Update on climate action planning

Climate Action Plan

Cut greenhouse gas emissions
Prevent the problem from getting worse

Adapt to climate hazards
Prepare for the projected impacts

Results in a more equitable and resilient Hennepin County

June 2020
Purpose

Provide update on progress developing the climate action plan to provide context for briefing on July 16

Present findings of:

- Vulnerability assessment research to date and discuss connection to disparities reduction efforts
- Countywide greenhouse gas inventory and discuss county greenhouse gas reduction goals
- Engagement efforts to date and seek input and involvement for broader external engagement
Priorities for an impactful plan

- Protect and engage people, especially vulnerable communities
- Protect our buildings, roads, infrastructure and natural resources
- Deliver services in times of disruption
- Reduce emissions in ways that align with core county functions and priorities
- Partner in ways that can be most impactful
Climate action framework

1. Assess climate change impacts to the county
2. Assess greenhouse gas emissions
3. Internal and external engagement
4. Develop goals and strategies
5. Review, build support and seek approval
6. Facilitate partnerships to accomplish the work
7. Track indicators and evaluate outcomes
Climate resilience framework
Climate vulnerability assessment
Two climate trends to address in Hennepin County

1. Wetter

Results in more flash flooding

- Most of the stormwater system is designed to 1960 standards, not the current standards, nor forward-looking, climate-driven projections
- Even systems designed to the current standards are increasingly overwhelmed by current conditions
- Existing stormwater systems will be frequently overwhelmed by projected climate models
- Susceptibilities to stormwater are similar on county roadways and facilities; as well as private property
Two climate trends to address in Hennepin County

2. Warmer

Results in new challenges for government operations and residents

Now
- Heavy, mid-winter icy conditions
- Warmer nighttime low temperature

Projected
- More heavy, mid-winter icy conditions
- Summer heat waves within 30 years
Surface water impacts are determined by how much and how quickly precipitation falls and by water’s ability to be drained into either soils or the stormwater network.

**Implications**
- Analysis needed that considers the engineered stormwater network that drains surface water and better account for soil infiltration.
- Examine potential impacts to infrastructure and vulnerable populations.

Which areas are susceptible to flash flooding?
Where do county roadways flood now?

- Existing stormwater systems are frequently overwhelmed by high-intensity rainfalls
- Stormwater susceptibilities are similar on county roadways and at many county facilities

Implications

- Existing stormwater system will become increasingly undersized, making facilities and roadways more susceptible to flooding
- Explore flood mitigation efforts
- Pursue interdepartmental and external partnerships to manage increased stormwater
Who is most vulnerable to climate hazards and where do they live?

Vulnerability scoring based on 14 variables within six categories: race, income, language, ability, health, and social status

Implications

- Vulnerable residents will feel the impacts of climate change most acutely
- Individual vulnerability determines whether hazards are: an inconvenience, a manageable problem, or a catastrophic event
Extreme heat

Nighttime lows are increasing even though summertime high temperatures have dropped in the last 20 years. Blacktop, cement, and buildings absorb solar energy and release heat at night.

Implications

- Bodies evolved to cool down at night. The inability to cool off exacerbates physical and mental health stresses.
- Projections are that daytime extreme heat will increase by 2030.
- Explore adaptation responses to protect the most vulnerable.

Heat island effect – August nighttime
Air quality and health

- COPD, the chronic inflammatory lung disease, has surpassed asthma as an indicator of poor air quality.
- Air quality is most negatively impacted by transportation and business activities. Hennepin lacks authority to regulate land use or air quality but does operate a transportation network.

Implications
- Seek partnership opportunities for air quality and emissions reduction goals.
- Explore tactics such as planting trees, which can both improve air quality and sequester carbon.
Air pollution from traffic

- Air pollution and greenhouse gas emissions are linked to every roadway in the system
- According to MPCA, communities of color bear a disproportionate burden of traffic-related health impacts

Implications
- The county can reduce air pollution and greenhouse emissions with our roadway network and support for low and no carbon transportation options
- Advancing partnerships with cities, regional, state and federal partners needed to address inequities and reduce greenhouse gas emissions
Greenhouse gas inventory: preliminary results

- Communitywide, not just county operations
- Building energy use
- Vehicle travel within the county boundary, plus light rail
- Solid waste generated within the county
- Energy used for potable water and wastewater systems
- Trees, land use and other land-based source

Builds on 2006-2012 inventory. Uses ICLEI's U.S. Community Protocol, version 1.2

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Greenhouse gas emissions goals

- 15% reduction by 2015
- 30% reduction by 2025
- 80% reduction by 2050

Countywide greenhouse gas emissions trends

- Vehicle travel
- Natural gas
- Electricity
- Waste and wastewater

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Engagement

Collaborate with county staff

Consult public entity partners – cities, watersheds, state and regional agencies

Involv community groups, business associations and foundations

Involve residents through broader outreach

Provide plan options to board
Internal engagement: Staff work teams

- People: health, behavior and disparity reduction
  - 9 departments
  - 11 members

- Transportation and infrastructure
  - 7 departments
  - 16 members

- Buildings and energy
  - 4 departments
  - 10 members

- Waste and materials
  - 9 departments
  - 13 members

- Water, natural resources and land use
  - 7 departments
  - 8 members

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External engagement: public partners

Interest in exploring partnership models driven by mutual and regionally beneficial climate goals

- Extremely interested
- Very interested
- Moderately interested
- Somewhat interested
- Little to no interest

Online surveys and meetings – participation by:

- Brooklyn Park
- Crystal
- Eden Prairie
- Edina
- Excelsior
- Golden Valley
- Greenfield
- Maple Grove
- Medina
- Minneapolis
- Minnetonka
- Mound
- Robbinsdale
- St. Louis Park
- Minneapolis Park Board
- Three Rivers Park District
- Bassett Creek Watershed Management Commission
- Minnehaha Creek Watershed District
- Mississippi Watershed Management Organization
- Nine Mile Creek Watershed District
- Riley Purgatory Bluff Creek Watershed District
- Metropolitan Council/MetroTransit
- MnDOT
- MnDNR
- MPCA

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Goals, policy, and planning

- Coordinate and collaborate
- Better modeling/data
- Achieve (accelerate) greenhouse reduction goals
- Build resiliency
- Weave equity into the work

Priorities by topic areas

- Stormwater management
- Plan for resilient and sustainable infrastructure
- Decarbonize transportation & electrify vehicles and fleets
- Increase transit and no carbon modes of transportation
- Reducing energy use and decarbonizing buildings
- Renewable energy communitywide
- Reduce waste, recycle more