MDOT
Michigan Department of Transportation

Southeast Michigan Transportation Operations Center

2015 ANNUAL REPORT

2015 NEW MI DRIVE MOBILE APP

Use the handy Mi Drive app to check real-time road and traffic information for Interstate, State, and US routes across the state before getting behind the wheel. Some highlighted features include:

- Interactive map
- Traffic cameras
- Incident information
- Construction details

Mi Drive

Download on the App Store

GET IT ON Google Play

★★★★★

"Paths to follow helps to avoid road construction, congestion, and accidents. Very helpful when driving in unknown territory and want a detour"

A Message From the Manager

Our mission at the Michigan Department of Transportation (MDOT) continues to provide the highest quality integrated transportation services for economic benefit and improved quality of life. The control room at the Southeast Michigan Transportation Operations Center (SEMTOC) continues to observe the freeway system in Metropolitan Detroit, dispatch the Freeway Courtesy Patrol (FCP) 24 hours a day, seven days a week, 365 days a year, and notify motorists when there are incidents along your route.

Last year was an exciting year, with several major special events, multiple tanker fires that required major road repairs with expedited recovery times, excellent reliability improvements upon completion of the “96fix” construction project, and the launch of our Mi Drive mobile app.

At SEMTOC, we continue to prepare for the future. We are excited to be in southeast Michigan where the development of autonomous vehicles continues to grow with commercial, educational and government agencies (city, county and state) supporting both development and testing. SEMTOC is leading efforts toward building a regional capability maturity model (CMM). We work with regional stakeholders to improve services and efficiencies that will help improve mobility throughout the region, and we are improving our use of real-time and historical data to include weather, road performance, and other factors to improve the quality of information we provide.

The dedicated professionals at SEMTOC continue to improve mobility and safety. We trust that this report will provide you with an informative overview of our operation and a helpful reference to use when commuting.

Safe Travels,

Dayo Akinyemi, PE
Manager, Southeast Michigan TOC

Fiscal Year (FY) 2015 experienced several events that highlighted the value of SEMTOC.

October 2014
Detroit Free Press Marathon

In supporting and promoting coordination for the first responder and security communities, SEMTOC hosted the 2014 Detroit Free Press Marathon Emergency Operations Center on Sunday, Oct. 13, 2014. The control room monitored traffic and messaged traffic guidance for over 27,000 runners and their fans!

Winter 2015

SEMTOC coordinates emergency traffic management on state roads (I, M and US routes) in MDOT's Metro Region. The control room continuously monitors weather and provides traffic and condition information up to the minute.

Winter operations this year saw some of the coldest temperatures on record; less snow than last year but certainly colder. Crews worked feverishly to support road repairs and water main breaks to keep the region moving!

March 2015
Emergency Repair—Tanker Fire

At 11:21am on Wednesday March, 11 2015 a fuel tanker involved in a crash on I-94 exploded causing major damage to the roadway and drainage systems. More than 100 feet of roadway and several pump stations needed repair and clean up. SEMTOC provided up to the minute traffic and detour information while the crews in the field made repairs and cleaned up within a few days getting metro traffic back to normal conditions.

May 2015

Emergency Repair—Tanker Fire

The second major fuel tanker crash occurred at 8:44 am on Sunday May 24, 2015 causing damage to the bridge on I-75 North at I-375. SEMTOC again provided detour and traffic information keeping the metro area moving. Crews had the road back open within a week!

May 2015

Detroit Grand Prix

In supporting traffic management for major metro Detroit events, SEMTOC provided real time up to the minute traffic information for the eighth grand prix held on Belle Isle. The center worked closely with the first responder and security communities, ensuring the mobility throughout the region remained smooth.

May 2015

Emergency Repair—Tanker Fire

The third and final major fuel tanker crash of the year occurred at 3:25 am on Thursday August 20, 2015 with over 200 feet of roadway damage, including the barrier wall and shoulder. SEMTOC informed travelers of detour and traffic information while assisting the emergency responders to manage the incident on scene. Crews again had the road back open within a week minimizing the impact to the metro region mobility.

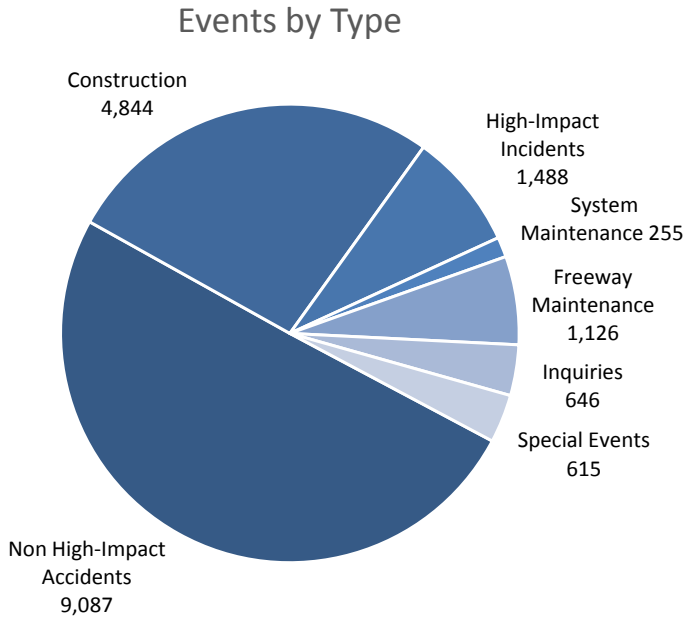
September 2015

Emergency Repair—Tanker Fire

SEMTOC conducted a study on the mobility through the I-96 fix construction project in September 2015. The total tear out and reconstruction of I-96 resulted in a 40% reduction on user delay cost (UDC) per vehicle mile travelled (VMT) and around 39% improvement on delay per VMT. Compounded by the 3.75% increase in VMT, the fix saved drivers over 600,000 hours in delay which reduced delay cost by over $13 million.

CONTROL ROOM ACTIVITY

Control room operators actively monitor roadway conditions, manage incidents and special event traffic, coordinate with maintenance personnel, and respond to caller inquiries 24 hours a day, seven days a week. In 2015, the control room managed 18,061 total events, which was a 14 percent increase over the number of events managed in 2014.

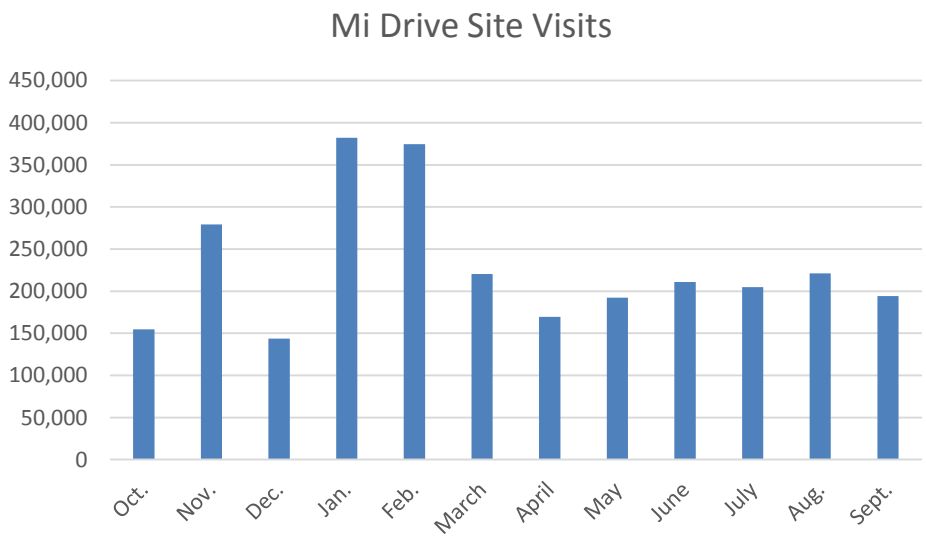


High-Impact incidents are those that result in a total freeway closure in one direction, a freeway-to-freeway ramp closure, or only one lane open.

System Maintenance events are activities associated with ITS network issues.

Freeway Events are general maintenance activities performed along the freeway routes, such as pothole patching.

SEMTOC continuously shares information with stakeholders and the public through various outlets, including local media, Twitter, and MDOT's Mi Drive website and new mobile app.



3,010 New Fans

Through Facebook, MDOT reached over 8,000 people this year, spreading news of major events and upcoming projects at a rate of 97 posts per month. Become a fan at **www.facebook.com/MichiganDOT**.

6,491 New Followers

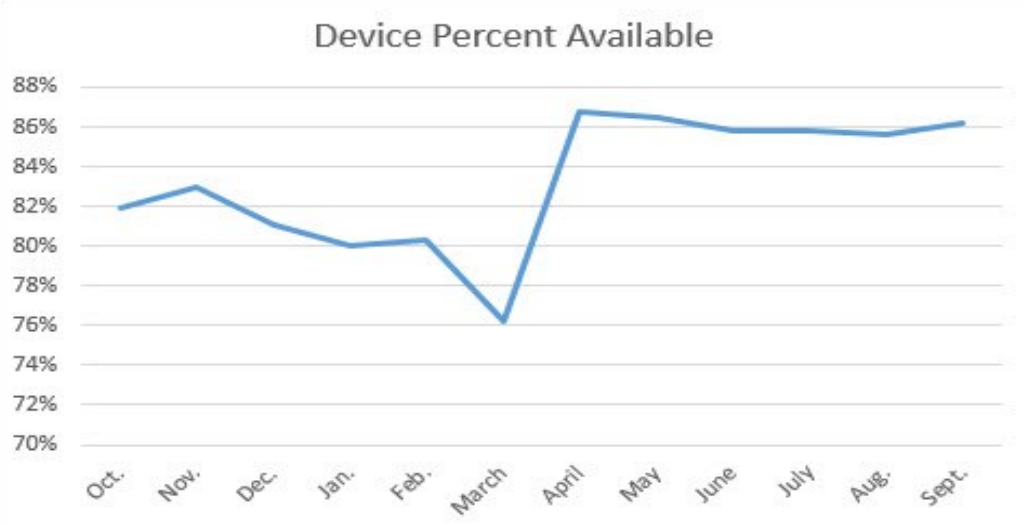
For the most current incident information, SEMTOC uses Twitter to reach over 15,000 followers tweeting at an average rate of once every 18 minutes. Follow us today **@MDOT_MetroDet**.

2.7 Million Site Visits

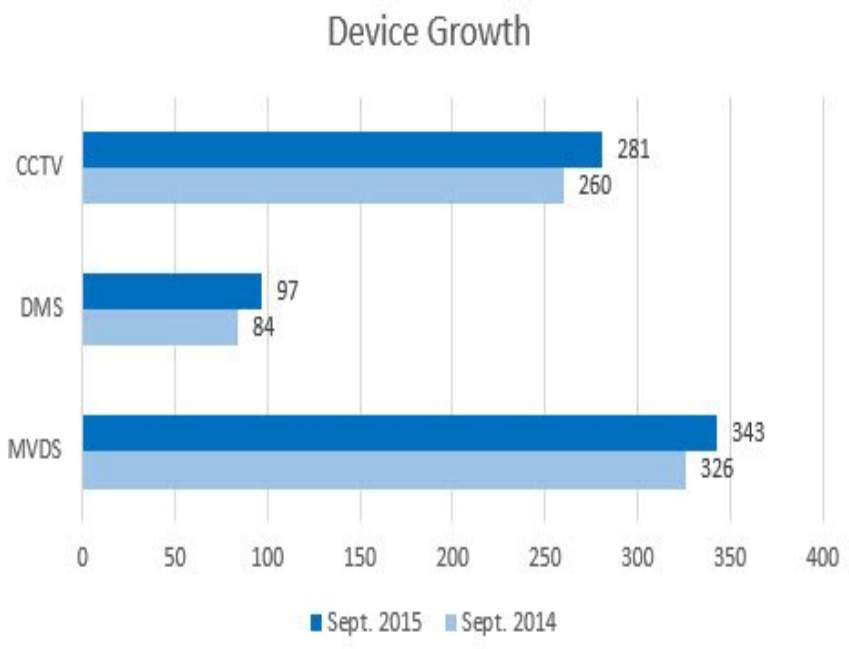
The newly introduced Mi Drive App was downloaded almost 60,000 times in addition to over 2.7 million visits to the website. Interest peaks in the winter months reaching nearly 400,000 visits each month. This is due to snow storm events. Download the app today which are available on **iOS and Android devices**.

ITS DEVICE AVAILABILITY

Closed-circuit television cameras (CCTV) and Dynamic Message Signs (DMS) are used by the control room operators to identify, manage, and monitor incidents. The public can also monitor the devices from the Mi Drive website or app. Availability of system devices are checked operational in the control room. This ensures maintenance sources are dispatched when a problem arises.



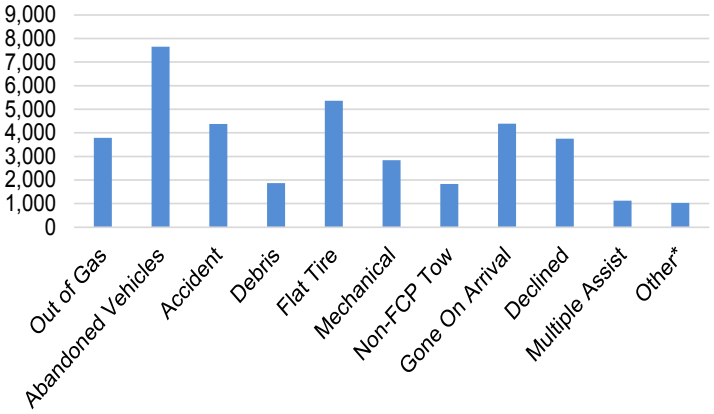
Control room operators actively monitor roadway conditions using intelligent transportation systems (ITS) equipment and coordinate with maintenance personnel to repair the field equipment. During 2015, the number of devices available to operators increased from 670 to 721, which is an 8% increase.



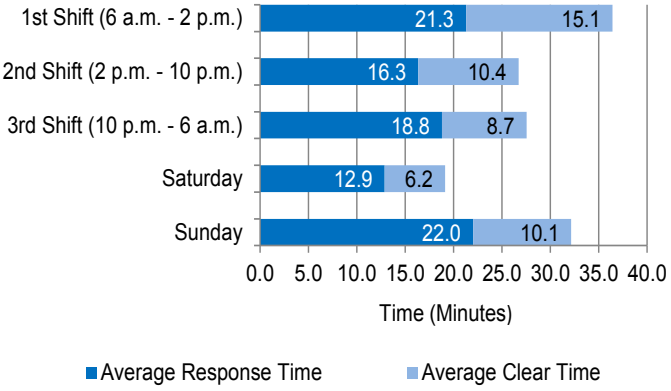
FREEWAY COURTESY PATROL

The Freeway Courtesy Patrol (FCP) assists stranded motorists, provides traffic control for incidents, and improves mobility along the freeways by keeping travel lanes clear of debris and disabled vehicles. In 2015, the FCP helped more than 36,000 motorists.

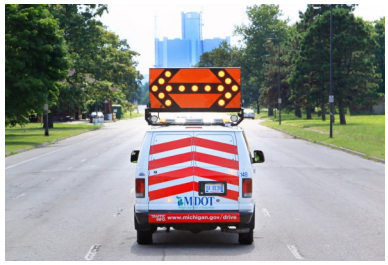
Assists by Type



Average Assist Times



* Other includes cell phone assist, FCP tow, provided directions, traffic control, and motorist transport



Response time is the time from detection to when the FCP arrives on scene.

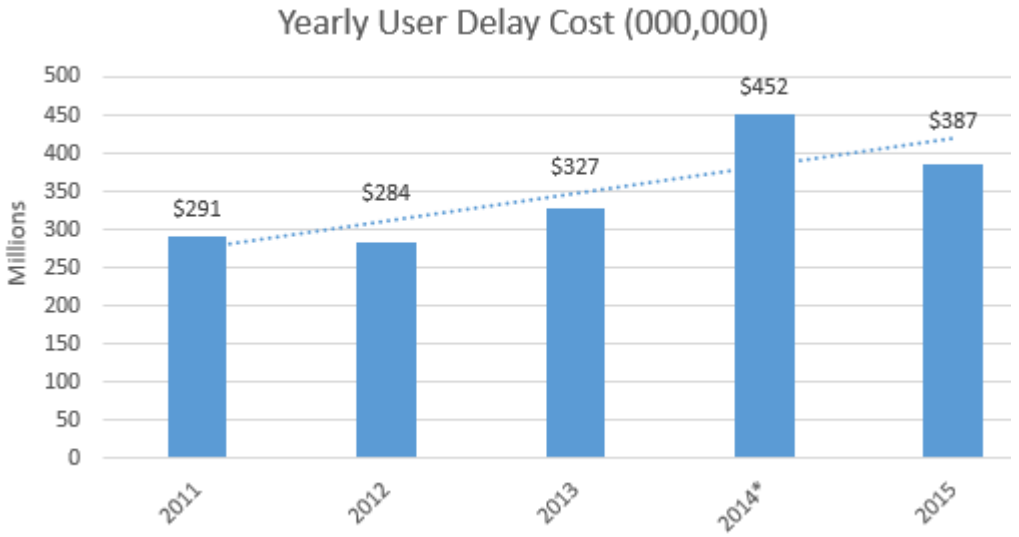
Clear time is the time from FCP arrival to when all vehicles have cleared the scene.

USER DELAY COST

Total Cost

3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM
$2.8K	$4.8K	$11.3K	$52.2K	$233.7K	$230.6K	$119.8K	$64.4K	$57.6K	$51.5K	$60.9K	$68.8K	$80.4K	$194.5K	$281.7K	$115.4K	$42.3K

MDOT recognizes user delay costs (UDC) as a key performance metric for transportation professionals, public safety sector, and other partners in highway operations. UDC costs for 2015 considers both commercial ($31.73 per hour) and passenger ($17.98 per hour) vehicles and provides a total dollar amount of individual delays. Delays include congestion, construction, roadway maintenance, or incidents.



* 96Fix is believed to contribute to the spike

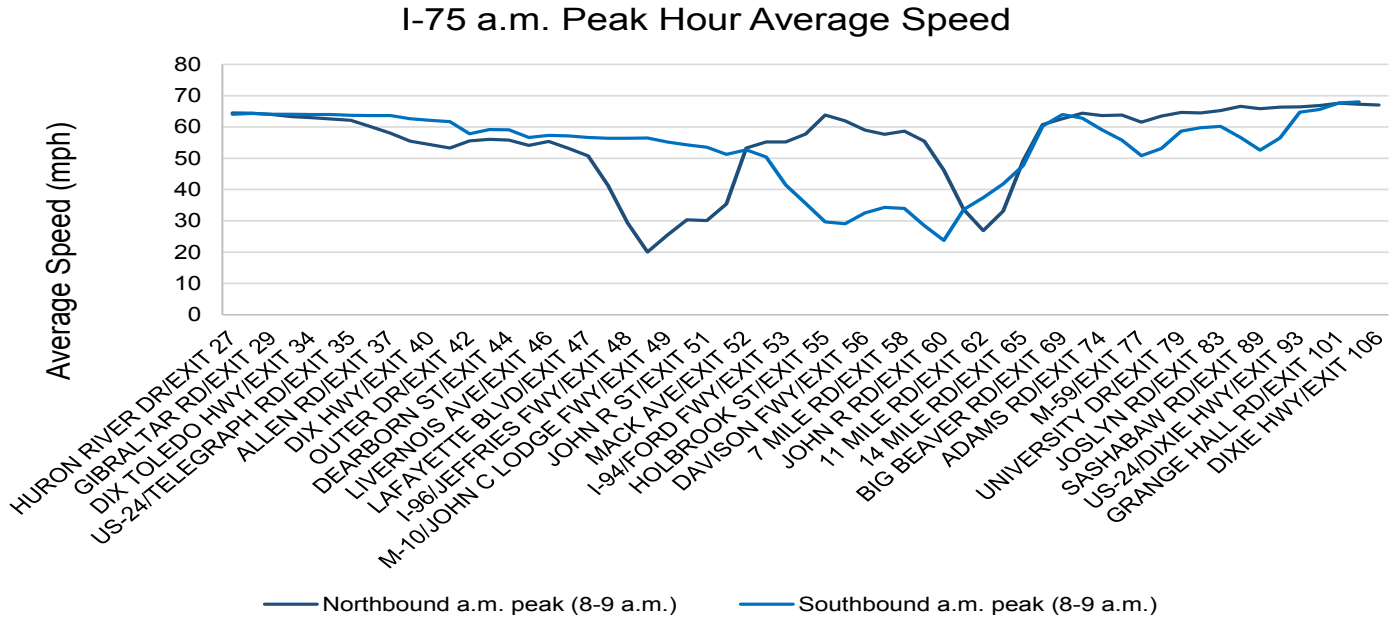
Column1	2011	2012	2013	2014	2015
UDC (Millions)	$291	$284	$327	$452	$387
UDC Per VMT	$0.03	$0.02	$0.02	$0.03	$0.03
VMT (Millions)	9.6	11.4	11.9	11.5	11.8
Delay per VMT (minutes)	0.086	0.069	0.074	0.104	0.086

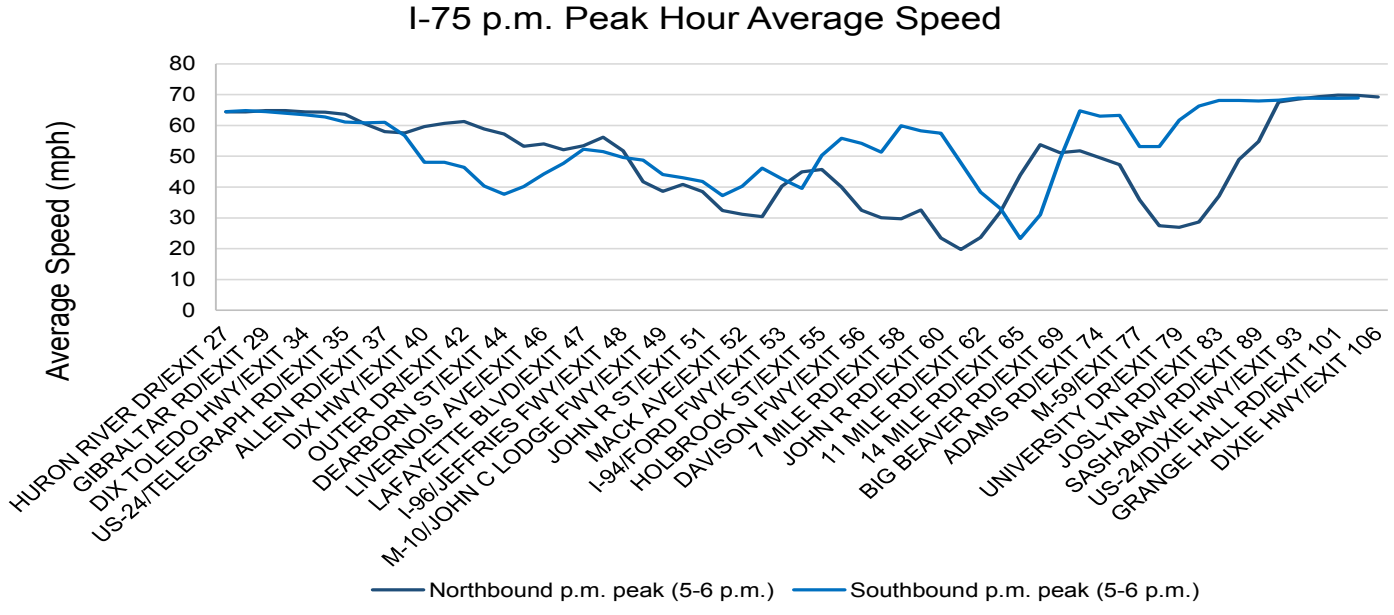
AVERAGE TRAVEL SPEED

Average travel speed is calculated as the distance travelled over the time of travel. Various technologies along MDOT Metro Region freeways collect actual travel speeds in real time and analyze historical data. Throughout the Metro Region, freeway speed limits range from 55 to 70 miles per hour; drivers expect actual travel speeds to be at or near the posted speed limits. During peak periods when congestion levels increase, travel speeds typically decrease. By analyzing historical travel speed data, SEMTOC is able to provide drivers with more realistic average travel speed expectations during the peak periods of the day.

I-75

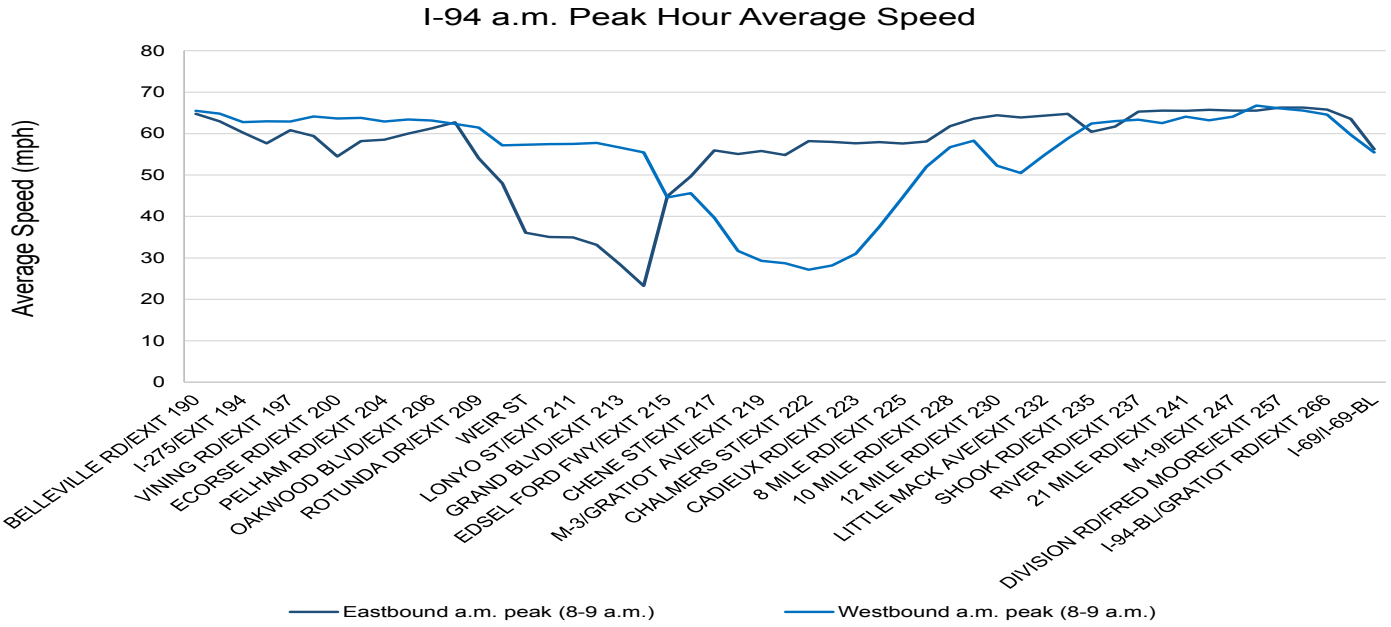
between Huron River Drive and Dixie Highway

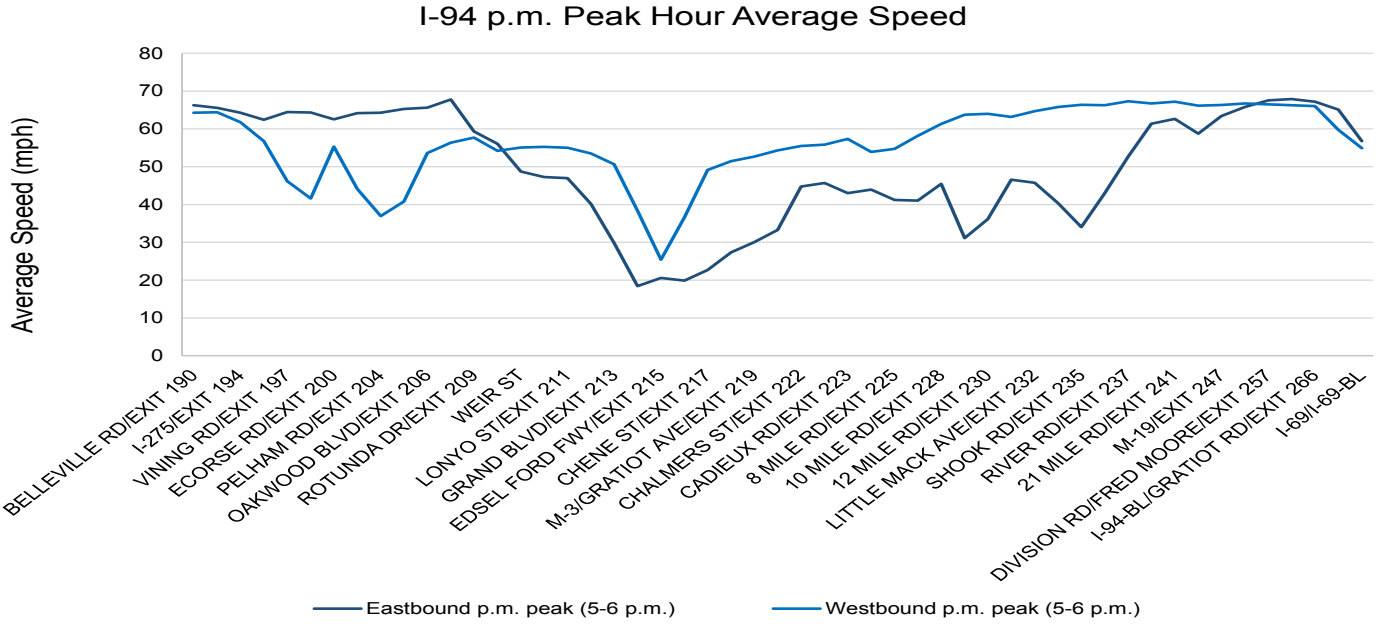




I-94

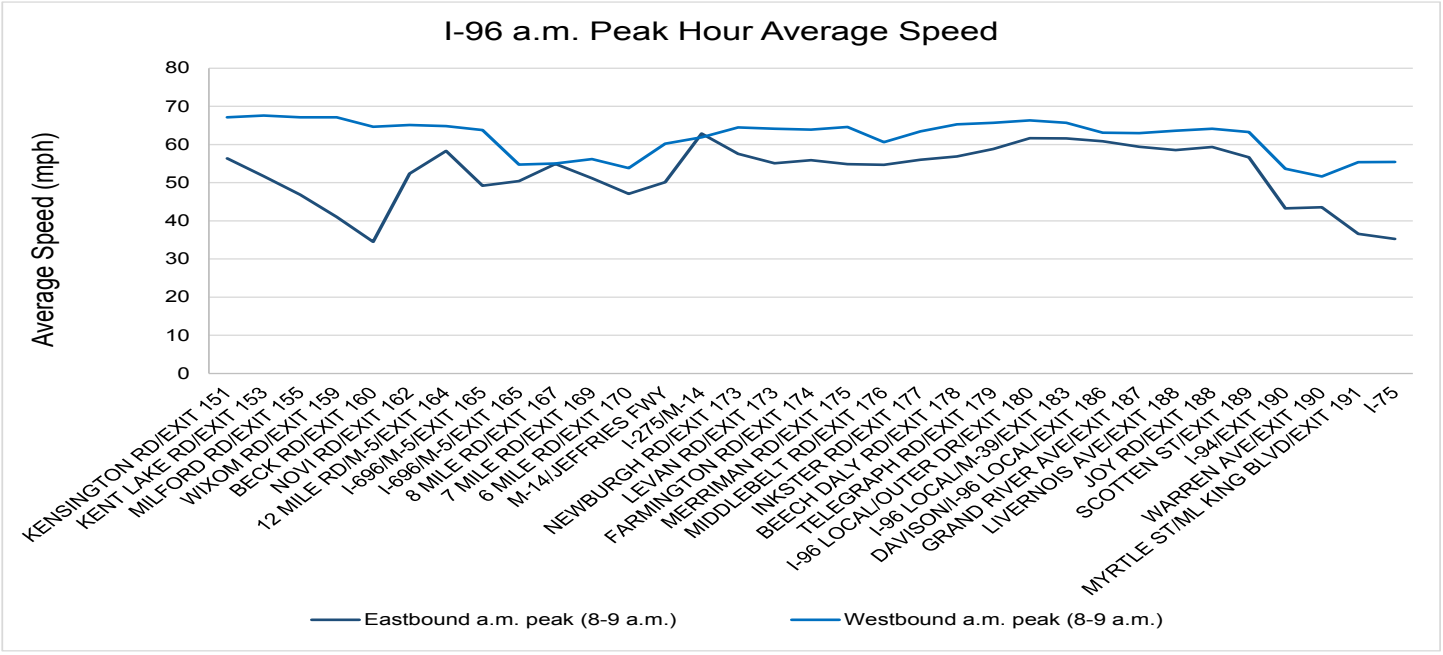
between Rawsonville Road and I-69

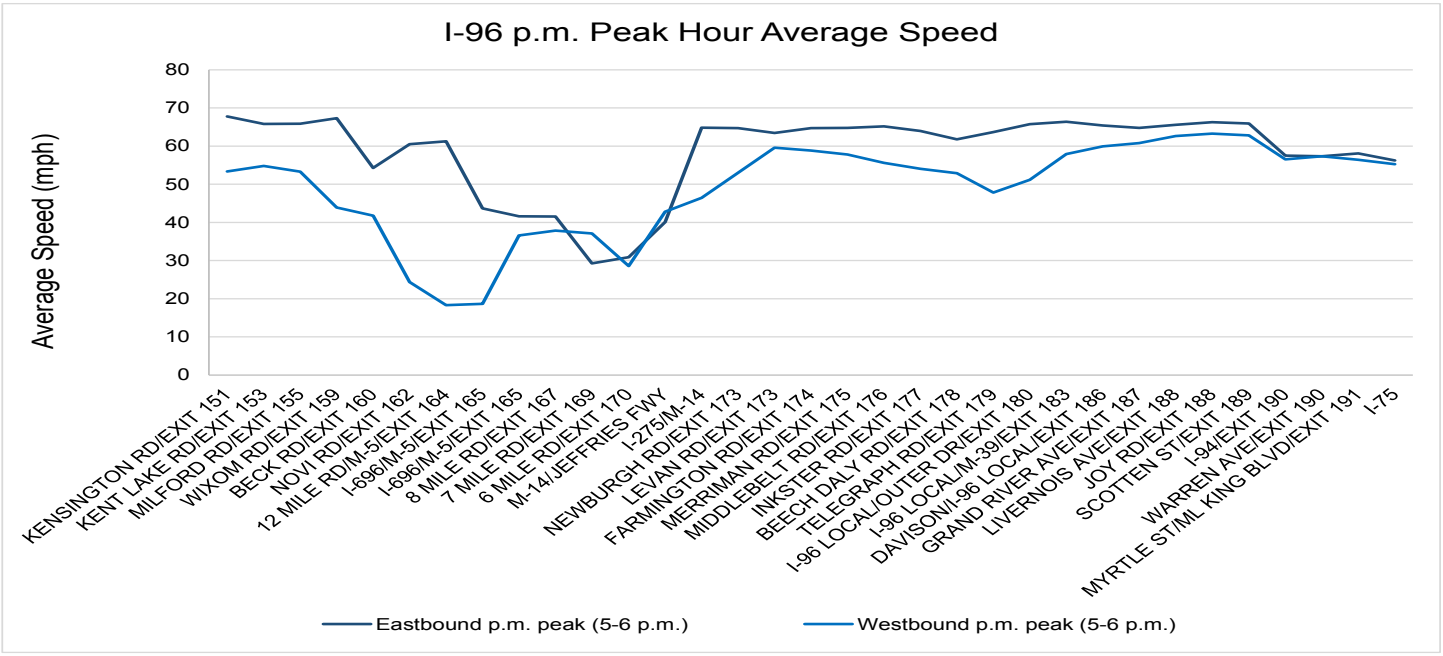




I-96

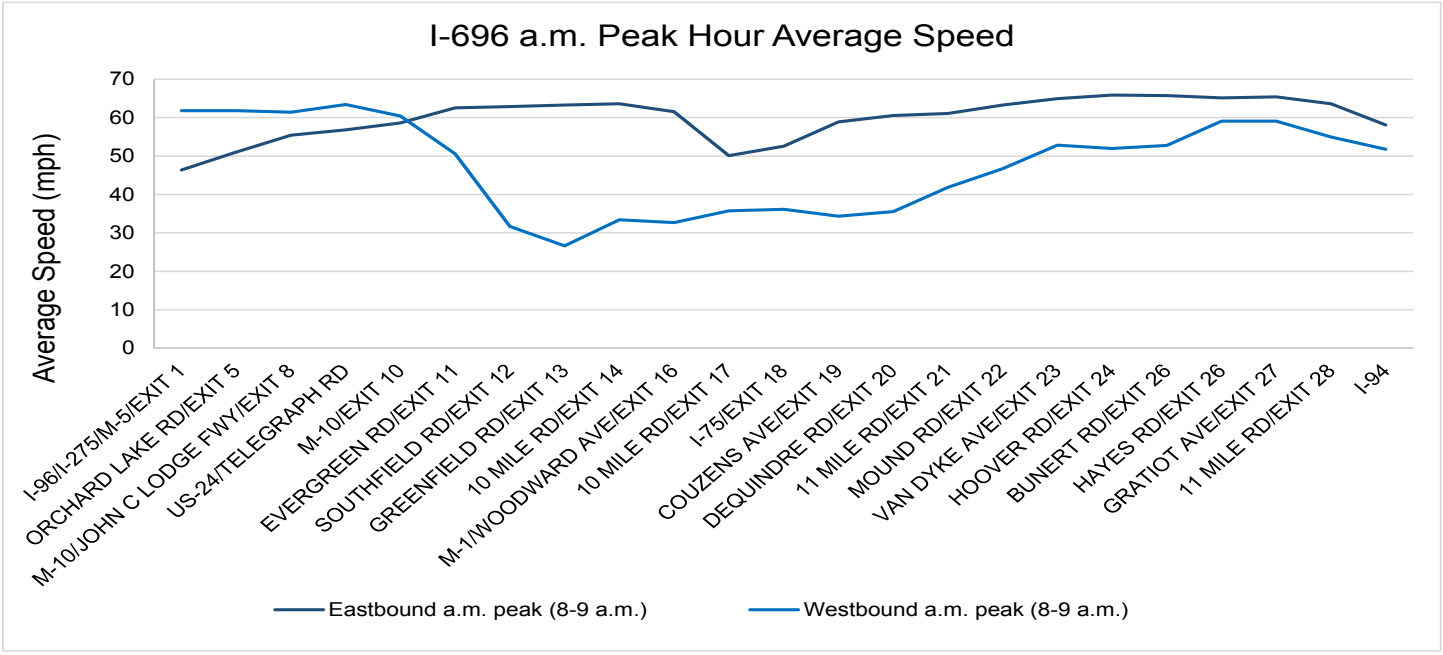
between Kensington Road and I-75

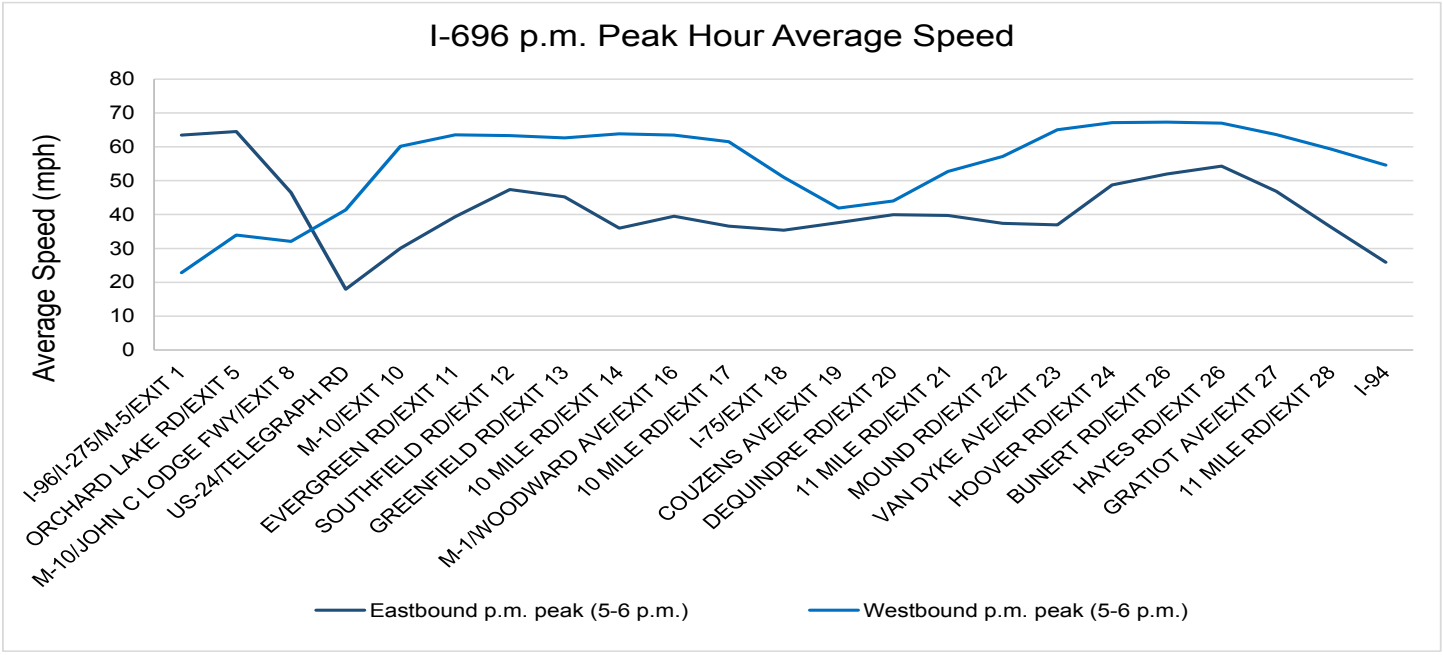




I-696

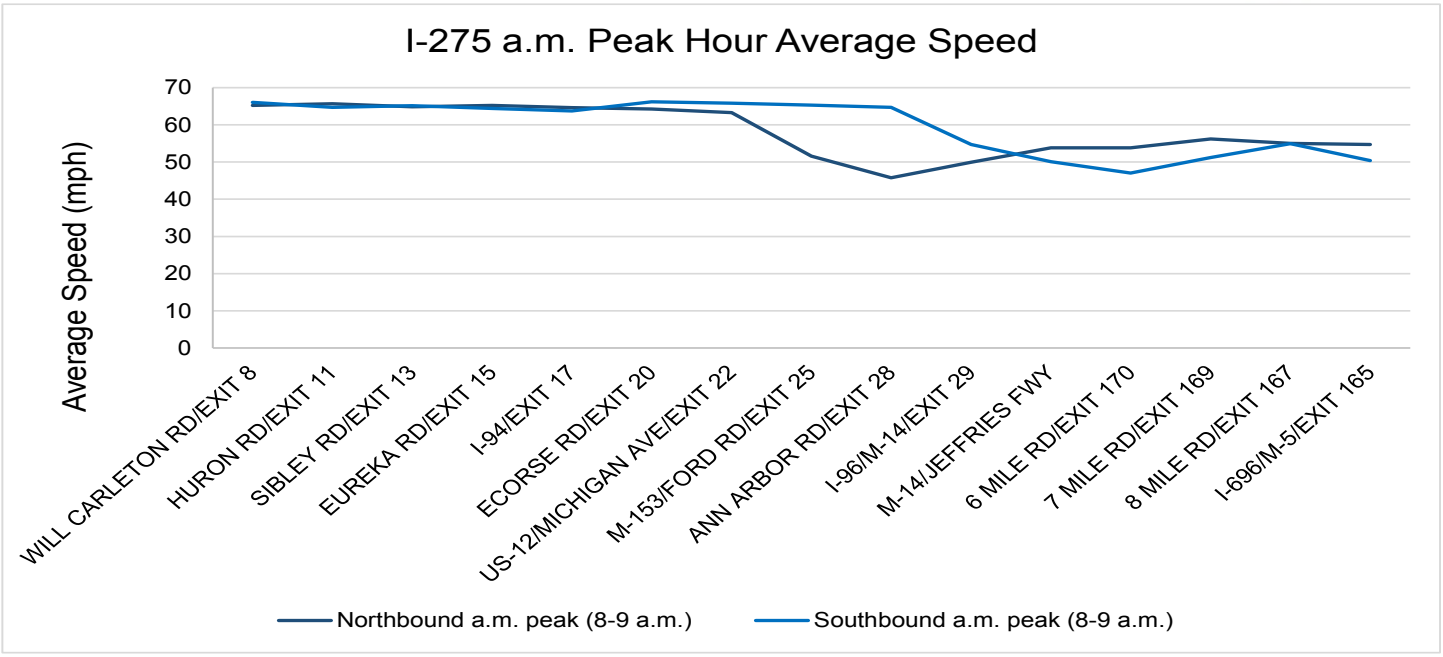
between I-96/I-275/M-5 and I-94

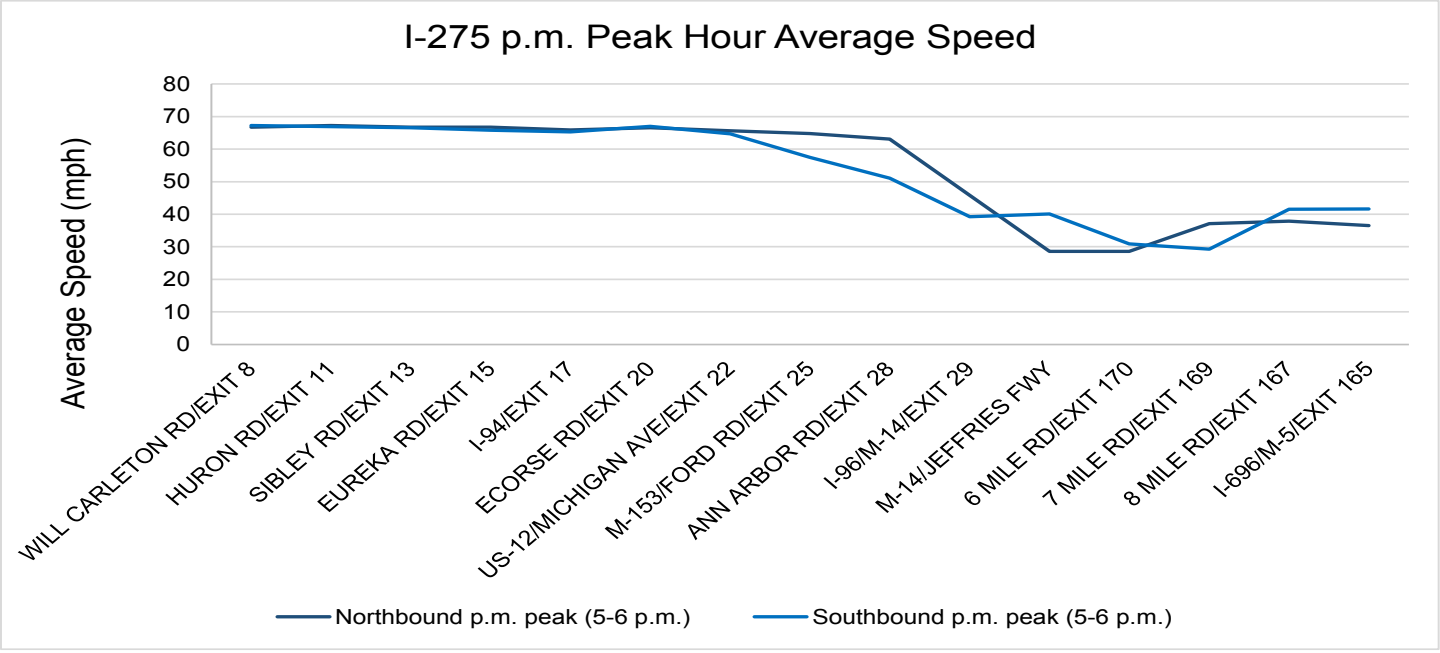




I-275

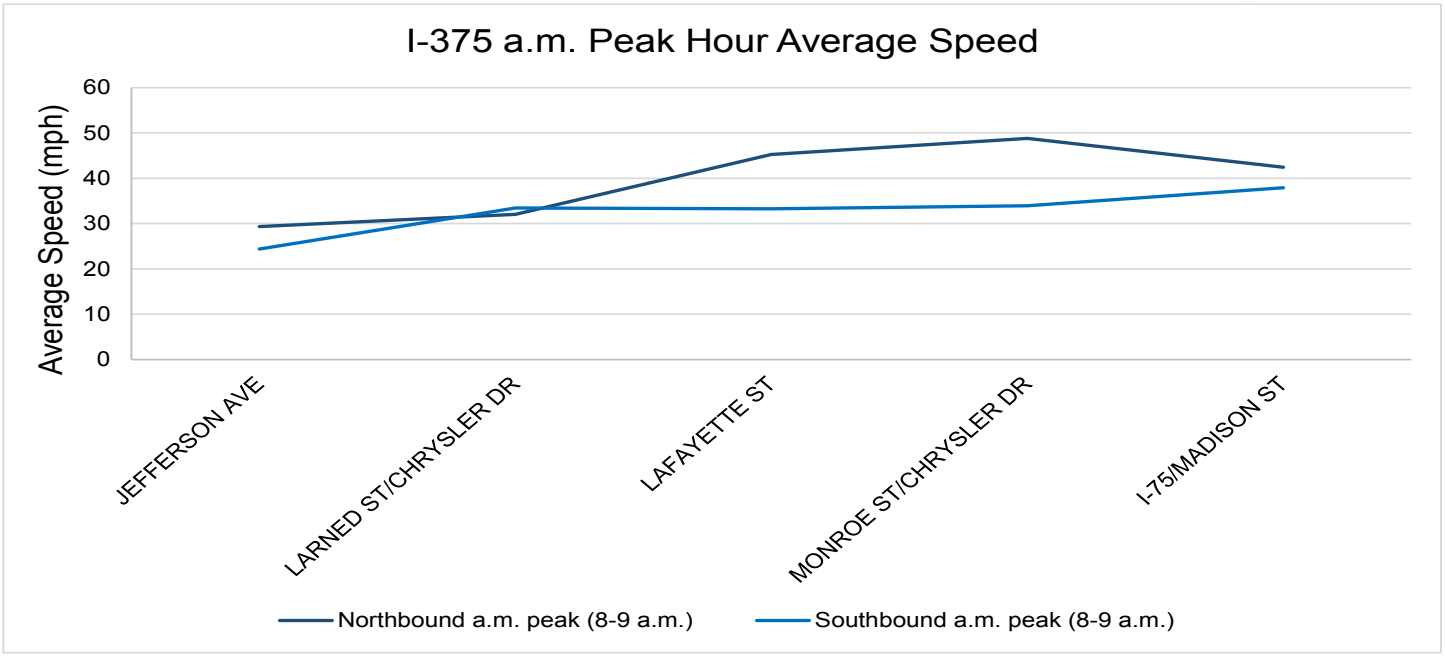
between Will Carleton Road and I-696/M-5

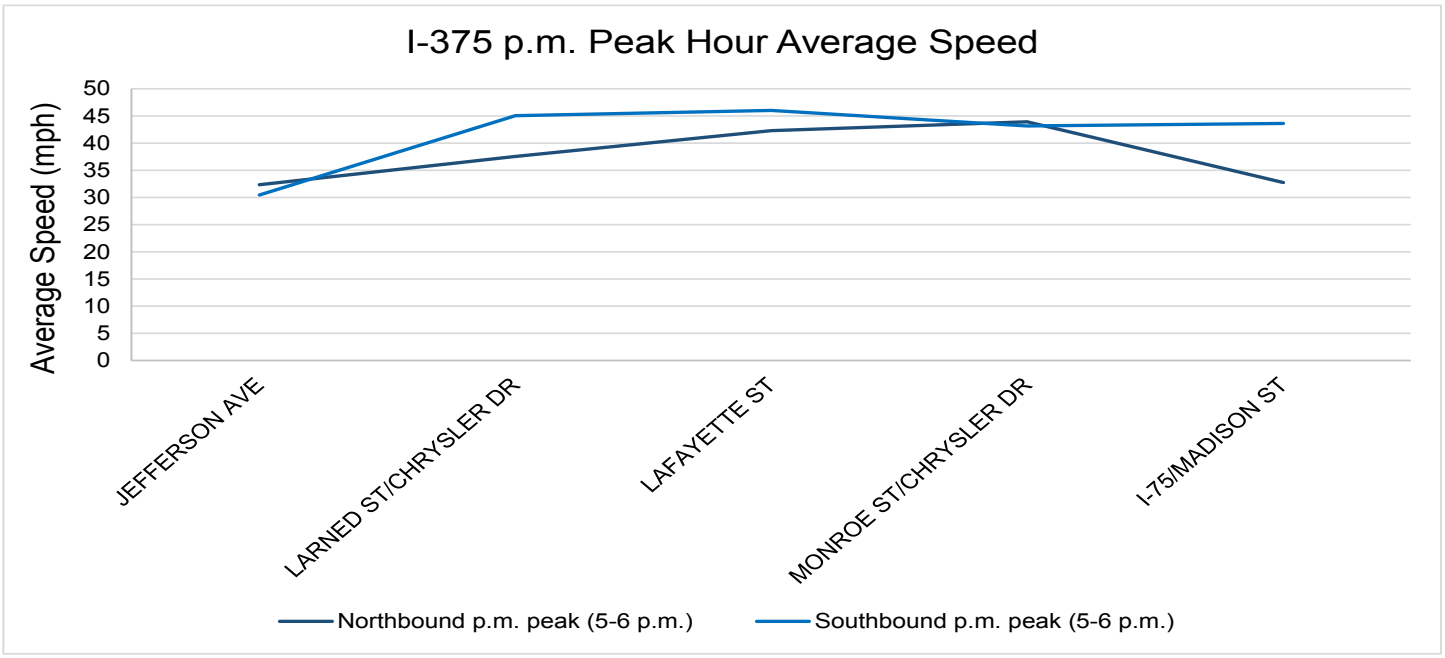




I-375

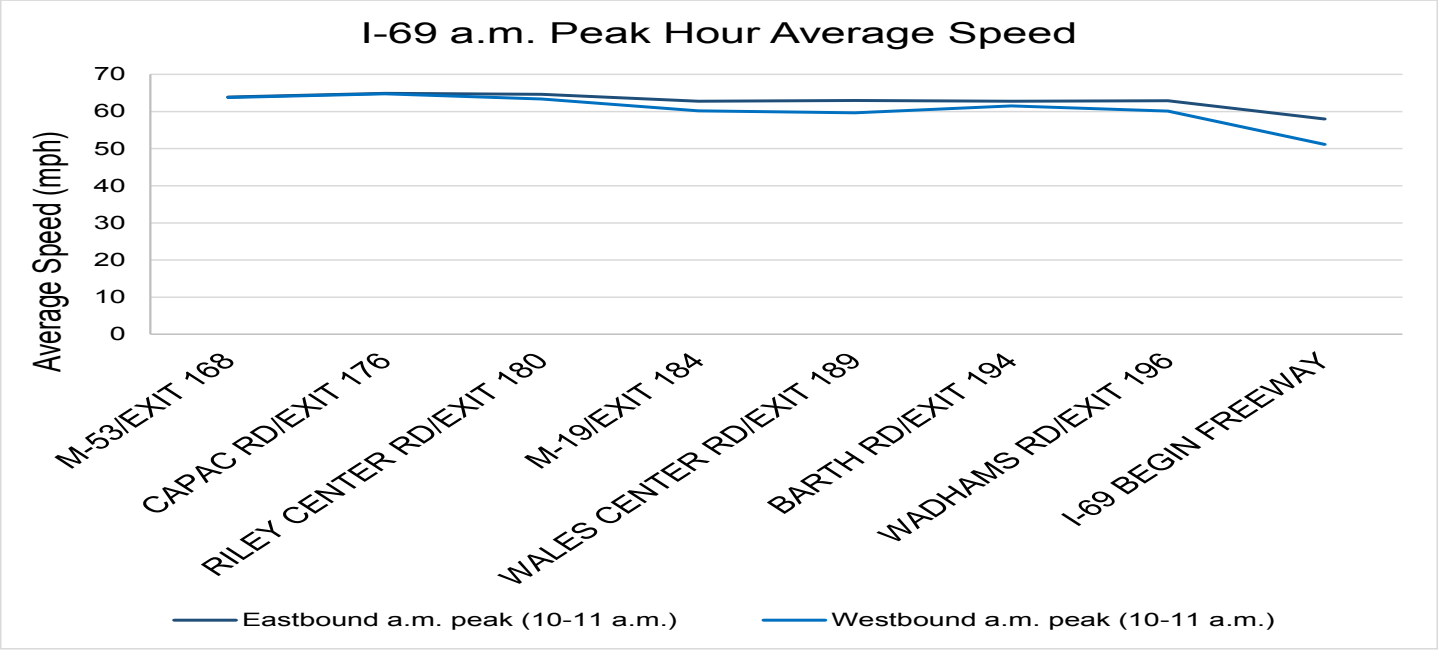
between Jefferson Avenue and I-75

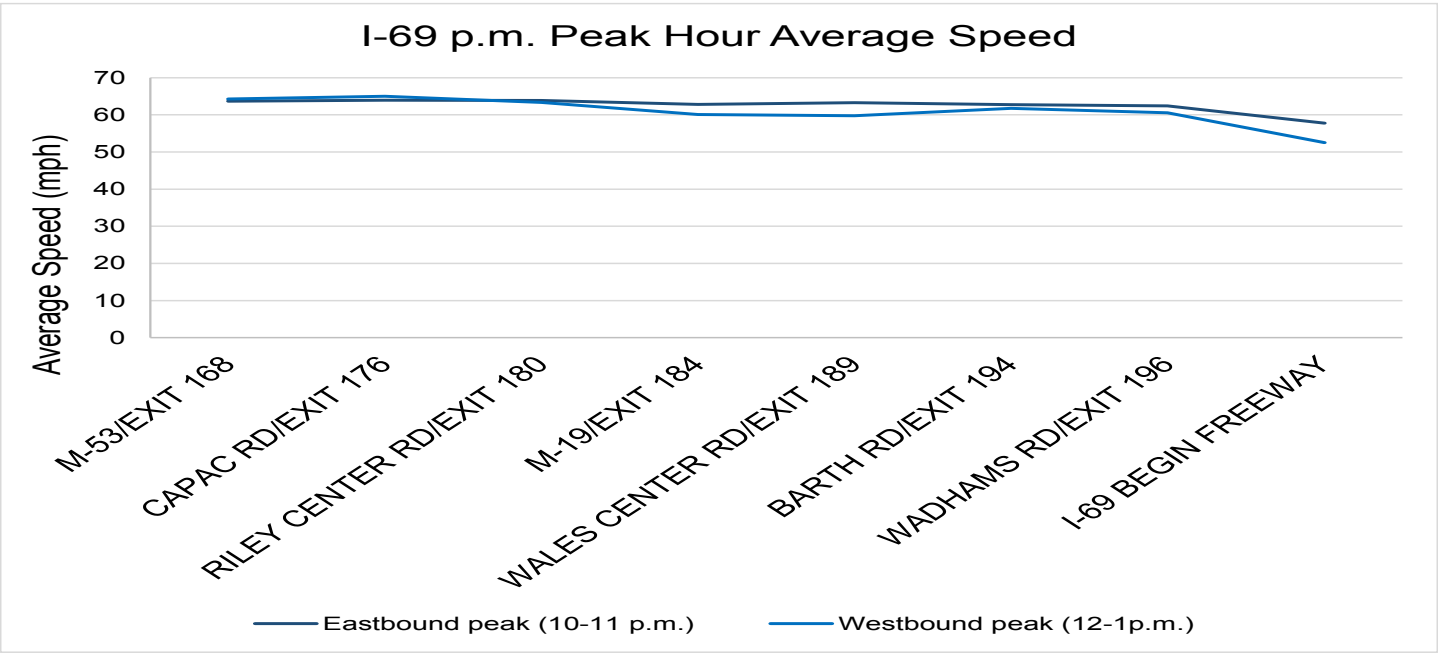




AVERAGE TRAVEL SPEED

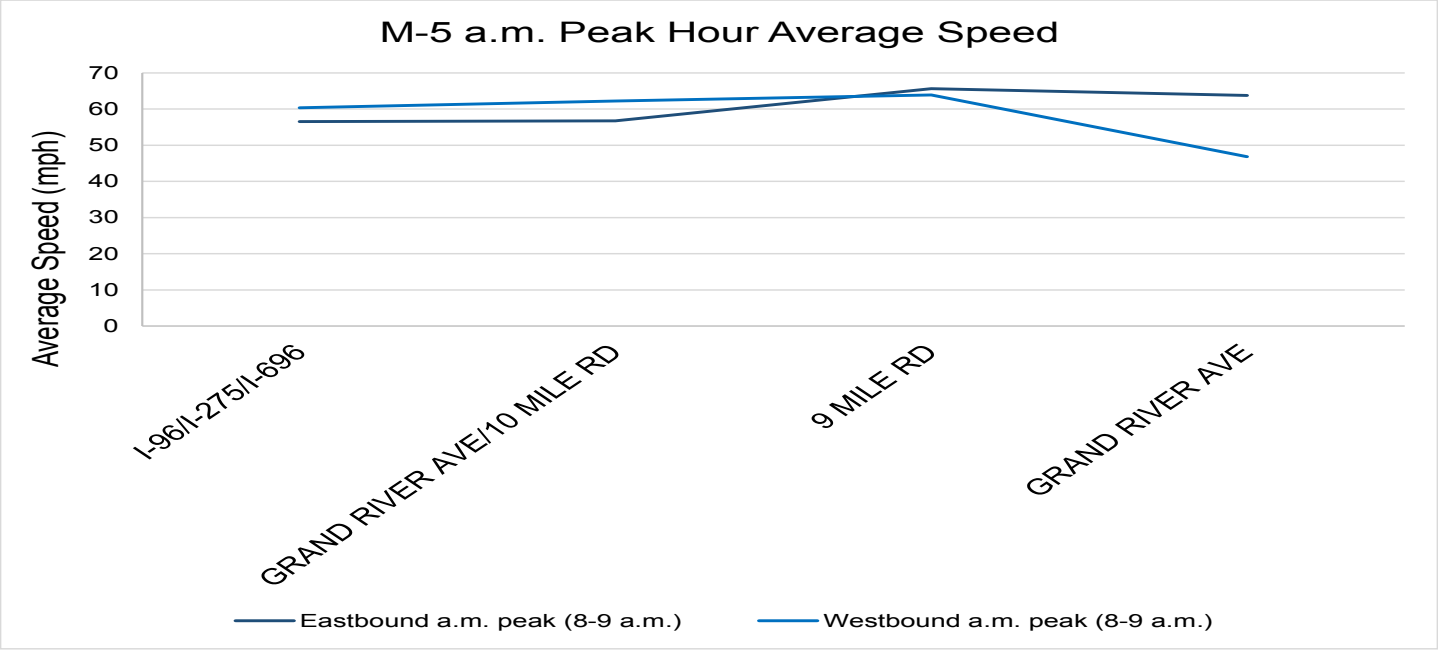
I-69
between M-53 and I-94

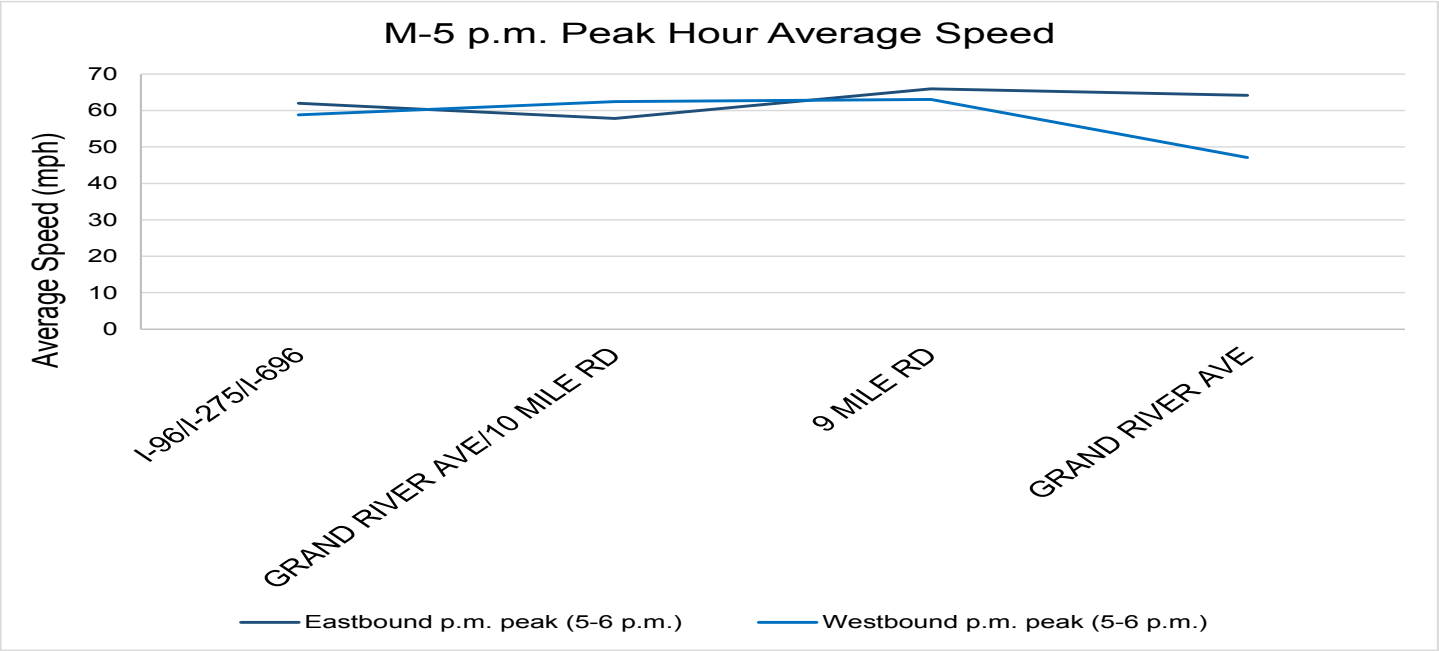




M-5

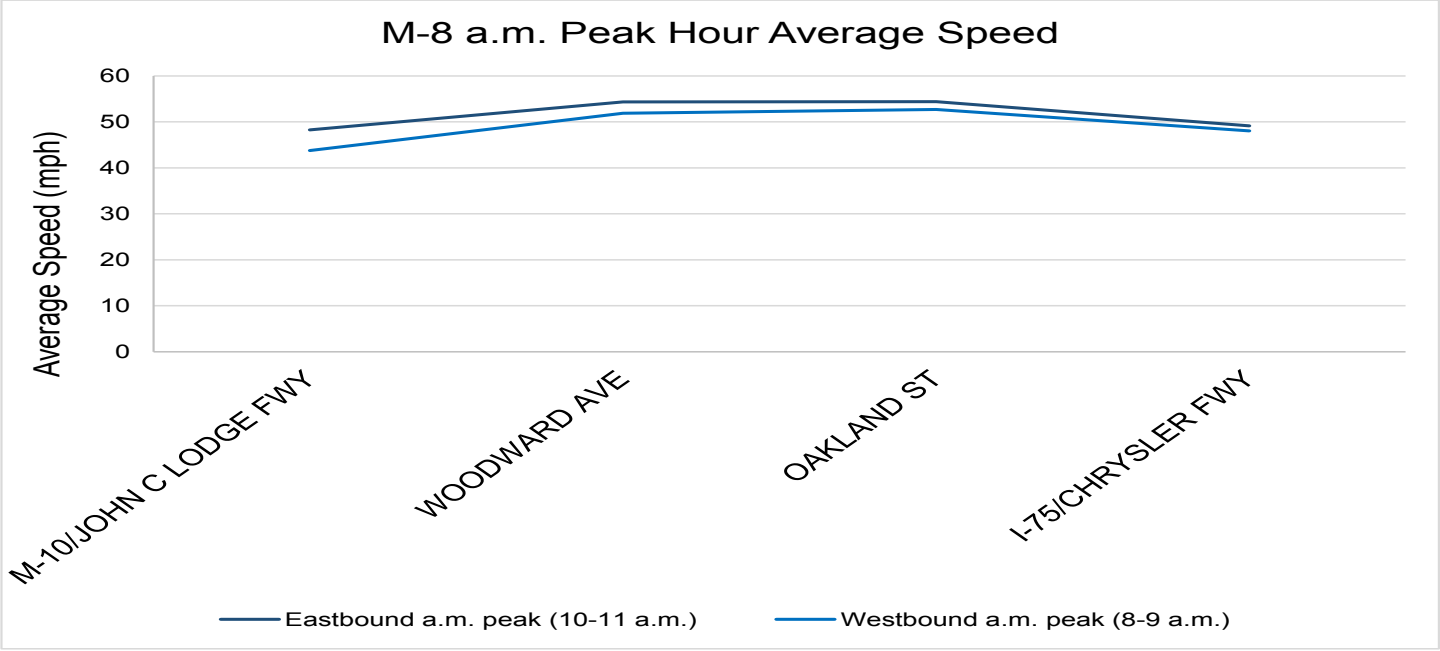
between I-96/I-275/I-696 and Grand River Avenue

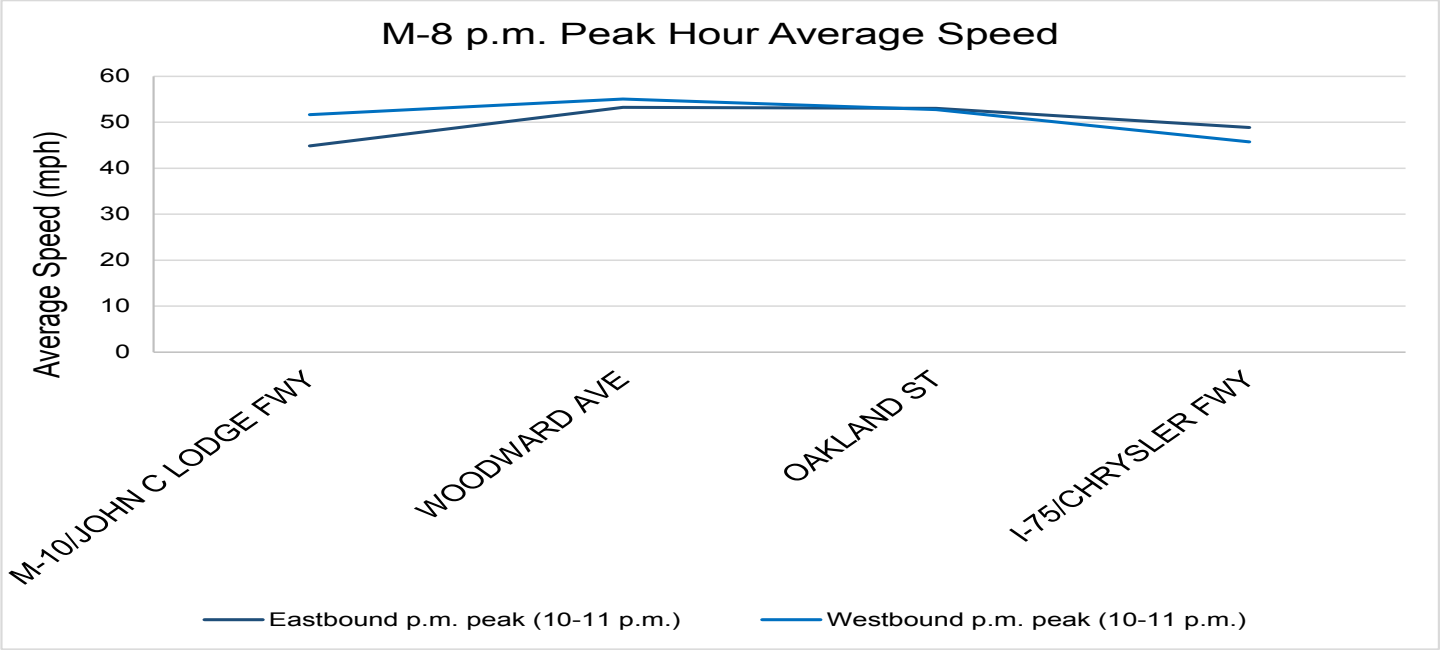




M-8

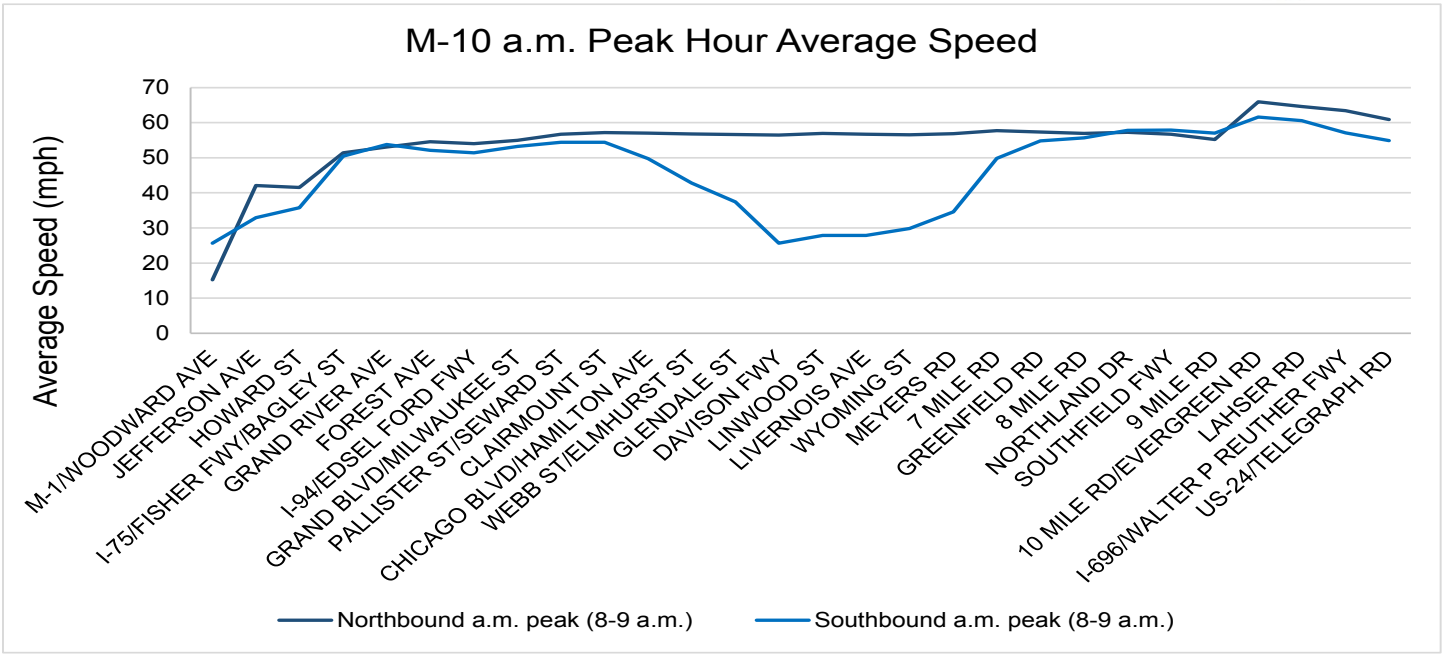
between M-10 and I-75

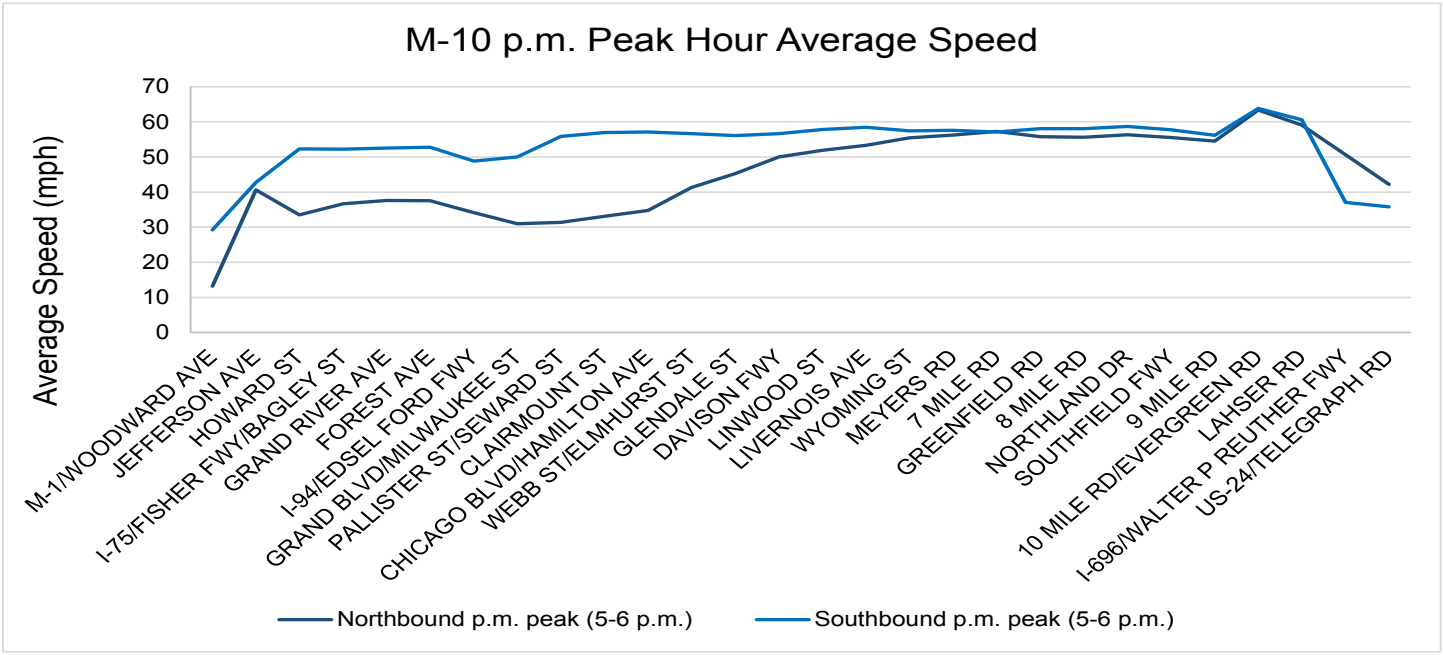




M-10

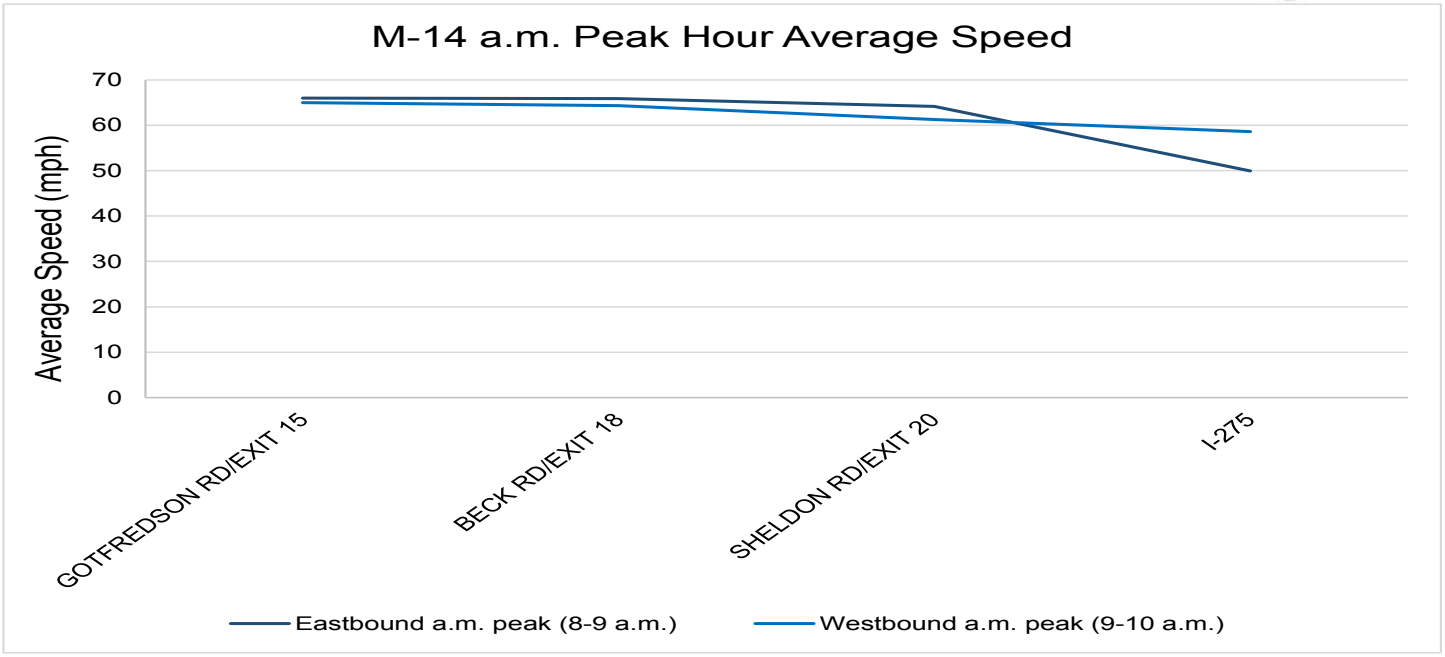
between US-24 (Telegraph Road) and M-1 (Woodward Avenue)

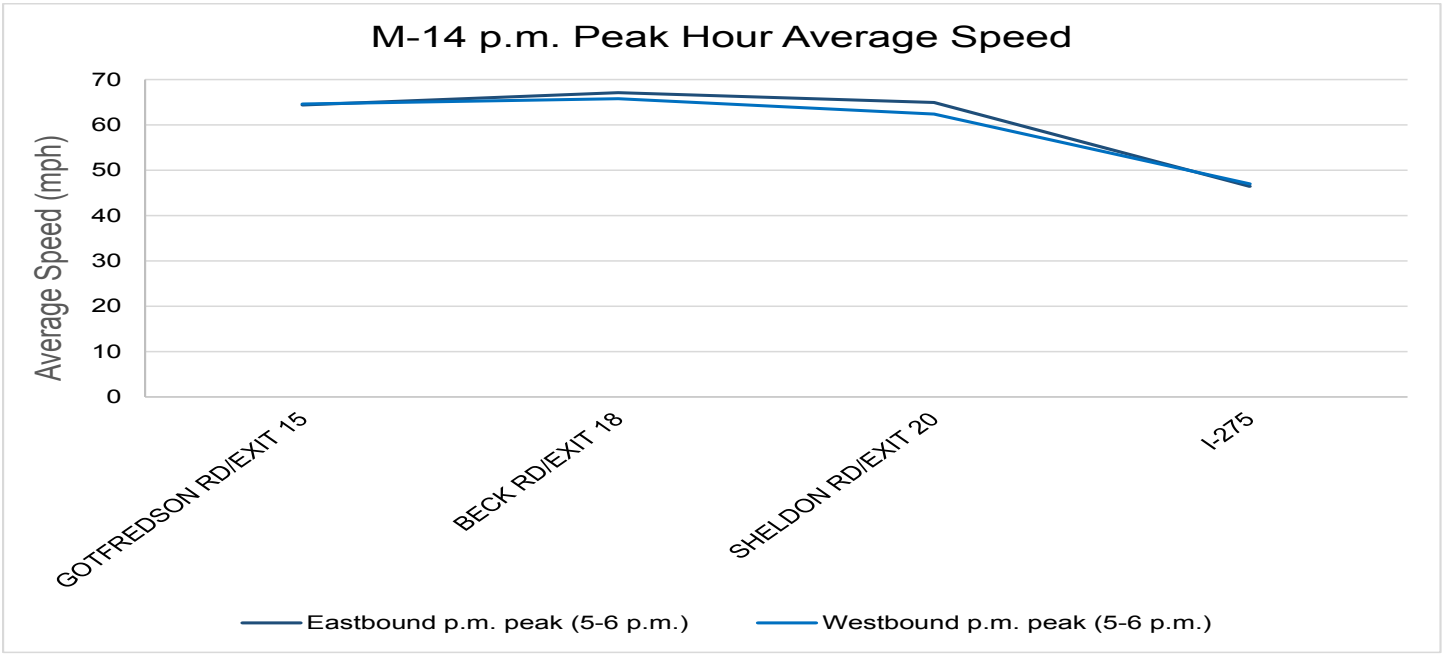




M-14

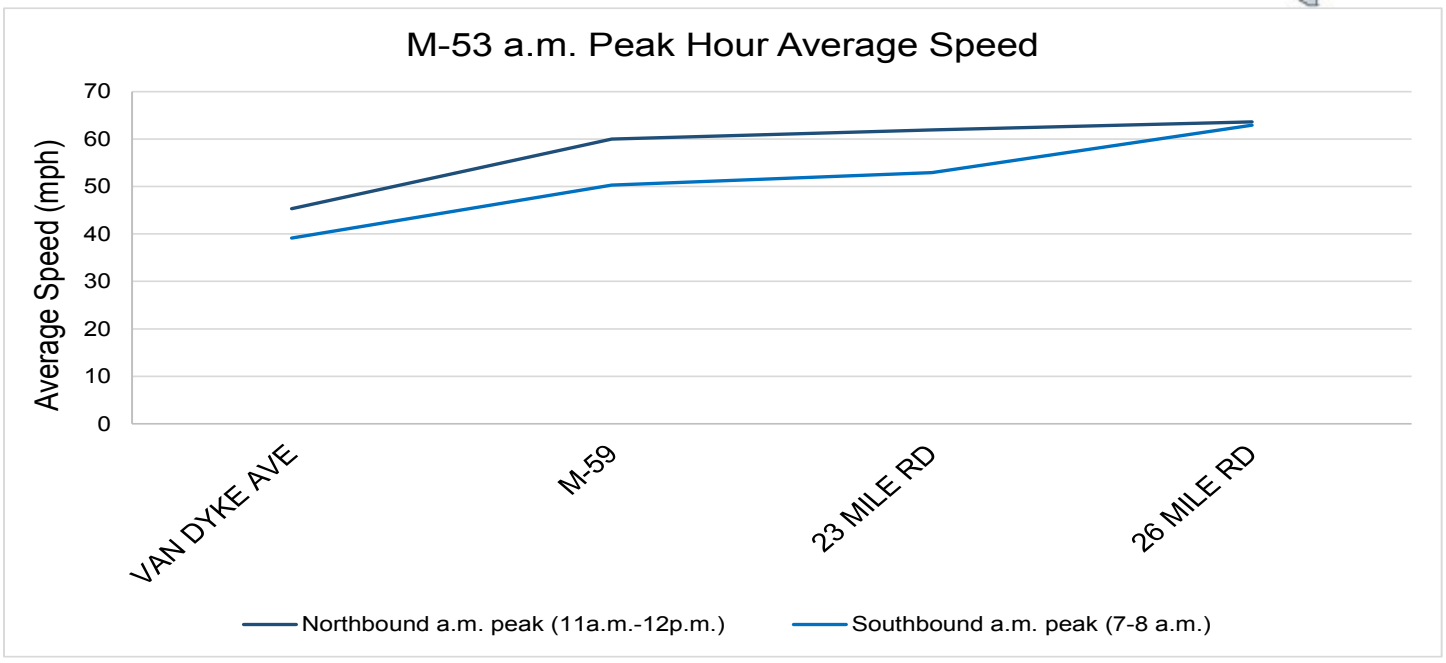
between Gotfredson Road and I-275

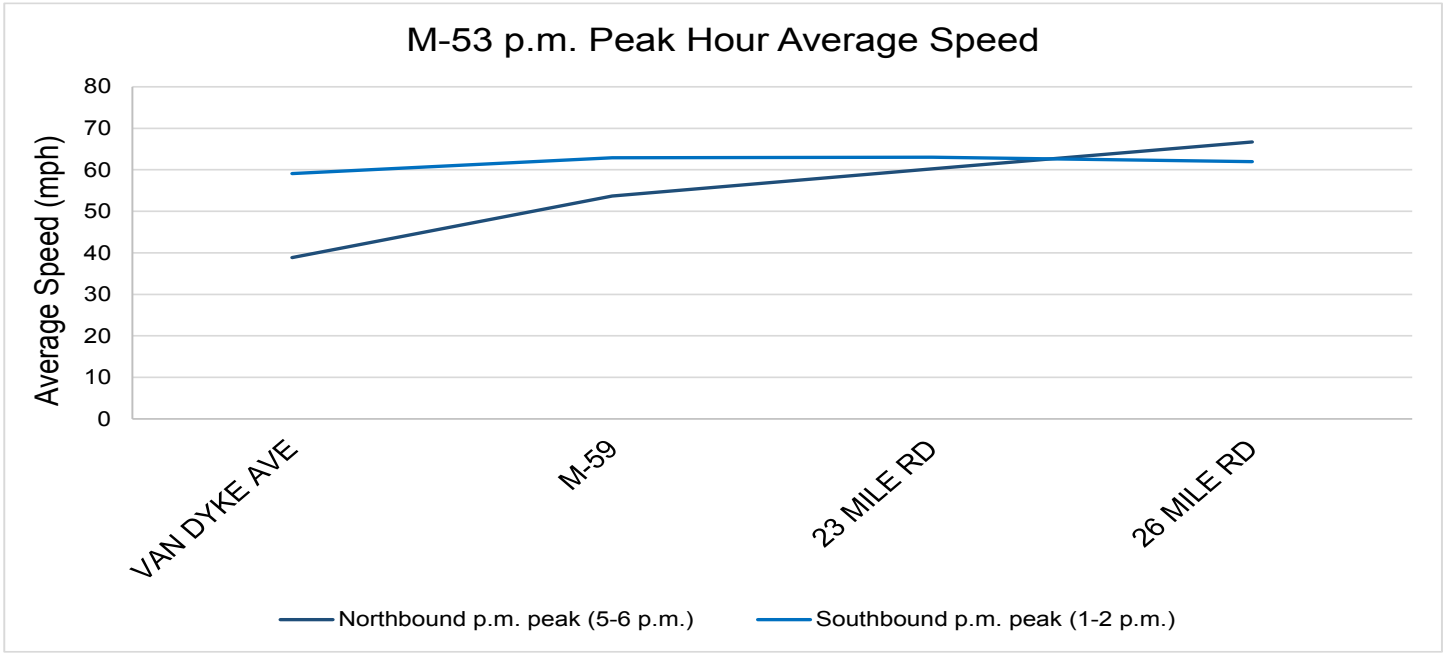




M-53

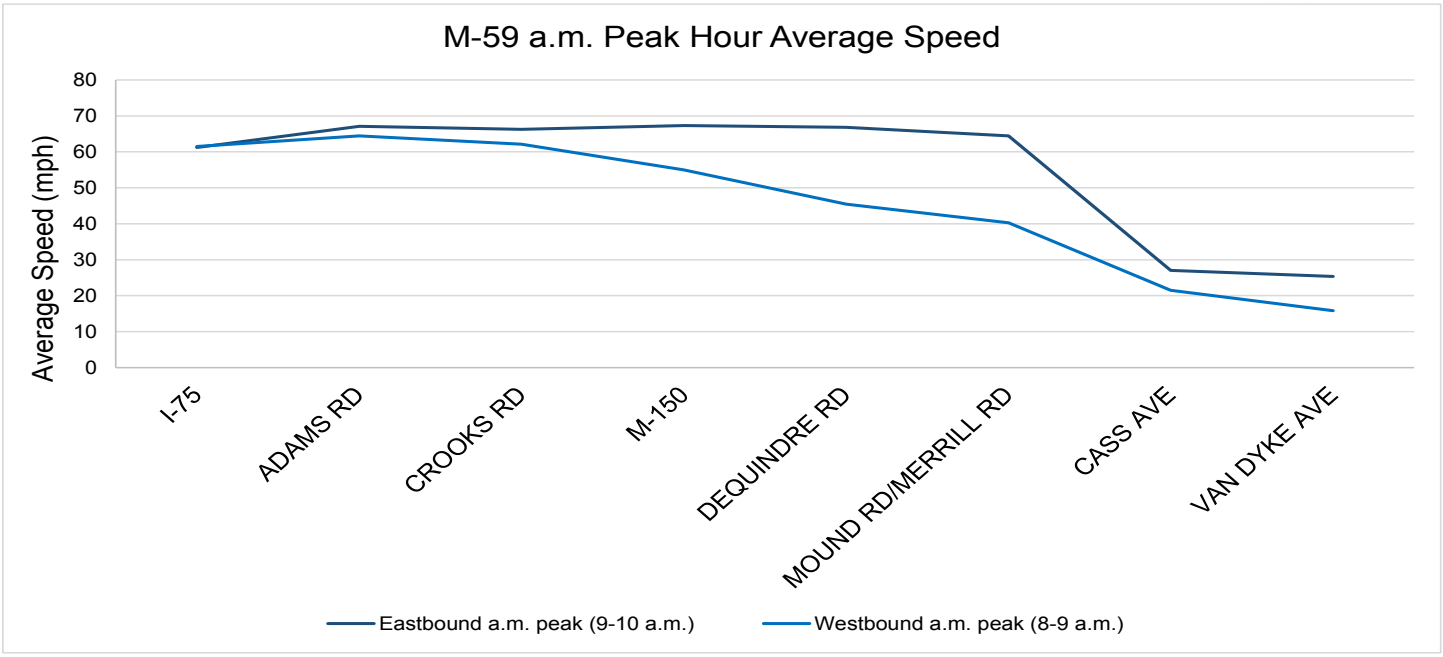
between Van Dyke Avenue and 26 Mile Road

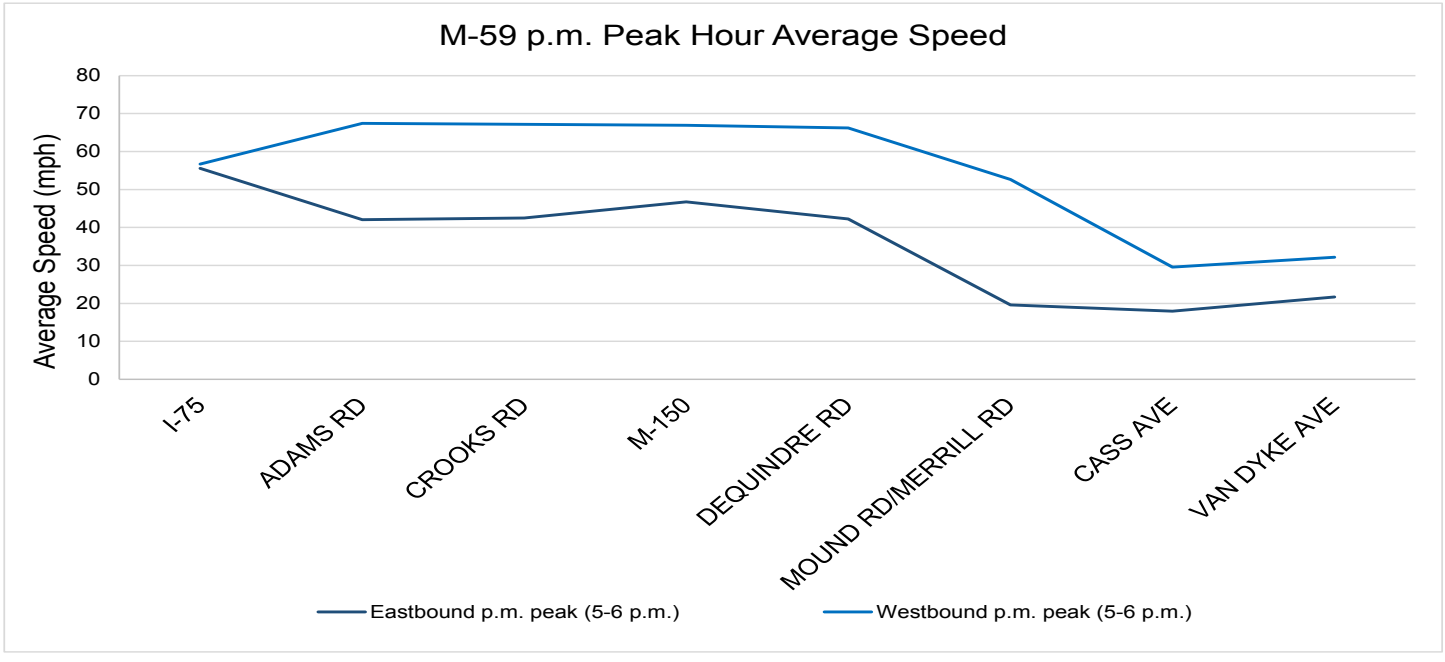




M-59

between I-75 and Van Dyke Avenue





TRAVEL TIME RELIABILITY

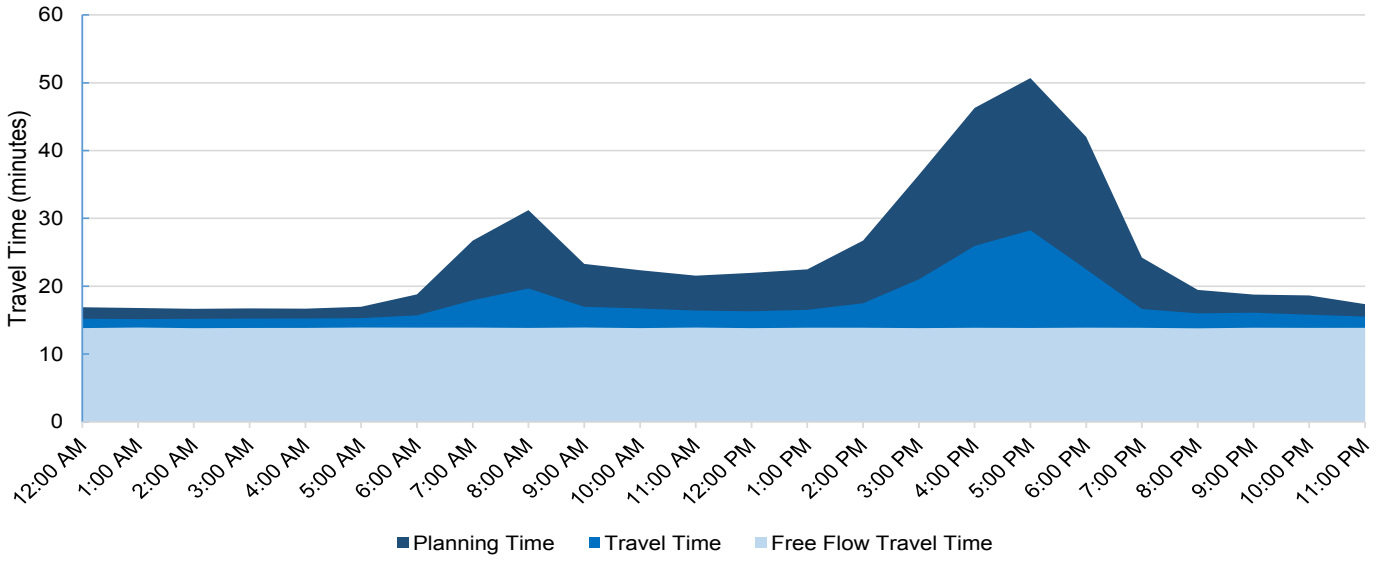
One of the most important questions a driver asks before making a trip is, “How early should I leave to make it on time?” A certain level of traffic congestion is expected during particular periods of the day, usually the morning and evening peak periods; however, the unexpected congestion (e.g., as a result of an accident), can cause frustration when planning a trip. Travel time reliability is a measure of how consistent travel times are along a segment of roadway over time. Planning time represents a travel time reliability of 95 percent or the amount of time the driver should allow for their trip to be on time. Metro Detroit drivers can use this data to make better informed decisions when planning their trips since travel times are a clear indicator of freeway performance and reliability.

I-75

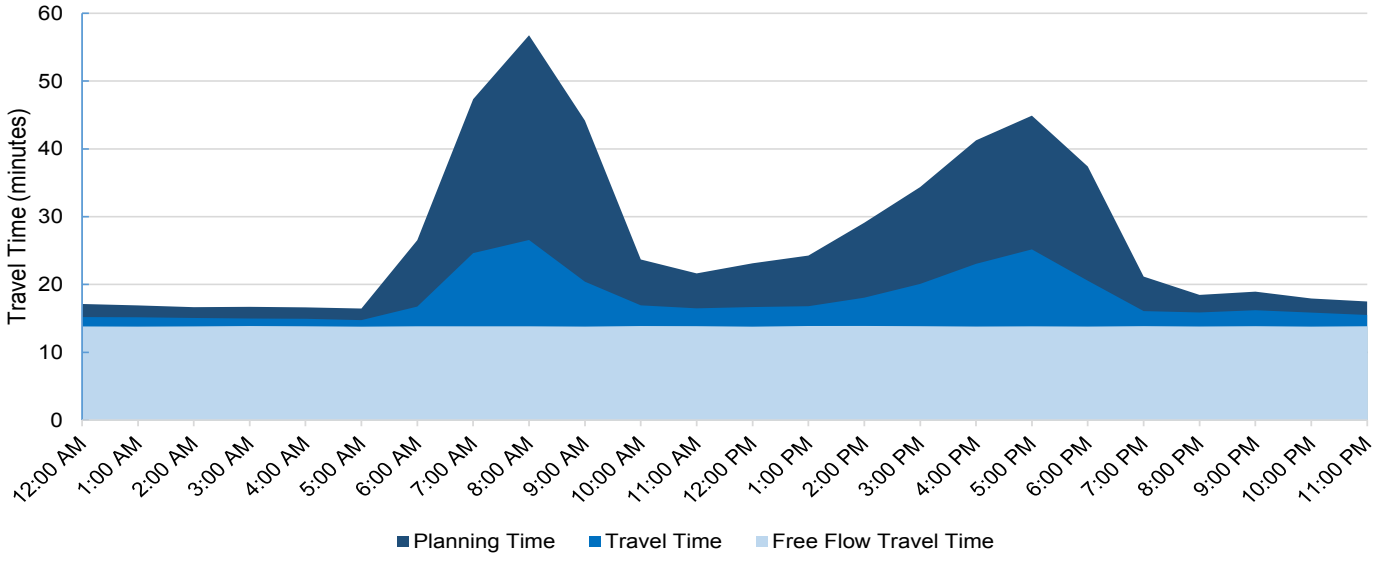
between I-94 and Big Beaver Road

18 miles

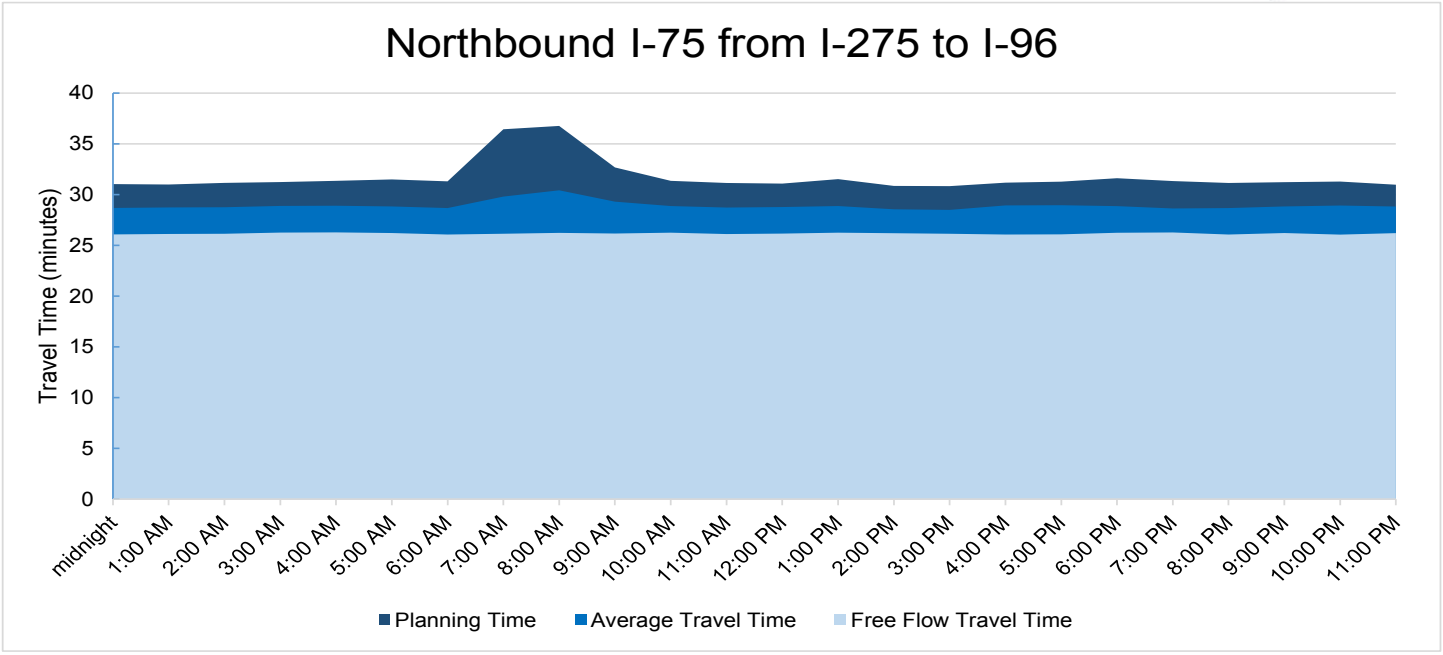
Northbound I-75 from I-94 to Big Beaver Road

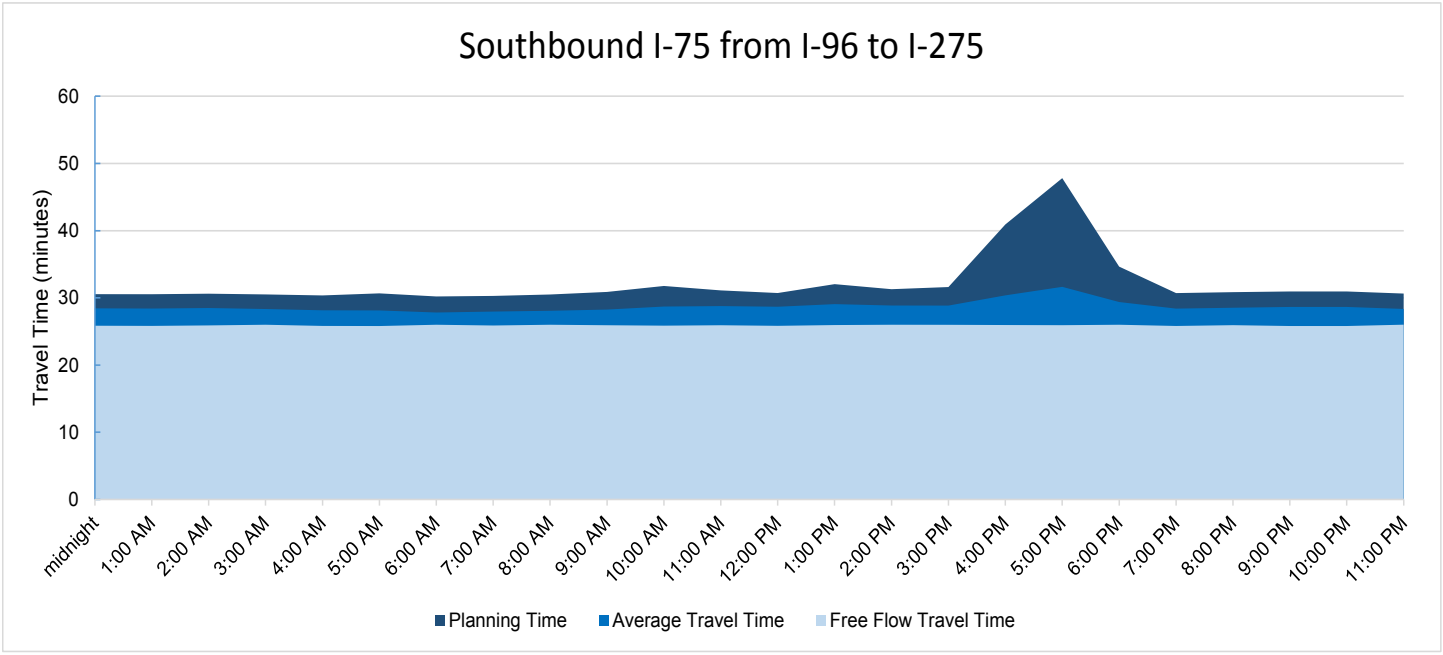


Southbound I-75 from Big Beaver Road to I-94



I-75
between I-275 and I-96
30 miles

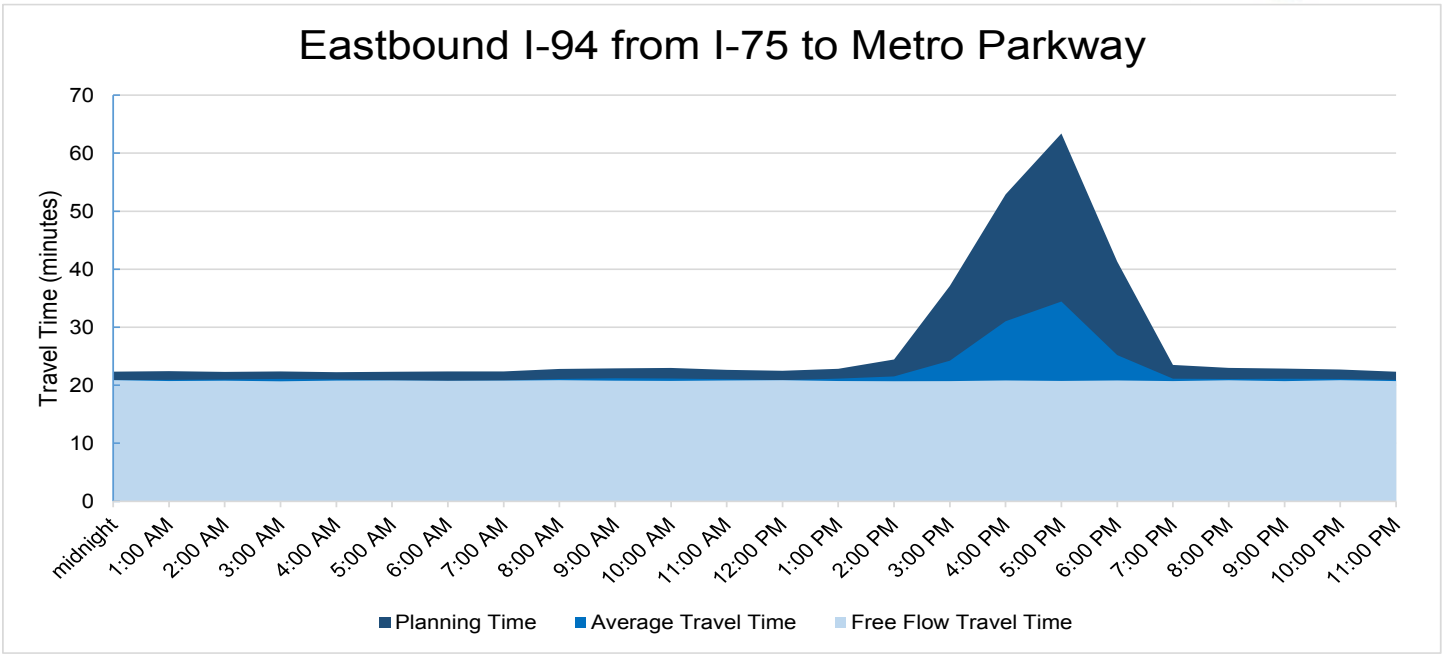


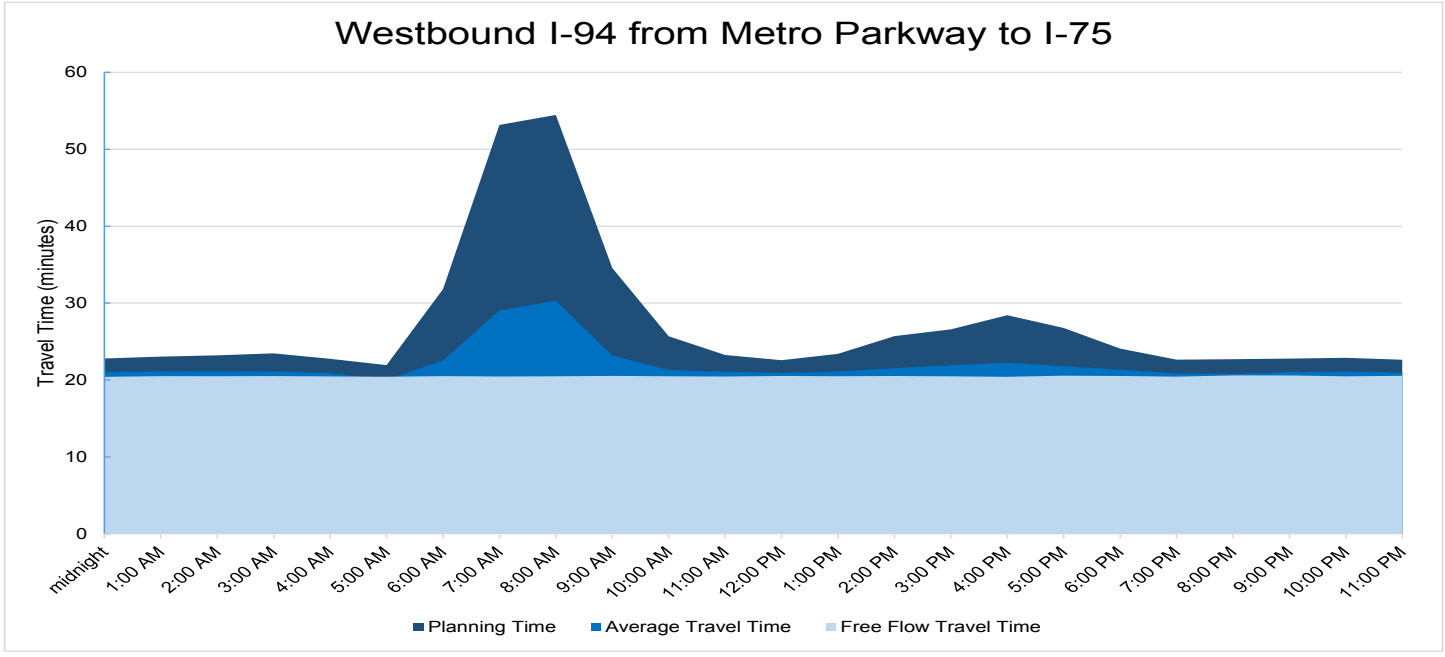


I-94

between I-75 and Metro Parkway

21.5 miles



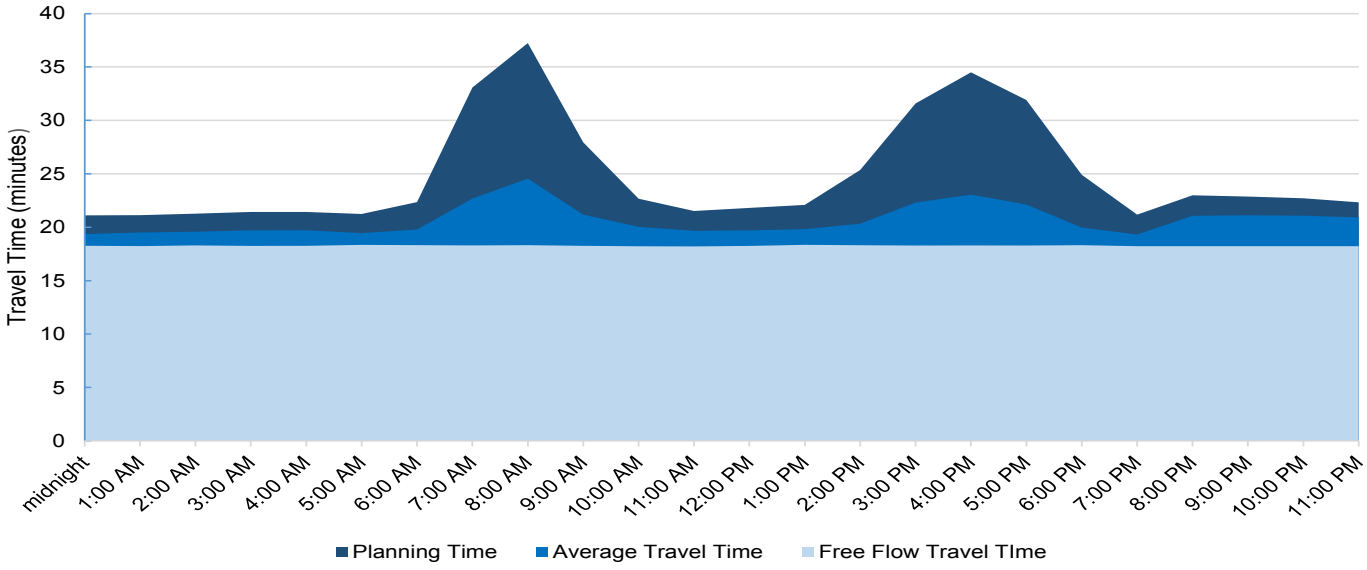


I-94

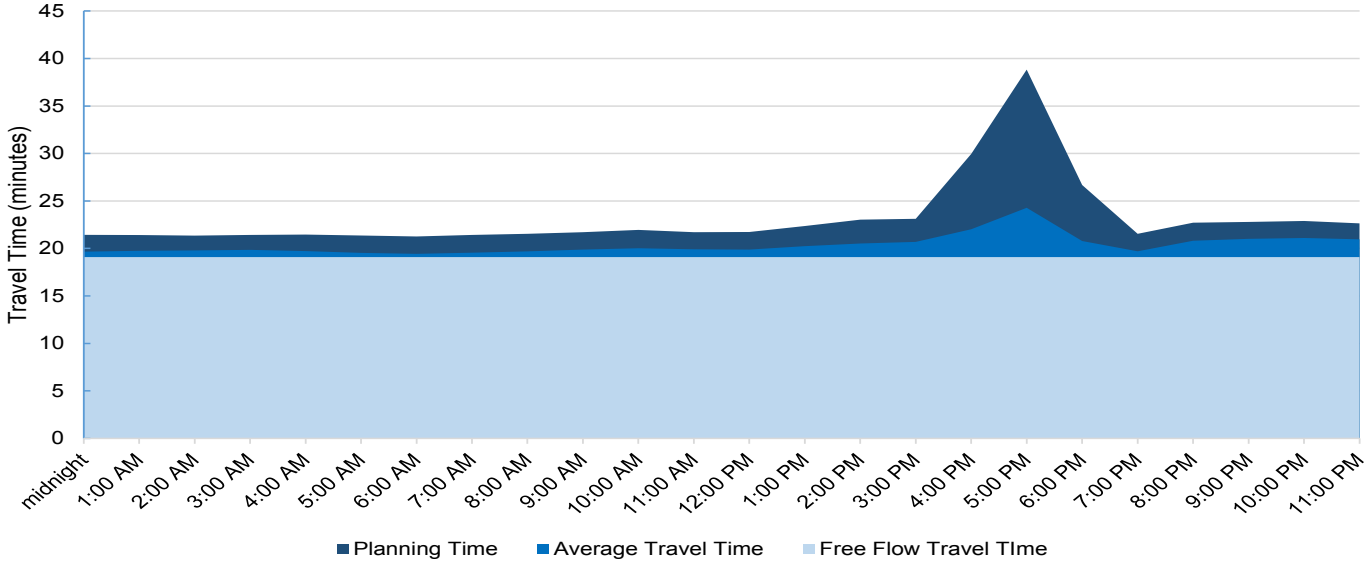
between I-275 and I-96

20.5 miles

Eastbound I-94 from I-275 to I-96



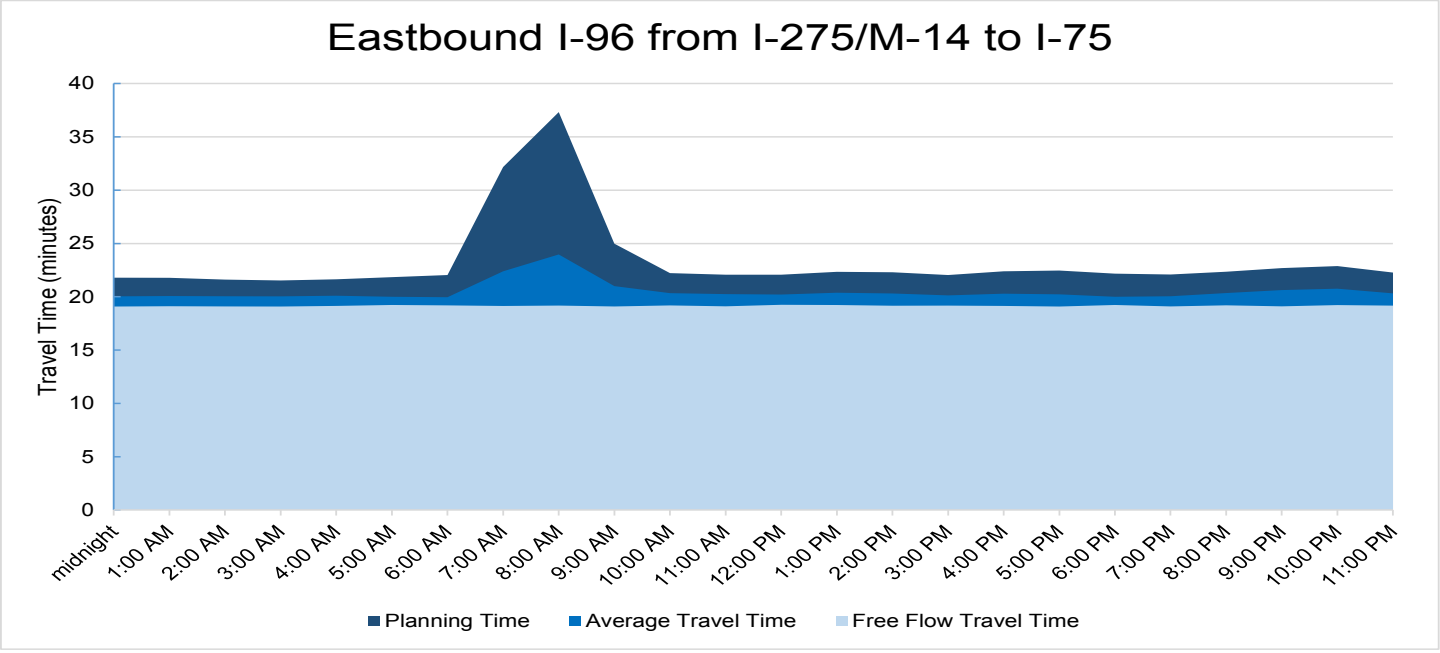
Westbound I-94 from I-96 to I-275

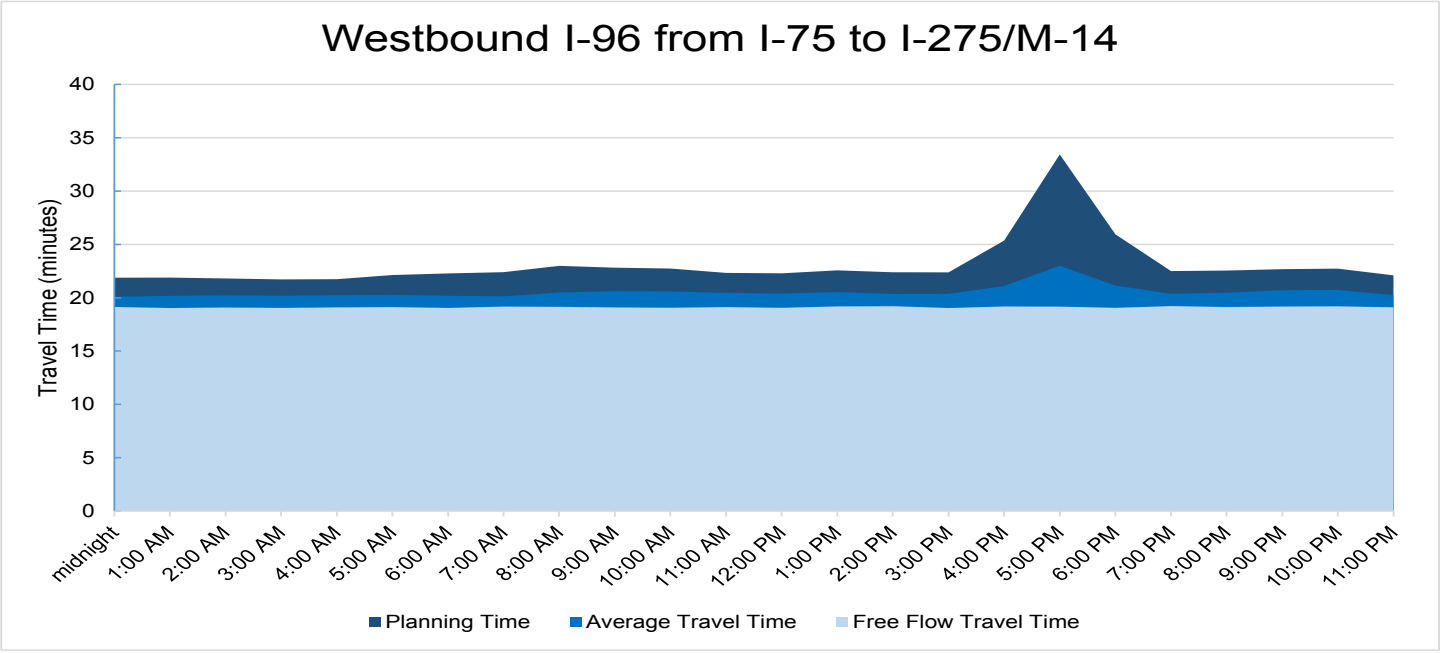


I-96

between I-275/M-14 and I-75

21.5 miles

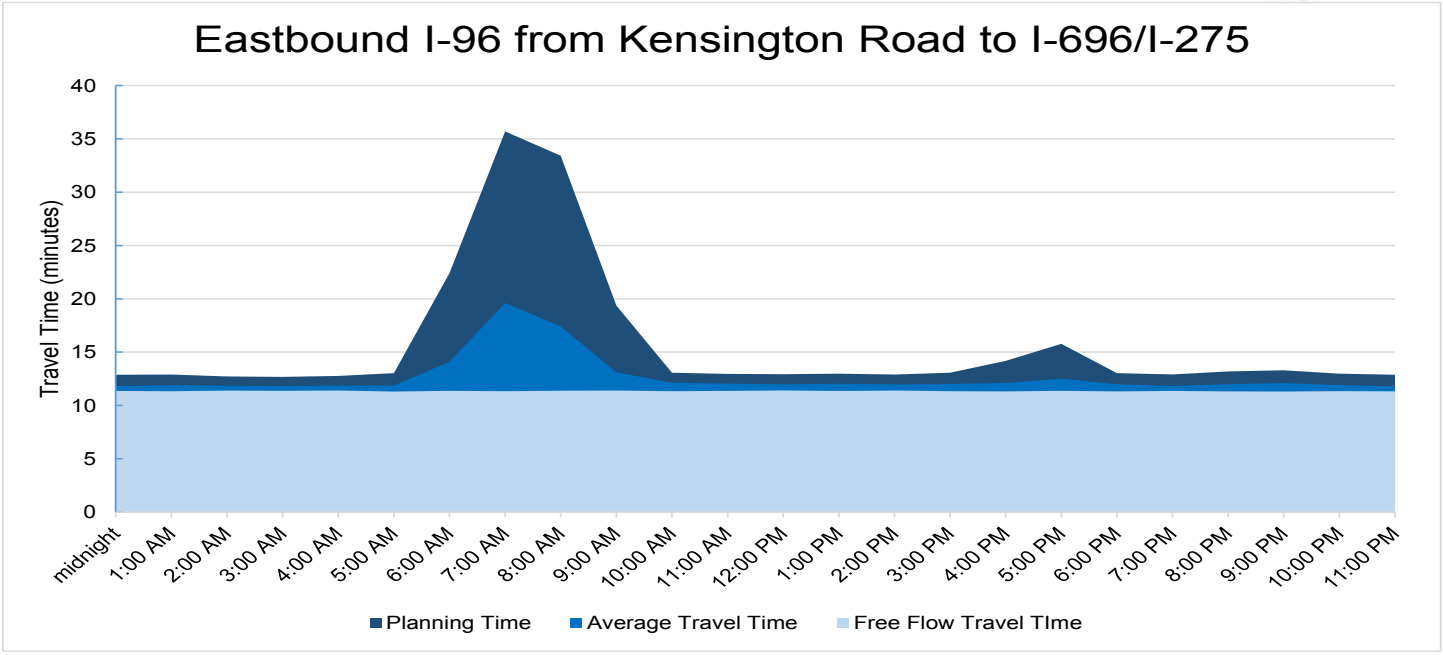


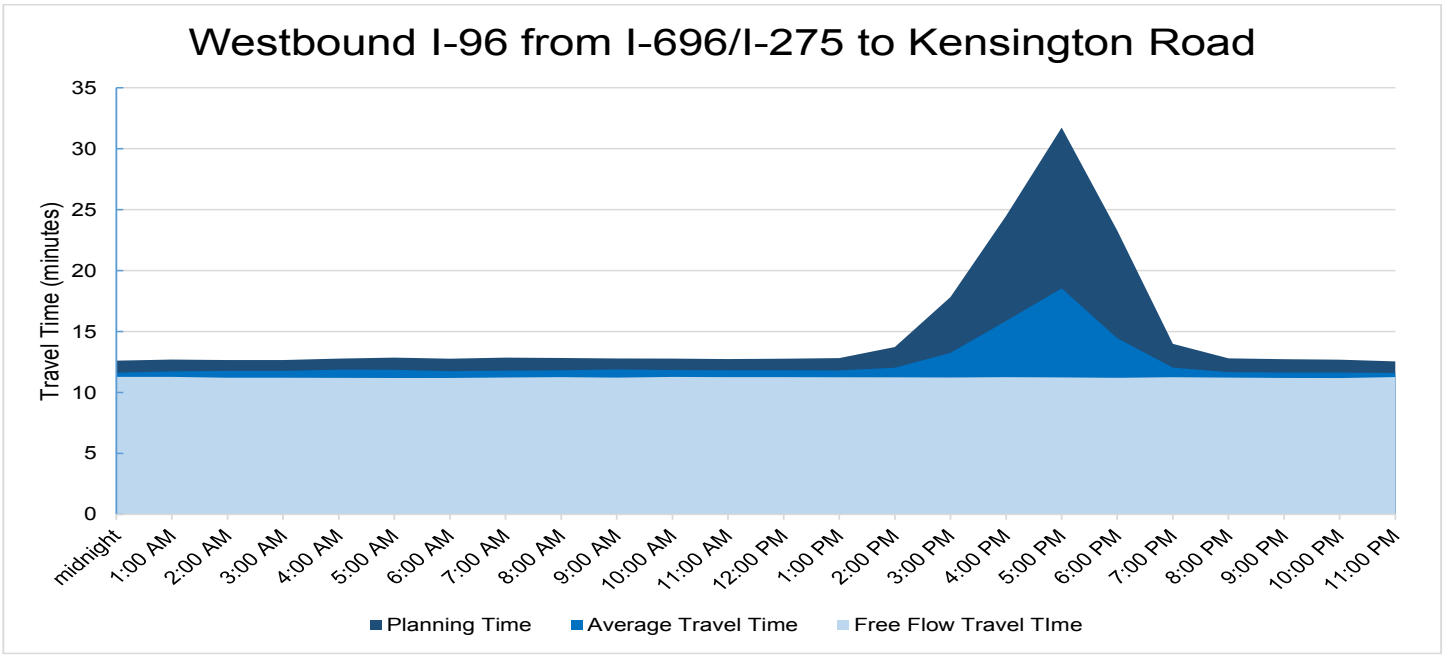


I-96

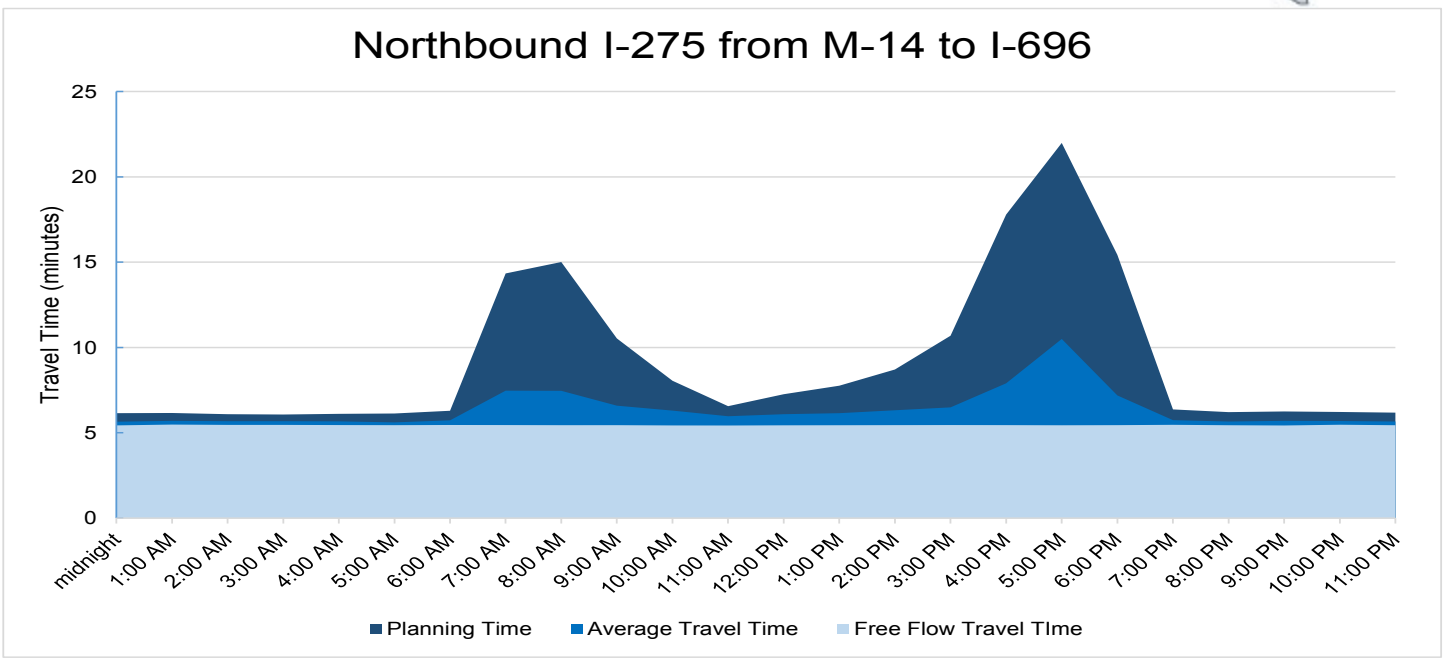
between Kensington Road and I-696/I-275

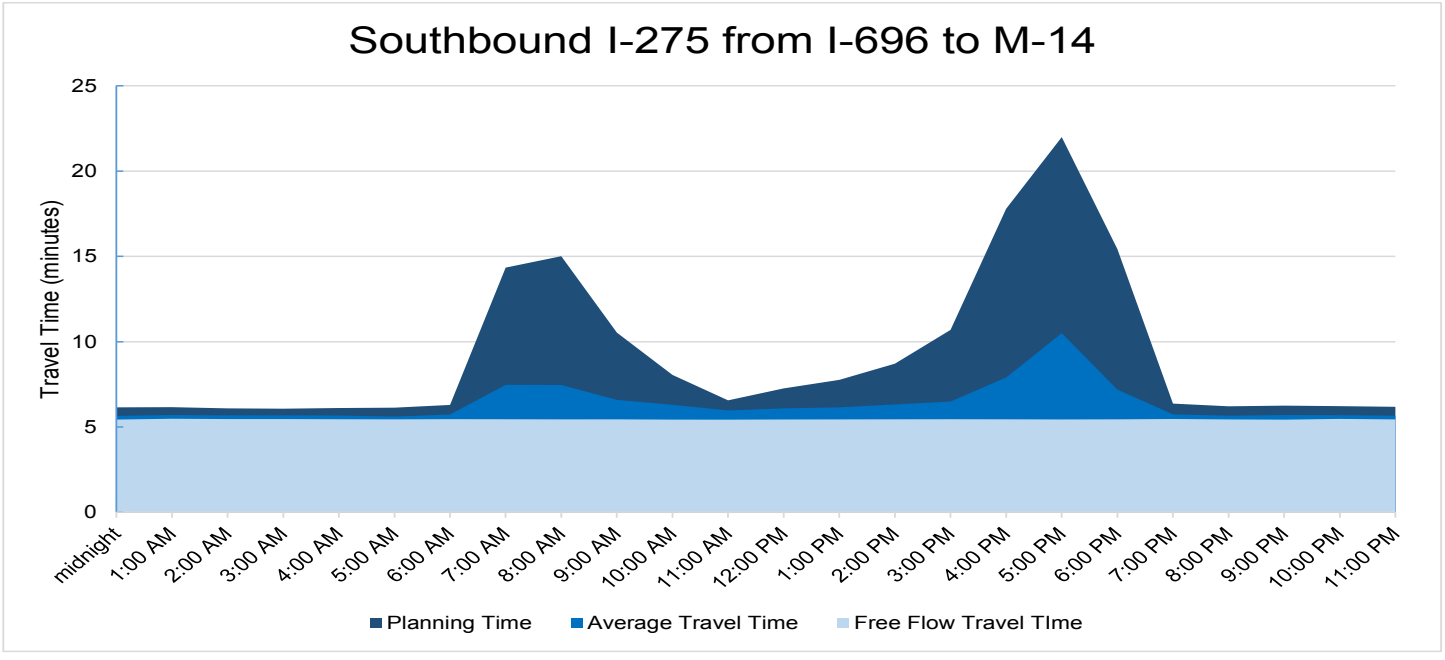
13 miles





I-275
between M-14 and I-696
6.5 miles

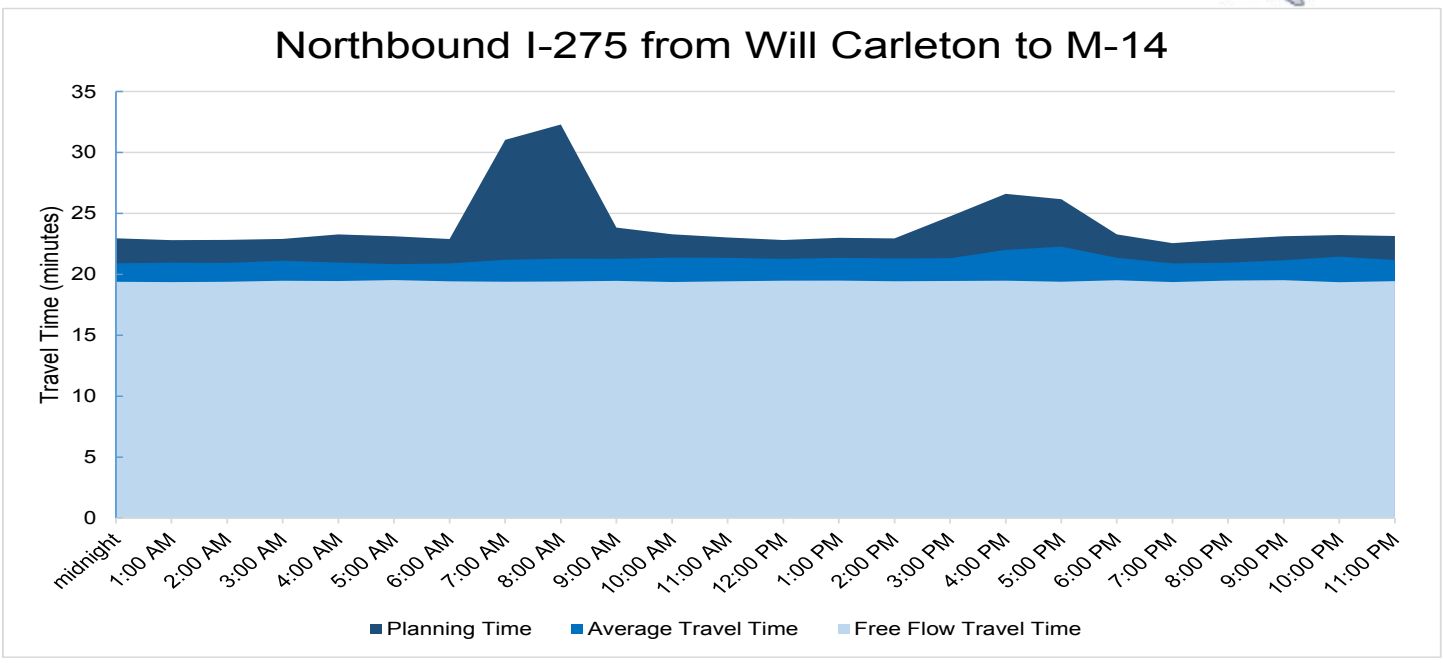


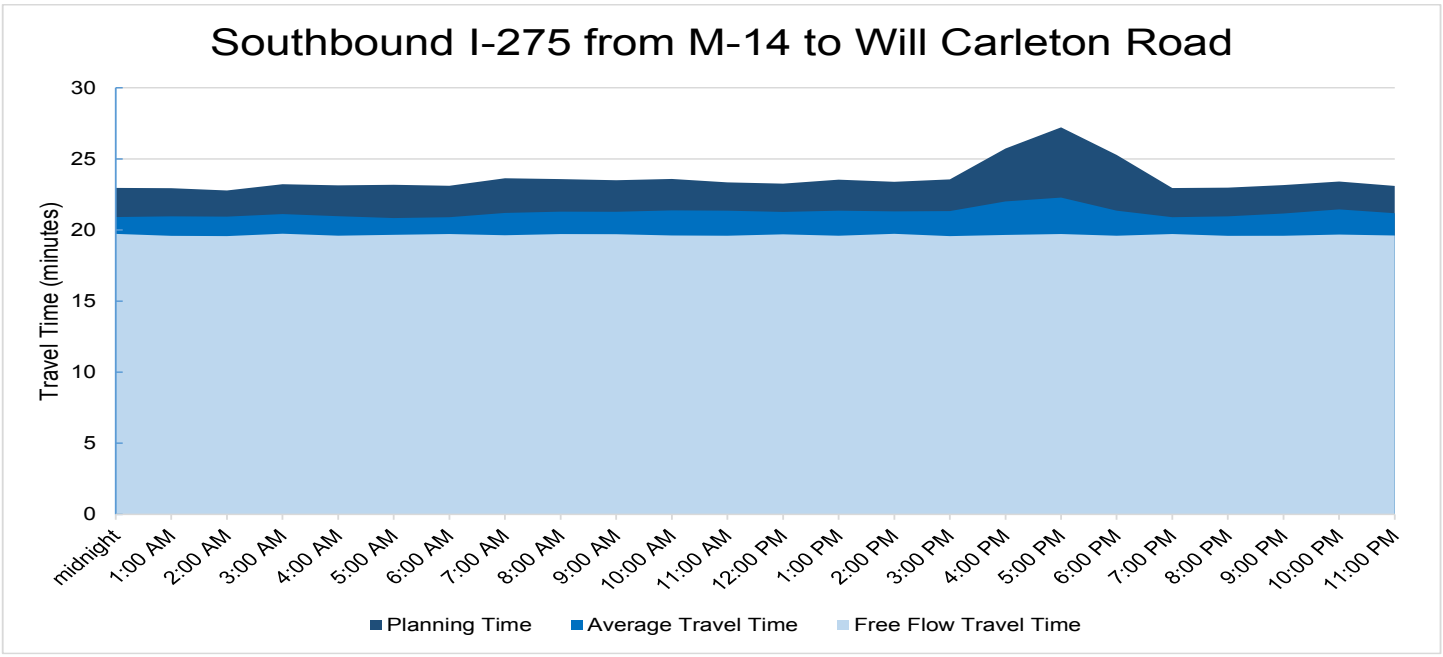


I-275

between Will Carleton Road and M-14

23.5 miles

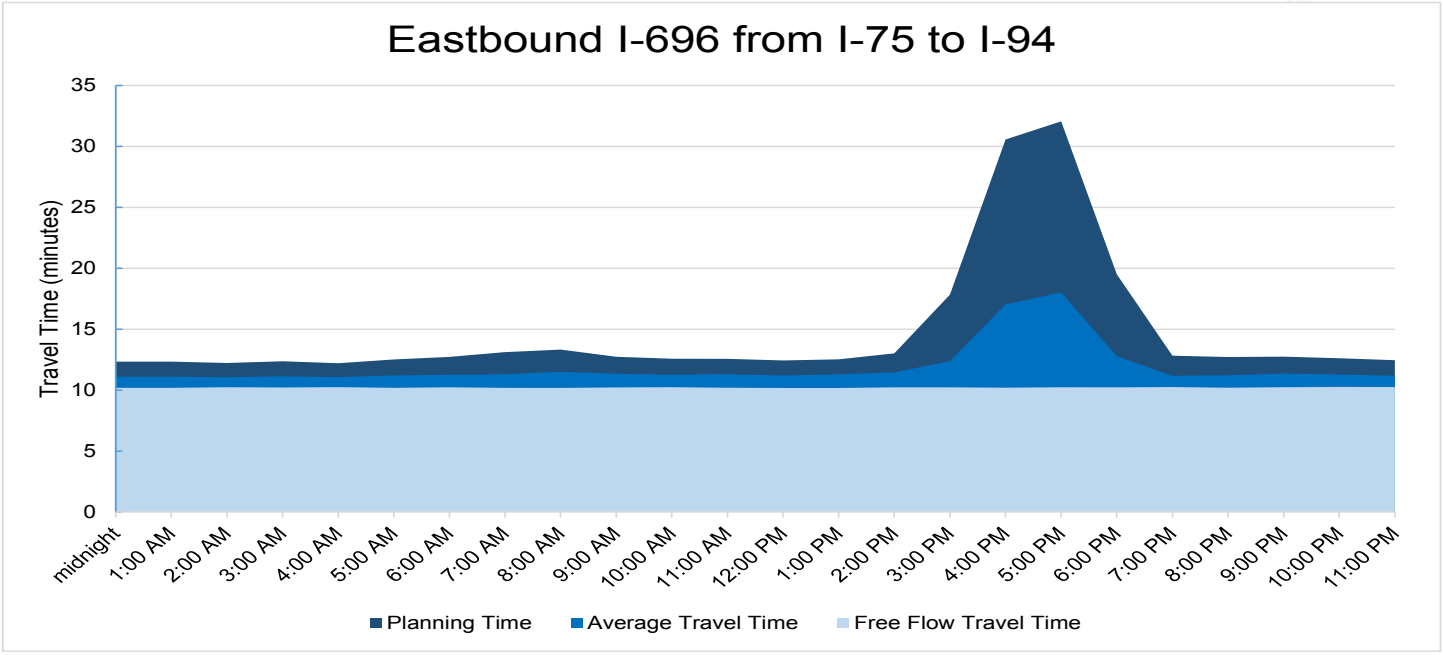


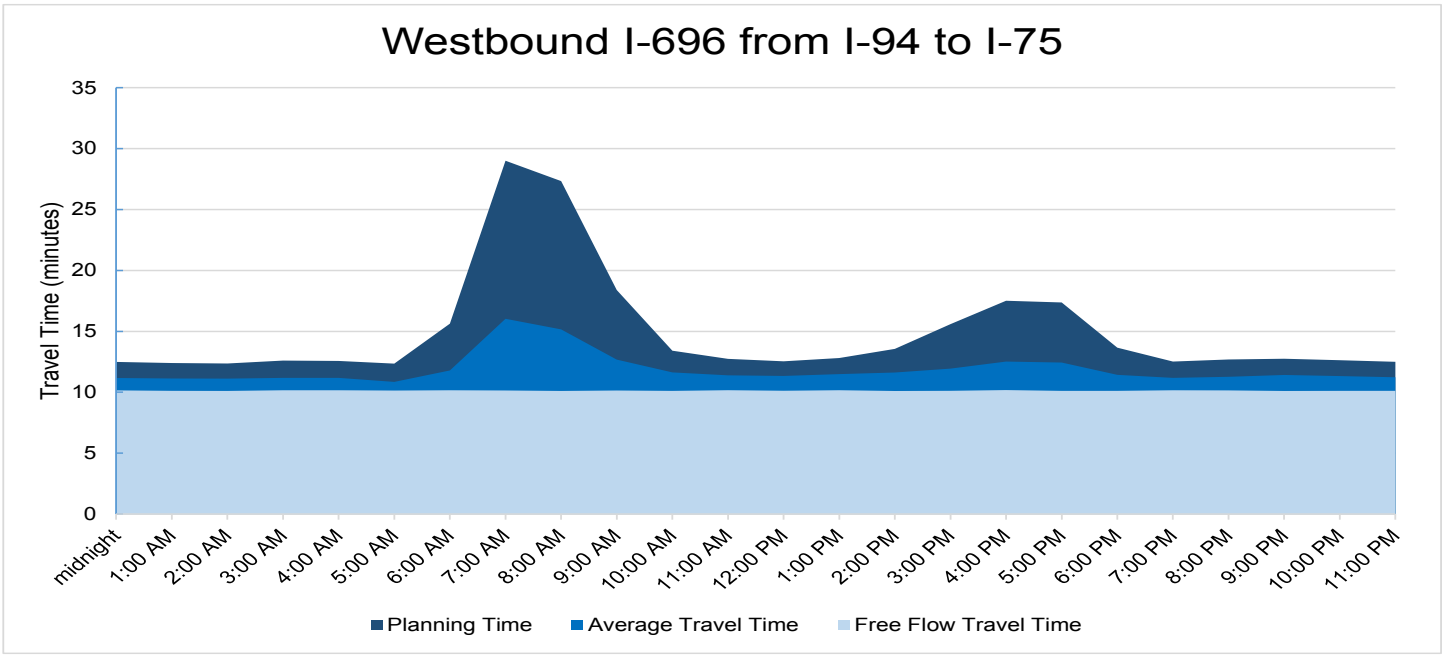


I-696

between I-75 and I-94

12 miles

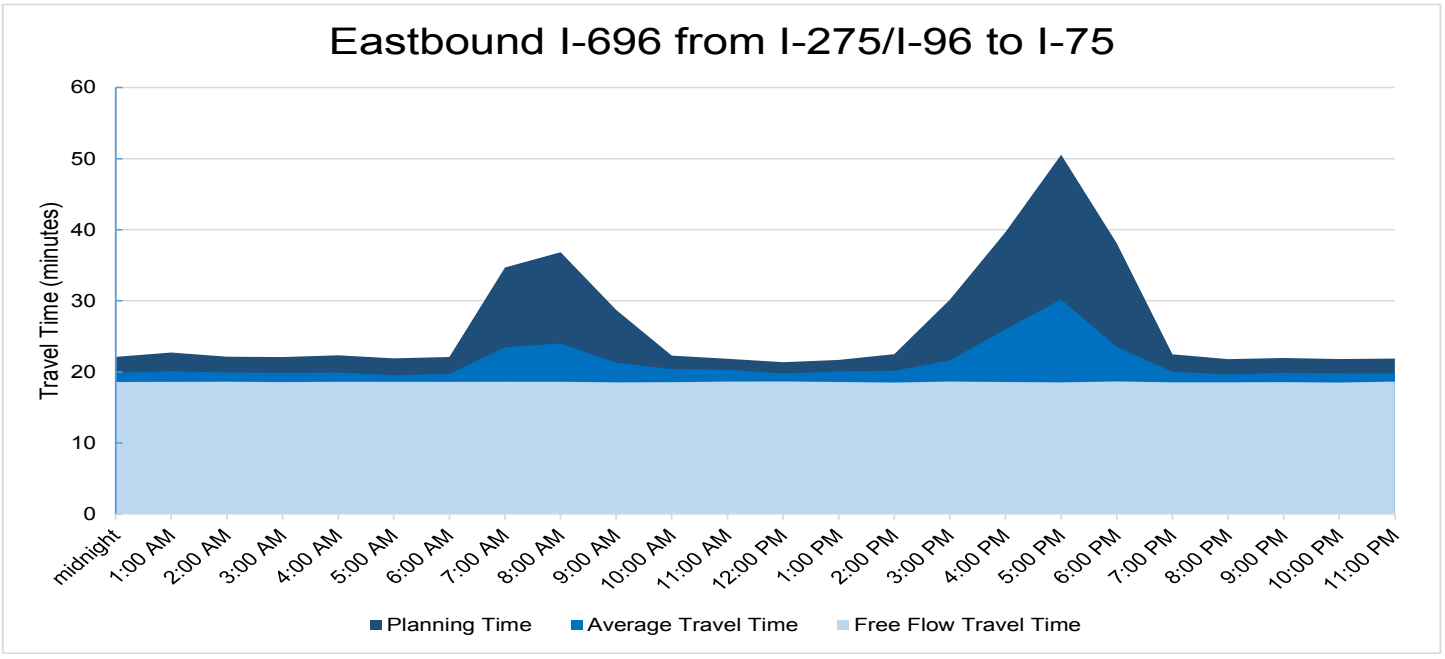


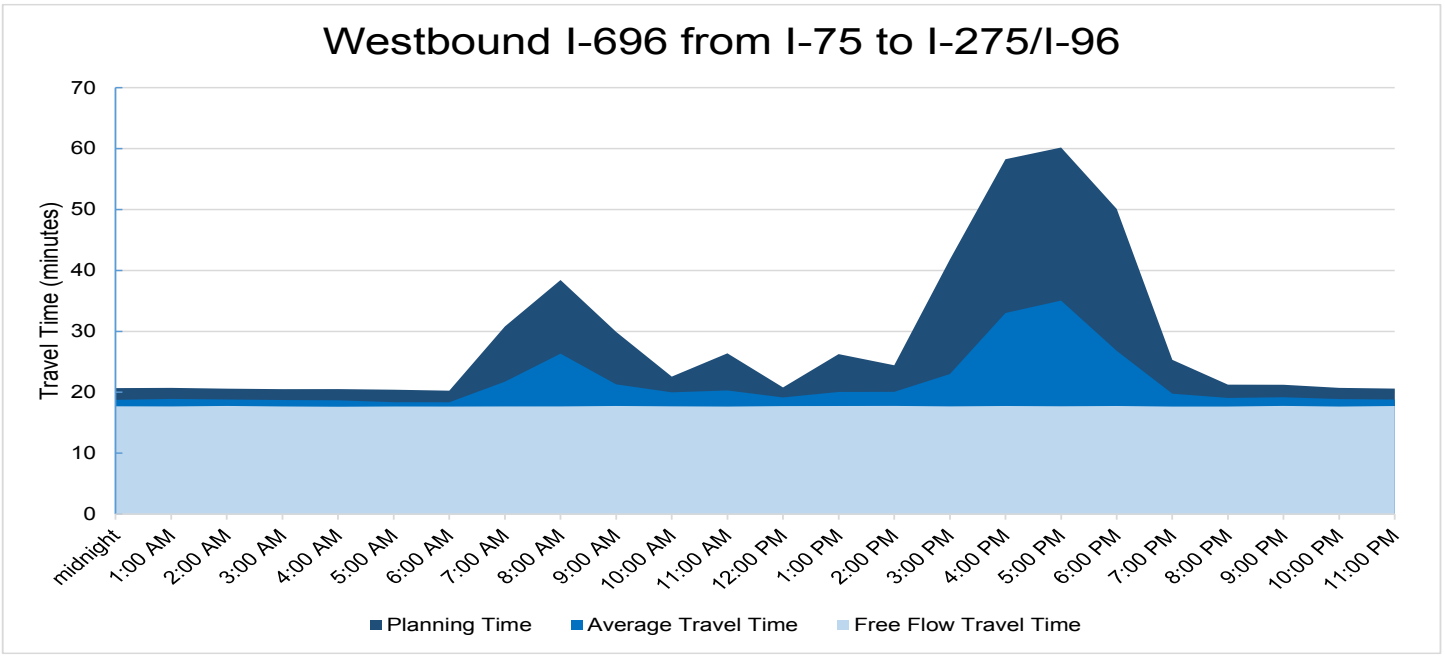


I-696

between I-275/I-96 and I-75

21.5 miles

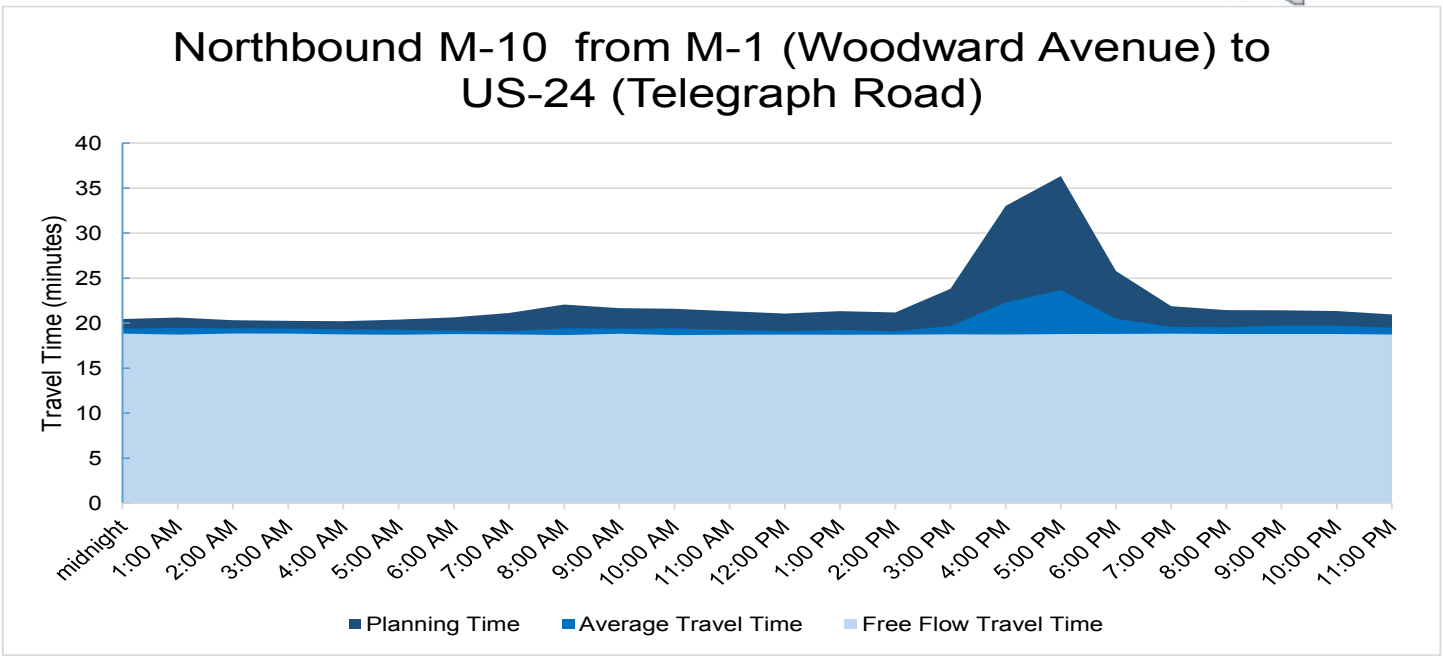


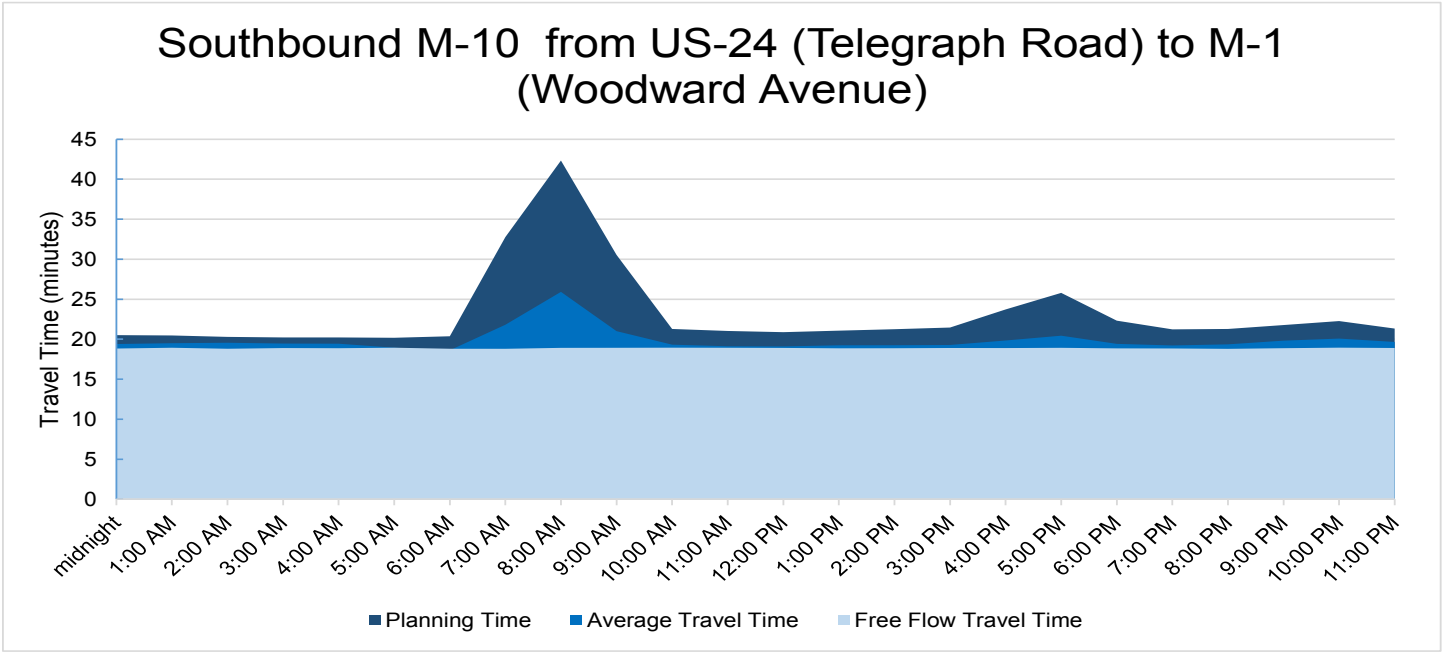


M-10

between US-24 (Telegraph Road) and M-1 (Woodward Avenue)

18.5 miles





MDOT Vision

MDOT will be recognized as a progressive and innovative agency with an exceptional workforce that inspires public confidence.

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