

MEETING MINUTES & RECOMMENDATIONS

DATE: May 23, 2013

ATTENDEES: Expert Advisory Panel
City of Cambridge Steering Committee
Kleinfelder Team
(Please see attendance document for detailed listing)

RECORDED BY: Kleinfelder Team

CC: Technical Advisory Committee

SUBJECT: Minutes from April 8, 2013 Meeting City of Cambridge Climate Change Vulnerability Assessment,
Expert Advisory Panel meeting #3

PURPOSE OF MEETING

The City of Cambridge and the Kleinfelder team held a meeting for the EAP to:

1. Confirm that updated protocols for climate projections, public health and economy are vetted by the EAP.
2. Overview of proposed ranking methodology to inform EAP how climate impacts to infrastructure and services will be assessed and ranked
3. Review the methodology for the draft hydrology protocol proposed by the Kleinfelder team

Meeting outline:

- John Bolduc provided an introduction
- Lisa Dickson summarized the response and follow-up to last EAP meeting (1/22/13)
- Lisa Dickson reviewed the ranking methodology
- Indrani Ghosh briefly summarized the revised hydrology protocol

Key themes that emerged from the discussion and action items:

KEY THEMES

1. **Overall project approach:** The EAP recommended reduced emphasis on downscaling since they feared it would not adequately capture extreme events. The EAP advocated for including “what-if”-style scenario planning using possibly expert elicitations. The scenarios could be developed as questions asked to experts and City staff such as “What if a neighborhood is inundated with water?” and “What if it is inundated with salt water?” Once the downscaled models are available, the team could validate and refine them, as informed by this more intuitive approach to

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scenario development. The “what-if” scenarios could also allow the team to explore issues not captured in the models, e.g. wind impacts. Some of the scenario planning would be informed using lessons learned from Hurricane Sandy. The EAP recommended that the protocol developed for scenario modeling be clear about the uncertainties in the models or in the assumptions. The EAP also recommended to reduce reliance on historical data as a means to predict future events, due the inherent unknown elements of future circumstances.

Action: The downscaled scenarios will be used as the base scenarios since they have an empirical basis and will provide a bounding of conditions. The KLF team will work with the City to determine how to best account for the extreme events whether it be through additional scenario planning or some other means.

- 2. Social Resiliency:** The EAP recommended that “social resiliency” be addressed, as it is recognized as a key element for community resiliency as it relates to the ability to recover quickly. The EAP recommended to move beyond standard metrics, i.e. census data and public health parameters, and to investigate ways to capture “networking”, e.g. religious organizations who can feed a neighborhood, as happened during Superstorm Sandy.

Action: The KLF team will explore with the City the possibility of adding social resiliency to the project scope.

- 3. Ranking methodology & baseline data:** The EAP suggested that it would be useful to have a baseline of existing climate change conditions against which future impacts could be compared. This would differ from the originally-proposed baseline mapping that was to only focus on showing existing infrastructure and resources..

Action: The KLF team will investigate with the City the possibility of providing a baseline of existing climate change conditions.

- 4. Hydrology protocol methodology:** The EAP commented that the proposed analysis of extreme precipitation events for Cambridge, for both shorter and longer duration events, may not be representative of how “extreme” future storms will be. A member of the EAP stated that using downscaled climate models and using historic relationships between 24-hour events and shorter-duration (e.g. 1-hr, 2-hr storm) events will likely underestimate the precipitation depth projections for these storms. The committee recommended possibly reducing the number of storms for analysis by checking with the City which design storms are critical for evaluating their wastewater and stormwater infrastructure. Also, the EAP recommended using extreme rainfall events in recent past, such as the July 10 2010 storm that caused widespread flooding damage in parts of the City, as an example of an extreme event projected to occur more frequently in the future.

Modeling sea level rise and storm surge impacts will be discussed in the next EAP meeting.

Action: The Kleinfelder team will verify the selection of design storms for analysis with the City. Depending on the outcome, the Kleinfelder team may develop with the

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City a hybrid approach to scenario development by adding to the proposed downscaling/modeling approach the “what-if” scenarios, as in action item 1 above.

- 5. Overall project challenge:** The EAP acknowledges the challenge for the project to document climate change projections and risk with enough science to gain support from key stakeholders. The challenge is how to convey the uncertainties of science without discrediting the effort.

Action: The KLF Team and the City will continue this discussion with EAP to support balance between sciences, policy making and advocacy.

NEXT STEPS

The next EAP meeting will be on storm surge and climate scenario conditional to City of Cambridge’s approval for an additional EAP meeting. (Fall 2013)