

Maintenance Activities Recommendations

- Plan for future workforce needs. Assess the impact of an increase in frequency of extreme weather events¹, and if additional personnel are required to respond to these events.
- Based on the exposure indicators, consider high-incidence areas in case of extreme heat, and develop geographic or regional approaches from asset management. For example, this could include increased maintenance activity during the summer for assets in the eastern part of the County where the projected increase in days is more than a month.
- Increase regular maintenance activities of hydraulic/stormwater infrastructure (culverts, catch basins, outlets, etc.) to account for increased future flood flows², especially debris or sediment removal before forecasted extreme rainfall. Track maintenance costs indexed by event type, duration, and intensity to plan for future events, increased frequency, and intensity of events.
- Assess future technology and system requirements. Communication and power lines are sensitive to icing, flooding, and extreme temperatures³. Improve the existing communication and power systems' resilience to climate change.
- Plan for maintenance of traffic. Flooding or other extreme weather may cause more frequent short-term or long-term disruptions to traffic². Develop or update a plan that incorporates detours (detour management plans for critical facilities) and wide area communication to support adequate traveler information. Consider pre-staging temporary communication signage and devices near areas most prone to weather-related road closures. Evaluate plans for maintenance of vegetation and trees to adjust for more frequent extreme weather (e.g., increase proactive pruning of dead/dying trees or branches that may block traffic, increase usage of drought-tolerant plant species for erosion-resistant ground cover, etc.).
- Determine construction and maintenance work timelines and timeframes. Assess the impact of increased frequency of precipitation and high heat days¹ on worker safety. Changes in weather will impact the length of the construction season¹.
- Extreme heat impacts on asset types should be incorporated into modified maintenance approaches – for example – inspection of expansion joints of bridges during summer and specifically during extreme heat degree days, and consideration of revised heat thresholds may be needed.
- For transit users and general population at risk of extreme heat, consider weatherization options at transit shelters and stops, perform urban tree canopy assessments^{4,5} along major transit corridors.
- Plan for future pavement maintenance needs. Changes in freeze/thaw cycles can increase potholes. Higher temperatures may lead to rutting; this may necessitate changing the pavement mix³ or rehabbing roads earlier.
- Integrate climate risk into transportation asset management planning. Refer to NYSDOT's TAMP⁶ Chapter 6 (*updated 2022 TAMP to be out soon*).

Notes:

1. Observed and Projected Climate Change in New York State: An Overview. New York State Department of Environmental Conservation, 2021.
https://www.dec.ny.gov/docs/administration_pdf/ccnys2021.pdf
2. See Design Guidance Table, Bridge Design Section
3. Climate Change Adaptation Guide for Transportation Systems Management, Operations, and Maintenance. FHWA, 2015.

<https://ops.fhwa.dot.gov/publications/fhwahop15026/fhwahop15026.pdf>

4. Urban Tree Canopy Assessments
https://www.fs.usda.gov/sites/default/files/fs_media/fs_document/Urban%20Tree%20Canopy%20paper.pdf
5. Urban Tree Canopy Assessments, Learn more about the process, why you need one, and how it will benefit your community
<https://storymaps.arcgis.com/stories/7af8fdf671634f75bfcc17cb6c84c296>
6. NYSDOT's Approach to Increasing Resiliency to Extreme Weather and Climate Change
<https://www.dot.ny.gov/programs/capital-plan/repository/Final%20TAMP%20June%2028%202019.pdf>