

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

City of Newton Climate Change Vulnerability Assessment and Action Plan

First Edition, September 18, 2018



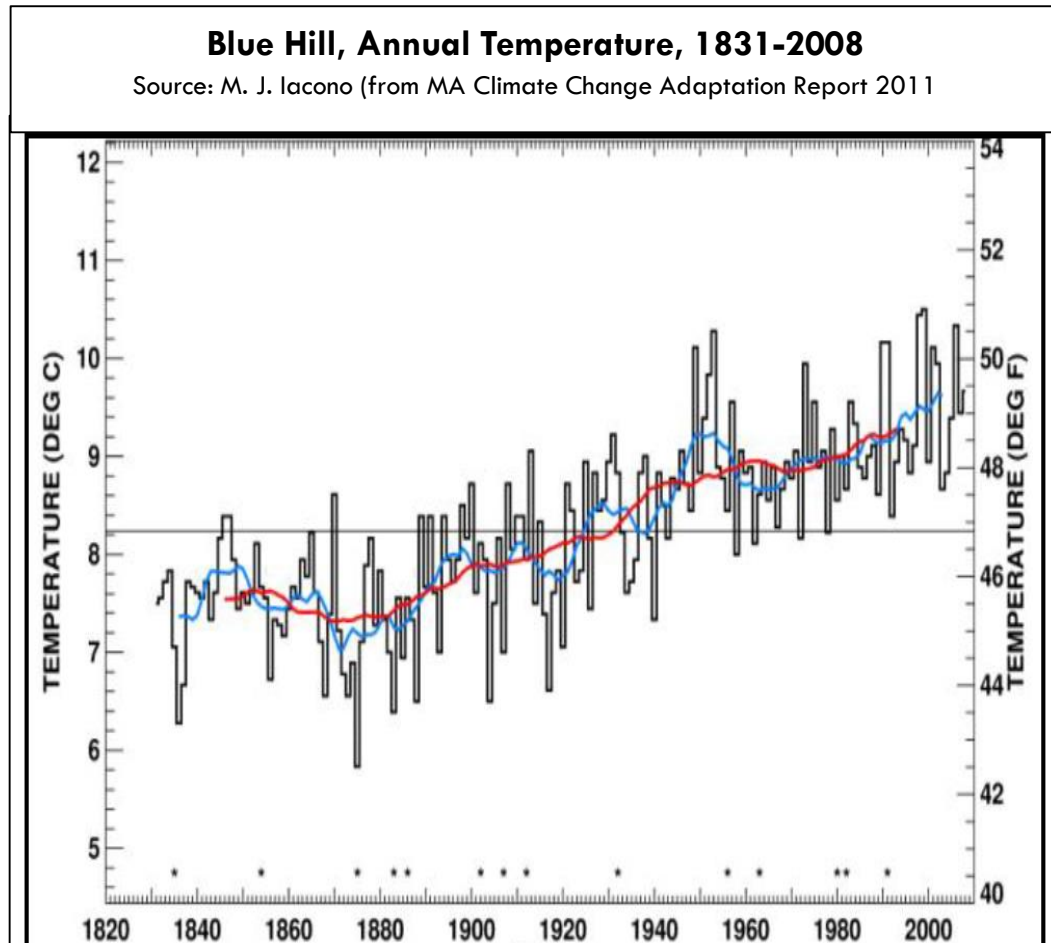
Prepared for
City of Newton
1000 Commonwealth Avenue
Newton, Massachusetts 02459
www.newtonma.gov
Ruthanne Fuller, Mayor



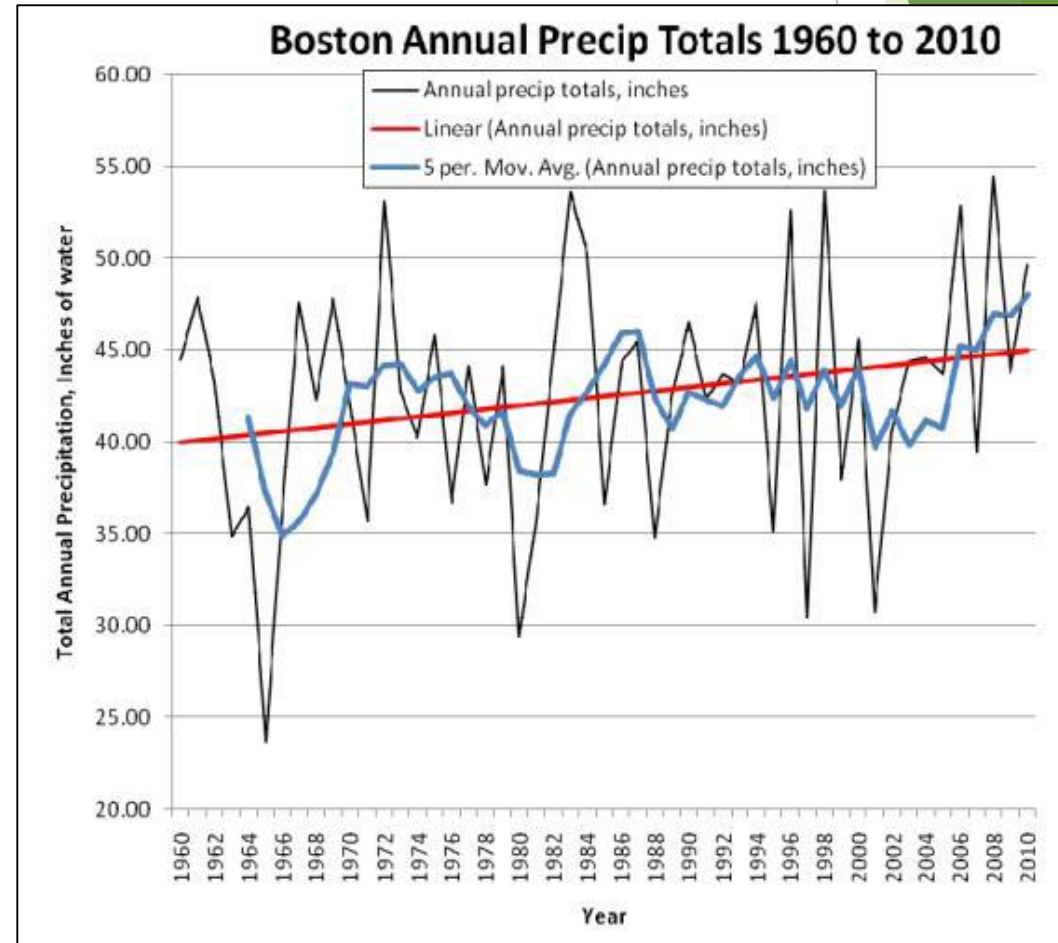
Prepared by
Metropolitan Area Planning Council
60 Temple Place, 6th Floor
Boston, Massachusetts 02111
www.mapc.org

Newton's Most Significant Threats. . .

- ▶ Extreme heat events

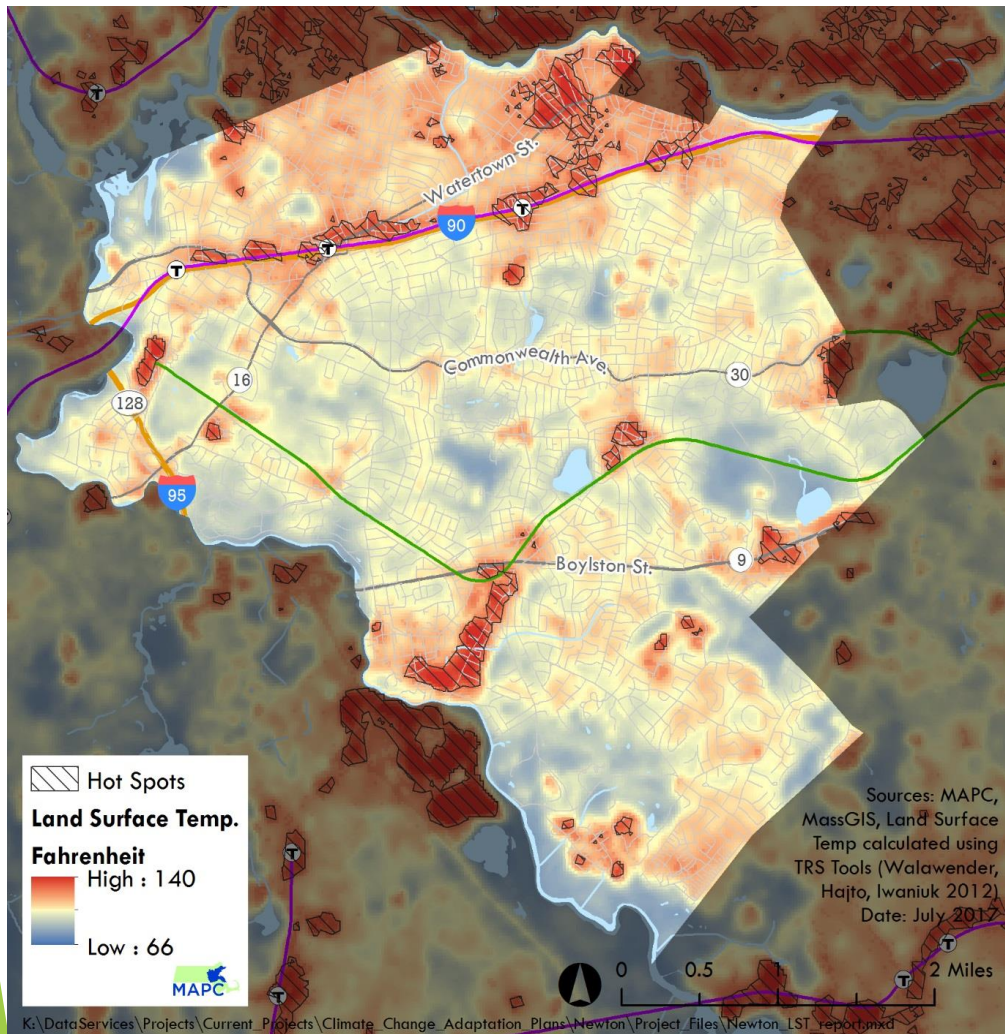


- ▶ Inland flooding from increased precipitation

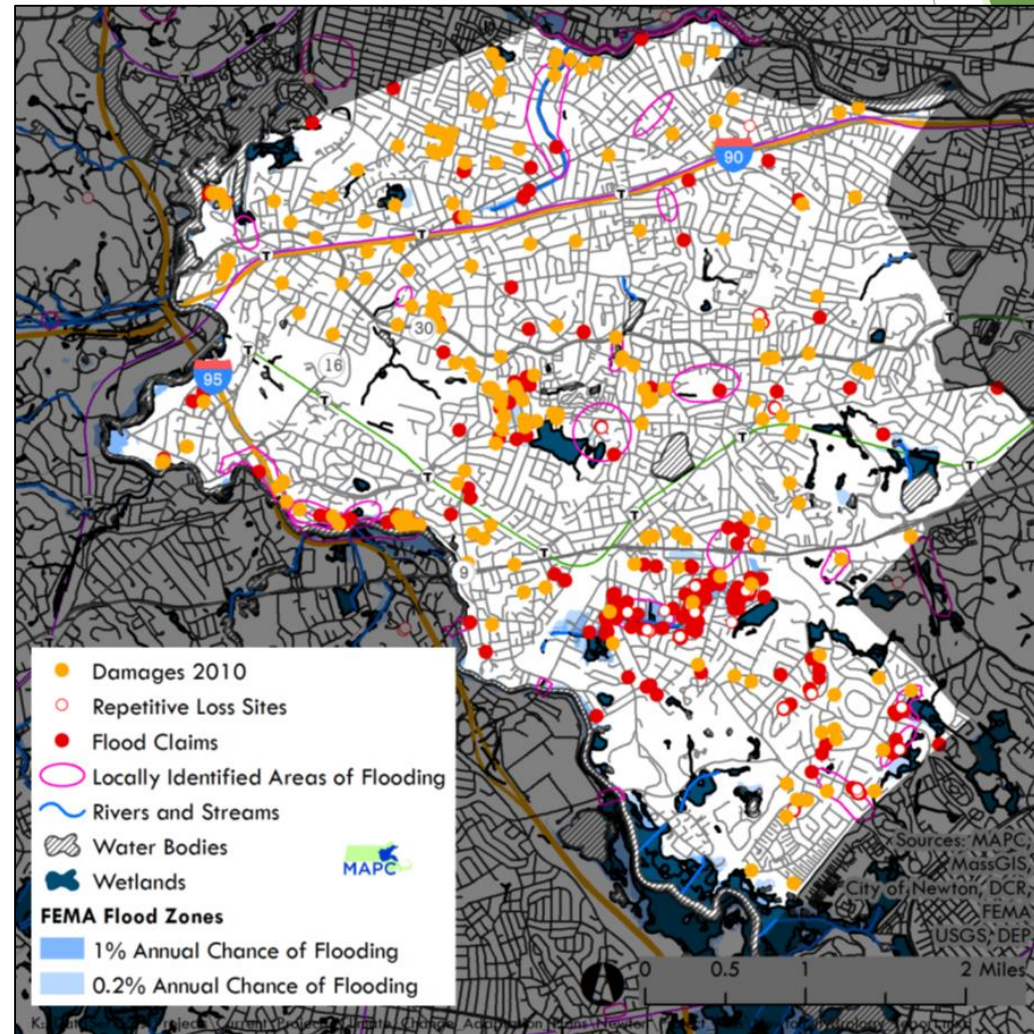


Threats to people and infrastructure

► Hot spots/heat islands



► Flooding



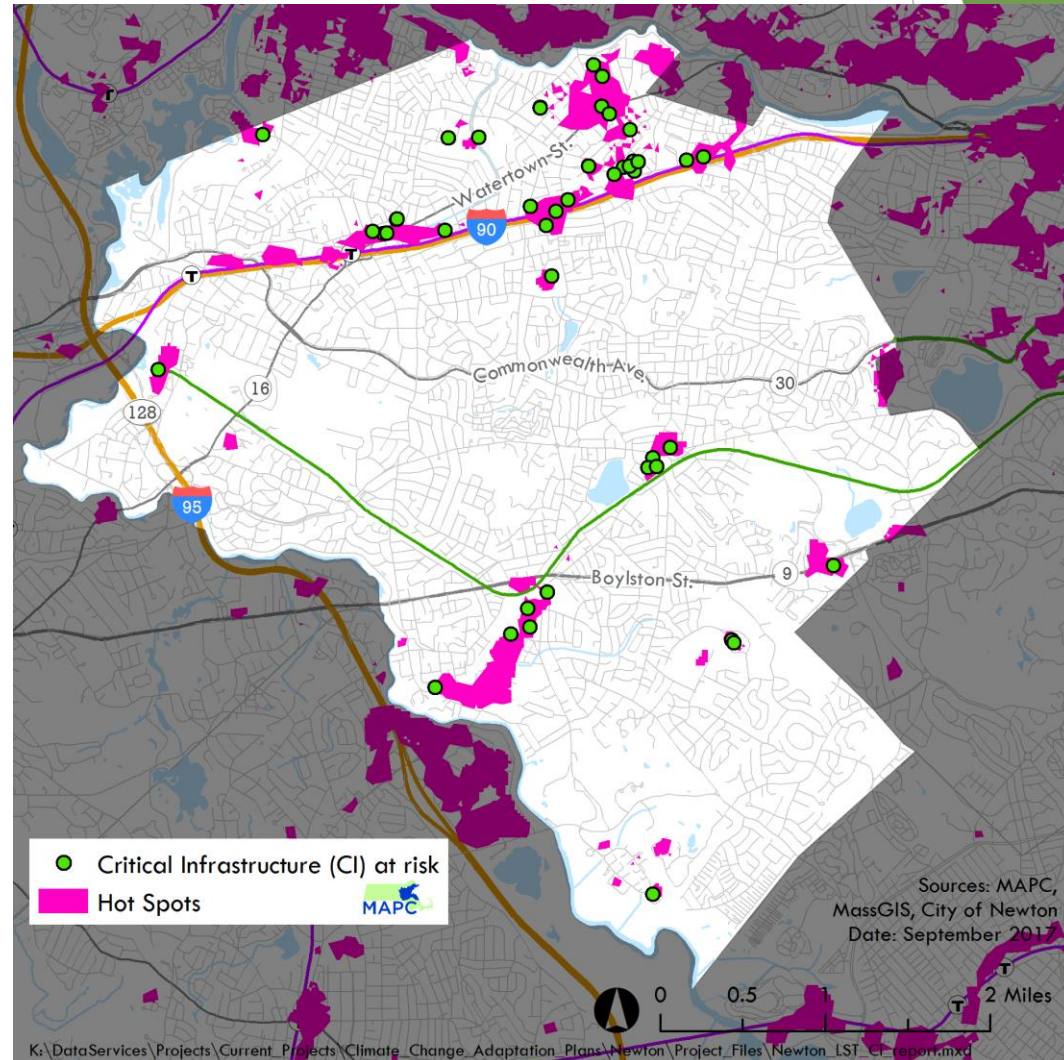
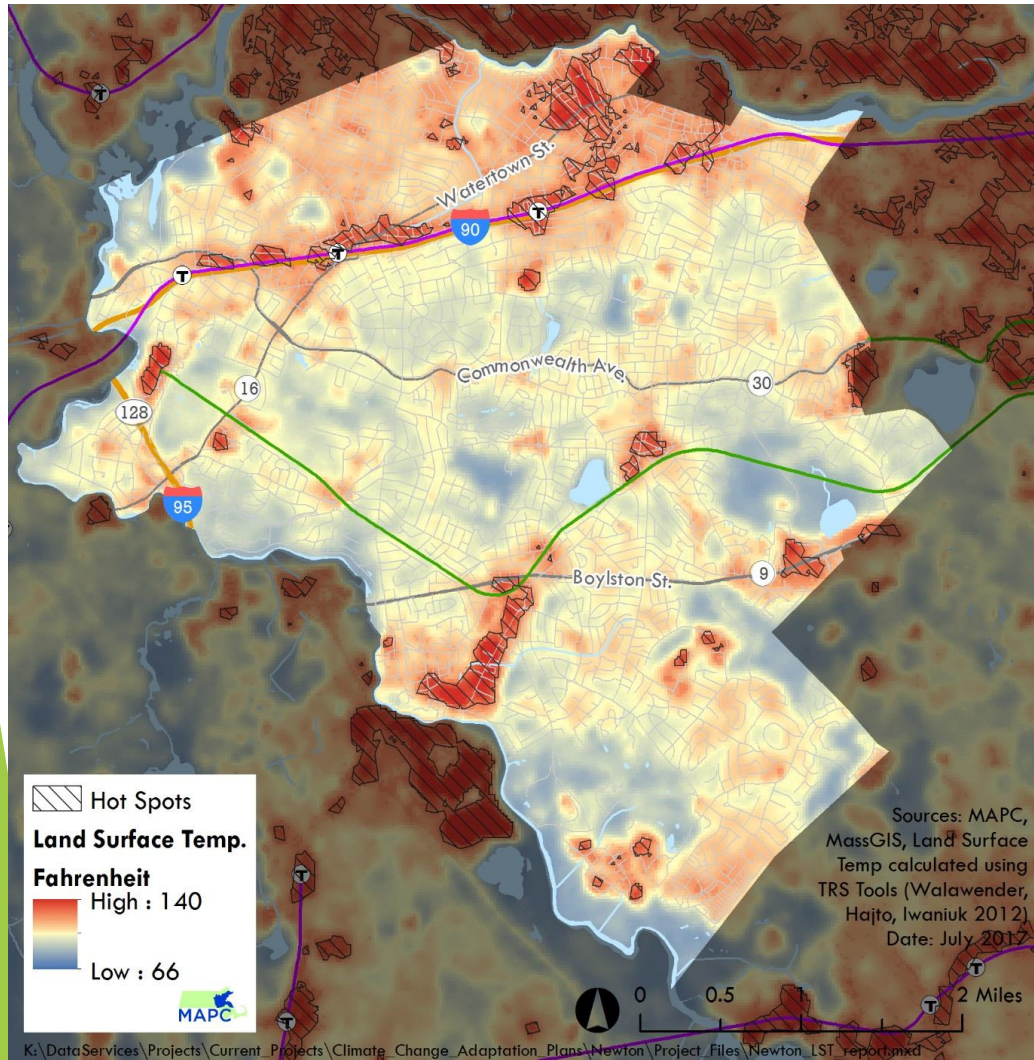
Vulnerable infrastructure

- ▶ 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

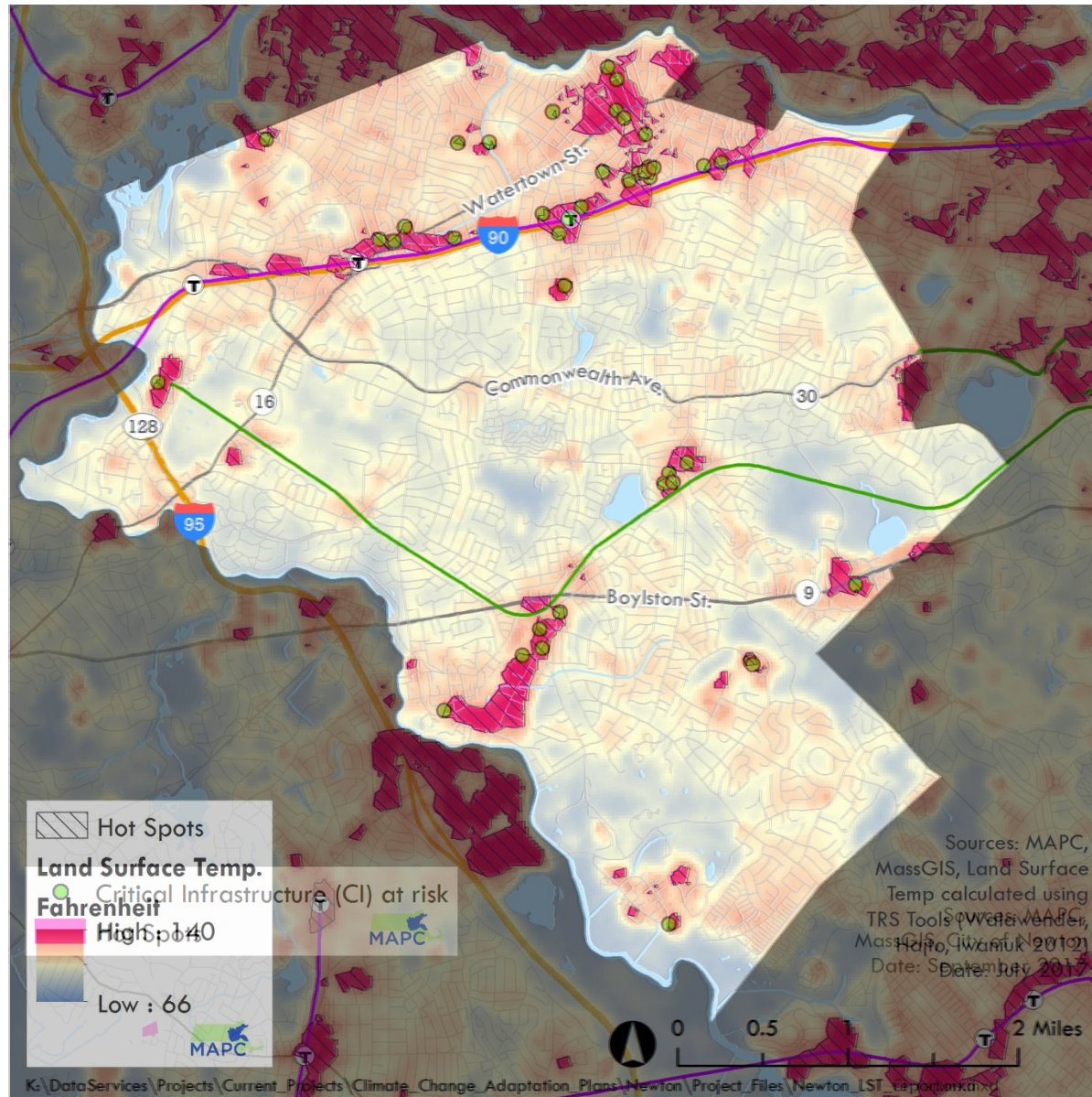


Past development influences climate change impacts - heat

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

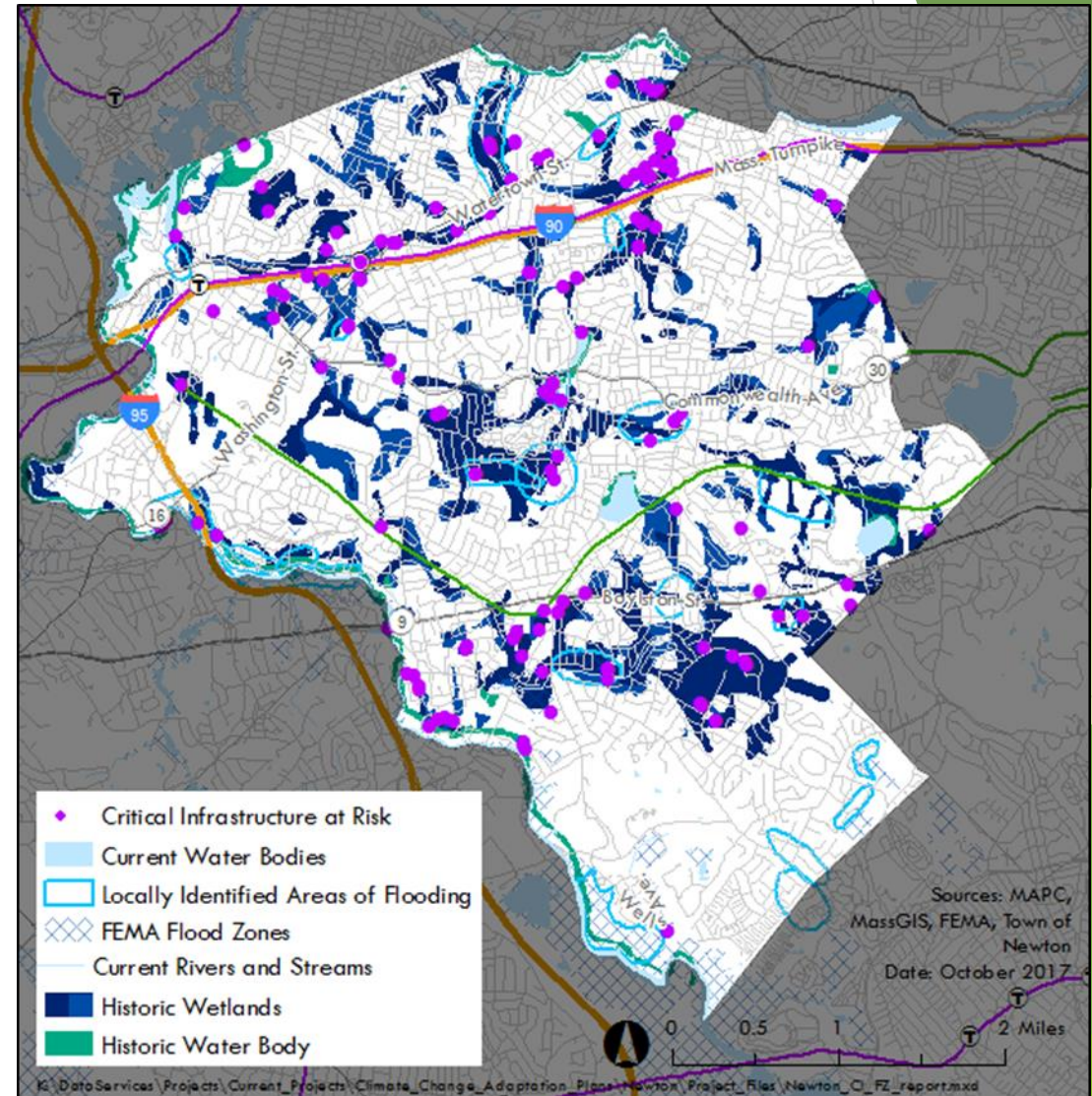
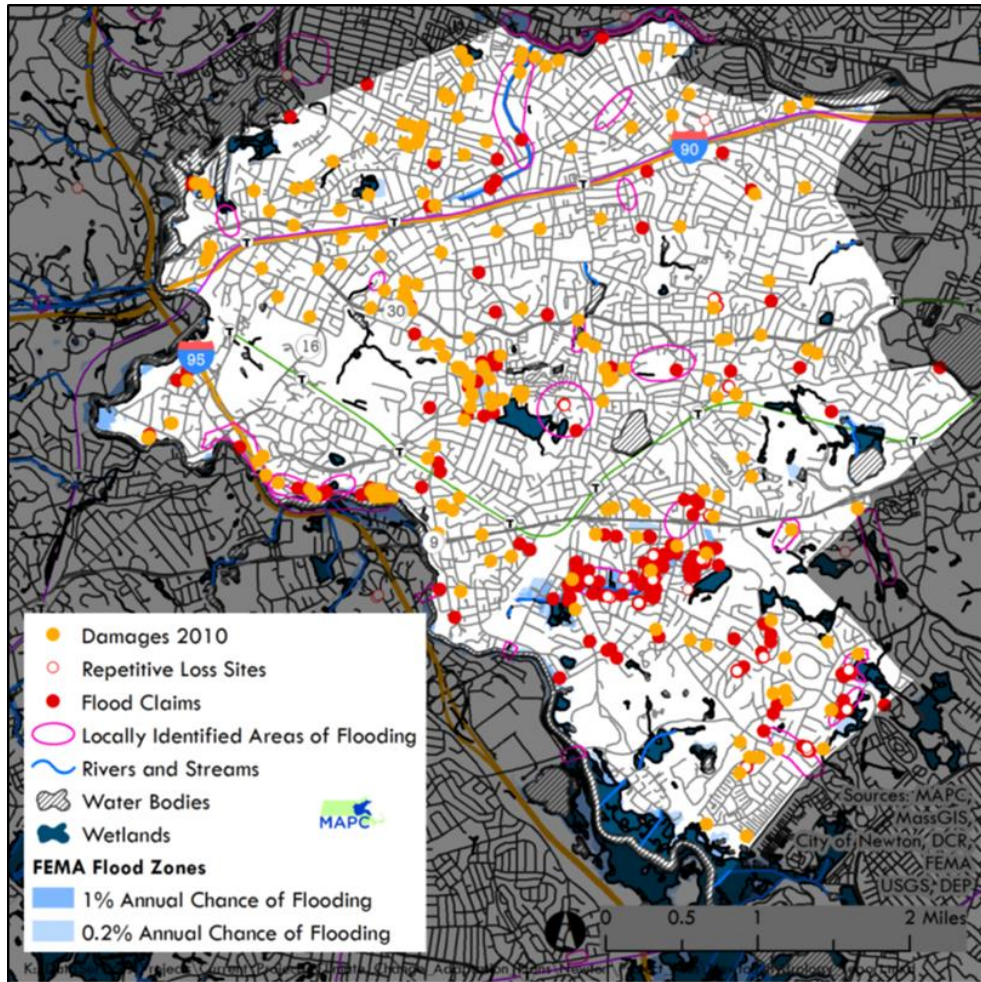


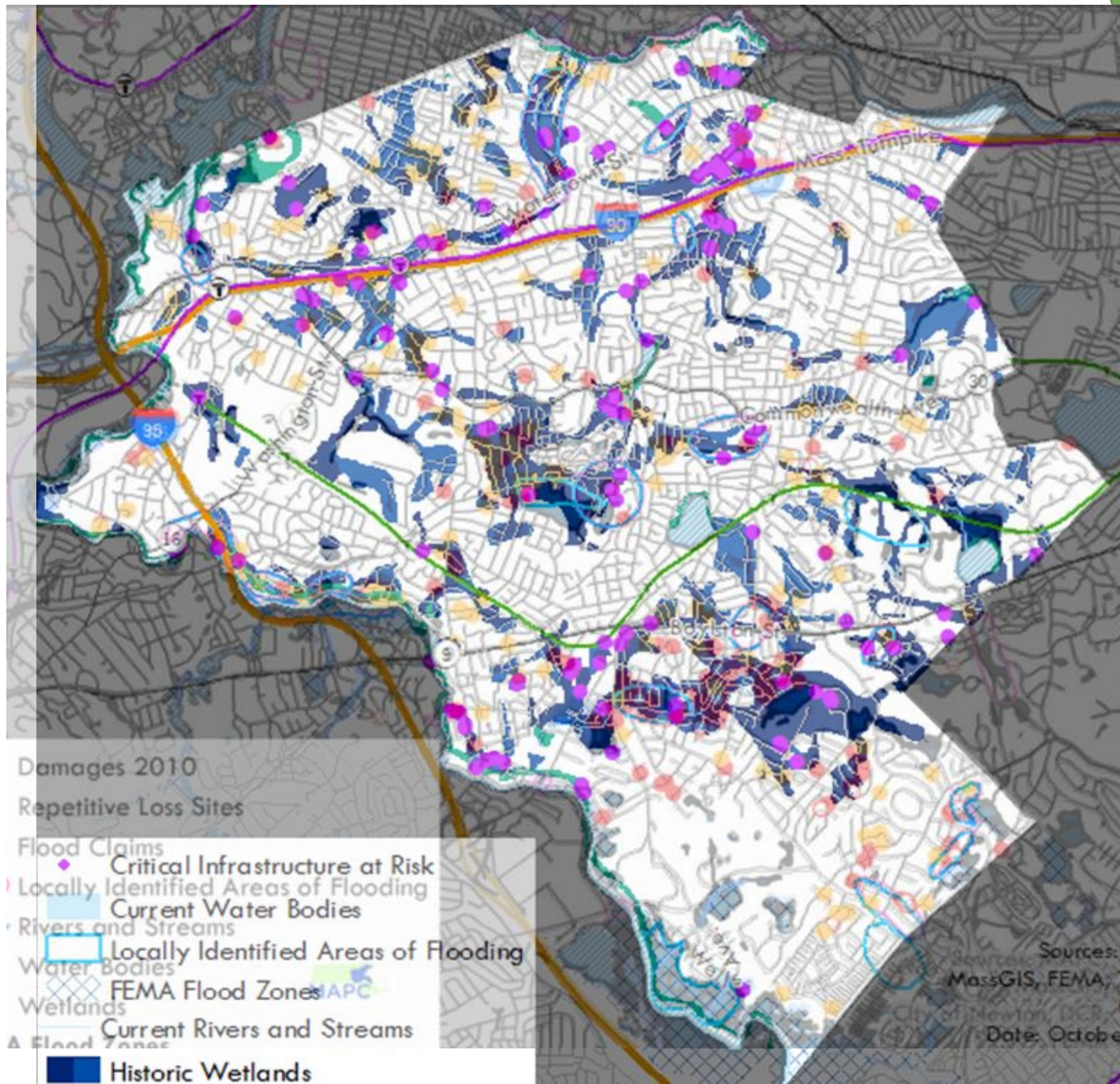
Past development influences climate change impacts - heat



Past development influences climate change impacts - flooding

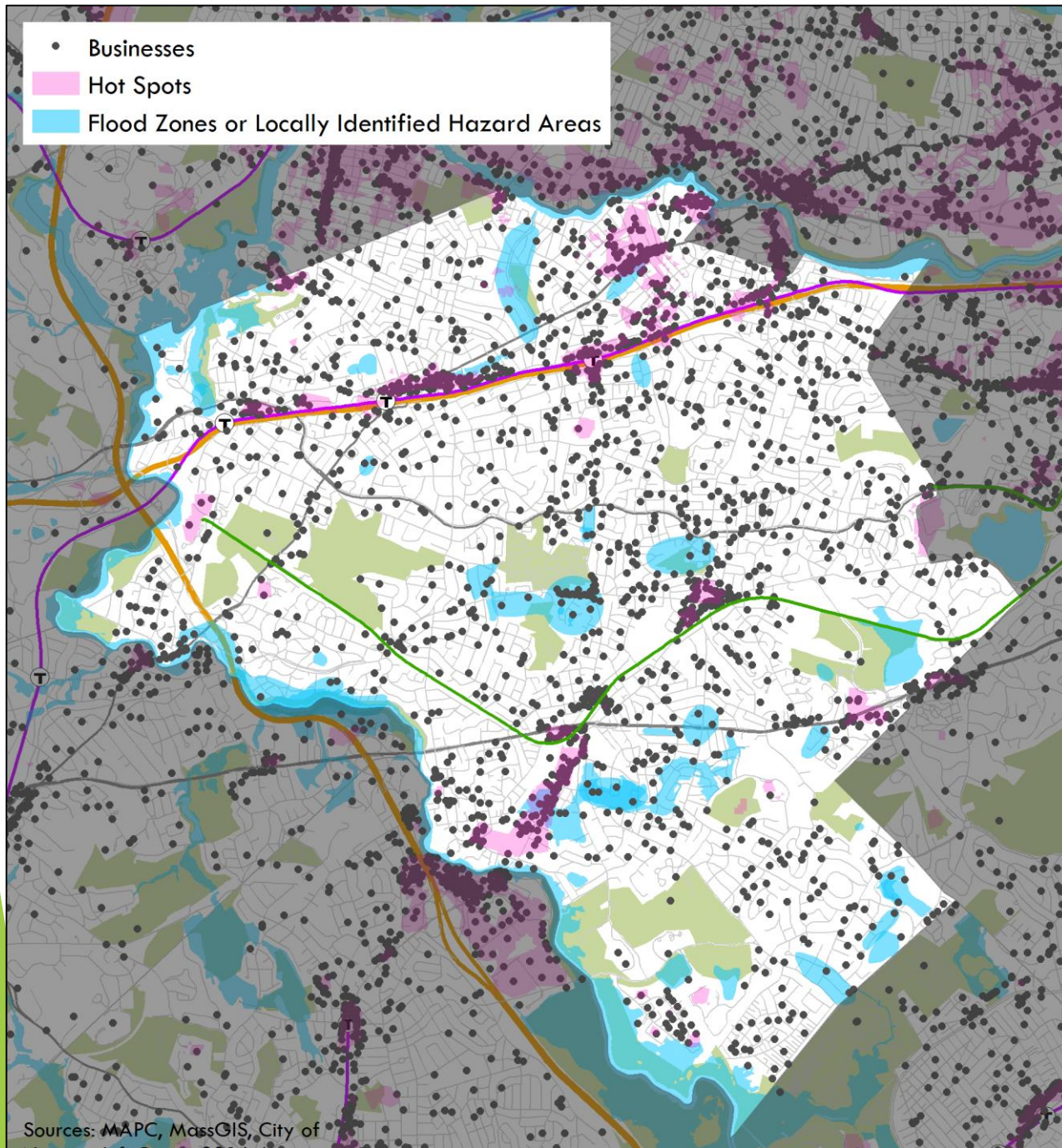
- ▶ Damaging flooding often occurs where wetlands were altered





- Damages 2010
- Repetitive Loss Sites
- Flood Claims
- Critical Infrastructure at Risk
- Locally Identified Areas of Flooding
- Current Water Bodies
- Rivers and Streams
- Locally Identified Areas of Flooding
- Water Bodies
- FEMA Flood Zones
- Wetlands
- Current Rivers and Streams
- Flood Zones
- Historic Wetlands

Sources:
 MassGIS, FEMA,
 City of Newton, DCB
 Date: October



Businesses and private properties are affected



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

Vulnerable populations

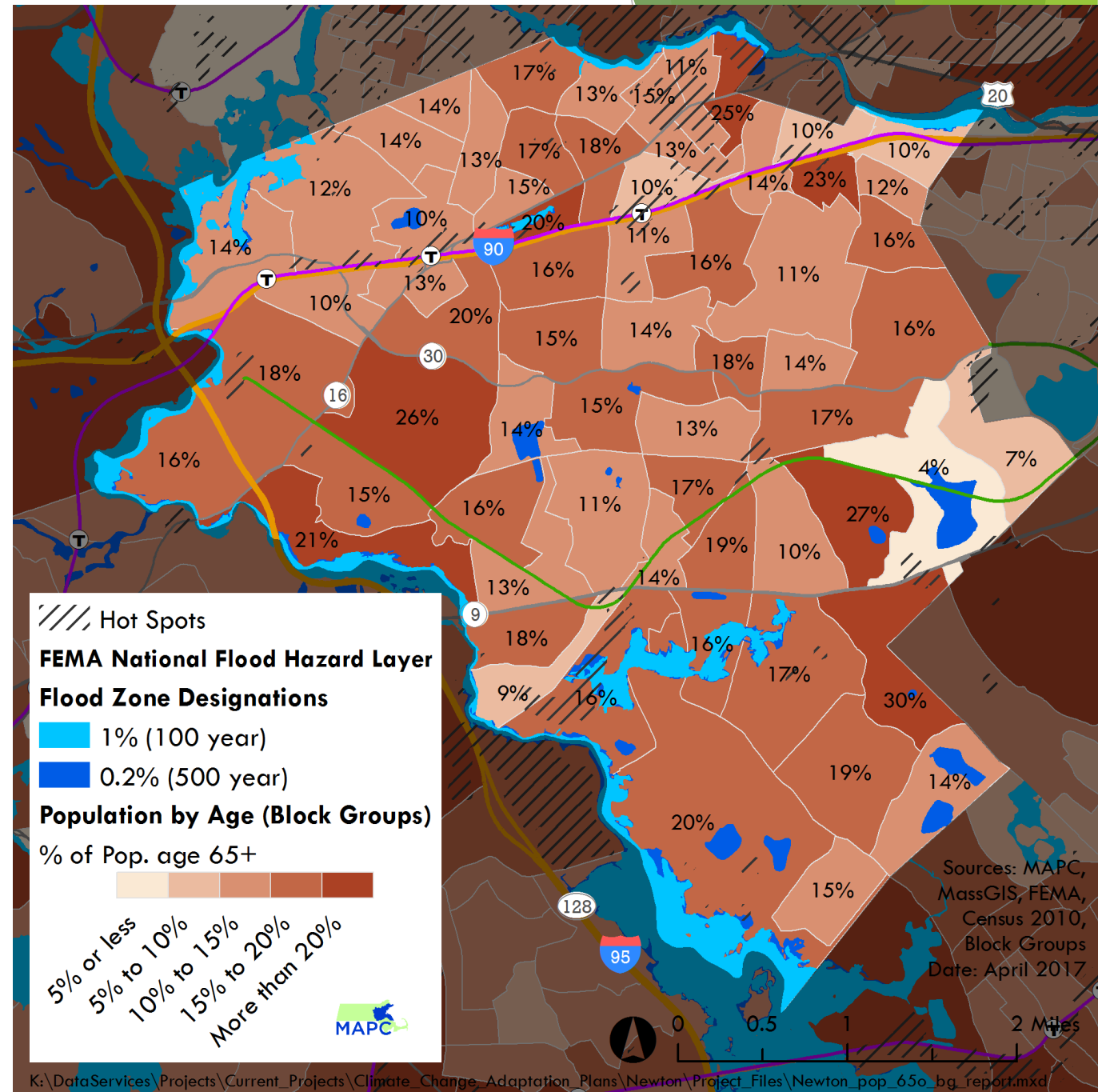
- ▶ Seniors
- ▶ Young children
- ▶ Limited-English speakers
- ▶ People of color
- ▶ Low-income residents



Newton: Aging and Isolated people

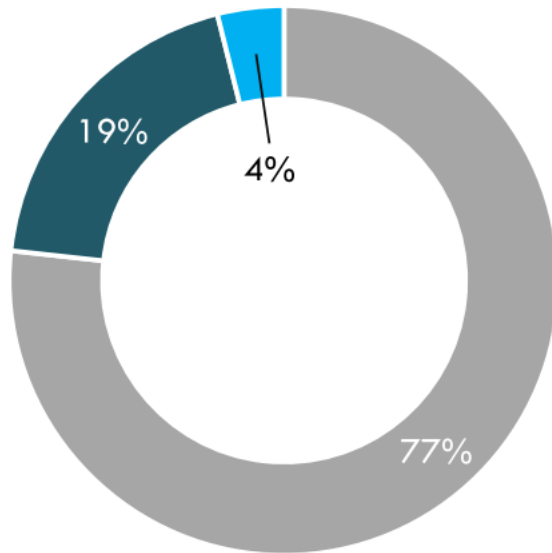
► Newton 2010

- 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



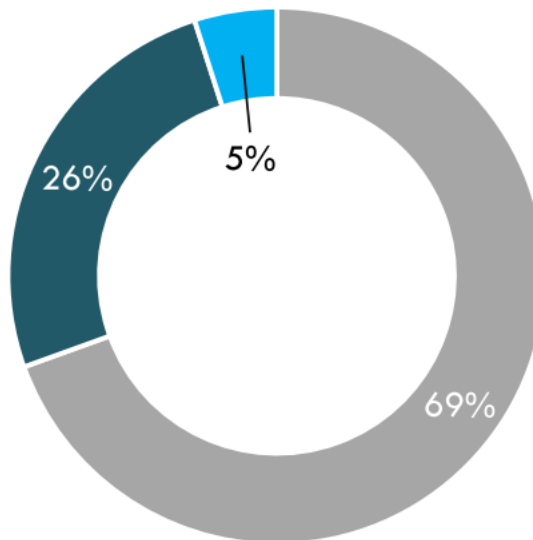
Newton: Limited-English speakers

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

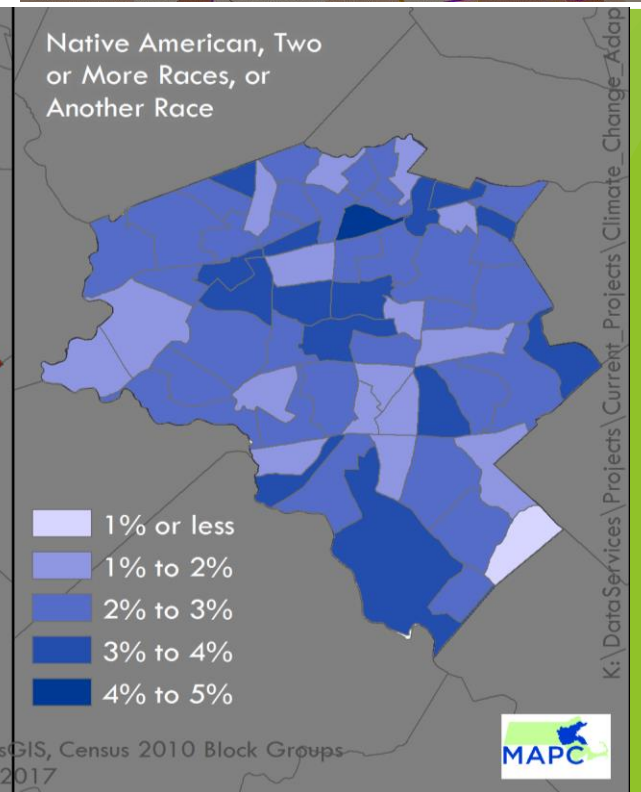
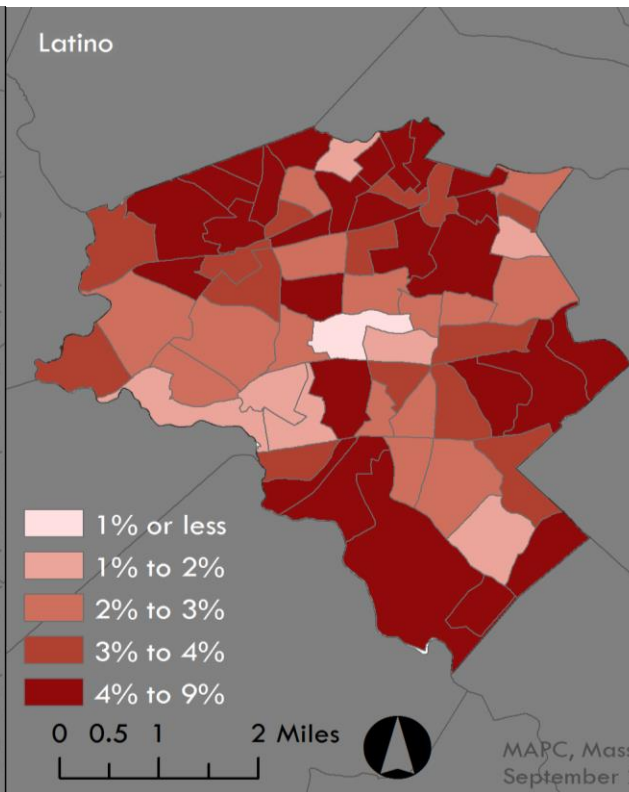
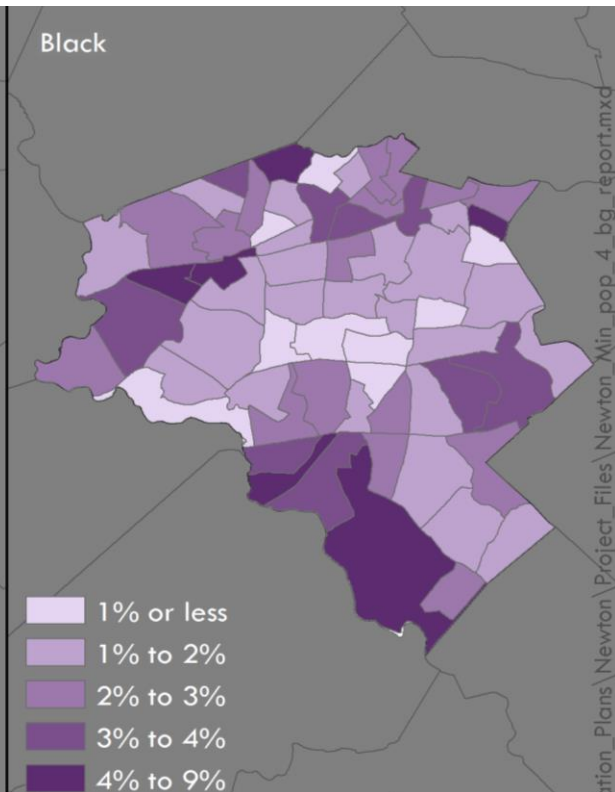
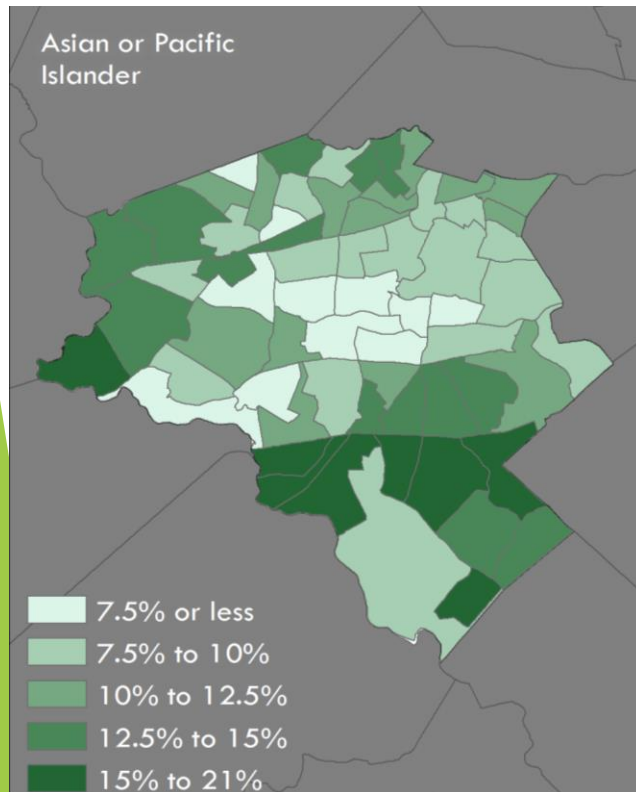
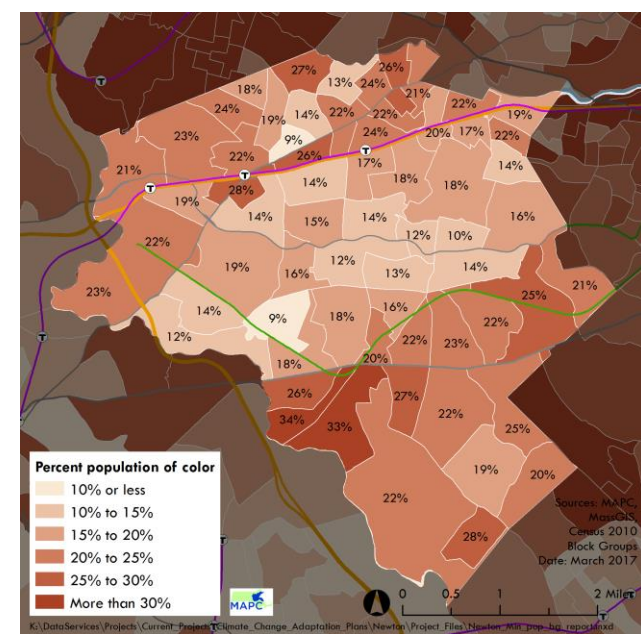


- English speaking households
- Households speaking another language

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

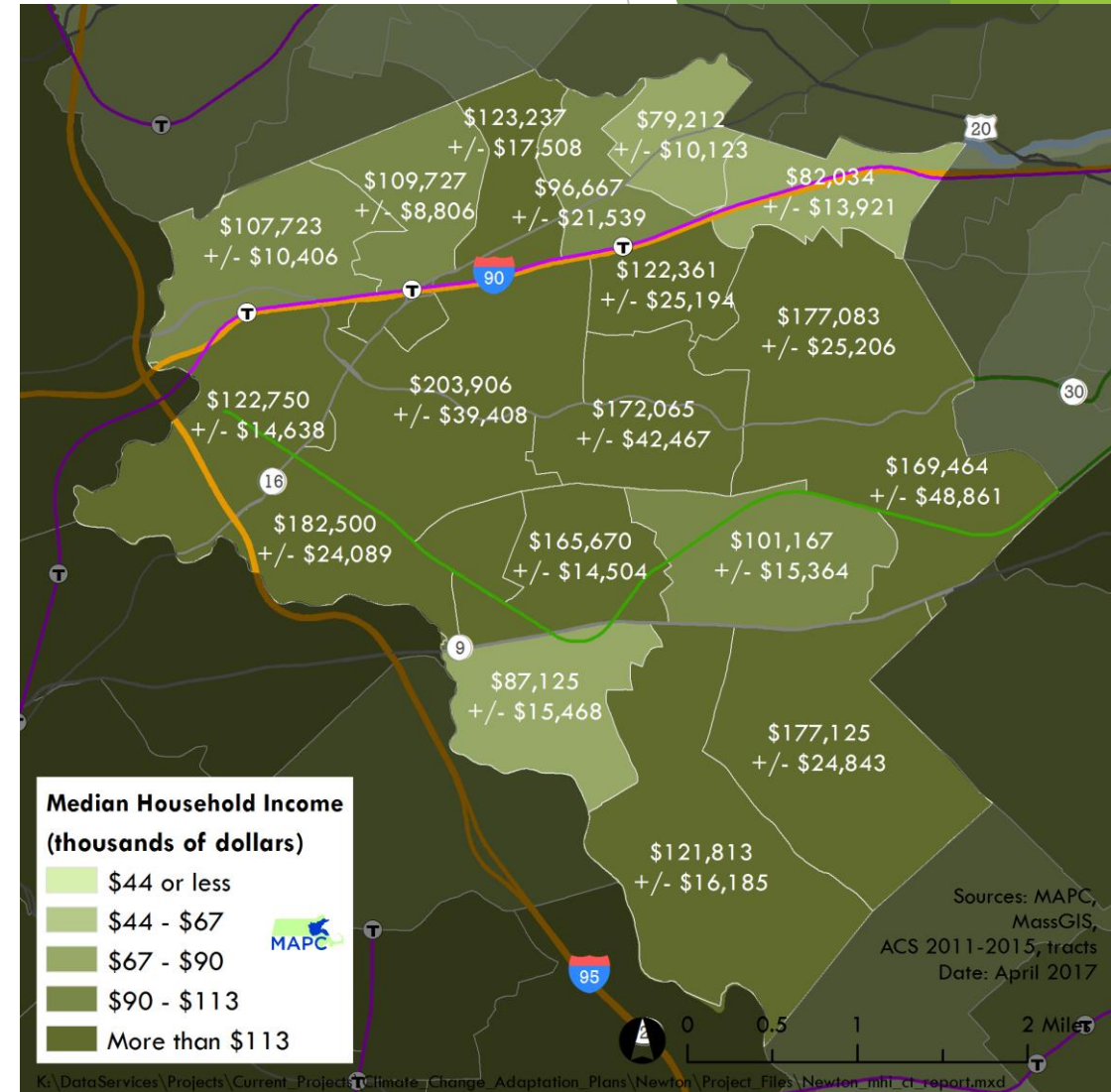


Newton:

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
- ▶ Email thoughts to ClimatePlanning@NewtonMA.gov