Birmingham Congestion Management Process

2012 Congestion Report

May 22, 2013

Birmingham Regional Transportation Data Center

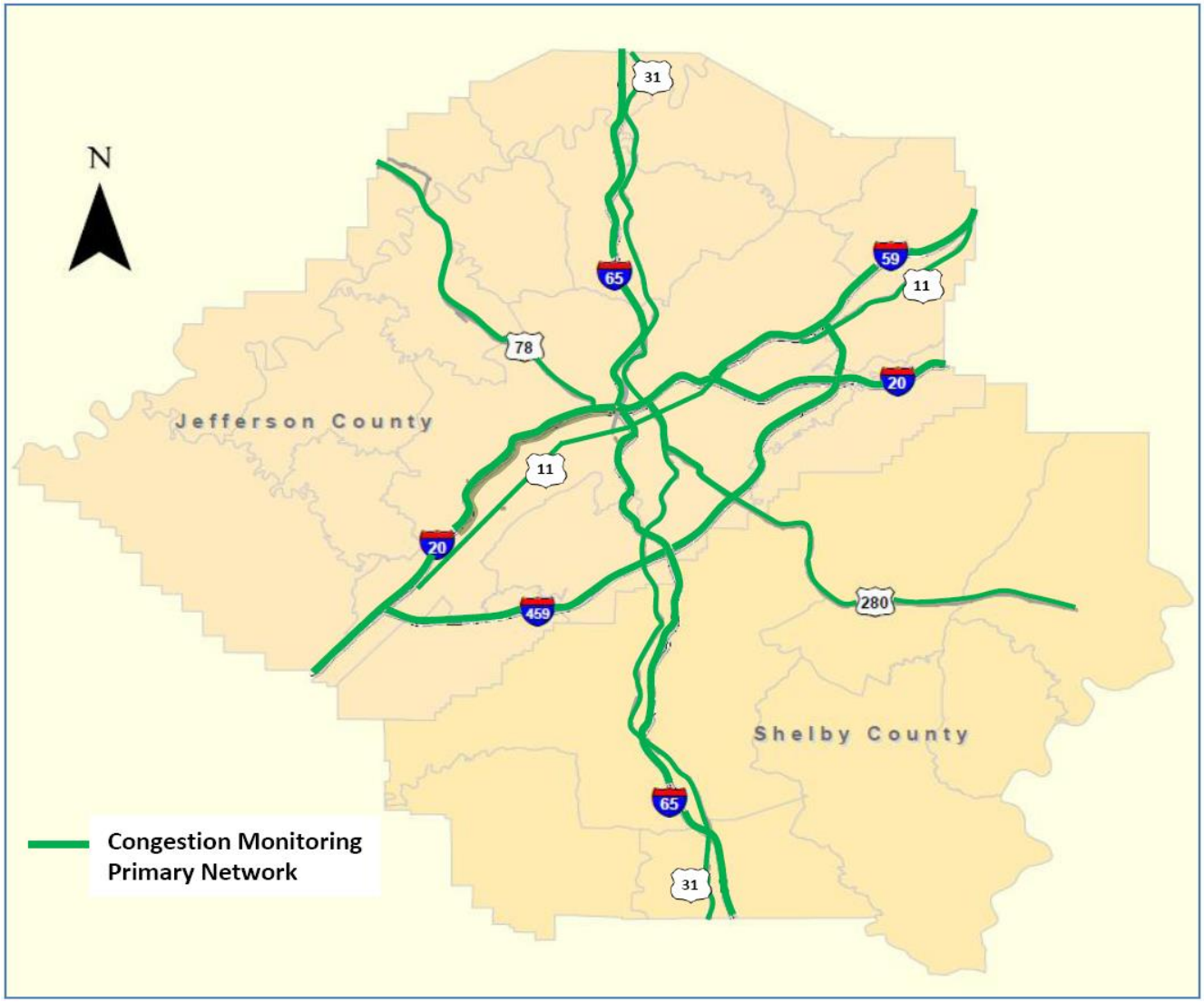
Purpose of Report

- Provide an overview of travel time indices on major routes in Birmingham
- Track congestion trends
- Present findings in a simple report suitable for the general public

Study Data

- One month of probe data for October 2012
- Data was 'cleaned'
- Weekday peak periods analyzed:
  - 6:00 to 10:00 AM
  - 3:00 TO 7:00 PM

Study Area


N
31
65
59
11
78
20
Jefferson County
11
20
459
280
Shelby County
65
31
Congestion Monitoring
Primary Network

Travel Time Index

$$TTI = \frac{\text{Measured travel time}}{\text{Free-flow travel time}}$$

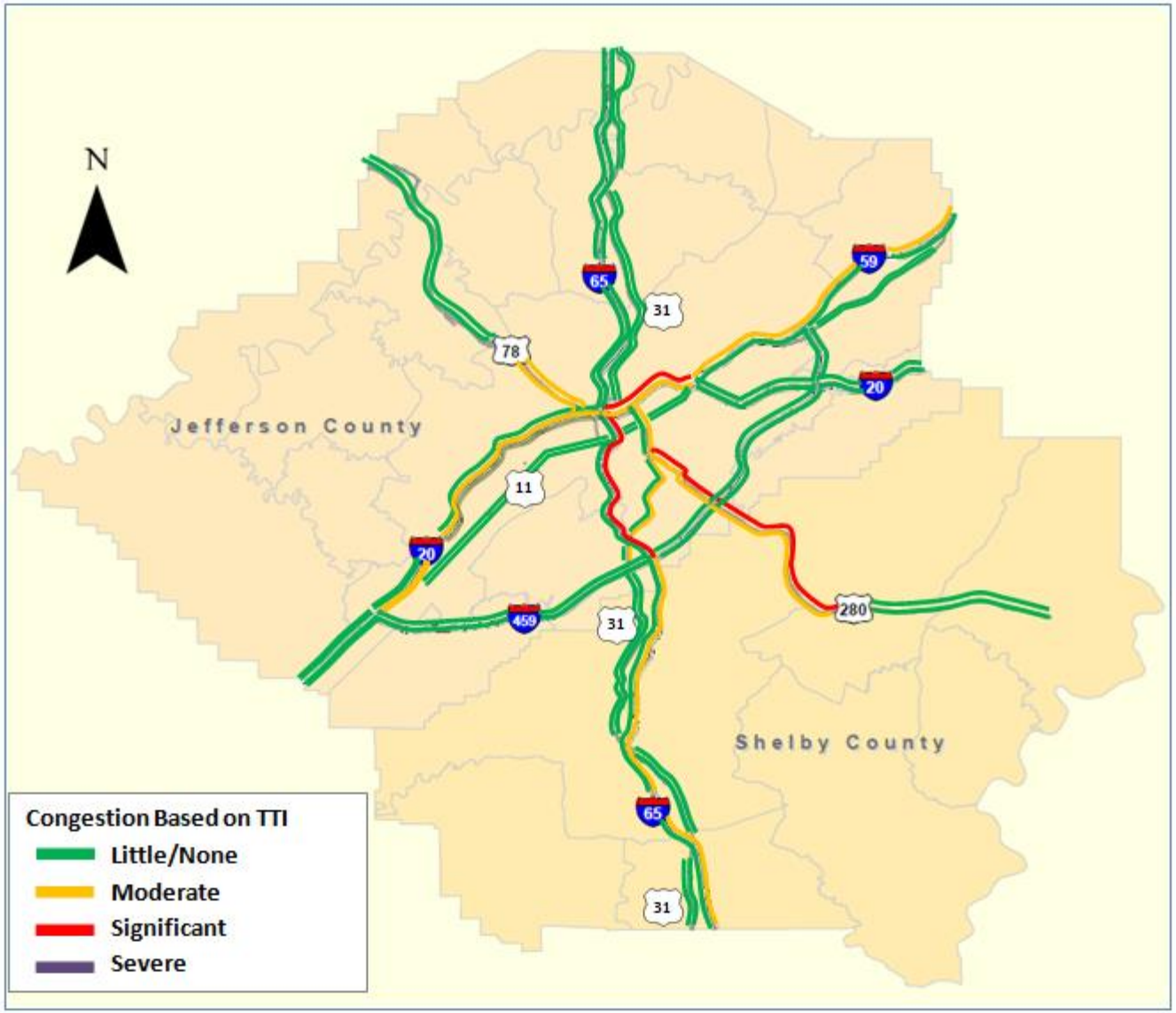
For Freeways:

- TTI > 1.1 indicates the onset of congestion
- TTI > 1.5 indicates significant congestion
- TTI > 2.0 indicates severe congestion

For Arterials:

- TTI > 1.5 indicates congestion
- TTI > 2.0 indicates significant congestion
- TTI > 2.5 indicates severe congestion

AM Peak Congestion



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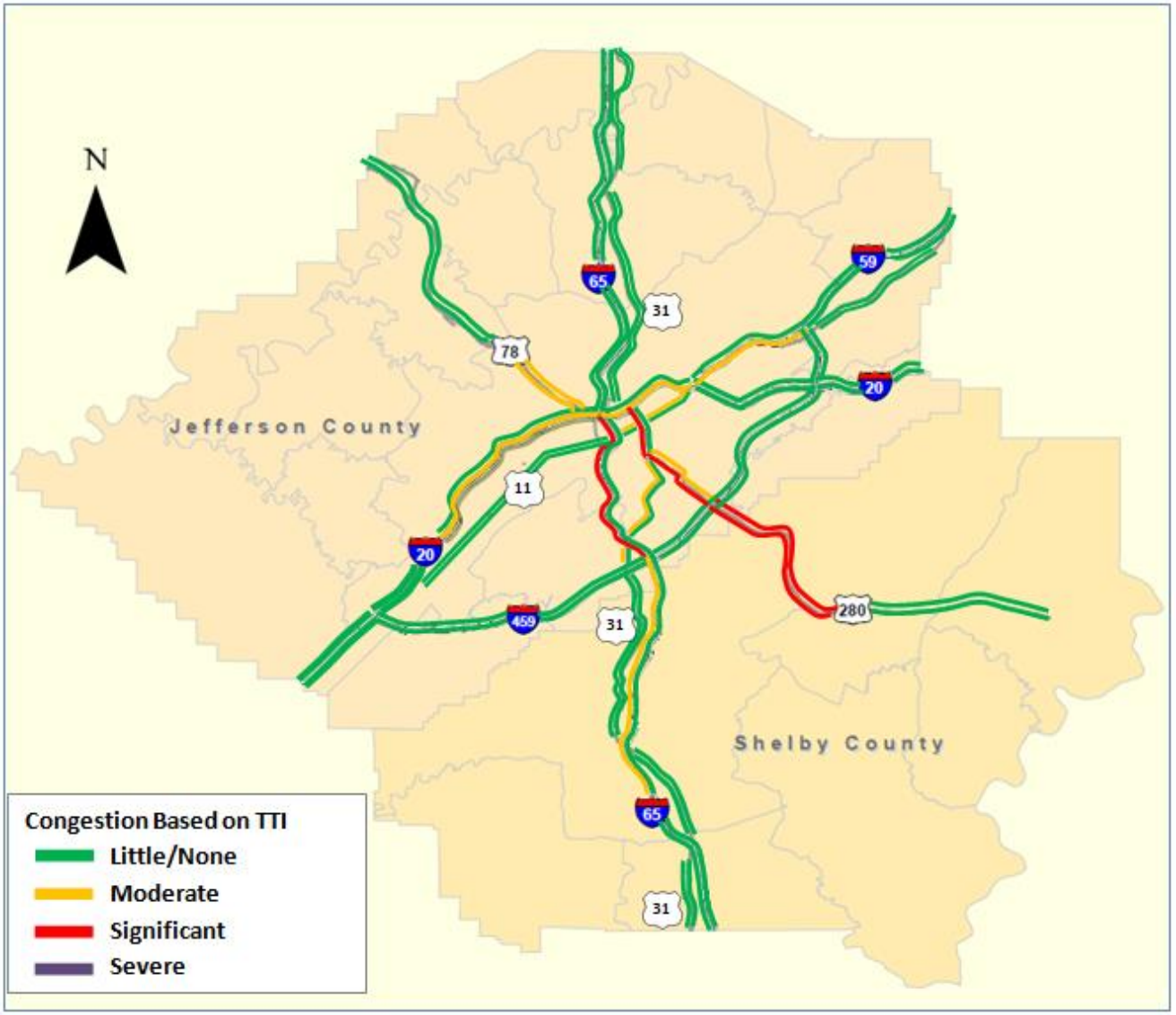
PM Peak Congestion



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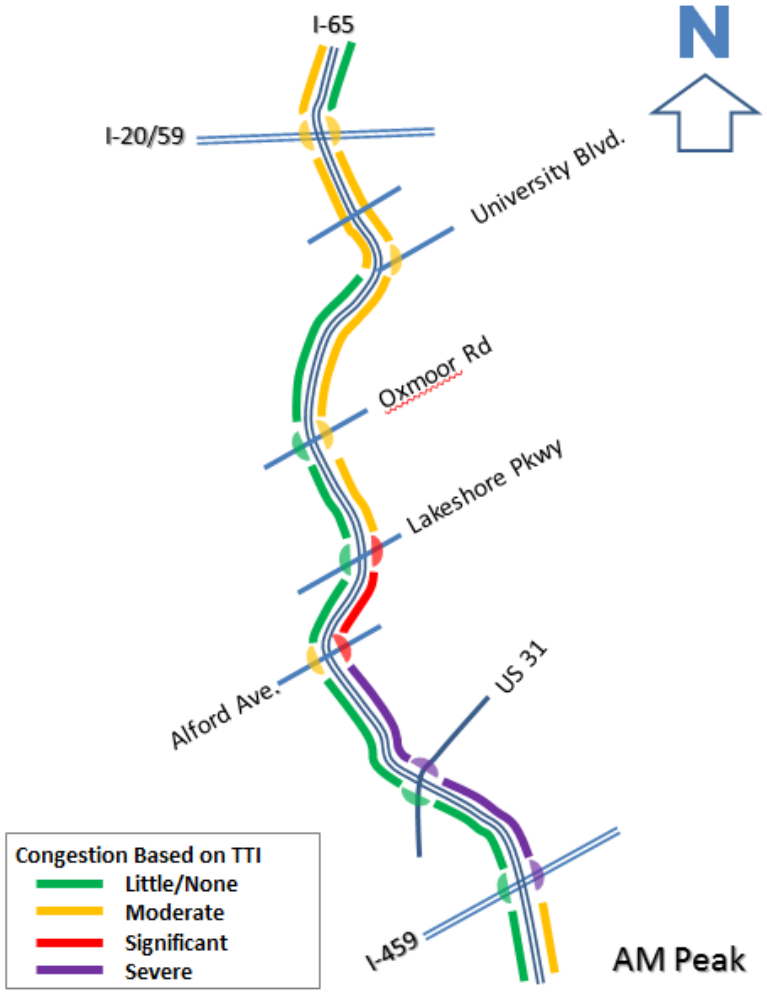
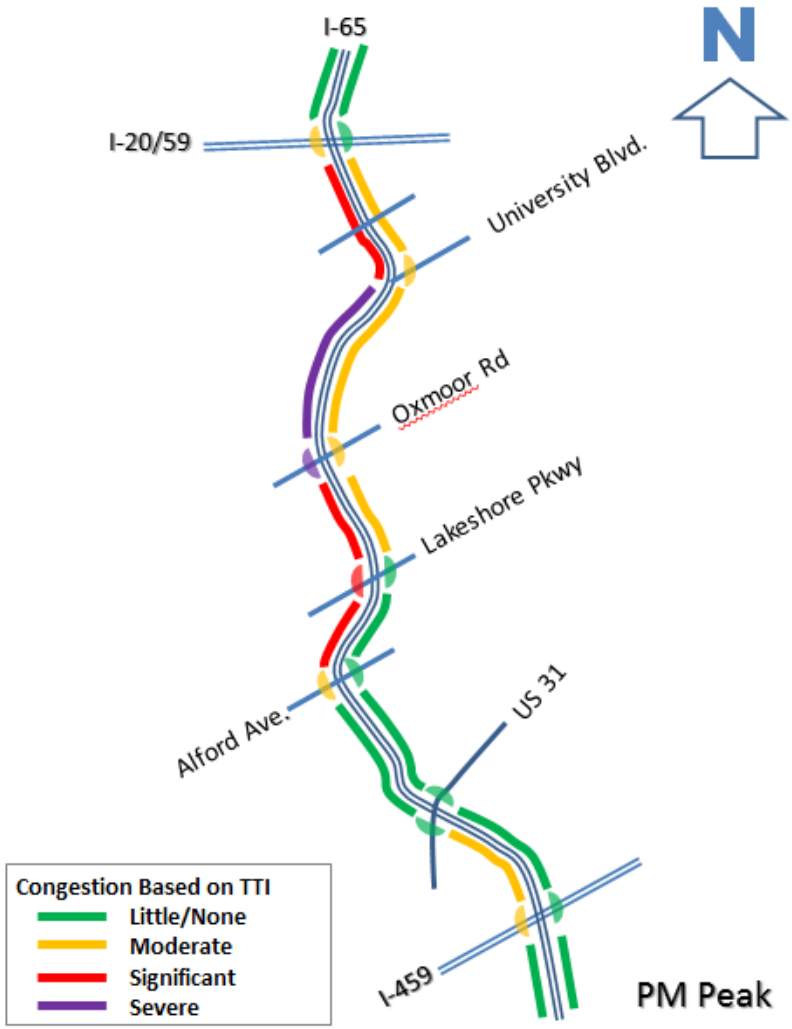
Congestion on I-65





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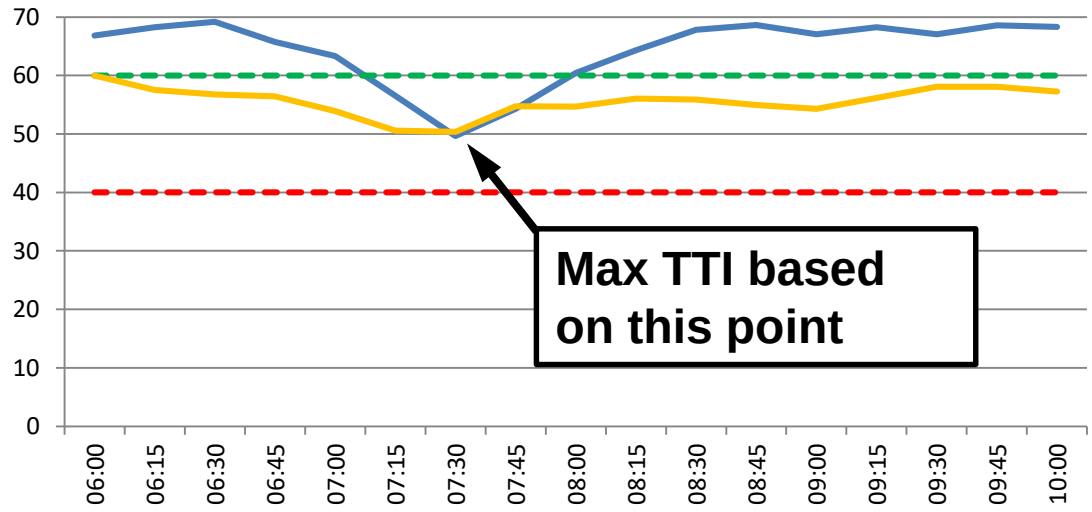
Notable Changes in TTI

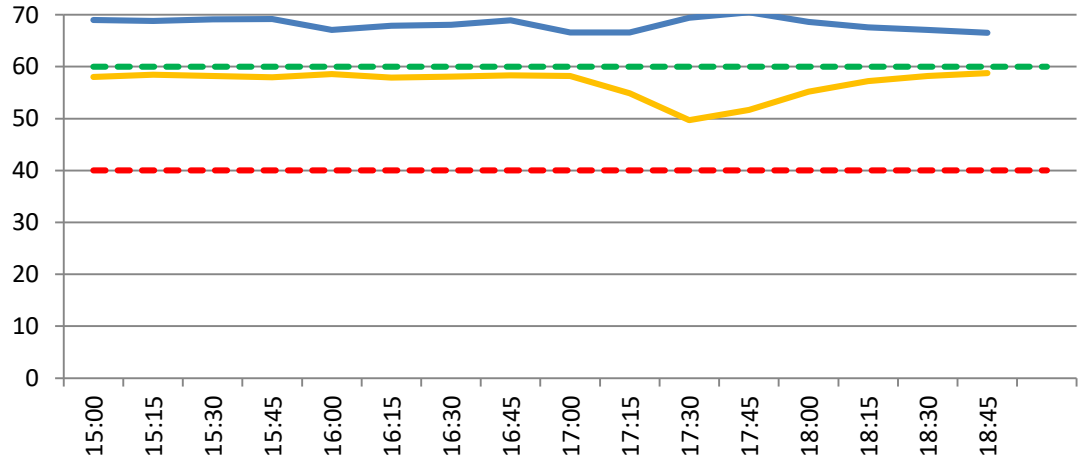
- I-65 south of I-459 (⬇)
- I-65 north of I-459 (⬆)
- US 31 through Shelby and So. Jefferson Cos. ⬇
- I-20/59 west of I-65 (⬆)
- US 280 west of I-459 (PM peak ⬇)
- US 280 east of I-459 (PM Peak ⬇)

Speed Profiles (I-65 at AL 119)

Northbound I-65
(AM Peak)

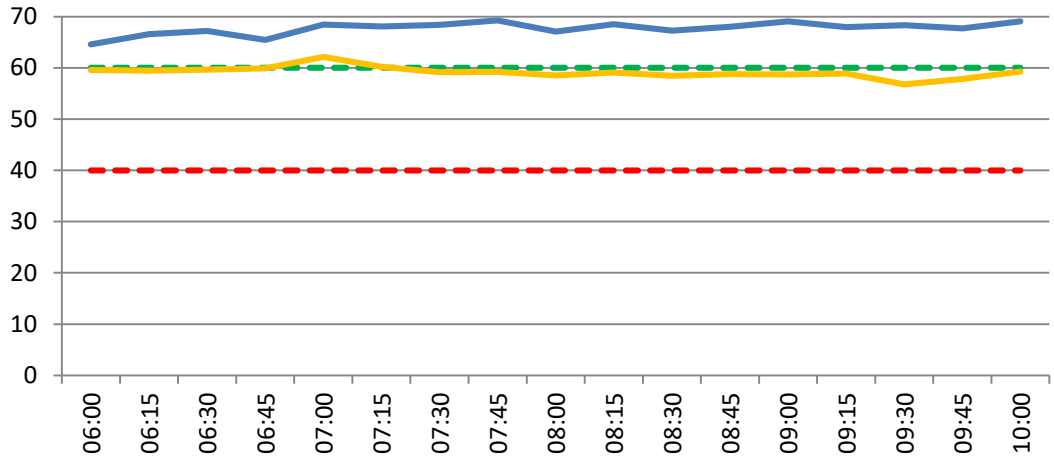


Northbound I-65
(PM Peak)

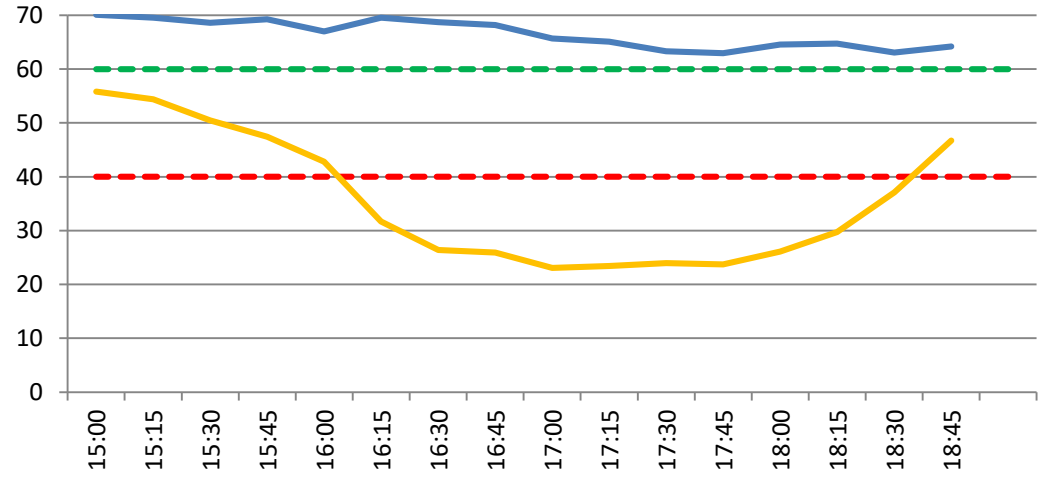


Speed Profiles (I-65 at AL 119)

Southbound I-65
(AM Peak)

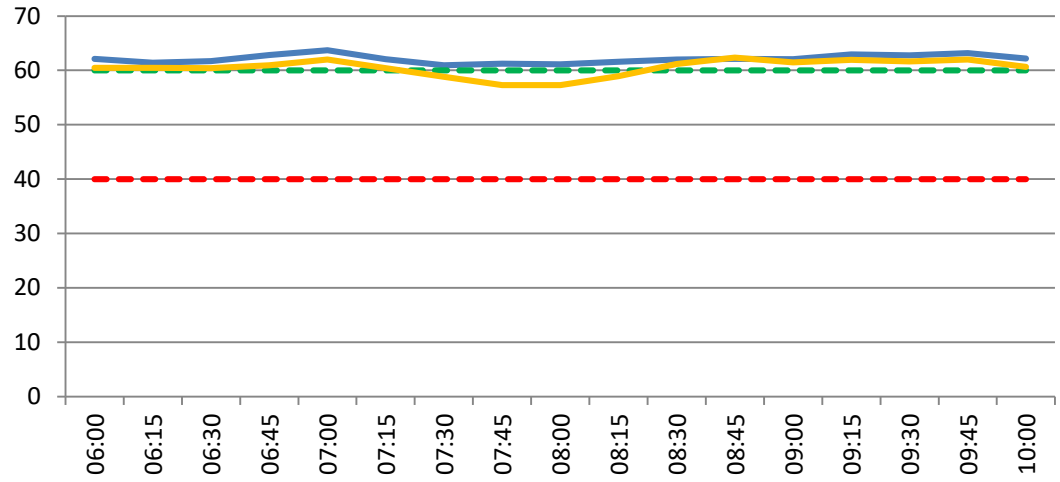


Southbound I-65
(PM Peak)

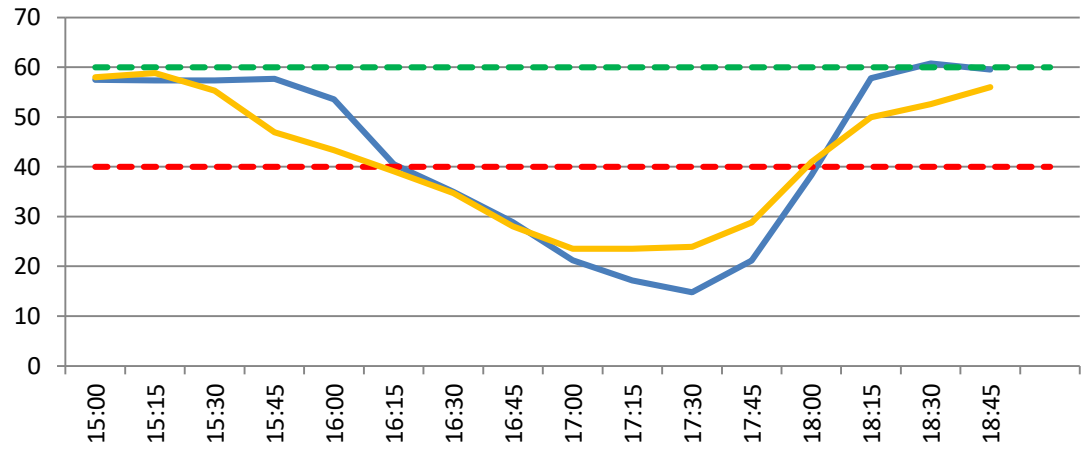


Speed Profiles (I-65 at Univ.)

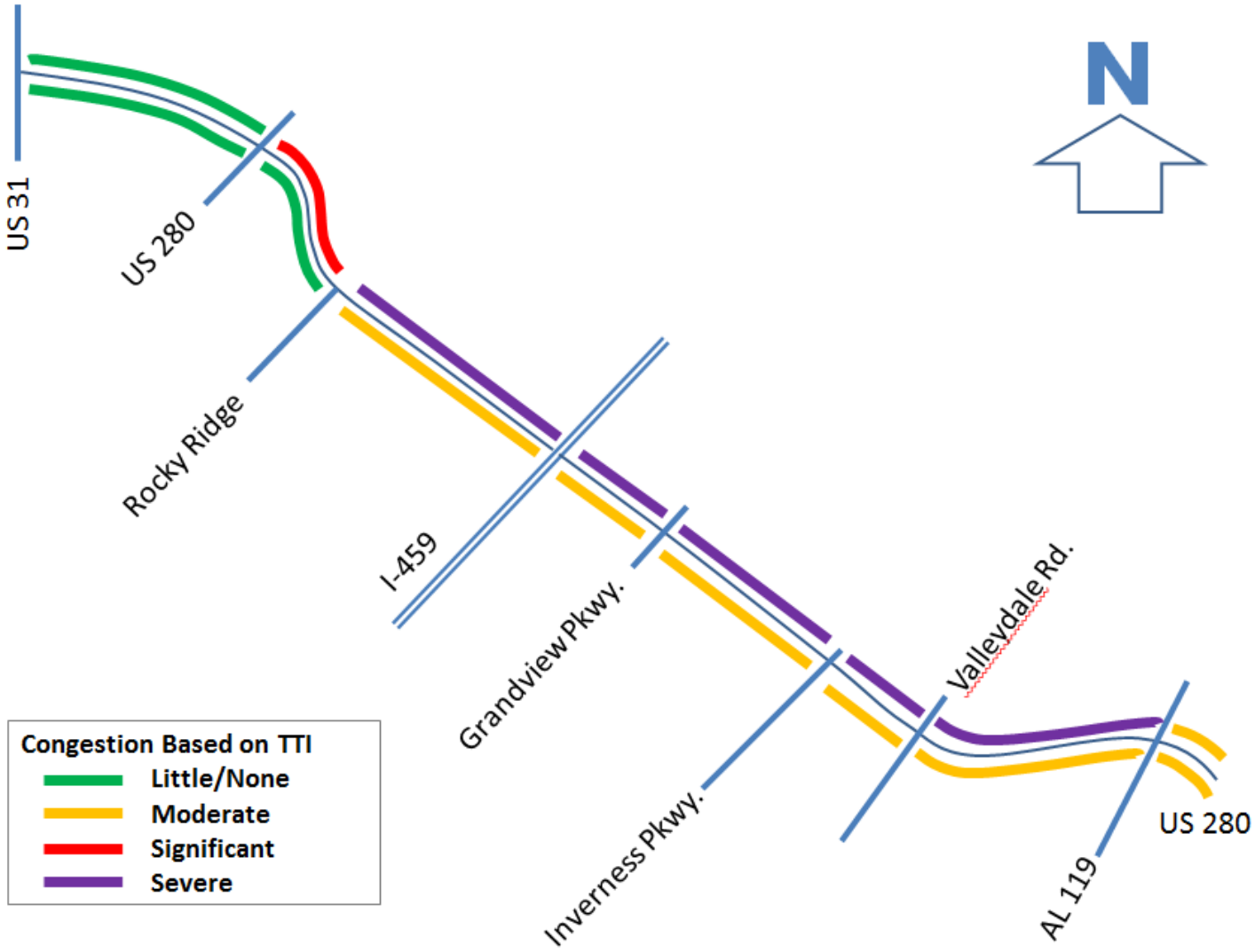
Southbound I-65
(AM Peak)



Southbound I-65
(PM Peak)



Congestion on US 280 (AM)



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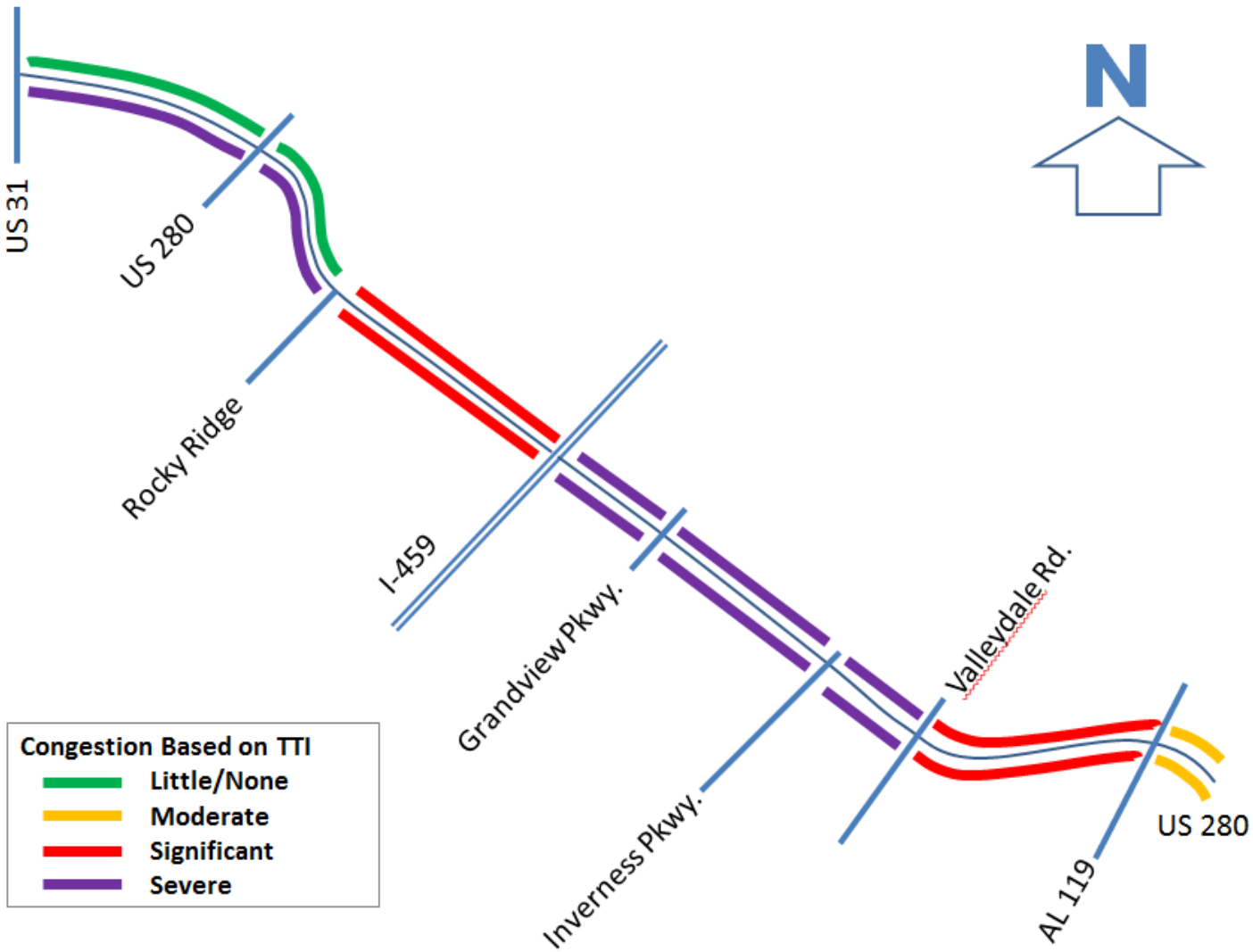
Congestion on US 280 (PM)



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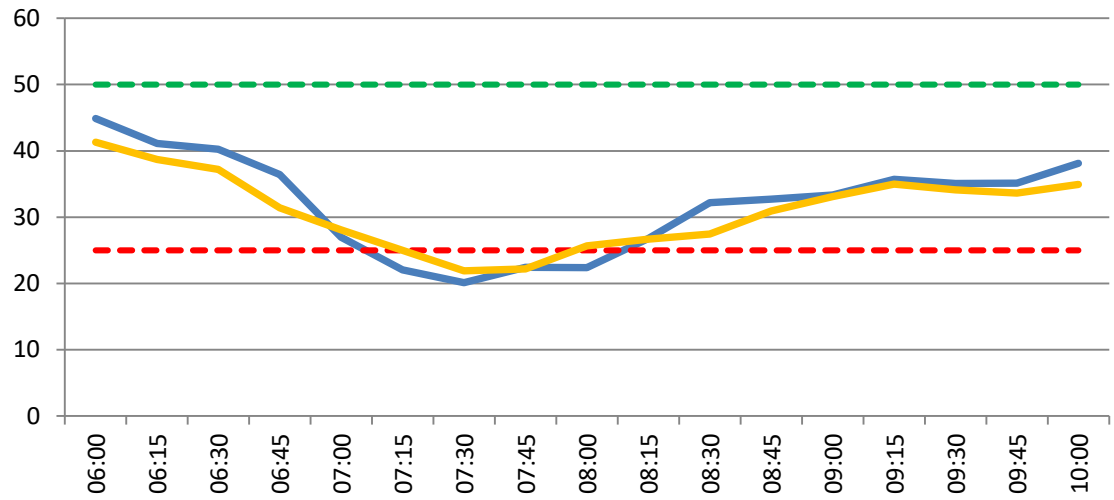
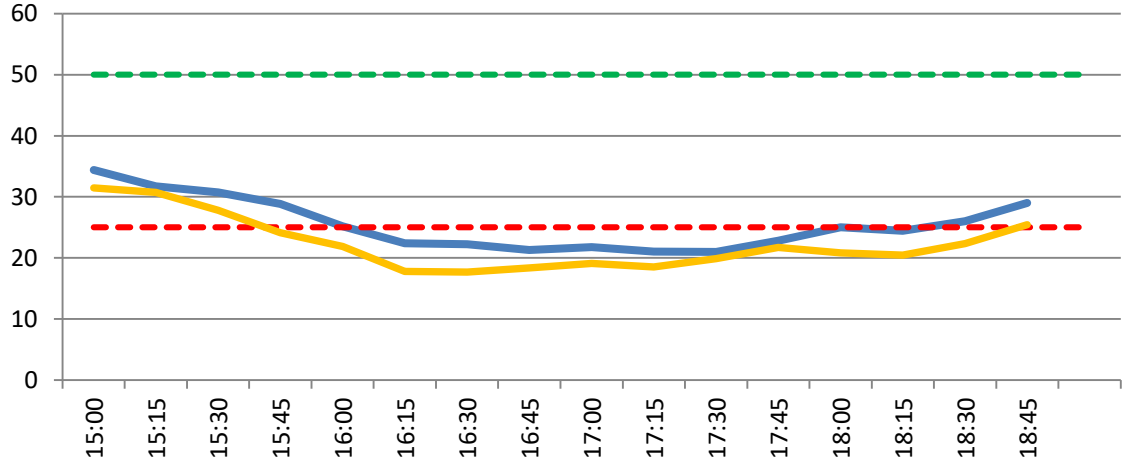
Speed Profiles (US 280 at I-459)

Westbound 280
(AM Peak)

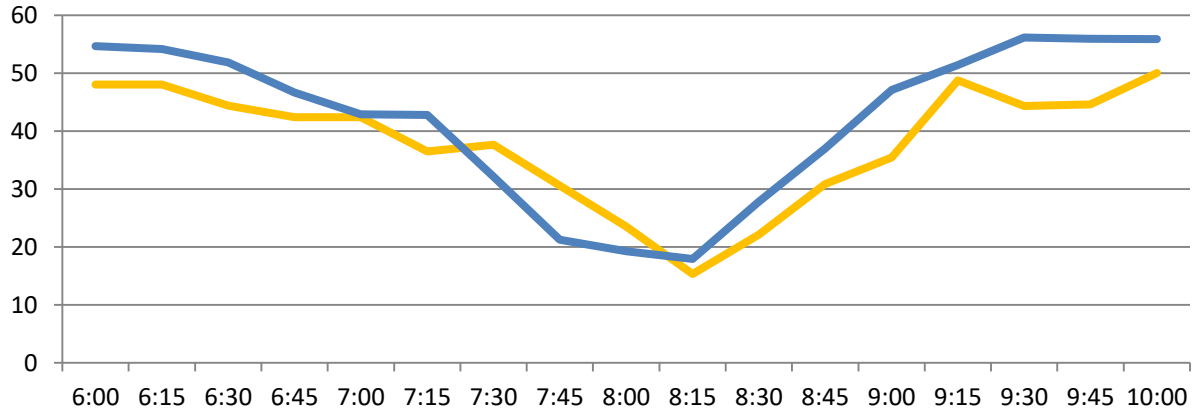


Eastbound 280
(PM Peak)

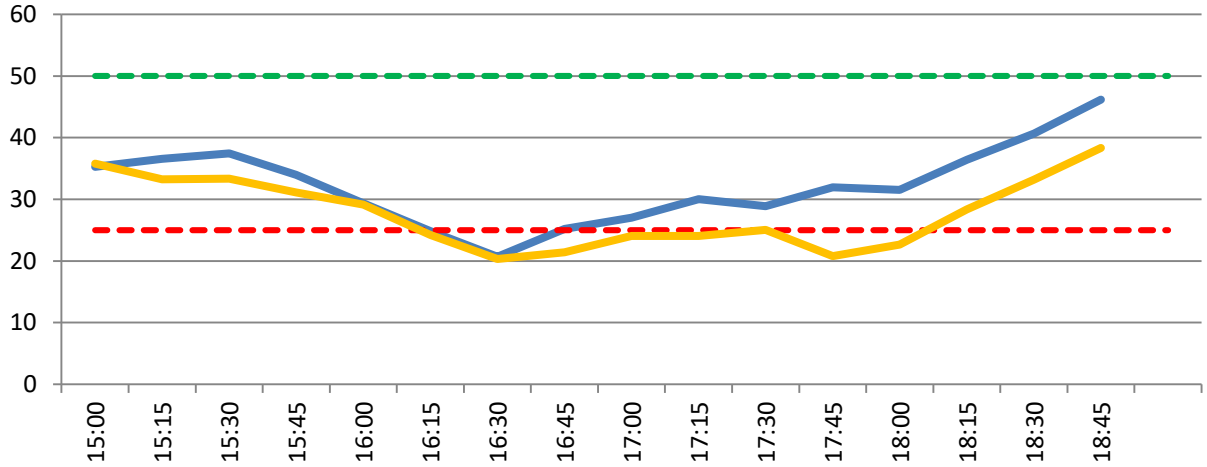


Speed Profiles (US 280 at West of I-459)

Westbound 280 at Pump House (AM Peak)

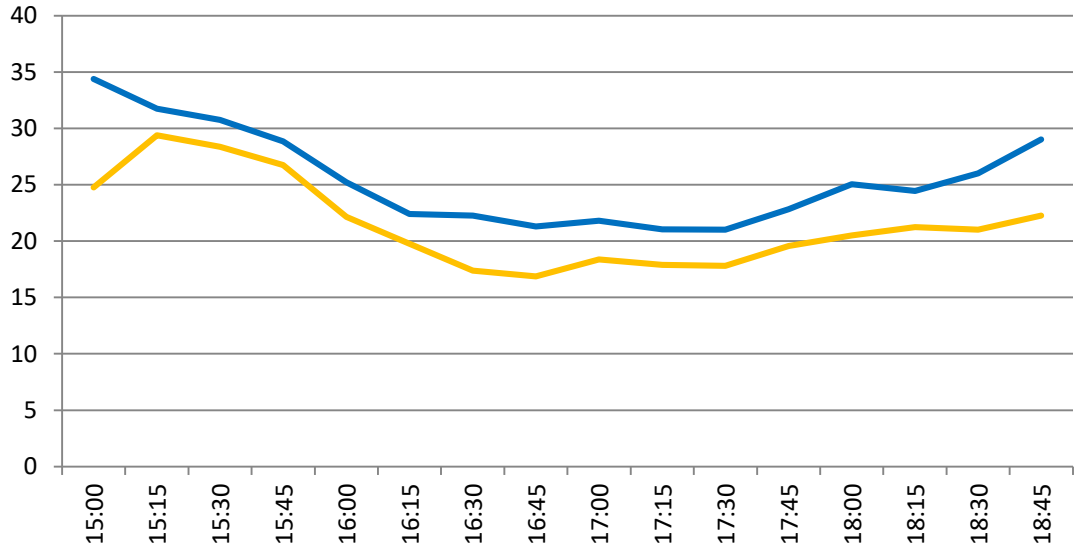


Eastbound 280 at Cherokee (PM Peak)

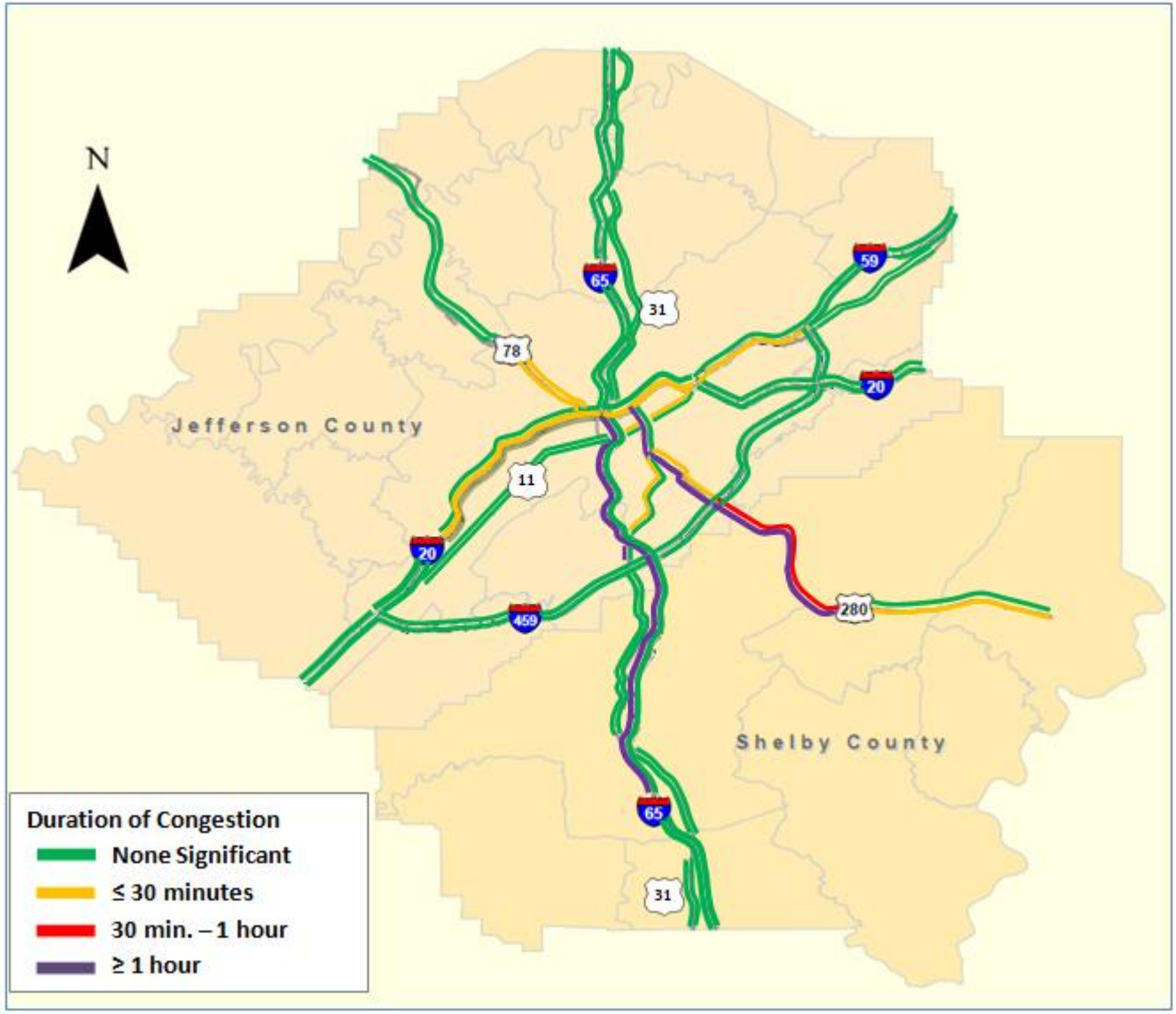


Speed Profiles (US 280 East of I-459)

Eastbound 280
at Valleydale
(PM Peak)



Duration of Congestion (PM)



Significant Changes in Congestion Duration from 2010

- I-65 South of I-459 (⬇)
- I-65 North of I-459 (⬆)
- US 280 (slight ⬇)
- I-20/59 downtown (⬇)
- US 31 south of downtown (⬇)

Lane-Miles of Congested Facilities

Table 3. Lane-Miles of Congested Interstates

Route	From/To	AM Peak	PM Peak
I-65	Chilton Co. Line to Blount Co. Line	91.7	64.4
I20/59	Tuscaloosa Co. Line to I-20/59 Split	37.3	35.6
I-20	I-20/59 Split to St. Clair Co. Line	-	5.9
I-59	I-20/59 Split to St. Clair Co. Line	17.9	7.6
I-459	I-20/59 to I-59	-	6.9
I-22	Walker Co. Line to Coalburg Road	-	-
	Total	**144.8**	**120.4**
	% of Total Interstate Lane-Miles	**18%**	**16%**
	Change from 2010	**-9**	**-15**

Table 4. Lane-Miles of Congested Arterials

Route	From/To	AM Peak	PM Peak
U.S. 31	Chilton Co. Line to Blount Co. Line	30.4	19.4
U.S. 280	Shelby Co. Line to Red Mt. Expwy.	21.0	30.6
U.S. 78	Walker Co. Line to St. Clair Co. Line	18.9	24.6
U.S. 11	Tuscaloosa Co. Line to St. Clair Co. Line	4.7	9.5
	Total	**75.0**	**84.1**
	% of Total Arterial Lane-Miles	**11%**	**12%**
	Change from 2010	**+1**	**-1**

Draft Report Formatting for Publication

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