

# Newton's Climate Change Vulnerability Assessment and Action Plan



Zoning and Planning Committee  
October 22, 2018

## Tonight's Agenda

- ▶ Description of a CCVA
- ▶ Development of Newton's CCVA
- ▶ Newton's climate threats
- ▶ Newton's vulnerable infrastructure
- ▶ Newton's vulnerable populations
- ▶ Framework of Newton's Action Plan
- ▶ Your input!

# What is a Climate Change Vulnerability Assessment?

- ▶ Puts new focus (climate resiliency) on existing planning and implementation efforts
- ▶ Identifies climate vulnerabilities
  - ▶ Climate events: increased frequency and intensity of extreme flooding and heat
  - ▶ Populations: elderly, asthmatic, young, non-English speaking, isolated, disabled
  - ▶ Infrastructure: hospitals, bridges, transportation, emergency management centers
- ▶ Suggests actions for Newton to reduce the risk of harm to:
  - ▶ People
  - ▶ Infrastructure
  - ▶ Natural resources
- ▶ Suggests actions for Newton to speed recovery from climate events

# History of and Next Steps for Newton's CCVA

- **2016** Began compiling the data for Climate Change Vulnerability Assessment
- **2017-2018** Extensive meetings with City Department Heads and staff  
Workshops with stakeholders  
Assessment and Action Plan drafted and carefully vetted
- **April 2018** CCVA draft submitted to the State EOEEA for the Municipal Vulnerabilities Preparedness (MVP) Program certification and grant eligibility  
EOEEA requested that we conduct more community engagement
- **May 2018** City applied for and received \$48,000 Planning Grant from EOEEA for community engagement

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- **Fall 2018** Community engagement events with MAPC
  - October 22<sup>nd</sup>: ZAP Presentation
  - October 29<sup>th</sup>: Public Workshop
  - December 10<sup>th</sup>: ZAP Public Hearing

# Draft CCVA and Action Plan Contributors

- ▶ Department Heads & Staff (Steering Committee)
  - ▶ Mayor's Office
  - ▶ Health and Human Services
  - ▶ Police
  - ▶ Fire
  - ▶ DPW
  - ▶ Planning
  - ▶ Sustainability
  - ▶ Public Buildings
  - ▶ Parks and Rec.
- ▶ Stakeholders
  - ▶ Environmental groups, leaders
  - ▶ Newton-Needham Chamber of Commerce
- ▶ MAPC - leader in municipal planning

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## City of Newton Climate Change Vulnerability Assessment and Action Plan

First Edition, September 18, 2018



Prepared for  
City of Newton  
1000 Commonwealth Avenue  
Newton, Massachusetts 02459  
[www.newtonma.gov](http://www.newtonma.gov)  
Ruthanne Fuller, Mayor

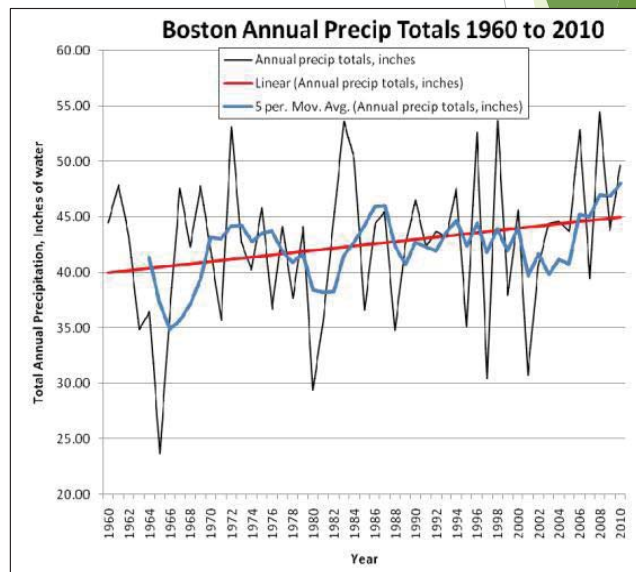
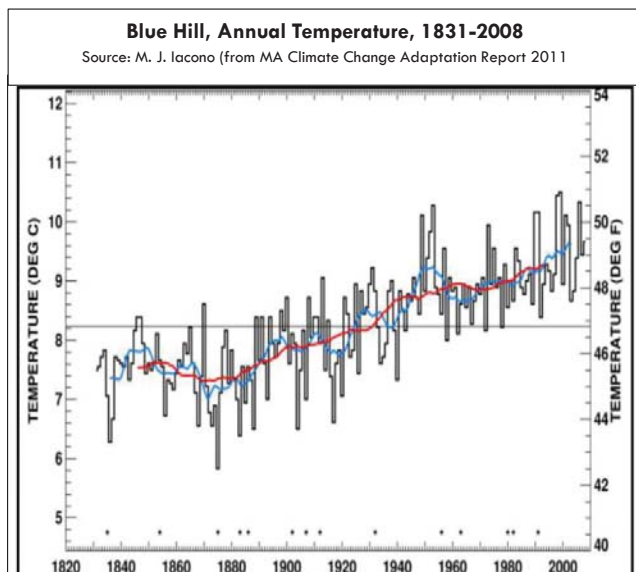


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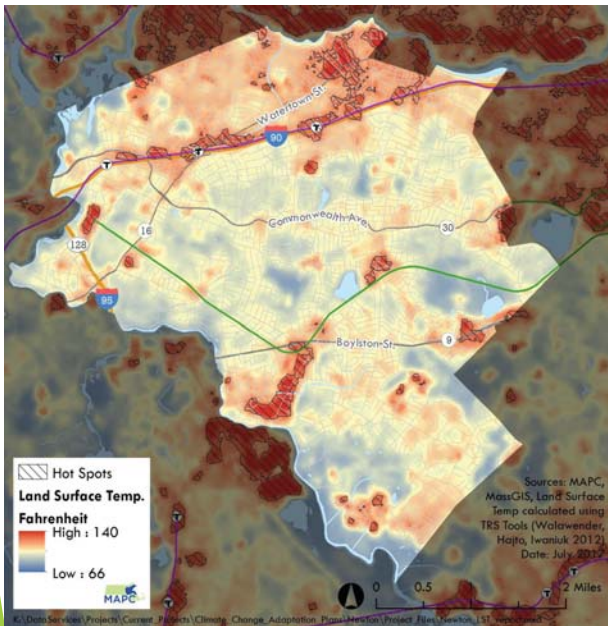
# Newton's Most Significant Threats. . .

- ▶ Extreme heat events
- ▶ Inland flooding from increased precipitation

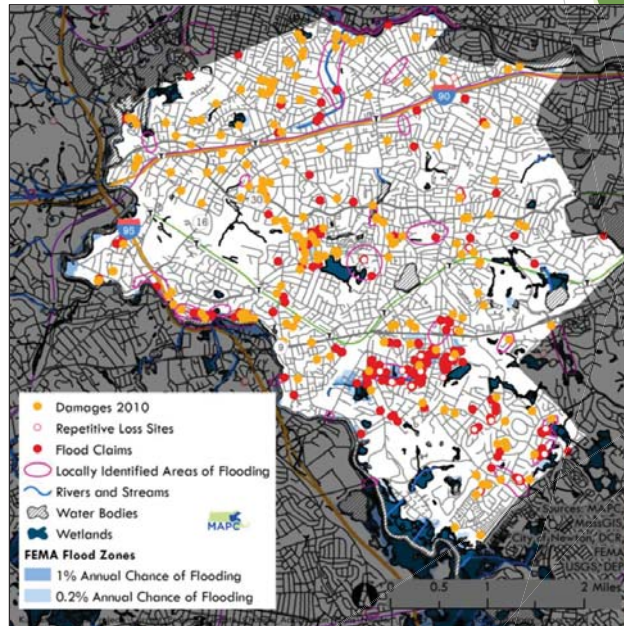


# Threats to people and infrastructure

## ► Hot spots/heat islands



## ► Flooding



# Vulnerable infrastructure

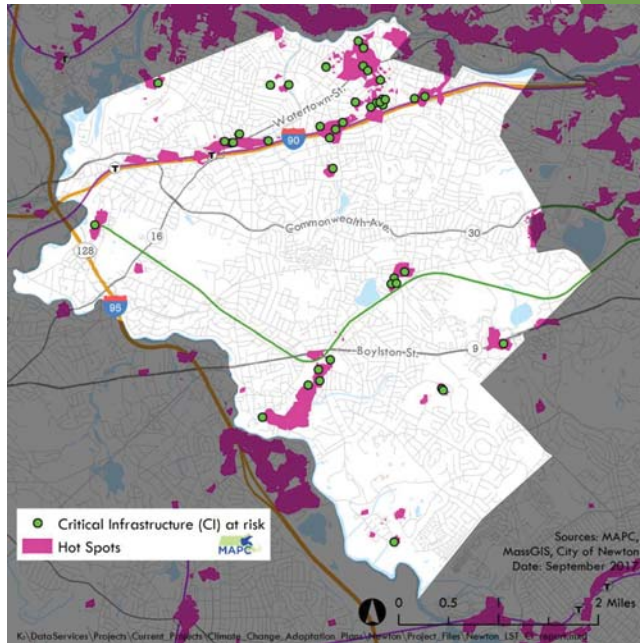
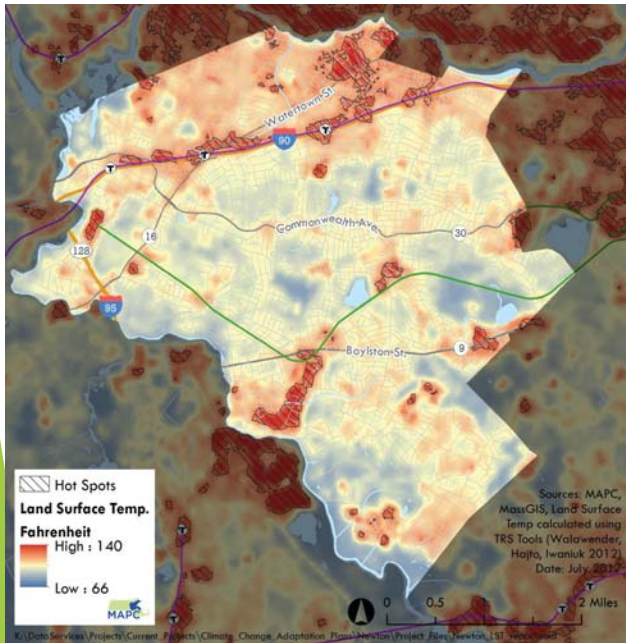
- Emergency operations facilities (police, fire, shelters)
- Sewer pump stations
- Power sub-stations
- Hospital
- Senior housing, assisted living, nursing homes
- Affordable housing
- Communications facilities
- Schools and child care facilities



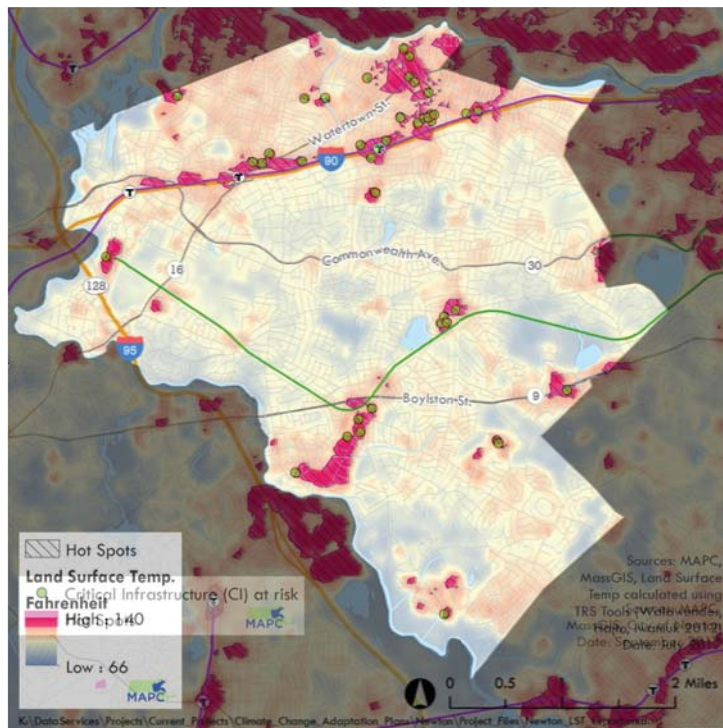


# Past development influences climate change impacts - heat

- ▶ Much critical infrastructure is sited in densely developed (i.e., hot spots)



# Past development influences climate change impacts - heat

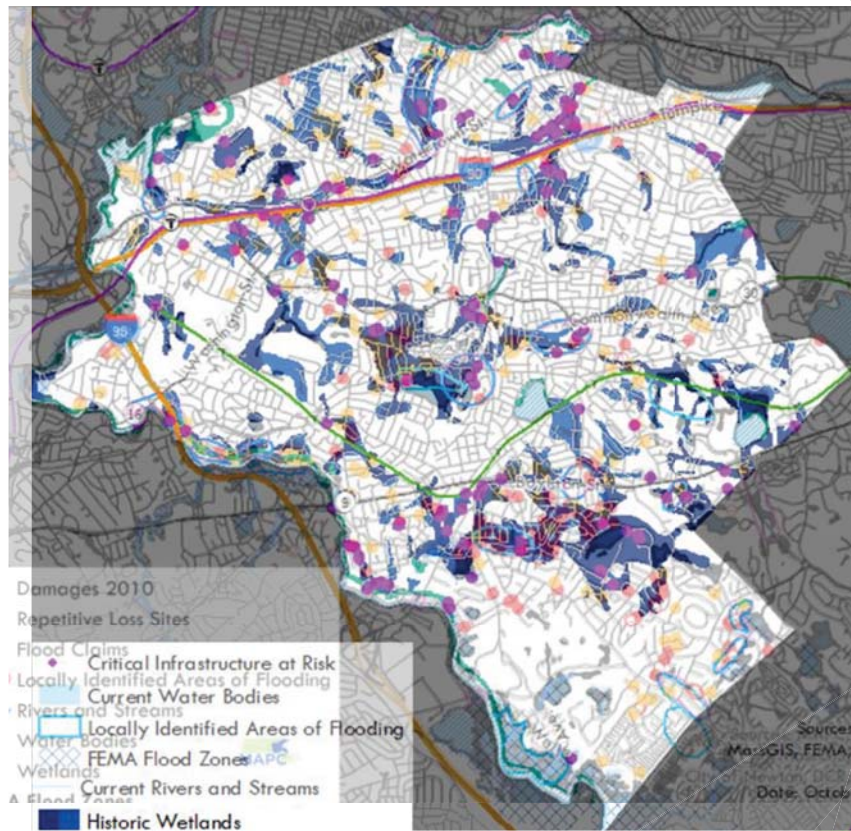
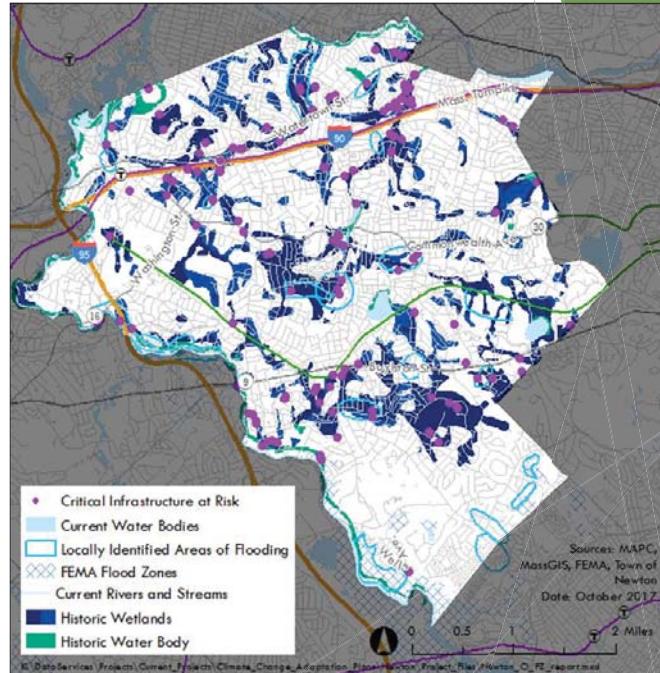
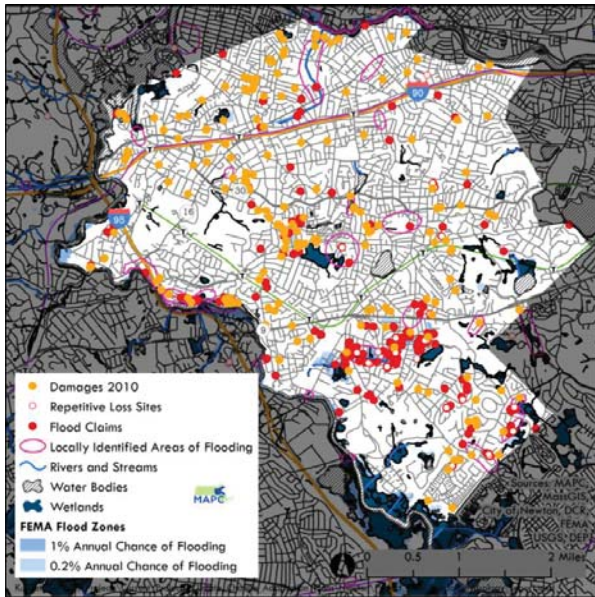




# Past development influences climate change impacts - flooding

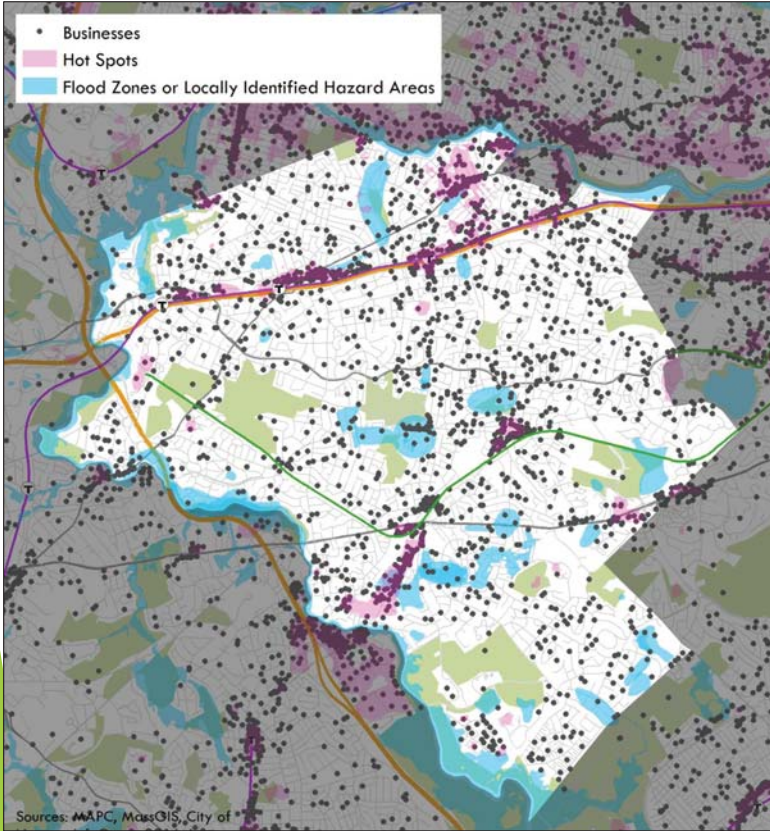
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- ▶ Damaging flooding often occurs where wetlands were altered



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Businesses and private properties are affected



... there are also many vulnerable populations in Newton severely affected by climate change impacts.

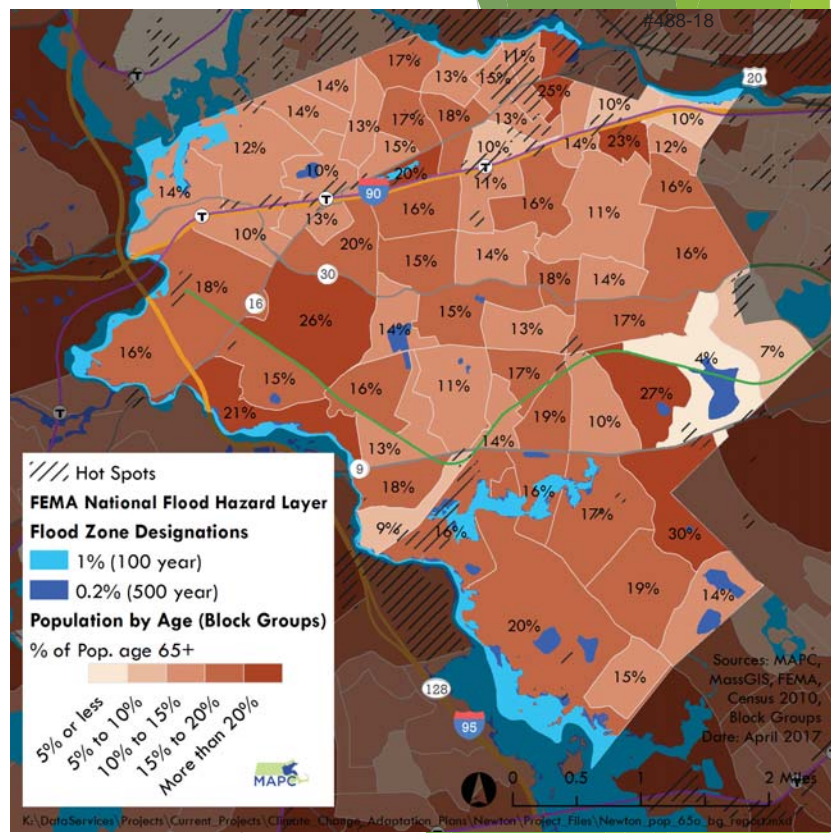
## Vulnerable populations

- ▶ Seniors
- ▶ Young children
- ▶ Limited-English speakers
- ▶ People of color
- ▶ Low-income residents



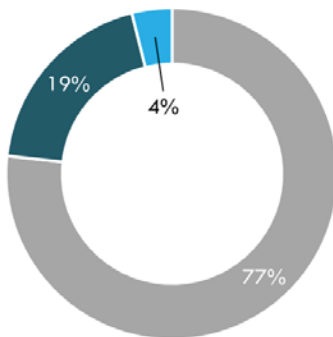
# Newton: Aging and Isolated people

- ▶ Newton 2010
  - ▶ 15% of residents are over 65
  - ▶ Seniors are fastest growing population sector
  - ▶ More than 50% of seniors live alone
  - ▶ Seniors are more at risk in storms/extreme climate events due to lack of transit options and limited lines of communication



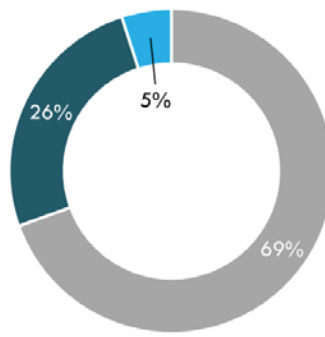
# Newton: Limited-English speakers

Language spoken at home and limited English speaking households in Newton  
Census 2000



- English speaking households
- Households speaking another language

Language spoken at home and limited English speaking households in Newton  
ACS 2011-2015



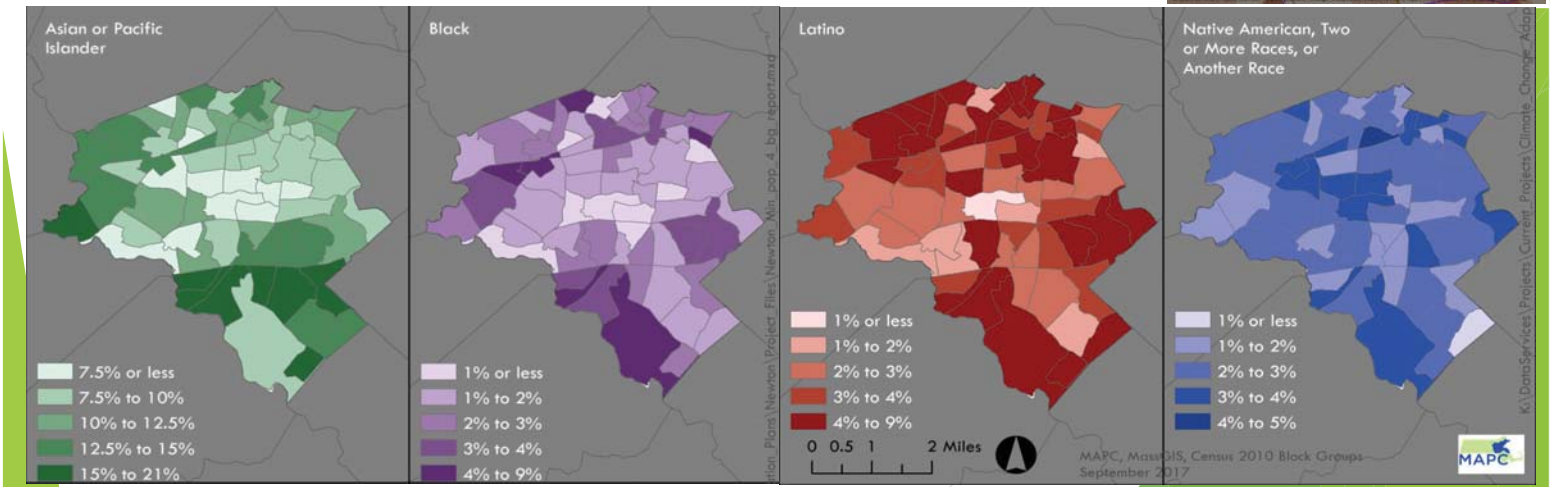
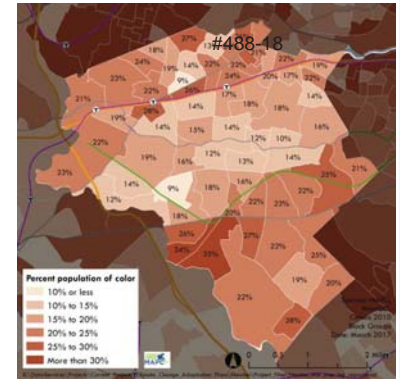
- English speaking households
- Households speaking another language

Newton's diversity is a real strength and must be accounted for in emergency management



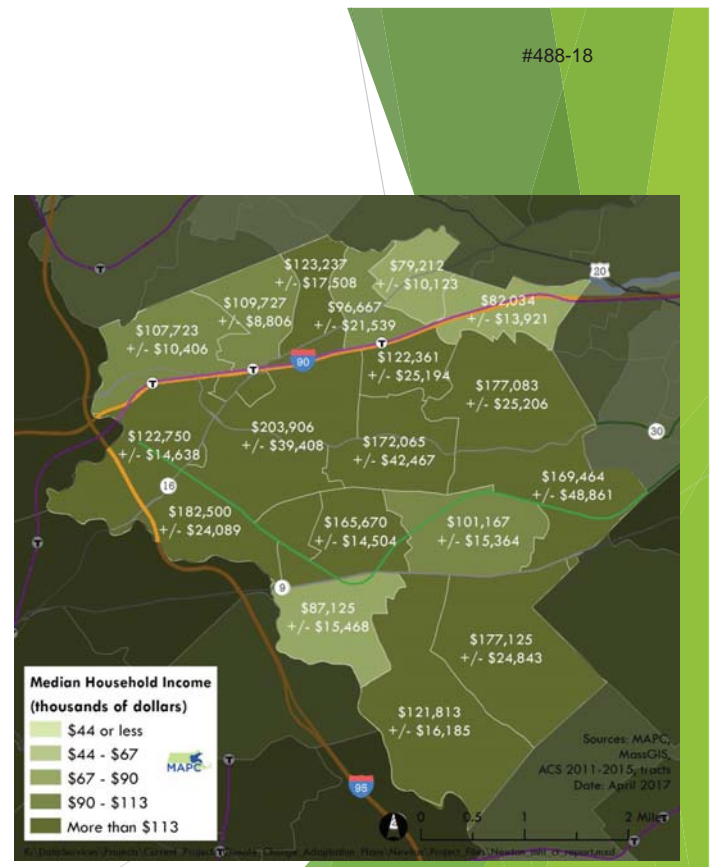
# Newton: Many Ethnicities and Cultures

- ▶ 2000 People of color = 14% of total population
- ▶ 2010 People of color = 20% of total population



# Newton: A wide range of household incomes

- ▶ Newton (2010)
  - ▶ Median household income \$112,230
  - ▶ Federal poverty level \$24,257
  - ▶ Households below federal poverty 6%
  - ▶ Households below \$112,230 50%



## Draft Assessment - Threats and Vulnerabilities

- ▶ Heat
- ▶ Flooding
- ▶ Vulnerable populations
- ▶ Vulnerable infrastructure



## Draft Action Plan - Building on Current Practices

- ▶ Existing Planning and Implementation Efforts
  - ▶ Capital Improvement Plan (CIP)
  - ▶ Comprehensive Emergency Management Plan (CEMP)
  - ▶ Hazard Mitigation Plan (HMP)
  - ▶ Stormwater Infrastructure Improvement Plan (SIIP)
  - ▶ Open Space and Recreation Plan (OSRP)
  - ▶ Street Tree Planting Plan (STPP)
  - ▶ Flood Ordinance
  - ▶ Zoning Ordinance
  - ▶ Complete Streets policy (that includes green infrastructure)
  - ▶ Engineering Department Stormwater Infiltration Policy
  - ▶ Stretch code for energy conservation and resilience to heat events
  - ▶ Protection of open space (flood buffers and cooling forces)
- ▶ Existing adaptation strategies
  - ▶ Creation of a stormwater utility with incentives for infiltration
  - ▶ Opening cooling centers during heat waves
  - ▶ Investing in stormwater analysis and improvements
  - ▶ Establishing strong emergency planning
  - ▶ Administering public health and wellness programs
  - ▶ Conducting senior outreach and support activities



## Time to hear from you!

- ▶ Aspects of climate change threats
- ▶ Vulnerable populations
- ▶ Vulnerable infrastructure
- ▶ Stakeholders
- ▶ Priority actions



## More Opportunities for Input

- ▶ CCVA Public Workshop, Oct 29, 5:30-9:00, Barry Price Center
  - ▶ Please RSVP to [ClimatePlanning@NewtonMA.gov](mailto:ClimatePlanning@NewtonMA.gov)
- ▶ Email thoughts to [ClimatePlanning@NewtonMA.gov](mailto:ClimatePlanning@NewtonMA.gov)

