Community Development Committee

Meeting date: September 19, 2016

Subject: Climate Vulnerability Assessment (CVA)

District(s), Member(s): All

Policy/Legal Reference: Minn. Stat. §§ 473.191, 473.867

Staff Prepared/Presented: Eric Wojchik, Senior Planner (651) 602-1330

Division/Department: Community Development / Local Planning Assistance

Proposed Action

Information item only. No action required.

Background

Staff will provide a presentation on the regional Climate Vulnerability Assessment (CVA). This memo explains the work that staff has completed, to this point, on the CVA and includes a brief overview of its products and applications.

Project Overview

The CVA specifically looks at the effects of **extreme heat** and **extreme precipitation events**, in the form of local flooding, and provides a tool that can assist in Council and community efforts in preparing and adapting to climate change. The CVA will identify which indicators (infrastructure, road networks, population, etc.) are likely to be most vulnerable to expected climatic changes, depending upon factors such as *exposure, sensitivity,* and *adaptive capacity* of the studied indicators.

The purpose of the CVA is to prompt a discussion about the many ways an extreme weather events can affect both communities as a whole and Metropolitan Council assets. Consistently, literature details that communities are most resilient to extreme weather events when they work together across disciplines and boundaries. As such, the ultimate goal of this project is for the CVA to be used as a screening tool and communication channel between the Council and communities and as a benchmarking tool between communities. This project outcomes will come in two parts: first, a series of tools to show cities how to use and interact with this project, and second, a complete methodology so that cities can replicate the Council's process as desired. The exact format of tools is still a work in progress.

Methodology

To carry out this analysis, the project team met with subject matter experts under each of the Council's statutory systems, including Wastewater, Land Use, Transportation, Parks and Trails, and Water Resources and Water Supply. The technical experts each completed a vulnerability matrix to rank potential indicators (e.g. principal arterial roads under Transportation) in order of relevance and importance to the given system.

After all meetings with the subject matter experts had been concluded, the project team narrowed down the indicators to no more than two to four for each system. The team then created an analysis flow chart for each indicator to determine how flood and heat vulnerability would be analyzed, which variables would be used, and how many maps would be needed. These indicator maps will be overlaid with heat and flooding base maps for the metro area to create weighted vulnerability metrics (WVM) for the majority of the indicators.

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Each map or series of indicator maps will be further strengthened by the addition of a Brief Indicator Profile (BIP). These one to two page analyses, summary, and explanation pieces will serve as concise pull-out sections of the overall report and will include methodological explanation and qualitative discussion. As the team is not able to map all indicators, we will use the BIPs for qualitative discussion for several issues related to heat, including road buckling and harmful algae blooms, which require further exploration.

Focus Group

Since the CVA will be a tool for cities in their comprehensive planning process, the team identified the need to gather input from metropolitan communities in the CVA planning process. The project team, hosted a 2.5-hour focus group event with twenty-one representatives from thirteen cities from around the region. Through the session, the team collected feedback and ideas on how to improve the project as well as necessary areas for study in the future. Participants expressed interest in an ongoing inter-city collaboration convened by the Council to strengthen the dialogue about regional climate resilience.

Next Steps

Council staff are in the process of building capacity for the project in a number of ways:

- Finalize CVA Report and Local Planning Handbook tools by early 2017
- Rollout and CVA training for communities in 2017
- Socio-economic Climate Vulnerability Assessment to be completed between January to May 2017