

6. CONCLUSIONS

The 2018 CMP Technical Report hereby concludes with a summary of key findings and important recommendations from throughout the report to improve the Congestion Management Process in the Washington region.

6.1 Key Findings of the 2018 CMP Technical Report

1. Congestion – Peak period congestion in the Washington region decreased between 2010 and 2012, and then increased moderately thereafter, but still remaining lower than that of 2010. The Travel Time Index dropped 6.7% between 2010 and 2012, but climbed 2% between 2012 and 2017. The percent of congested road miles was 21% in 2010, 11% in 2012, and 15% in 2017 (Sections 2.2.1.1 and 2.2.1.3).
2. Reliability – Travel time reliability in the region improved between 2010 and 2012, and then worsened in 2014, 2016, and 2017, almost back to the 2010 level. The Planning Time Index decreased (improved) by 10% between 2010 and 2012, but increased (worsened) by 11% between 2012 and 2017 (Section 2.2.1.2).
3. Bottlenecks – Three segments of I-495 inner loop (IL) were shown on the top 10 bottlenecks list in this report. Among them, the I-495 IL segment between Exit45/VA267 and Exit43/GW Pkwy was also on the top of bottlenecks found in the 2016 CMP Technical Report. The other two segments, including I-495 IL between Exit28/New Hampshire Ave and Exit 29/University Blvd E. and I-495 IL between Exit 34/I-270 and Exit 33/Md-185, are newly identified in this report with the 4th and 5th place respectively. A segment of DC-295 NB between Pennsylvania Ave SE and E Capitol St SE was raised to the 3rd place on this year's bottleneck list from the 8th place on the top ten list of the 2016 version. (Section 2.2.1.6).
4. Travel Demand Management – Travel demand management continues to be an important tool for day-to-day congestion management. The Commuter Connections program remains the centerpiece to assist and encourage people in the Washington region to use alternatives to the single-occupant automobile. The transit system in the Washington region serves as a major alternative to driving alone – transit mode share is among the highest several metropolitan areas in the country (Section 3.2.1).
5. Walking and Bicycling – Walking and bicycling continue to grow in the region in part due to bikesharing and carsharing options and increasing connectivity in the bicycle and pedestrian network (Sections 3.2.4 and 3.2.5).
6. Variably Priced Lanes (VPLs) - VPLs provide additional options to travelers in the region. Maryland Route 200 (Intercounty Connector (ICC)) was fully opened between I-370/I-270 and US-1 in November 2014; a Before-and-After study identified the ICC improved its adjacent area's traffic by 3-4%. The 495 Express Lanes opened on the Virginia side of the Capital Beltway in November 2012; there were 42,000 average workday trips in the June 2015 quarter, up from 35,000 in the June 2014 quarter, and 29,000 in the June 2013 quarter. The 95 Express Lanes in Northern Virginia opened in December 2014 which had 45,000 average workday trips in the quarter ending in June 2015. (Section 3.3.2).
7. Regional Transportation Operations Coordination – The Metropolitan Washington Area Transportation Operations Coordination (MATOC) continues to play an important role in

coordination and communicating incident information during both typical travel days and special events such as severe weather and construction work (Section 3.3.3.4).

8. Real-time travel information – The increasing availability of technology to monitor, detect, and evaluate travel conditions allows operators to make changes to the transportation network through active travel demand management, traffic signal optimization, and integrative corridor management. For travelers, real-time traffic and transit information are available from a number of sources through mobile applications and mobile versions of websites. Social media provides a mutually beneficial direct connection between transportation providers and users. Mobile applications related to non-auto modes, such as bikesharing and carsharing, allow travelers to be flexible with their mode choices (Section 3.4.6).

6.2 Recommendations for the Congestion Management Process

The 2018 CMP Technical Report documents the updates of the Congestion Management Process in the Washington region from mid-2016 to mid-2018. Looking forward, the report leads to several important recommendations for future improvements.

1. **Continue the Commuter Connections program.** The Commuter Connections program is a primary key strategy for demand management in the National Capital Region and it is beneficial to have a regional approach. Meanwhile, this program reduces transportation emissions and improves air quality, as identified by the TERMS evaluations.
2. **Continue and enhance the MATOC program and support agency/jurisdictional transportation management activities.** The MATOC program/activities are key strategies of operational management in the National Capital Region. Recent enhancements have included efforts on severe weather mobilization and the construction and coordination. Future enhancements of the MATOC program should be considered when appropriate to expand the function and participation of the program.
3. **Consider a regional Congestion Management Plan (CMPL).** The FAST Act and the new Metropolitan Planning Final Rule call for an optional development of a CMPL that includes projects and strategies that will be considered in the Transportation Improvement Program. Such a CMPL would strengthen the connections between CMP, TIP and CLRP and enable the TPB and its member agencies to better combat congestion in the Washington region.
4. **Coordinate PBPP with CMP Incorporate performance measures to be finalized in the final rule on System Performance, Freight Movement, and CMAQ.** The update of the CMP Technical Report include those performance measures to assess the performance of the National Highway System, freight movement on the Interstate System, and the Congestion Mitigation and Air Quality (CMAQ) program (traffic congestion only), in addition to existing performance measures that the CMP considers appropriate.
5. **Continue to encourage integration of operations management and travel demand management components of congestion management for more efficient use of the existing transportation network.** State DOTs are encouraged to continue to explore ATM strategies along congested freeways and actively manage arterials along freeways. Transportation agencies (including transit agencies) and stakeholders are encouraged to work collaboratively along congested corridors to explore the feasibility of an ICM system. Ongoing projects on I-95/I-395 and I-66 support these concepts.

6. **Pursue sufficient investment in the existing transportation system, which is important for addressing congestion.** Prioritizing maintenance for the existing transportation system as called for in TPB's Regional Transportation Priorities Plan is critical to congestion management.
7. **Consider variable pricing and other management strategies in conjunction with capacity increasing projects.** Variably priced lanes (VPLs) provide a new option to avoid congestion for travelers and an effective way to manage congestion for agencies.
8. **Continue to encourage transit in the Washington region and explore transit priority strategies.** The transit system in the Washington region serves as a major alternative to driving alone, and it is an important means of getting more out of existing infrastructure. Local jurisdictions are encouraged to work closely with transit agencies to explore appropriate transit priority strategies that could have positive impacts on travelers by all modes.
9. **Encourage implementation of congestion management for major construction projects.** The construction project-related congestion management has been very successful in the past such as for the 11th Street Bridge and Northern Virginia Megaprojects.
10. **Continue to encourage access to non-auto travel modes.** The success of the Capital Bikeshare program and the decrease in automobile registrations in the District of Columbia indicate that there is a shift, at least in the urban areas, to non-automobile transportation.
11. **Continue and enhance providing real-time, historical, and multimodal traveler information.** Providing travelers with information before and during their trips can help them to make decisions to avoid congestion and delays and better utilize the existing road and transit infrastructure. Websites such as MATOC's www.trafficview.org, state DOTs' 511 systems, and real-time transit information allow travelers to make more informed decisions for their trips. The value of real-time traveler information can be largely enriched by integrating historical travel information which can provide valuable travel time reliability measures.
12. **Continue to look for ways to safely interface with the public through new technology such as mobile devices and social media.** The increased prevalence of mobile internet-capable devices and social media present a rapidly evolving platform for both disseminating and gathering information. Explore ways to utilize crowdsourced incident information for traffic operations planning.
13. **Encourage connectivity within and between Regional Activity Centers.** The recent refinement of the Regional Activity Centers map, adopted in 2013, helps coordinate transportation and land use planning for future growth. Geographically-focused Household Travel Surveys can collect data which allows planners to see local level travel patterns and behaviors impacting mode shifts.
14. **Continue and enhance the regional congestion monitoring program with multiple data sources.** There are a wealth of sources, both public and private sector, for data related to congestion which have their individual strengths and shortcomings. Private sector probe-based monitoring provides unprecedented spatial and temporal coverage on roadways, but still needs to be supplemented with data from other sources including data on traffic volumes and traffic engineering considerations. There should be continual review of the quality and availability of data provided by different sources and the structuring of a monitoring program in way that is adaptable for potential future changes in data reporting and/or data sources.

15. **Monitor trends in freight, specifically truck travel, as the opening of the Panama Canal expansion nears.** This expansion will allow much larger ships from Asia to serve East Coast ports, including the nearby ones in Baltimore and the Hampton Roads area in Virginia. Much of the new cargo arriving at these ports will pass through the Washington region by truck or rail on its way to inland destinations.
16. **Participate in collaborative planning connected and autonomous vehicle readiness.** These emerging technologies will dramatically alter future transportation planning. Standards and interoperability are critical issues and should be addressed through extensive collaboration with a variety of stakeholders.
17. **monitor and enhance interactions with shared mobility services.** According to the American Public Transit Association (APTA), people who uses shared modes such as bikesharing, carsharing, and ride hailing own fewer cars and spend less on transportation. Cooperation and communication between the public and private sectors is required to promote safe and beneficial transportation options.