

DRAFT 2022 CONGESTION MANAGEMENT PROCESS (CMP) TECHNICAL REPORT

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TPB Technical Committee
June 3, 2022



Introduction

- A Congestion Management Process (CMP) is a requirement in metropolitan transportation planning
 - Many generations of federal regulations for metropolitan planning have addressed CMP requirement; no changes in law under IIJA/BIL (regulations pending)
- The official CMP component is wholly integrated into the overall long-range transportation plan (Visualize 2045)
 - The CMP Technical Report is a supporting document developed biennially since 2008
- Draft 2022 CMP Technical Report being made available for review now, for Technical Committee acceptance as final at the July 8 meeting
 - Comments/corrections by June 17 to ameese@mwkog.org



Contents – Congestion Summaries

- Executive Summary
- Chapter 1 – Introduction
- Chapter 2 – State of Congestion
 - Regional Travel Trends
 - Congestion on Highways; Transit Systems
 - National Comparison of the Washington Region’s Congestion
 - Performance Analysis of Visualize 2045



Contents – Strategies and Outcomes

- Chapter 3 – Consideration/Implementation of Strategies
 - Demand Management Strategies (esp. Commuter Connections)
 - Operational Management and Integrative/Multi-Modal Strategies
- Chapter 4 – Studies of Congestion Management Strategies
- Chapter 5 – How Results of the CMP Are Integrated into the Long-Range Plan
- Chapter 6 – Conclusions
 - Key Findings (9) of the 2022 CMP Technical Report
 - Recommendations (17)
- Appendices



Key Findings

1. Congestion analysis
2. Reliability analysis
3. Bottlenecks
4. Travel demand management continues its importance
5. Walking/biking continue to grow
6. Variably priced lanes offer travel options
7. Regional Transportation Operations Coordination (e.g. MATOC)
8. Real-time travel information
9. COVID-19 Pandemic Impacts



Report Recommendations (1 of 2)

1. Continue the Commuter Connections program
2. Continue the MATOC program
3. Continue to coordinate PBPP with the CMP
4. Encourage integration of operations and travel demand management components of congestion management
5. Pursue sufficient investment in the existing transportation system
6. Consider variable pricing and other management strategies
7. Encourage transit and explore transit priority strategies
8. Encourage congestion management during major construction projects
9. Encourage access to non-auto travel modes



Report Recommendations (2 of 2)

10. Continue and enhance traveler information
11. Encourage implementation of projects, programs, and processes that support the TPB Aspirational Initiatives
12. Encourage connectivity within and between Regional Activity Centers
13. Continue and enhance the regional congestion monitoring program with multiple data sources
14. Monitor trends in freight, specifically truck travel
15. Participate in collaborative planning connected and autonomous vehicle readiness
16. Monitor impacts of and interactions with shared mobility services
17. Encourage Traffic Incident Management (TIM)



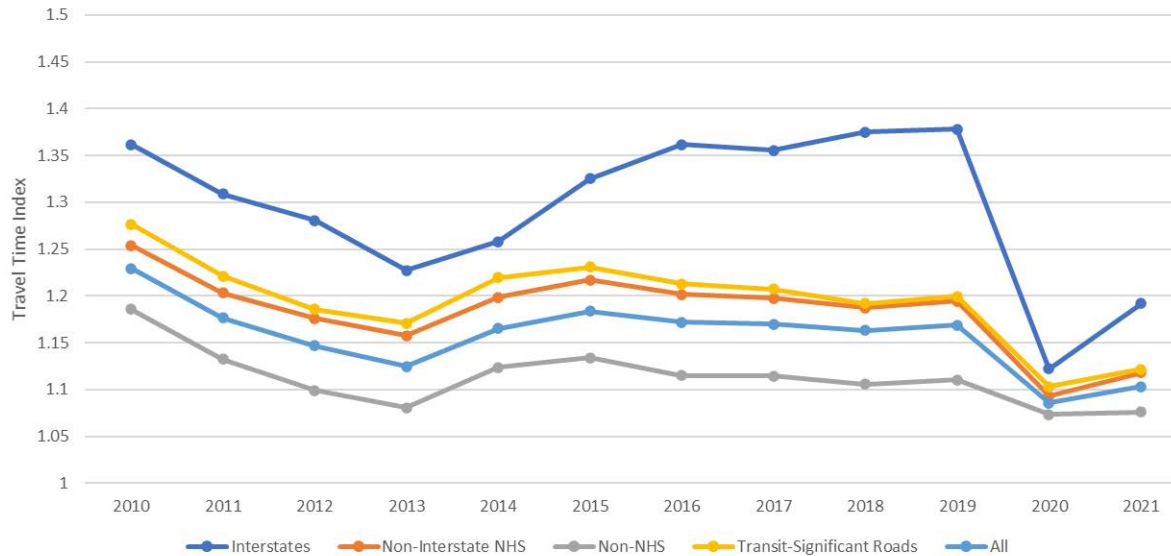
Highlights of the Report

- § 2.2.1 The Eastern Transportation Coalition Vehicle Probe Project Traffic Monitoring
- § 2.2.1.6 Top Bottlenecks
- § 2.5 National Comparison of the Washington Region's Congestion
- Appendix A – 2021 Peak Hour TTI for the Region and Sub-regions
- Appendix B – 2021 Peak Hour PTI for the Region and Sub-regions
- Appendix C – 2010 and 2019-2021 Travel Times along Major Freeway Commute Corridors



Peak Period Congestion

- Measured by Travel Time Index (TTI)*
- Impact of COVID-19 pandemic measures on congestion
- Even with COVID-19 impacts, Interstates remained the most congested highway category, followed by Transit-Significant roads**, non-Interstate NHS, and non-NHS.



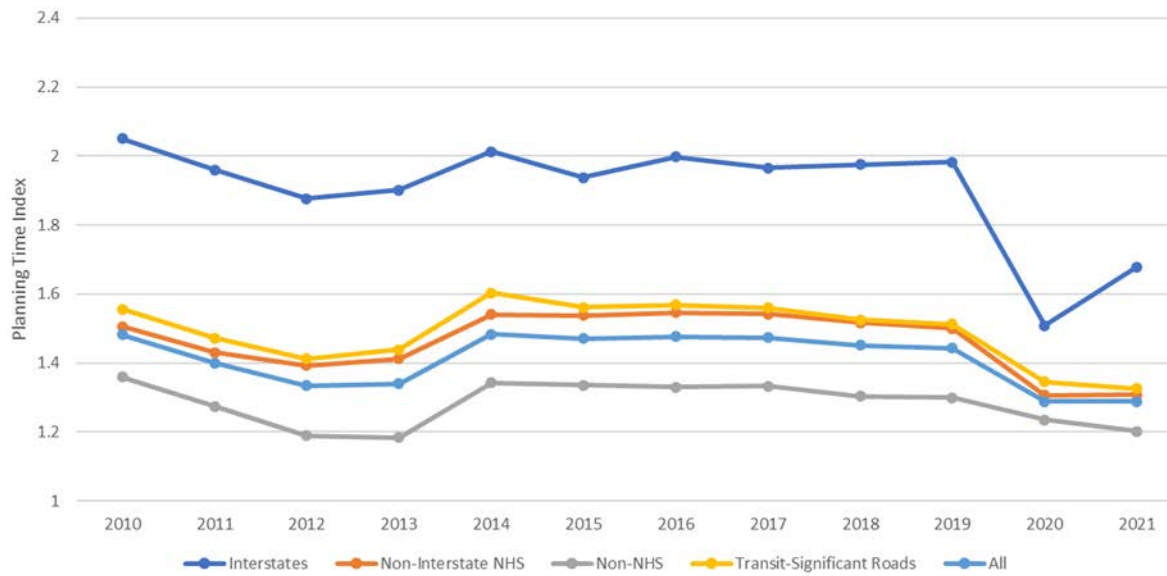
*Travel Time Index =
Actual travel time / Free flow
travel time.

** Transit-Significant Roads:
Directional road segments with
at least 6 buses running in the
AM peak hour.



Peak Period Travel Time Reliability

- Measured by Planning Time Index (PTI)*
- Impact of COVID-19 pandemic measures on reliability
- Most unreliable category is Interstates, followed by Transit-Significant Roads, non-Interstate NHS, and non-NHS.

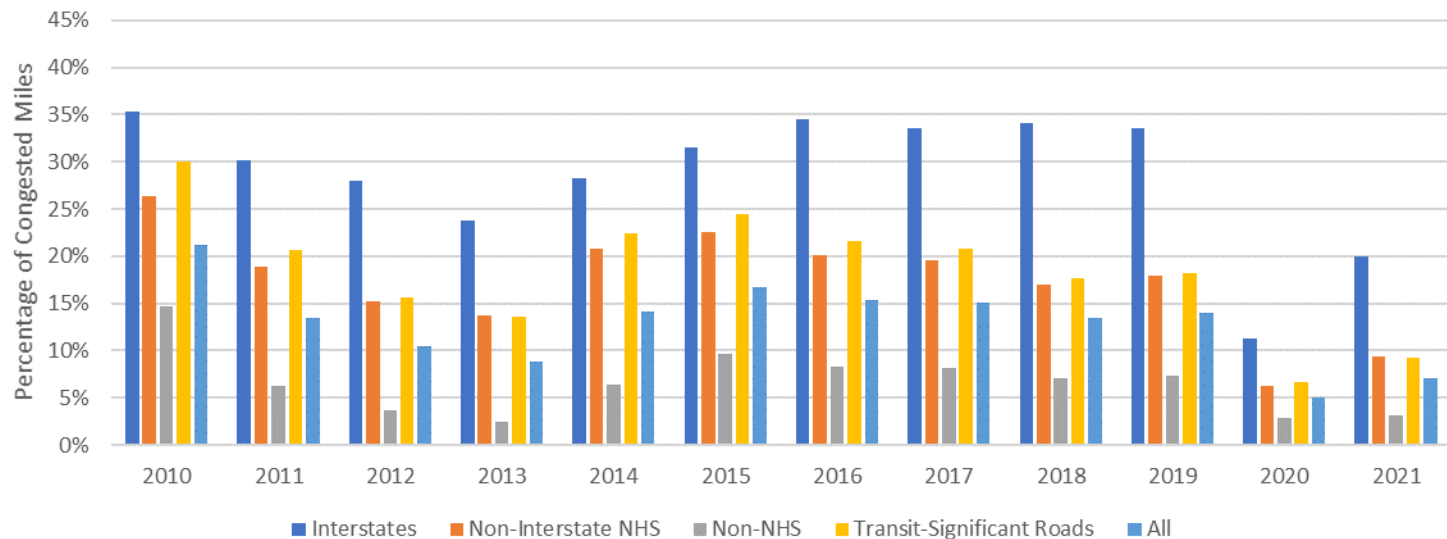


*Planning Time Index =
95th percentile travel time /
Free flow travel time



Peak Period Congestion – Percent of Congested Miles

- To capture the spatial extent of congestion*
- On average, this region observed about 7% of all monitored roads congested during peak periods in 2021, and that was a slight increase from 5% in 2020

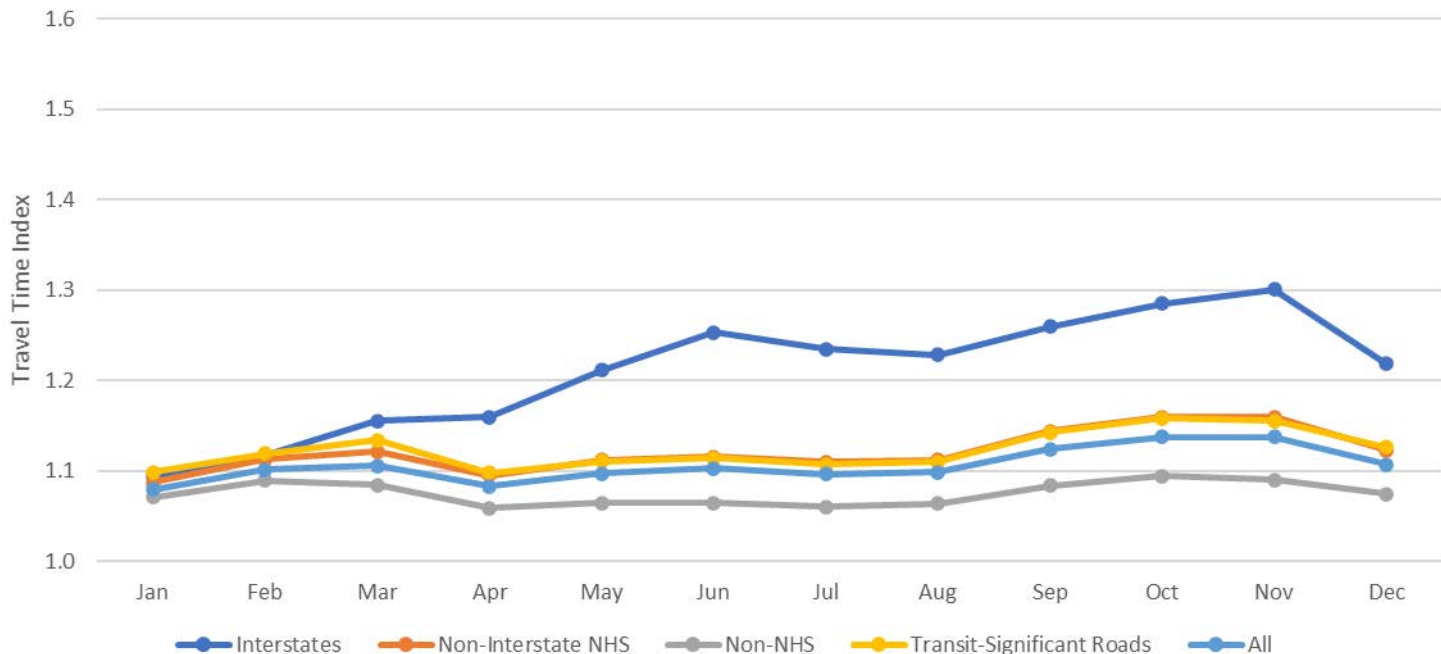


*Congestion is considered when Travel Time Index > 1.30.



Monthly Variation of Congestion in 2021

- Monthly variations of congestion were most noticeable on the Interstate System, followed by the Transit-Significant Roads, the Non-Interstate NHS, and the Non-NHS
- The monthly patterns with COVID-19 in 2020 and 2021 were different from those in pre-COVID-19 years



Top 10 Bottlenecks in 2021

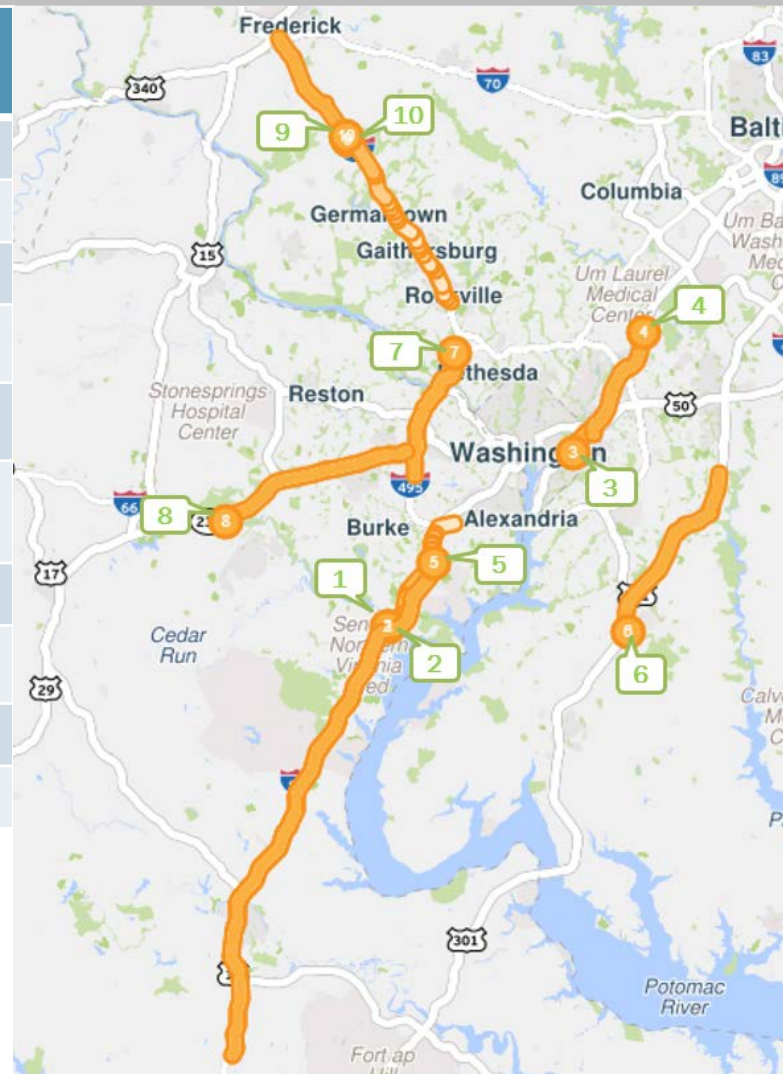
Location	Average duration	Average max length (miles)	Total duration	Impact factor
I-95 S @ VA-123/EXIT 160	8 h 9 m	4.01	124 d 4 h 5 m	530,457
I-95 N @ VA-123/EXIT 160	4 h 11 m	4.45	63 d 19 h 32 m	386,481
DC-295 S @ CAPITOL ST	9 h 4 m	1.51	137 d 22 h 41 m	278,813
MD-295 N @ POWDER MILL RD	5 h 11 m	2.92	78 d 19 h 59 m	255,314
I-95 N @ VA-617/BACKLICK RD/EXIT 167	2 h 33 m	4.02	38 d 22 h 50 m	216,574
US-301 S @ MCKENDREE RD/CEDARVILLE RD	3 h 51 m	2.45	58 d 14 h 43 m	196,300
I-495 CW @ I-270-SPUR	1 h 21 m	5.92	20 d 17 h 56 m	176,892
I-66 W @ VA-234/VA-234-BR/EXIT 47	1 h 15 m	6.21	19 d 3 h 24 m	159,189
I-270 S @ MD-109/EXIT 22	1 h 54 m	3.89	29 d 2 h 53 m	153,541
I-270 N @ MD-109/EXIT 22	1 h 30 m	4.73	22 d 23 h 44 m	146,933



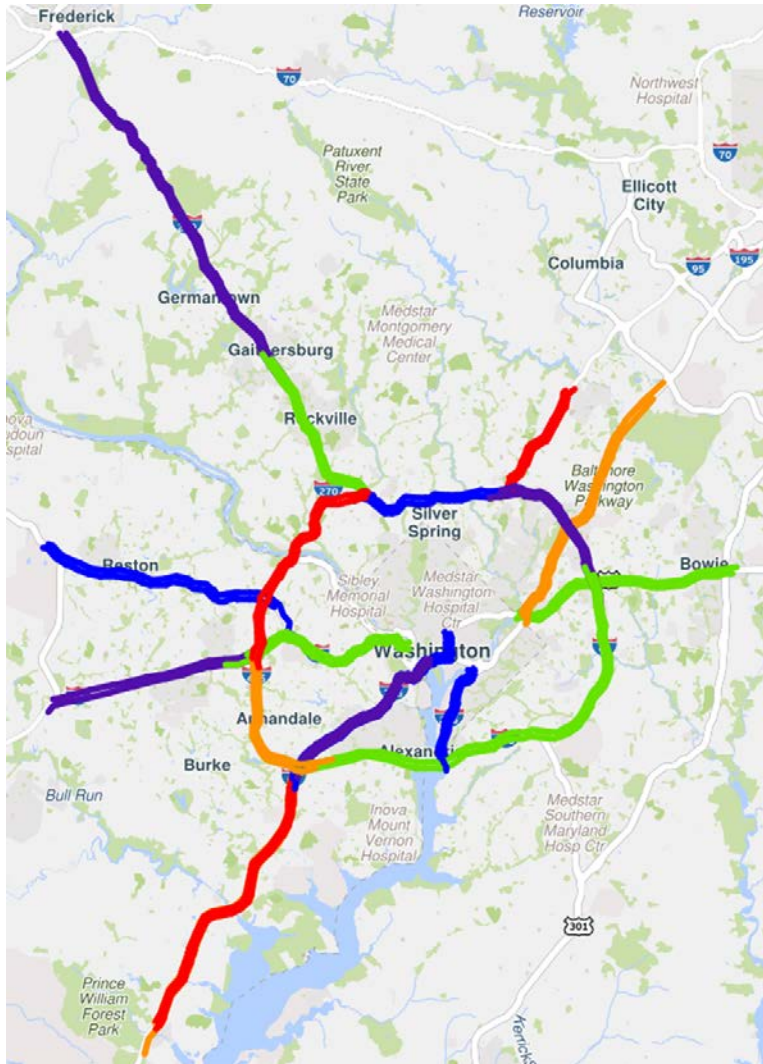
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*Base impact - the sum of queue lengths over the duration



Major Freeway Commute Routes



Route Code	Description
C1	I-270 between I-370/Sam Eig Hwy/Exit 9 and I-70/US-40
C2	I-270 between I-370/Sam Eig Hwy/Exit 9 and I-495/MD-355
C3	VA-267 between VA-28/Exit 9a and VA-123/Exit 19
C4	I-66 between VA-28/Exit 53 and I-495/Exit 64
C5	I-66 between I-495/Exit 64 and Theodore Roosevelt Memorial Bridge
C6	I-95 between VA-234/Exit 152 and Franconia Rd/Exit 169
C7	I-95 HOV between VA-234/Exit 152 and Franconia Rd/Exit 169
C8	I-395 between I-95 and H St
C9	I-395 HOV between I-95 and US-1
C10	US-50 between MD-295/Kenilworth Ave and US-301/Exit 13
C11	MD-295 between US-50/MD-201/Kenilworth Ave and MD-198
C12	I-95 between I-495/Exit 27-25 and MD-198/Exit 33
C13	I-495 between I-270/Exit 35 and I-95/Exit 27
C14	I-495 between I-95/Exit 27 and US-50/Exit 19
C15	I-495 between US-50/Exit 19 and I-95/I-395/Exit 57
C16	I-495 between I-95/I-395/Exit 57 and I-66/Exit 9
C17	I-495 between I-66/Exit 9 and I-270/Exit 35
C18	I-295 between I-495 and 11 th St. Bridge



§2.5 National Comparison

Texas A&M Transportation Institute (2020 data)			INRIX Traffic Scorecard (2021 data)			TomTom Traffic Index (2021 data)		
Annual Person-Hours of Delay per Auto Commuter			Hours Lost in Congestion			Extra Travel Time compared to Free Flow Conditions		
Metro Area	Value	Rank	Metro Area	Value	Rank	Metro Area	Value	Rank
New York	56	1	Chicago	104	1	New York	35%	1
Boston	50	2	New York	102	2	Los Angeles	33%	2
Houston	49	3	Philadelphia	90	3	Miami	28%	3
Los Angeles	46	4	Boston	78	4	Baton Rouge	27%	4
San Francisco	46	4	Miami	66	5	San Francisco	26%	5
Washington	42	5	San Francisco	64	6	Chicago	24%	6
Dallas	40	6	New Orleans	63	7	Honolulu	23%	7
Chicago	39	7	Los Angeles	62	8	Seattle	23%	7
Atlanta	37	8	Houston	58	9	Riverside	23%	7
Philadelphia	37	8	Washington	44	13	Washington	21%	8



Selected Congestion Management Strategies



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