ITEM 9 – INFORMATION
September 16, 2026

Resilience Projects: Regional Extreme Heat Analysis

Background: The board will be briefed on the recently completed regional extreme heat analysis, including a look into the impact of extreme heat on transit and an overview of TPB's new toolkit intended to support the integration of extreme heat adaptation into local transit and transportation planning.

National Capital Region
Transportation Planning Board

MEMORANDUM

TO: Transportation Planning Board

FROM: Katherine Rainone, Transportation Resilience Planner

SUBJECT: Regional Extreme Heat Analysis: Draft Results and Toolkit Resources for Transportation Planning in the Face of Extreme Heat

DATE: September 10, 2026

BACKGROUND

The emphasis on resilience in previous national transportation bills, paired with increasing importance of planning for improved resilience of regional transportation systems, led to the creation of TPB's Transportation Resilience Planning Program in 2022. The first major products to come out of the program are the National Capital Region Transportation System Climate Vulnerability Assessment and the National Capital Region Transportation Resilience Improvement Plan (TRIP) in 2024, followed by the Inland Flood Analysis and subsequent update of the online resilience mapping tool in 2025. Additional projects and studies were identified in the approved TRIP as next steps to further the program, including a project to further understand the impacts of extreme heat on the regional transportation system and its users in the National Capital Region.

REGIONAL EXTREME HEAT ANALYSIS

The Climate Vulnerability Assessment that informed the Transportation Resilience Improvement Plan (TRIP), completed in 2024, only presented a very high-level view of extreme heat and impact on infrastructure, therefore TPB sought to analyze and provide guidance on a variety of heat-related issues to inform strategies to enhance the resilience and adaptive capacity of the region's multimodal transportation network. Accounting for a future in which extreme heat days are likely to increase could improve the ability of the region to make it safer to travel and better understand the economic implications of heat on the transit system, allowing member agencies and jurisdictions to better plan for these impacts.

Together with a consultant and alongside the input of member jurisdictions and agencies via the Regional Transportation Resilience Subcommittee, TPB developed a regional analysis of some of the impacts of extreme heat on the transit system and riders, as well as a toolkit of resources that can guide how the region might adapt to these impacts. The project consists of four deliverables.

- Item A is a Transit Infrastructure Resilience Analysis, which assesses the past, projected, and downstream impacts of extreme heat on transit ridership. The deliverable for this item is a memo documenting analysis results of historic and projected heat impacts to rail operations and ridership.
- Item B is Best Practice Design Guidance, design guidelines that support the implementation and efficacy of cooling solutions. The deliverable for this item is a document detailing best practices and draft design guideline strategies for each element, with MWCOG-specific examples.

- Item C is Grant Application Support, a resource for identifying opportunities and developing strong applications for funding, taking the current funding climate into account. The deliverable for this item is a dashboard database documenting up to 30 relevant funding sources and key details about each (e.g., critical deadlines, evaluation criteria, potential win themes).
- Item D is Model Policy Language, policy language that jurisdictions can incorporate into design guidelines, standards, and RFPs (i.e., use cases) to promote the use of cooling strategies. The deliverable is boilerplate policy language for 5 use cases that would promote the use of cooling strategies in redevelopment projects.

The analysis and accompanying resources are intended to support TPB member jurisdictions as they advance local efforts to address extreme heat impacts on the transportation system. Members are encouraged to review the findings through a local lens and explore applicable design guidelines, best practices, and policy recommendations that can be incorporated into planning, project development, and capital improvement programs. The analysis may also help identify projects that are well-positioned to compete for federal and state resilience funding opportunities. As jurisdictions implement heat resilience strategies, TPB encourages the continued sharing of successes, challenges, and lessons learned with regional partners. These efforts can help build a broader understanding of effective approaches across the region and identify opportunities where a coordinated regional approach, facilitated by TPB through information sharing, workshops, or other initiatives, could provide additional value.

Once the current draft versions of these deliverables are finalized, they will be posted to the TPB website on the Transportation Resilience Planning page.

Please email any comments or questions on regional transportation resilience planning to Katherine Rainone, krainone@mwcog.org.