

# CONGESTION REPORT

2nd Quarter 2021

A quarterly update of the National Capital Region's traffic congestion, travel time reliability, top-10 bottlenecks and featured spotlight

July 2021



National Capital Region  
**Transportation Planning Board**

## **CONGESTION REPORT**

July 2021

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The National Capital Region Transportation Planning Board (TPB) is the federally designated metropolitan planning organization (MPO) for metropolitan Washington. It is responsible for developing and carrying out a continuing, cooperative, and comprehensive transportation planning process in the metropolitan area. Members of the TPB include representatives of the transportation agencies of the states of Maryland and Virginia and the District of Columbia, 24 local governments, the Washington Metropolitan Area Transit Authority, the Maryland and Virginia General Assemblies, and nonvoting members from the Metropolitan Washington Airports Authority and federal agencies. The TPB is staffed by the Department of Transportation Planning at the Metropolitan Washington Council of Governments (COG).

### **CREDITS**

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# CONGESTION – TRAVEL TIME INDEX (TTI)

## Interstate System

TTI 2<sup>nd</sup> Quarter 2021: **1.21** ↑15.9% or 0.17<sup>1</sup>  
 TTI Trailing 4 Quarters: **1.14** ↓8.5% or -0.11<sup>2</sup>

## Non-Interstate NHS<sup>3</sup>

TTI 2<sup>nd</sup> Quarter 2021: **1.11** ↑5.3% or 0.06  
 TTI Trailing 4 Quarters: **1.10** ↓4.0% or -0.05

## Transit-Significant<sup>4</sup>

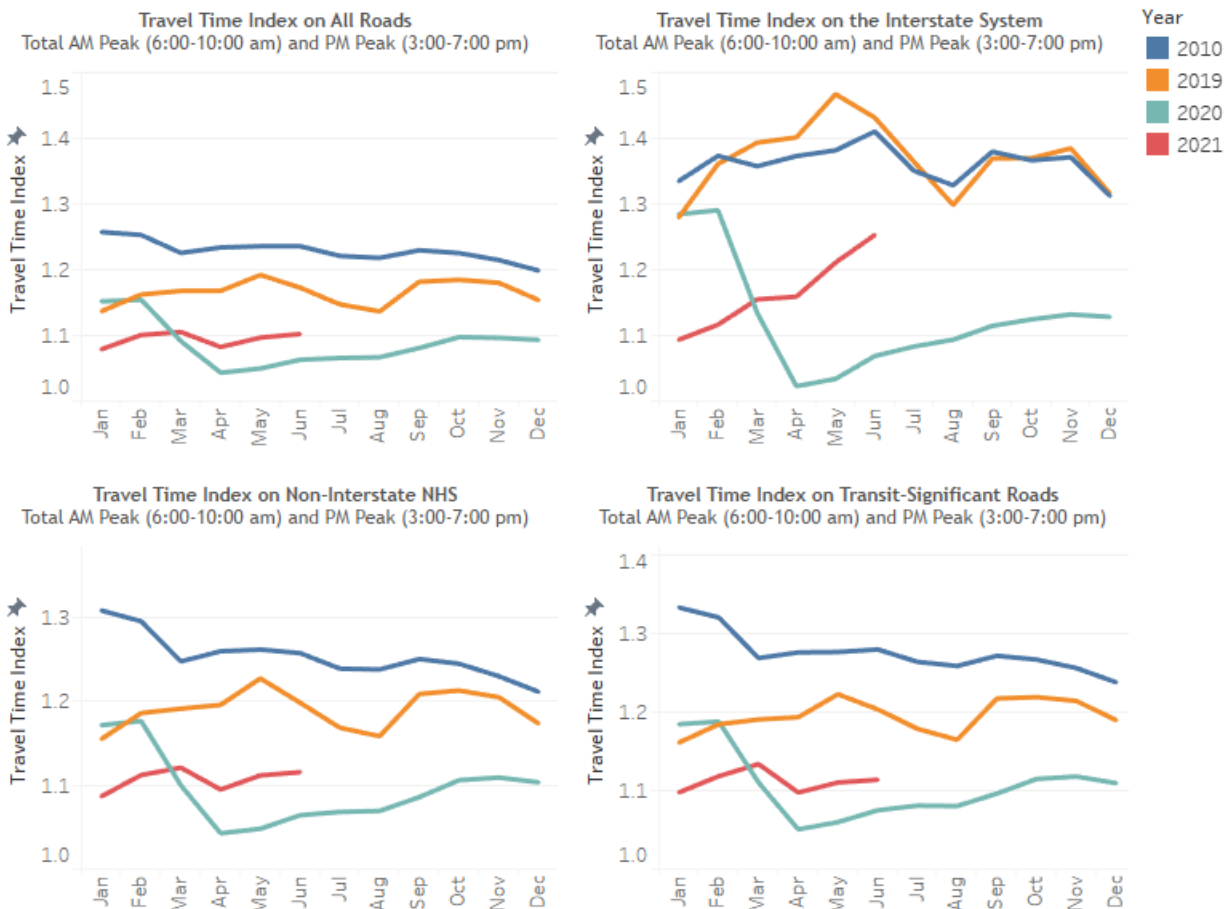
TTI 2<sup>nd</sup> Quarter 2021: **1.11** ↑4.3% or 0.05  
 TTI Trailing 4 Quarters: **1.11** ↓4.2% or -0.05

## All Roads

TTI 2<sup>nd</sup> Quarter 2021: **1.09** ↑4.0% or 0.04  
 TTI Trailing 4 Quarters: **1.09** ↓3.5% or -0.04

<sup>1</sup> Compared to 2<sup>nd</sup> Quarter 2020; <sup>2</sup> Compared to one year earlier; <sup>3</sup> NHS: National Highway System; <sup>4</sup> See “Background” section.

**Figure 1 Monthly Travel Time Index for Total AM peak (6:00-10:00 am) and PM peak (3:00-7:00 pm)**



Source: TPB

**Travel Time Index (TTI)**, defined as the ratio of actual travel time to free-flow travel time, measures the intensity of congestion. The higher the index, the more congested traffic conditions it represents, e.g., TTI = 1.00 means free flow conditions, while TTI = 1.30 indicates the actual travel time is 30% longer than the free-flow travel time.

# RELIABILITY – PLANNING TIME INDEX (PTI)

**Interstate System**

PTI 2<sup>nd</sup> Quarter 2021: **1.55** ↑35.8% or 0.41<sup>1</sup>  
 PTI Trailing 4 Quarters: **1.43** ↓11.1% or -0.18<sup>2</sup>

**Non-Interstate NHS<sup>3</sup>**

PTI 2<sup>nd</sup> Quarter 2021: **1.22** ↑10.5% or 0.12  
 PTI Trailing 4 Quarters: **1.20** ↓8.1% or -0.11

**Transit-Significant<sup>4</sup>**

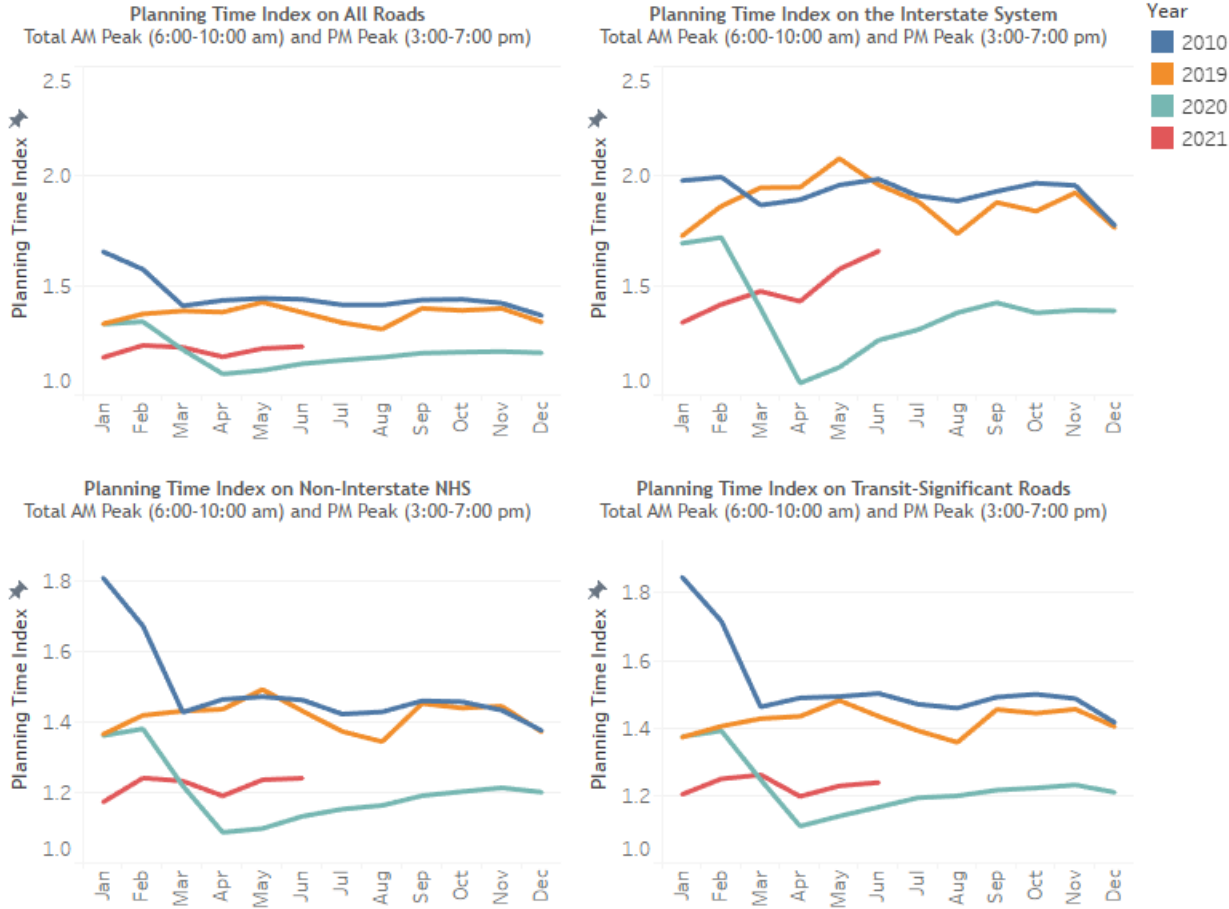
PTI 2<sup>nd</sup> Quarter 2021: **1.22** ↑7.3% or 0.08  
 PTI Trailing 4 Quarters: **1.22** ↓8.1% or -0.11

**All Roads**

PTI 2<sup>nd</sup> Quarter 2021: **1.20** ↑7.7% or 0.09  
 PTI Trailing 4 Quarters: **1.19** ↓6.7% or -0.09

<sup>1</sup> Compared to 2<sup>nd</sup> Quarter 2020; <sup>2</sup> Compared to one year earlier; <sup>3</sup> NHS: National Highway System; <sup>4</sup> See “Background” section.

**Figure 2 Monthly Planning Time Index for Total AM peak (6:00-10:00 am) and PM peak (3:00-7:00 pm)**



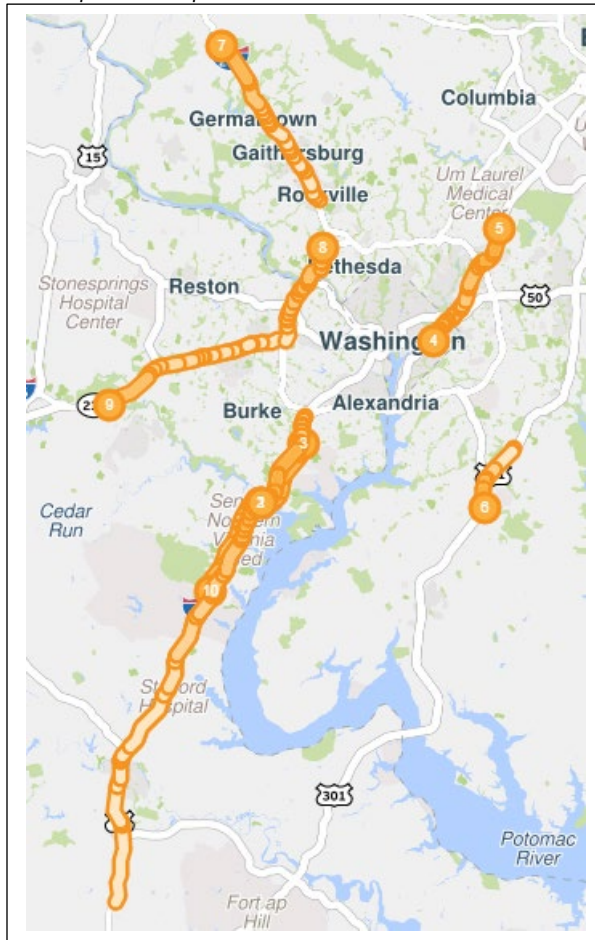
Source: TPB

*Planning Time Index (PTI), defined as the ratio of 95th percentile travel time to free flow travel time, measures travel time reliability. The higher the index, the less reliable traffic conditions it represents, e.g., PTI = 1.30 means a traveler must budget 30% longer than the uncongested travel time to arrive on time 95% of the instances (i.e., 19 out of 20 trips).*

# TOP 10 BOTTLENECKS

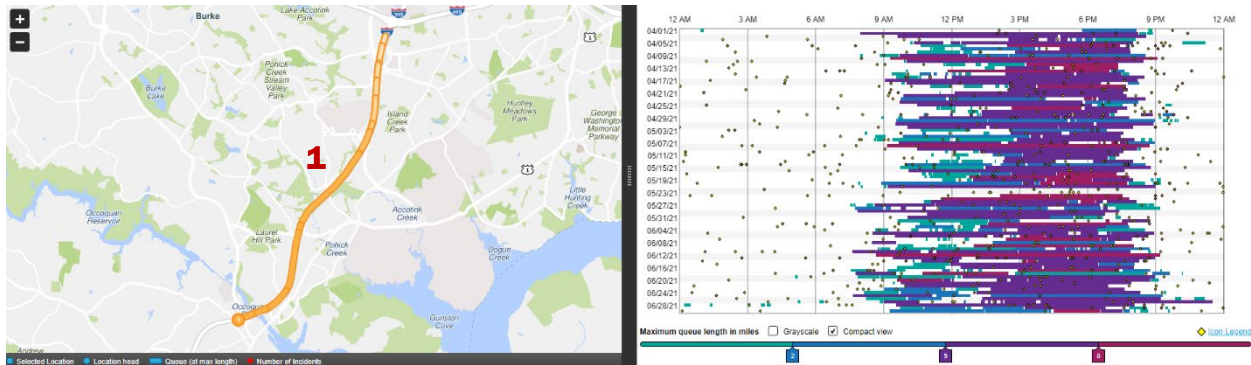
Rank (Last Quarter Rank)	Location	Average duration	Average max length (miles)	Total duration	Impact factor
1 (1)	I-95 S @ VA-123/EXIT 160	8 h 56 m	3.92	33 d 22 h 5 m	143,646
2 (7)	I-95 N @ VA-123/EXIT 160	5 h 21 m	4.79	20 d 7 h 43 m	128,451
3 (12)	I-95 N @ VA-617/BACKLICK RD/EXIT 167	3 h 37 m	4.16	13 d 17 h 23 m	79,310
4 (3)	DC-295 S @ CAPITOL ST	9 h 36 m	1.5	36 d 9 h 41 m	74,835
5 (4)	MD-295 N @ POWDER MILL RD	5 h 33 m	2.93	21 d 2 h 4 m	67,879
6 (5)	US-301 S @ MCKENDREE RD/CEDARVILLE RD	4 h 19 m	2.55	16 d 10 h 19 m	56,942
7 (**)	I-270 N @ MD-109/EXIT 22	1 h 46 m	4.83	6 d 17 h 41 m	44,111
8 (**)	I-495 CW @ I-270-SPUR	1 h 12 m	6.18	4 d 14 h 4 m	40,730
9 (8)	I-66 W @ VA-234/VA-234-BR/EXIT 47	1 h 13 m	6.09	4 d 15 h 16 m	37,925
10 (35)	I-95 S @ VA-619/EXIT 150	1 h 38 m	4.55	6 d 4 h 58 m	37,510

\*\*Not in the top 50 bottlenecks of the previous report.

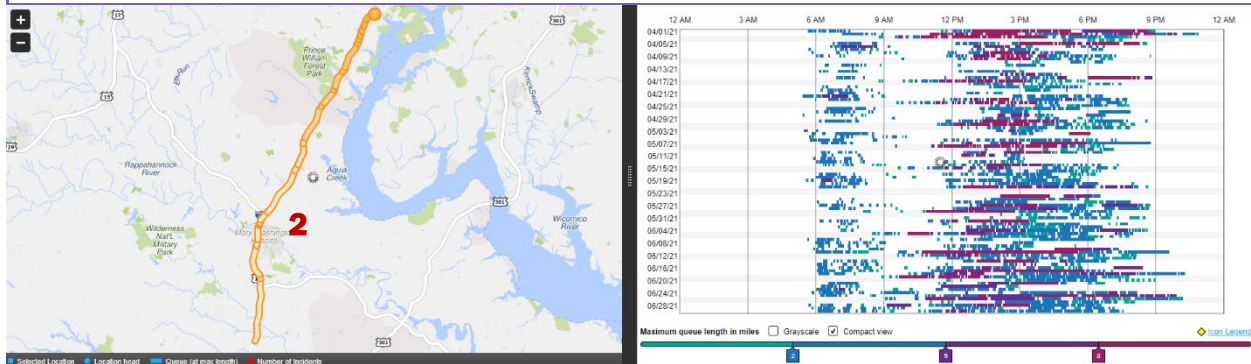


Rank	Location	Average duration	Average max length (miles)	Total duration	Impact factor*
1	I-95 S @ VA-123/EXIT 160	8 h 56 m	3.92	33 d 22 h 5 m	143,646

\* The Impact Factor of a bottleneck is simply the product of the Average Duration (minutes), Average Max Length (miles) and the number of occurrences.

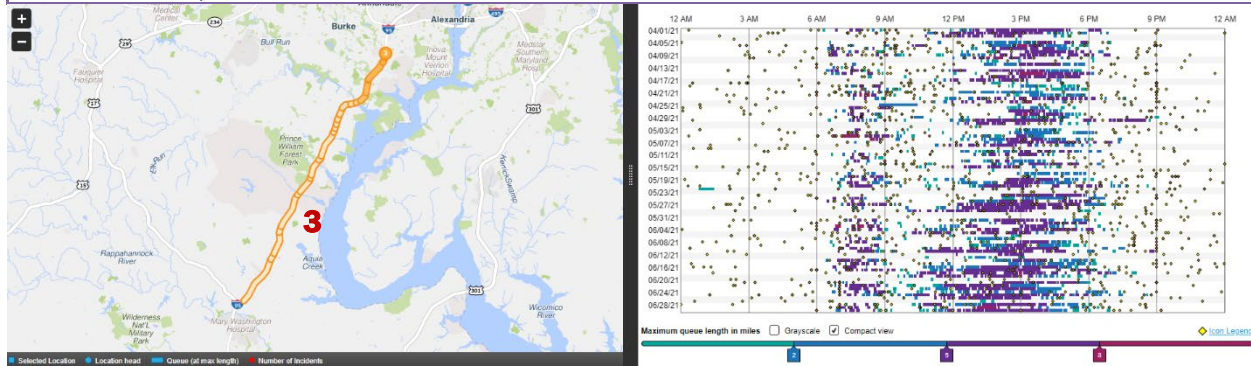


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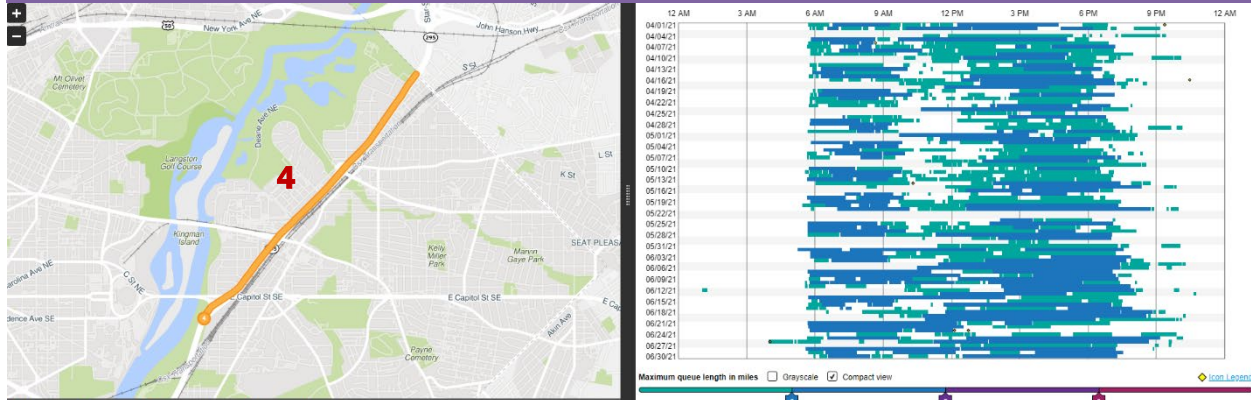




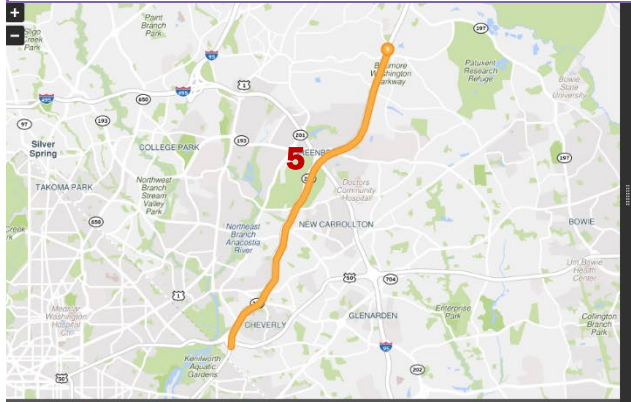
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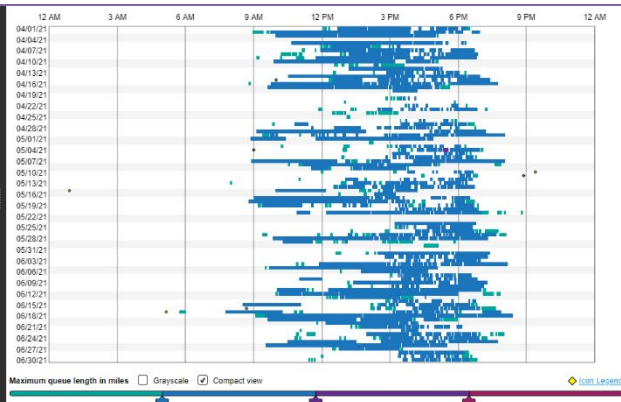
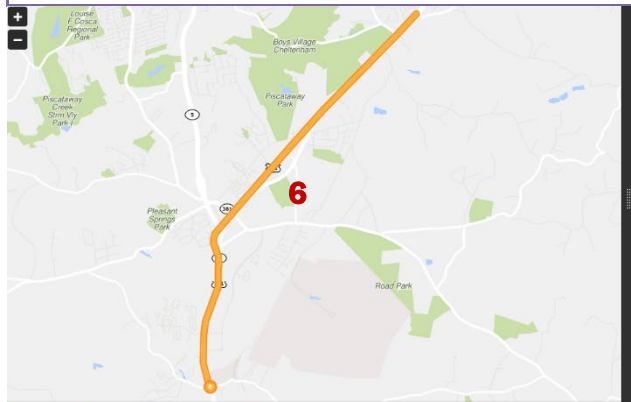
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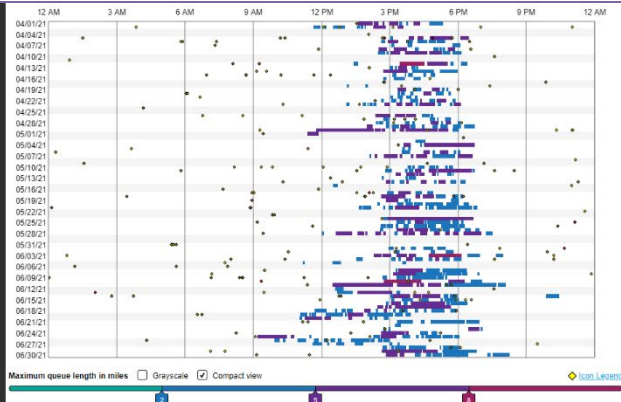
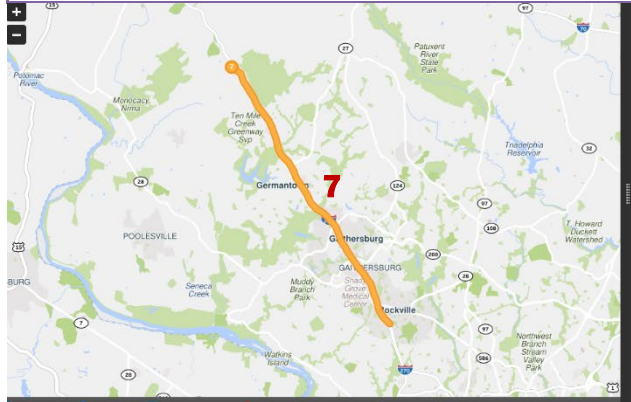
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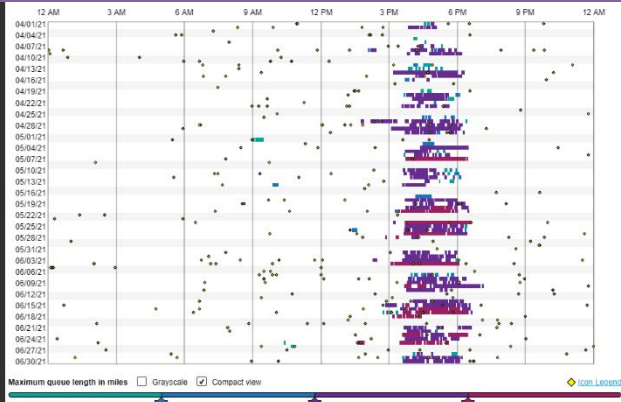
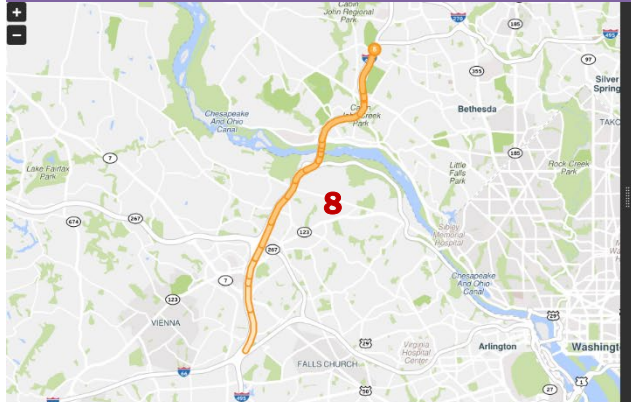
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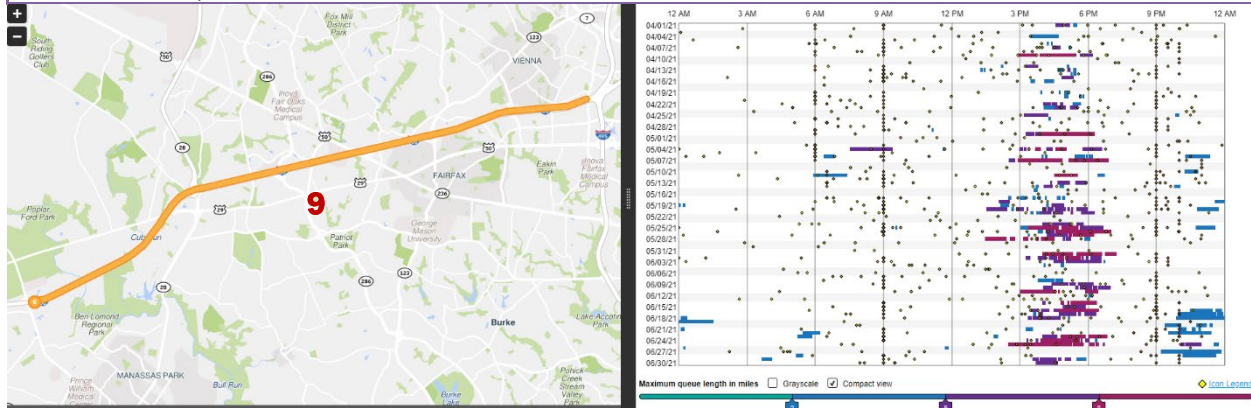


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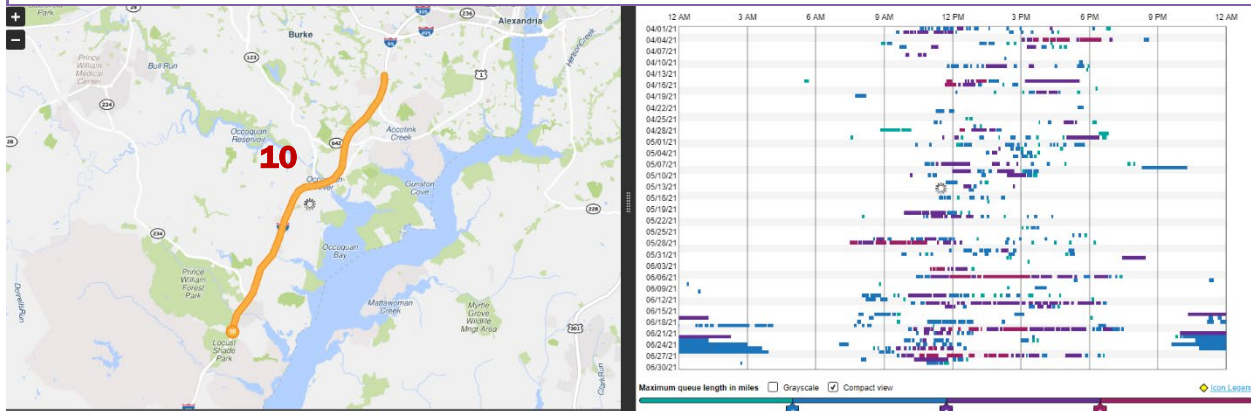




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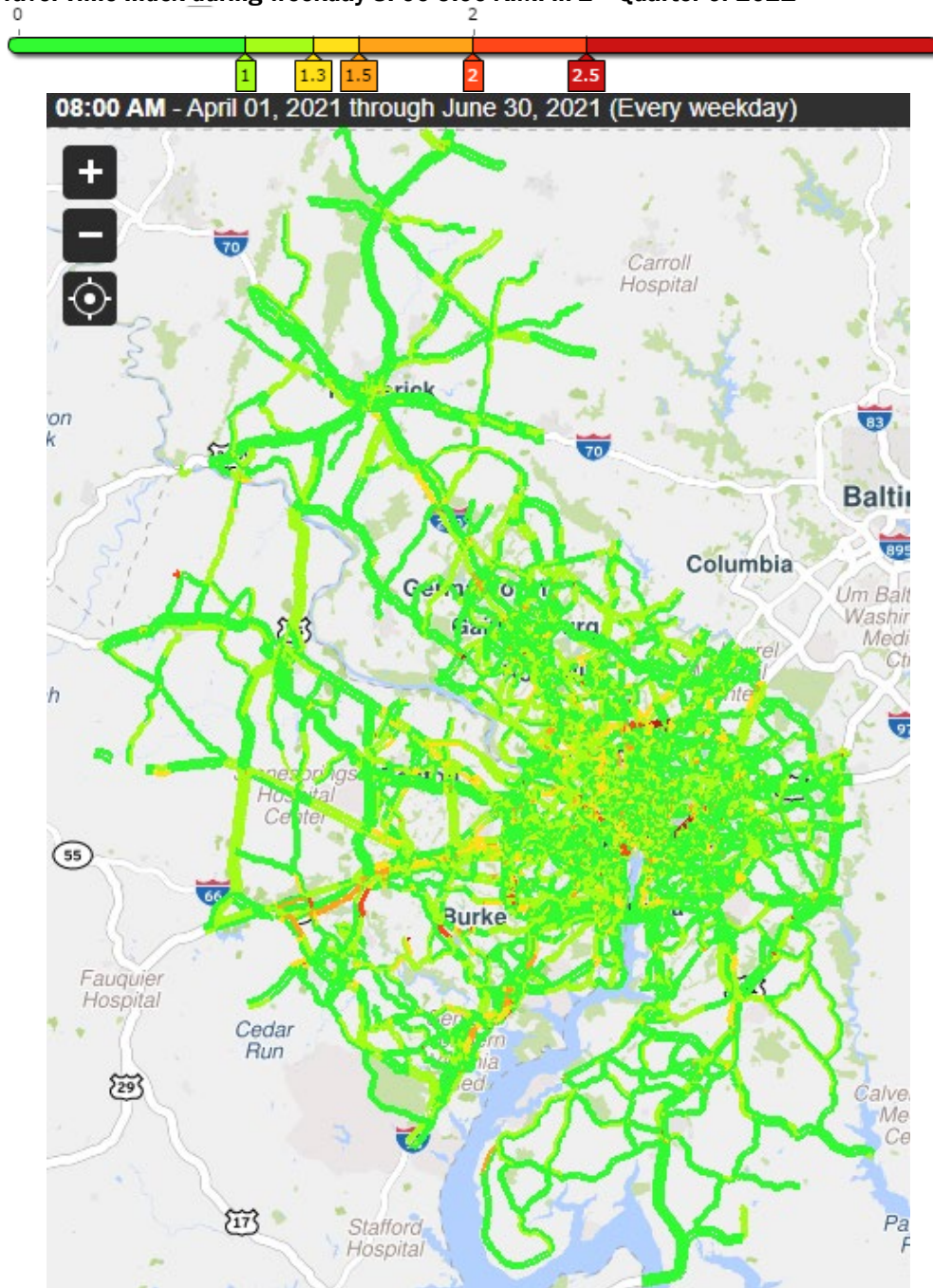


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# CONGESTION MAPS

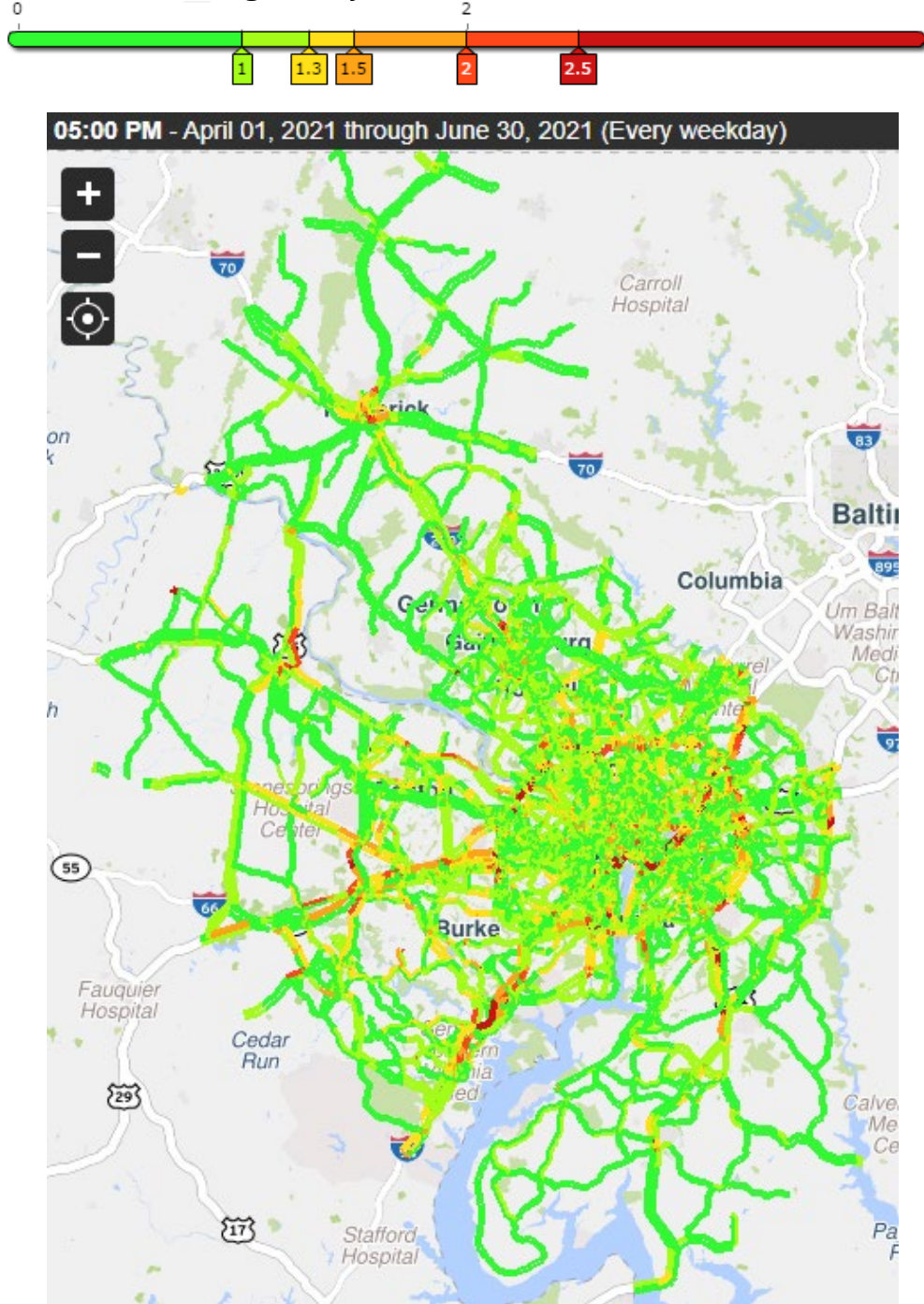
Figure 3. Travel Time Index during weekday 8: 00-9:00 A.M. in 2<sup>nd</sup> Quarter of 2021



Source: University of Maryland CATT Lab



Figure 4. Travel Time Index during weekday 5:00-6:00 P.M. in 2<sup>nd</sup> Quarter of 2021



Source: University of Maryland CATT Lab

## 2021Q2 SPOTLIGHT: INTERSTATE TRAVEL REBOUNDS

The 2nd quarter of 2021 was notable for a rebound in congestion on the region's Interstates, in contrast to other roadways. As shown in Figure 1 and Figure 2, the Travel Time Index for Interstates increased to 1.21 from 1.14 for the trailing four quarters, and the Planning Time Index increased to 1.55 from 1.43 for the trailing four quarters. The increase in TTI and PTI was especially evident in peak commute times on the Interstate network.

Eight of the Top Ten congested locations were included in the list for the first quarter of 2021 and the entry at the top of the list is the same as the previous report - I-95 southbound (conventional lanes) between the Springfield Interchange and VA-123 (Gordon Boulevard).

In general, congestion appears significantly more severe and pervasive in the afternoons (Figure 4) than it does in the mornings (Figure 3).