

2017-07-19

**Environment Working Group #3**  
**Meeting Notes**

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Committee Attendees

Maxwell Cohen, Sophia Emperador, Cynthia Hibbard, Zeyneb Magavi, Emily Myron, Steven Nutter, Abigail Regitsky, Julianne Samut, Claire Santoro, Joanne Scheuble, Henry Vandermark, Jules Williams

Staff / Consultant Present

Staff: Susanne Rasmussen, Wendell Joseph, Seth Federspiel, Bronwyn Cooke, Michael Orr

BH: Chris Rhie, Rebecca Slocum

Utile: John McCartin

Committee Members Absent

Maggie Booz, Henrietta Davis, Mike Nakagawa, Julie Newman, Christopher Nielson, Juliet Stone, Matt Wallace

There were 4 members from the public present.

**Overview**

Wendell Joseph reintroduced the overall process and gave upcoming events. Chris Rhie described the working group process thus far and reviewed revised goals. Rhie then led a group discussion on proposed indicators, targets, and actions, before taking public comment. Using stickers, the committee then voted on their preferred indicators. The presentation is available [here](#).

**Goal Review**

- Committee members noted there may be a need for a cross-cutting goal of community and regional collaboration, and an accompanying measurement of co-benefits to help prioritize strategies and actions across working groups. PlaNYC was cited as an example of this.

**Indicators and Targets Discussion**

Chris Rhie first reviewed what makes a good indicator and types of indicators, then asked the working group members to comment on the indicators by goal. Except where otherwise noted, working group/committee members asked the following questions or gave the following comments.

**Goal A**

- Committee members asked if these indicators are hard or easy to obtain. Staff answered that vulnerable population flooding might be difficult, heat data is generally available
- Committee members asked if there was a baseline for context/comparison. Staff answered that the CCVA analysis could serve as a baseline.
- Where did targets come from and should they be more aligned? Staff clarified the targets are aspirational and based on current figures.
- “Displaced” is left undefined, as are “flooding” and “vulnerability.” These would have to be tightened before being measured.
  - The goal also mentions livelihoods. Displacement could include economic and other non-spatial displacements.
- Another reasonable indicator, in addition to heat-related hospitalizations, would be and asthma-related hospitalizations, which would capture even more air quality-related risk.
  - These are being measured elsewhere, and there have been increases recently.
- There could be better leading indicators that measure risk of or progress toward a major flooding event (e.g. trees dying from too much water in soil, foundations giving out).
- City staff noted the goal could be construed to be about more discrete events, but there needs to be adaptation to long-term climate. Perhaps the indicators should reflect those long-term climate realities and necessary ongoing adaptations.

- Insurance markets could be another source of information regarding flood risk.
- There could be more measure of the human impact (such as percent of population that is vulnerable and percent of population that is resilient to a given disaster). CCVA could be a baseline here, too.
- There is little consensus among experts on any singular social vulnerability index. Some committee members suggested state Environmental Justice indicators, but others thought those measures wouldn't be granular enough. Consultant staff noted they would likely want to match the CCVA, given the thoroughness of that study and use it as a baseline.

#### **Goal B**

- Cambridge is thriving economically, and half of its emissions are coming from the commercial sector. The plan should engage at that level, and understand where businesses are coming from, so as to work with them on reducing emissions (rather than putting the burden on residents/children as some of these indicators imply).
  - How do we measure engagement with employers/businesses? We should build off the engagement mandated in the BEUDO reporting.
  - Some committee members felt there is a disconnect between what the City says it wants and the buildings it permits. City staff note that the Net Zero Action Plan works to address this.
- The City should distribute educational materials about how the general public can reduce their emissions, such as a step-by-step roadmap to reducing emissions. Consultant staff noted that translating such actions into an indicator would produce a binary (distributing those materials or not). It may be more effective to measure the result of those actions.
- Traditional engagement metrics are too broad for this topic. The City should dial in on the specific populations it's trying to engage.
- The plan should measure engagement of workers in Cambridge, not just residents. There should be engagement measures for each set of stakeholders.
- Within institutions and large businesses, there could be a designated environmental champion who works with the City and is committed to reducing emissions in that organization. The indicator could track the percent of institutions/large businesses with such a point-person.
  - Perhaps this could build on and measure activity within the Cambridge Community Compact for a Sustainable Future.
  - City Staff noted the Community Compact only addresses collaborative actions (set out in a three-year work plan), not measuring individual organizations' internal environmental actions.
- Committee members like the intergenerational nature of the first indicator, and noted more focus on children could push parents to take up these initiatives (like with seatbelts).
- There could be a business certification program from the City, and the number of business certifications could be tracked. Consultant staff mentioned "Best for NYC" as an example.
- To measure business engagement, the City could offer businesses the ability to designate a portion of existing property tax to an environmental fund. City staff noted this would only measure businesses who also own their property.
- Cambridge should share successes beyond the city itself (including neighboring municipalities), and should serve as a leader in the field.

#### **Goal C**

- The City should set ambient air quality standards for new residential development, especially along Mass Ave and Alewife Brook Parkway. Limiting exposure to air pollutants should be a criterion when planning new housing. Maybe a goal is no new residential in areas with unsafe ambient air quality.
- HUD has an existing noise requirement, but it is very difficult to meet in cities. Meeting some noise requirement could be addressed locally with siting, exposure, and materials.
- Soil pollution indicator should measure not just number of sites but extent (square feet and levels).
- Light already has very good criteria (streetlight cutoff, etc), though it's unclear if a percent reduction could be measured.

- Tree canopy coverage is a useful indicator but doesn't capture the benefits of old-growth trees. There should be an indicator for tree age. Tree caliber may be the easiest proxy. The City should also track lifespan of newly planted trees.
- The City should track all trees on private property, and should consider an ordinance prohibiting the removal of trees if over a certain age. A target could be zero net tree loss or net canopy loss.
- Limiting exposure to pollution should be tracked, but the sources of pollution should also be tracked (such as lane-miles in the road network).
- The City should measure carbon content in the soil.
- There should be an indicator for biodiversity. An annual bird species count could be a cool indicator, and its measurement would also engage the community.
- The park access indicator should be reworded to access within a 10-minute walk, though some were unsure if this would change over time.
- The UN or World Bank has a target for permeable surfaces for cities to meet.
- The PM2.5 indicator connects to the earlier asthma discussion.
- The City should seek dark sky certification. It should also measure light pollution from certain spectral bands (like LED blue light), in addition to general light pollution.
- The City should somehow recognize the regional/national scale at which air pollution occurs. Much of the pollution in the Northeast originates from plants in the Midwest. Metrics related to land use and exposure might be better in this regard.
- The City needs a plan for administration/data collection for these indicators, such as soil sampling.

#### **Goal D**

- There should be an understanding of the interplay between gross emissions and sequestration/offsets; how exactly is "carbon-neutral" defined?
- How are emissions counted? Is it only fuel burned in Cambridge? Staff clarified emissions are more modeled than measured. This model uses the global municipal standard of measurement, the *Global Protocol for Community-Scale GHG Emissions*, which is a composite of different estimates. Some are easy to get (the City simply asks Eversource how much electricity was delivered to Cambridge customers), others are more complex. For transportation, the City only counts VMT for vehicles registered in Cambridge. This leaves out all commuters into Cambridge. The standard assumes all towns will (eventually) model emissions, so it prevents double counting. For now, though, few towns model emissions this way.
- The City should consider limiting the weight of vehicles and MPG registering in Cambridge.
- The City should track the number of people independent of fossil fuels (for heating and cooling) due to new use of sustainable energy resources
- The City should track the number of residents participating in municipal aggregation
- This indicator has everything to do with how we source our electricity. Will the electricity indicator just track NE ISO emissions intensity, and does Cambridge get credit for NE ISO improvements? Are they assumed to translate to Cambridge one-to-one? The City should track Eversource billing. City staff noted this is difficult to get granular detail beyond the large institutions and tracking of sources is difficult on a large scale, due to the number of contracts that exist.
- Best practices should be implemented in schools first, to serve as models.

#### **Goal E**

- Measurements of porous pavement, stormwater, and green infrastructure should be here.
- City staff clarified that nearly all water used in Cambridge is potable, save for a few isolated buildings that have graywater recycling systems.
- Does drinking water quality index measure before or after treatment? Staff clarified the indicator was meant to measure after-treatment quality. It was noted Cambridge's water originates in reservoirs a few miles west of the city. Some in the committee thought this indicator might not affect action, and suggested measuring quantity/access and/or measuring groundwater quality.

- Is stormwater in the collection system measured? Do we have any way to estimate gallons? City staff answered there is a very detailed model, and thus good understanding of limitations and challenges. Another model exists for sewerage. Committee members noted one way to measure impact of green infrastructure is that less water will flow through stormwater system. Staff clarified the model is partly based on landcover, so green infrastructure may get reflected there.
- City staff noted there is also stormwater quality testing.
- Water quality in other bodies of water should be measured (not just the Charles).
- Once we separate stormwater and sewer, will there still be measurements taken? City staff noted the City is not necessarily prioritizing 100% separation. There is currently conversation about what the separation target should be, but it is unlikely to be 100%.

#### **Goal F**

- Regarding waste generation vs. waste to landfill, how do these indicators differ? Does generation account for recycling/composting, or is it meant to capture the distinction between landfill and waste-to-energy? There should be a measurement of each, including gross generation. Consultant staff indicated this was the intent.
- Would it be helpful to measure per capita in addition to gross? This also applies to water consumption, GHGs, etc.
- Would it include commercial waste as well? City staff clarified there is no data on commercial right now, though it is estimated in the GHG emissions inventory. Any action under this goal would not be captured in that estimate. Commercial waste was highlighted as a significant issue, since the commercial sector is likely the largest waste producer. Committee members noted the City could investigate licensing arrangements to get the commercial waste figure.

### **Actions Discussion**

#### **Goal A**

- The City must have a comprehensive strategy for eco-roofs that includes white roof and PV installations. Any roof-related requirements need to be compatible with the solar-ready roof requirement. prioritize either white roofs or PV installations.
- Committee members commented that solar roadways are not an example of high-albedo treatment, (and they probably should not be recommended until proven further). City staff note that it may be a possible pathway in the future.
- Cool roofs should be applied to small structures like bus shelters, as well.
- Action A5e should include houses of worship and faith organizations.
- Action A5e should account add resilience, as well.
- Consider adding a carbon reduction commitment for the Community Compact.

#### **Goal B**

- The indicators' emphasis on schoolchildren isn't captured in the actions.
  - The Commonwealth already mandates an environmental curriculum, though it's not enough. The City should be additive to this curriculum, not duplicative.
  - The City is currently funding an environmental education nonprofit, which is introducing their program in schools where possible.
- The City should work to broadcast the progress it's already making.
- There should be more publicity of municipal aggregation and the location of EV charging stations.

#### **Goal C**

- Actions should include drought resistant plants, In addition to native plants.
- Regarding the public space action, there should be emphasis on space near Central Square.
- The City should consider a citywide ban on pesticides and fertilizers citywide. City staff noted this is in effect for municipal properties.
  - Enforcement and measurements of such bans need further consideration. (One member suggested biodiversity indicators would measure the effects of such bans.)
- The City should take advantage of all state programs, like retrofitting large diesel vehicles.

- City should implement stack vent siting requirements, like that found in NYC's building code.

**Goal D**

- Action A4e recommends green roofs for new construction. What about existing buildings? Consultant staff noted it is much easier to retrofit with white roofs vs. green roofs, which have special structural requirements. Major retrofits of existing buildings would also trigger the solar-ready roof requirement. Building codes also now require solar readiness for some buildings.
- The benefits of dynamic parking pricing for commercial districts should be emphasized.
- Perhaps a parking benefit district could be piloted.

**Goal E**

- There should be an action related to permeable surfaces if they are measured in indicators. This could simply be "Find opportunities for more permeable pavements where possible" and fall under the green infrastructure category.

**Goal F**

- Is it possible to collect thin-film plastic at DPW? Cambridge collects all but 2 plastic numbers now (including thin-film plastics if they can be ripped by hand.) Details are available online.
- The state currently has food waste diversion threshold (if business disposes 1 ton of food per week or more, they must divert). Any city effort should dovetail with those efforts.

**Public Comment**

- A member of the public thanked the working group for their volunteering. They appreciated the City was trying to bring institutions and corporations to the table, as they are the biggest polluters.

**Indicator Priority Exercise**

Working Group members placed stickers next to their priority indicator for each goal. Note that the majority of working group members were not present and thus did not participate in this exercise.

- Goal A: The majority of votes prioritized an asthma/allergies-related indicator. All other proposed indicators received one or two votes.
- Goal B: there was no consensus priority for this goal. Hours of school instruction devoted to climate change, minority and low-income representation on city committees, and the number of engaged citizens/workplaces/institutions each received two votes.
- Goal C: there was no consensus priority for this goal. A count of bird species and the number of new residential buildings meeting HUD noise standards each received two votes. Neighborhood-level tree canopy coverage, the amount of carbon in soil, and PM2.5 levels each received one vote.
- Goal D: All votes went to a measure of gross emissions.
- Goal E: The majority of votes prioritized a measure of potable water use (gallons per resident). The ratio of surface types and the amount of green infrastructure each received two votes.
- Goal F: there was no consensus priority for this goal. Waste generation per capita and waste sent to landfill each received two votes. Waste generation (not per capita) received one vote.