ENVISION CAMBRIDGE

2018-04-10
Climate and Environment Working Group #5

Attendees
Working Group: Sophia Emperador, Cynthia Hibbard, Emily Myron, Mike Nakagawa, Christopher Nielson, Steven Nutter, Julianne Sammut, Juliet Stone

BuroHappold: Chris Rhie
Utile: John McCartin
City of Cambridge: Susanne Rasmussen, Melissa Peters, Seth Federspiel, Wendell Joseph, Bronwyn Cooke, Cliff Cook

3 members of public

Summary
Melissa Peters discussed the working group process up to this point and outcomes from the Joint Working Group meeting in March. Chris Rhie discussed the indicators that emerged from the previous Climate and Environment Working Group meeting and subsequent discussions among the city and consultant staff, as well as draft targets for each indicator. The group then discussed each indicator and its target(s). Members of the public spoke. Chris Rhie then provided updates on the city's climate action planning process.

Indicator and Target Discussion
Indicator 1: Vulnerable populations at risk of displacement due to flooding (% of households)
- One member suggested the flooding definition should be in the indicator language.
- There was a discussion about measuring not just flooding of housing or parcels, but also of roadways and flood routes, as well as households that would be surrounded on all sides by water, but not flooded themselves. Several members were in favor of this consideration, noting Boston is looking at flood route access. City staff said they would look at the viability of this analysis, but noted the indicator is getting complex and that Cambridge does not have designated flood routes. The model would also have to account for how people travel, car vs. transit, etc.
- There was discussion about the data source and flood zone definition. City staff noted the need to look forward, using a dynamic basis as the likelihood and severity of storms changes. The group discussed the merits of FEMA data. City staff said the data produced and used in the CCVA and CCPR processes is the most granular data available.
- One member said the indicator should measure total number of vulnerable people, not just the percentage of the vulnerable population. City staff noted it will be difficult to reliably track the number of people in the total and vulnerable populations, as estimates produced between each decennial census are flawed. They said it would be better to use housing units as a proxy, as the City has a more accurate count of those.
- Members said the City should remove those households/housing units in buildings that have flood mitigations. City staff said citywide data on existing buildings with flood mitigations doesn't yet exist. Members expressed general concern that too much building was happening in the flood zone, and without accounting for mitigations, this indicator would keep getting worse.

Indicator 2: Heat-related hospitalizations (annual hospitalizations per 100,000 people)
- The City and consultant team said tracking the number of heat-related hospitalizations per year is problematic. The numbers each year at the municipal level are very small, resulting in reports of no data or proportionally massive fluctuations. Targets could also

be harder to achieve, since as the indicator will likely rise as the climate changes. This would not make a good indicator to track progress.

- Committee members suggested using asthma and cardiac-related hospitalizations. City staff replied fluctuations in these hospitalizations are attributable to so many things (population aging, or not having as many children, etc.), it may not track what we want.
- One member suggested tying these hospitalizations to high-heat days.
- Members discussed this indicator's relationship to AC use and related energy use.
- One member suggested instead looking at heat island, as well as cooling capacity and demographics. Several members concurred, though some noted climate change will create conditions where the whole city is a heat island. There was some discussion about the tree canopy (measured below) might serve the same function, and that it's more about equitable cooling capacity and access to cooling.
- City staff discussed measuring albedo, but noted it would not account for potentially high indoor heats, regardless of albedo conditions. Staff noted there is no reliable measurement of window AC units, though there is central air data. One member said the city should find a way to measure what happens at night with cooling.
- One committee member said the indicators should measure things the city can change.
- One member said this should be more than one indicator, that the hospitalizations measures are flawed, but it is also the city's primary responsibility to keep people safe, and indicators should reflect that at least.
- The working group agreed that staff should continue to search for an indicator that can reliably track the sentiment of this indicator as written.

Indicator 3: Growth of green collar jobs (rate)

- The consultant staff noted this indicator replaced the indicator on sustainability education in schools. However, they noted the City does not yet have the data to track green jobs. This would have to be purchased annually.
- One member said the impacts of green jobs are not necessarily felt here. City staff said it's a question of what can be measured. Another member suggested revenue from green companies, though they acknowledged getting that data probably isn't possible.
- City staff also noted the data relates to green companies headquartered or with a division office in Cambridge, not necessarily where workers live or perform the work.
- One member suggested using hours of completed green collar workforce training. City staff noted that's unlikely to change much over time.
- There was a discussion about the purpose of this indicator. Staff noted it is to measure progress on Cambridge's economy becoming more "green."
- One member said this was not a priority indicator, and that if the list needs to be pared down, this indicator could go. Other members agreed.

Indicator 4: Tree canopy coverage (% by neighborhood)

- One member noted the theoretical maximum tree canopy coverage (when considering buildings and roads) is 65%. Another member asked about the practical maximum, since the government can't force people to plant trees. Another member said they would have to search for an incentive.
- One member asked if the indicator measures tree or leaf canopy. Consultants noted this is LIDAR-based canopy coverage, comparable to other canopy studies. The consultant was not sure about the methodology that measures living walls, rooftop gardens, etc., though they understood the reasoning for measuring that growth.
- One member gave support to measuring the number of trees, not just canopy.
- One member proposed implementing a "green factor" for new development, which assigns a value on various green infrastructures and adds them for each development.
- There was a discussion about cutting down trees. Committee members noted there is a penalty for doing so. Single-family homeowners are exempted from the penalty, though the City Council considered not exempting them.

Indicator 5: Community-wide greenhouse gas emissions (mt CO2e)
- The Working Group agreed on moving forward with this indicator and related targets.

Indicator 6: Potable water use (gallons per resident)
- Consultant staff clarified that this indicator tracks potable water use related to standard water consumption from residential taps.
- There was a discussion about whether the indicator should be expanded beyond residential, when commercial users can draw lots of water as well. Consultants and city staff noted it's partly because it's easy to measure and draw inferences about residential use, whereas commercial use is more complex and difficult to normalize. Residential water use can be converted to a per capita basis, while the same conversion can't be done with commercial. Some members said that regardless, they did not like residents being the only parties implicated in water use.
- City staff suggested looking at total water draw. Consultants asked if the indicator should be normalized. One committee member said maybe it shouldn't be normalized, as the total amount of water is fixed.
- The working group concluded the indicator as written does not work, and some approach to measuring total water consumption is necessary.

Indicator 7: Water quality in local water bodies (A-F grade)
- One member noted that water bodies studied in this indicator are affected by other places, and that indicators should not be out of the City's control. Consultant staff noted not all working groups are using that standard.
- One member said this could factor back into cooling, as easy access to clean waterbodies would make it easier to swim and cool off.
- There were questions about measurement location and timing. City staff said it was measured monthly or bimonthly, and the grade is released annually.
- One member suggested grades be displayed as prominently as restaurant grades in New York City.
- One member noted the City should measure quality downstream of Cambridge.

Indicator 8: Trash collection (pounds per week per household)
- The consultant staff explained this measure had changed since the initial packet was given to the working group. Instead of measuring total tons diverted from landfill, the indicator now measures total trash produced per household per week.
- The consultant staff highlighted that this would measure residential waste, as there is no mechanism to measure commercial waste presently.
- City staff clarified this measures *trash*, or material in the gray bins, not blue or green.
- One member took issue with taking credit for waste incineration in landfill reduction. There was some discussion related to this, until it was clear the indicator that factored in waste incineration had been replaced.
- One member suggested the indicator measure not how much waste is generated, but how much is kept in Cambridge.

Indicators that are not recommended
- Consultant staff noted the indicator around board and commission diversity was moved to community wellbeing, since it was a common theme across focus areas.
- Members discussed the dropped indicator of class time devoted to environmental education:
    - One member reiterated support for this idea.
    - City staff said just because there is not an indicator does not mean the idea is not a policy priority, pointing to a NOAA grant the City has applied to. They noted

sustainability has been an educational priority for some time, but the dynamics of changing the curriculum at the municipal level are limited.
- o One committee member suggested ensuring sustainability education is in every school and tracking student-hours of engagement on environmental subjects.
- o Members discussed other ways of measuring sustainability education, such as green collar job training.
- o City staff noted the indicators discussed are process-based, not outcome based. Process-based indicators can be measured, but setting targets for them can be arbitrary.
- o City staff noted that city funds for sustainability education in schools are already left unspent in some cases, since it is hard to get time in the school curricula. One committee member the indicator could be used to put pressure behind more sustainability education.
- o One committee member noted that these targets were still more likely to be achieved then reducing the vulnerable population in the flood zone.

- There was some discussion on measuring air quality:
  - o Consultant staff noted there is no baseline data for Cambridge, only regional data. There is interest in learning about local air quality, and what indicators we should be tracking, what trends are etc. The Environment WG actions now say recommend the council to commission a study.
  - o One member recommended including playgrounds and off-gassing in the study.
  - o Another member recommended controlling housing development so that it didn't locate near major roads, as other studies have already shown their major impact on hyper-local air quality.

Public Comments
- One member of the public noted the work of Friends of Alewife reservation, which has educated 130 youth over 11 years. They noted that flooded areas have been well above flood plain in recent storms, though they acknowledged the work of FEMA in small towns. They stressed the importance of looking at pollution in Alewife Brook. They wanted to stress the role of natural systems could play in major climate solutions. They said the possibilities for natural systems in the Quadrangle, and this requires further study. They noted MIT and New York City as places currently looking at natural systems.

- Another member of the public suggested using the MCAS as a proxy for sustainability education. The City could code existing questions as environmentally relevant, and it could lobby for more relevant questions on the test. They also said it would be good to use existing data on solar generation, and how runoff and pollution change with electric vehicle adoption. They also noted thought more attention should be paid to the Alewife electricity substation (City Staff noted it is identified in the CCVA plan as a vulnerability.) They also asked about the vulnerability of drinking water from salt inundation during a storm surge flooding event.

Climate Action Plan update
- Some in the working group expressed support for the framework of the plan.
- Consultant staff clarified the plan's timeframe lasted until 2050.
- One member thought there needed to be more realism in what could be accomplished, citing the process of implementing citywide composting.
- City staff noted that many of the sector-specific recommendations are already planned, funded, and staffed for some period into the future. They said there will also need to be analysis of items as they are implemented.
- One member said there should be clearer interim targets (2050 being too abstract) and that it would be good to see what's already in place.