

# CONGESTION REPORT

## 2<sup>nd</sup> Quarter 2020

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

July 17, 2020



National Capital Region  
**Transportation Planning Board**



## **ABOUT TPB**

Transportation planning at the regional level is coordinated in the Washington area by the National Capital Region Transportation Planning Board (TPB). Members of the TPB include representatives of the transportation agencies of the states of Maryland and Virginia, and the District of Columbia, 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 of the Metropolitan Washington Council of Governments.

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2<sup>nd</sup> Quarter 2020

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# CONGESTION – TRAVEL TIME INDEX (TTI)

## Interstate System

TTI 2<sup>nd</sup> Quarter 2020: **1.04** ↓27.3% or -0.39<sup>1</sup>  
 TTI Trailing 4 Quarters: **1.24** ↓10.0% or -0.14<sup>2</sup>

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

TTI 2<sup>nd</sup> Quarter 2020: **1.05** ↓12.9% or -0.16  
 TTI Trailing 4 Quarters: **1.14** ↓3.5% or -0.04

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

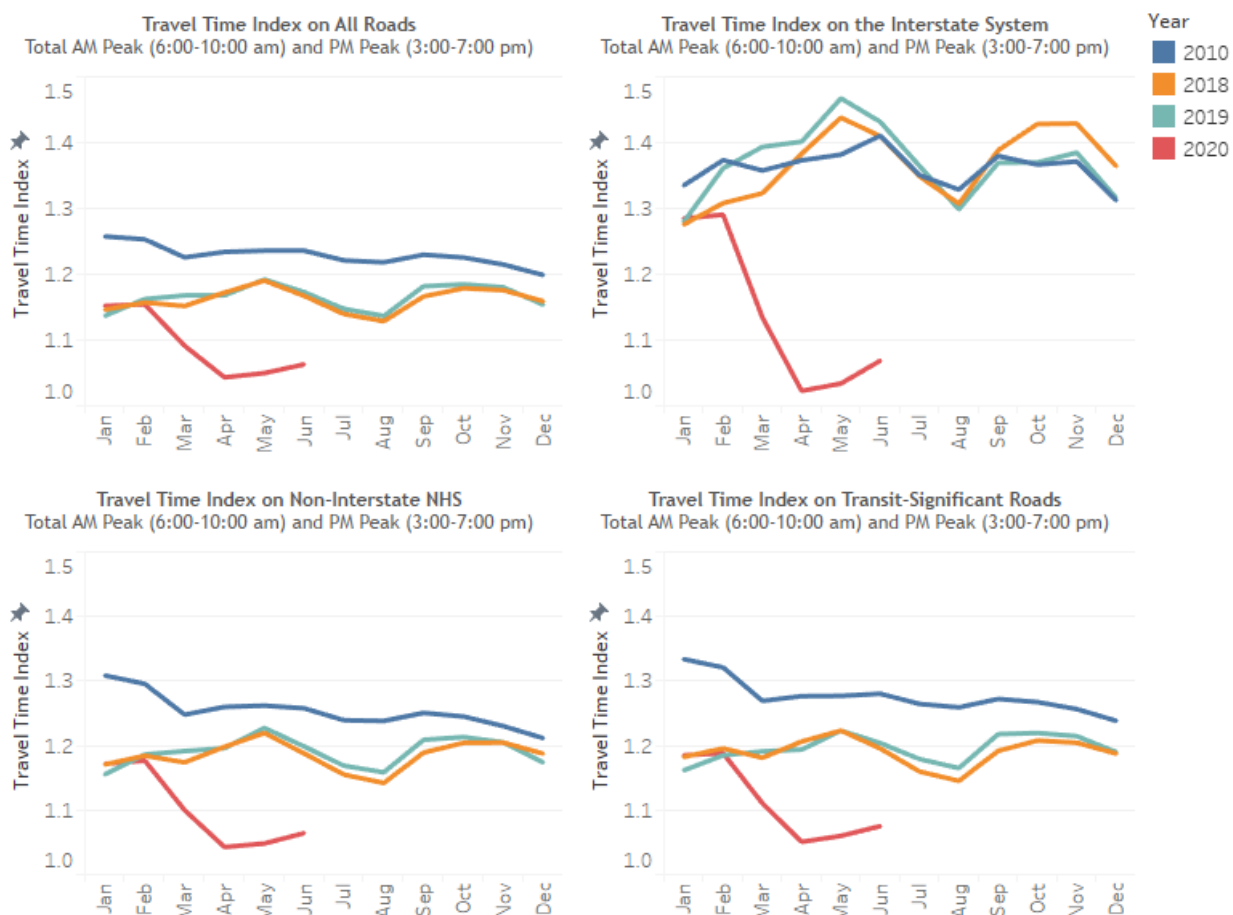
TTI 2<sup>nd</sup> Quarter 2020: **1.06** ↓12.0% or -0.15  
 TTI Trailing 4 Quarters: **1.15** ↓2.8% or -0.03

## All Roads

TTI 2<sup>nd</sup> Quarter 2020: **1.05** ↓10.7% or -0.13  
 TTI Trailing 4 Quarters: **1.13** ↓2.9% or -0.03

<sup>1</sup> Compared to 2<sup>nd</sup> Quarter 2019; <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)



**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 2020: **1.14** ↓42.7% or -0.85<sup>1</sup>  
 PTI Trailing 4 Quarters: **1.61** ↓16.6% or -0.32<sup>2</sup>

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

PTI 2<sup>nd</sup> Quarter 2020: **1.11** ↓23.9% or -0.35  
 PTI Trailing 4 Quarters: **1.31** ↓8.2% or -0.12

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

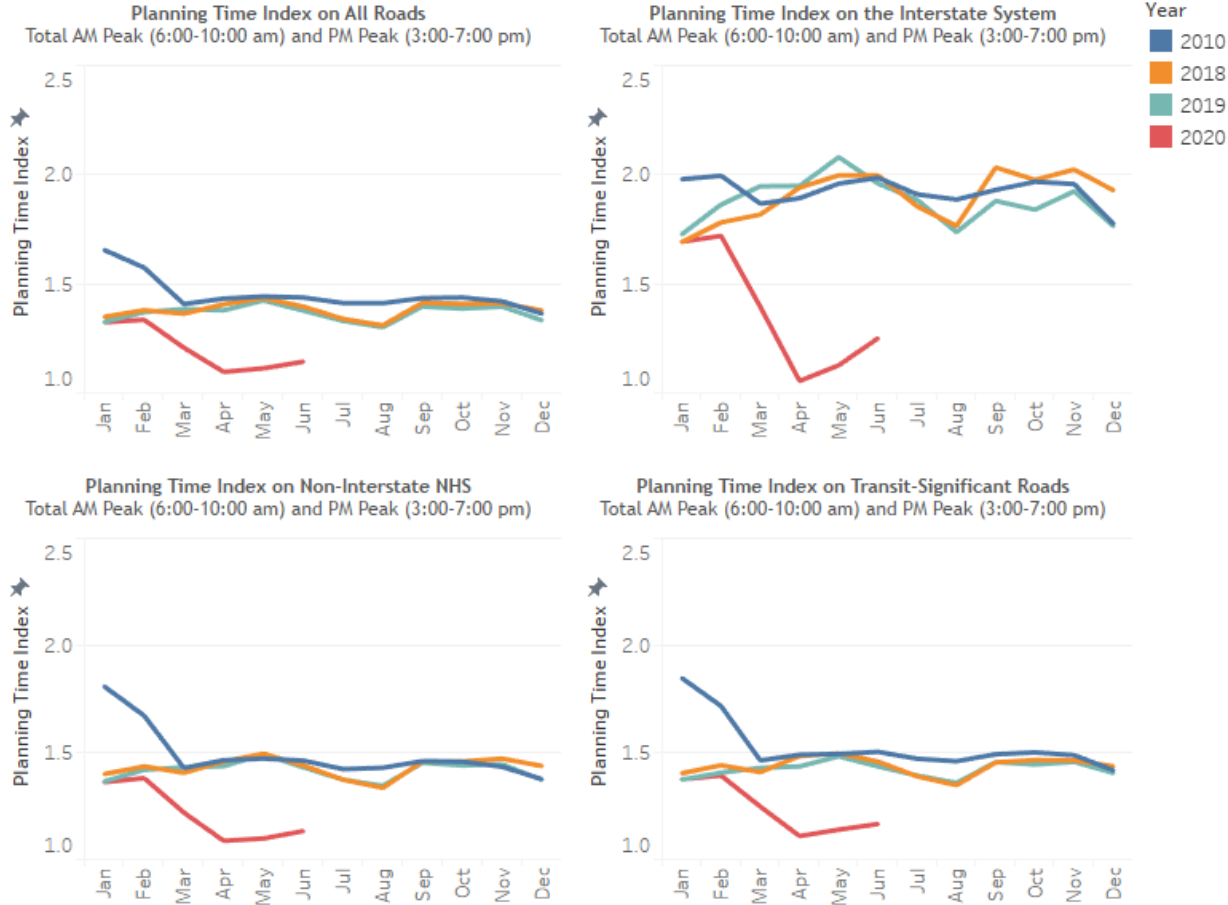
PTI 2<sup>nd</sup> Quarter 2020: **1.14** ↓21.5% or -3.12  
 PTI Trailing 4 Quarters: **1.33** ↓6.8% or -0.10

## All Roads

PTI 2<sup>nd</sup> Quarter 2020: **1.12** ↓19.8% or -0.28  
 PTI Trailing 4 Quarters: **1.28** ↓7.0% or -0.10

<sup>1</sup> Compared to 2<sup>nd</sup> Quarter 2019; <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)

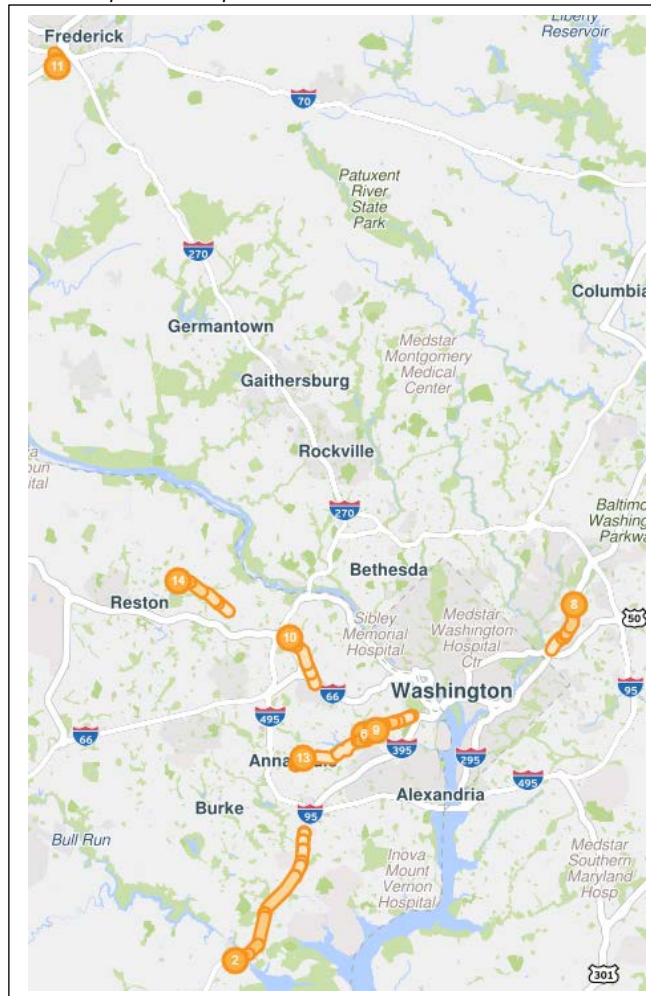


**Planning Time Index (PTI)**, defined as the ratio of 95th percentile travel time to free flow travel time, measures travel time reliability. The higher the index, the less reliable traffic conditions it represents, e.g., PTI = 1.30 means a traveler must budget 30% longer than the uncongested travel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

# TOP 10 BOTTLENECKS

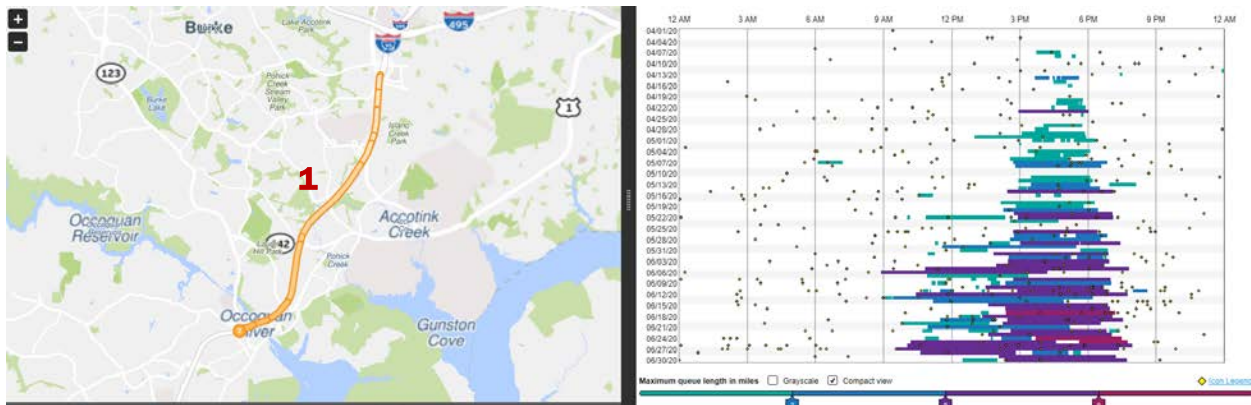
Rank (Last Quarter Rank)	Location	Average duration	Average max length (miles)	Total duration	Impact factor
1 (1)	I-95 S @ VA-123/EXIT 160	3 h 19 m	2.97	12 d 14 h	40,773
2 (**)	VA-244 W @ VA-716/CARLIN SPRINGS RD	5 h 7 m	0.84	19 d 10 h 16 m	21,366
3 (**)	ROSEWICK RD W @ US-301	14 h 19 m	0.2	54 d 7 h 48 m	17,173
4 (**)	BW PKWY N @ RIVERDALE RD	2 h 2 m	1.58	7 d 18 h 14 m	16,415
5 (**)	VA-244 E @ S FOUR MILE RUN DR	3 h 48 m	0.78	14 d 11 h 11 m	15,391
6 (**)	VA-694 N @ VA-123/DOLLEY MADISON BLVD/BALLS HILL RD	13 h 26 m	0.3	50 d 23 h 33 m	15,003
7 (**)	MD-351 S @ CRESTWOOD BLVD	6 h 3 m	0.52	22 d 22 h 51 m	13,981
8 (**)	MD-6 W @ US-301/BLUE STAR MEML HWY/CRAIN HWY	13 h 32 m	0.26	51 d 8 h 20 m	13,923
9 (**)	VA-244 E @ VA-711/GALLOWS RD	5 h 11 m	0.49	19 d 15 h 44 m	13,880
10 (**)	VA-7 W @ VA-674	2 h 9 m	0.88	8 d 4 h 16 m	12,920

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

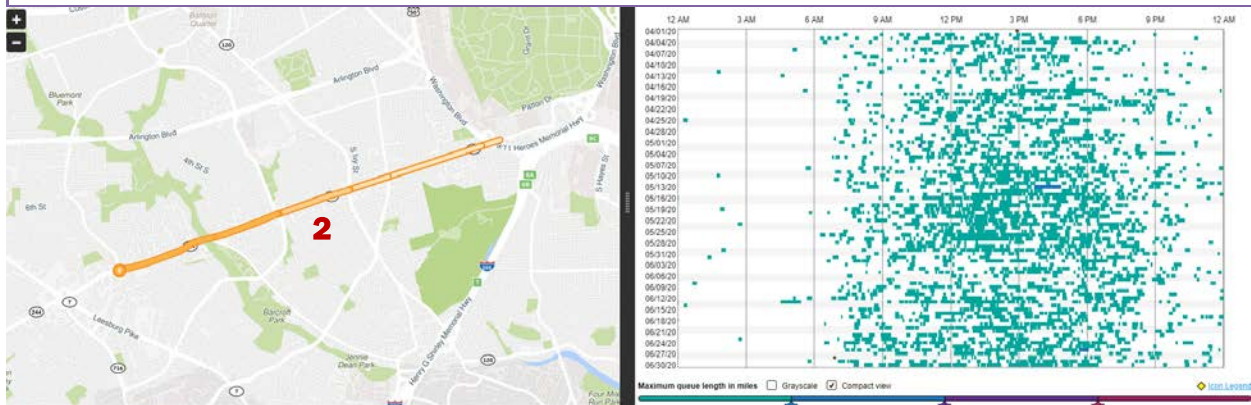


Rank	Location	Average duration	Average max length (miles)	Total duration	Impact factor*
1	I-95 S @ VA-123/EXIT 160	3 h 19 m	2.97	12 d 14 h	40,773

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



Rank	Location	Average duration	Average max length (miles)	Total duration	Impact factor
2	VA-244 W @ VA-716/CARLIN SPRINGS RD	5 h 7 m	0.84	19 d 10 h 16 m	21,366

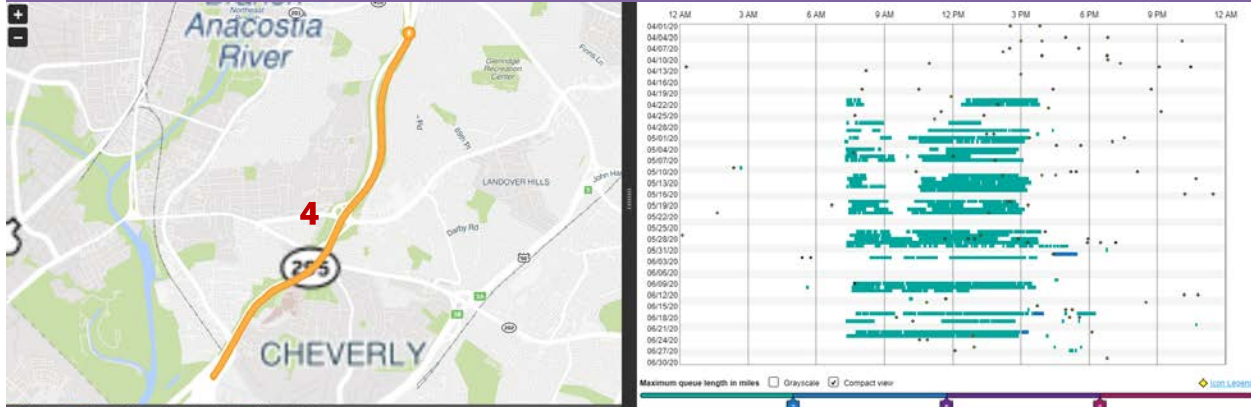




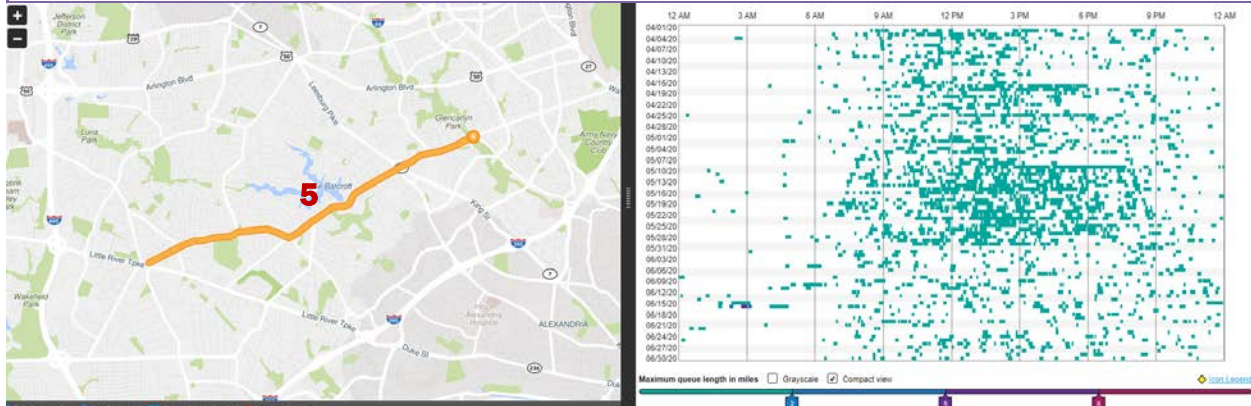
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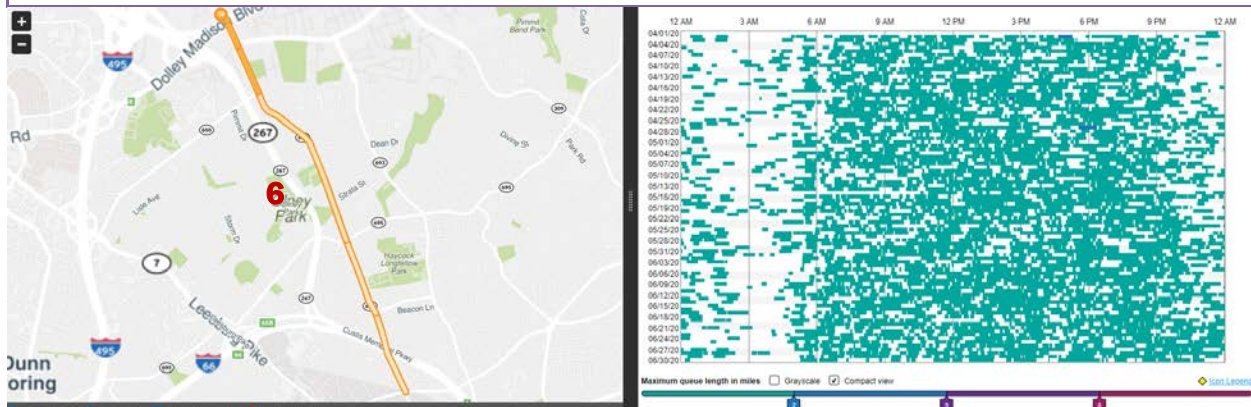
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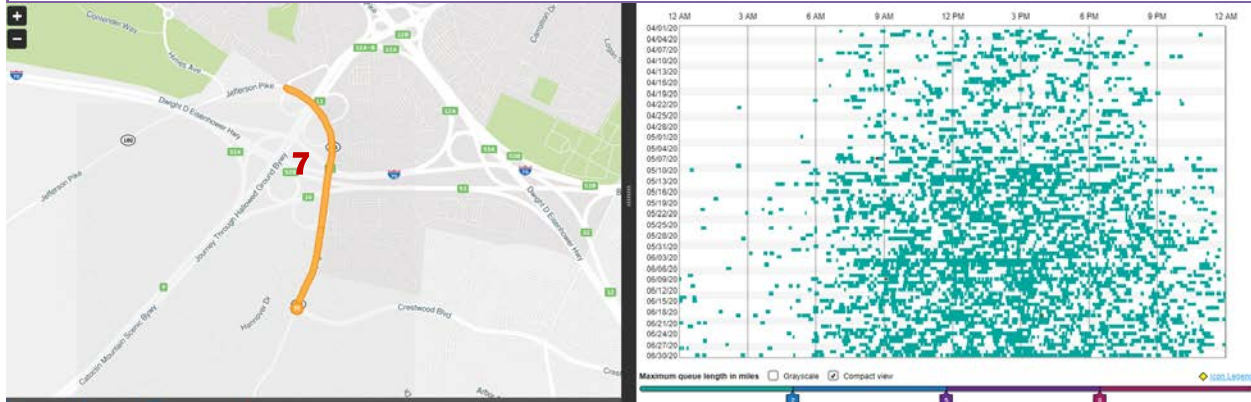
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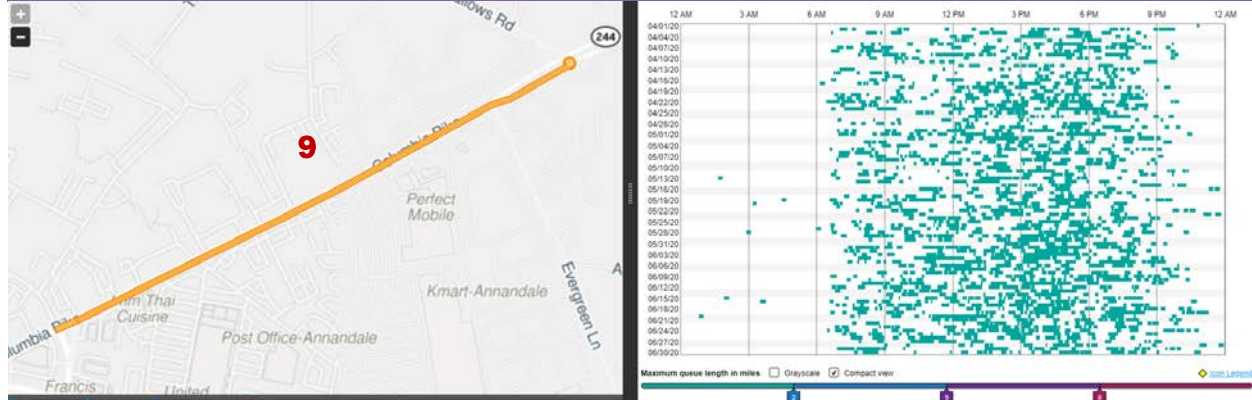
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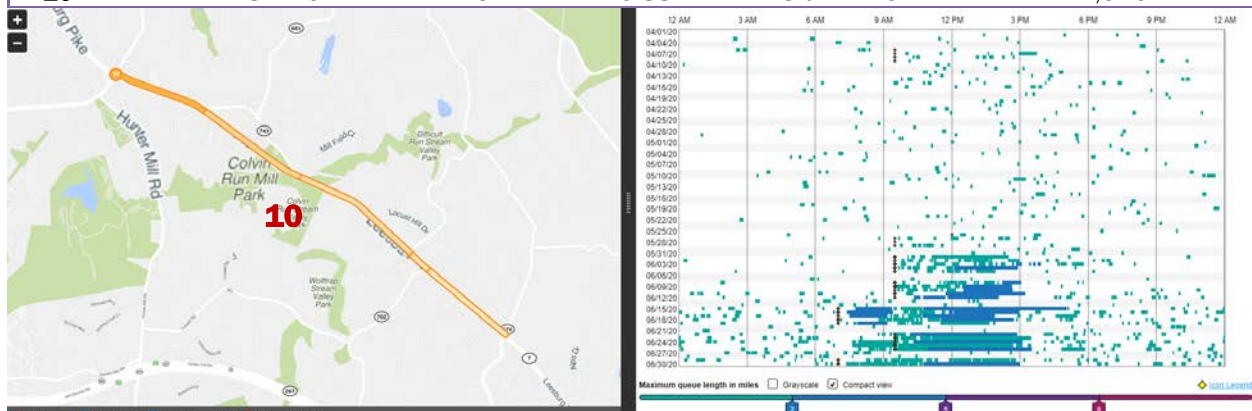
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Rank	Location	Average duration	Average max length (miles)	Total duration	Impact factor
10	VA-7 W @ VA-674	2 h 9 m	0.88	8 d 4 h 16 m	12,920



# CONGESTION MAPS

Figure 3. Travel Time Index during weekday 8: 00-9:00 A.M. in 2<sup>nd</sup> Quarter of 2020

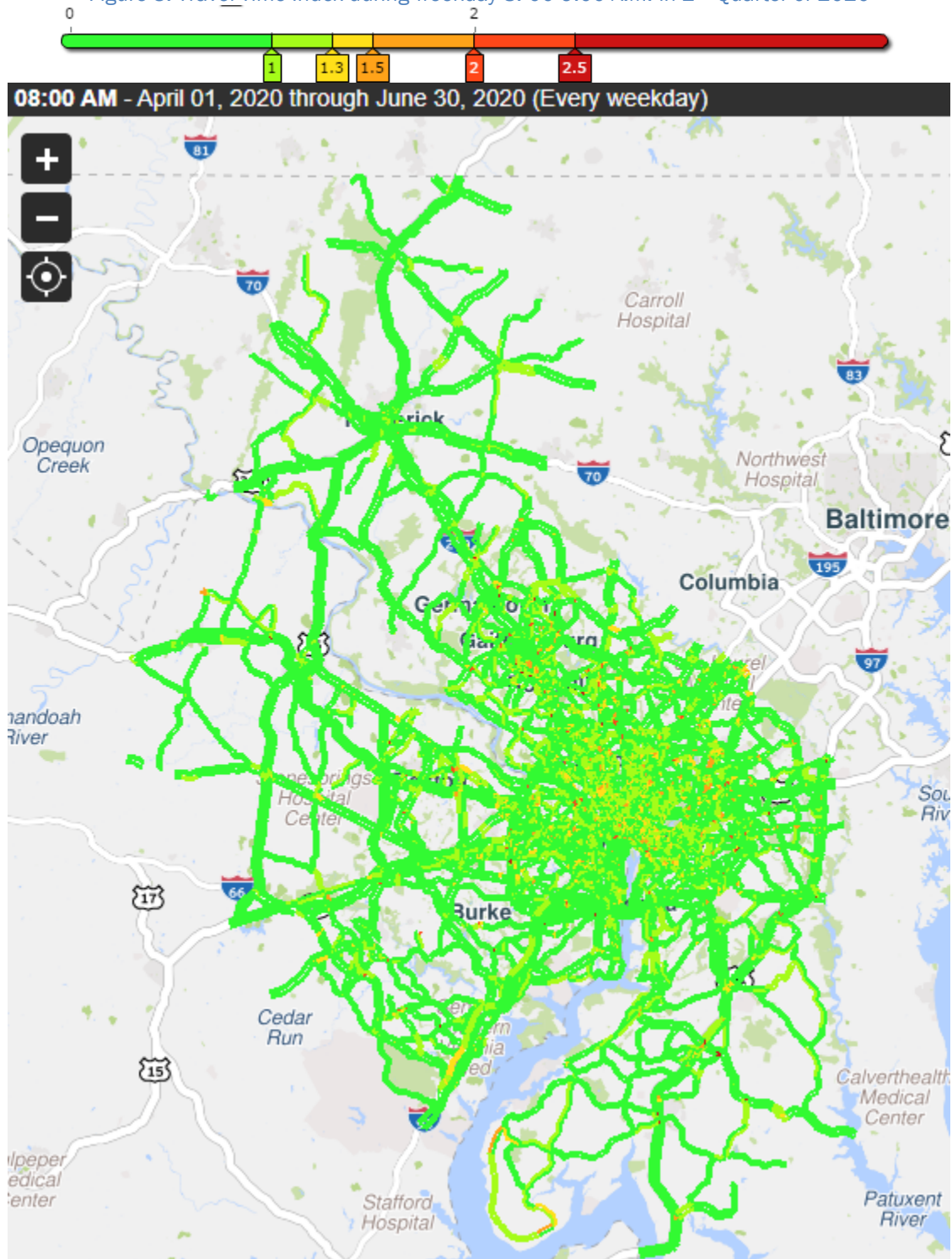
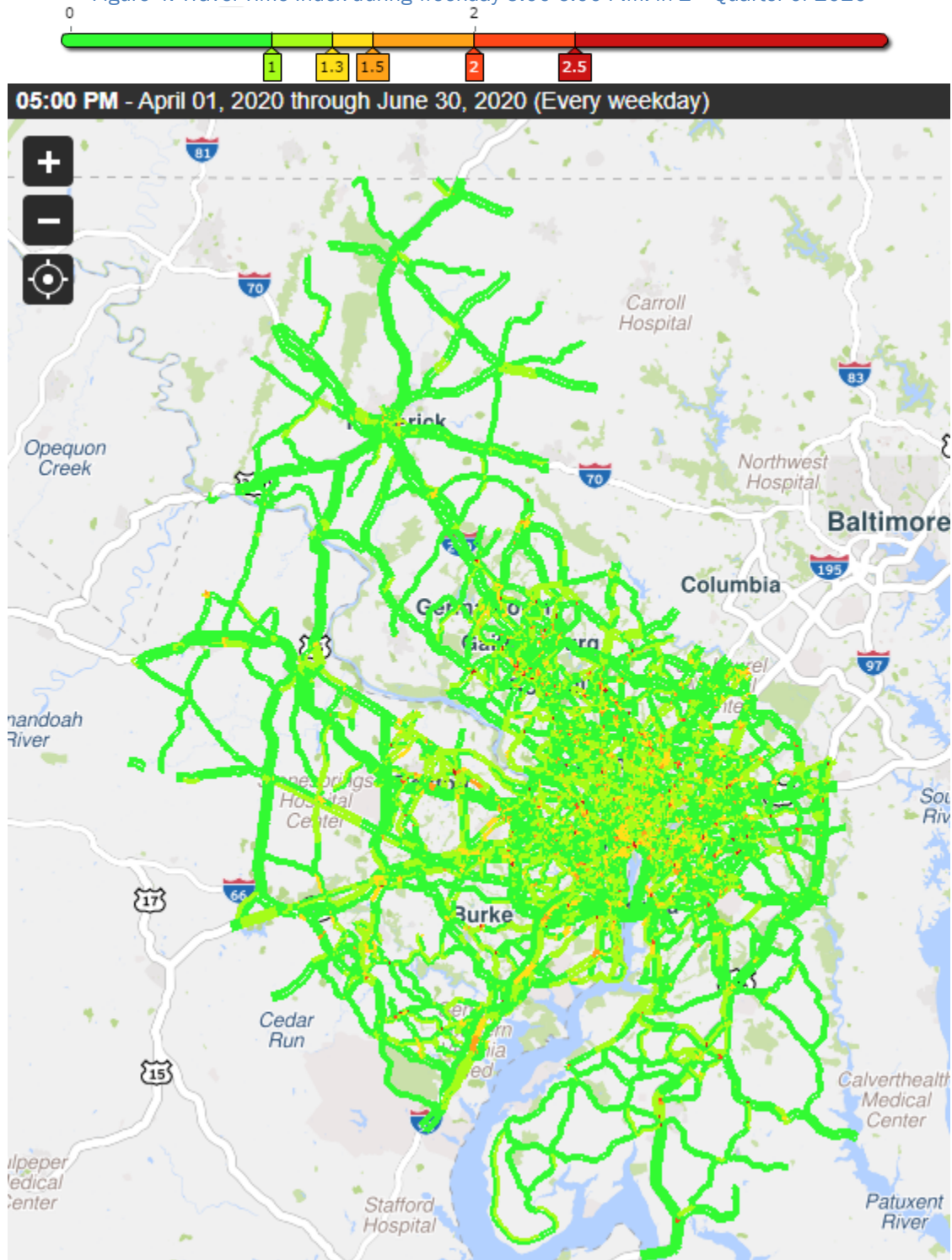


Figure 4. Travel Time Index during weekday 5:00-6:00 P.M. in 2<sup>nd</sup> Quarter of 2020

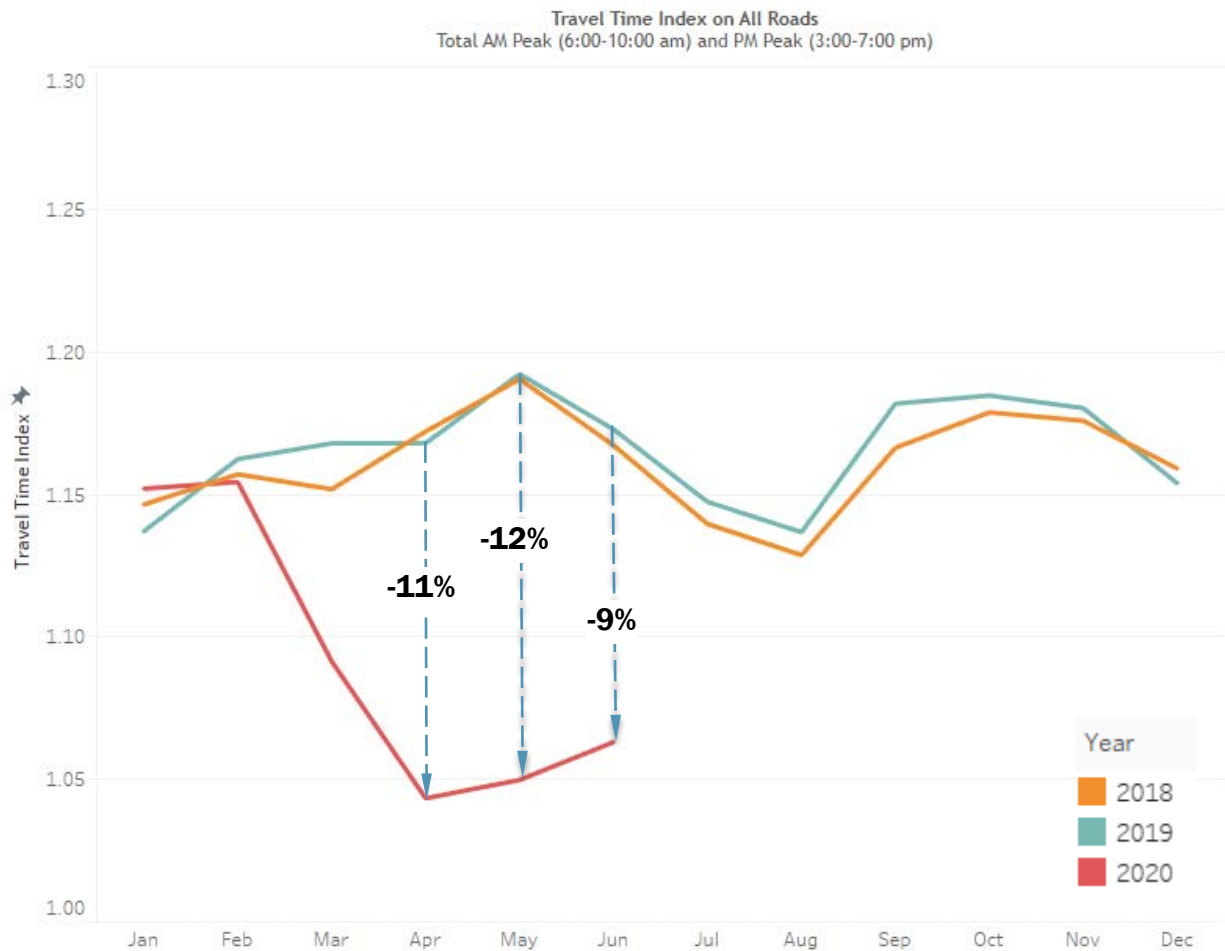


## 2020Q2 SPOTLIGHT – BIG IMPACTS AND A SLOW REBOUND

The 2<sup>nd</sup> quarter of 2020 provided perhaps the most remarkable National Capital Region Congestion Report since the inception of these reports, due to the magnitude of impacts of the ongoing COVID-19 pandemic. Stay-at-home orders and recommendations caused significant drops in congestion at almost all locations compared to historic norms. This was seen dramatically in this report's listing of the top ten bottlenecks for the quarter, eight of which had not previously been in the top ten, and the "impact factors" calculated from vehicle probe data were a fraction of those seen among the top ten in previous years. The congestion at these mostly non-freeway arterial locations in the top ten likely had not increased; rather, congestion "competition" from the region's Interstates and freeways had experienced steep drops. Perhaps local day-to-day errand-running had not declined as much as had longer-distance commutes.

As the 2<sup>nd</sup> quarter continued, despite the ongoing public health restrictions, traffic in the National Capital Region (NCR) started a slow trend back toward historic norms. The travel time index (TTI) on all types of road increased as the 2<sup>nd</sup> quarter of 2020 progressed.

The lowest TTIs among the first half of 2020 were observed in April (as shown in Figure 1) after stay-at-home orders were issued. While increasing slowly after April, the TTIs were still far below what they were in 2019. For example, the 2020's TTI on all roads increased 0.6% from April to May, and 1.3% from May to June. However, the year-over-year drop was 11% in April, 12% in May, and 9% in June, as shown in Figure 5.



**Figure 5 Drops of monthly TTI in the 2nd quarter of 2020, comparing to 2019**

Perhaps not surprisingly, month-to-month trends in TTI for the quarter differed from historic norms. Typically, TTI is higher in May than in April), and this trend continued for May 2020 (though both months at much lower index levels than pre-pandemic). Remarkably, June 2020 saw a higher TTI than May (whereas June historically saw lower TTIs than May), as governments took steps toward reopening. For example, Phase One of the Washington, DC Reopening order was issued on May 27, 2020, lifting its stay-at-home order<sup>1</sup>.

The increase of TTI on the interstate system during this quarter was more obvious than those on the other roads, especially that 3% from May to June (as shown in Figure 6). While TTI (i.e. 1.07) in June 2020 was still relatively low, it is a clear sign of traffic rebound from the bottom in April.

<sup>1</sup> Mayor's Order 2020-067, Phase One of Washington, DC Reopening, [https://coronavirus.dc.gov/sites/default/files/dc/sites/coronavirus/page\\_content/attachments/MO\\_2020-067.pdf](https://coronavirus.dc.gov/sites/default/files/dc/sites/coronavirus/page_content/attachments/MO_2020-067.pdf)



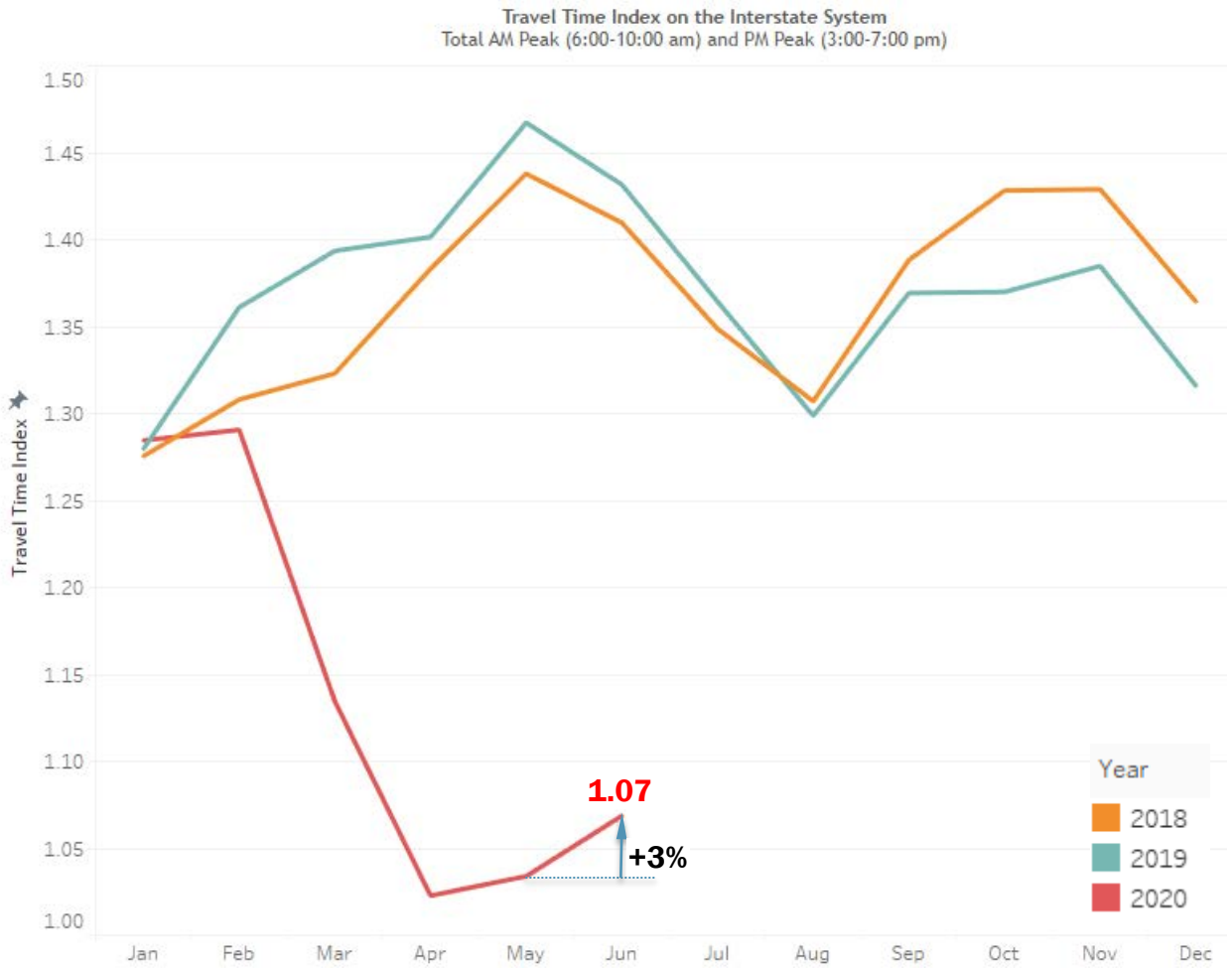


Figure 6 TTI on the Interstate System



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