

Somerville Climate Forward

Utilities and Infrastructure Working Group Meeting #1

September 14, 2017

Attendees

- Larry Rich
- Kasha Richardson, Kleinfelder (consultant)
- Zach Lamb
- Michelle Melton, Commission on Energy Use and Climate Change
- Jess Fossbrook , City Staff
- Oliver Sellers-Garcia, City Staff
- Seth Berkman
- Michael Sojka
- Rich Raiche, City Staff
- Isabel Kaubisch

Review and Revise Draft Vision

- Vision is more oriented around resiliency – not as much around mitigation.
- “Infrastructure” in this case is mostly wet infrastructure—though not exclusively. Infrastructure can be the underpinning of what we need to have happen in other sectors (renewable electricity, sustainable transportation, flood mitigation, etc.).
- Infrastructure that the city is thinking about: non-electricity energy conveyance, telecommunications—not just water and natural gas.
- Should think about infrastructure broadly to include blue/green infrastructure that supports “gray” or piped infrastructure.
- Change “adapted” to “adaptable” in vision.
- Are we going to set a measurable definition for resilience? Should have metrics to assess success. How do we hold ourselves accountable for progress?
- Change to “adapted to needs/ demands in city”--this can encompass the need to adapt to broad changes that are necessary to achieve climate goals.

- Add a nod towards equity. How do we check back in on the equity goal? Distribution and prioritization is equitable

Idea Brainstorm

- Make Somerville more independent from utilities—can we have cooperative ownership? Are municipal utilities more likely to be green than IOUs? Would it be advantageous for us to go in that direction?
- Encourage use of more porous pavement
- Long term view of a distributed electrical generation system that includes batteries and solar with electric heating and cooling.
- Collecting rainwater. How much of an impact does this have? How can collected water be used?
- Increase number of electric car charging stations.
- Do we want to generate all of our own electricity? Do we want to be energy independent? What are the goals of energy independence: price? Reliability?
- For distributed generation, we really need to think about affordability and equity.
- Metering – how many people have smart meters today? Would more smart meters yield better data for decision making?
- What infrastructure is under the City’s control?
 - DPW operates and maintains the roadway, trash pickup, sidewalks, and maintenance.
 - Engineering Department is responsible for upgrades and improvements.
 - Water & Sewer is responsible for day to day maintenance of wet infrastructure. Somerville Public Water Utility (Water Department) is entirely funded by water and sewer bills.
 - Wet infrastructure: water and sewer infrastructure. Somerville has combined sewer and stormwater pipes & system.
- Ordinance or legal vehicle that requires additional permeability. Zoning only captures new construction, so need to think about other mechanisms. Stormwater utility can work around that. Can Somerville Climate Forward lay the groundwork for doing more in depth research on developing a stormwater utility?
 - Stormwater utility would apply to all properties in Somerville. Zoning requirements only apply to new construction or major renovation projects.
 - 2/3 of Somerville residents are renters – How would a stormwater utility affect renters?
 - Water is already expensive in Somerville. Would additional fees overburden low income residents? How could we structure a stormwater utility to be equitable?
- Bill assessment for mitigation projects. It could be a voluntary fee that residents could pay to fund climate related projects.
- Promote green infrastructure on public and private property

- Nunziato field project is an example of how the City is incorporating landscaped and engineered solutions (storage tanks) to manage stormwater on City-owned property.
- Green infrastructure (including permeable surfaces) is shown to reduce impacts from smaller intensity, more frequent storms, but will not be sufficient to manage low probability but high impact storms.
- Green infrastructure can help to reduce the volume sent to Deer Island for processing.
- Municipalize utilities. Could this be a way to better address people's needs? Are municipal utilities better able to address equity?
- Does Somerville have any repetitive loss properties? No.
- Storm surge and sea level rise
 - MA Department of Recreation and Conservation owns and operates the Amelia Earhart Dam. Dam has two problems – flanking from storm surge and inadequate capacity to pump increased flow from precipitation upstream over the dam to the tidal/ Boston Harbor side of the Mystic River.
 - Flood protection could come from fixing the dam or elevating properties that are at risk of flooding. Which approach is preferred?
 - City should have conversations with DCR about addressing issues with the dam to reduce risk.
 - Explore landscaping options around dam to minimize risk of flanking.
 - Should work regionally to address sea level rise and storm surge along Mystic River.
- Look to Copenhagen for examples of blue/ green infrastructure. For example, floodable infrastructure with storage tanks underneath. Increased vegetation also addresses heat issues.
- Somerville Ave infrastructure improvement project is being designed. Union Square receives about 60% of stormwater flows. Infrastructure is currently undersized to manage the flow. Project proposed putting a box culvert under Somerville Ave to store stormwater. Green infrastructure will capture the first inch of stormwater runoff from 25% of the project area.
- Challenge with blue/green infrastructure is that we have a poor baseline to work from. Need to improve piped infrastructure and increase capacity. Can't rely on blue/green solutions alone.
- It would be helpful to have metrics from Somerville Climate Forward would be setting standards around what storms Somerville's infrastructure should be able to handle. Industry standard is to plan for a specific storm event (e.g. 10 year storm event).
- Design standards for rebuilding in low lying areas after flooding. Look into creating a flood prone overlay district to build resiliency measures into zoning in key areas.
- Do people know that they live in a flood prone property? Increase public education about flood prone properties.
 - FEMA flood areas are based only on surface waters – Alewife and Mystic River—but many areas are flood prone due to infrastructure constraints.
 - Complaints from people who renovate basement and don't know they need backwater valves until it is too late.

- Who is the messenger for relaying information about flood risk? Is the city the best messenger?
 - California requires properties with lead paint to have a sticker on the window to indicate risk to potential renters/ owners. What about a similar system or flood prone properties?
 - Many property owners don't want to be mapped into flood hazard territory.
 - How do we define "flood prone"?
- Cambridge has a flyer about what you can do to your property to increase flood protection.
 - Educate residents by creating a preparedness kit to make sure people are ready if it floods. Could include simple measures like having a plan and making sure nothing valuable is stored in the basement.
 - Target preparedness outreach to residents who are most at risk.
 - Couple with broader education about stormwater and sewer infrastructure. Make infrastructure improvement projects more visible and educate residents on why they are important.