

METRO SUMMER 2019 PLATFORM SHUTDOWN: TRAFFIC IMPACTS

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TPB Technical Committee
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Item 6



Overview

- Six Blue and Yellow Line stations were completely shut down for maintenance May 25 to September 8, 2019
- City of Alexandria, Arlington and Fairfax Counties in the impact area
- On average 17,000 riders affected by the shutdown
- Free shuttle bus service and other transportation enhancements enacted to lessen impact on travelers
- Studies by other agencies underway and reports expected in November/December
- This presentation will look specifically at congestion impacts and variations in the vicinity; memo has additional information



Scope

- Analysis limited in scope to congestion impacts on the highway system
- Study area defined as shown
- 15 major routes in the area of impact studied
- Regional Integrated Transportation Information System (RITIS) provided data; Probe Data Analytics (PDA) Suite used to conduct analysis
- Analysis looked at:
 - 3 weeks immediately prior to the shutdown (baseline)
 - During shutdown
 - 3 weeks after reopening
 - Varying sub-period lengths were used – single weeks at beginning and end, multiple weeks in the middle of the summer

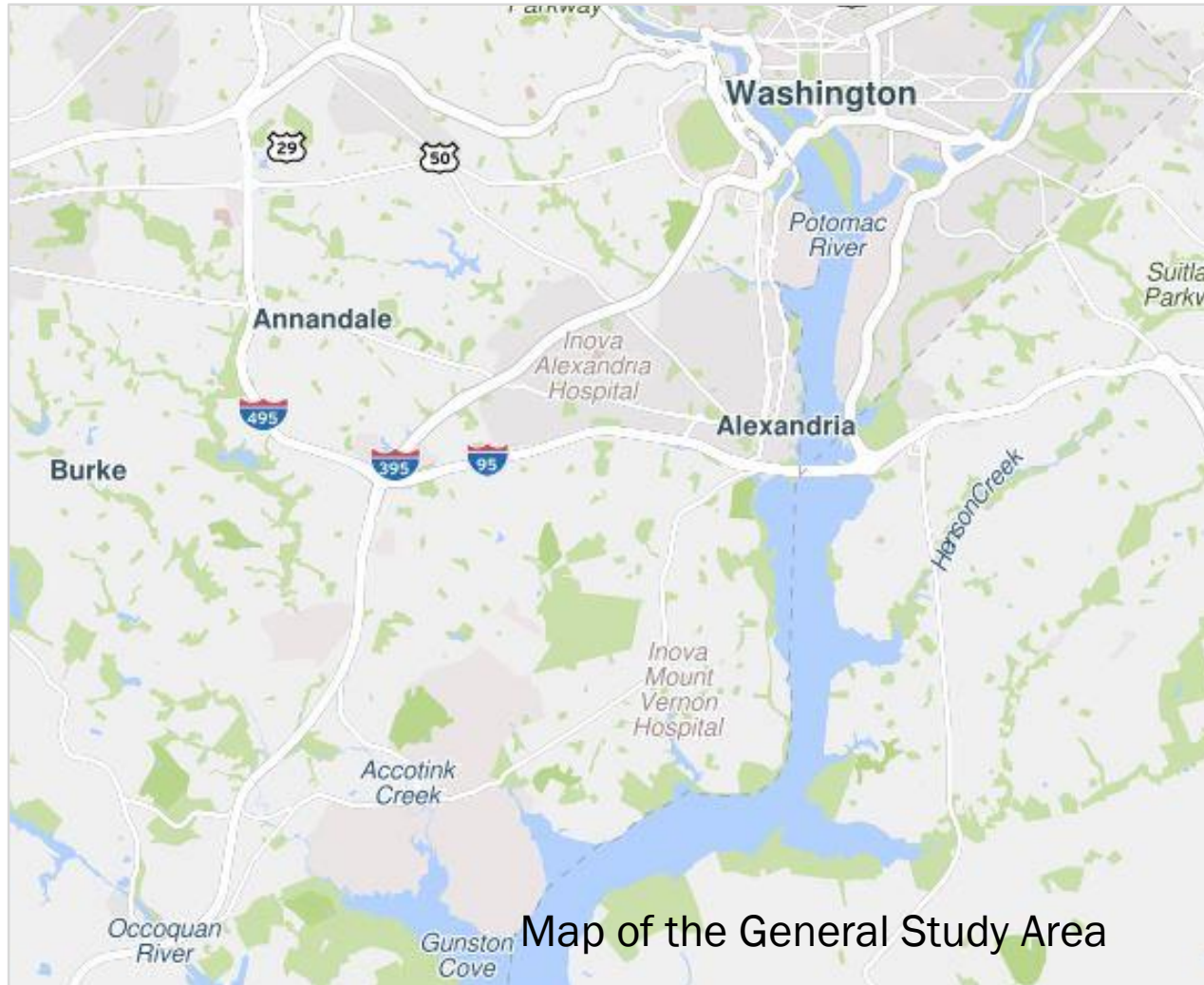


Methodology

- Analysis frequency
 - Pre-shutdown 3-week period in May; during shutdown weekly for late May to early July; multi-week periods in July and August) weekly in late August and in September (time periods of varying length)
- Only weekdays studied (holidays included)
- PDA Suite not fine grained to identify very localized problems
- Routes generally travelled by shuttle buses studied
 - Franconia/Springfield to Pentagon
 - Huntington to Pentagon
 - King Street to National Airport
- Used preliminary routing and ridership information on shuttle buses and other transit options, obtained from providers



Study Area in Vicinity of Shutdown



Map of the General Study Area



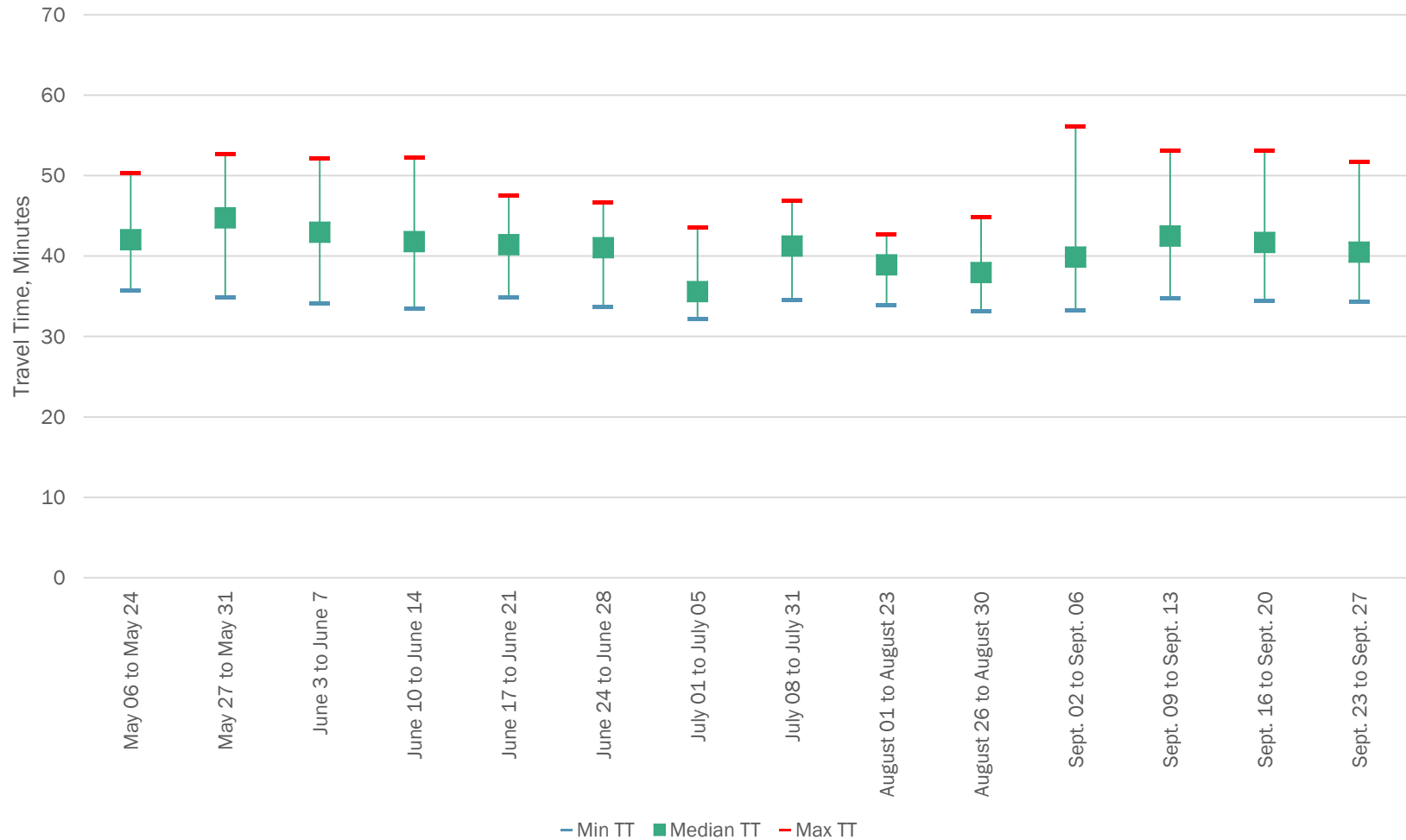
Study Area Routes Examined

| | |
|----|---|
| 1 | I-395 from I-95 (Springfield Interchange) to 7th Street, S.W. (Conventional Lanes) |
| 2 | I-95 and I-395 HOV/toll and HOV roadway from VA-123 (Gordon Blvd) to Pentagon |
| 3 | I-395 Express Lanes from Pentagon to north terminus in District of Columbia |
| 4 | I-95 from VA-123 (Gordon Boulevard) to I-395 (Springfield Interchange) |
| 5 | I-95/I-495 from Springfield Interchange to MD-5 (Branch Avenue) |
| 6 | I-295 from I-95/I-495 to I-695 |
| 7 | George Washington Memorial Pkwy from U.S. 1 to Spout Run Pkwy (includes VA-235 from U.S. 1 to Mount Vernon and VA-400 (Washington St) from Capital Beltway to Slaters Ln) |
| 8 | U.S. 1 from VA-123 (Gordon Blvd) to I-395 (north of Crystal City) |
| 9 | VA-241 (North Kings Hwy and Telegraph Rd) between U.S. 1 and VA-236 |
| 10 | VA-611 (Telegraph Rd) from U.S. 1 to VA-241 |
| 11 | VA-613 (South Van Dorn St) and VA-401 (North Van Dorn St) from Kingstown Blvd to VA-7 (King St) |
| 12 | VA-289 (Franconia Springfield Pkwy, Manchester Blvd and Kingstown Blvd) from VA-286 (Fairfax County Prkwy) to South Van Dorn St |
| 13 | VA-644 (Old Keene Mill Rd and Franconia Rd) from VA-286 to VA-611 (Telegraph Rd) |
| 14 | VA-236 (Duke St and Little River Turnpike) from VA-699 (Prosperity Av) to VA-400 (Washington St) |
| 15 | VA-7 (Leesburg Pike and King St) from VA-244 (Columbia Pike) to VA-400 (Washington St) |



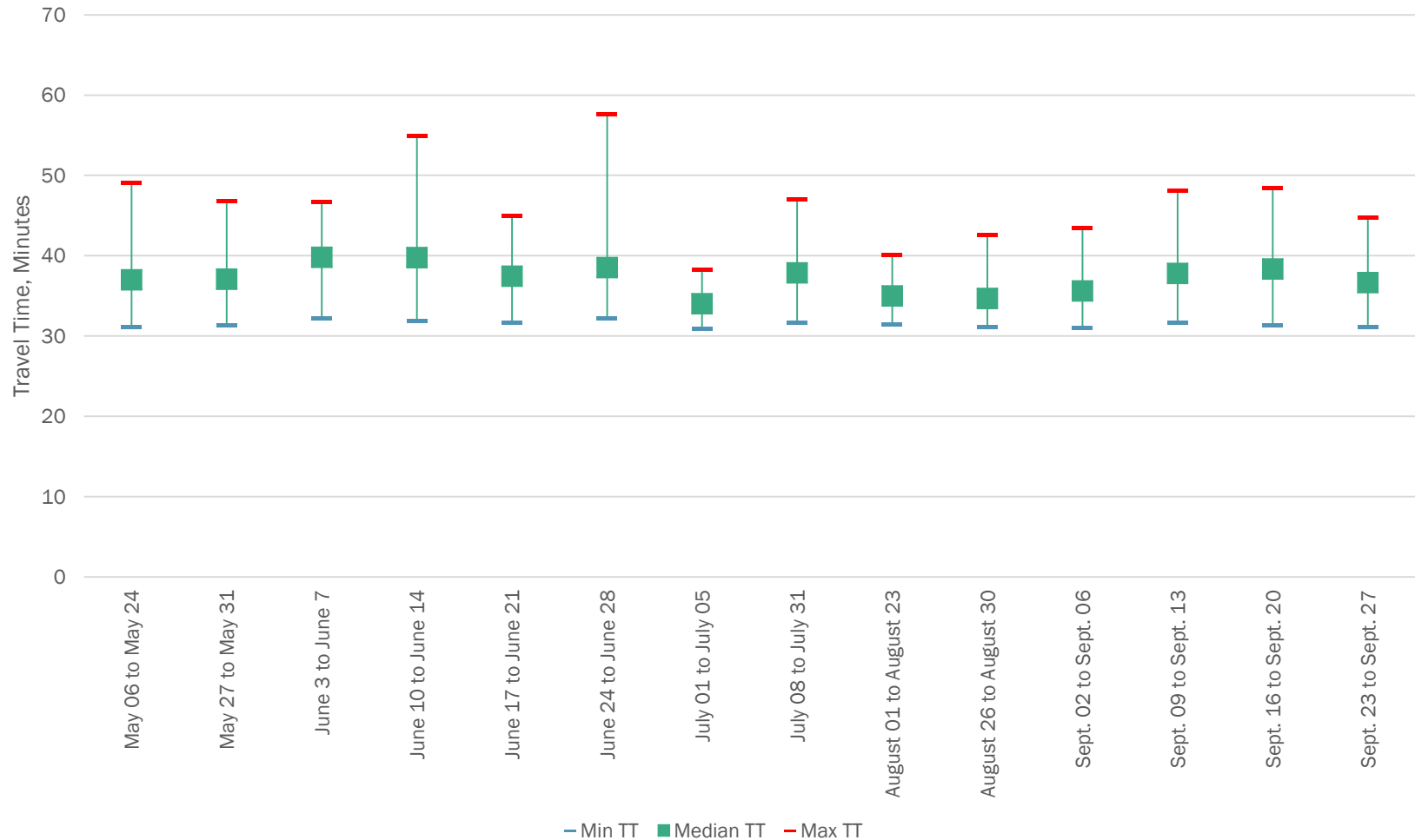
Travel Times Were Varied But Typical

Example: Median, Minimum, and Maximum Travel Times for the US 1 Corridor

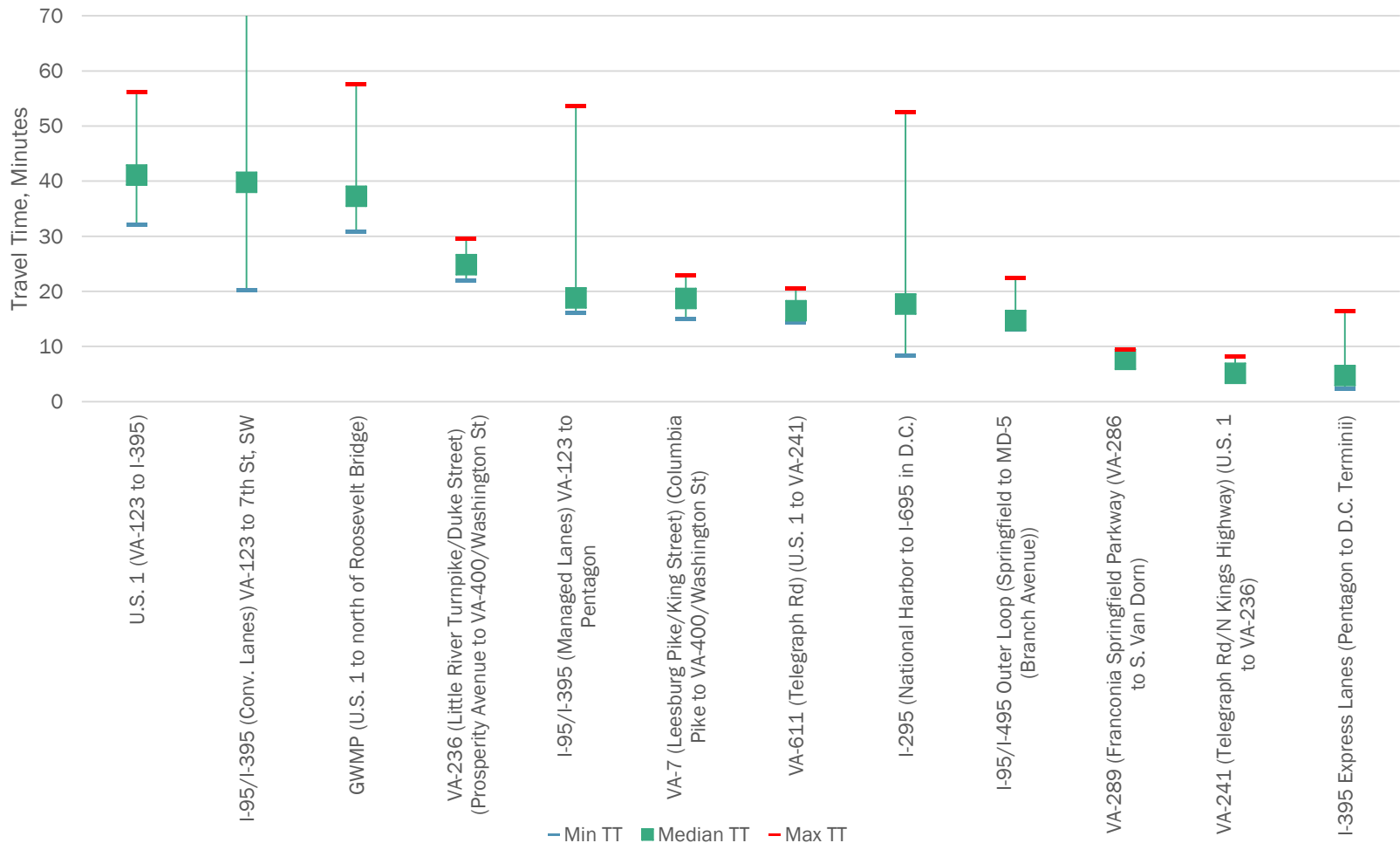


Travel Times Were Varied But Typical

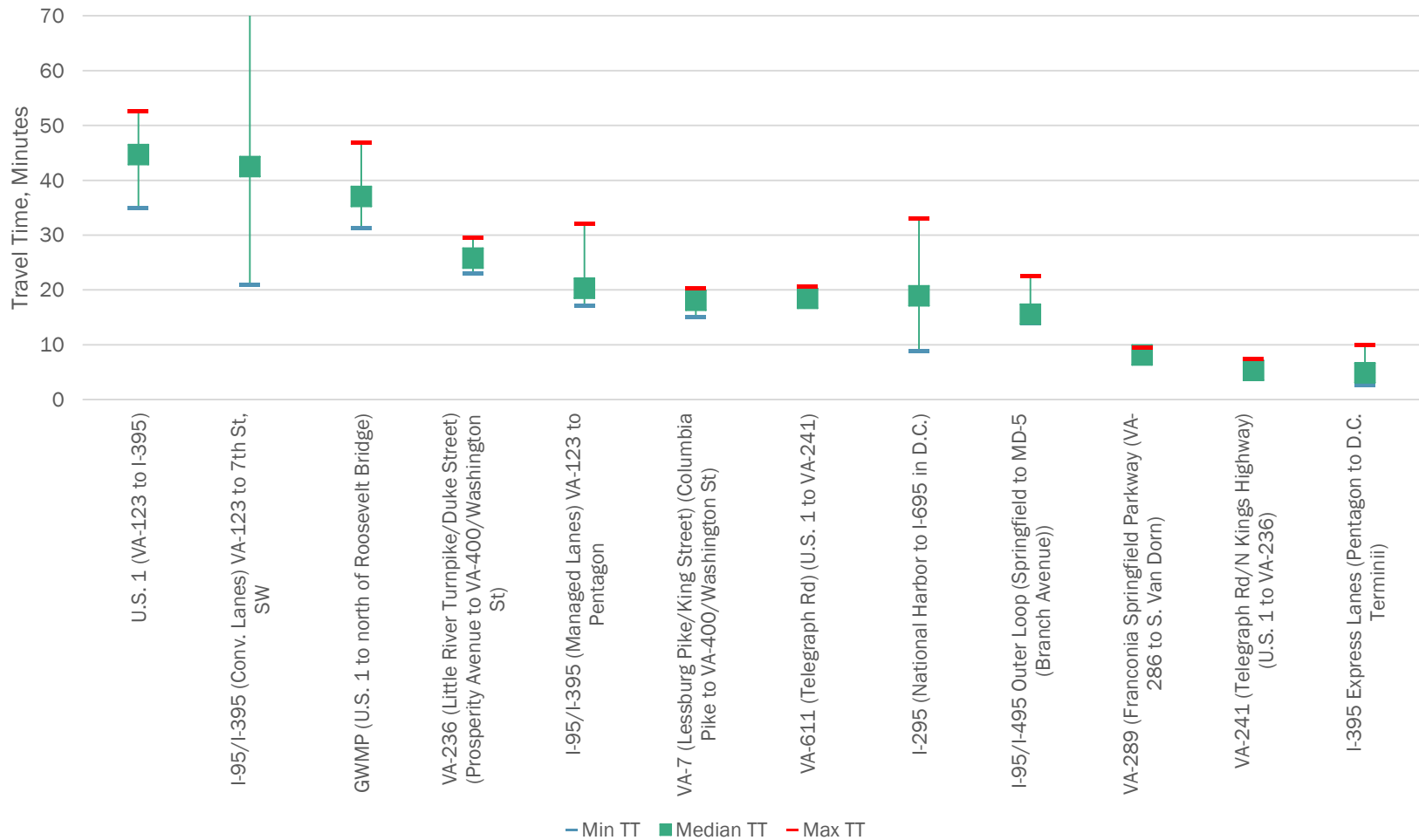
Example: Median, Minimum, and Maximum Travel Times for the GW Parkway



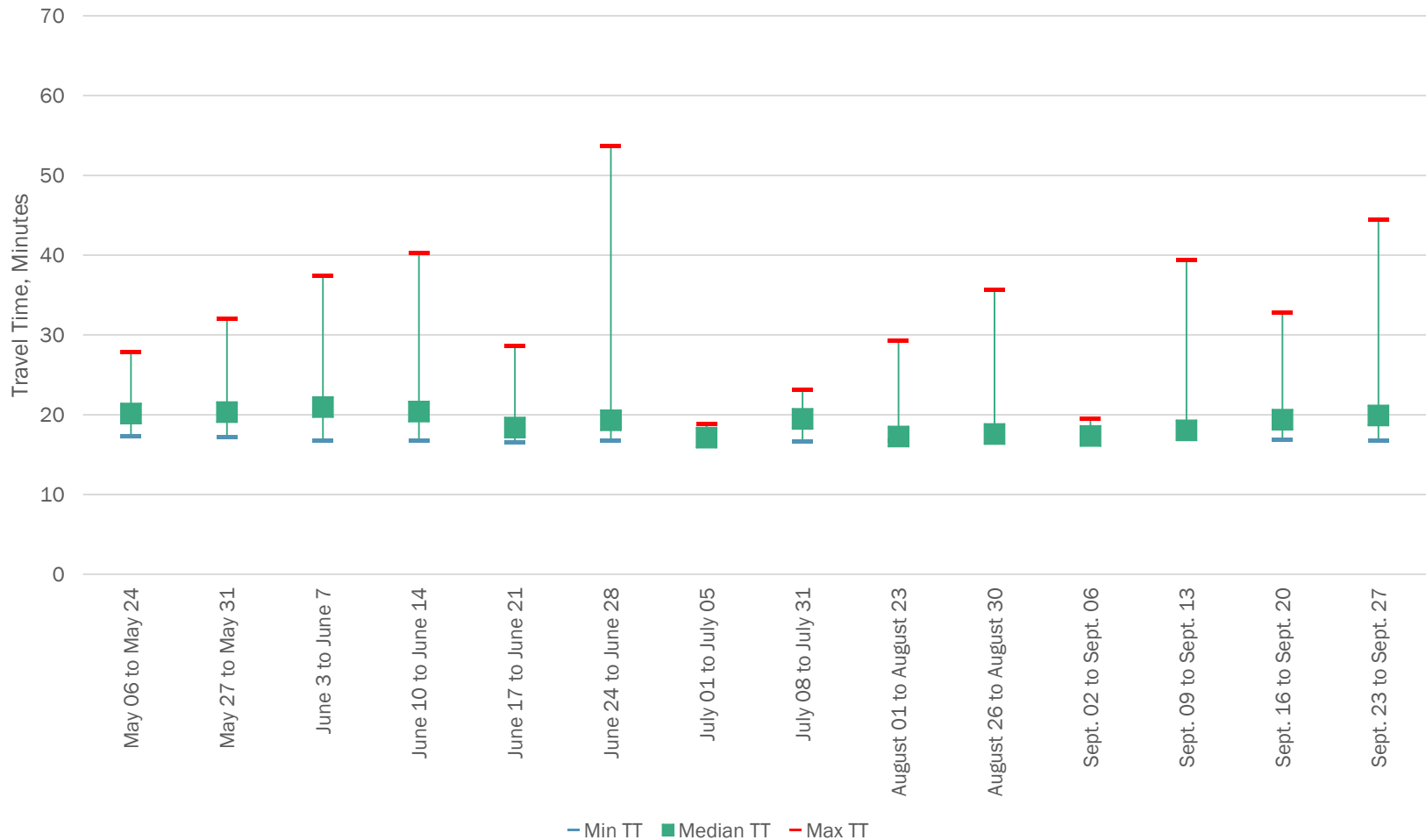
Major Corridors AM Travel Time for All Shutdown Weeks (May 27 to Sept. 6)



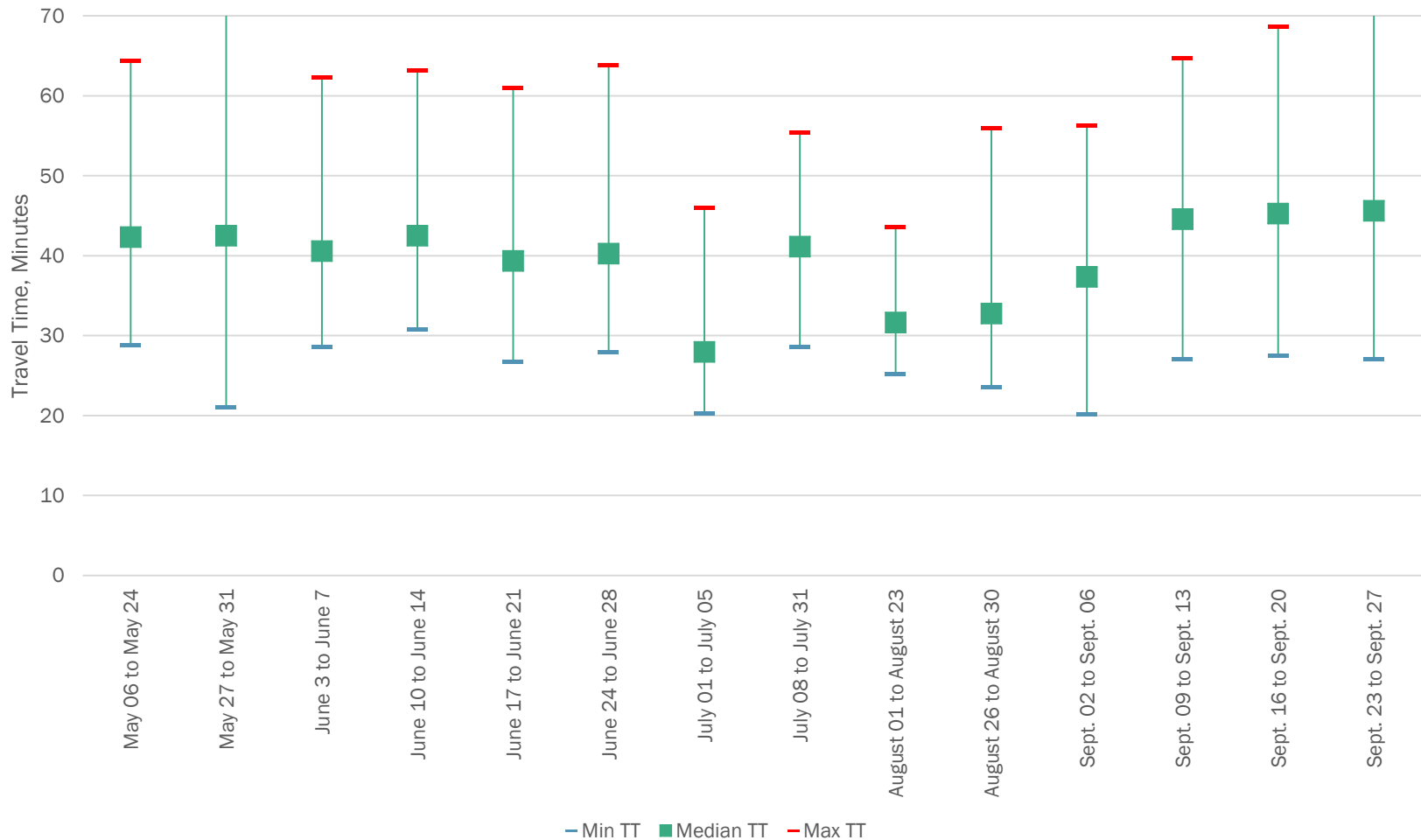
Major Corridors AM Travel Time for First Shutdown Week (May 27 to May 31)



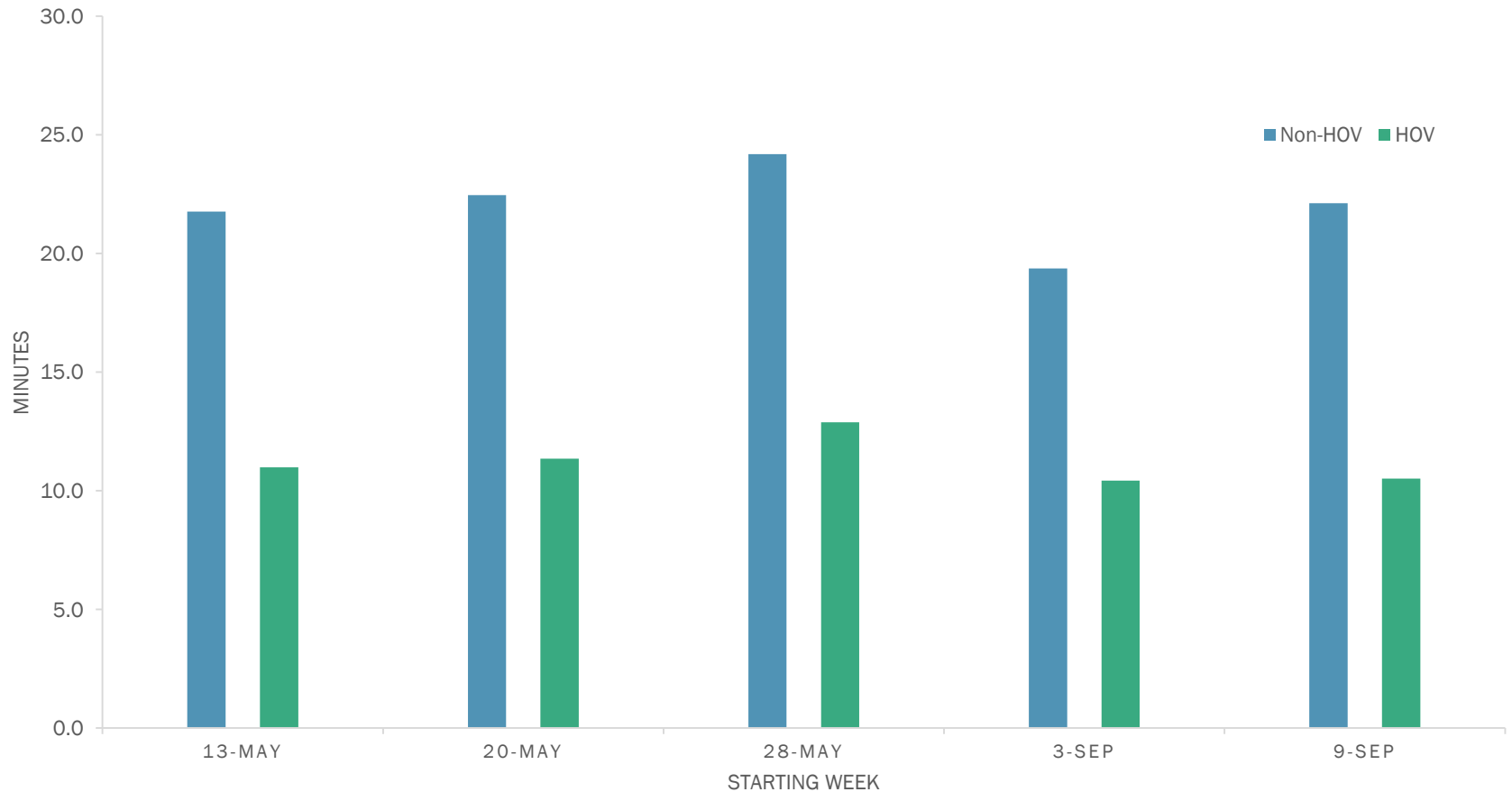
I-95/I-395 Managed Lanes Northbound/AM Travel Time Summary



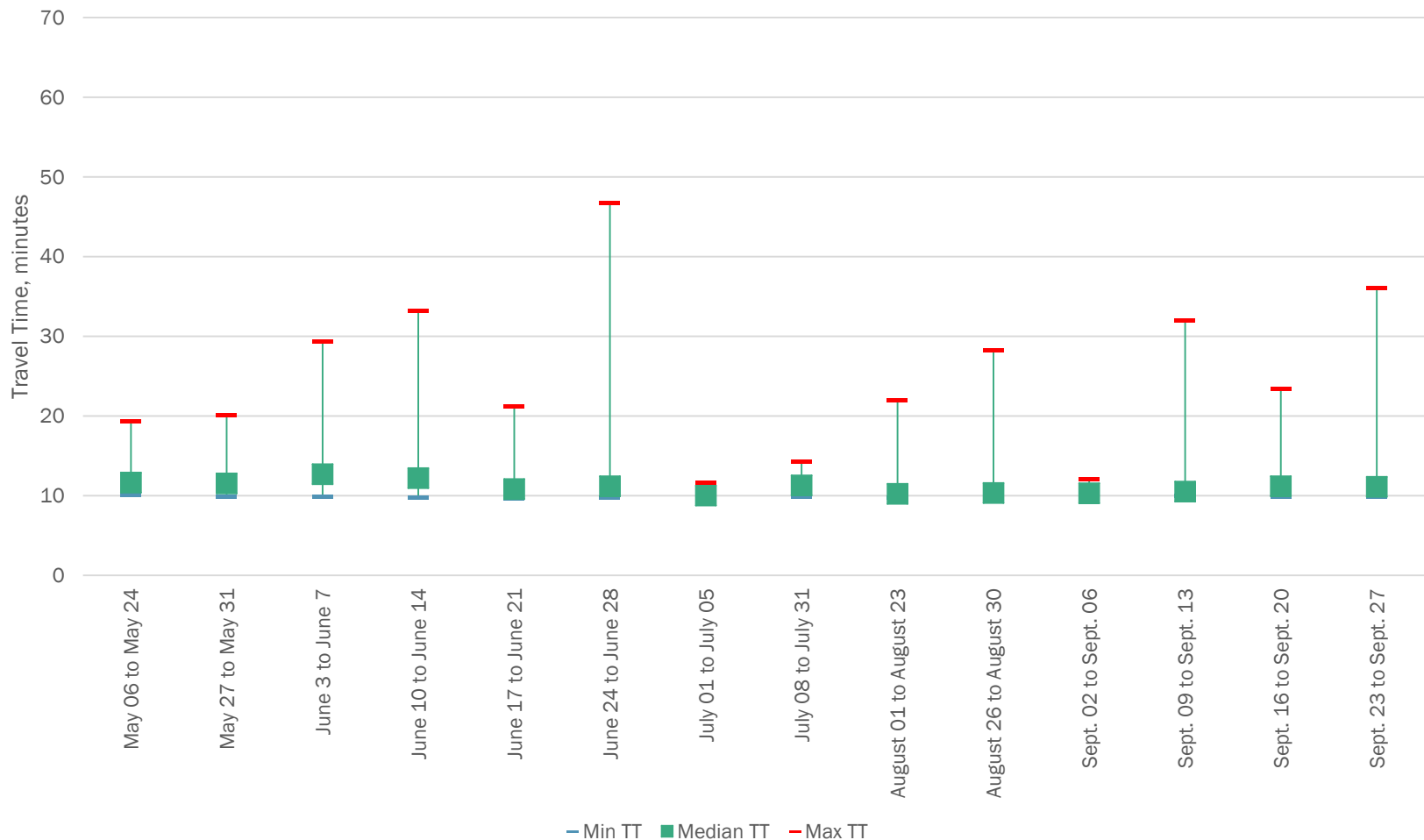
I-95/I-395 Conventional Lanes Northbound/AM Travel Time Summary



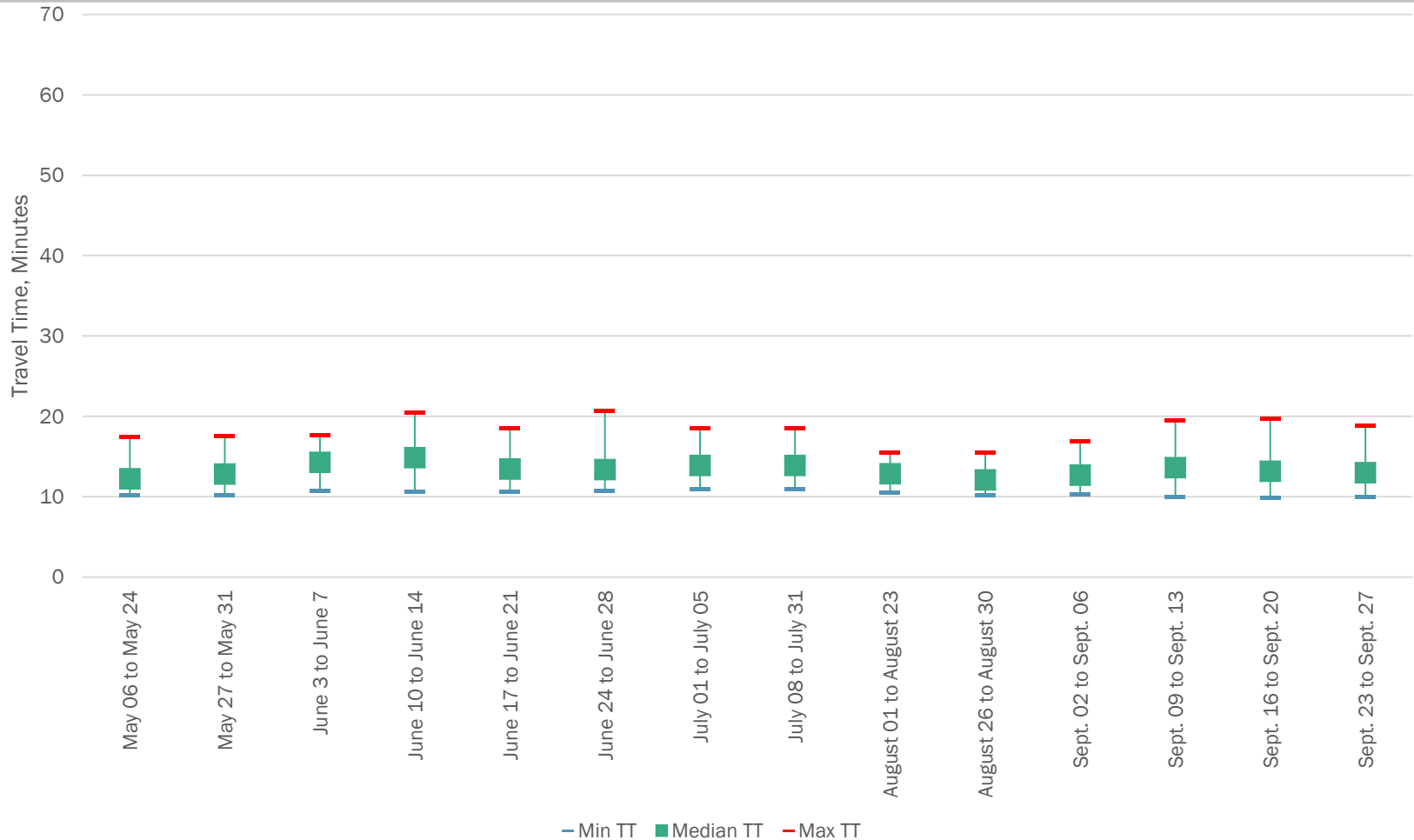
I-395 Managed/Conventional Comparisons for Frc.-Sprgfld. to Pentagon



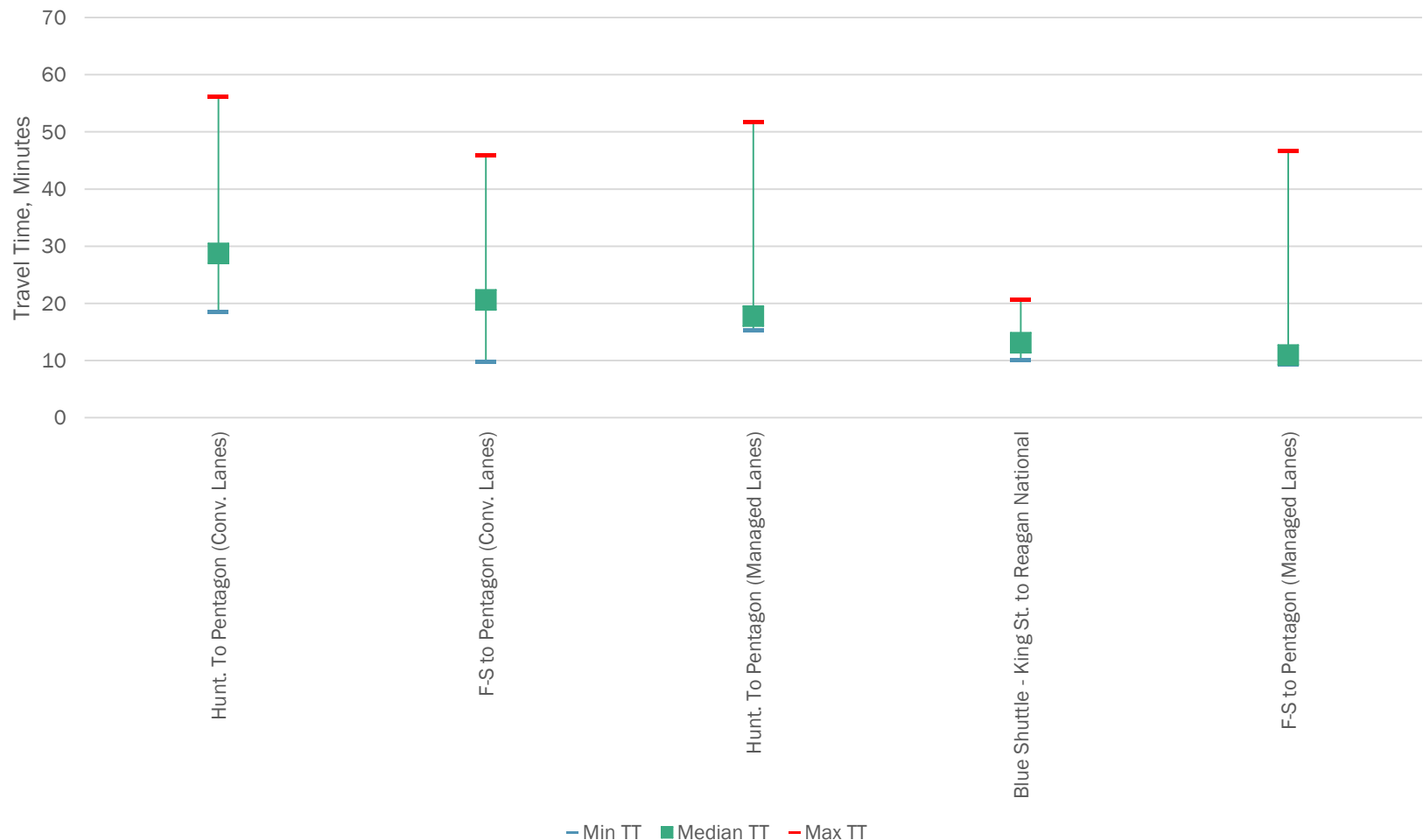
Franconia-Springfield To Pentagon Shuttle Bus Corridor AM Travel Times



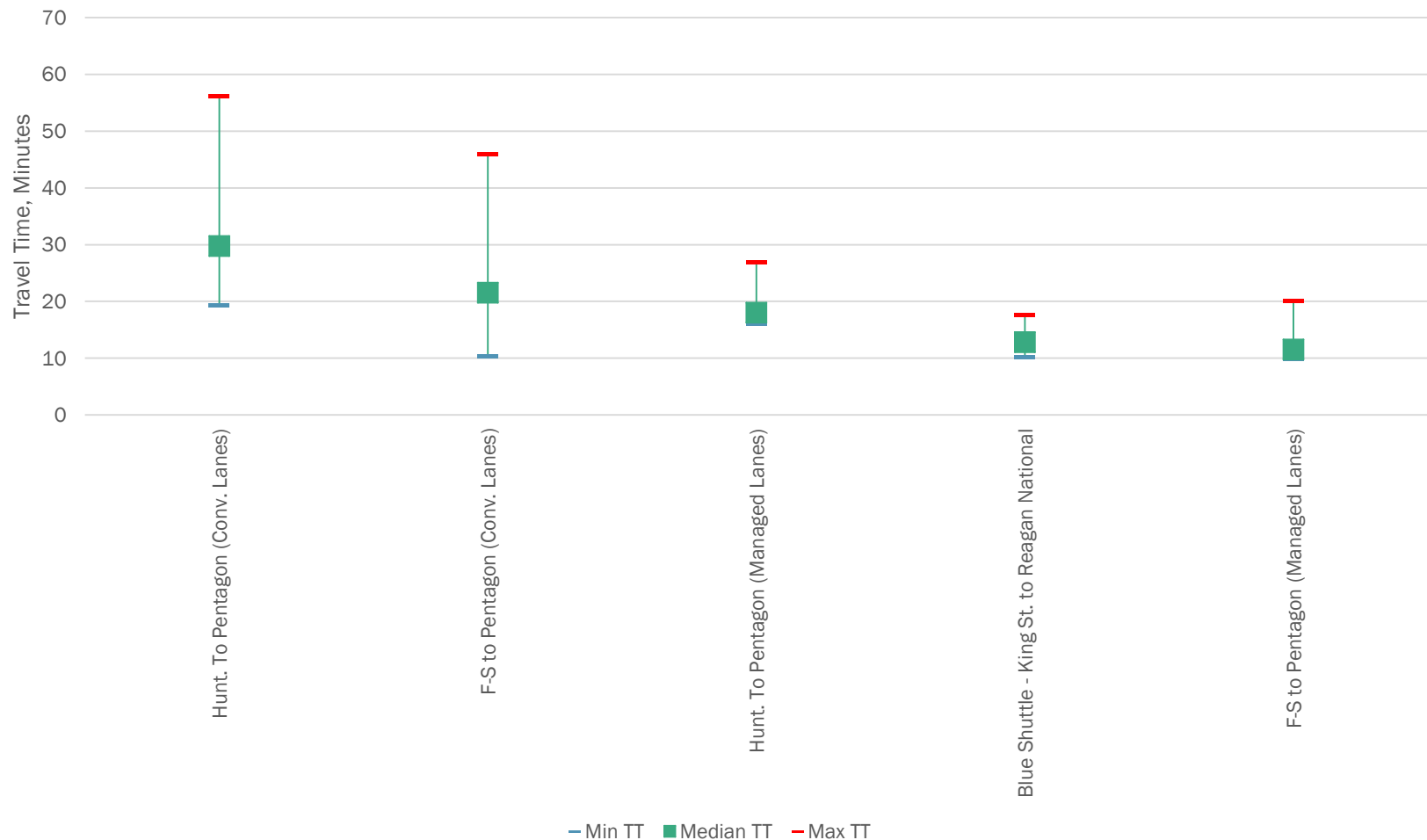
King Street to National Airport Shuttle Bus Corridor AM Travel Times



Shuttle Bus Corridors AM Travel Time for All Shutdown Weeks (May 27 to Sept. 6)

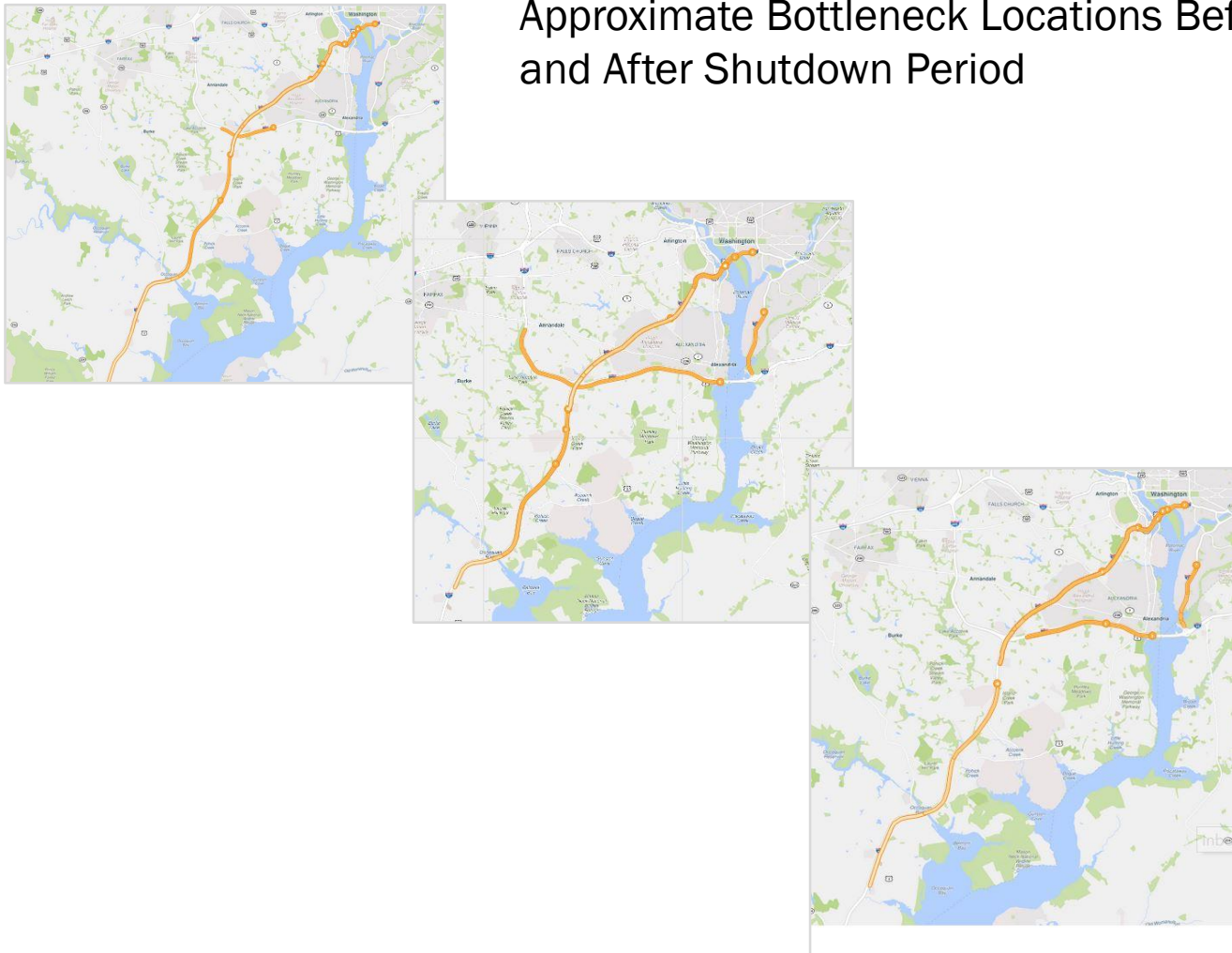


Shuttle Bus Corridors AM Travel Time for First Shutdown Week (May 27 to May 31)



Bottleneck Analysis

Approximate Bottleneck Locations Before, During, and After Shutdown Period



Conclusions

- Did Median Travel Times show spikes after shutdown?
 - Variations within normal range observed in the region
- Did location of bottlenecks and severity of change?
 - The top ten (10) bottlenecks locations and the severity is within normal variation for the region
- General routes used by shuttle buses studied
 - Travel time variations on these routes minimal-to-moderate, especially after the first week
- If the 2,000 to 3,000 riders who did not use transit during shutdown shifted to drive alone what would be the impact?
 - Compared to the ADT of 125,000 on I-395 the small shift during summer months did not have major impacts



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