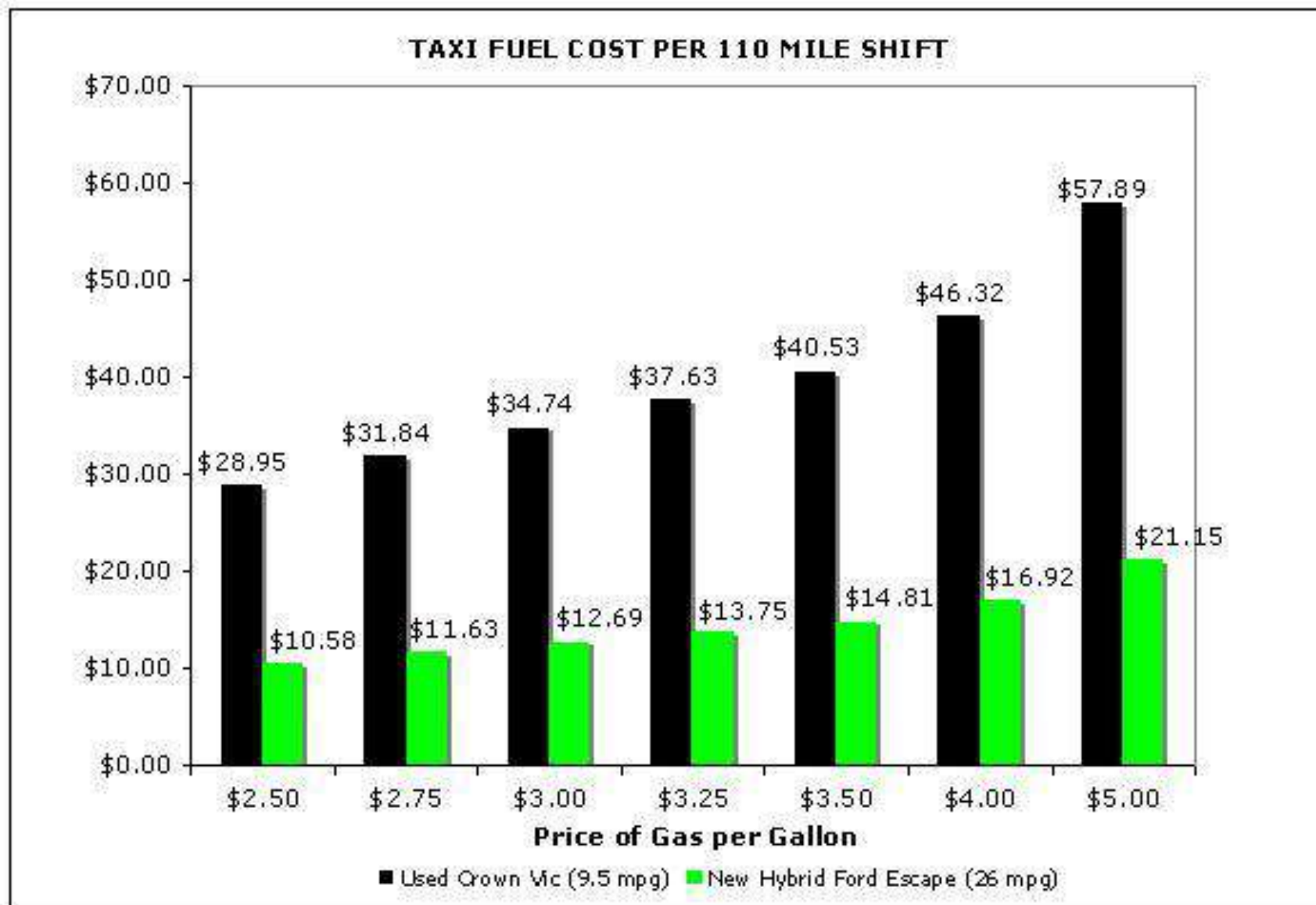


Hybrid Taxi Test: 4/16/2005									
					Moving	Moving	Stopped	Stopped	
<u>Time</u>	<u>Action</u>	<u>Location</u>	<u>Fare?</u>	<u>Odmt</u>	<u>w/fare</u>	<u>w/o fare</u>	<u>At Stand</u>	<u>Waiting</u>	
1:24:00 PM	Arrive pickup	Somerville	n	6932	0:00:00	0:05:40			
1:26:00 PM	Leave pickup		y				0:00:00	0:02:00	
1:34:00 PM	Arrive dropoff	Somerville	y	6934	0:08:00	0:00:00			
1:35:00 PM	Leave dropoff		n				0:00:00	0:01:00	
1:42:00 PM	Arrive pickup	Cambridge	n	6936	0:00:00	0:07:00			
1:45:00 PM	Leave pickup		y				0:00:00	0:03:00	
1:53:00 PM	Arrive dropoff	Cambridge	y	6938	0:08:00	0:00:00			
1:54:00 PM	Leave dropoff		n				0:00:00	0:01:00	
2:05:00 PM	Arrive stand	Cambridge	n	6940	0:00:00	0:11:00			
2:07:00 PM	Leave stand		n				0:02:00	0:00:00	
2:09:00 PM	Arrive pickup	Cambridge	n	6940.5	0:00:00	0:02:00			
2:11:00 PM	Leave pickup		y				0:00:00	0:02:00	
2:32:00 PM	Arrive dropoff	Airport	y	6947	0:21:00	0:00:00			
2:33:00 PM	Leave dropoff		n				0:00:00	0:01:00	
2:48:00 PM	Arrive stand	Somerville	n	6953	0:00:00	0:15:00			
2:51:00 PM	Leave stand		n				0:03:00	0:00:00	
2:54:00 PM	Arrive pickup	Somerville	n	6953.5	0:00:00	0:03:00			
2:56:00 PM	Leave pickup		y				0:00:00	0:02:00	
3:01:00 PM	Arrive dropoff	Somerville	y	6954	0:05:00	0:00:00			
3:08:00 PM	Leave dropoff		n				0:00:00	0:07:00	
3:11:00 PM	Arrive stand	Somerville	n	6955	0:00:00	0:03:00			
3:25:00 PM	Leave stand		n				0:14:00	0:00:00	
3:26:00 PM	Arrive pickup	Somerville	n	6955.5	0:00:00	0:01:00			
3:27:00 PM	Leave pickup		y				0:00:00	0:01:00	
3:50:00 PM	Arrive dropoff	Somerville	y	6959	0:23:00	0:00:00			
3:50:20 PM	Leave dropoff		n				0:00:00	0:00:20	
4:07:00 PM	Arrive pickup	Somerville	n	6963	0:00:00	0:16:40			
4:08:00 PM	Leave pickup		y				0:00:00	0:01:00	
4:15:00 PM	Arrive dropoff	Somerville	y	6964	0:07:00	0:00:00			
4:17:00 PM	Leave dropoff		n				0:00:00	0:02:00	
4:20:00 PM	Arrive pickup	Somerville	n	6965	0:00:00	0:03:00			
4:23:00 PM	Leave pickup		y				0:00:00	0:03:00	
4:32:00 PM	Arrive dropoff	Somerville	y	6967	0:09:00	0:00:00			
4:35:00 PM	Leave dropoff		n				0:00:00	0:03:00	
4:44:00 PM	Arrive pickup	Somerville	n	6969	0:00:00	0:09:00			
4:45:00 PM	Leave pickup		y				0:00:00	0:01:00	
4:57:00 PM	Arrive dropoff	Somerville	y	6972	0:12:00	0:00:00			
4:58:00 PM	Leave dropoff		n				0:00:00	0:01:00	
5:06:00 PM	Arrive pickup	Somerville	n	6973	0:00:00	0:08:00			
5:07:00 PM	Leave pickup		y				0:00:00	0:01:00	
5:24:00 PM	Arrive dropoff	Back Bay	y	6978	0:17:00	0:00:00			
5:24:20 PM	Leave dropoff		n				0:00:00	0:00:20	
5:40:00 PM	Arrive HQ	Somerville	n	6984	0:00:00	0:15:40			
9:02:00	hours	TOTALS:	17	97.0	3:14:40	3:27:40	1:11:00	1:08:40	

# 2005 Drive-behind fuel cost study: Crown Victoria vs. Escape Hybrid

- 9 hours
- 97 miles driven
- 17 fares

Vehicle	Fuel used	Fuel Efficiency	Cost at \$2.149/gal
Crown Victoria	10.25 gallons	9.46 MPG	\$22.03
Escape (4WD)	3.77 gallons	25.73 MPG	\$8.10



**Boston Cab Association**  
**Toyota Camry Hybrid Taxi (2007)**  
**Fuel Consumption data**

# **Camry Fuel Use** **Data**

<b>Fill-up Date</b>	<b>Gas Used (gallons)</b>	<b>Gas Used (dollars)</b>	<b>Gas Price (\$/gallon)</b>	<b>Odometer Reading</b>	<b>Miles Traveled</b>	<b>Mileage (miles/gallon)</b>
10/5/06	n/a	n/a	n/a	5240	n/a	n/a
10/7/06	10.597	\$22.88	\$2.16	5603	363	34.3
10/10/06	8.570	\$18.33	\$2.14	5897	294	34.3
10/11/06	8.658	\$18.52	\$2.14	6184	287	33.1
10/13/06	8.357	\$17.54	\$2.10	6474	290	34.7
10/16/06	11.812	\$24.79	\$2.10	6862	388	32.8
10/18/06	9.904	\$20.59	\$2.08	7203	341	34.4
10/20/06	9.833	\$20.44	\$2.08	7534	331	33.7
10/21/06	6.943	\$14.43	\$2.08	7752	218	31.4
10/23/06	10.040	\$20.87	\$2.08	8072	320	31.9
10/26/06	10.317	\$21.45	\$2.08	8413	341	33.1
10/28/06	11.319	\$23.19	\$2.05	8783	370	32.7
10/31/06	11.647	\$24.21	\$2.08	9190	407	34.9
11/2/06	9.415	\$19.57	\$2.08	9521	331	35.2

**Totals:**

<b>28 days</b>	<b>127.41 gallons</b>	<b>\$266.81</b>	<b>\$2.09 (average)</b>
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<b>4281 miles</b>	<b>33.6 (average)</b>
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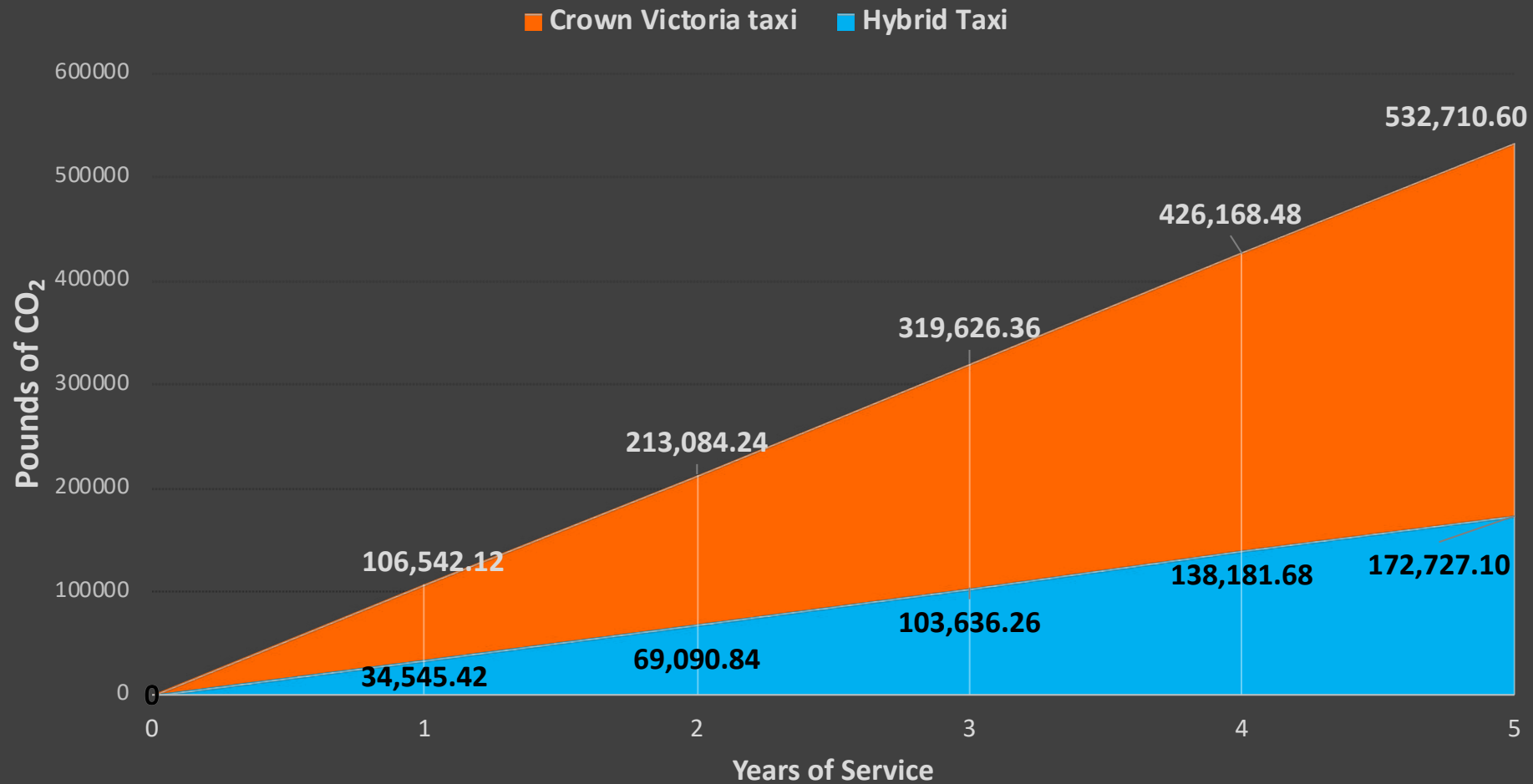
**Source:** John W. Moore  
 Boston *CleanAir* CABS  
[johnm@post.harvard.edu](mailto:johnm@post.harvard.edu)

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# Greenhouse Gas Emissions

Cumulative CO<sub>2</sub> Emissions for a Single Taxi



5-year savings  
~360,000  
pounds of  
CO<sub>2</sub>/cab  
replaced at  
60,000  
miles/year/cab

# Since then...

 **August 2008**

City mandates all cabs in fleet convert by 2015

 **2012**

City awards Boston Cab Association with Green Business Award for converting 400/500 cabs

Medallion owners sued in Federal Court, blocking the order

 **March 2009**

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# Impact as of Summer 2018

- 1,828 taxi medallions in Boston
- 1,787 currently on the road
- 861 (48% of cabs on the road) are hybrids



# Climate Change & Co-Benefits



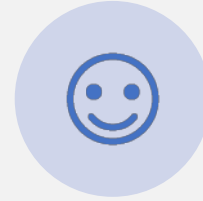
~3,800  
GALLONS OF  
GASOLINE  
SAVED PER CAB  
EVERY 60,000  
MILE YEAR →  
~3,271,800  
GALLONS OF  
UNBURNED  
GASOLINE/YEAR



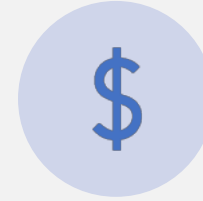
OVER 31,000  
TONS OF CO<sub>2</sub>  
REDUCED PER  
YEAR AT THE  
TAILPIPE (OVER  
155,000 TONS  
OVER 5 YEARS)



ASTHMA  
EMERGENCY  
ROOM VISITS  
DECREASED  
DESPITE NO  
CHANGE IN THE  
RATE (12%) OF  
ADULTS WITH  
ASTHMA



CAB DRIVERS  
REPORT HIGHER  
CUSTOMER  
SATISFACTION



\$4,000  
INCREASED  
INCOME FOR  
DRIVERS



\$6,800  
INCREASED  
REVENUE FOR  
MEDALLION  
OWNER

# Lessons Learned

- Coalition building - engaging gatekeepers and peers
- “Speak the language of the audience”: Health, Finance, Safety, Climate, Prestige
- Limited time incentives to get from early adopters to critical mass
- Leading by example



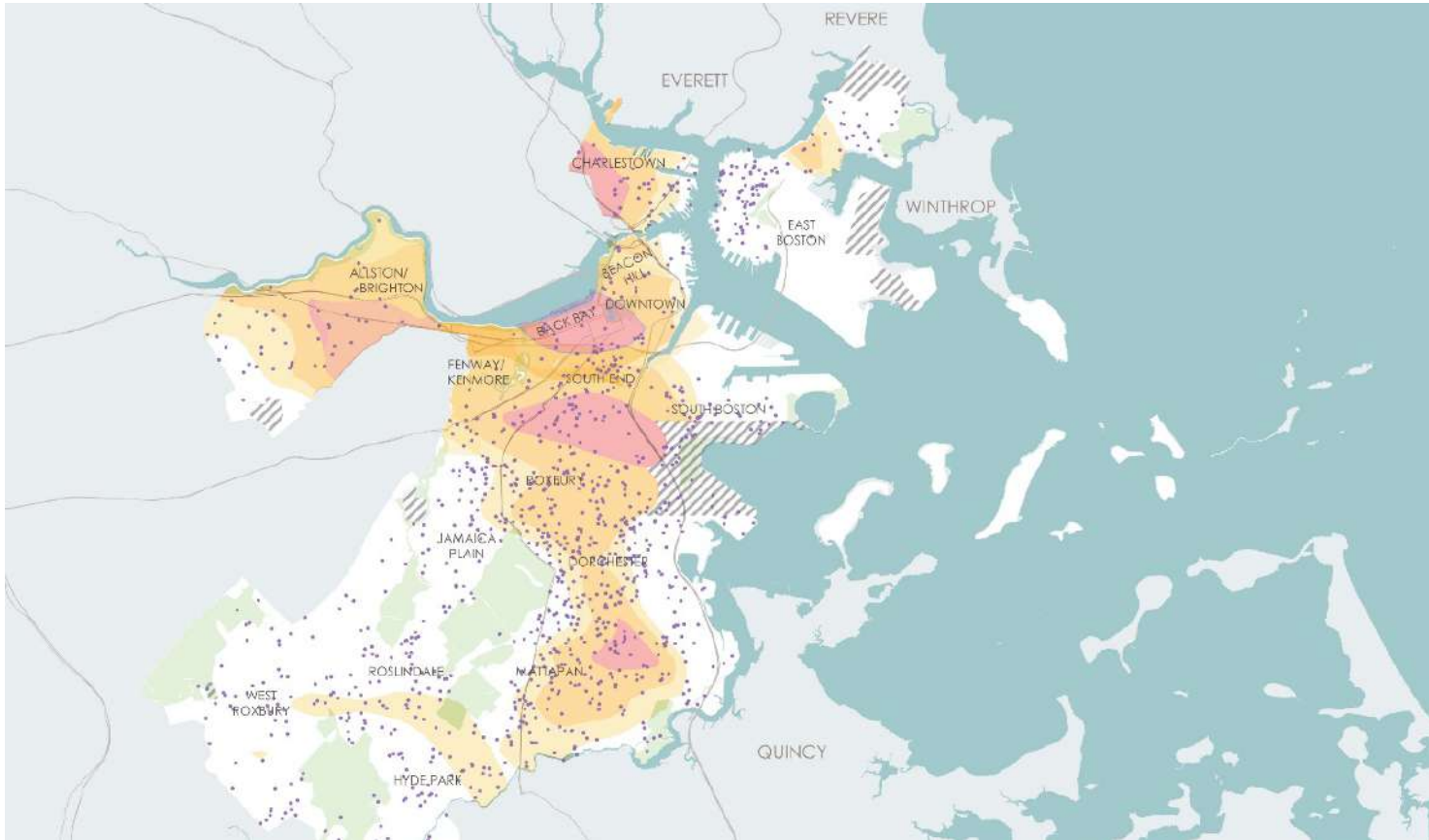
# Remaining & Emerging Challenges

- Getting the rest of the cabs
- Reducing personal vehicle traffic
- Rideshare services like Uber and Lyft
  - Nearly 100,000 rides/day
  - Pulling passengers from public transit as well as cabs
  - No clear incentive mechanism for hybrids/EV but there are central decision-makers



**FEELIN'  
HOT  
HOT  
HOT**

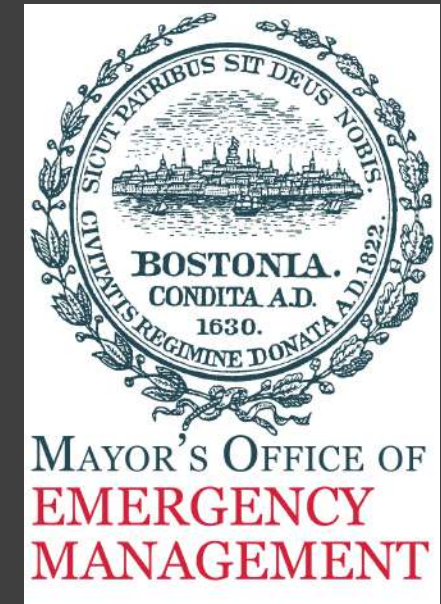




# Extreme Temperatures

- Who has the authority to decide heat/cold unsafe for residents' health?
- What services and resources are available in the event of an announcement?

# City of Boston Extreme Temperatures Planning



# Office of Public Health Preparedness

## Our Vision:

A resilient Boston through healthy, informed, and connected communities that are supported every day and during emergencies by strong, integrated public health and healthcare systems.

- Community fares better after an emergency
- Equitable access to health and human services during and after emergencies



**Boston Healthcare  
Preparedness  
Coalition**



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## Community Preparedness Basics: Get Ready. Be Safe. Stay Healthy.

[Home](#) ▶ [Courses](#) ▶ [DelValle Institute](#) ▶ [Self-paced](#) ▶ [Community Preparedness Basics: Get Ready. Be Safe....](#)

### Upcoming Courses

Incident Command System 300:  
Intermediate ICS for Expanding









MON, OCT 28, 2019

Incident Command System 400:  
Advanced ICS

WED, DEC 11, 2019

 [VIEW ALL TRAININGS](#)

### Course Details

-   Course Description
-   Course Logistics
-   Target Audience & Accreditation
-   Funding and Acknowledgements

You are accessing this course as a guest

You may still complete the course as a guest. However, you must enroll now if you want to record your completion of this course on the learning center.

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### Course Resources



[Get Ready. Be Safe. Stay Healthy. website](#)



[Get Ready \*handout\*](#)



[Be Safe \*handout\*](#)



[Stay Healthy \*handout\*](#)

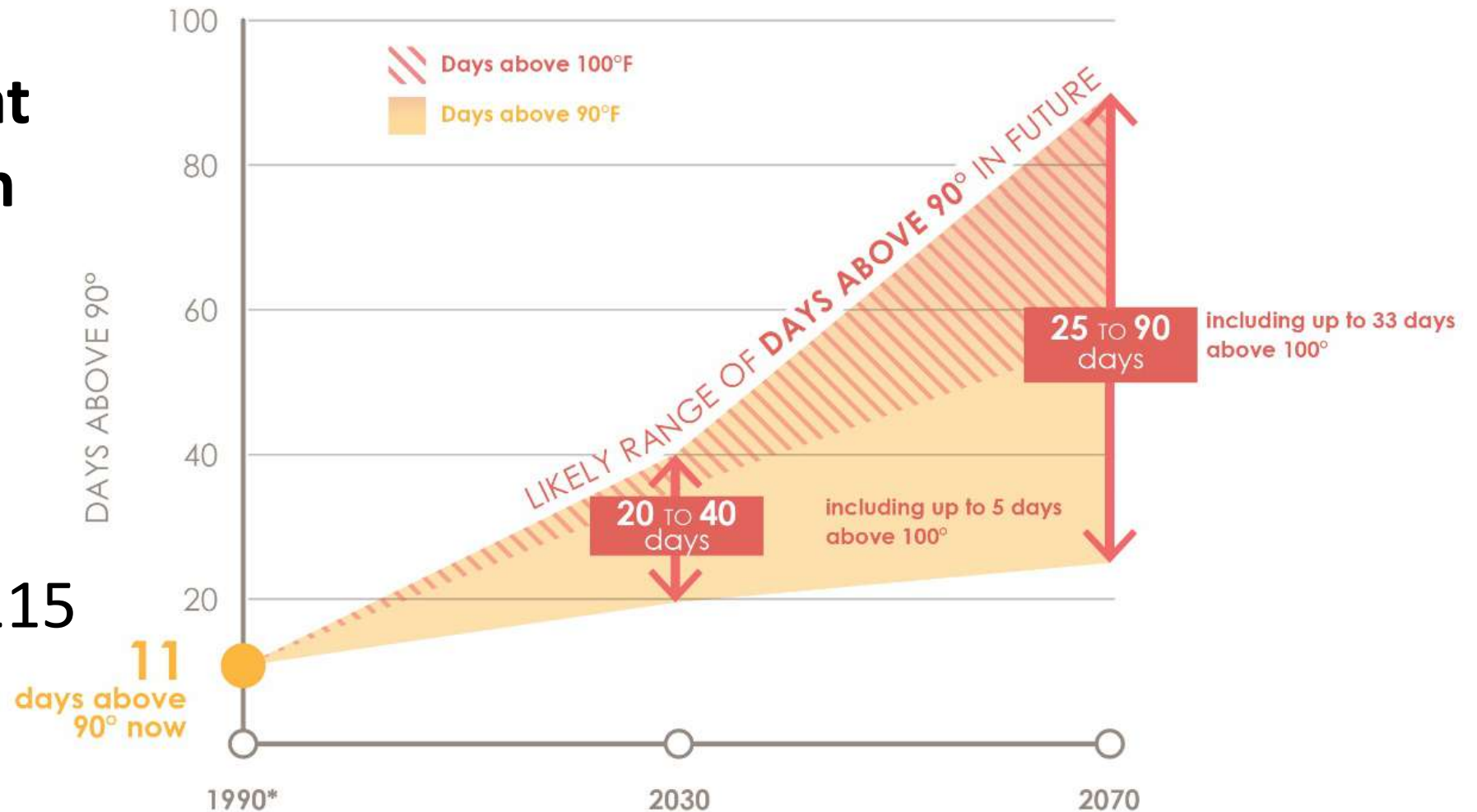


<https://delvalle.bphc.org/course/view.php?id=251>

## Annual Est. Heat Event Deaths in Boston

- Currently - 18
- By 2020 - 36
- By 2080 - 63 - 115

### THE NUMBER OF VERY HOT DAYS WILL INCREASE



\* Baseline represents historical average from 1971-2000  
Upper values from high emissions scenario. Lower values from low emissions scenario.

Boston's largest radio newsroom.  
Covering Scituate to sanctions. Listen now > 90.9 wbur npr

NEWS

## Boston's Epic Cold Snap Ties a Century-Old Record

It hasn't been this cold for this long since 1918.

by SPENCER BULL • 1/21/2018, 11:22 a.m.



photo via AP/Eric Sikes

The extreme, bone-chilling cold that has swept the region over the past week is one for the history books, as it ties a record set in 1918 for the

### TRENDING

- 1 Love, Power, and the Downfall of Stan Rosenberg
- 2 What Happens When You Kill a Bicyclist?
- 3 The 100 Most Influential People in Boston
- 4 An East Boston Woman's Car Was Stolen while Her Dog Was in the Backseat
- 5 The Birds and the Bees... and Porn

#### SPONSORED CONTENT

Cataract Surgery Patients Share Their Stories: "This Was a Wake-Up Call for Me"

Boston's largest radio newsroom.

Covering the Red Line to rising seas.

Listen now >

90.9 wbur npr

## Impact on:

- Homeless Population
- Public Safety
- Hospitals
- Utilities

# Cold Weather: Winter 2017-18

# Goals



Not be weather reporters



Improve health outcomes



Enhance monitoring and preparedness for extreme temperatures



Provide better coordination and communication across agencies



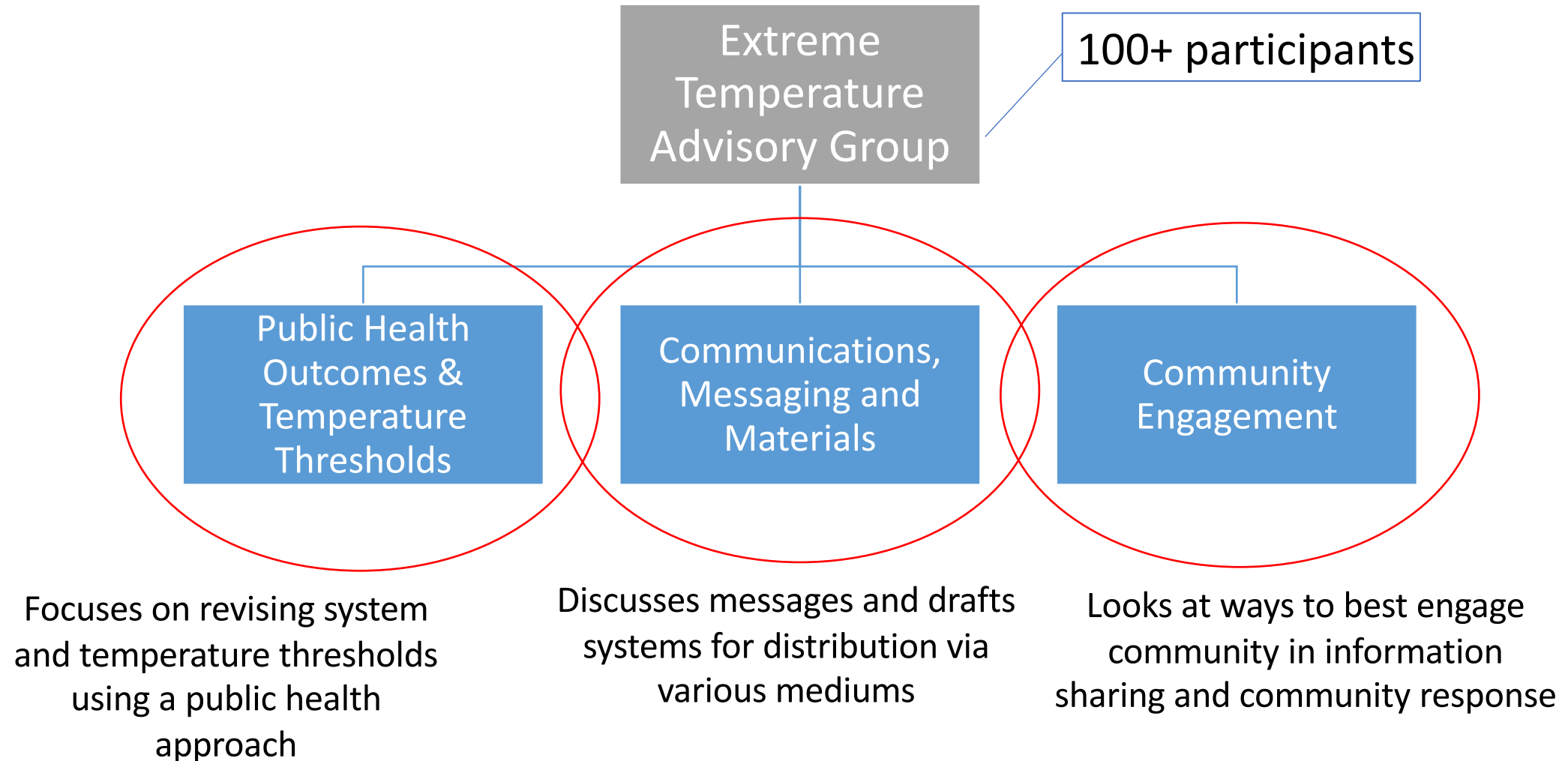
Make information and resources better available to public

# How?: Info Gathering & Stakeholder Buy-In

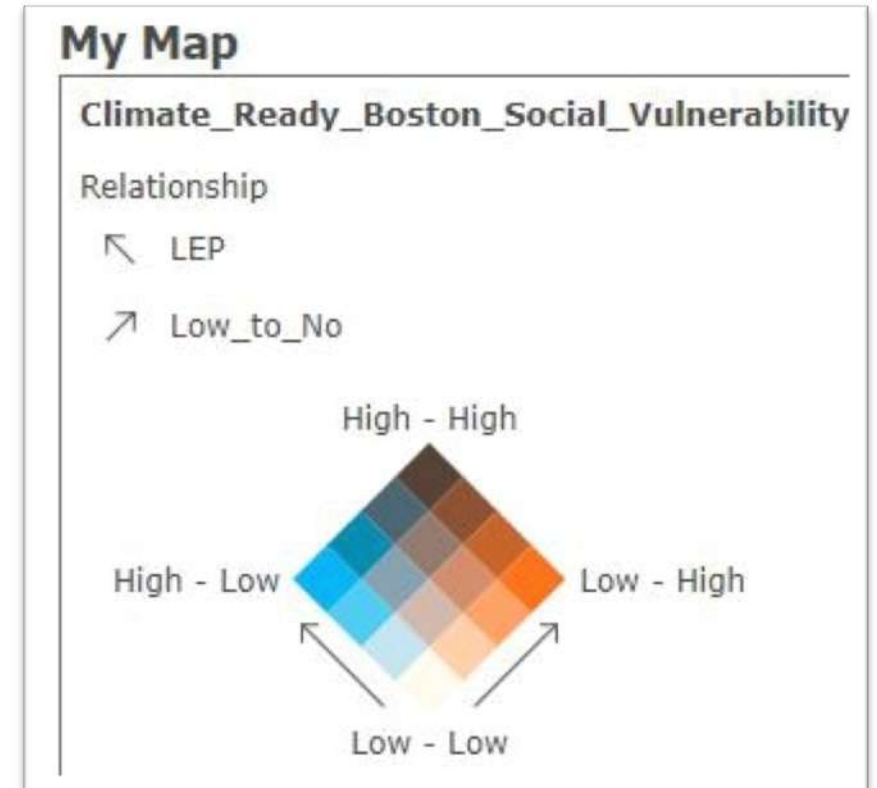
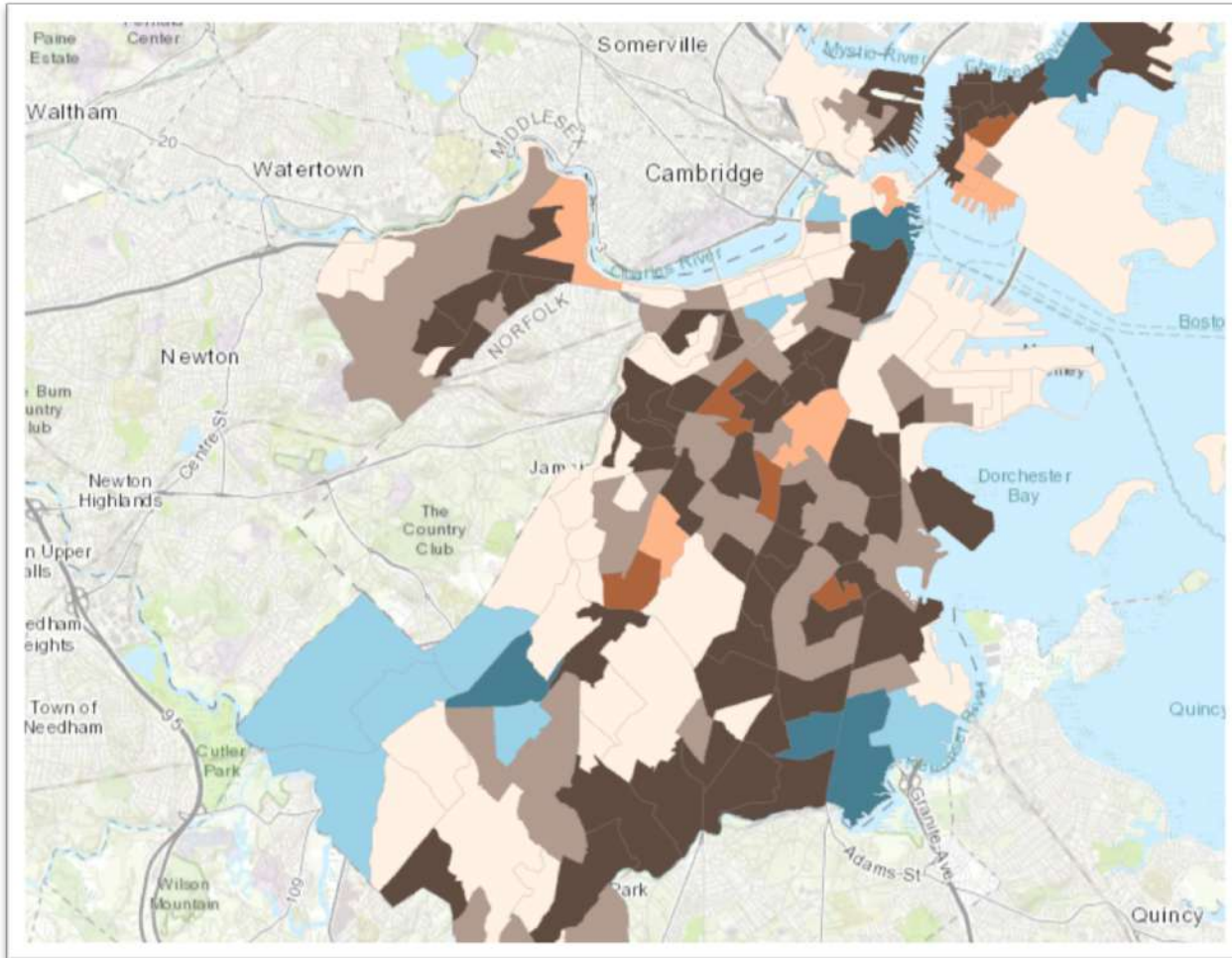
- Inclusive inception phase
- Reviewed 65+ resources, policies, and reports from local, state, federal and international perspectives.
- 15+ individual stakeholder meetings with city agencies, research groups, and NWS.
- Consultative meetings with Healthcare Coalition partners.



# How?: Structure



# How?: Data Layering



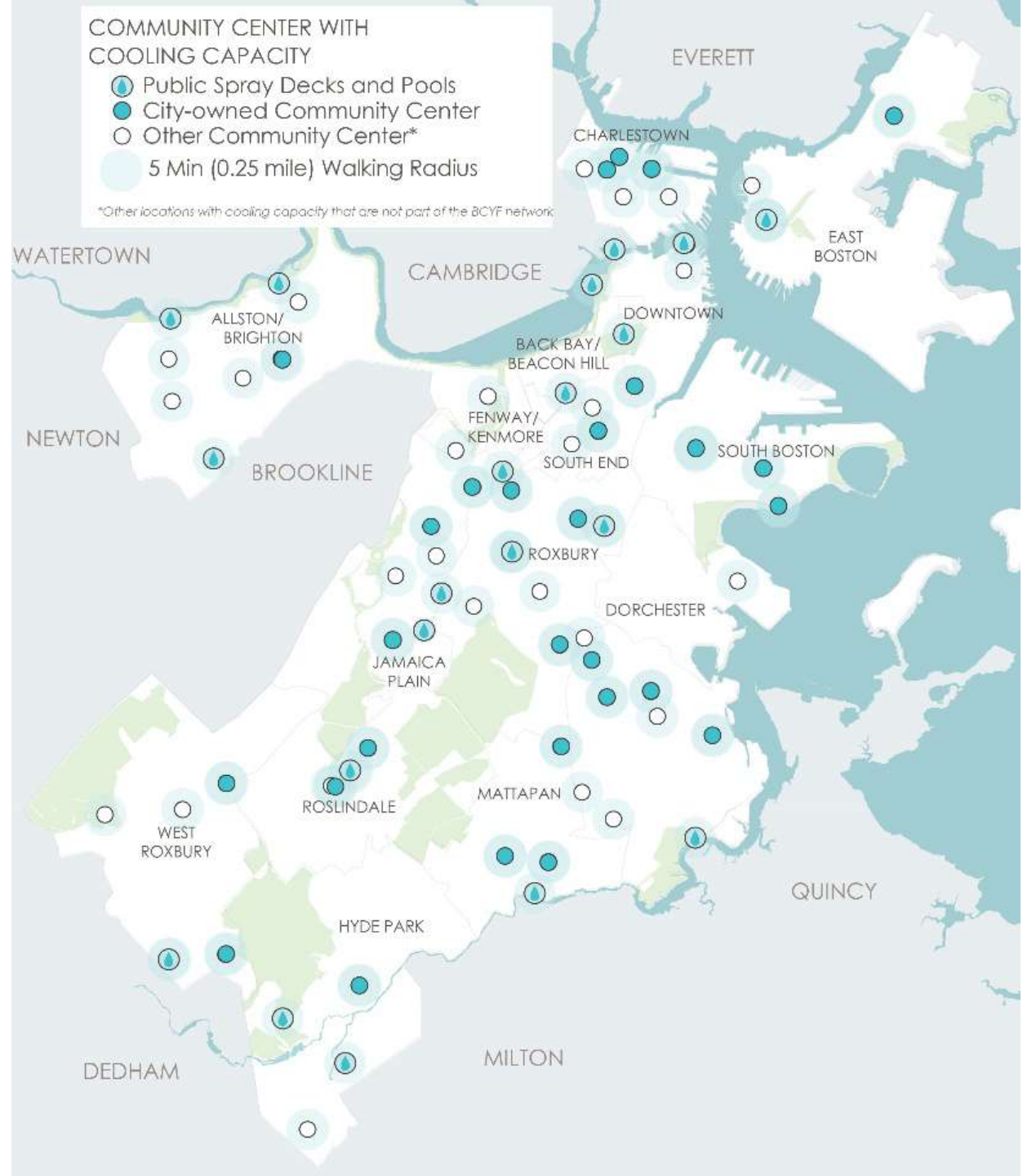
Source: Harvard University, City of Boston, MassGIS, Esri Canada, Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS

# How?: Proposed Thresholds


Type	Audience	Source(s)	Threshold	Length	Spike	Overnight Low
Public Health Heat Advisory	Whole City	NWS Logan, BPHC Heat Island Formula	90 F Heat Index	3 Days	HI of 105 F	Not below 75
Public Health Heat Advisory	Targeted	NWS Heat Island Zips, BPHC Heat Island Formula	90 F Heat Index	3 Days	HI of 105 F	Not below 75
Public Health Heat Alert	Whole City	NWS Logan, BPHC Heat Island Formula	95 Heat Index in Heat Islands	2 Days	Plus 30 F from previous day	Not below 75 in Heat Islands
Public Health Cold Weather Advisory	Whole City	NWS Logan	(-15F) windchill	Any	< 32 F	
Public Health Cold Weather Alert	Whole City	NWS Logan	(-25F) windchill	Any	< 32 F	

# How?: Resource Mapping

- City of Boston resources (limited)
- What are neighborhoods and community organizations already doing around this issue?
- Asset based planning






# Resources Developed



## BEAT THE HEAT

Information for Everyone



Keep cool with air conditioning, shade, showers, and ventilation.

Know the signs of heat exhaustion: heavy sweating, cool and clammy skin, dizziness, nausea, muscle aches.

Stay hydrated, avoid strenuous activity, and use sunscreen.

### DID YOU KNOW?

- Everyone is at risk of extreme heat. A single hot day can lead to health problems, but multiple hot days in a row bring the most risk.
- Some areas in the city are hotter due to elevation, limited shade from trees, and heat-retaining structures such as buildings and roads.
- Extreme heat and prolonged sun exposure can be dangerous, especially as bodies become dehydrated or sunburned. Sunburn raises body temperature and makes it more difficult to cool down.
- Bodies can lose a lot of water on hot days. You may need to drink more water than usual to stay hydrated.
- Heat affects people unequally. Individuals who are over 65 years old, have chronic medical conditions or disabilities, work outdoors, experience homelessness, use substances, or live in areas with less tree coverage are more at risk.

### RESOURCES

- Stay cool. Find public pools, parks, beaches, public cooling centers, and Boston Public Libraries.
- Get emergency notices via text, email or phone from AlertBoston.
- Under certain conditions, utilities cannot be shut off for non-payment.

For more information on these resources, call 3-1-1 or visit [boston.gov/heat](https://boston.gov/heat)



## BEAT THE HEAT

Information for People Experiencing Homelessness



Stay cool. Spend time in air conditioned spaces.



## BEAT THE HEAT

Information for People Who Use Drugs



If a person appears passed out, call 911. Falling asleep in extreme heat can be deadly.

Stay cool. Spend time in air conditioned spaces.

Avoid swimming if using drugs because the risk of drowning is higher.



## BEAT THE HEAT

Information for People with Disabilities



Check with your doctor about how medications can affect the body's response to heat.

Stay cool. Spend time in air conditioned spaces.

Make sure a friend or neighbor knows to check on you.

### DID YOU KNOW?

- A single hot day can lead to health problems, but multiple hot days in a row bring the most risk.
- Some disabilities can make it difficult to regulate body temperature. Decreased ability to sweat or trouble with breathing can put you at higher risk for overheating. Talk to your doctor and plan ahead for hot days.
- Before travelling to a cooling center, call 3-1-1 to check if they have accommodations for individuals with limited mobility.
- Individuals with disabilities may not be able to express their discomfort or raise alarm. Have a clear plan to notify friends or neighbors if you need assistance.

### RESOURCES

- Stay cool. Find public cooling centers, public pools, parks, beaches, and Boston Public Libraries.
- Meals on Wheels & Home Health Aides can visit on hot days.
- You may be able to get a ride with MBTA The RIDE or Senior Shuttle. Call 3-1-1 to see if you qualify.

For more information on these resources, call 3-1-1 or visit [boston.gov/heat](https://boston.gov/heat)



## COMBATIR EL CALOR

Información para personas con enfermedades crónicas



Consulte a su médico sobre cómo los medicamentos pueden afectar la manera en la que el cuerpo responde al calor.

Manténgase hidratado, e vite las actividades extenuantes y hable con su médico respecto a cómo reemplazar los electrolitos perdidos.

Asegúrese de que un amigo o un vecino sepan cómo se encuentra.

### ¿SABÍA QUE...?

- Ciertas enfermedades de temperatura.
- Las personas con diabetes, enfermedad cardíaca o problemas de salud pueden estar en mayor riesgo.
- Los medicamentos pueden afectar la manera en la que el cuerpo responde al calor.
- La sudoración excesiva puede causar deshidratación.

## KONBAT CHALE

Enfòmasyon pou Moun ki genyen plis pase 65 lane



Rete halm. Pase tan nan espas ki genyen klimatizé.

Fè si ke yon zanmi oswa yon vwazen konnen pou voye je sou ou.

Chèche swen medikal si ou kòmanse santi w pa byen.

### ÈSKE W TE KONNEN?

- Yon sèl jou cho kapab mennen nan pwoblèm sante, men anpil jou cho youn deyè lòt pote risk ki gwo a.
- Moun ki ajè yo gen dwa pa kapab ajiste chanjman sibat nan tanperati menm jan ak moun ki pi jèn yo.
- Kondisyon medikal kwonik ak kèk medikaman kapab afekte kapasite kò a pou kontwòle tanperati li oswa pou w swe nòmalman. Pale ak doktè ou davans epi chèche ed bonè si ou santi ou pa byen.
- Tan cho kapab lakòs pwoblèm mobilite yo vin pi mal, sa ki kapab rann li pi difisil pou ale nan sant refwadisman yo lé li fè cho. Tanpri planifye davans.
- Moun yo ki viv pou kont yo genyen risk ki pi gwo. Panse a mande yon zanmi oswa yon vwazen pou voye je sou ou.

### RESSOUS

- Kenbe lò ou fre. Chèche sant rafrechri piblik, pisin piblik, pak, plaj, ak Boston Public Libraries (Bibliyotèk Piblik Boston) yo.
- Meals on Wheels & Ed Lakay kapab vizite nan jou yo ki cho.
- Ou kapab jwenn yon woulab nan MBTA The Ride oswa Senior Shuttle. Rele 3-1-1 pou wè si ou kalifye.

Pou plis enfòmasyon sou resous sa a yo, rele 3-1-1 oswa vizite [boston.gov/heat](https://boston.gov/heat)

# Common Themes

- Communications consistency
- Planning inclusion
- Accessible materials and content
- Integrated outreach methods
- Asset-based planning! What is community already doing?
- Year-round messaging



**nothing  
about us**

**WITHOUT  
US** 

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## Beyond the Project

### Community Engagement

- How do we use this to more fully engage with communities on their own resilience?

### Monitoring & Evaluation

- Design research framework and project to identify ways to evaluate if this system is a supports a robust and equitable public health system.
- Illness vs. Hospitalization vs. Death

### Interdisciplinary Planning Process

- Model for citywide emergency planning

Strategic Alignment & Additional Funding –  
City of Boston, Foundations

Thank You

Questions?

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**B O S T O N  
P U B L I C  
H E A L T H  
C O M M I S S I O N**



# More Resources

- Boston Programs
  - <https://www.boston.gov/departments/environment/carbon-free-boston#climate-action-plan-update>
  - <https://www.boston.gov/departments/environment/zero-waste-boston>
  - <https://www.boston.gov/departments/mayors-office/imagine-boston-2030>
  - <https://www.boston.gov/departments/environment/carbon-free-boston>
  - <https://www.boston.gov/departments/environment/climate-ready-boston>
- Media
  - <https://boston.curbed.com/2019/2/14/18223974/boston-climate-change-2080>
  - <https://boston.curbed.com/2019/1/29/18201817/carbon-neutral-boston-2050>
  - <https://expo.masslive.com/news/erry-2018/10/eb49df67d59579/these-14-maps-show-how-boston.html>
- National Association of County and City Health Officials
  - <https://www.naccho.org/preparedness-brief/naccho-fact-sheet-helps-to-operationalize-climate-change-programs-in-local-health-departments>
  - <https://www.naccho.org/programs/environmental-health/hazards/climate-change>
  - <https://nacchovoice.naccho.org/2019/04/25/local-public-health-confronting-climate-change-in-communities/>

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