

**ITEM 9 – INFORMATION**  
**May 20, 2026**

TPB Congestion and Travel Analysis Tools

**Background:** Staff will brief the board on methods and tools used by TPB staff to analyze and understand regional travel and congestion.



## **MEMORANDUM**

**TO:** Transportation Planning Board  
**FROM:** Tim Canan, TPB Planning Data and Research Program Director  
**SUBJECT:** TPB Congestion and Travel Analysis Tools  
**DATE:** May 14, 2026

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### **BACKGROUND**

Since before the establishment of the National Capital Region Transportation Planning Board (TPB) in 1965, the metropolitan Washington region has been characterized by extensive metropolitan growth occurring as a response to a rapidly expanding regional economy. Job growth in the region has prompted residential growth and the interaction of growth in jobs and residents has resulted in a corresponding rapid growth in regional trip making across all modes of transportation. Current growth projections contained in COG's Round 10.1 Cooperative Forecasts anticipate more long-term growth through the horizon year 2050. Although cyclical economic variations and other notable disruptions may affect the region in the near term, the overarching trajectory of the forecasts continues to suggest regional growth over the long-term, placing increased demand on the region's transportation infrastructure and services.

The tools used to analyze travel and congestion have evolved significantly in TPB's 61-year history. Insights into travel and congestion were initially gained through primary field data collection and analysis such as regional surveys and federal sources of economic and demographic data. These data continue to be vital legacy sources for TPB planners to better understand travel and congestion in the region. Nevertheless, travel and congestion data, data platforms, deeper dives into the types of data collected from surveys, and even real-time situational awareness of regional traffic operations have greatly expanded the tools and methods used by TPB to understand congestion and travel in the region.

### **TRAVEL SURVEYS**

The Regional Travel Survey (RTS) provides the depth of information on both regional travel and those using the transportation system needed to estimate, calibrate, and validate our travel demand forecasting model. It provides the deepest understanding of the changing nature of travel in the region. Conducted since 1968, this household-based travel survey continues to be TPB's premier legacy data collection undertaking. The latest RTS effort has recently commenced with the first wave of invitations mailed to randomly selected households this spring.

In addition to the RTS, other travel surveys have been developed and conducted by TPB to shed a greater level of understanding into the nature of travel and congestion. The Regional State of the Commute Survey (SOC) is the region's primary, triennial survey that measures commute behavior and helps TPB member jurisdictions better understand who is commuting to work, how, when, and why. This contrasts slightly with the RTS, which focuses on all travel in the region; however, it provides a deeper dive into the characteristics of commute-specific travel. Although commute travel is only a subset of all travel in the region, commute travel occurring in peak periods is a primary cause of recurring congestion in the region. TPB also conducts other regional surveys on travel

trends. These include, among others, regional air passenger surveys at the region's large commercial passenger airports, the intercity travel survey, commercial truck surveys, transit ridership surveys, and travel monitoring studies, among others, all of which contribute to the regional understanding of the nature of congestion in the region.

#### **METROPOLITAN AREA TRANSPORTATION OPERATIONS COORDINATION (MATOC)**

MATOC is a joint operations program among the region's state DOTs and WMATA that was established to facilitate enhanced inter-agency coordination and information sharing and provide timely situational awareness on regional transportation operations. As part of its mission, MATOC develops tools and processes that promote timely agency awareness and responses to regional transportation incidents. In doing so, MATOC helps mitigate the effects of non-recurring congestion on the region's network by providing awareness and information that enables swift decision making to address regional incidents.

#### **ENHANCED DATA AND VISUALIZATION TOOLS**

The transportation data industry has made notable advances in making travel data more readily accessible, understood, actionable, and therefore useful. Known as "Big Data," passively collected geographically-referenced data such as those data provided by mobile phones, connected vehicles, travel monitoring equipment and sensors, and other location-based data sources, enable transportation analysts and planners to understand where travel is occurring on the network, where and when incidents occur, shifts in travel behavior resulting from incidents, and the implications of these patterns for regional travel and congestion management.

TPB staff have used data from these sources, as well as from more traditional legacy sources to develop interactive online visualizations that are publicly accessible and can help inform greater understanding of regional travel and congestion. When developed, these resources are made available through the TPB Resources and Applications Page (TRAP), which is accessible from this link: <https://trap-mwcog.hub.arcgis.com/>

At its May 20, 2026 meeting, the TPB will be briefed on the evolution of data and tools used by TPB staff to understand travel and congestion. As part of this briefing, staff will provide a short demonstration of selected online tools.