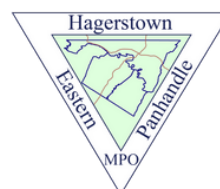


HEPMPO CONGESTION MANAGEMENT PROCESS



**June 2024
Final**



Michael Baker
INTERNATIONAL

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- City of Charles Town
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- Greater Hagerstown Committee
- Maryland Department of Transportation State Highway Administration (MDOT SHA)
- River Riders
- Washington County Division of Engineering
- Washington County Transit
- West Virginia Division of Highways (WVDOT)

PURPOSE AND ROLE OF THE CMP

A Congestion Management Process (CMP) provides the Hagerstown / Eastern Panhandle Metropolitan Planning Organization (HEPMPO) with a framework to evaluate and monitor traffic congestion within the region. It also assists HEPMPPO in the identification and prioritization of transportation strategies that focus on congestion and travel reliability.

While CMPs are mandatory in metropolitan areas with populations exceeding 200,000 (known as Transportation Management Areas or TMAs), the region's largest metropolitan area encompassing the cities of Hagerstown, MD, and Martinsburg, WV, falls just below this threshold. Consequently, the area is not designated as a TMA and thus does not necessitate a CMP. However, it does provide reliable information on the transportation system's performance and evaluates alternative approaches for congestion management.

The HEPMPPO has developed this CMP to enhance the planning process and provide essential insights for the Long-Range Transportation Plan (LRTP), Transportation Improvement Program (TIP), and other regional operational studies. HEPMPPO aims to update the CMP on a regular basis in coordination with the LRTP, drawing from the Federal Highway Administration (FHWA) CMP Guidebook, national best practices, and emerging data sources.

This document offers a technical summary of developing the 2024 CMP, supported by a public survey, GIS mapping files, electronic databases, and collaborative efforts with key partners and stakeholders in the region.

PROCESS STEPS

The CMP has been developed through a series of steps that include stakeholder coordination, public outreach, data analysis, and location prioritization. The CMP sets the stage for future activities to further evaluate priority corridors, the identification and programming of congestion reduction projects, and the evaluation of completed congestion-focused projects.

STAKEHOLDER COMMITTEE

The Stakeholder Advisory Committee has supported the HEPMPO in defining key objectives of the CMP, informing the identification of congestion locations and issues, and reviewing key materials and deliverables including the public survey and priority location mapping. The committee included local, regional, and state representatives from the agencies shown in Figure 1.



Figure 1: Stakeholder Advisory Committee Members

KEY COMPONENTS OF CMP ANALYSIS PROCESS

A CMP typically aims to address the key components provided in Figure 2. This 2024 CMP focused on several of these components to set the stage for future corridor evaluations and studies.



Figure 2: Key Components of a CMP

The key focus areas included:

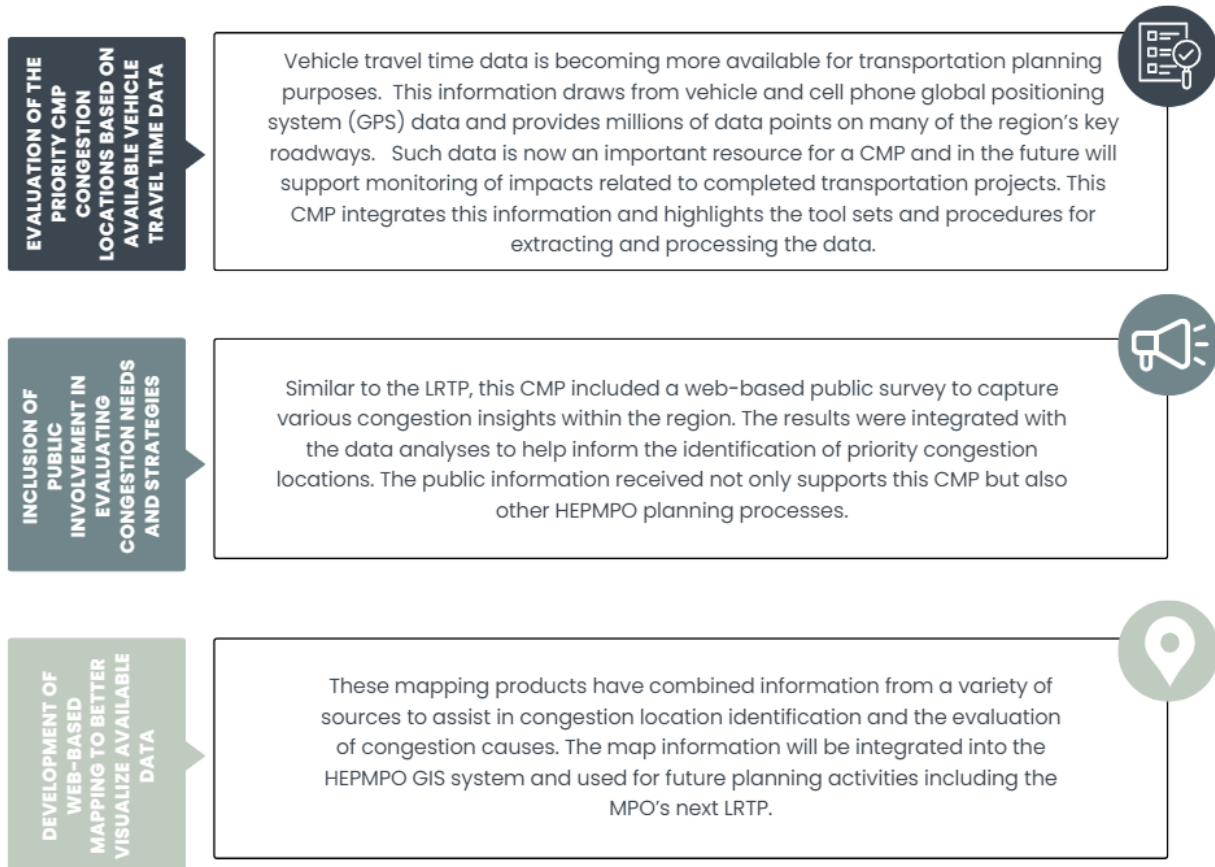


Figure 3: CMP Key Focus Areas

The CMP is an evolving process and future updates will continue to focus on the above items (Figure 3) as well as methods and procedures to better assess potential strategies. Strategy assessments will require continued coordination with local and state partners including DOT's District offices.

PUBLIC CONGESTION SURVEY

This CMP has included public outreach to capture insights on regional congestion needs and priority locations. The public outreach utilized a web-based survey using the MetroQuest software platform. The survey aimed to gather information from the public about what they believe are the causes of congestion, strategies to mitigate it, and locations in need of improvement. The survey included an interactive map that allowed participants to provide

comments at any location within the region. This map information played an important role in defining the CMP priority congestion locations.

The survey was conducted in coordination with a regional roadway safety survey. The survey, open from November 15, 2023, to December 15, 2023, garnered insights from 574 participants (Figure 4). Key survey topic areas related to the CMP included the following question topic areas.

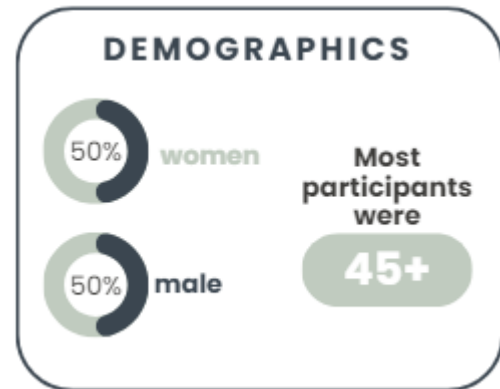


Figure 4: Survey Demographics

COMMUTE / TRAFFIC

Participants were asked questions regarding travel and commuting. 66% of participants said they experience significant delays at least once a week, and nearly 40% of participants almost always check traffic before leaving. Figure 5 represents ways participants have changed their plans due to congestion in the area.

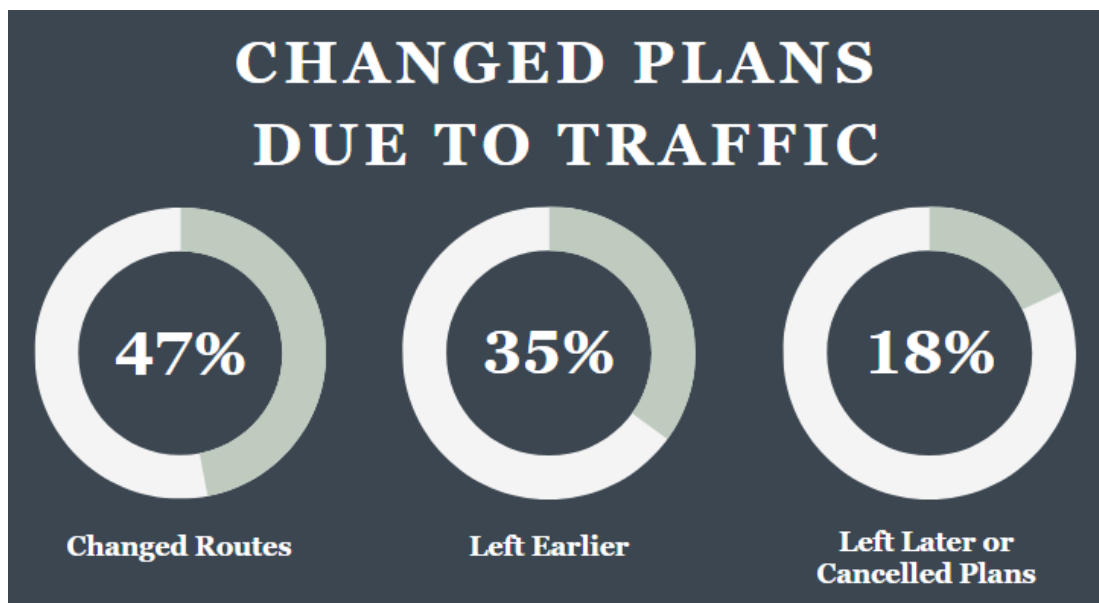


Figure 5: How traffic impacts plans

CONGESTION LOCATION MAPPING AND COMMENTS

The survey allowed participants to drop pins on a map to locate high congestion areas. There were 696 pins and 299 congestion related comments provided in the survey. The congestion pin also asked the participant about the time of day that congestion was experienced (Figure 6). Figure 7 provides a map highlighting the location of congestion comments within the region. In addition to the congestion locations, participants highlighted items related to congestion causes and potential strategies. Some of the most comment responses are summarized in Figure 8.

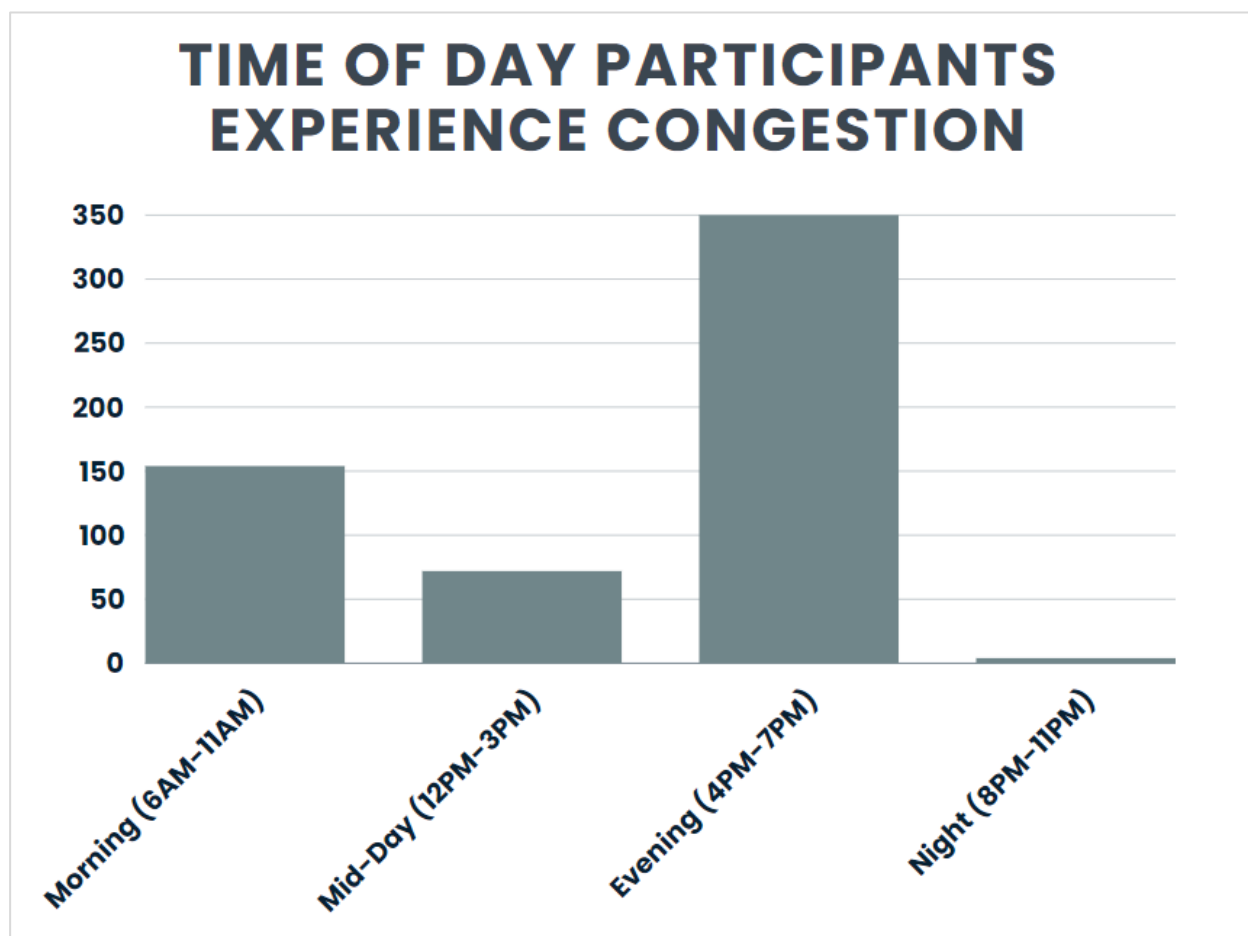


Figure 6: Congested times related to map markers

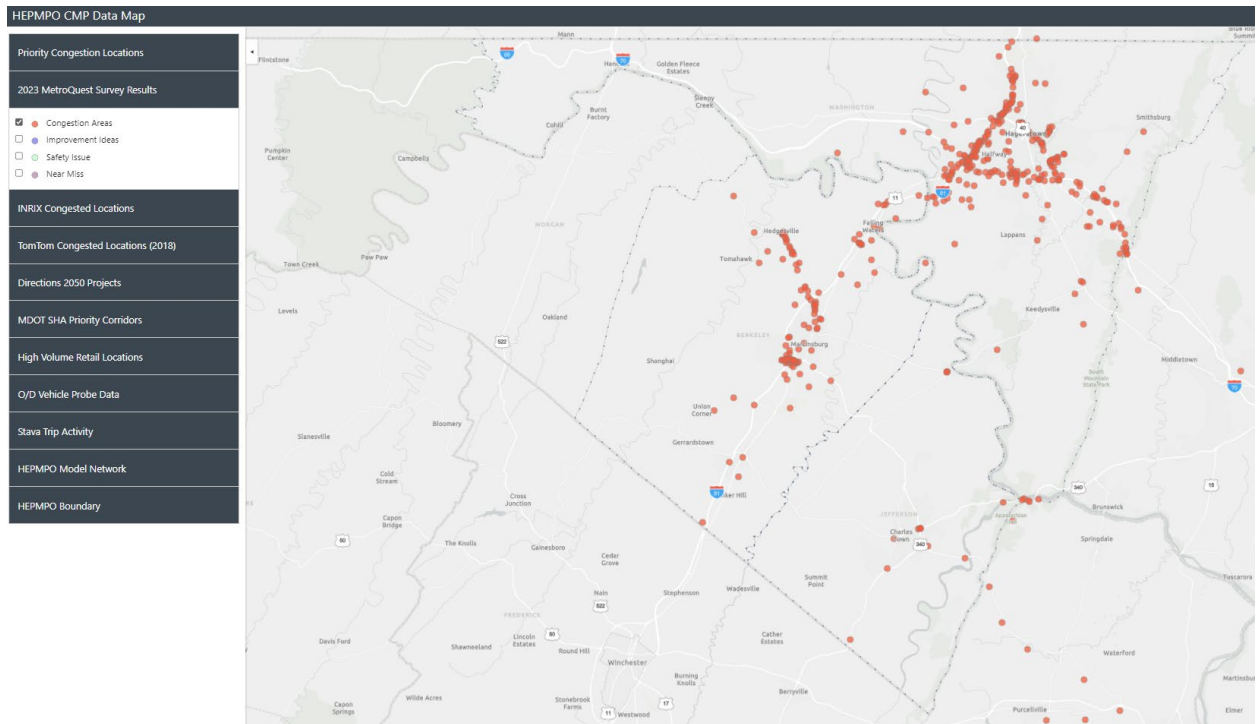


Figure 7: Congestion Pins

Additional Comments



**BETTER COORDINATION
AND TIMING OF LIGHTS**



**SLOW TRUCKS AND
BLOCKING EXITS**



**CONSTRUCTION ZONES /
DETOUR ROUTES**



**SCHOOL
TRAFFIC**



**RAILROAD CROSSING
AND DELAYS**



**ECONOMIC IMPACTS:
AVOID SHOPPING DUE
TO TRAFFIC**

Figure 8: Congestion-related comments

DATA AND TOOLS FOR CONGESTION ASSESSMENT

Developing performance measures is a critical element of the CMP. Performance measures assist in identifying problem areas and communicating this information to the public and decision-makers. At the regional level, performance measures can be used to monitor congestion trends and track progress toward the achievement of objectives. At the roadway level, performance measures are used to identify locations experiencing congestion problems. They also are used to support the assessment and selection of congestion mitigation strategies and evaluation of completed projects.

SOURCES OF TRAVEL TIME DATA

This CMP integrates travel time data from cellular and vehicle GPS devices through several available web-based software platforms. The data for Washington County, Maryland was obtained using the Regional Integrated Transportation Information System (RITIS) available through the Maryland Department of Transportation (MDOT). Data for both Berkeley and Jefferson counties in West Virginia was obtained separately by HEPMPO through the purchase of a subscription to the INRIX IQ platform. In addition, a separate data system called Replica HQ was used to supplement those listed above. Each of these platforms is discussed in more detail below.

REGIONAL INTEGRATED TRANSPORTATION INFORMATION SYSTEM (RITIS)

RITIS is a platform developed and maintained by the University of Maryland CATT Lab and is used by transportation agencies across the country (Figure 9). RITIS provides access to the travel times for every hour and day on many of the primary roads in Washington County. In RITIS, travel time data is available from the INRIX provider at several different roadway segment aggregations (referred to as the “TMC” and “XD” segment levels). RITIS also provides access to the National Performance Management Research Data Set (NPMRDS) that is

maintained by the Federal Highway Administration (FHWA). This is a free-access national database of travel time data that is used to calculate the national travel time reliability metrics. The NPMRDS data is only available for the National Highway System (NHS) and has much less roadway coverage than the INRIX XD and TMC data. Access accounts to RITIS were obtained through existing contracts with MDOT and coordinated with the University of Maryland CATT Lab team.

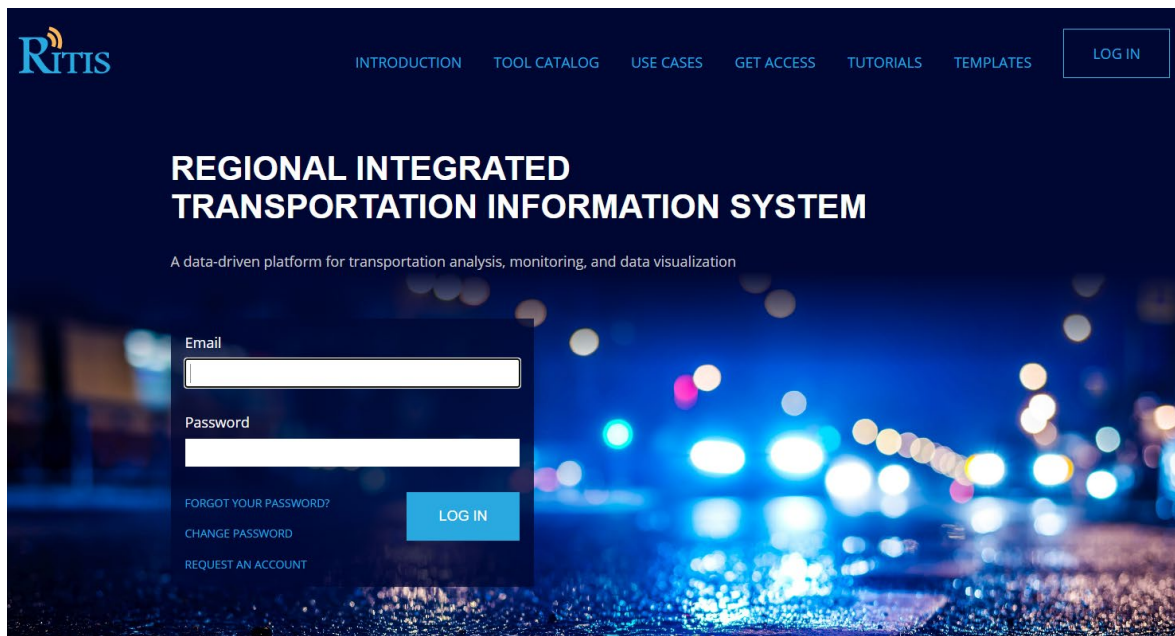


Figure 9: RITIS platform login screen

The platform provides a diverse set of analytical tools including the Probe Data Analytics (PDA Suite), which provides congestion and performance reports using common travel time metrics like Travel Time Index (TTI), Planning Time Index (PTI), travel delay. The reports also provide insights on the causes of congestion, based on innovative new data integration methods that bring together crash, signal, and other incident information. The array of PDA tools is highlighted in Figure 10. Those tools outlined in red are ones that played an integral role in developing the HEPMPO CMP.

RITIS also provides access to a Signal Analytics tool that provides signal timing data for intersections as well as vehicle counts along each movement for every intersection (Figure 11). It is a relatively new feature within the RITIS platform, and signal timing data have been aggregated based on availability for this CMP. However, future CMP enhancements may make use of other available tools.

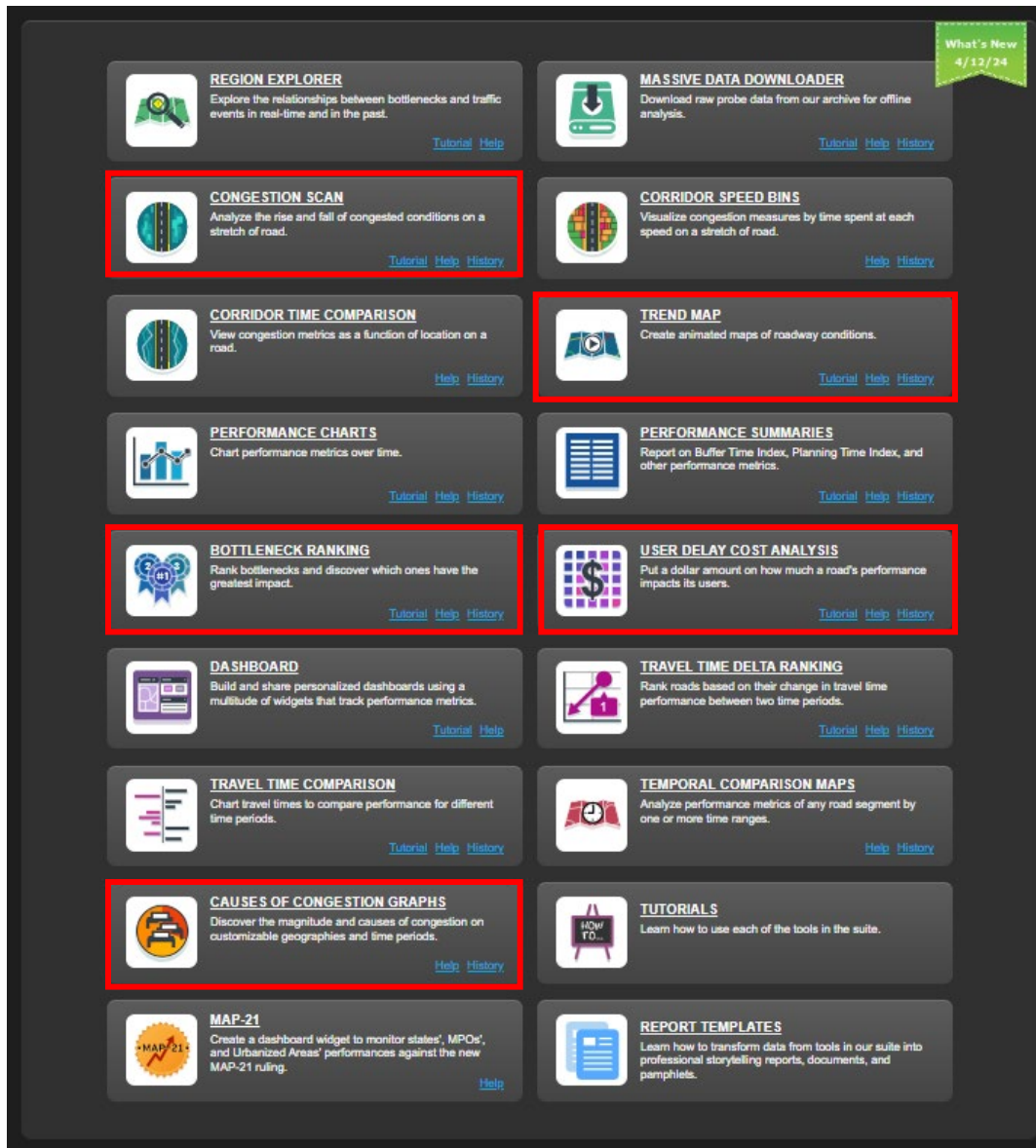


Figure 10: PDA Suite Tools

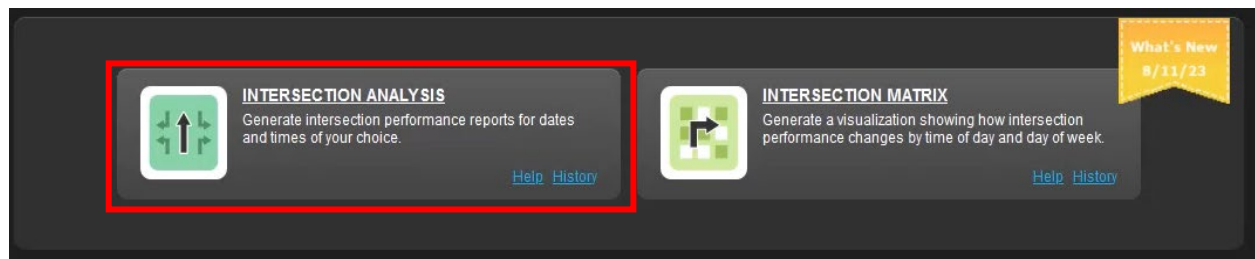


Figure 11: Signal Analytics Tools

The key tools used for this CMP for Washington County include:

- Trend Map: To calculate and extract segment hourly travel time data in the form of a travel time index (TTI). This measure was used to help identify congestion locations throughout the region.
- Congestion Scan: To generate a visual of congestion for every priority congestion location by direction of travel and hour of day. This measure was used as a secondary source to identify specific bottlenecks along a corridor and the intensity of congestion throughout the day.
- User Delay Cost Analysis: To assess overall county travel delay trends by year.
- Bottleneck Ranking: Used as a secondary data source to identify and prioritize congestion locations within the region.
- Causes of Congestion Graph: To assess overall congestion causes for Washington County.
- Intersection Analysis: To extract and assess signal timings for priority intersections depending on data availability. This measure was used to further pinpoint the cause of congestion for each corridor. Note the locations of signal data were dependent on locations previously specified by MDOT.

INRIX IQ

Similar to RITIS, INRIX IQ is a cloud-based platform that provides access to historic travel time data. Through a data user's agreement, the HEPMPO acquired

access to Berkeley and Jefferson County travel time data for 2022 and 2023 through the INRIX IQ platform. INRIX IQ provides a suite of applications specifically designed to extract actionable insights from location-based data (Figure 12).

Among the notable applications within INRIX IQ is Roadway Analytics, which provides performance measures such as TTI, PTI, and performs congestion scans and bottleneck analysis similar to RITIS. Notably for the CMP, all traffic performance data for the HEPMPO West Virginia counties were sourced from INRIX IQ, as RITIS lacked access to that data.

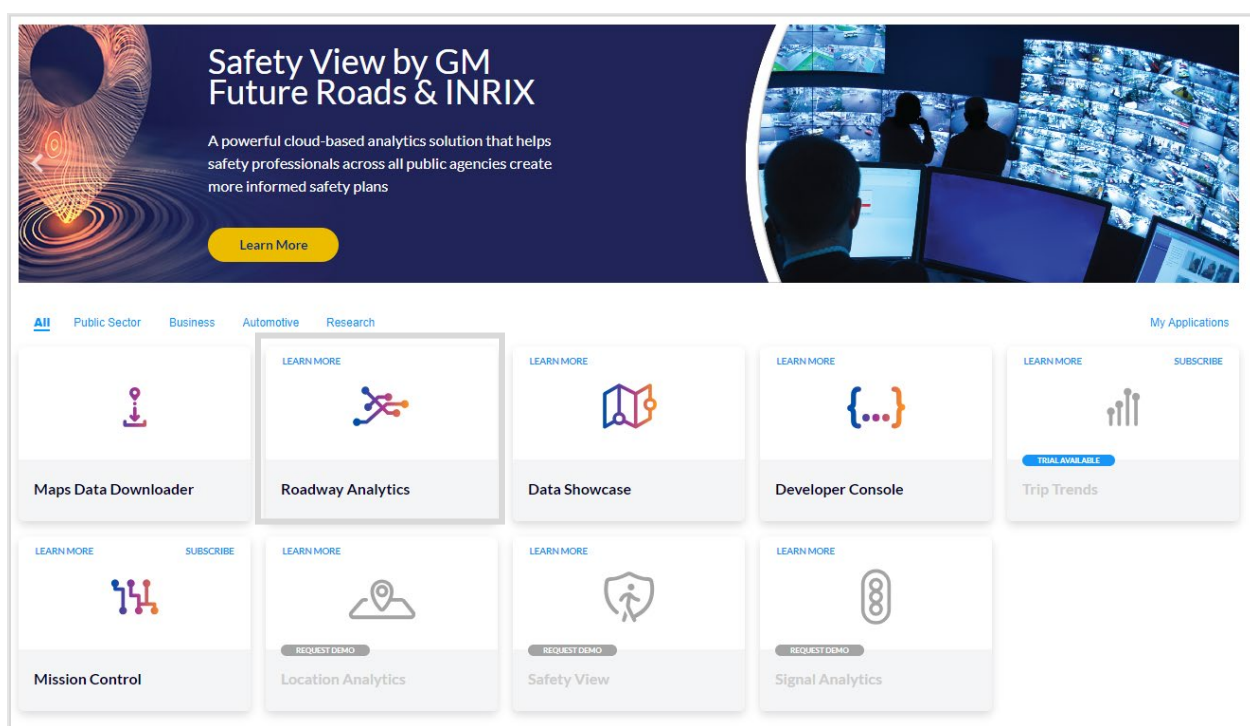


Figure 12: INRIX IQ Tools

REPLICA HQ

To supplement the above tools, the CMP consultant team leverage their corporate license to Replica HQ, which is an urban planning tool that provides comprehensive data to drive decisions about the built environment. It addresses the challenge of finding high-quality, recent data and insights related to how people move, where they move, and why (Figure 13).

Replica’s platform offers more than a dozen datasets, over 50 metrics, and a suite of tools and applications spanning multi-modal transportation, demographics, economic activity, land use, and infrastructure. Key features used for this CMP include the traffic movement counts for intersections (depending on availability), trip activity summaries, land use information, and transit usage data.

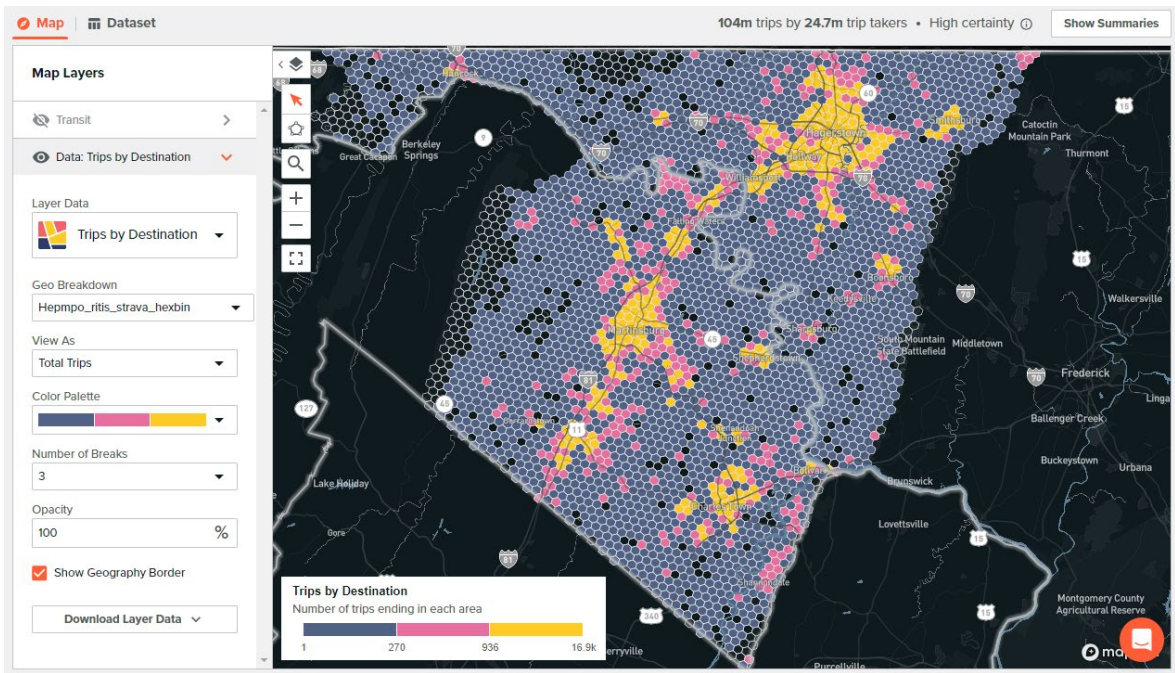


Figure 13: Replica Trip Activity Map

In addition to the information extracted from the above tools, a variety of other information was extracted from multiple data sources and used to evaluate congestion causes and to support future strategy evaluations. Table 1 provides a summary of these data measures and sources.

Table 1: CMP Performance Measures and Data Sources

Measure	Description	Data Source	Role in CMP
Travel Time Index (TTI)	The ratio of average travel time in the peak period to the travel time at free-flow conditions. Analyses are conducted on average weekdays.	2022 INRIX “XD”	Identify locations of recurring congestion. Primary data is used to assess congested locations in the region.
Travel Delay (Hours)	Vehicle hours of travel above free-flow conditions	2018-2023 INRIX NPMRDS “TMC”	Assess regional congestion trends within the region
Regional Bottlenecks	RITIS methodology to assess sources of congestion based on multiple factors including duration and extent	2022 INRIX “XD”	Assess priority locations where congestion originates
Federal Reliability Measures	The ratio of peak period to free-flow travel times (calculated differently than TTI)	2023 NPMRDS ^[1]	Assess regional trends on the National Highway System
Crashes	Numbers of Crashes and Fatalities	MDOT & WVDOT 2018-2022	Used to evaluate the source of non-recurring delay on segments
Traffic Volume	Total daily traffic volume on roadway	MDOT & WVDOT RMS ^[2] WV(2023) & MD(2022)	Measure of demand – utilized in delay calculations
Truck Volume	Total daily truck volume on a roadway	MDOT & WVDOT 2018 HPMS	Can be used to help assess potential strategies
Signal Timings	Signal Timings along each movement for intersections	RITIS Signal Analytics (MD Only)	Evaluate potential causes of congestion and strategies for intersections
Signal Characteristics	Evaluated signal systems for each priority corridor	HEPMPO LRTP Data Repository	Evaluate the potential for signal technology strategies

Measure	Description	Data Source	Role in CMP
Public Comments	2024 HEPMPO survey results with responses grouped by congestion, safety, and improvement locations	2023 online MetroQuest Survey	Assist in identifying and prioritizing congestion locations in the region
High-Volume Retail Locations	Point locations of high-volume retail locations (Walmart, Sheetz, Home Depot, CVS, etc.)	Open Street Map	Evaluation of congestion causes
MPMS Future TIP Projects	Existing congestion & safety related projects on HEPMPO's existing TIP	L RTP Direction 2050	Assess other programmed projects that may provide benefits or support additional operation improvement enhancements
Replica O/D Trip Activity	Aggregated commercial vehicle probe data of trip origin & destination hot-spot locations	Michael Baker Intl. license for Replica-HQ	Assist in evaluating potential congestion causes or potential strategies
Replica Turn Movement	Aggregated turn movement data of intersection locations	Michael Baker Intl. license for Replica-HQ	Assist in evaluating potential congestion causes or potential strategies

¹NPMRDS = National Performance Management Research Data Set

²RMS = Roadway Management System

REGIONAL CONGESTION TRENDS AND NATIONAL PERFORMANCE MEASURES

This section provides an overview of congestion trends in the region based on vehicle travel time data available through INRIX and NPMRDS. The information serves as a benchmark for evaluating and monitoring regional levels of congestion and provides context to the national performance measures related to travel time reliability.

NATIONAL RELIABILITY PERFORMANCE MEASURES

FHWA has established a set of performance measures for State Departments of Transportation (State DOTs) and MPOs to use as required by the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL). More information on the federal performance measures can be obtained at: <https://www.fhwa.dot.gov/tpm/rule.cfm>

The national performance measures focus on travel time reliability on the interstate and non-interstate National Highway System (NHS). The NHS includes the following interstates in the region: I-81, I-70, and I-68. Non-interstates covered by the NHS includes portions of the key primary arterials that traverse the region including US 11 (only in MD), US 40, US 340, US 522 (small portion at I-70 interchange in MD), WV 9, and WV 45 (just Apple Harvest Drive section).

Reliability measures the consistency or dependability in travel times, as measured from day to day or across different times of day. For more information on traffic reliability measures, see [FHWA's Travel Time Reliability brochure](#) (Figure 14).

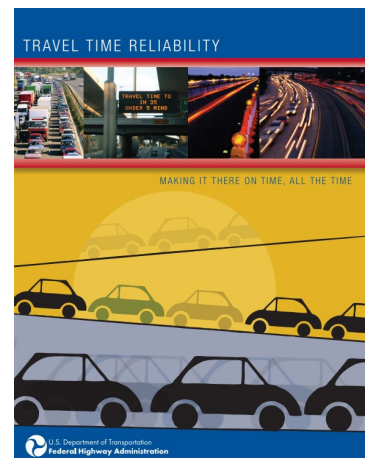


Figure 14: FHWA Travel Time Reliability Brochure

The national reliability measures include the measures summarized in Figure 15.

RELIABILITY PERCENTAGE (FOR INTERSTATES AND NON-INTERSTATES)	TRUCK TRAVEL TIME RELIABILITY (TTTR) INDEX
Based on the percentage of person-miles traveled on the interstate or non-interstate system that are reliable (using a measure referred to as the Level of Travel Time Reliability or LOTTR). The higher the percentage, the better the reliability.	The TTTR Index specifically measures the reliability of travel times for trucks on the Interstate System. It is defined as the ratio of longer truck travel times (95th percentile) to a normal truck travel time (50th percentile). The higher the index, the worse the reliability.
For example, 100% means that travel times are very reliable for nearly all times of the year. The LOTTR measure is only used to track reliability on primary roads part of the NHS. It is calculated as the ratio of the longer travel times (80th percentile) to a “normal” travel time (50th percentile), using data from the NPMRDS.	For example, a value of 1.30 means truck travel times can be 30% higher than average times.

Figure 15: National reliability measures

The key difference between these two measures is the percentile used to represent longer travel times—80th for LOTTR and 95th for the TTTR Index—and the specific focus on trucks for the TTTR Index. While LOTTR provides a measure of reliability for all vehicles, the TTTR Index focuses on the higher impacts of delays on freight movement. Both are important for understanding and improving the performance of the transportation system (Figure 15).

Both WVDOT and MDOT have established 2025 statewide targets for the travel time reliability measures for the West Virginia and Maryland NHS respectively. The national measures can also be used to track progress in reducing or

maintaining traffic congestion on NHS roads in the HEPMPO region. The national measures and associated statewide targets are incorporated into the HEPMPO's TIP and LRTP.

Table 2 summarizes the regional HEPMPO metrics compared to the current statewide targets. Note the interstate reliability metrics of 100%. This performance is counterintuitive to many travelers in the region who rank the I-81 delays in Washington County as a primary concern related to traffic congestion. The methodology for calculating the measure is based on the 80th percentile speeds in each time period. The current issues on I-81 most likely relate to less frequent events that do not get reflected in the averaging of travel times.

Table 2: Federal Reliability and Truck Travel Index Values for HEPMPO

Interstate Reliability (MD State Target 76.4%) (WV State Target 96.0%)	Non-Interstate Reliability (MD State Target 87.2%) (WV State Target 92.0%)	Truck Reliability (MD State Target 1.81) (WV State Target 1.40)
<p>Year's Performance</p> <p>2020 100.0%</p> <p>2021 100.0%</p> <p>2022 100.0%</p> <p>2023 100.0%</p> <p>2024 100.0%</p>	<p>Year's Performance</p> <p>2020 97.6%</p> <p>2021 98.6%</p> <p>2022 98.8%</p> <p>2023 97.0%</p> <p>2024 96.6%</p>	<p>Year's Performance</p> <p>2020 1.12</p> <p>2021 1.18</p> <p>2022 1.19</p> <p>2023 1.24</p> <p>2024 1.17</p>

The RITIS website platform provides access to the data needed to assess regional values for national reliability measures. The federal NPMRDS data is a subset of the travel times provided by the INRIX provider. The data can be accessed using tools available at the following web location: <https://npmrds.ritis.org/analytics/>. Similar to RITIS, access to this platform requires a user agreement to be signed. The system provides access to a series of MAP-21 summary tools and dashboards. Figure 16 provides the input data within the NPMRDS tool set to generate the reliability measures for the HEPMPO region.

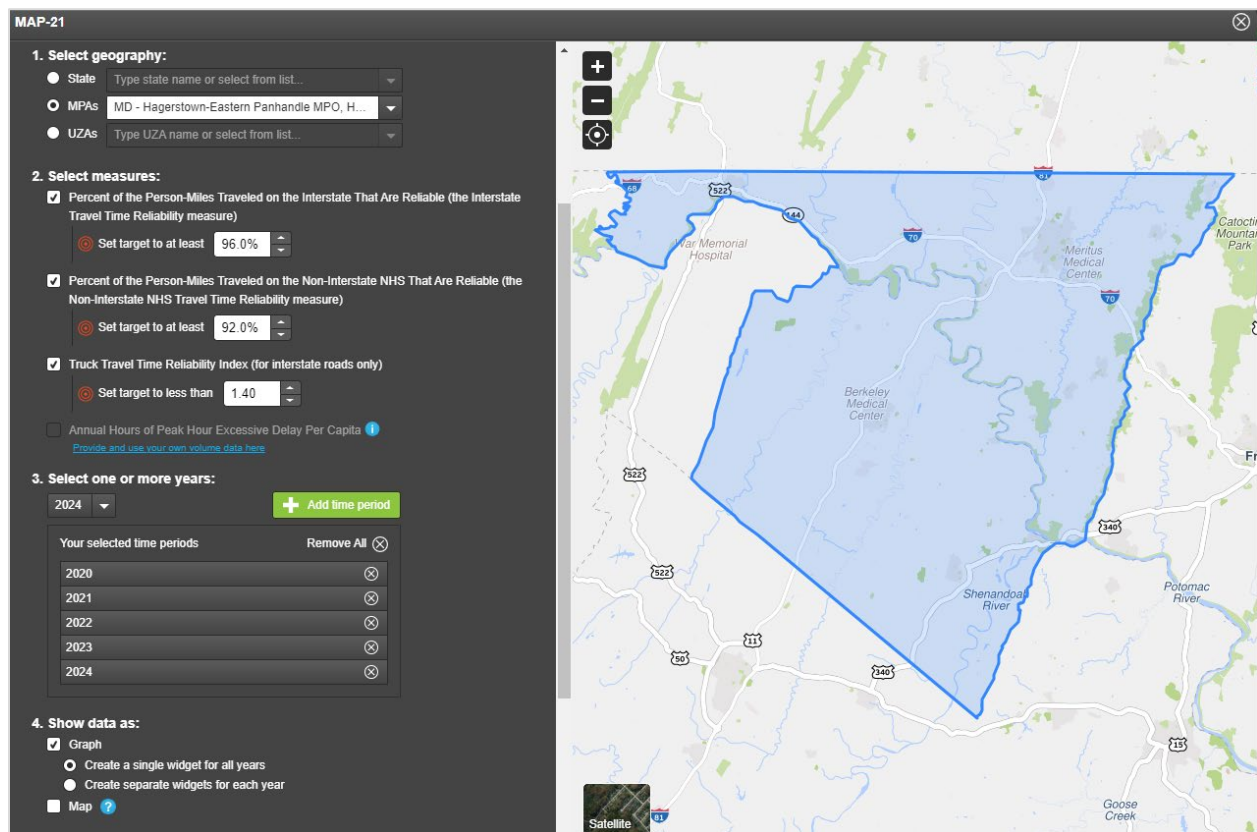


Figure 16: NPMRDS Tool Inputs to Generate HEPMPO Reliability Measures

EVALUATING INTERSTATE CONGESTION TRENDS

The previous section highlighted the national performance measures that address interstate congestion and reliability. However, these metrics do not adequately highlight significant congestion issues on the interstates, particularly I-81 in Washington County. Public input gathered during the CMP revealed numerous comments focusing on I-81 between the WV and PA borders. This section of I-81 has also been prioritized by businesses, the public, and local governments in past cycles of the long-range plan. To better understand the reasons for concern regarding interstate travel in the region, historical travel time data has been analyzed. Figure 17 illustrates I-81 vehicle daily delay totals over a 5-year period from January 2019 through June 2024. The orange line represents the 80th percentile daily delay value, a percentile used for the national performance measures. This figure shows significant variability in

delays on I-81. Delay values exceeding 4,000 daily vehicle hours have often corresponded with substantial delays impacting the region, including parallel facilities like US 11. Since January 2019, there have been 20 days with delay values surpassing this 4,000 vehicle-hour threshold, often as the result of a traffic incident. These delays have significantly affected regional commuting and freight travel, underscoring why this corridor remains a regional priority for traffic congestion improvements.

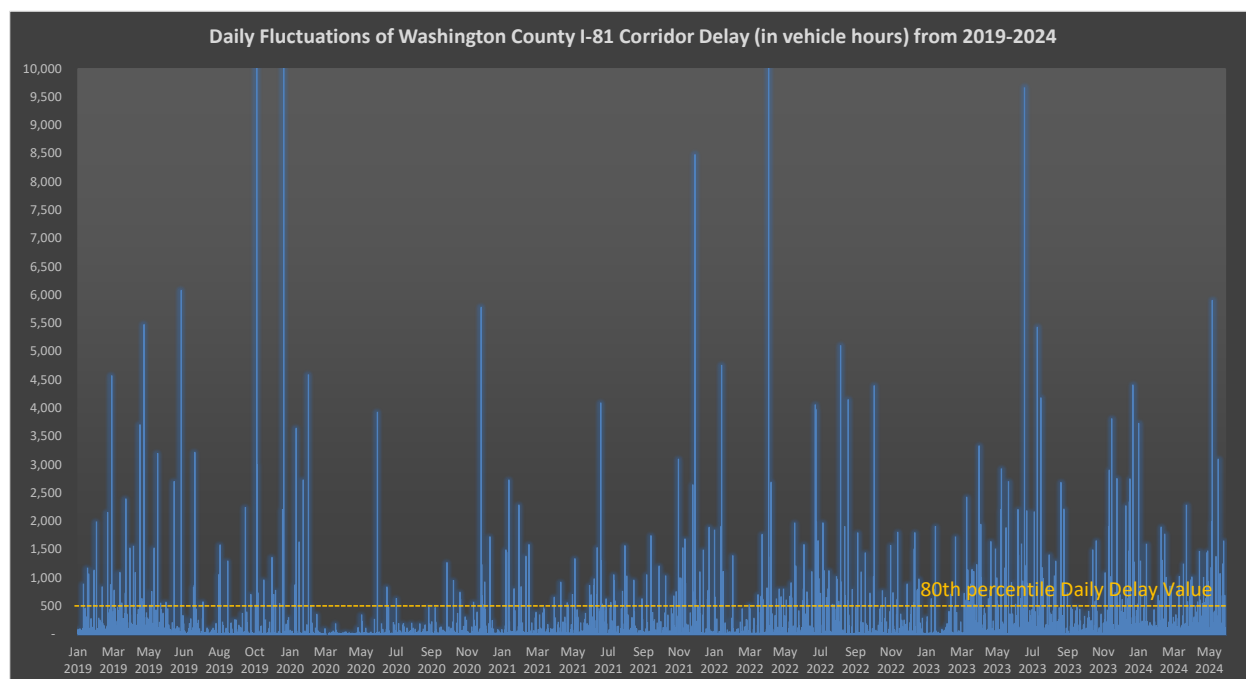


Figure 17: I-81 Daily Travel Delay (Vehicle Hours) Trends from 2019-2024

ADDRESSING CONGESTION TRENDS ON NON-NHS ROADS

Traffic congestion occurs on many roads outside of the NHS system. The federal performance measures, alone, do not provide sufficient information to identify all regional issues and needs related to traffic congestion. To supplement the national measure trends and to provide context to a broader range of roadways including those outside of the NHS, an additional assessment of historic regional traffic delay (in hours) has been conducted using available INRIX travel time data for Washington County. At this time, the data available for West Virginia does not provide historical information before 2022.

Delay measures the time difference between actual travel time and free-flow time (e.g., the travel time typically encountered during the night hours). Total delay integrates the number of vehicles experiencing these travel time values through the application of traffic volume data available from counts.

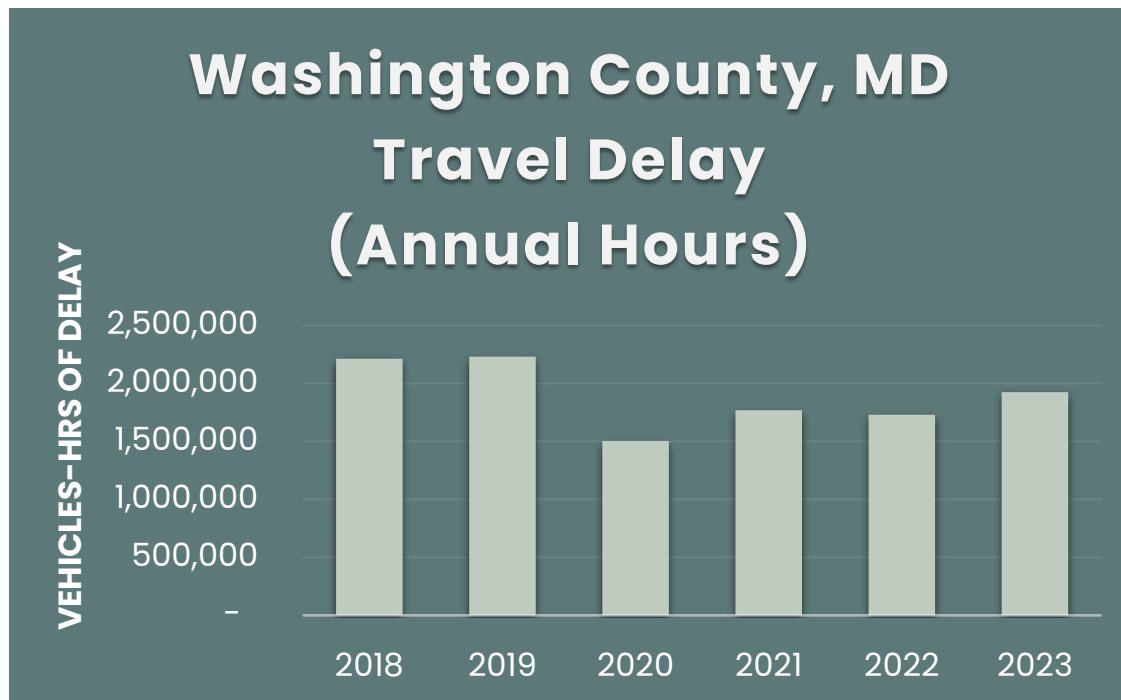


Figure 18: Washington County Annual Delay Trends (2018 – 2023)

The delay trend shown in Figure 18 highlights the impacts of the COVID-19 epidemic on regional travel in 2020, as delays were the lowest in the last decade. A rebound in delay has occurred in 2021-2023 but has not reached pre-pandemic levels.

Future updates to the CMP can track regional delays using the reports from the RITIS platform for Washington County. The User Delay Cost Analysis tool provides hourly delay totals based on travel time data and available traffic count volumes extracted from the Highway Performance Monitoring System (HPMS). Figure 19 provides a sample of the input parameters that are supplied to that tool to produce a delay summary table.

1. Select roads

TMC segments from **NPMRDS INRIX** ▼

☐ Expand NPMRDS to the Full TMC Network ?

Road **Region** **Segment codes** **Map** **Saved**

Regions **All** ▼

Directions **All** ▼

Zip Codes

Road Classes **All** ▼

+ Add region

Your selected roads ? Remove all ×

Berkeley and Jefferson counties in West Virginia (149 TMC seg...) 👁 🗖 ×

Washington, Maryland (383 TMC segments) 👁 🗖 ×

📋 Show segment IDs 💾 Save as segment set

2. Select a time period to analyze

📅 - through - 📅

3. Select volume data source

Inrix 2019 and fall back on Inrix 2013

Change provider

4. Select speed data source

☐ INRIX

☐ HERE

☐ TomTom ?

☐ NPMRDS from INRIX (Passenger vehicles) ?

☐ NPMRDS from INRIX (Trucks and passenger vehicles) ?

☐ NPMRDS from INRIX (Trucks) ?

☐ NPMRDS from HERE (Passenger vehicles) ?

☐ NPMRDS from HERE (Trucks and passenger vehicles) ?

☐ NPMRDS from HERE (Trucks) ?

6. Define where delay should be calculated

☐ Where speed falls below historical average speed

☐ Where speed falls below free-flow speed minus ↕ mph

☐ Where speed falls below posted speed limit

☐ Where speed falls below absolute speed

☐ For all segments

7. Calculate user delay cost against expected speed

☐ Free-flow speed

☐ Posted speed limit ?

☐ Historical average speed

8. Provide title

9. Notifications

☒ Send me an email when this report is ready

SUBMIT

Figure 19: Sample Inputs to the User Delay Cost Analysis Tool for Reporting Regional Delay

DEFINING AND PRIORITIZING CMP LOCATIONS

Building off regional monitoring of traffic congestion, a key objective of the HEPMPO CMP is to identify priority congestion locations within the region using the most up-to-date data available. CMP locations encompass key roadway corridors and spot intersections that hold the highest priority for further assessment. These corridors are also the ones the HEPMPO closely monitors for detailed traffic congestion measures. Additional data is collected for these corridors, including traffic volumes, delays, travel times, crash statistics, signal characteristics, and other relevant data. This comprehensive information helps HEPMPO to understand the underlying causes of congestion and assists in prioritizing potential strategy categories.



Figure 20: Process for Determining CMP Priority Congestion Locations

Figure 20 provides the process used to identify the priority congestion locations for this CMP update. The process included integrating past information from the 2022 LRTP, analyses using GPS travel time data, over nine hundred public map comments, visual observations of the corridor, and other insights and comments from the CMP stakeholder committee.

PRIORITY CONGESTION LOCATIONS

Based on the process outlined above, Figure 21 and Figure 22 highlight the 24 CMP locations that were identified in Washington, Berkeley, and Jefferson Counties, comprising either sections of roadway or spot intersections. Note the locations are not prioritized within the listing. The reference number is an identification number that links to subsequent maps.

METHODS FOR DATA EVALUATION

The RITIS and INRIX IQ performance tools played an integral role in identifying priority locations within the region. Roadway segment Information from each of these tools was extracted including the travel time index (TTI) values. Data was compiled for peak periods during the 2022 year. 2023 and 2024 data was used to evaluate select corridors with recently completed transportation projects.

The RITIS **Trend Map** tool provides hourly TTI values for each available roadway segment in Washington County. The report utilized the INRIX XD layer, which is the finest detail available. Figure 23 provides a sample of the input parameters that are supplied to that tool to produce the trend map. The data was saved as a CSV (Excel) table and integrated into a GIS shapefile for visualization and overlay with other data layers. Key information summarized for each segment includes the maximum TTI and the number of hours above a 1.50 TTI ratio.

For the West Virginia counties, data extraction required more steps using the INRIX IQ **Performance Charts** feature. Individual roadway segments are selected, and data is summarized and exported for the 2022 year. Figure 24 highlights the application of a performance chart for a sample corridor in Berkeley County.

TOP PRIORITY CMP CORRIDOR LOCATIONS

WASHINGTON COUNTY, MARYLAND

- ☐ MD 65 (Col Henry K Douglas Dr to W Oak Ridge Dr)
- ☐ Washington St (Burhans Blvd to N Cannon Avenue)
- ☐ Franklin St (Burhans Blvd to N Cannon Avenue)
- ☐ N Burhans Blvd (Washington St to Pennsylvania Avenue)
- ☐ Eastern Blvd (Dual Highway to Jefferson Blvd)
- ☐ Dual Highway (N Cannon Avenue to Edgewood Dr)
- ☐ Maugans Ave (I-81 to Marsh Pike)
- ☐ Halfway Blvd (Hopewell Rd to Halfway Blvd/Virginia Avenue Intersection)
- ☐ Leitersburg Pike (Leitersburg Pike/Northern Avenue Intersection)
- ☐ US 11 (N Clifton Dr to S Commerce St)
- ☐ US 340 (Frederick County Line to Washington St)
- ☐ I-81 (I-70 to Salem Ave)
- ☐ I-70 (I-81 to US 40)
- ☐ Downsville Pike (Oak Ridge Dr to Sterling Rd)

BERKELEY COUNTY, WEST VIRGINIA

- ☐ Apple Harvest Drive (I-81 to New York Ave)
- ☐ Hedgesville Rd (W Main St/N Mary St Intersection/School House Dr)
- ☐ Hedgesville Rd (Roaring Lions Dr to Severna Parkway)
- ☐ Apple Harvest Dr (Kelly Island Road to Grapevine Road)
- ☐ Edwin Miller Blvd (South of I-81 Interchange to E. Moler Avenue)
- ☐ Hedgesville Rd (Harlan Springs Rd to North of I-81 Interchange)
- ☐ Queen St (E King St to W Race St)

JEFFERSON COUNTY, WEST VIRGINIA

- ☐ US 340 (Flowing Springs Rd to Halltown Rd)
- ☐ Washington St (Flowing Springs Rd to Naples Way)
- ☐ Martinsburg Pike (Martinsburg Pike/Duke St Intersection)

Figure 21: HEPMPO Top CMP Corridor Locations

TOP PRIORITY CMP INTERSECTIONS

WASHINGTON COUNTY, MARYLAND

- ☐ Oak Ridge Dr/Potomac St Intersection
- ☐ Potomac St/I-70 WB Ramp Intersection
- ☐ Col Henry K Douglas Dr/Sharpsburg Pike Intersection
- ☐ N Burhans Blvd/W Washington St Intersection
- ☐ Dual Highway/Eastern Blvd Intersection
- ☐ Eastern Blvd/Jefferson Blvd Intersection
- ☐ Dual Highway/Edgewood Dr Intersection
- ☐ Maugans Ave/I-81 SB Ramp Intersection
- ☐ Maugans Ave/I-81 NB Ramp Intersection
- ☐ Halfway Blvd/Virginia Ave Intersection


BERKELEY COUNTY, WEST VIRGINIA

- ☐ Apple Harvest Dr/I-81 SB Ramp Intersection
- ☐ Apple Harvest Dr/I-81 NB Ramp Intersection
- ☐ Apple Harvest Dr/Foxcroft Ave Intersection
- ☐ Apple Harvest Dr/US-11 Intersection
- ☐ WV 9/N Mary St Intersection
- ☐ WV 9/Ridge Rd S Intersection
- ☐ WV 9/GM Access Rd Intersection
- ☐ Edwin Miller Blvd/US-11 Intersection

JEFFERSON COUNTY, WEST VIRGINIA

- ☐ US 340/Patrick Henry Way Intersection

Figure 22: HEPMPO Top CMP Intersections



Trend Map

The Trend Map allows you to create animated maps showing changes in congestion over the course of time at various granularities. The maps can be exported to animated GIFs and MP4s.

- Select a country**
 United States
- Select roads**

XD segments from INRIX

Road Route Region Segment codes Map Saved [Advanced](#)

Your selected roads Remove all

I-70 E bearing east to I-70 W bearing east

Intersections: 14
 13 miles of roadway selected (30 XD segments)
 Segments from INRIX

[Report a problem with this road](#)

Show segment IDs Save as segment set
- Select one or more time periods to analyze**

Days Months Years

01/01/2022 - through - 12/31/2022

☒ Create a single time period for this range
☐ Limit to specific days of the week
☐ Create a time period for each day within this range

+ Add time period

Your selected time periods Remove All

January 01, 2022 through December 31, 2022 (365 days)
- Select data sources**
☒ INRIX
- Select granularity**
☐ 1 minute
☐ 5 minutes
☐ 10 minutes
☐ 15 minutes
☒ 1 hour
- Provide a title for this report** (optional)
- Notes** (optional)

+ Add notes

SUBMIT

Figure 23: Sample Inputs to the Trend Map Tool (RITIS) for Reporting Segment TTI Values for Washington County, MD

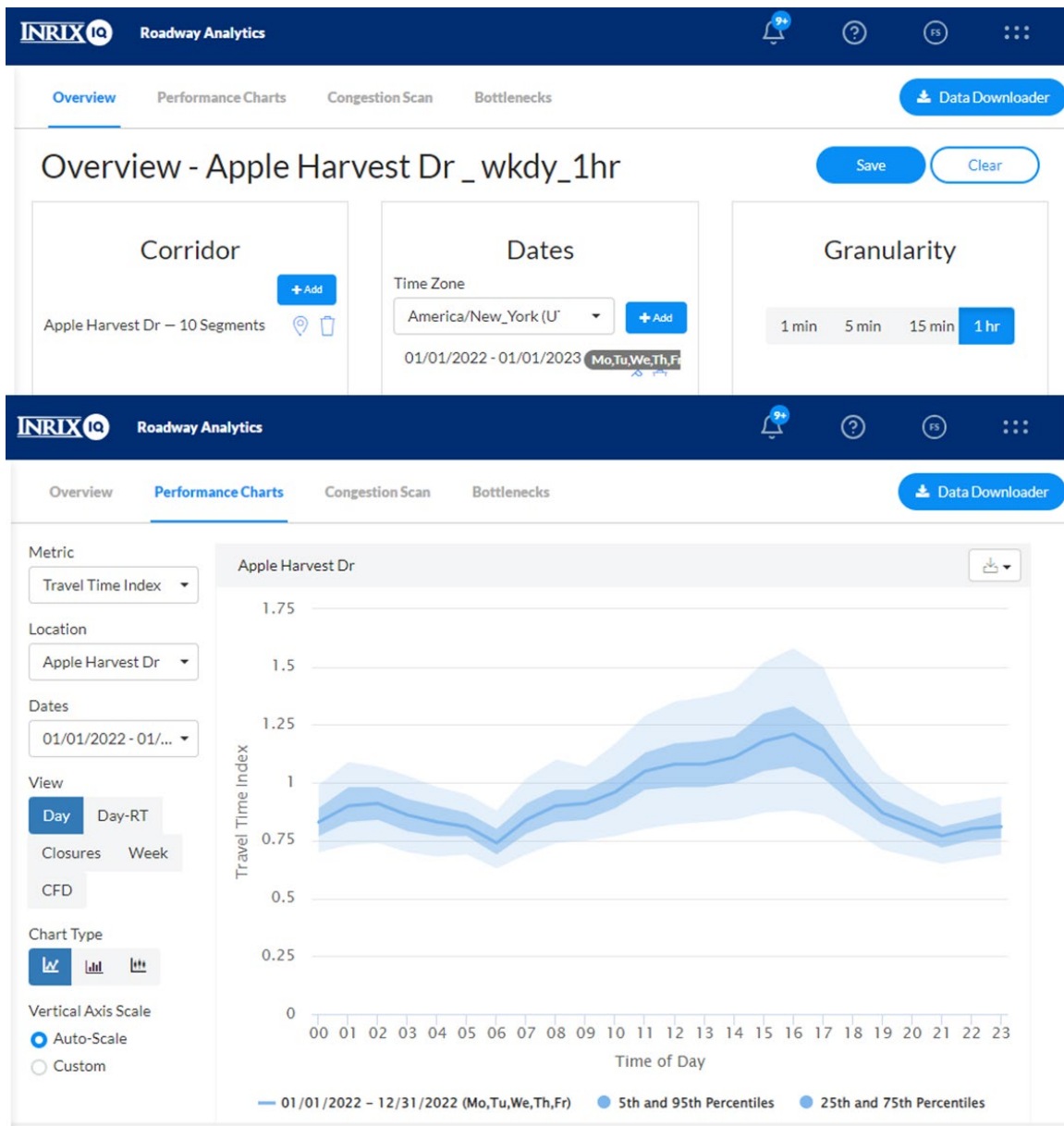


Figure 24: Sample Inputs to the Road Analytics Tool (INRIX IQ) for Reporting Segment TTI Values for WV Counties

DATA MAPPING PRODUCTS

The CMP includes developing an online map to store and visualize all collected data including the items provided in Table 1 and the CMP priority congestion locations. The data and corridor mapping will eventually be transitioned to the HEPMPO GIS system to support application to other planning products including the LRTP.

HEPMPO CMP DATA LAYERS MAP

Map Link: <https://tmp-map.s3.amazonaws.com/hepm-po-cmp/hepm-po-cmp-corridors.html>

This mapping database will be hosted by Michael Baker International until it may be transferred to HEPMPO staff. If this link is dead, the data can be sought by contacting Matt Mullenax (HEPMPO) at 240-313-2081.

This map as shown in Figure 25 provides access to a data layer map containing a summary of the 2024 CMP priority congestion locations and key data used to support the identification of those locations. Categories on the left side of the map provide access to the following data:

- **2024 CMP Priority Corridor Locations** - Correlates with Table 1 and allows visualization of the priority locations on an interactive map. The locations include both Interstate corridors and top congested intersections, each of which can be specified using the checkboxes provided.
- **MetroQuest Survey Results** - Provides the public responses to the 2024 HEPMPO CMP survey. The survey responses were an integral component in defining priority congestion locations in the region.
- **INRIX XD Weekday Travel Time Index (TTI)** - Provides the travel time data metrics used to evaluate regional congestion and to support identification of the CMP priority congestion locations. The metric is the Travel Time Index (TTI), which was defined in earlier sections of this report. Separate ranges of TTI can be checked to illustrate different congestion levels based on this measure. Generally, TTI values greater than 1.25 indicate moderate and above levels of traffic congestion. Note this metric relates

to the typical average congestion during weekday peak periods like the evening commute.

- **L RTP TomTom Travel Time Index (2018)** – Provides the travel time data metrics used to evaluate regional congestion during HEPMPO LRTP assessment and to aid in as a guidance to identify the CMP priority congestion locations.
- **LRTP Direction 2050 Projects** – Provides current TIP, planned CMAQ projects, and existing and committed project layers.
- **MDOT SHA Priority Corridors** – Priority Corridors established by MDOT SHA for D6 that are recommended for review and also accessibility and mobility need locations within Washington County.
- **High Volume Retail Locations** – Provides retail locations that attract trips within the HEPMPO region.
- **O/D Vehicle Probe Data** – Provides 2022 trip origins and destinations estimated by Michael Baker International using information from the Replica-HQ web platform. Information is provided for regional hexagon geography.
- **Strava Trip Activity** – Bike Ped trip activities pulled from the Strava platform and presented in hexagon geography.
- **Crash Data** – Provides crash data within the HEPMPO region retrieved from DOTs.
- **HEPMPO Model Network** – Provides forecasted growth in 2050 for the HEPMPO region using travel demand modeling.
- **Land Use Data** – Provides 2022 Land use data retrieved from the Replica Data platform from their demography and employment data set.

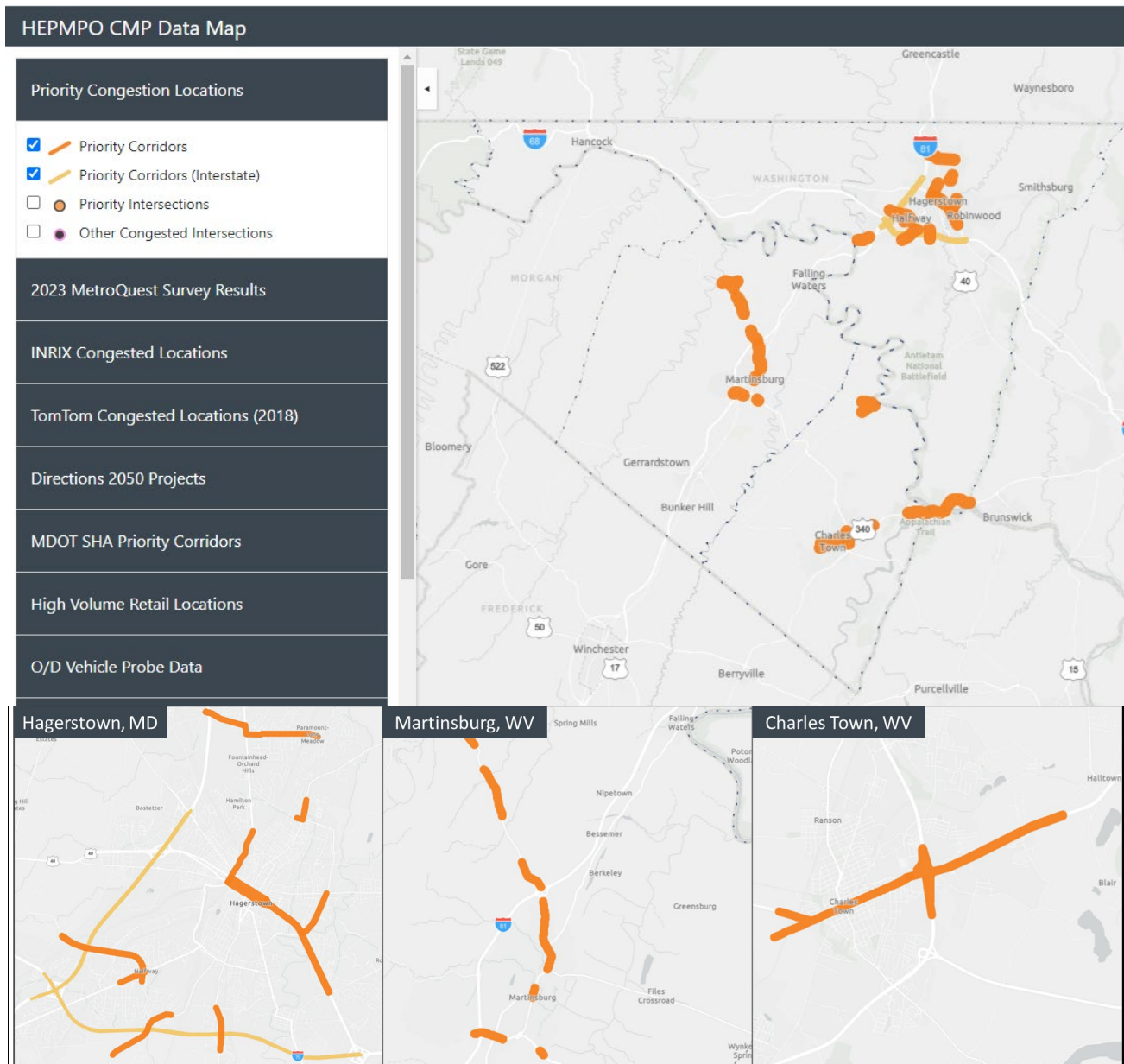


Figure 25: HEPMPO Interactive Data Map

The map provides additional features including the visualization of CMP congestion location details that can be enabled by selecting each of the locations individually. These location summary sheets are discussed in the following sections.

EVALUATION OF CMP LOCATIONS

For each of the CMP priority locations, additional corridor data has been summarized to support the evaluation of congestion causes, ranking or further prioritization of locations, and the identification of potential strategy categories applicable to each location. This additional information has been assembled into appendix tables indexed on the CMP location identification number provided in Figure 21 and included in the online maps.

Appendix B: CMP Location Programmed Project and Study Information

- Programmed projects for each CMP location based on projects from the *Direction 2050* LRTP.
- Provides past studies that address issues or needs related to the corridor. This includes information from the 2019 Regional Traffic Safety Study, 2021 WV PEL Study, 2021 WV 45 CVP, 2022 Dual Highway Speed Management Study, Washington Street (US 40), and WV 9 Safety Audits. Any referenced strategies that have been identified in these plans are highlighted for each location.

Appendix C: Additional Data Collected for CMP Locations in Cut Sheets

- » Travel time metrics and volume data have been compiled for each CMP location. The data includes:
 - o Maximum weekday Travel Time Index (TTI) at or along CMP locations
 - o Average TTI values weighted by INRIX segment distances
 - o The number of hours that TTI is greater than 1.25 (a defined threshold of higher congestion)
 - o DOT total volume and HPMS truck percentages
 - o The composite score was calculated by multiplying max travel time reliability with corridor VMT from a 250' buffer around each intersection. This measure for priority intersections
 - o Aggregated traffic movement volume per intersection

- » Roadway Configuration such as number of lanes, shoulder, and parking availability were retrieved from Google Street-View maps.
- » Crash data by crash type has been compiled by CMP location to support the evaluation of congestion causes. This information includes total crashes, total fatalities, injury crashes, truck crashes, and bike/pedestrian crashes or fatalities.
- » Land use and trip activity data abutting the CMP corridor or spot intersection location. Land use data has been extracted from Replica's demographic and employment database obtained from multiple public and private resources and aggregated by the Census Block group.
- » Bike and Pedestrian activity sourced from Strava platform and roadway configurations and bike/ped infrastructure availability along the priority corridors from Google Street view maps to aid in potential strategies for high-activity locations.

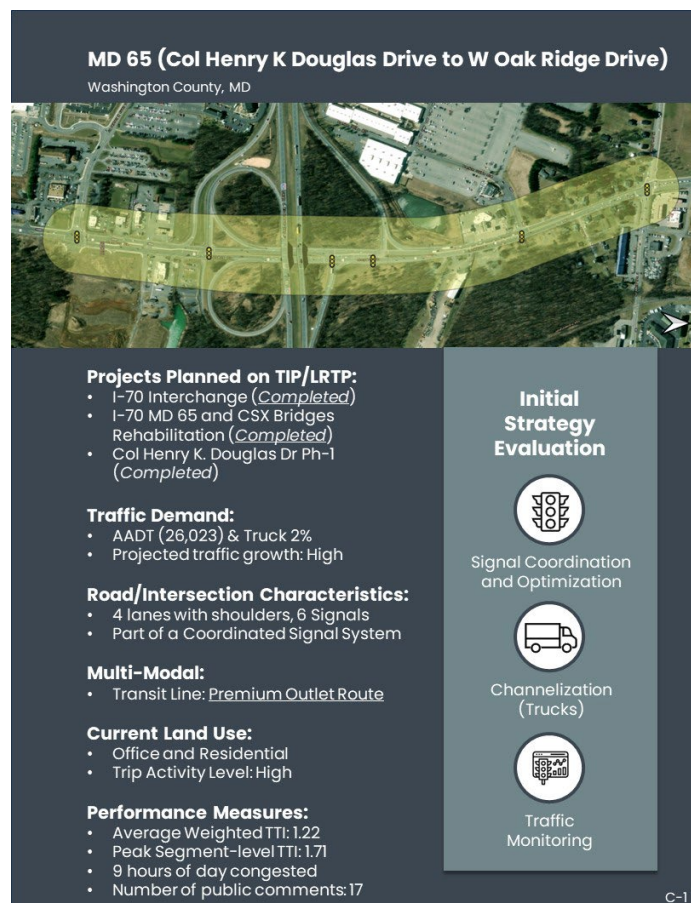


Figure 26: Cut Sheet Example

Appendix D: Traffic Signal Data Collected for CMP Locations

- » Traffic signal information from Signal Analytics within the INRIX IQ platform has been compiled to support the evaluation of potential operational strategies. This information includes relevant signal IDs and signal timing on each movement for each intersection.

Appendix E: Congestion Visuals for CMP Locations

- » Congestion Heatmap Visuals for all priority corridors from the RITIS Congestion Scan tool to visualize congestion locations within each corridor. Each congestion scan is the hourly distribution of daily average travel time index of year 2022.

ASSESSING STRATEGIES FOR CMP LOCATIONS

The identification and assessment of appropriate congestion mitigation strategies is a component of the CMP but often requires more detailed assessments through other studies and outreach.

STRATEGY TOOLBOX

Figure 27 and Figure 28 provides a toolbox of strategies for consideration by policymakers and planners in the region. These strategies encompass:

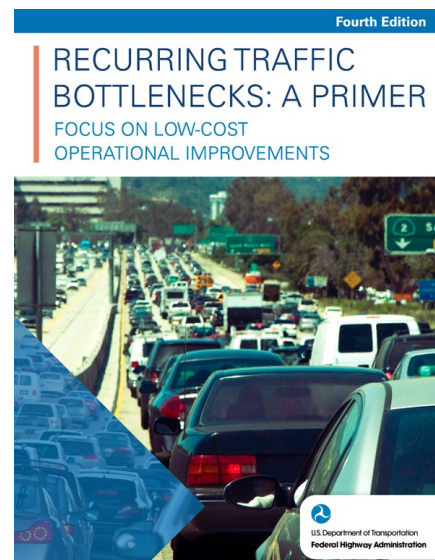
- **Reducing demand (or demand management)** – This approach targets congestion mitigation by minimizing vehicular traffic. Efforts may be directed towards enhancing public transit systems and promoting initiatives that facilitate carpooling and work-from-home arrangements.
- **Managing capacity (or operational improvements)** – These efforts are intended to enhance the transportation system's operation and make it as efficient as possible. They may include signal technology and coordination projects or other Intelligent Transportation System (ITS) strategies like electronic message signs or incident response teams.

- **Building capacity (or capacity enhancements)** – These projects typically focus on the addition of lanes to existing roadways or the construction of new roads. While there is still an important need for the strategic addition of new capacity, the HEPMPO acknowledges that it is not possible to solve all congestion issues through major additions of capacity due to environmental and land use sensitivity and limited funding. Strategic capacity enhancements, designed in the context of the community, may include interchange improvements, the implementation of turn lanes to improve congestion and safety at critical intersections, the development of multimodal corridors, and improved street connectivity.

All strategies should be consistent with regional and state L RTPs. Lower-cost solutions are emphasized as a primary congestion mitigation strategy and may include those provided in FHWA’s Recurring Traffic Bottlenecks: A Primer Focus on Low-Cost Operational Improvements.

FUTURE STRATEGY ASSESSMENTS

As part of the 2024 CMP, HEPMPO has not formally developed recommended specific strategies for each CMP location. Information has been compiled to identify potential strategy categories and to support future assessments. Techniques for evaluating and selecting strategies include the use of committees or group consensus, the refinement of strategies based on local characteristics, and staff-level technical analysis. Information collected through monitoring of implemented strategies can help evaluate the success of individual strategies and target specific strategies to applications where they have demonstrated success. This feedback loop provides a continuous refinement of the strategies considered for congestion management in different situations. Figure 29 highlights a potential process for recommending CMP location strategies.



DEMAND MANAGEMENT STRATEGIES



TRANSPORTATION DEMAND MANAGEMENT

- Alternative Work Hours
- Telecommuting
- Ridesharing
- Implementing Park-n-Ride Lots
- Emergency Home Programs
- Alternative Mode Marketing & Education
- Safe Routes to School Programs
- Employer-Landlord Parking Agreements
- Preferential or Free Parking for HOVs
- Parking Management



PUBLIC TRANSIT IMPROVEMENTS

- Reduce Transit Fares
- Increased Route Coverage or Frequencies
- Real-time Information on Routes
- Premium Transit
- Transit Capacity Expansion



BICYCLE/PEDESTRIAN/TRAIL

- New Sidewalk Connections
- Designated Bicycle Lanes on Local Streets
- Improved Facilities at Major Destinations
- Improved Safety on Existing Facilities
- Exclusive Non-Motorized Right-of-Way
- Complete Streets



LAND USE/GROWTH MANAGEMENT

- Design Guidelines for Transit and Pedestrian Oriented Development
- Mixed-Use Development
- Infill Development
- Demand Management Agreements
- Trip Reduction Ordinance



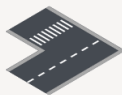
PURCHASE OF RIGHT-OF-WAY FOR FUTURE PROJECTS

Figure 27: CMP Corridor Strategy Toolbox

OPERATIONAL MANAGEMENT STRATEGIES



CORRIDOR PRESERVATION MANAGEMENT



ACCESS MANAGEMENT

Policies, Frontage Roads, Multi-Way Boulevards



INCREASES IN CAPACITY

Highway widening by adding lanes



INCIDENT MANAGEMENT

Freeway incident detection and management systems



ITS & TRANSPORTATION SYSTEMS MANAGEMENT

- Traffic Signal Coordination
- Intermodal Enhancements
- Goods Movement Management
- Dynamic Messaging
- Advanced Traveler Information Systems
- Integrated Corridor Management
- Transit Signal Priority
- Channelization
- Intersection Improvements
- Bottleneck Removal
- Vehicle Use Limitations and Restrictions
- Geometric Improvements for Transit
- Improved Signage



MANAGED LANES

High-Occupancy Vehicle (HOV), High-Occupancy Toll (HOT), Reversible Lanes

Figure 28: CMP Corridor Strategy Toolbox Continued

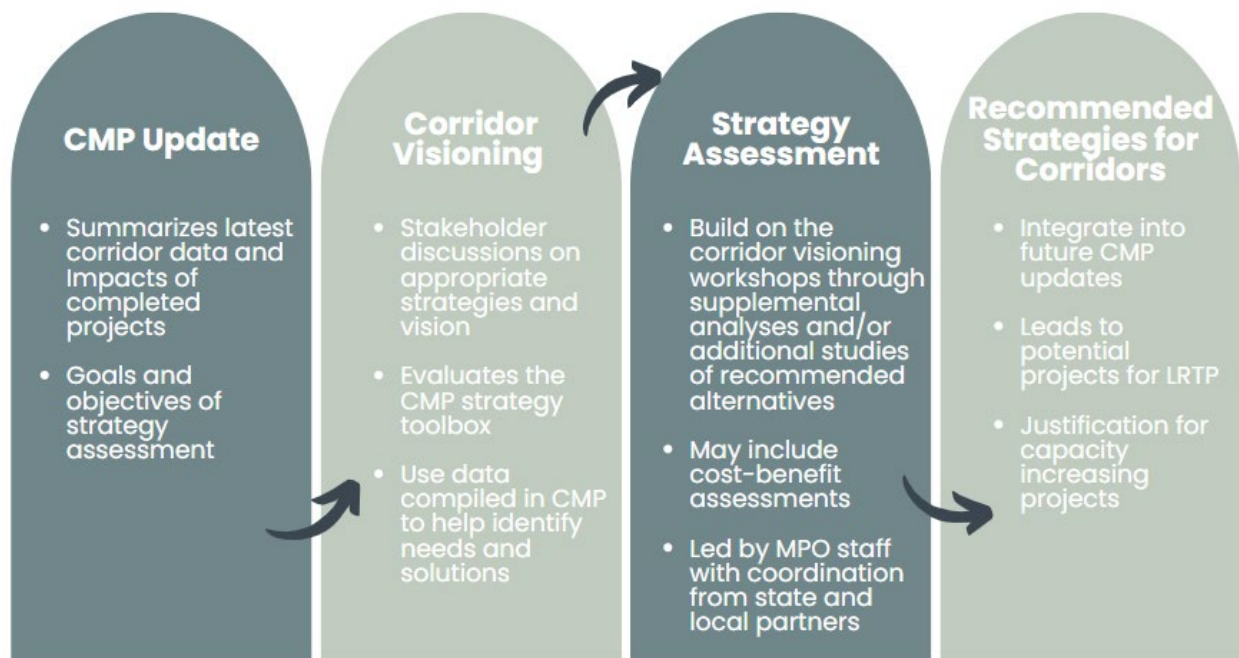


Figure 29: Process for Recommending CMP Strategies

The CMP strategy evaluation process is designed to assess the effectiveness of various congestion management strategies. A key aspect of this evaluation will be to pinpoint specific locations where the implementation of capacity enhancement projects is imperative. This determination is based on a comprehensive analysis that considers the ineffectiveness of alternative strategies in alleviating congestion at these critical points. Such an analysis may be conducted under a supporting corridor or project study. The process is instrumental in guiding future strategy selection and ensuring that resources are allocated to strategies that demonstrably improve traffic flow and reduce congestion.

EVALUATING COMPLETED PROJECTS

In future updates to the CMP, the HEPMPO is committed to monitoring the impacts of major transportation investments based on available data. Through the analysis of travel time data, HEPMPO can review traffic conditions before and after project implementation to assess whether the improvements have

effectively addressed congestion issues. This process involves comparing key metrics such as travel times to gauge the success of each project. The findings not only measure a project's impact but also guide the selection of future congestion management strategies.

WV 51 (Gerrardstown Road) in Inwood, WV was previously identified as a key area of congestion in past LRTP cycles, especially between I-81 and US 11. The Inwood Bypass project was under construction for a number of years. In late 2023, Phase 2 of the project was



completed adding multiple roundabouts between I-81 and Pilgrim Street. HEPMPO has evaluated this corridor using available data from the INRIX-IQ platform. Note information is only available from the beginning of 2022, which most likely included construction delays. However, since the project's completion in 2023, key congestion metrics like travel time index have been much improved, as illustrated in Figure 30 (red indicates higher levels of congestion). This corridor is no longer listed as a priority congestion location for the region.

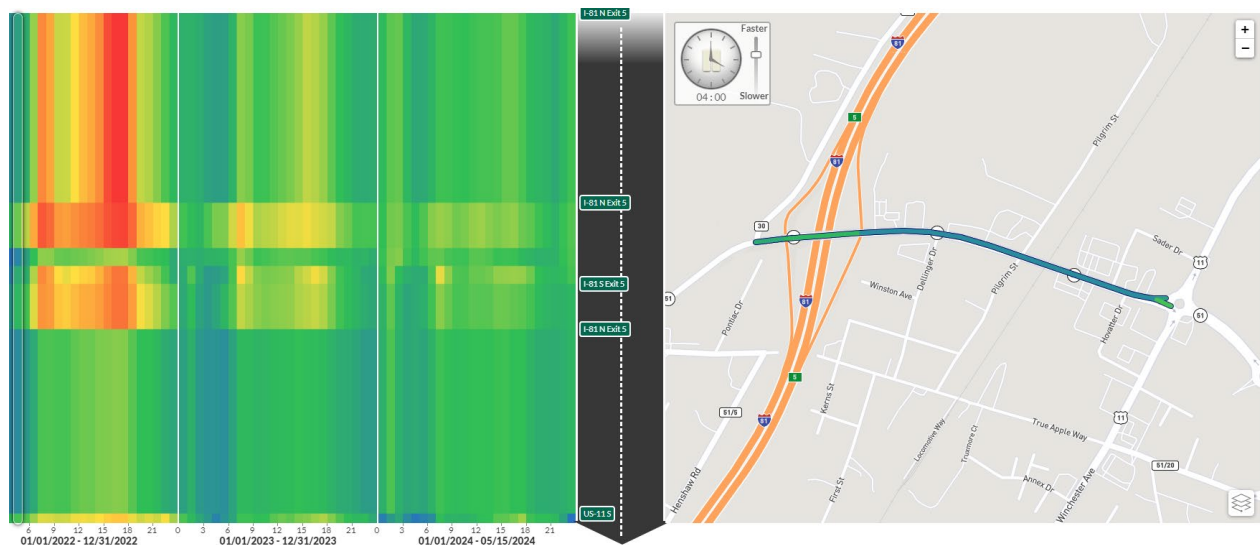


Figure 30: Illustration of Travel Time Index Values by Year for WV 51

FUTURE CMP ENHANCEMENTS AND INTEGRATION

INTEGRATION WITH OTHER PLANNING PROCESSES

Within the overall transportation planning process, the CMP provides quantitative congestion information that can be used by decision-makers at the MPO, local government, and DOT levels. The CMP is a critical element of an objectives-driven, performance-



Figure 31: Importance of the CMP

based planning approach, and the integration of the CMP data with the TIP and LRTP is an important part of project decision-making (Figure 31). Across the country, MPOs have developed unique methods of implementing the CMP. Some have integrated the CMP with the long-range planning process to the extent that the CMP is not identifiable as a standalone process. In many cases, the CMP data and performance measures directly influence project prioritization. The HEPMPO will directly integrate the CMP priority congestion locations into the TIP and LRTP process. These locations will also be key locations that support additional studies and strategy assessment coordination.

The HEPMPO is also committed to harmonizing the CMP with the Carbon Reduction Program (CRP). This program is dedicated to the reduction of carbon emissions through strategic funding. The Carbon Reduction Strategy (CRS) for both WVDOT and MDOT underscores the significance of traffic flow and demand management strategies in limiting carbon emissions, prioritizing those strategies for available CRP funding.

MAINTAINING AND UPDATING THE CMP

The HEPMPO is always looking for ways to make the CMP better. This includes learning from what other communities are doing across the nation and using new data sources as they become more readily available. Future CMP updates will be coordinated with ongoing corridor studies including the interstate TSMO studies, ongoing efforts to develop better data for assessing congestion causes, and local and regional efforts related to corridor visioning and strategy assessments. Additional emphasis can also be placed on better quantifying the impacts of completed projects. Currently, historical data is limited (especially for West Virginia counties) to conduct such analyses.

The CMP is anticipated to be updated regularly to support coordination with the TIP and LRTP. The HEPMPO will continue to monitor the region's status concerning TMA designation, which will ultimately make the CMP a requirement with formal federal review (Figure 32).

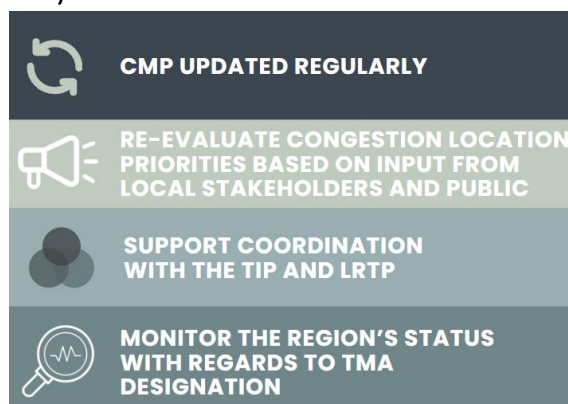


Figure 32: Integrating CMP and Next Steps

In the ongoing effort to refine the CMP, the HEPMPO remains committed to engaging with local stakeholders and the public to identify and address critical congestion locations. During the recent update cycle, we received numerous public insights regarding congestion concerns. Some of these concerns were not designated as top priorities in the current CMP iteration, primarily due to travel time data not substantiating these locations as the most congested within the region. Nonetheless, the HEPMPO acknowledges the importance of these observations and the limitations of the available data and will incorporate them into future corridor studies and planning assessments. We are dedicated to continual monitoring and reassessment of these areas as fresh data emerges, ensuring that our congestion management strategies and project initiatives are data-driven and community-focused. As part of the next LRTP update, HEPMPO expects to re-evaluate these congestion priorities to better serve our region's needs.

APPENDIX A

PUBLIC MEETINGS

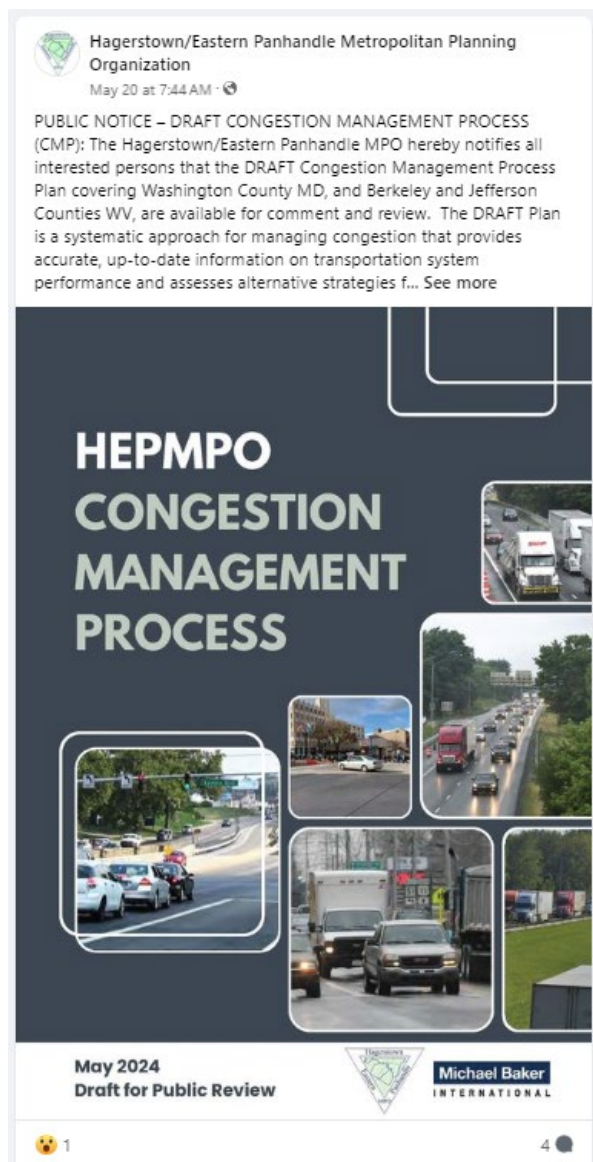


APPENDIX A: PUBLIC MEETINGS

The public meetings were announced via public notice and social media postings. The draft document was made available on the HEPMPO website. Details regarding the public comment period, including a copy of the press release, articles, and public comments and responses to those comments are below.

SOCIAL MEDIA

FACEBOOK





In our Draft Congestion Management Process, we identify the top congested corridors and intersections in the HEPMPO region. These corridors were selected based on public input, data analysis and review from our partner agencies. Learn more about the draft here: <https://storymaps.arcgis.com/.../cf1379671bf84e1e95dfbc9d...>

TOP PRIORITY CMP CORRIDOR LOCATIONS

Berkeley County, West Virginia

- ☐ MD 65 (Cal Henry K Douglas Dr to W Oak Ridge Dr)
- ☐ Washington St (Burkams Blvd to N Cannon Avenue)
- ☐ Franklin St (Burkams Blvd to N Cannon Avenue)
- ☐ N Burkams Blvd (Washington St to Pennsylvania Avenue)
- ☐ Eastern Blvd (Deal Highway to Jefferson Blvd)
- ☐ Deal Highway (N Cannon Avenue to Edgewood Dr)
- ☐ Mazarins Ave (I-81 to Pennsylvania Ave)
- ☐ Halfway Blvd (Hawes Rd to Halfway Blvd/Virginia Avenue Intersection)
- ☐ Leitesburg Pike (Leitesburg Pike/Northern Avenue Intersection)
- ☐ US 11 (N Clifton Dr to S Commerce St)
- ☐ US 240 (Frederick County Line to Washington St)
- ☐ I-81 (I-70 to Salem Ave)
- ☐ I-70 (I-81 to US 400)

- ☐ Apple Harvest Drive (I-81 to New York Ave)
- ☐ Hedgesville Rd (W Main St/N Mary St Intersection/School House Dr)
- ☐ Hedgesville Rd (Roaring Lions Dr to Severna Parkway)
- ☐ Apple Harvest Dr (Kelly Island Rd to Grapevine Road)
- ☐ Edwin Miller Blvd (South of I-81 Interchange to E. Moler Avenue)
- ☐ Hedgesville Rd (Marion Springs Rd to North of I-81 Interchange)
- ☐ Queen St (E King St to W Race St)

Jefferson County, West Virginia

- ☐ US 340 (Flowing Springs Rd to Halltown Rd)
- ☐ Washington St (Flowing Springs Rd to Naples Way)
- ☐ Martinsburg Pike (Martinsburg Pike/Duke St Intersection)

TOP PRIORITY CMP INTERSECTIONS

Berkeley County, West Virginia

- ☐ Oak Ridge Dr/Peterson St Intersection
- ☐ Peterson St/I-70 WB Ramp Intersection
- ☐ Cal Hony K Douglas Dr/Sharpburg Pike Intersection
- ☐ N Burhans Blvd/W Washington St Intersection
- ☐ Dual Highway/Eastern Blvd Intersection
- ☐ Eastern Blvd/Jefferson Blvd Intersection
- ☐ Dual Highway/Edgewood Dr Intersection
- ☐ Maugers Ave/I-81 SB Ramp Intersection
- ☐ Maugers Ave/I-81 NB Ramp Intersection
- ☐ Halfway Blvd/Virginia Ave Intersection

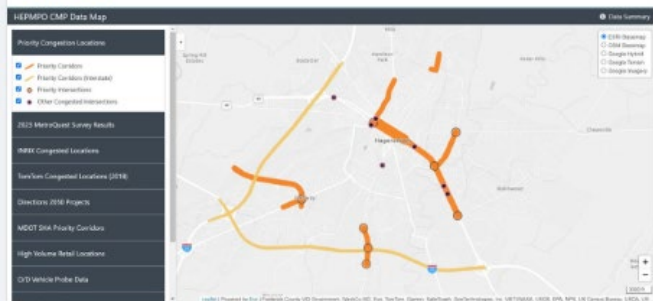
- ☐ Apple Harvest Dr/I-81 SB Ramp Intersection
- ☐ Apple Harvest Dr/I-81 NB Ramp Intersection
- ☐ Apple Harvest Dr/Kazantz Ave Intersection
- ☐ Apple Harvest Dr/US-11 Intersection
- ☐ WV 9/N Mary St Intersection
- ☐ WV 9/ Ridge Rd S Intersection
- ☐ WV 9/ GM Access Rd Intersection
- ☐ Edwin Miller Blvd/ US-11 Intersection

Jefferson County, West Virginia

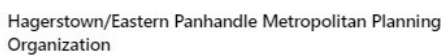
- ☐
- US 340/Patrick Henry Way Intersection



A variety of data sources were acquired and utilized in the process of developing the Draft Congestion Management Process. View the data utilized at our online mapping data repository, including public survey comments: <https://tmp-map.s3.amazonaws.com/.../hepmo-cmp-corridors...>



 Comment



Thank you [WEPM & WCST The Panhandle Network](#) for hosting HEPMO this morning to discuss our Draft Congestion Management Process! Listen in from the show start to 14:10 here:

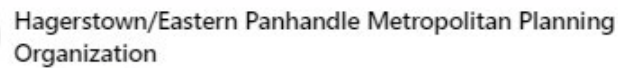


Panhandle Live! 5-28-24

Listen to this episode from Panhandle News Network - WEPM/WCS...

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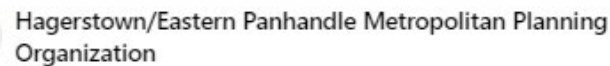
 Share



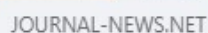
In our Draft Congestion Management Process, each priority corridor identified includes a snapshot of data, roadway characteristics and initial strategy evaluation. Below is an example of WV9/Edwin Miller Boulevard in Martinsburg. Learn more at <https://tmp-map.s3.amazonaws.com/.../hepmo-cmp-corridors...>



 Comment




Draft Congestion Management Process public comment open thru June 20th, public meeting on June 6th, all information available at www.hepmpo.com



HEPMPO seeks feedback for congestion management plan
MARTINSBURG — Recently, the Hagerstown/Eastern Panhandle Me...

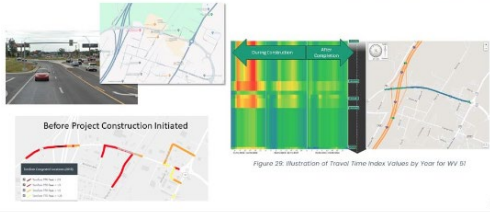
1 ♣

 Share

 **Hagerstown/Eastern Panhandle Metropolitan Planning Organization**
2 days ago · 🌐

Draft Congestion Management Process virtual public meeting via Teams on Thursday June 6th. Meeting starts at 5:00pm with a formal presentation. Details on how to join the meeting at <https://hepmo.com/about-us/meetings/>

EXAMPLE OF INWOOD BYPASS
(TRAVEL TIME DATA BEFORE AND AFTER)



Before Project Construction Initiated

2

Like Comment

 **Hagerstown/Eastern Panhandle Metropolitan Planning Organization**
a day ago · 🌐

Tomorrow night's formal presentation for our Draft Congestion Management Process public meeting is posted: <https://hepmo.com/.../HEPMPO-CMP-June-6-Public-Meeting.pdf>

CONGESTION MANAGEMENT PROCESS (CMP)

Public Meeting
June 6, 2024



Like Comment

 **Hagerstown/Eastern Panhandle Metropolitan Planning Organization**
June 7 at 10:55 AM · 🌐

Thank you everyone who came out to last night's public meeting on our Draft Congestion Management Process! For those who couldn't attend the meeting recording is on our YouTube channel:

HEPMPO FOCUS for 2024 CMP




YOUTUBE.COM

Draft Congestion Management Process - Virtual Public Meeting (June 6, 2024)

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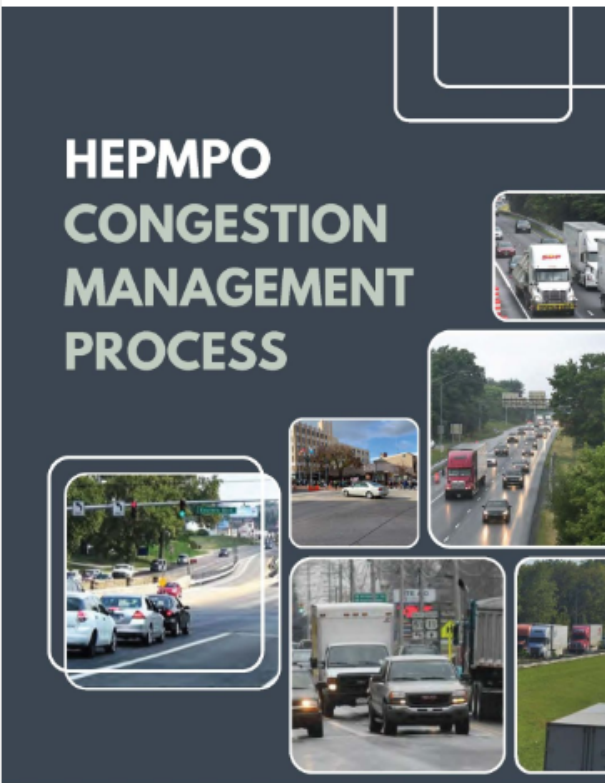

Hagerstown/Eastern Panhandle Metropolitan Planning Organization ***
 513 followers
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PUBLIC NOTICE – DRAFT CONGESTION MANAGEMENT PROCESS (CMP): The Hagerstown/Eastern Panhandle MPO hereby notifies all interested persons that the DRAFT Congestion Management Process Plan covering Washington County MD, and Berkeley and Jefferson Counties WV, are available for comment and review. The DRAFT Plan is a systematic approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management.

The public comment period will be from May 20 to June 20, 2024. Those persons wishing to review the draft study will find copies on display at the Washington County Free Library-Hagerstown, the Martinsburg Public Library and Charles Town Library, download a copy at <https://lnkd.in/eZqXiu4E>, or may request a copy by contacting the HEPMPO office, located at 33 W. Washington St., Suite 402, Hagerstown, MD 21740. Business hours are 8:00 am to 4:00 pm.


Questions and all written comments should be directed to Matt Mullenax at 240-313-2081, mmullenax@hepmo.net or at the office address. Only written comments will be accepted. To comment online visit: <https://lnkd.in/eXZyhes4>


In addition, one virtual public meetings on the draft plan will be held on June 6 from 5:00-6:30pm. A formal presentation will be posted online and given at the public meeting. To join the virtual public meeting visit <https://lnkd.in/enZrqqTJ> for details.






**HEPMPO
CONGESTION
MANAGEMENT
PROCESS**

**May 2024
Draft for Public Review**



 2

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 513 followers
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Thank you WEPM/Panhandle Live for hosting HEPMPO this morning to discuss our Draft Congestion Management Process! Listen in from the show start to 14:10 here:



Panhandle Live! 5-28-24
<https://spotify.com>

 Like
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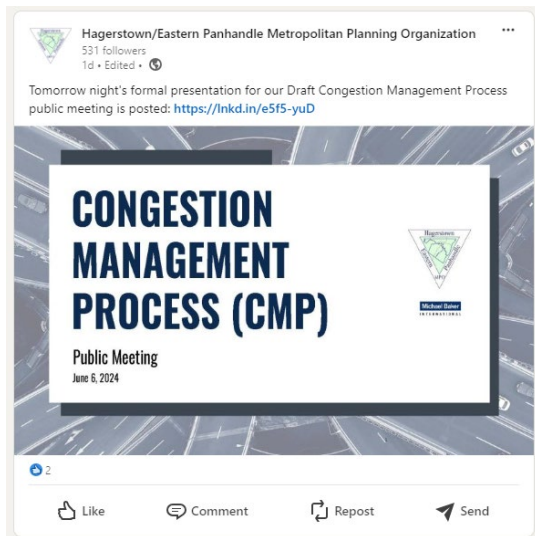

Hagerstown/Eastern Panhandle Metropolitan Planning Organization ***
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Draft Congestion Management Process public comment open thru June 20th, public meeting on June 6th, all information available at hepmo.com



HEPMPO seeks feedback for congestion management plan
journal-news.net

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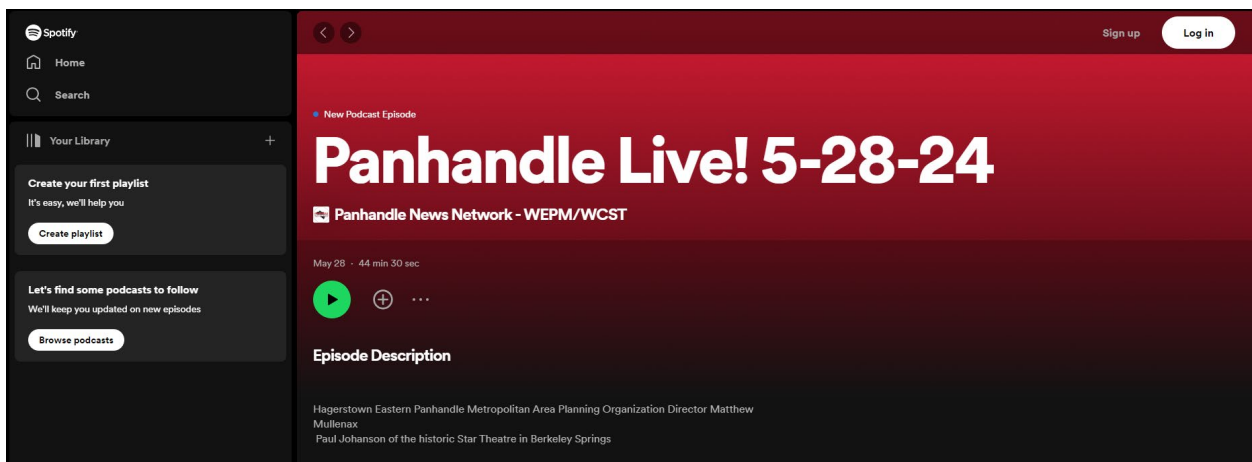


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ARTICLES

LOCAL NEWS

Regional growth in Eastern Panhandle, Hagerstown brings traffic planners together to manage congestion

by: [Steven Cohen](#)

Posted: Nov 28, 2023 / 05:47 PM EST

Updated: Nov 28, 2023 / 05:47 PM EST



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MARTINSBURG, W.Va. (DC News Now) — Regional planners in the eastern panhandle area are facing challenges from growth — namely, the spike in traffic congestion.

They are hoping public input from drivers may help make things easier on the roads for drivers.

The Hagerstown Eastern Panhandle Metropolitan Planning Organization (HEPMPO) is working on a regional Safety Action Plan and Congestion Management Plan to address traffic concerns in Berkeley and Jefferson counties in West Virginia along with Washington County in Maryland

Navigating the roads has Hagerstown City Engineer, James Bender, working overtime.

“Every community has its idiosyncrasies when it comes to the road network, and in Hagerstown, we have a lot of one-way streets that tend to complicate traffic patterns,” Bender said.

Bender is focused on dangerous intersections and the need to add more lanes to Interstate 81 in Washington County.

Matt Mullenax with HEPMPPO has been gauging the public on the region’s traffic challenges. He said that drivers have more concerns than just engineering.

“A lot of comments we are receiving are more focused on driver behavior than say, engineering improvements,” Mullenax said. “I’m hearing concerns about people running red lights, looking at their phones while driving, aggressive driving and speeding.”

Bender points to the challenge of Dual Highway, Route 40, in Hagerstown serving both local and regional traffic and the high volume of traffic on both Interstates 81 and 70 in Washington County.

“We have all the traffic and congestion and delays that come with those two interstates to deal with,” Bender said.

Mullenax wants to hear directly from drivers and is collecting citizen comments [online](#) to help with the planning process. Citizens can weigh in by Dec. 15 and participate in public meetings next spring.

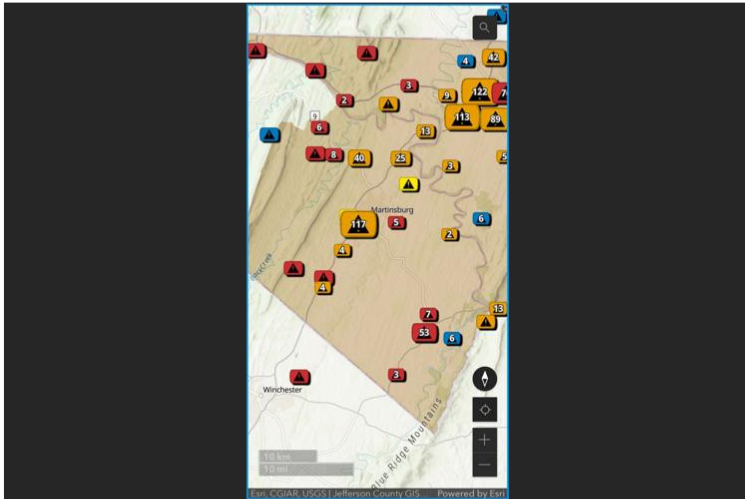
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Article linked [here](#).



HEPMPO seeks public input for traffic safety study

By Angela F. Durkin adurkin@journal-news.net Nov 30, 2023



A image from the Hagerstown/Eastern Panhandle Metropolitan Planning Organization shows a draft mapping dashboard created by the first wave of public input for a public safety survey. HEPMPO has had 361 responses providing 980 map markers and comments.

Submitted photo

[f](#) [X](#) [e](#) [p](#) [u](#) [b](#)

HAGERSTOWN, Md. — Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEPMPO) Executive Director Matthew Mullenax would like to remind members of the public that their voice is needed for the organization's public safety survey, which is open through Dec. 15.

HEPMPO is the federally designated regional transportation planning body for the urbanized area covering Berkeley County, Jefferson County, Washington County, Maryland and a small portion of Franklin County, Pennsylvania. There are eight metropolitan planning organizations in the state.

The HEPMPO Safety Action Plan and Congestion Management Plan public survey asks members of the public to rank the region's top safety priorities, identify locations of safety concerns and congestion areas, near misses, suggestions and improvement ideas.

Mullenax said, "So far, we have had 361 responses providing 980 map markers and comments."

Participants are asked to rank their top five safety concerns in the region. HEPMPO lists the following options: Unsafe Intersections; Distracted Driving, Lack of Crosswalks, Poor Road Maintenance, Traffic Congestion, Lack of Bike Lanes, Vehicle Maintenance, Construction Work Zones, Aggressive Driving, Incident Clearing Times, Commercial Vehicles and Drunk Driving.

Another section of the survey is targeted toward bike/pedestrian safety, driver safety and traffic congestion. There is also a space to provide any other safety concerns or comments.

The survey also includes an interactive section to drag and drop markers on a map to identify specific areas with safety and congestion issues as well as any improvement ideas for the region. Participants can identify safety issues, congestion areas and improvement ideas. There is also a near miss marker for places where drivers can indicate places and times when the incident almost occurred.

The final section of the survey is optional, however if participants choose to provide an email, they will receive the full findings of the study as they become available.

Mullenax explained the results of this survey will be an important way to help HEPMPO advocate for future road improvements. He said HEPMPO is required to complete a long-range plan every five years, but safety studies do not have the same requirement. He said the last safety study was completed in 2018, so HEPMPO wanted to complete the assessment.

According to Mullenax, when the Bipartisan Infrastructure Law was passed, it stabbed the Safe Streets and Roads for All (SS4A) discretionary program with \$5 million in appropriated funds over five years, 2022-2026.

"It is a new federal grant program that is only open to local and regional governments, so state Department of Transportation can't apply for these dollars," he said. "One of the requirements is that you have to have a project identified and a locally approved safety action plan. So, one of the out comes of this effort is that we want to, essentially, check that box for any local governments that would be interested in pursuing construction for safety projects in their jurisdiction."

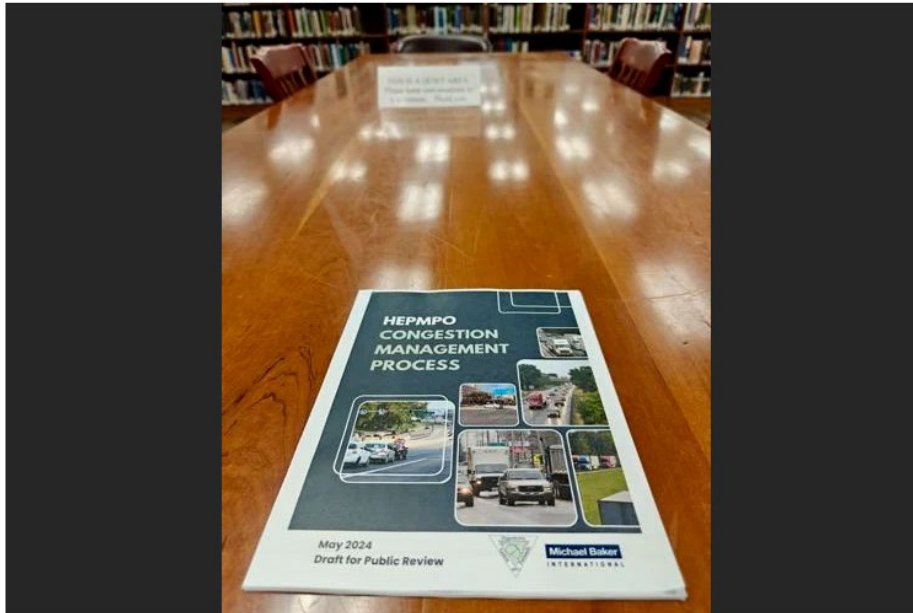
In addition to SS4A, Mullenax said there are a plethora of other new federal discretionary grants. As a result, state Department of Transportation (DOT) are constantly looking for new projects they can apply for. Millenax said one of the first things a state DOT will do is ask MPO's if they had a big project for them to consider. The chances are better, he said, if planning and public outreach work has been completed.

To complete the HEPMPO survey, visit <https://metroquestsurvey.com/q5o0a>.

Article linked [here](#).

HEPMPO seeks feedback for congestion management plan

By Angela F. Durkin adurkin@journal-news.net 10 hrs ago



The Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEPMPO) Congestion Management Process Plan is available for review at the Martinsburg Public Library through June 20. The plan can also be viewed at Charles Town Library and online at <https://nam04.safelinks.protection.outlook.com/GetUrlReputatin>.

Journal photo by Angela F. Durkin



MARTINSBURG — Recently, the Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEPMPO) notified the public that the draft of its Congestion Management Process Plan covering Berkeley and Jefferson counties, as well as Washington County, Maryland, is available for comment and review through June 20.

The draft plan is a systematic approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management.

The Congestion Management Process Plan draft has included public outreach to capture insights on regional congestion needs and priority locations. The survey aims to gather information from the public about what they believe are the causes of congestion, strategies to mitigate it and locations in need of improvement.

The public comment period opened May 20 and will continue through June 20. Organizers have also planned to host a virtual public meeting from 5-6:30 p.m. on Thursday, June 6. A formal presentation will be posted online and given during the public meeting. To join the virtual public meeting, visit <https://hepmo.com/about-us/meetings>.

The draft highlights several local locations HEPMO has identified as top priorities for congestion management for corridor areas.

In Berkeley County, Apple Harvest Drive is considered in two sections of the roadway — from Interstate 81 to New York Avenue and Kelly Island Road to Grapevine Road. Three areas of Hedgesville Road have also been identified. They include the following: the West Main Street/North Mary Street intersection and School House Drive; Roaring Lions Drive to Severna Parkway; and Harlan Springs Road to north of the Interstate I-81 interchange.

Other Berkeley County areas identified as top priorities include Edwin Miller Boulevard, south of the I-81 interchange to East Moler Avenue, and Queen Street, from East King Street to West Race Street.

In Jefferson County, the area between Flowing Springs Road to Halltown Road along U.S. 340 has been identified as a priority. Washington Street, from Flowing Springs Road to Naples Way, was also identified. A third area along Martinsburg Pike, specifically the intersection at Duke Street, was also seen as a priority location.

To help make the draft accessible to the public, HEPMO Executive Director Matthew Mullenax has provided physical copies at the Martinsburg Public Library, Charles Town Library and the Washington County Free Library in Hagerstown, Maryland. The draft document is also available for digital download at <https://nam04.safelinks.protection.outlook.com/GetUrlReputation>.

Residents may also request a physical copy by contacting the HEPMO office, located at 33 W. Washington St., Hagerstown, Maryland, 21740. Business hours are from 8 a.m. to 4 p.m. Monday through Friday.

According to Mullenax, HEPMO will only accept written comments. All written comments and questions should be directed to Mullenax at the above location, by emailing mmullenax@hepmo.net or by calling 240-313-2081. To comment online, visit <https://hepmo.com/about-us/contact>.

Article linked [here](#).



PUBLIC COMMENTS

Date	Comment	Response
5/20/2024	<p>Having read through the CMP, I am concerned there is not more substantive discussion and plans regarding mass transit, particularly as it relates to US 340 in Washington County Maryland. Congestion on US340 is high, particularly during rush periods, and this is only likely to increasing in future years without significant plans to mitigate that. One method of mitigation would be to increase efforts to expand MARC service. At the very least, this would involve the Brunswick line having regular service on weekdays and weekends, going in both directions. At present, the MARC Brunswick line times are not useful to commuters who do not work a typical 9-5 job in DC. Expanding the Brunswick line with a spur running north to Hagerstown through Rohrsersville following roughly the old B&O right-of-way would be another option, though without frequent trips both directions throughout the day it would be of limited usefulness. Another option would be a bus line that runs from Brunswick to points north, Boonsboro and perhaps all the way to Hagerstown. There are many options for decreasing congestion on US340, but the CMP currently lists barely anything for this corridor. The time to act on these options is now, rather than waiting years until congestion becomes ever worse.</p>	<p>Explicitly listed transit service improvements as a strategy under the demand management section of the strategy toolbox section.</p> <p>Updated the US 340 summary sheet to identify transit improvements as a key strategy for the corridor.</p>
5/23/2024	<p>is there a place we could add a small blurb about Carbon Reduction strategies from both states lining up with our Process?</p> <p>In WVDOT's CRS they have one of their four main strategies "Congestion Management and Mitigation. In MDOT's CRS one of their four ongoing strategies is "Congestion Mitigation."</p>	<p>A paragraph was added to the Future Enhancements section of the CMP to address the Carbon Reduction Program.</p>
5/30/2024	<p>The map on plate 75 of the report is incorrectly labeled as the intersection of Flowing Springs Road to the Halltown Rd. The</p>	<p>The map does show the US340/Halltown Road intersection near River and Trails (old Sears hometown</p>



Date	Comment	Response
	<p>map shown is of the intersection of RT 9 to Flowing Springs Rd. near the race track.</p> <p>Although it is listed as a problem area I do not see a plate for the intersection of Flowing Springs Rd to The Halltown Rd. This is a long ignored major traffic hazard locally. We call it the "Y". Actually there are 5 roads coming together in a very short space and because of the terrain visibility is limited. What needs to be done is a major redesign of all the roads into a traffic circle configuration. With the already planned growth (72 new houses at the Toll House subdivision, and 720 more planned on the Kearneysville Pike), and a new major school adjacent to the intersection, the traffic will be even more horrific and dangerous.</p> <p>Please add a plate to show this important listed trouble spot.</p>	<p>store). So the graphic matches the text.</p> <p>This is the corridor back to Flowing Springs Road along US340 was identified in our congestion analysis.</p>
6/3/2024	<p>Location: I-81, Exit 12, to NEW York Ave. & beyond.</p> <p>Coordinating or synchronizing the lights would help a great deal.</p>	<p>Signal Coordination is listed as priority strategy in this corridor so this comment is supporting the strategy.</p>
6/6/2024	<p>Most of my comments are minor. My main concern, as I previously said at our workgroup meeting, is to be sure there isn't any language or text or misleading data that is detrimental to our advocacy efforts on I-81. Note: That doesn't mean to remove any accurate data/text – just make sure it's in correct context and is well explained. For example, that section on page 19 that noted I-81's reliability of 100% reliable is misleading. The narrative here could be expanded to better explain things or combine it with other data that shows our problems (fatality data, truck accident data, etc.) Please look at this closely as this final version is created. We don't need ammo for others to misuse to continue delaying this much needed safety project for our community. The state continues to highlight safety as their top concern, though pulled money</p>	

Date	Comment	Response
	<p>for a project like I-81 Phase 2 that has had 8 fatalities as a result of trucks over the last 3 years.</p> <p>Summary of comments:</p> <p>Note: page numbers below were the page numbers listed in the document – There weren’t page numbers for some of the appendix pages – we should consider adding them)</p> <ul style="list-style-type: none"> • Pg 19 – Section on highway reliability – This section that notes I-81’s reliability of 100% reliable is misleading. The narrative here could be expanded to better explain things or combine it with other data that shows our problems with I-81 (fatality data, truck accident data, etc.) • Pg 25 –Top CMP Location of Maugan’s Ave: extend congested section to include “I-81 to Marsh Pike” due to challenges at the Marsh Pike intersection/light for traffic going east. Note, when there are just a few cars, cars cannot access right turn lane at this light. PM times cars can back up from Marsh Pike to Keener Road. • C-7 in Appendix I-81: This graphic says under “Projects Planned” that “I-81 Phase 4A” is “under construction” – I don’t know what this is referring to as we can’t even get Phase 2 underway as the construction money was taken back by MDOT this year for transit projects. This is very misleading to those with knowledge of I-81 and should be fixed as I assume you are using project names from other documents that do not align with current messaging we are using with the public. If so, it would say I-81 Phase 2 from Williamsport to Halfway Blvd is completing its Design and Engineering phased. Construction is currently unfunded. • C-8 in Appendix Halfway Bvd/VA Ave: Under Projects Planned says “ Halfway Blvd Bridges Under 	<p>An additional section and delay assessment has been included following the national performance measure section. This new section highlights the travel delay trends on I-81 in more detail.</p> <p>The Maugans Avenue corridor has been extended to Marsh Pike. This has been integrated in the document and summary sheets and mapping.</p> <p>This ramp widening project on HEPMPO TIP is referenced as I-81 Phase 4A. This project is not directly tied to the I-81 widening projects.</p>

Date	Comment	Response
	<p>Construction” – What is this referring to? Makes it sound as if new bridges are being built. Is this just renovation of existing bridges?</p> <ul style="list-style-type: none"> • C-9 in Appendix Leitersburg Pike: Recommend changing “Sidewalk Infrastructure Exists” to “Limited Sidewalk Infrastructure Exists” as there are no sidewalks on one side of road which has been identified as a need based on pedestrians walking on busy roadway • C-10 in Appendix US 11 Clifton Dr: Recommend changing “Sidewalk Infrastructure Exists” to “Limited Sidewalk Infrastructure Exists” – I believe a good portion of this section is lacking sidewalks. • Appendix E Congestion Visuals for US 11 (N Clifton Dr to Commerce St): on (No page # around pg 141 of electronic version) – We should keep this page as well as show this data on a day that I-81 was shut down to show what happens to US 11 when there is an accident on I-81 (Comparison to a normal day). This new page should include a comment bubble that says something like “I-81 shuts down approximately ?? times per year from accidents driving traffic onto US 11. This is an example of that impact” (just a thought) 	<p>Clarified in project description that this is a renovation of the bridge on Halfway Blvd over CSX rail line (TIP ID W2017-07).</p> <p>Comment addressed.</p> <p>Comment addressed.</p> <p>Included an additional analysis for this corridor for an incident day with excessive congestion.</p>
6/6/2024	<p>I think you may have missed the Downsville Pike in you evaluation of congested areas. The section I'm referring to is from Oak Ridge to Route 63. The school board relocated to the area awhile back and now has plans to build a school on the property as well. Since the largest Warehouse in the state of Maryland is also located on the Pike and is right across the road from the school board this has started to become congested with additional cars and tractor trailers. Is there any thought as to what may happen to the area.</p>	<p>Added this corridor as a priority CMP location.</p> <p>This has been integrated in the document and summary sheets and mapping.</p>
6/11/2024	<ol style="list-style-type: none"> 1. Please upgrade 340 through gap 2. Please expand underpass on bakerton rd 3. Upgrade intersection on Rt 9 by foxcroft ave. 	<p>Future iterations of the CMP and supporting traffic studies will focus on</p>

Date	Comment	Response
		<p>identifying appropriate projects for the key priority congestion corridors, where appropriate. The projects will be further evaluated and prioritized as part of the region's long range transportation plan (LRTP). These projects listed have been identified in previous updates to the LRTP and will continue to be evaluated in future updates.</p>

SIGN-IN SHEET

June 6th Virtual Meeting Attendees:

Project Team

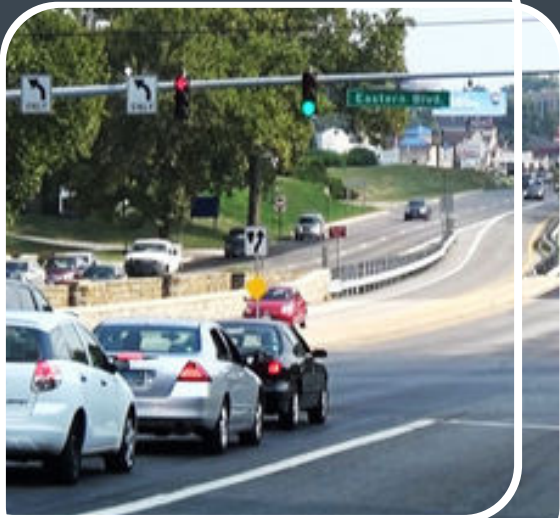
- Matt Mullenax
- Michaela McDonough
- Jim Frazier
- Dan Szekeres
- Brooks Kehler
- Fatema Siddiquee

Attendees

- Sean Varsolona
- Dr. Joseph de Soto
- Jim Kercheval
- Ken Clohan

APPENDIX B

CMP LOCATION PROGRAMMED PROJECT & STUDY INFORMATION



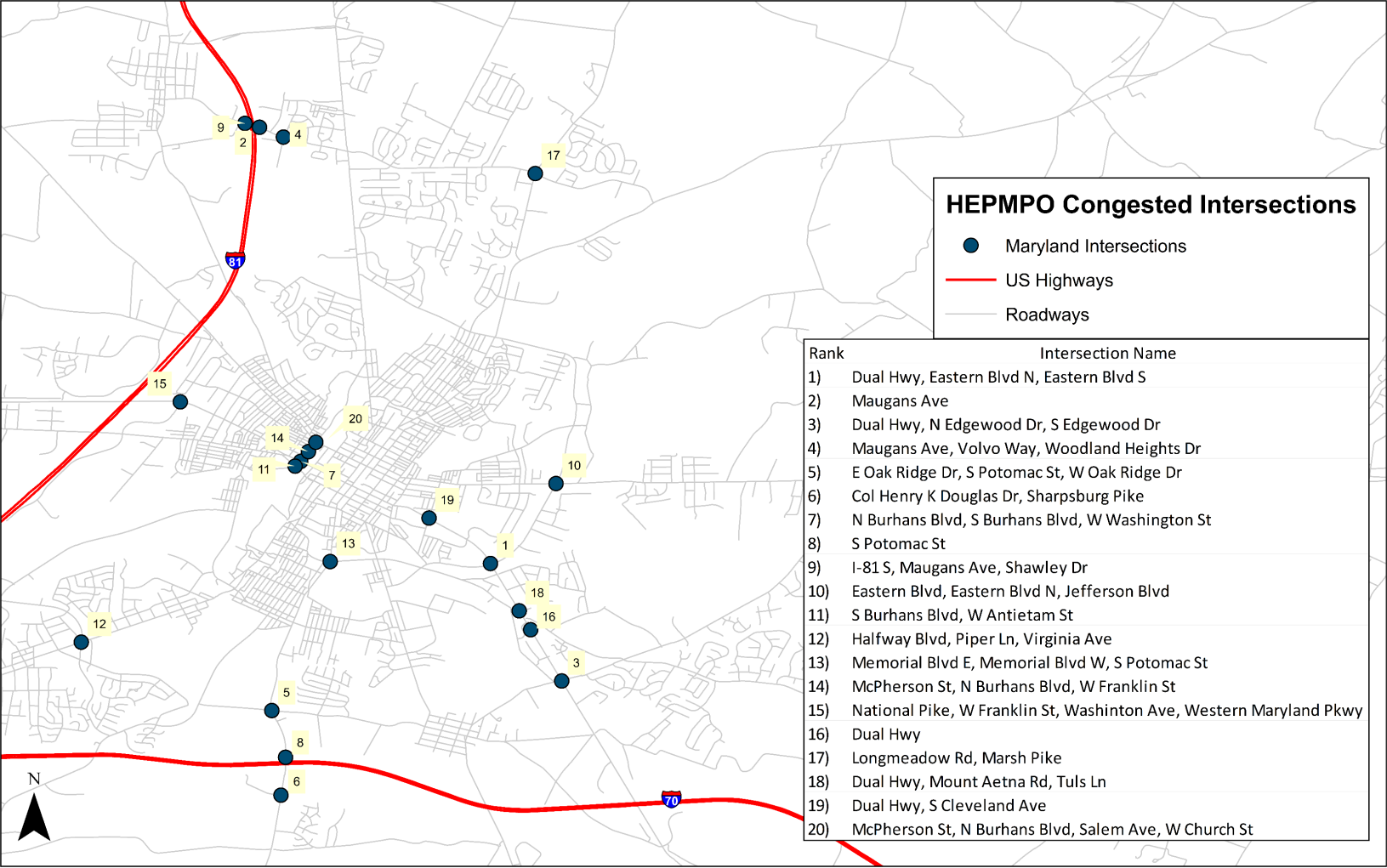
LRTP *Direction 2050*

Top Congested Corridors

County	Facility	From	To
Washington	Eastern Blvd	US 40	N of MD 64
	I-70	Exit 32	W of MD 63
	MD 65	N of Oak Ridge Drive	Poffenberger Road
	US 40	US 11	MD 64
	US 40	Eastern Blvd	Edgewood Dr
	I-68	I-70	Rt 144
	Maugans Avenue	I-81	US 11
Berkeley	Apple Harvest Dr	I-81 SB Offramp	US 11
	WV 9	N of Hedgesville	WV 45
	I-81	Exit 20	Weaver Ln
	WV 9	State Circle	WV 45
	WV 51	West of I-81 SB Offramp	US 11
Jefferson	US 340	W of Jefferson Ave	E of Patrick Henry Way
	WV 51	Co Route 13	Church St
	WV45, CR230, CR17/1	W of Potomac Farms Dr	Mill Street

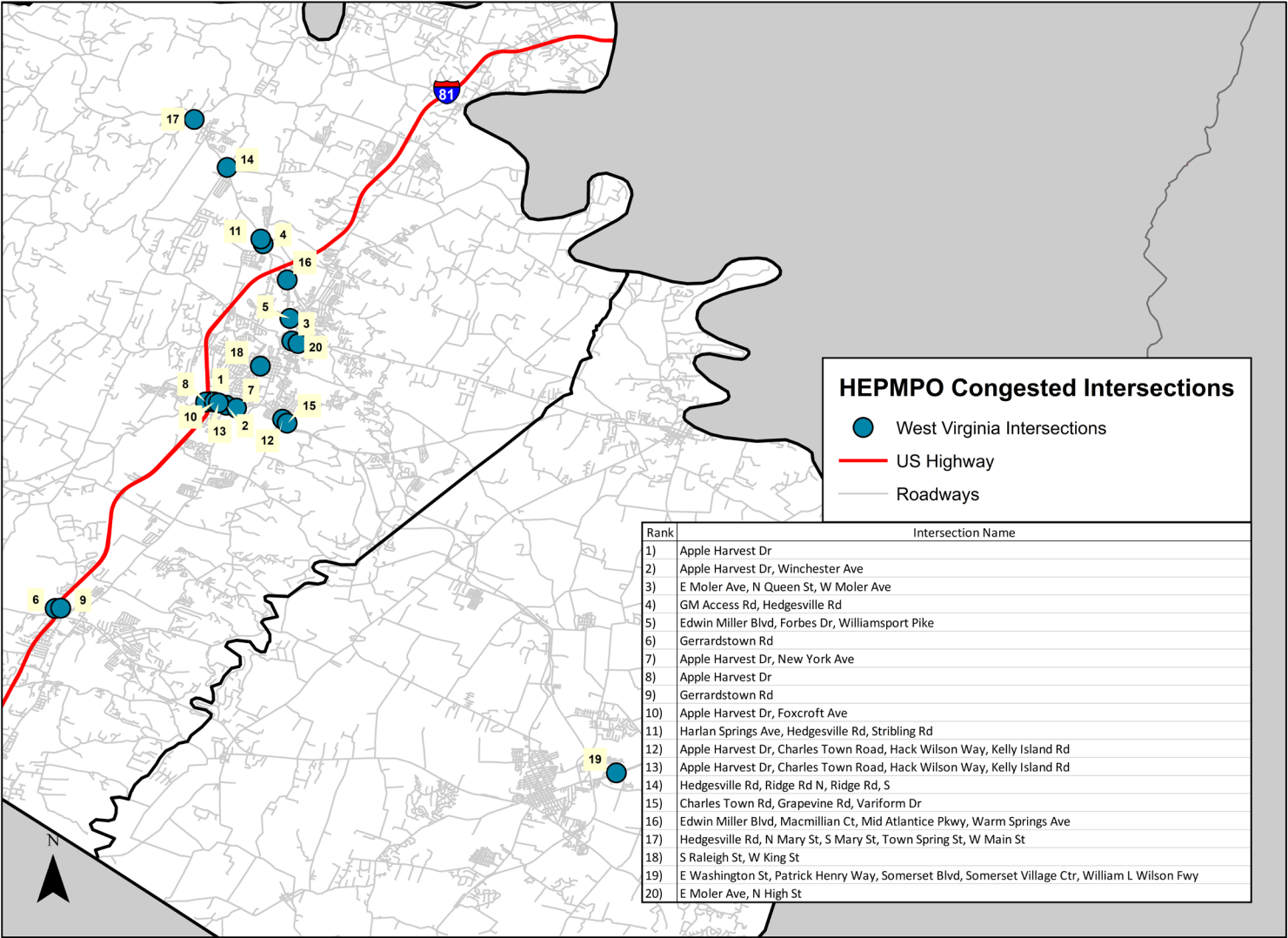
L RTP *Direction 2050*

Top Congested Intersections (MD)



L RTP Direction 2050

Top Congested Intersections (WV)



List of Previous Studies

by Priority Corridors Located

Priority Corridors	Previous Studies							
	L RTP Direction 2050	Regional Traffic Study (2019)	I-81 and I-70 TSMO Study (2020)	WV 45 Traffic Operat ions and Safety Study (2016)	WV PEL Study (2021)	Washington Street RSA (2018)	Dual Highway Speed Manag ement Study (2022)	Hagerstown Bicycle And Pedestrian Priority Area Plan (2020)
MD 65 (Col Henry K Douglas Dr to W Oak Ridge Dr)	Y	Y						
Washington St (Burhans Blvd to N Cannon Avenue)		Y				Y		Y
Franklin St (Burhans Blvd to N Cannon Avenue)		Y						Y
N Burhans Blvd (Washington St to Pennsylvania Avenue)		Y						Y
Eastern Blvd (Dual Highway to Jefferson Blvd)	Y	Y						
Dual Highway (N Cannon Avenue to Edgewood Dr)	Y	Y					Y	
Maugans Ave (I-81 to Pennsylvania Ave)	Y	Y						
Halfway Blvd (Hopewell Rd to Halfway Blvd/Virginia Avenue Intersection)		Y						
Leitersburg Pike (Leitersburg Pike/Northern Avenue Intersection)		Y						
US 11 (N Clifton Dr to S Commerce St)		Y						
US 340 (Frederick County Line to Washington St)		Y						
I-81 (I-70 to Salem Ave)			Y					
I-70 (I-81 to US 40)			Y					
Apple Harvest Drive (I-81 to New York Ave)	Y	Y		Y				
Hedgesville Rd (W Main St/N Mary St Intersection/School House Dr)	Y	Y			Y			
Hedgesville Rd (Roaring Lions Dr to Severna Parkway)	Y	Y			Y			
Apple Harvest Dr (Kelly Island Road to Grapevine Road)		Y		Y				
Edwin Miller Blvd (South of I-81 Interchange to E. Moler Ave)	Y	Y						
Hedgesville Rd (Harlan Springs Rd to North of I-81 Interchange)	Y	Y			Y			
Queen St (E King St to W Race St)		Y						
US 340 (Flowing Springs Rd to Halltown Rd)	Y	Y						
Washington St (Flowing Springs Rd to Naples Way)	Y	Y						
Martinsburg Pike (Martinsburg Pike/Duke St Intersection)		Y						

APPENDIX C

ADDITIONAL DATA COLLECTED FOR CMP LOCATIONS



MD 65 (Col Henry K Douglas Drive to W Oak Ridge Drive)

Washington County, MD



Projects Planned on TIP/LRTP:

- I-70 Interchange (Completed)
- I-70 MD 65 and CSX Bridges Rehabilitation (Completed)
- Col Henry K. Douglas Dr Ph-1 (Completed)

Traffic Demand:

- AADT (26,023) & Truck 2%
- Projected traffic growth: High

Road/Intersection Characteristics:

- 4 lanes with shoulders, 6 Signals
- Part of a Coordinated Signal System

Multi-Modal:

- Transit Line: Premium Outlet Route

Current Land Use:

- Office and Residential
- Trip Activity Level: High

Performance Measures:

- Average Weighted TTI: 1.22
- Peak Segment-level TTI: 1.71
- 9 hours of day congested
- Number of public comments: 17

Initial Strategy Evaluation



Signal Coordination and Optimization



Channelization (Trucks)



Traffic Monitoring

Washington Street (Burhans Boulevard to N Cannon Avenue)

Washington County, MD



Traffic Demand:

- AADT (10,460) & Truck 2%

Road/Intersection Characteristics:

- 2 lanes, 9 Signals
- Parking available

Multi-Modal:

- Transit Line: Multiple Routes
- Sidewalk infrastructure exists

Current Land Use:

- Residential, Retail & Industrial
- Trip Activity Level: High
- Key commercial centers with access

Performance Measures:

- Average Weighted TTI: 1.42
- Peak Segment-level TTI: 2.15
- 14 hours of day congested
- Crashes /Crash Rate: 287/75.53
- Number of public comments: 11

Initial Strategy Evaluation



Signal Coordination
and Optimization



Improved Safety on
Existing Facilities



Improved Signage



Parking Management

Franklin Street (Burhans Boulevard to N Cannon Avenue)

Washington County, MD



Traffic Demand:

- AADT (10,490) & Truck 2%
- Projected traffic growth: Medium

Road/Intersection Characteristics:

- 2 lanes, 7 Signals
- Parking available

Multi-Modal:

- Transit Line: Multiple Routes
- Sidewalk infrastructure exists
- Bike/Walk pedestrian activity: Low/High

Current Land Use:

- Residential, Retail & Industrial
- Trip Activity Level: High
- Key commercial centers with access

Performance Measures:

- Average Weighted TTI: 1.73
- Peak Segment-level TTI: 2.51
- 16 hours of day congested
- Crashes /Crash Rate: 286/75.26
- Number of public comments: 9

Initial Strategy Evaluation



Signal Coordination
and Optimization



Improved Safety on
Existing Facilities



Improved Signage



Parking Management

N Burhans Boulevard (Washington Street to Pennsylvania Avenue)

Washington County, MD



Traffic Demand:

- AADT (11,020) & Truck 3%

Road/Intersection Characteristics:

- 4 lanes, 5 Signals

Multi-Modal:

- Transit Line: Multiple Routes
- Sidewalk infrastructure exists
- Bike/Pedestrian activity: Low/High

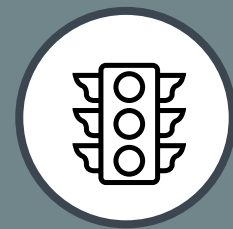
Current Land Use:

- Residential, Retail & Industrial
- Trip Activity Level: High
- Key commercial / business centers with access

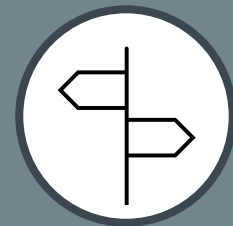
Performance Measures:

- Average Weighted TTI: 1.16
- Peak Segment-level TTI: 2.15
- 18 hours of day congested
- Crashes /Crash Rate: 197/37.88
- Number of public comments: 7

Initial Strategy Evaluation



Signal Coordination
and Optimization



Improved
Signage

Eastern Boulevard (Dual Highway to Jefferson Boulevard)

Washington County, MD



Traffic Demand:

- AADT (21,485) & Truck 3%
- Projected traffic growth: Medium

Road/Intersection Characteristics:

- 4 lanes, 5 Signals

Multi-Modal:

- Transit Line: Long Meadow E Route
- Sidewalk infrastructure exists

Current Land Use:

- Residential, Retail & Office
- Trip Activity Level: High
- Key commercial / business centers with access

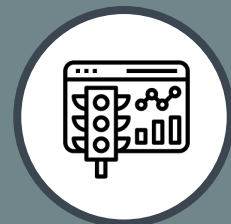
Performance Measures:

- Average Weighted TTI: 1.14
- Peak Segment-level TTI: 1.49
- 4 hours of day congested
- Number of public comments: 10

Initial Strategy Evaluation



Signal Coordination
and Optimization



Traffic
Monitoring

Dual Highway (N Cannon Avenue to Edgewood Drive)

Washington County, MD



Traffic Demand:

- AADT (32,650) & Truck 3%
- Projected traffic growth: High

Road/Intersection Characteristics:

- 4 lanes with shoulder, 8 Signals
- **Multi-Modal:**
- Transit Line: Multiple Routes
- Sidewalk infrastructure exists

Current Land Use:

- Residential, Retail & Office
- Trip Activity Level: High
- Key commercial centers with access

Performance Measures:

- Average Weighted TTI: 1.12
- Peak Segment-level TTI: 1.78
- Crashes /Crash Rate: 431/20.82
- Number of public comments: 18

Initial Strategy Evaluation



Signal Coordination
and Optimization



Improved
Signage



Improved Safety on
Existing Facilities

Maugans Avenue (I-81 to Marsh Pike)

Washington County, MD



Projects Planned on TIP/LRTP:

- I-81 Phase 4A (*Under Construction*)

Traffic Demand:

- AADT (23,721) & Truck 4%
- Projected traffic growth: High

Road/Intersection Characteristics:

- 4 lanes, 5 Signals

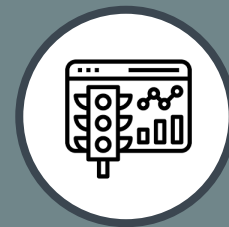
Current Land Use:

- Residential, Retail & Office
- Trip Activity Level: High
- Key commercial centers/business access

Performance Measures:

- Average Weighted TTI: 1.2
- Peak Segment-level TTI: 2.44

Initial Strategy Evaluation



Traffic
Monitoring

Halfway Boulevard (Hopewell Road to Halfway Boulevard/Virginia Avenue Intersection)

Washington County, MD



Projects Planned on TIP/LRTP:

- Halfway Boulevard Bridges (Under Renovation)

Traffic Demand:

- AADT (19,731) & Truck 22%

Road/Intersection Characteristics:

- 4 lanes, 5 Signals

Multi-Modal:

- Transit Line: Multiple Routes

Current Land Use:

- Retail & Residential
- Trip Activity Level: High
- Key commercial centers with access

Performance Measures:

- Average Weighted TTI: 1.1
- Peak Segment-level TTI: 1.78
- Crashes /Crash Rate: 432/19.59
- Number of public comments: 14

Initial Strategy Evaluation



Traffic Monitoring

Leitersburg Pike (Leitersburg Pike/Northern Avenue Intersection)

Washington County, MD



Traffic Demand:

- AADT (16,640) & Truck 2%

Road/Intersection Characteristics:

- 4 lanes, 4 Signals

Multi-Modal:

- Transit Line: Multiple Routes
- Limited Sidewalk infrastructure exists
- Bike/Pedestrian activity: Low/High

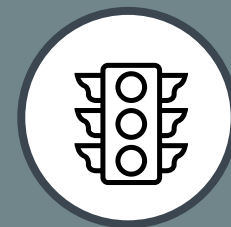
Current Land Use:

- Residential
- Trip Activity Level: High

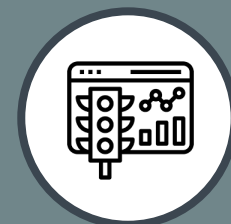
Performance Measures:

- Average Weighted TTI: 1.35
- Peak Segment-level TTI: 1.74
- 11 hours of day congested

Initial Strategy Evaluation



Signal Coordination and Optimization



Traffic Monitoring

US 11 (N Clifton Drive to S Commerce Street)

Washington County, MD



Traffic Demand:

- AADT (8,000) & Truck 4%

Road/Intersection Characteristics:

- 2 lanes, 3 Signals
- Parking available

Multi-Modal:

- Transit Line: Williamsport Route
- Limited Sidewalk infrastructure exists
- Bike/Pedestrian activity: High

Current Land Use:

- Residential
- Trip Activity Level: High

Performance Measures:

- Average Weighted TTI: 1.4
- Peak Segment-level TTI: 1.85
- 15 hours of day congested

Initial Strategy Evaluation



Traffic Signal
Coordination



Complete
Street

US 340 (Frederick County Line to Washington Street)

Washington County, MD



Projects Planned on TIP/LRTP:

- US 340 - Ph.1 -Operational Improvements (J102.1)
- US 340 Signing (J2023-05)

Traffic Demand:

- AADT (22,400) & Truck 14%
- Projected traffic growth: High

Road/Intersection Characteristics:

- 2 lanes with Shoulder, 1 Signal

Multi-Modal:

- No Sidewalk infrastructure exists
- Bike/Pedestrian activity: High

Current Land Use:

- Residential & Retail

Performance Measures:

- Average Weighted TTI: 1.08
- Peak Segment-level TTI: 1.45

Initial Strategy Evaluation



Transit Service (MARC, Express Bus) Expansion



Improved Signage



Traffic Monitoring

I-81 (I-70 to Salem Ave)

Washington County, MD



Projects Planned on TIP/LRTP:

- I-81 Ph 2 & 3 Hwy Reconstruction (W2017-10)
- I-81 SB Resurfacing & Auxiliary Lane Construction (W2016-02)

Traffic Demand:

- AADT (86,810) & Truck 25%
- Projected traffic growth: High

Road/Intersection Characteristics:

- 4 lanes with Shoulder, 4 Interchanges

Current Land Use:

- Retail, Industrial, Office and Residential

Performance Measures:

- Average Weighted TTI: 1.12
- Peak Segment-level TTI: 1.33

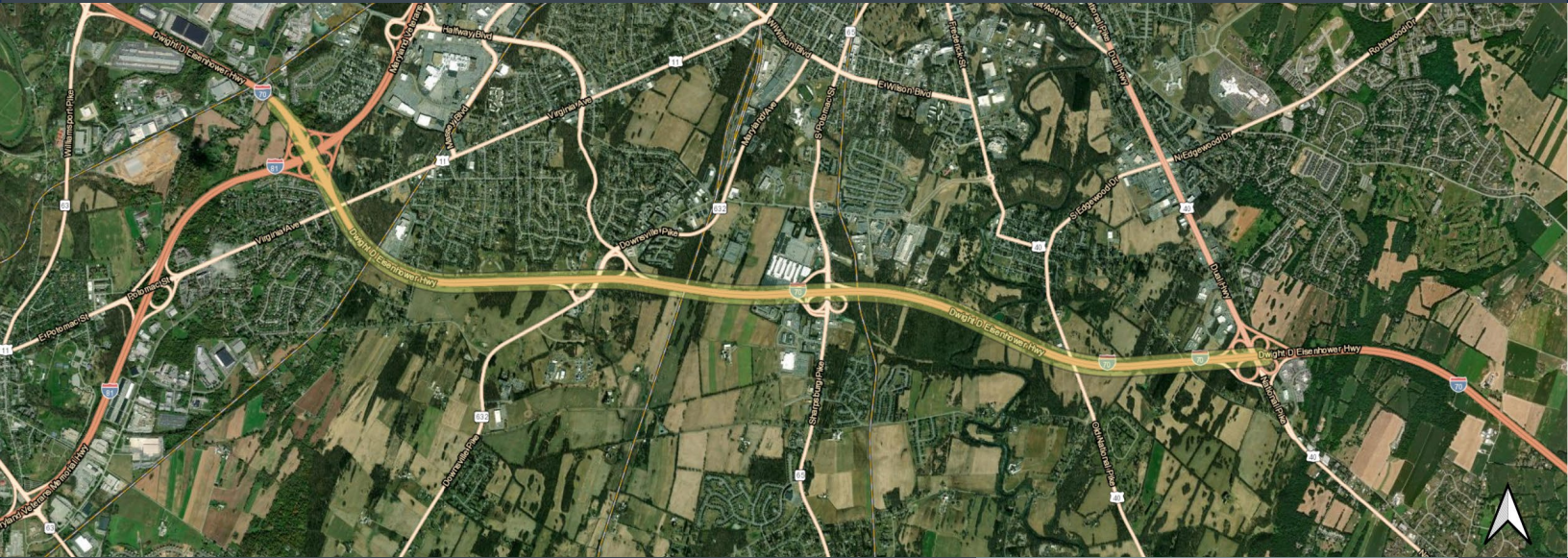
Initial Strategy Evaluation



Traffic
Monitoring

I-70 (I-81 to US 40)

Washington County, MD



Projects Planned on TIP/LRTP:

- I-70 Roadway and Bridge Improvements (*Completed*)
- I-70 MD 65 and CSX Bridges Rehabilitation (*Completed*)

Traffic Demand:

- AADT (65,911) & Truck 17%
- Projected traffic growth: High

Road/Intersection Characteristics:

- 4 lanes with Shoulder, 4 Interchanges

Current Land Use:

- Industrial, Residential and Retail

Performance Measures:

- Average Weighted TTI: 1.08
- Peak Segment-level TTI: 1.34

Initial Strategy Evaluation



Traffic
Monitoring

Downsville Pike (Oak Ridge Dr to Sterling Rd)

Washington County, MD



Traffic Demand:

- AADT (12,325) & Truck 4%

Road/Intersection Characteristics:

- 2 lanes with CTL, 3 Signals
- Shoulder available

Multi-Modal:

- No Sidewalk infrastructure exists
- Bike/Pedestrian activity: Low/low

Current Land Use:

- Industrial and residential
- Trip Activity Level: Med

Performance Measures:

- Average Weighted TTI: 1.09
- Peak Segment-level TTI: 1.41
- 4 hours of day congested*

Initial Strategy Evaluation



Traffic Monitoring

Apple Harvest Drive (I-81 to New York Avenue)

Berkeley County, WV



Projects Planned on TIP/LRTP:

- Apple Harvest Dr (Under Construction)

Traffic Demand:

- AADT (26,700) & Truck 4%
- Projected traffic growth: High

Road/Intersection Characteristics:

- 4 lanes, 7 Signals
- Part of Martinsburg WV 45 signal system

Multi-Modal:

- Transit Line: Most EPTA Routes

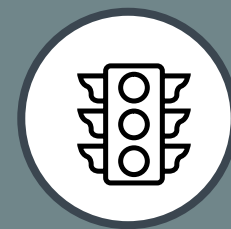
Current Land Use:

- Retail and Residential
- Trip Activity Level: High

Performance Measures:

- Average Weighted TTI: 1.19
- Peak Segment-level TTI: 2.16
- 6 hours of day congested
- Crashes/Crash Rate: 581/105.64
- Number of survey comments: 20+

Initial Strategy Evaluation



Signal Coordination
and Optimization



Interchange
Improvement

Hedgesville Road (W Main Street/N Mary Street Intersection/School House Drive)

Berkeley County, WV



Projects Planned on TIP/LRTP:

- Hedgesville Rd (B2022-01 & B2021-17)

Traffic Demand:

- AADT (12,900) & Truck 7%
- Projected traffic growth: Medium

Road/Intersection Characteristics:

- 2 lanes, 1 Signal

Current Land Use:

- Residential & Retail
- Trip Activity Level: High

Performance Measures:

- Average Weighted TTI: 1.12
- Peak Segment-level TTI: 1.55
- 3 hours of day congested

Initial Strategy Evaluation



Signal Coordination
and Optimization



Intersection
Improvement

Hedgesville Rd (Roaring Lions Dr to Severna Parkway)

Berkeley County, WV



Projects Planned on TIP/LRTP/LRTP:

- Hedgesville Rd (B2021-17)

Traffic Demand:

- AADT (14,500) & Truck 7%
- Projected traffic growth: Medium

Road/Intersection Characteristics:

- 2 lanes with CTL, 3 Signals

Multi-Modal:

- Transit Line: EPTA Routes 12 & 19

Current Land Use:

- Residential & Retail
- Trip Activity Level: High

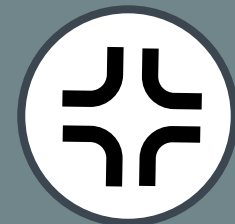
Performance Measures:

- Average Weighted TTI: 1.09

Initial Strategy Evaluation



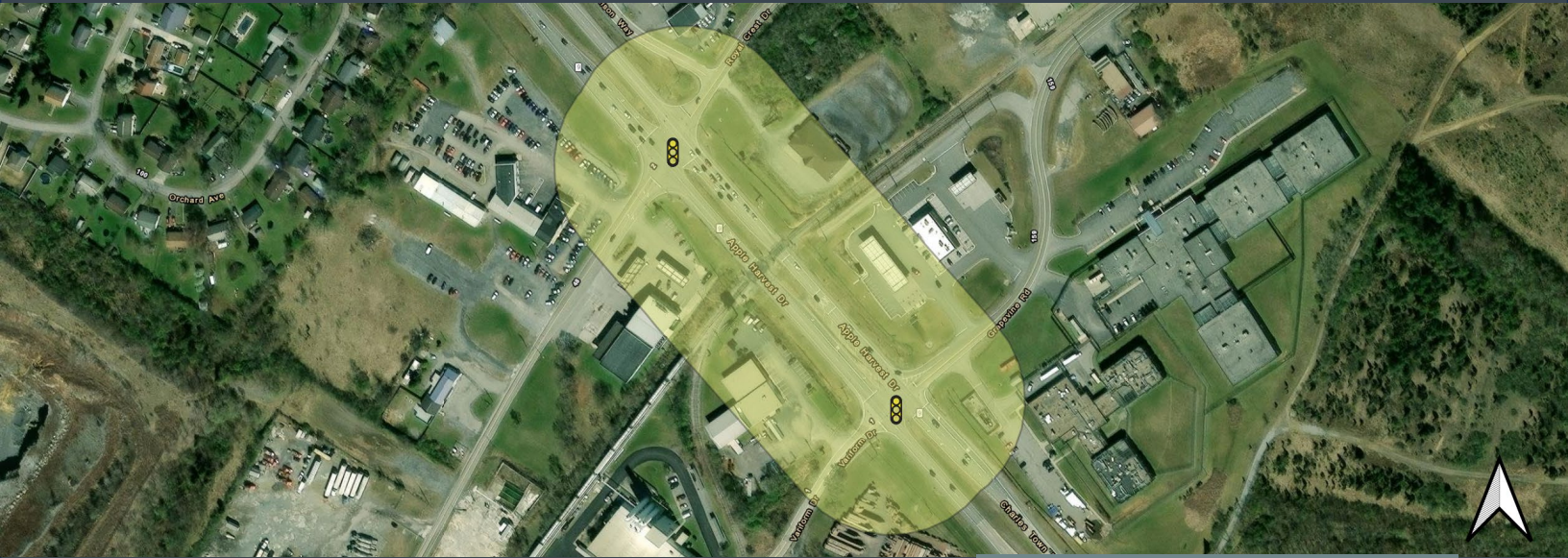
Highway Widening
by Adding Lanes



Intersection
Improvement

Apple Harvest Drive (Kelly Island Road to Grapevine Road)

Berkeley County, WV



Traffic Demand:

- AADT (24,600) & Truck 7%
- Projected traffic growth: Medium

Road/Intersection Characteristics:

- 4 lanes, 2 Signals and 1 rail-crossing
- Part of a WV 9 Variform signal system

Multi-Modal:

- Transit Line: EPTA Routes 11, 16 & 25

Current Land Use:

- Residential & Retail

Performance Measures:

- Average Weighted TTI: 1.12
- Crashes /Crash Rate: 140/96.55

Initial Strategy Evaluation



Traffic
Monitoring

Edwin Miller Boulevard (South of I-81 Interchange to E. Moler Avenue)

Berkeley County, WV



Projects Planned on TIP/LRTP:

- Hedgesville Road (B2015-07)
- Nichols Overhead (B2021-19)
- Queen St at Moler Ave (B2024-11)

Traffic Demand:

- AADT (21,500) & Truck 7%
- Includes a priority freight corridor

Road/Intersection Characteristics:

- 2 lanes with CTL, 6 Signals
- Shoulder available

Multi-Modal:

- Transit Line: EPTA Routes 12 & 19

Current Land Use:

- Retail, Residential and Utilities
- Trip Activity Level: High

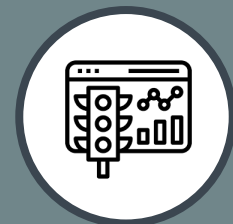
Performance Measures:

- Average Weighted TTI: 1.16
- Peak Segment-level TTI: 1.54
- Crashes /Crash Rate: 595/52.19
- Number of survey comments: 13

Initial Strategy Evaluation



Intersection
Improvement



Traffic
Monitoring

Hedgesville Road (Harlan Springs Road to North of I-81 Interchange)

Berkeley County, WV



Projects Planned on TIP/LRTP/LRTP:

- Hedgesville Road (B2015-07)

Traffic Demand:

- AADT (21,500) & Truck 7%
- Projected traffic growth: High
- Includes a priority freight corridor

Road/Intersection Characteristics:

- 4 lanes with CTL, 3 Signals

Multi-Modal:

- Transit Line: EPTA Routes 12 & 19

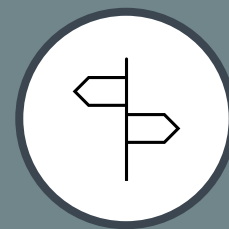
Current Land Use:

- Industrial & Single Family Residential
- Trip Activity Level: High

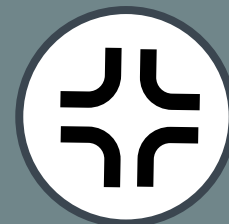
Performance Measures:

- Average Weighted TTI: 1.05
- Crashes /Crash Rate: 174/40.47

Initial Strategy Evaluation



Improved
Signage



Intersection
Improvement

Queen Street (E King Street to W Race Street)

Berkeley County, WV



Projects Planned on TIP/LRTP/LRTP:

- Martinsburg Signal System(B2016-04)
- Martinsburg N Queen St (B2022-18)

Traffic Demand:

- AADT (17,700) & Truck 4%
- Projected traffic growth: Medium

Road/Intersection Characteristics:

- 2 lanes, 4 Signals
- Part of Martinsburg CBD Signal System
- Parking available

Multi-Modal:

- Transit Line: Most EPTA Routes

Current Land Use:

- Residential
- Trip Activity Level: High

Performance Measures:

- Average Weighted TTI: 1.29
- Peak Segment-level TTI: 1.57
- 9 hours of day congested

Initial Strategy Evaluation



Traffic Signal
Coordination



Parking
Management

US 340

(Flowing Springs Road to Halltown Road)

Jefferson County, WV



Projects Planned on TIP/LRTP:

- I/C Design Study (J2023-04)
- US 340 Signing (J2023-05)

Traffic Demand:

- AADT (16,800) & Truck 14%
- Projected traffic growth: Medium
- Includes a priority freight corridor

Road/Intersection Characteristics:

- 4 lanes with shoulders, 6 Signals

Multi-Modal:

- Transit Line: EPTA Route 20
- Bike/Pedestrian activity: Low/High

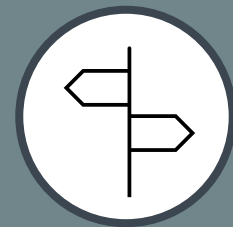
Current Land Use:

- Retail & Residential
- Trip Activity Level: High
- Key commercial centers with access

Performance Measures:

- Average Weighted TTI: 1.05
- Peak Segment-level TTI: 1.78
- Crashes /Crash Rate: 614/16.66
- Number of public comments: 18

Initial Strategy Evaluation



Improved
Signage



Complete
Street

Washington Street (Flowing Springs Rd to Naples Way)

Jefferson County, WV



Projects Planned on TIP/LRTP:

- W Washington Street (J2024-09)
- Charles Town CBD System (J2016-02)

Traffic Demand:

- AADT (18,300) & Truck 4%

Road/Intersection Characteristics:

- 2 lanes with shoulder, 7 Signals
- Parking available

Multi-Modal:

- Transit Line: EPTA Route 16 & 20
- Sidewalk infrastructure exists
- Bike/Pedestrian activity: Low/High

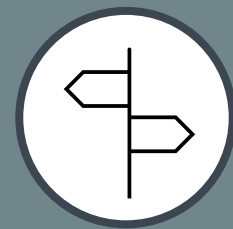
Current Land Use:

- Retail, Non-Retail & Residential
- Trip Activity Level: High
- Key commercial centers with access

Performance Measures:

- Average Weighted TTI: 1.3
- Peak Segment-level TTI: 1.88
- 14 hours of day congested
- Number of public comments: 10

Initial Strategy Evaluation



Improved
Signage



Complete
Street

Martinsburg Pike (Martinsburg Pike/Duke Street Intersection)

Jefferson County, WV



Projects Planned on TIP/LRTP:

- Ridge Road-Morgan Grove (J2024-02)
- Old Martinsburg St-Duke St (J2015-04)
- Duke St (J2016-05)
- Shepherdstown Bike Path (J2014-05)

Traffic Demand:

- AADT (5,518) & Truck 5%

Road/Intersection Characteristics:

- 4 lanes, 6 Signals
- Parking available

Multi-Modal:

- Sidewalk infrastructure exists
- Bike/Pedestrian activity: Low/High

Current Land Use:

- Residential, Retail & Education
- Trip Activity Level: High
- Key commercial centers with access

Performance Measures:

- Average Weighted TTI: 1.16
- Peak Segment-level TTI: 2.02
- 15 hours of day congested*

Initial Strategy Evaluation



Traffic
Monitoring

APPENDIX D

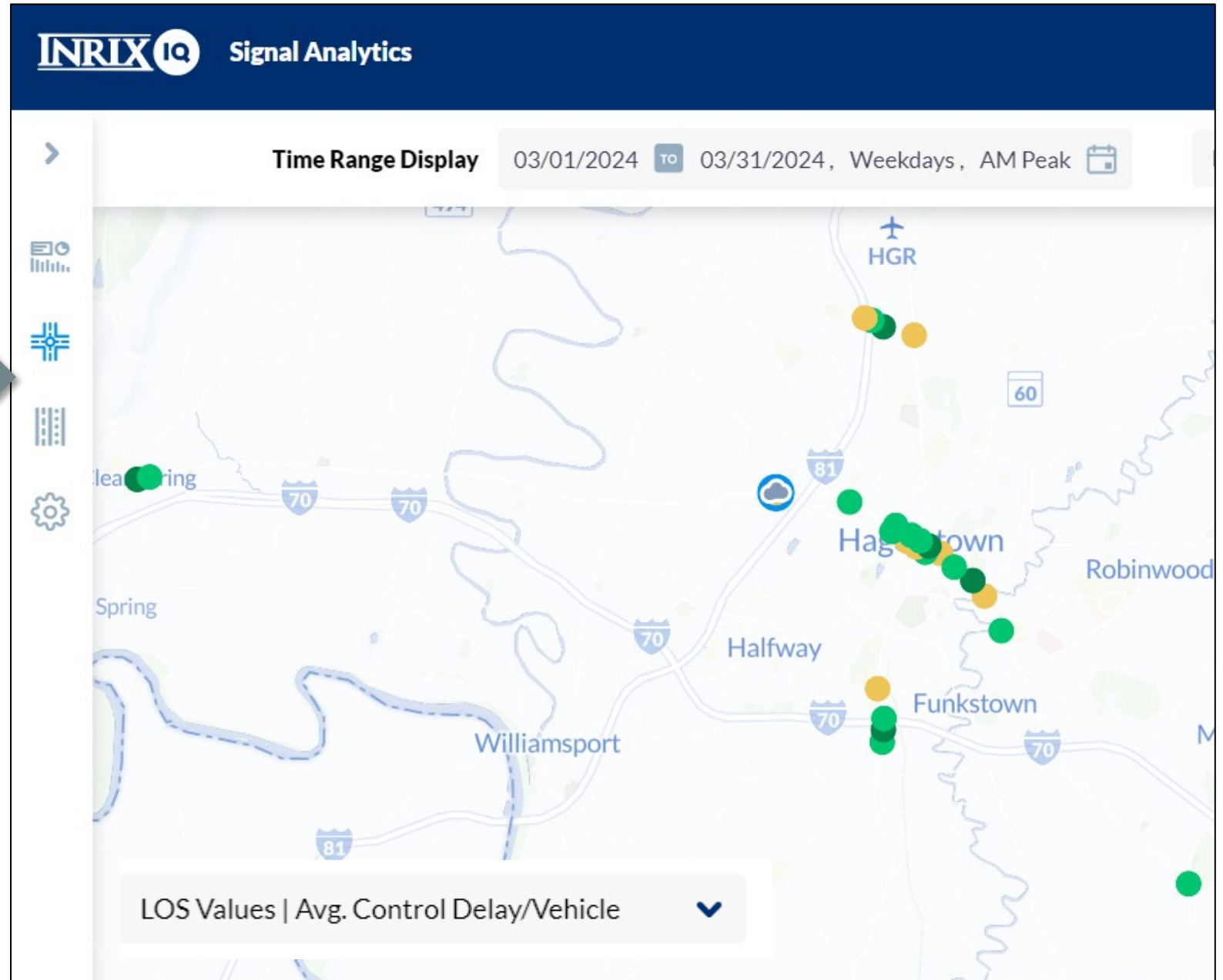
TRAFFIC SIGNAL DATA COLLECTED FOR CMP LOCATIONS



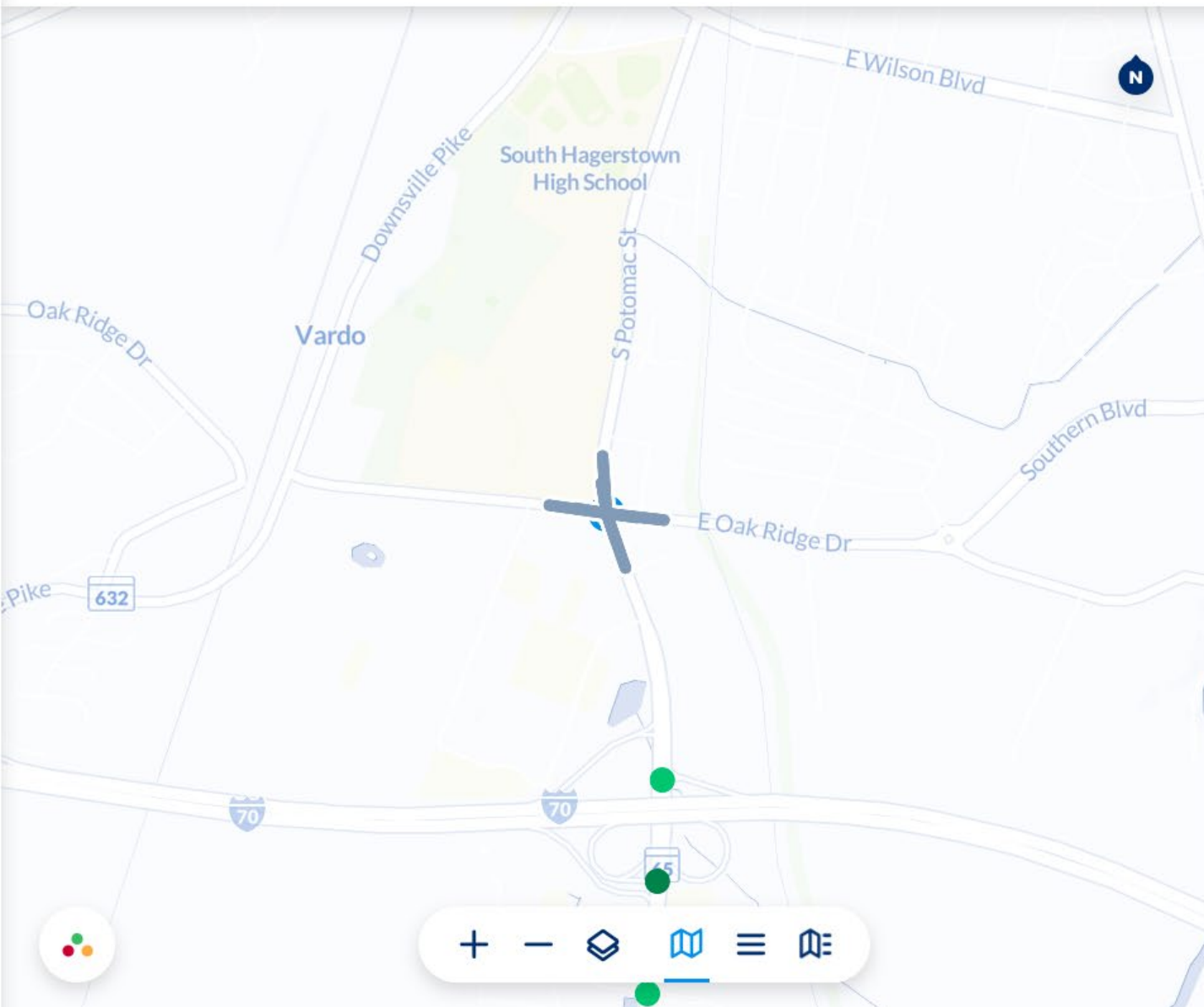
Locations Currently Available in Signal Analytics

Additional Washington County Locations Recommended to Be Added:

- Halfway Blvd/ Virginia Ave
- National Pike / Garland Groh Blvd
- Eastern Blvd / Potomac Avenue
- Northern Ave / Hamilton Blvd
- Dual Highway / Edgewood Drive
- Eastern Blvd/ Jefferson Blvd



MD 65
(Col Henry K Douglas Dr to W Oak Ridge Dr)



Diagram

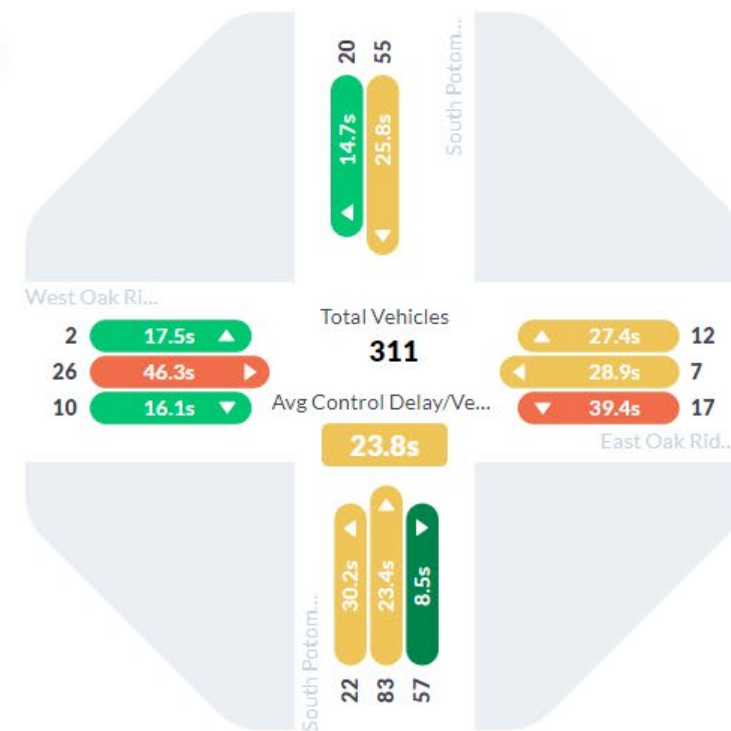
List

Approaches

Movements

West Oak Ridge Drive & South Potomac Street

Report Issue



Time Range Display

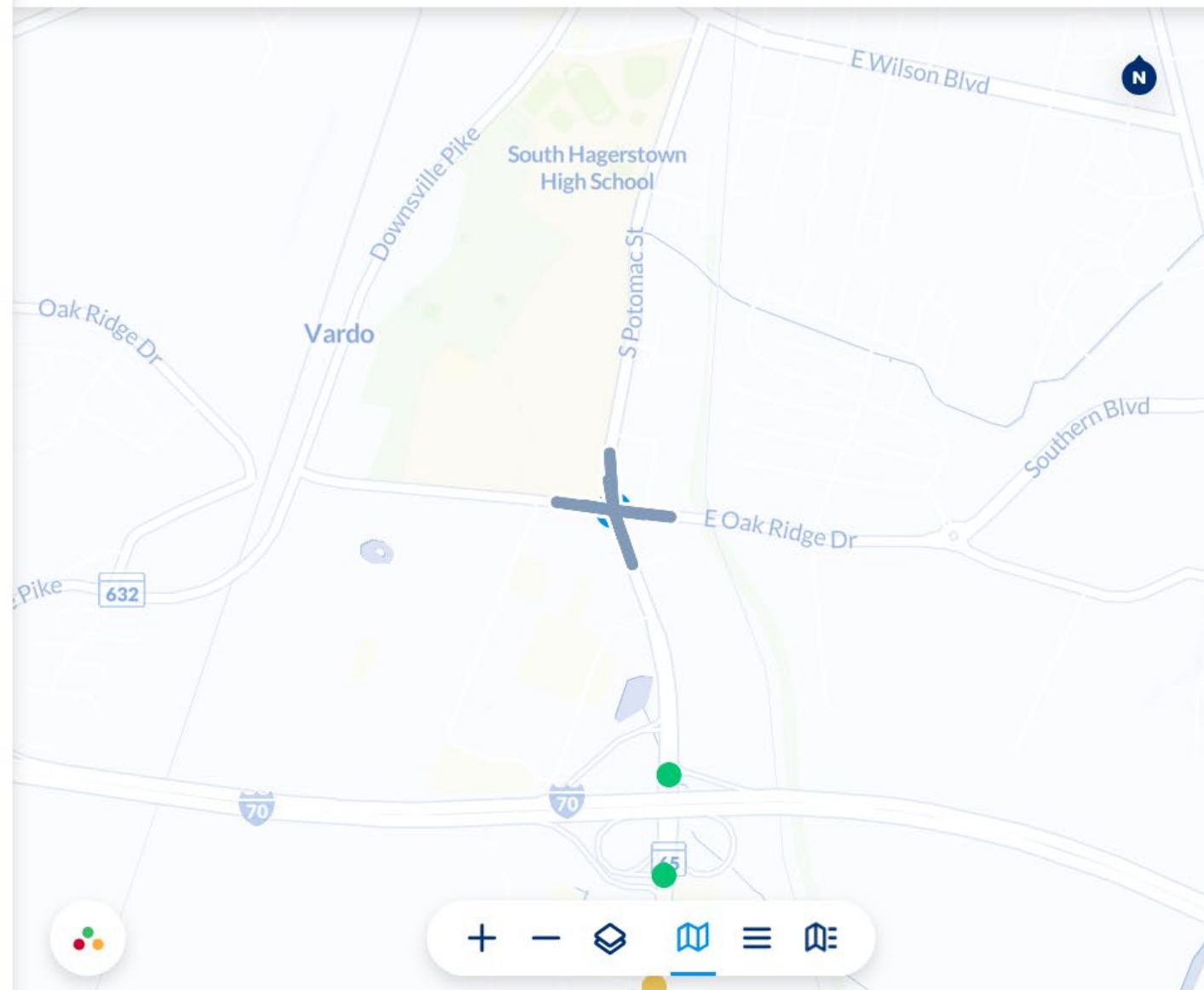
03/01/2024 TO 03/31/2024, Weekdays, PM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip Code



Diagram

List

Approaches

Movements

West Oak Ridge Drive & South Potomac Street

Report Issue



- A
- B
- C
- D
- E
- F
-

Time Range Display

03/01/2024

TO

03/31/2024, Weekdays, AM Peak



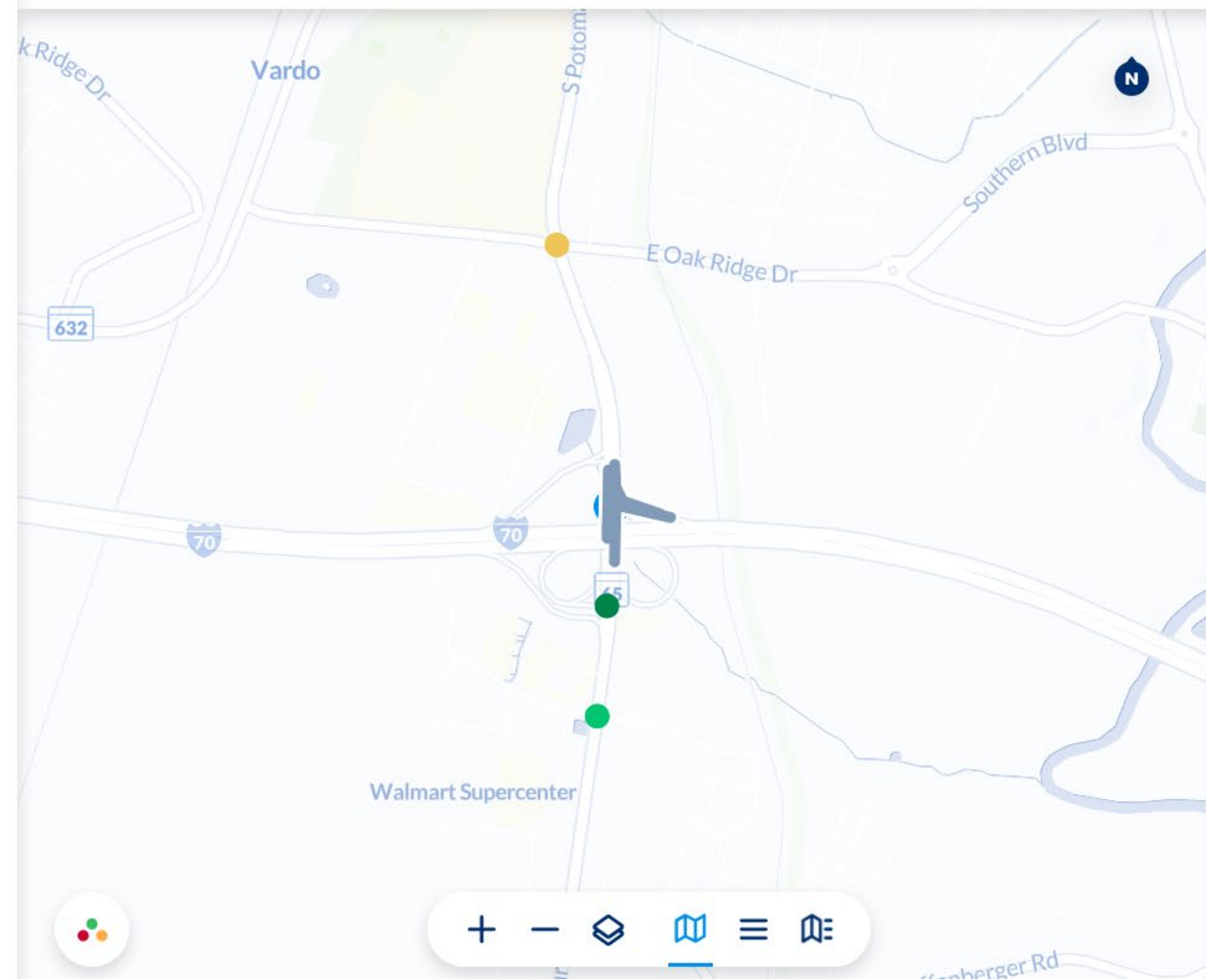
LOS Values | Avg. Control Delay/Vehicle



Display
on map

Search

Enter City, State, Zip



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Diagram

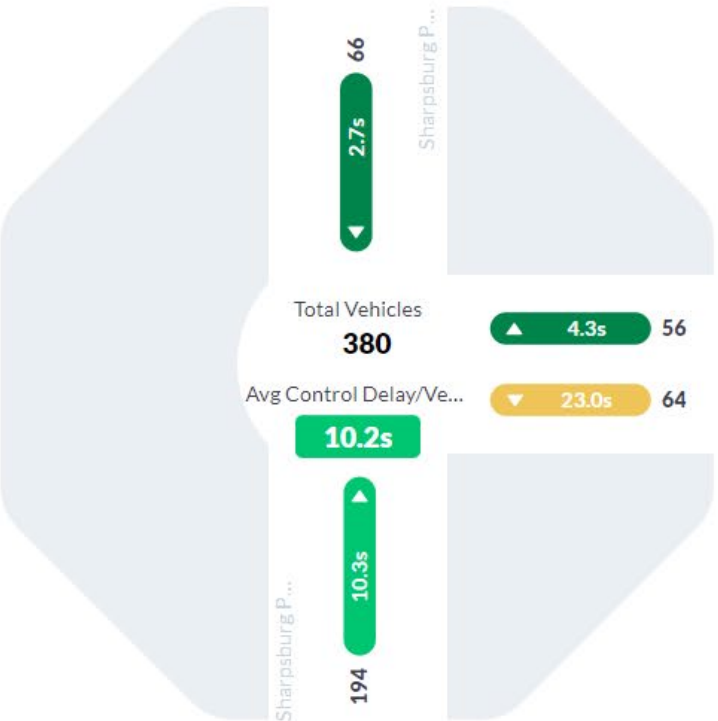
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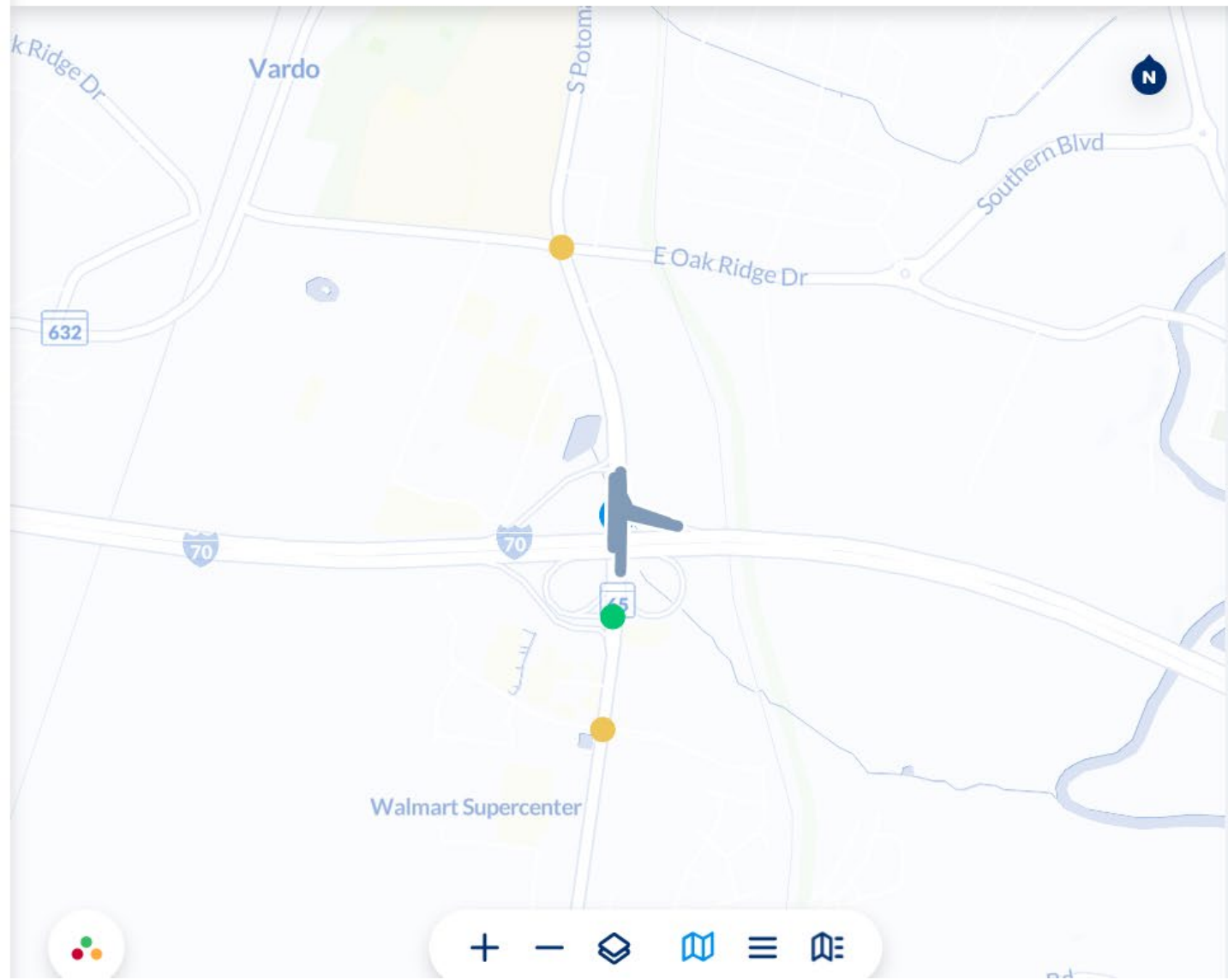
Approaches

Movements

Sharpshurg Pike

Report Issue





Diagram

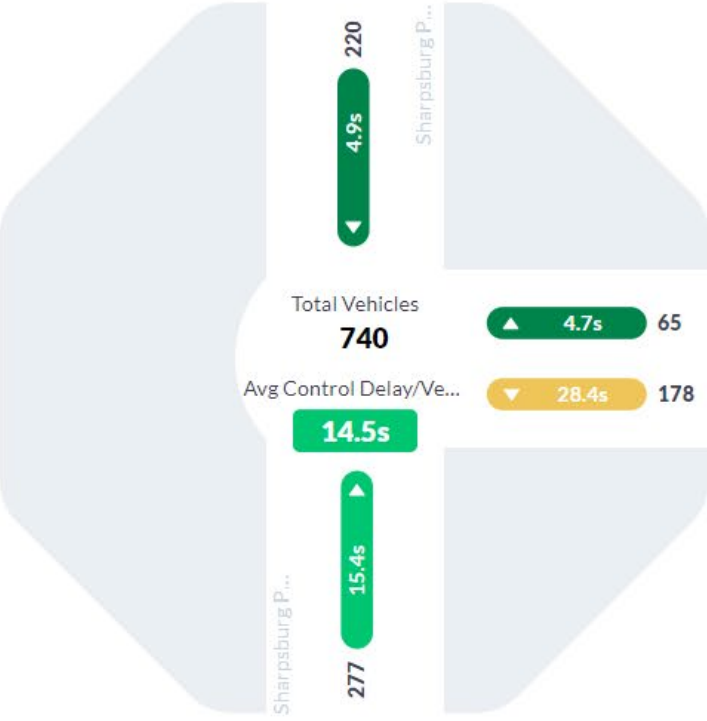
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Approaches

Movements

Sharpshurg Pike

Report Issue



Time Range Display

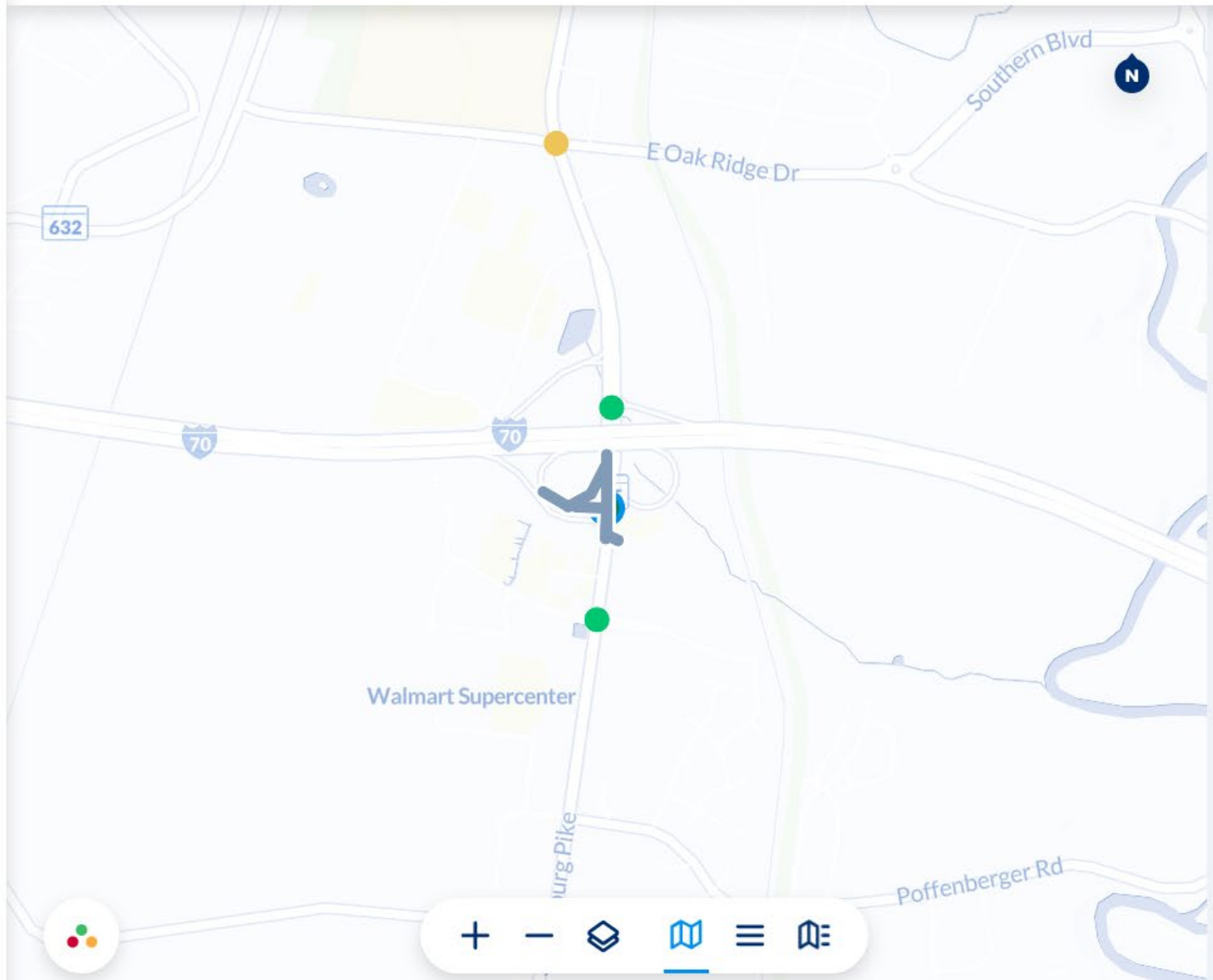
03/01/2024 TO 03/31/2024, Weekdays, AM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

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Diagram

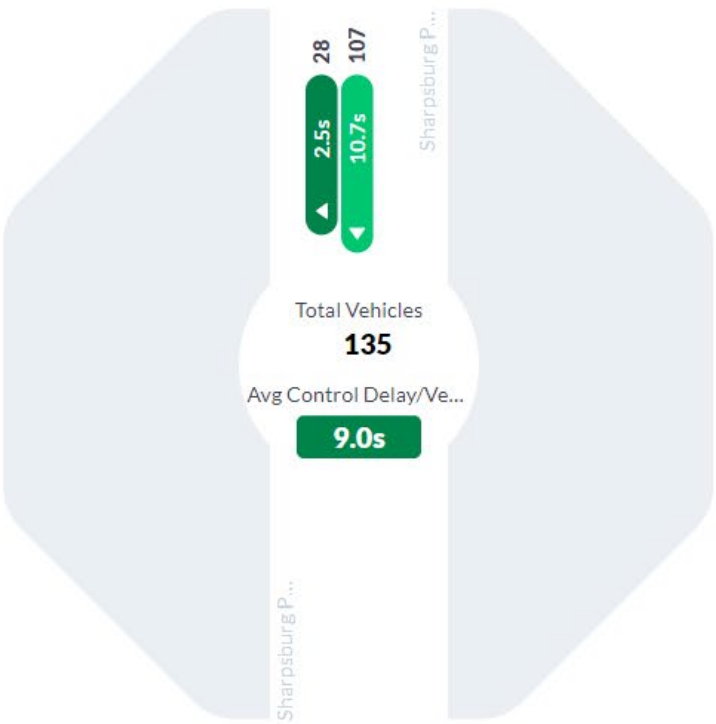
List

Approaches

Movements

Sharpburg Pike

Report Issue



Time Range Display

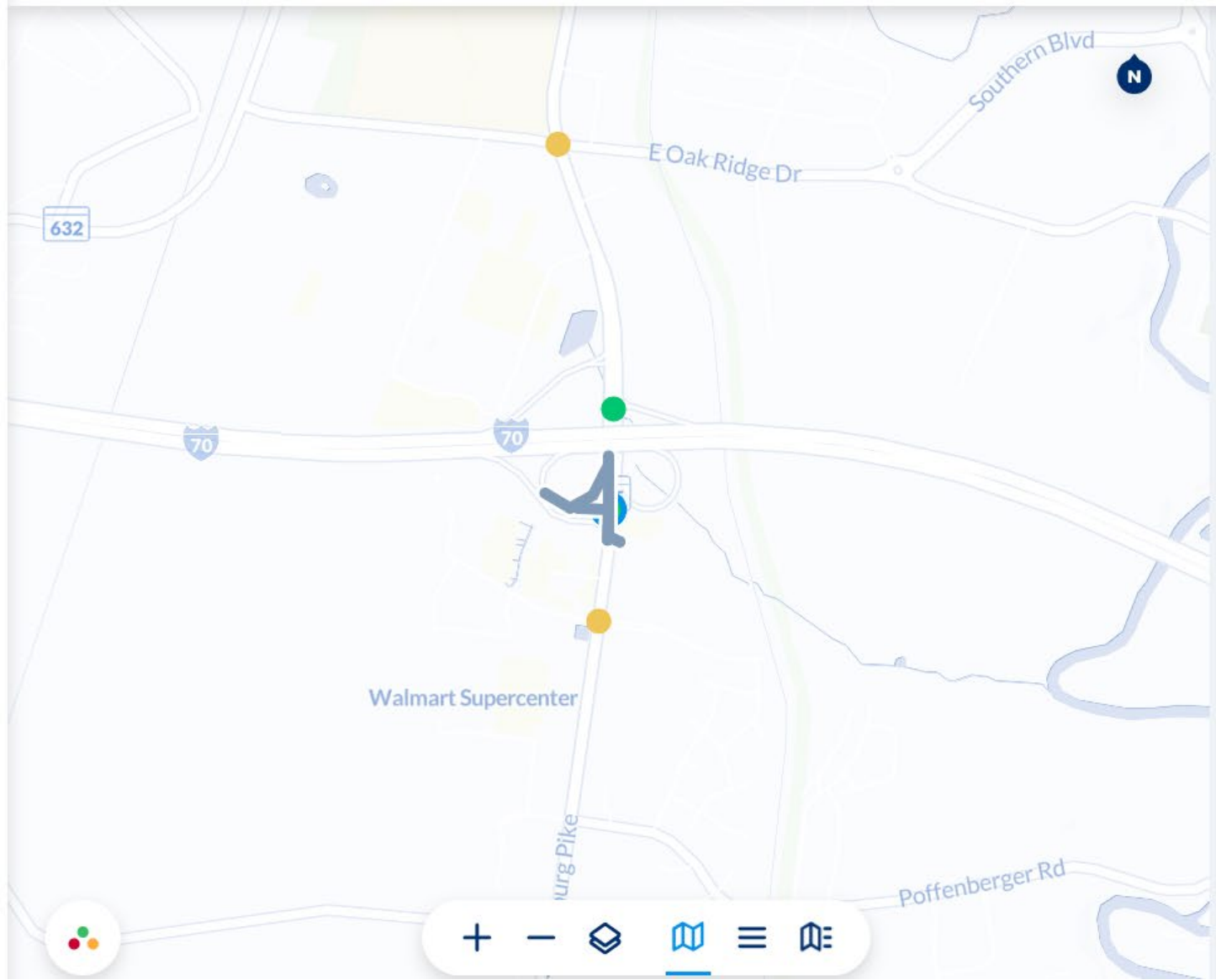
03/01/2024 to 03/31/2024, Weekdays, PM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip



Diagram

List

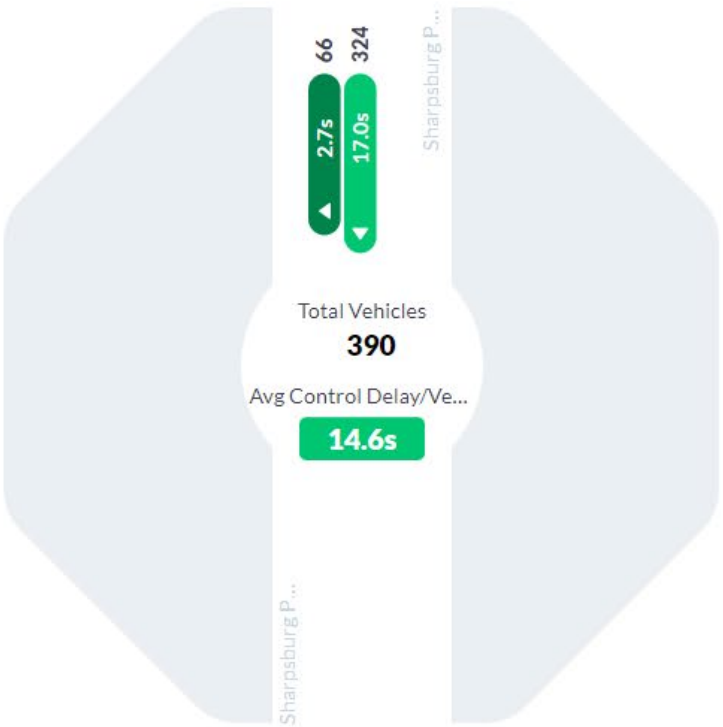
Approaches

Movements

Sharpshurg Pike

Report Issue

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Time Range Display

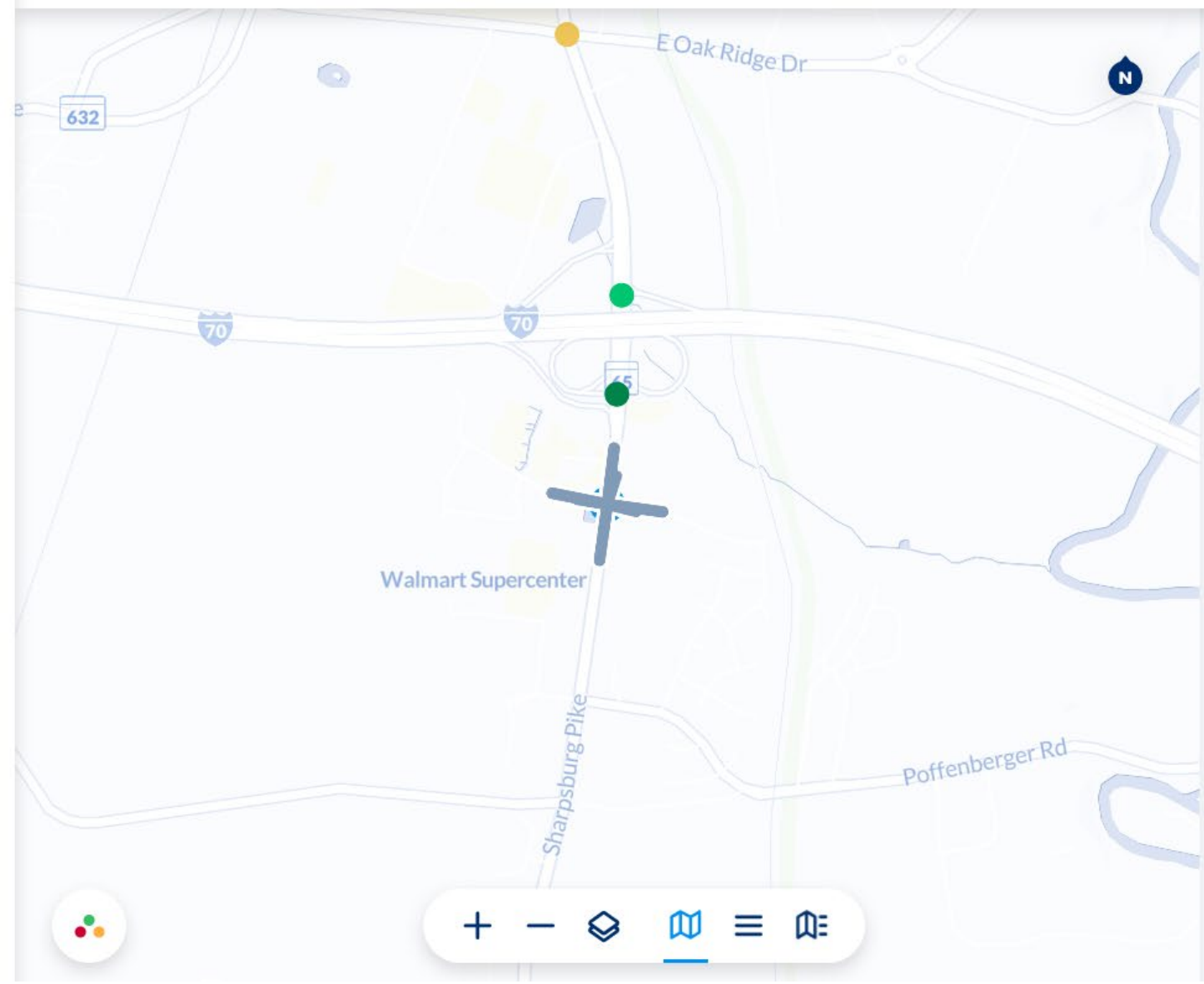
03/01/2024 TO 03/31/2024, Weekdays, AM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip



Diagram

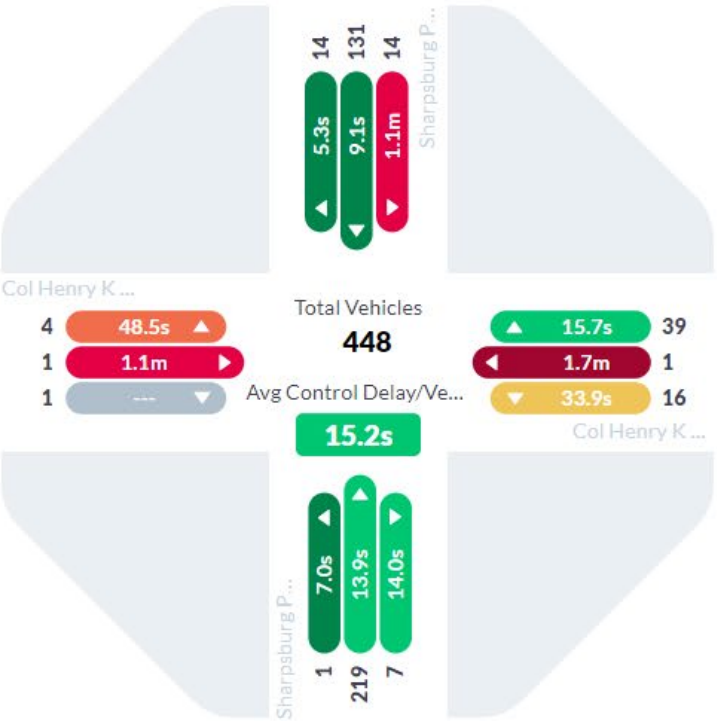
List

Approaches

Movements

Col Henry K Douglas Drive & Sharpsburg Pike

Report Issue



Time Range Display

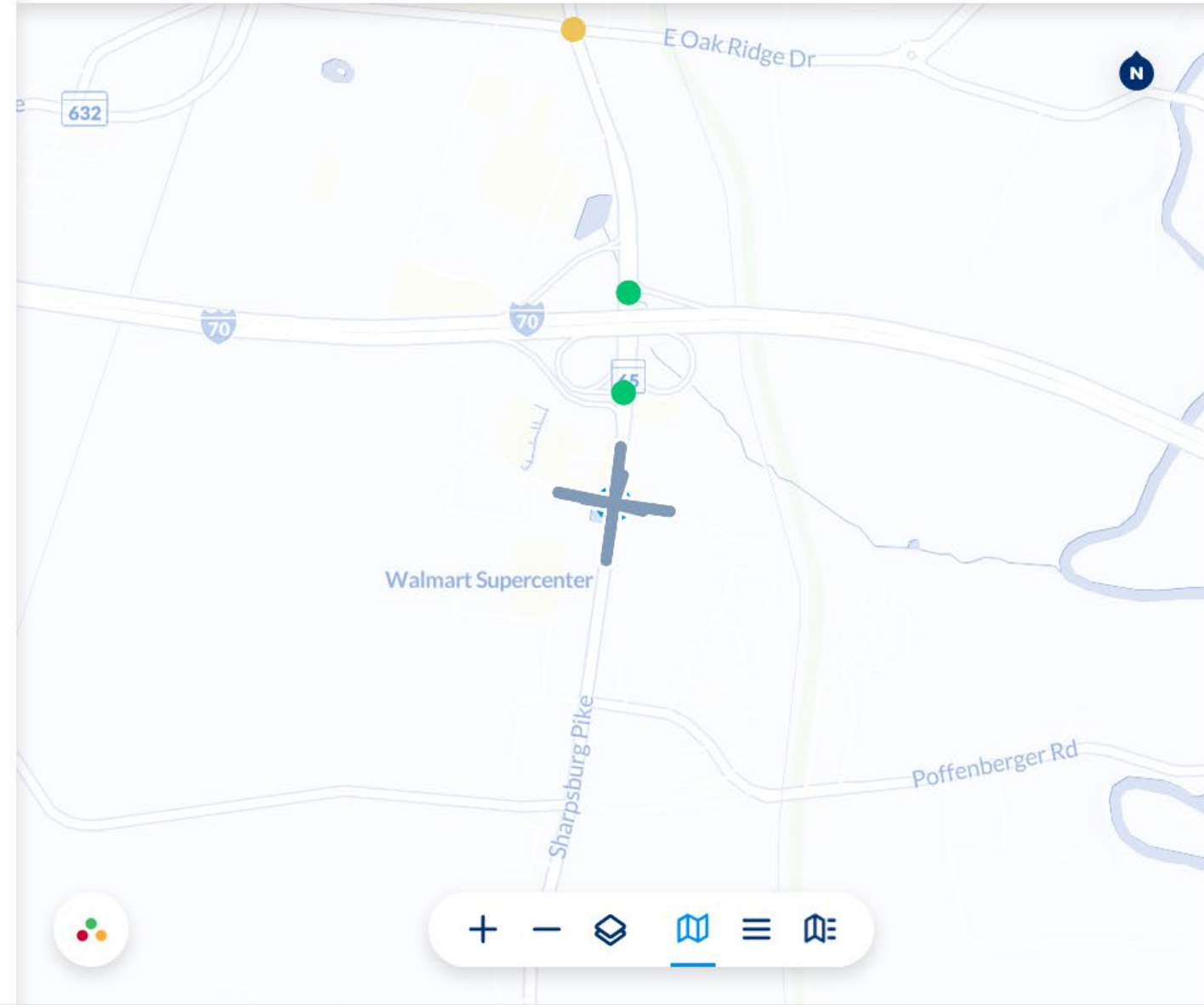
03/01/2024 To 03/31/2024, Weekdays, PM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip Code



Diagram

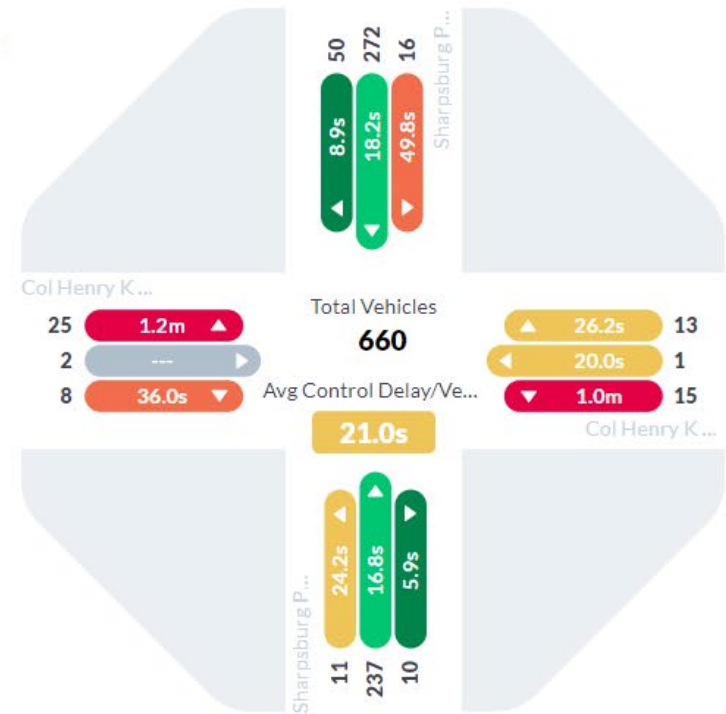
List

Approaches

Movements

Col Henry K Douglas Drive & Sharpsburg Pike

Report Issue



N Burhans Blvd
(Washington St to Pennsylvania Avenue)

Time Range Display

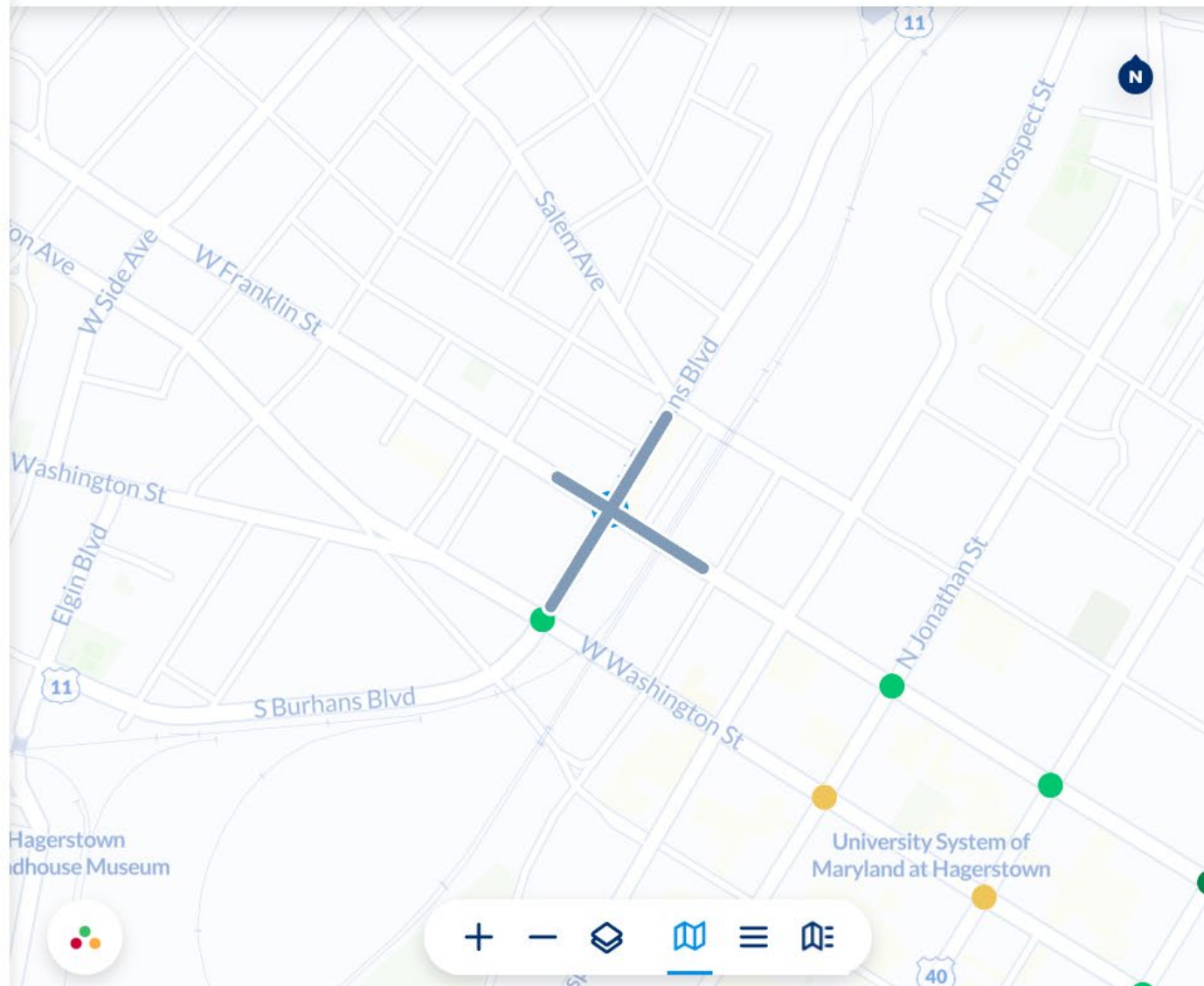
03/01/2024 TO 03/31/2024, Weekdays, AM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

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Diagram

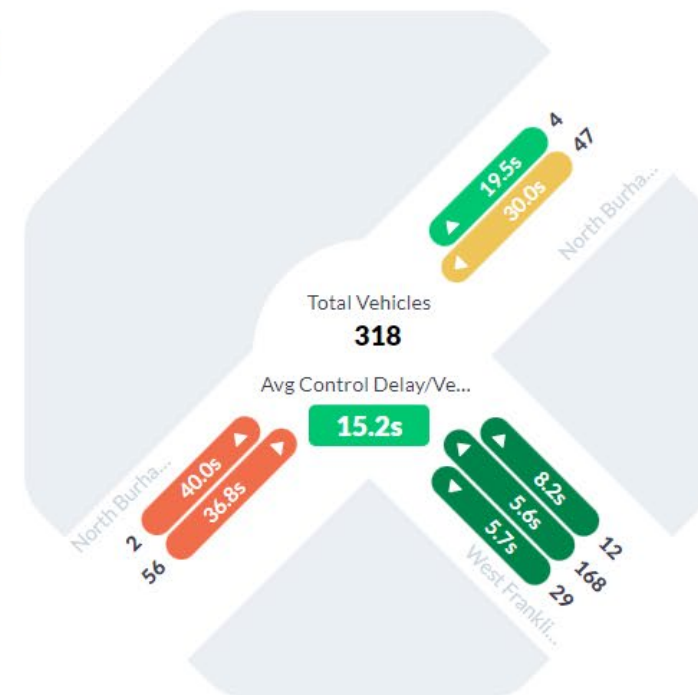
List

Approaches

Movements

North Burhans Boulevard & West Franklin Street

Report Issue



Time Range Display

03/01/2024 **to** 03/31/2024, Weekdays, PM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip C

Diagram

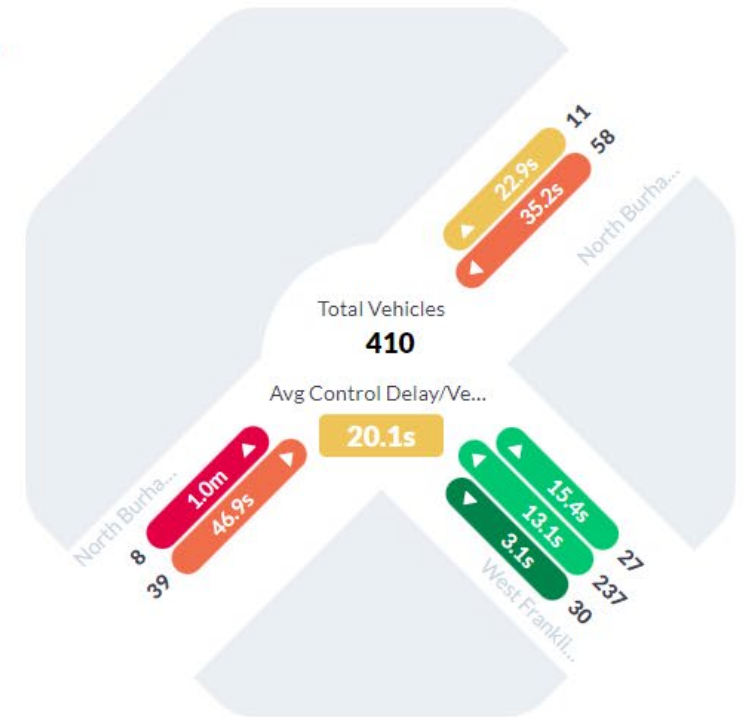
List

Approaches

Movements

North Burhans Boulevard & West Franklin Street

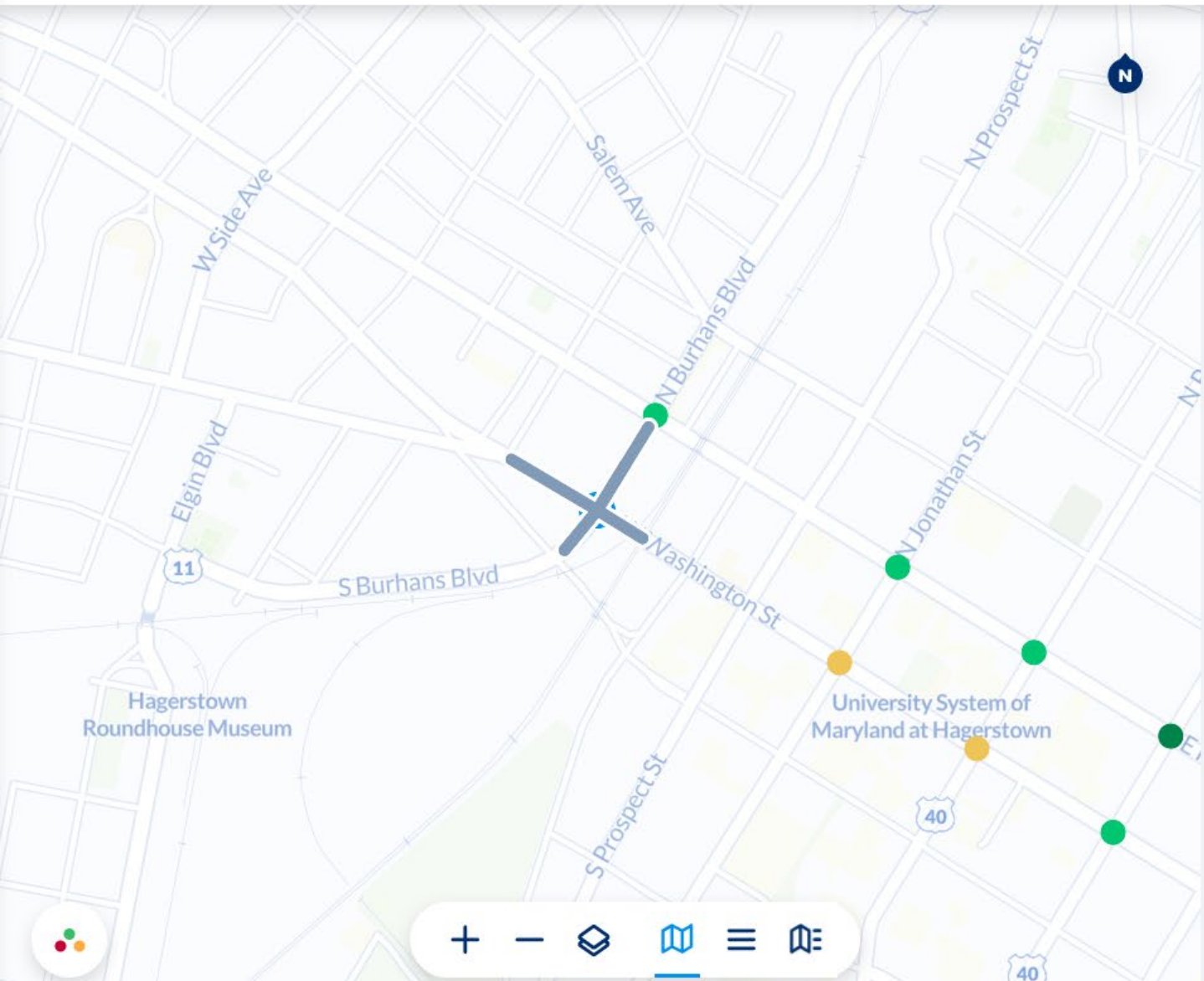
Report Issue



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Diagram

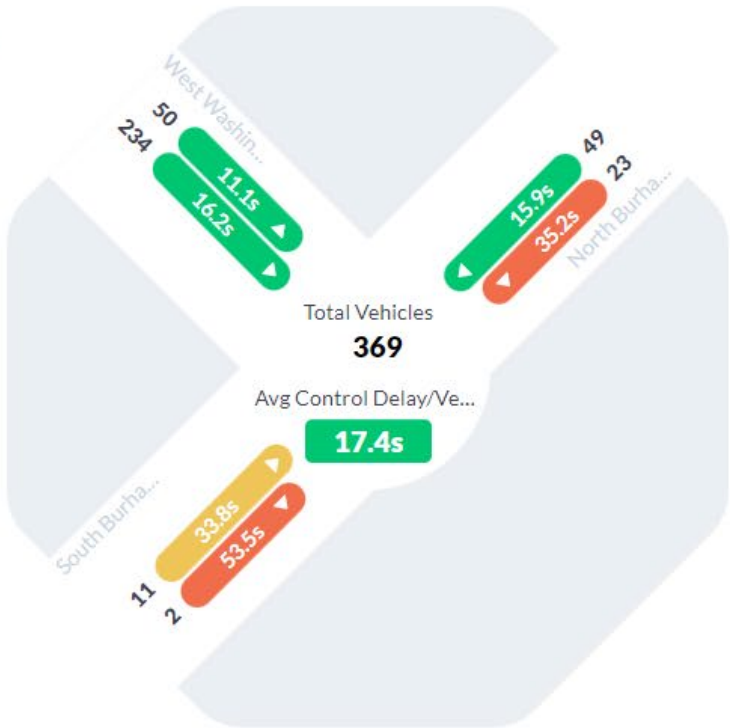
List

Approaches

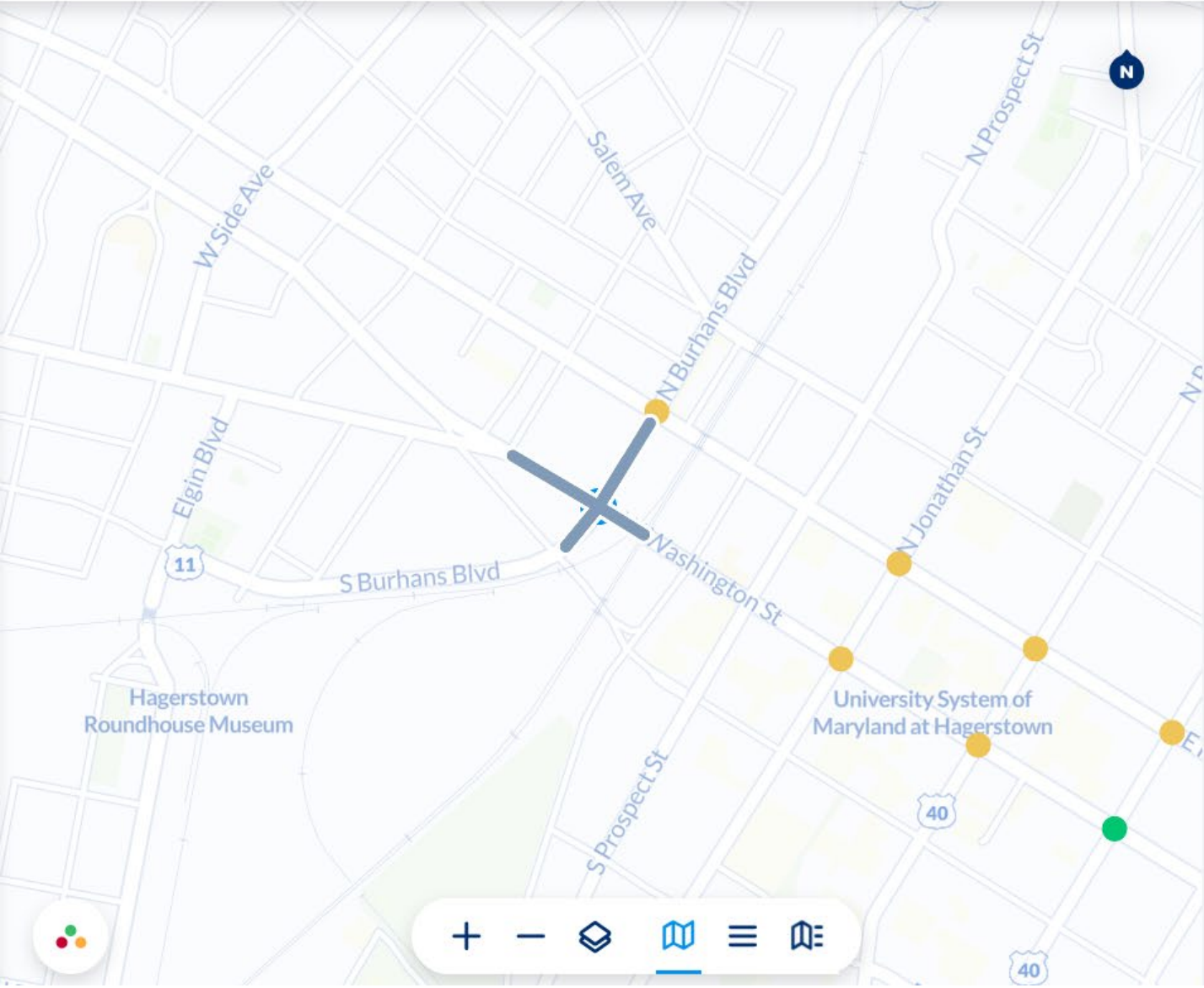
Movements

West Washington Street & South Burhans Boulevard

Report Issue



- A
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Diagram

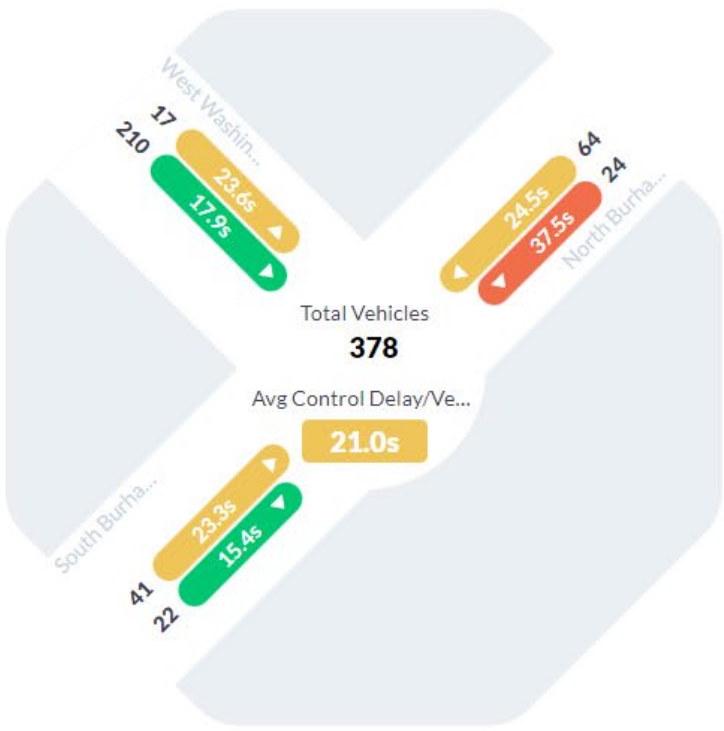
List

Approaches

Movements

West Washington Street & South Burhans Boulevard

 Report Issue



Washington St
(Burhans Blvd to N Cannon Avenue)

Time Range Display

03/01/2024

TO

03/31/2024, Weekdays, AM Peak



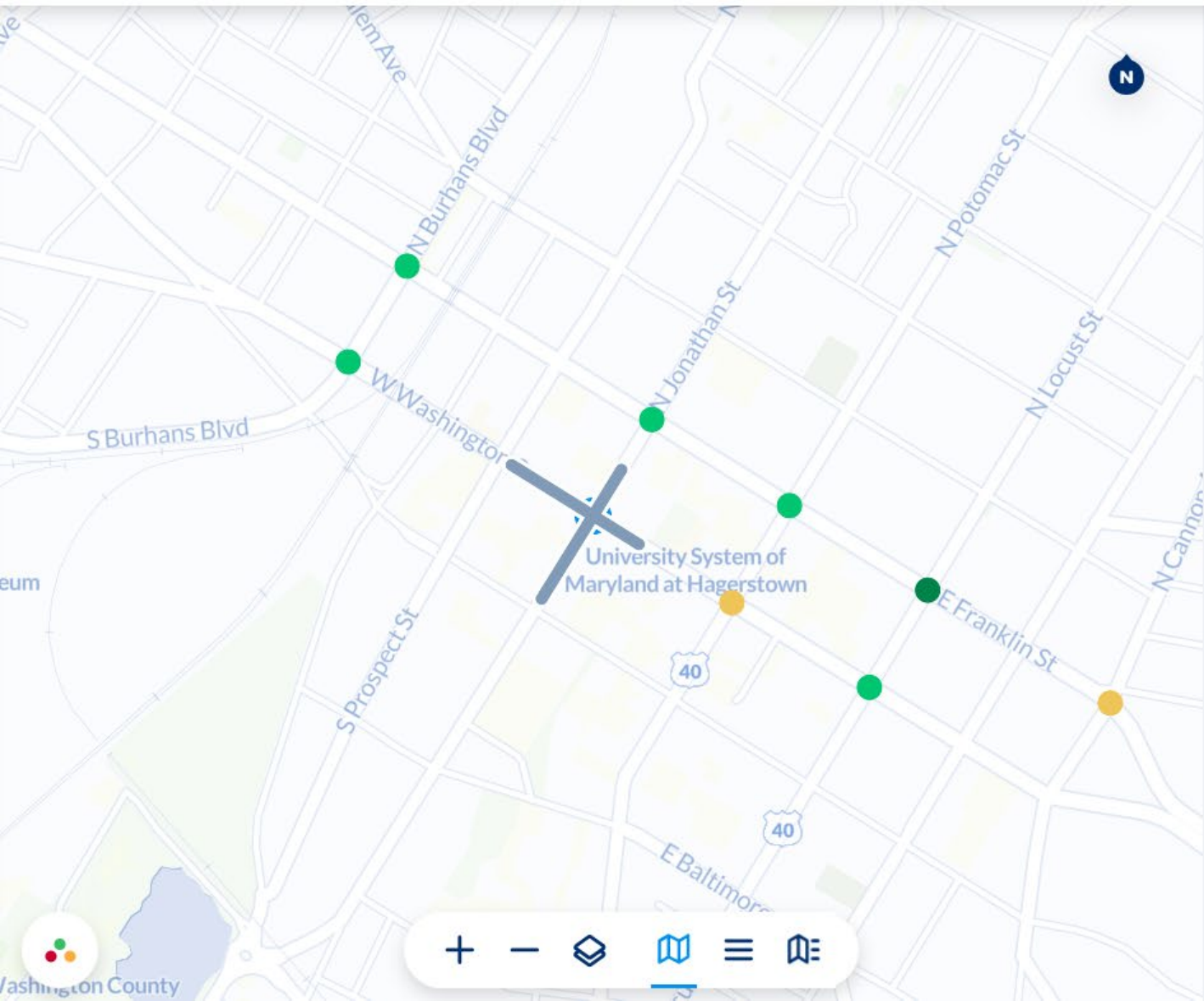
LOS Values | Avg. Control Delay/Vehicle



Display on map

Search

Enter City, State, Zip C



Diagram

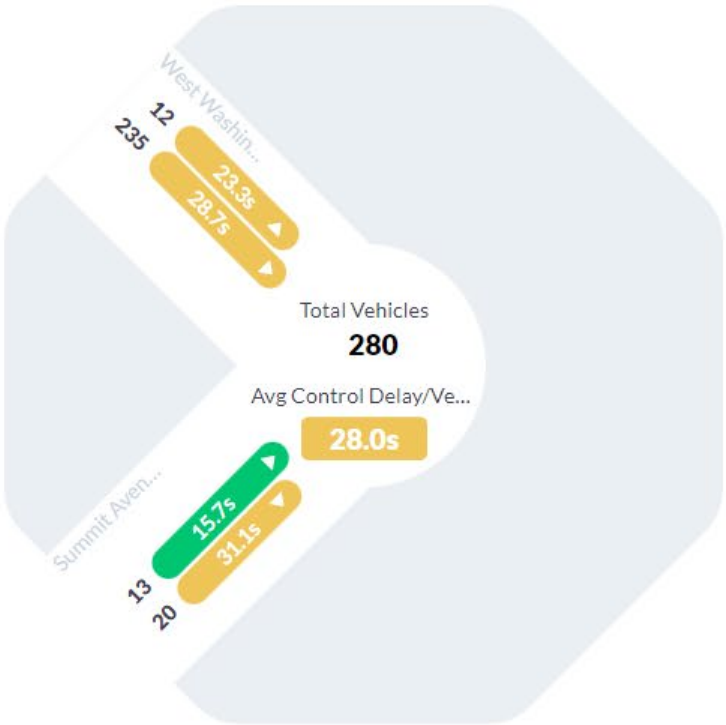
List

Approaches

Movements

Summit Avenue & West Washington Street

Report Issue



Time Range Display

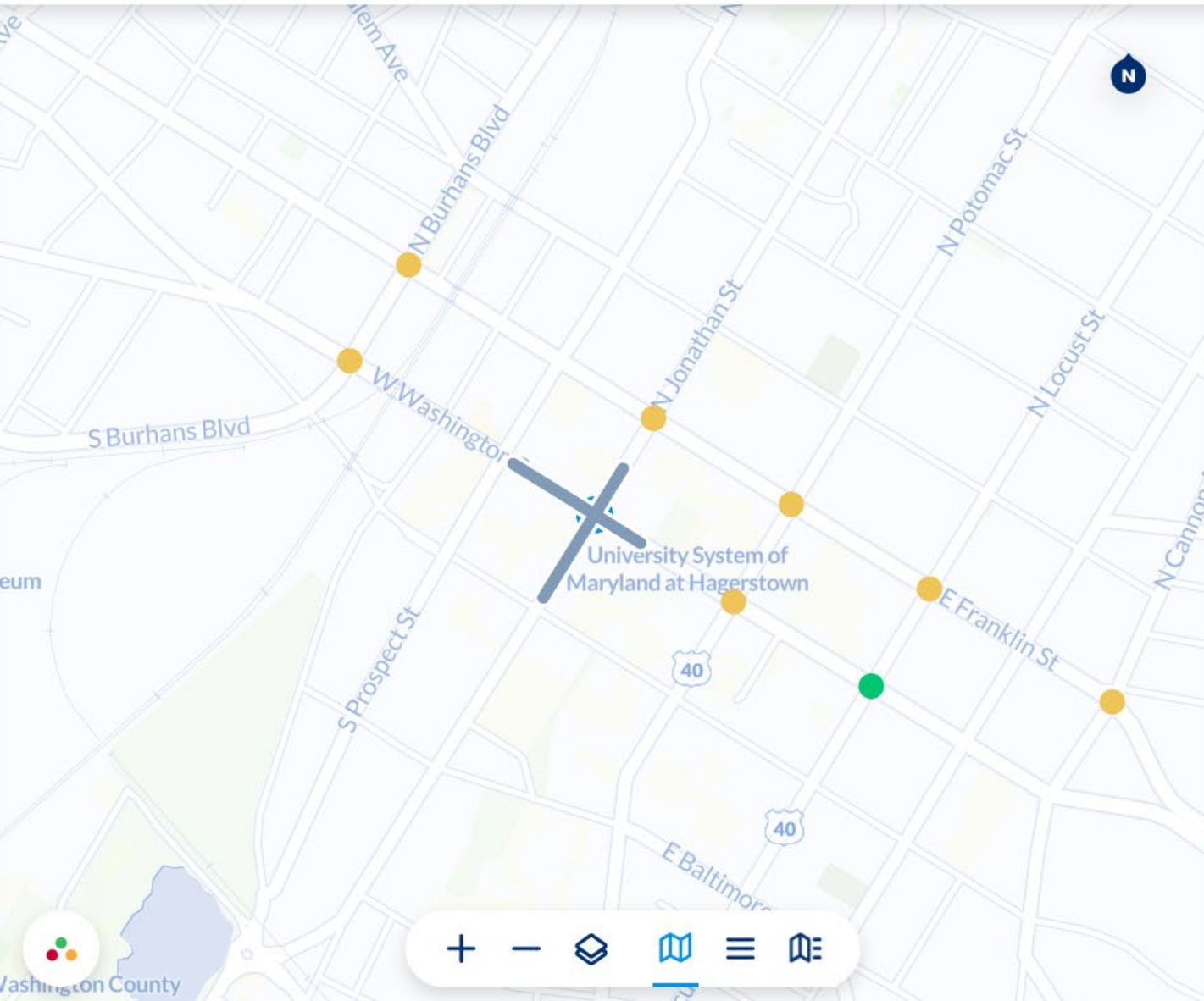
03/01/2024 TO 03/31/2024, Weekdays, PM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip



Diagram

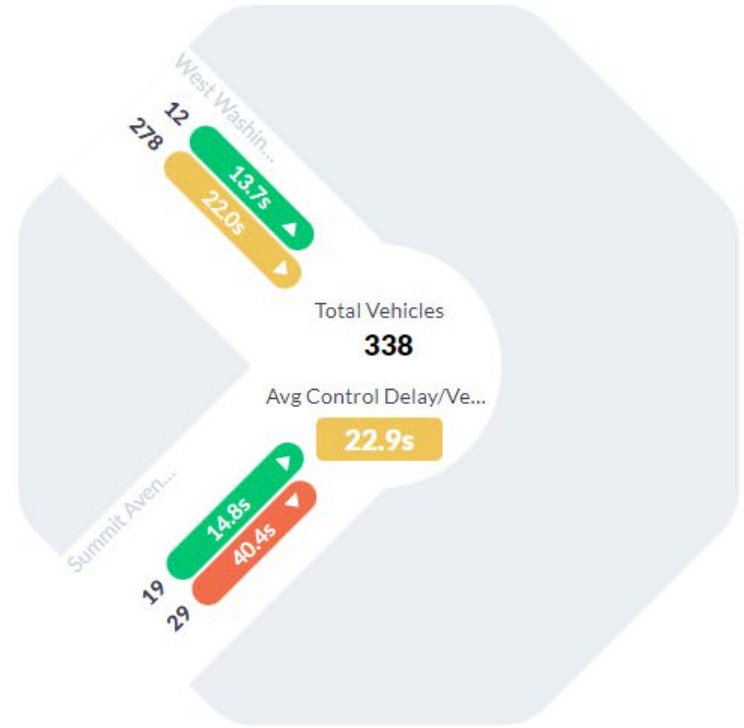
List

Approaches

Movements

Summit Avenue & West Washington Street

Report Issue



Time Range Display

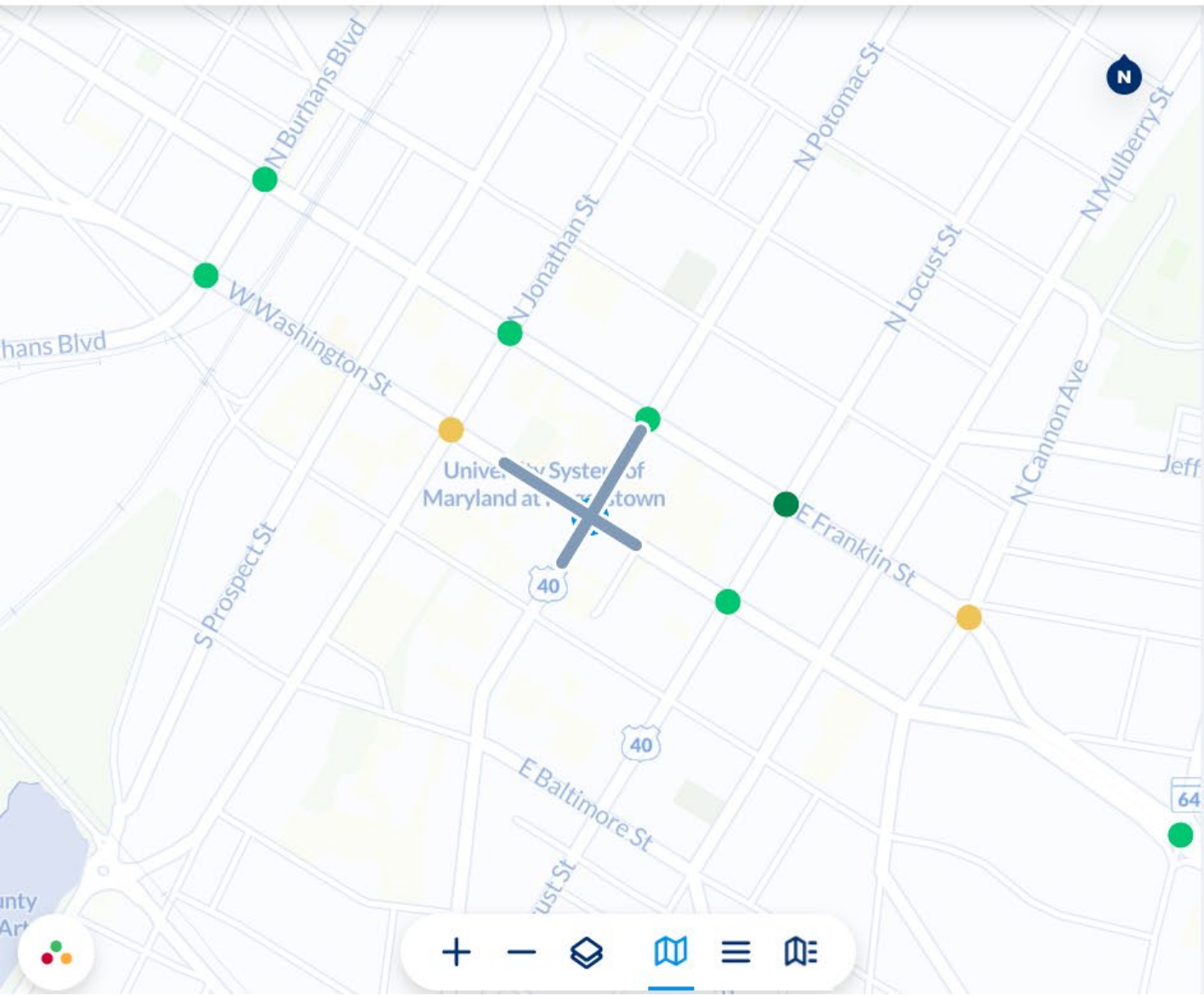
03/01/2024 TO 03/31/2024, Weekdays, AM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip Co



Diagram

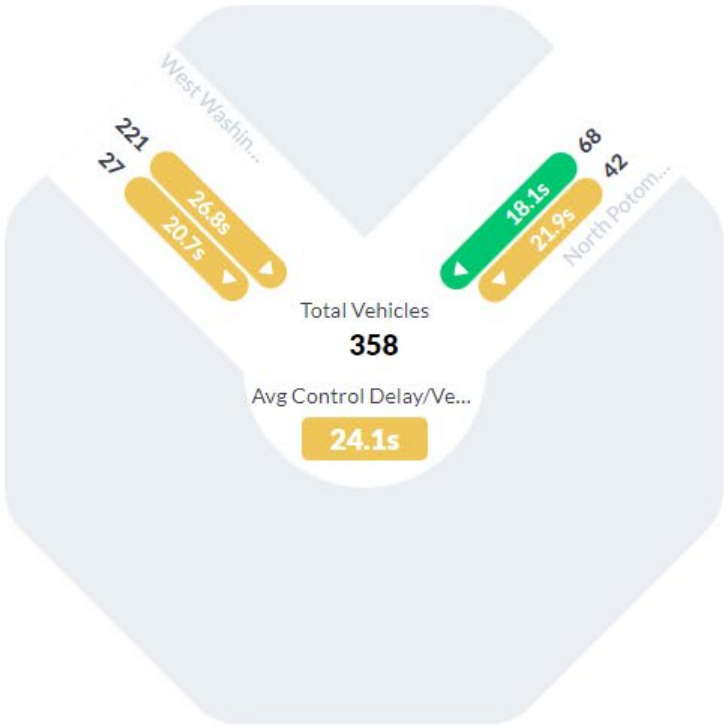
List

Approaches

Movements

West Washington Street & South Potomac Street

Report Issue





Movements

[Report Issue](#)

Time Range Display

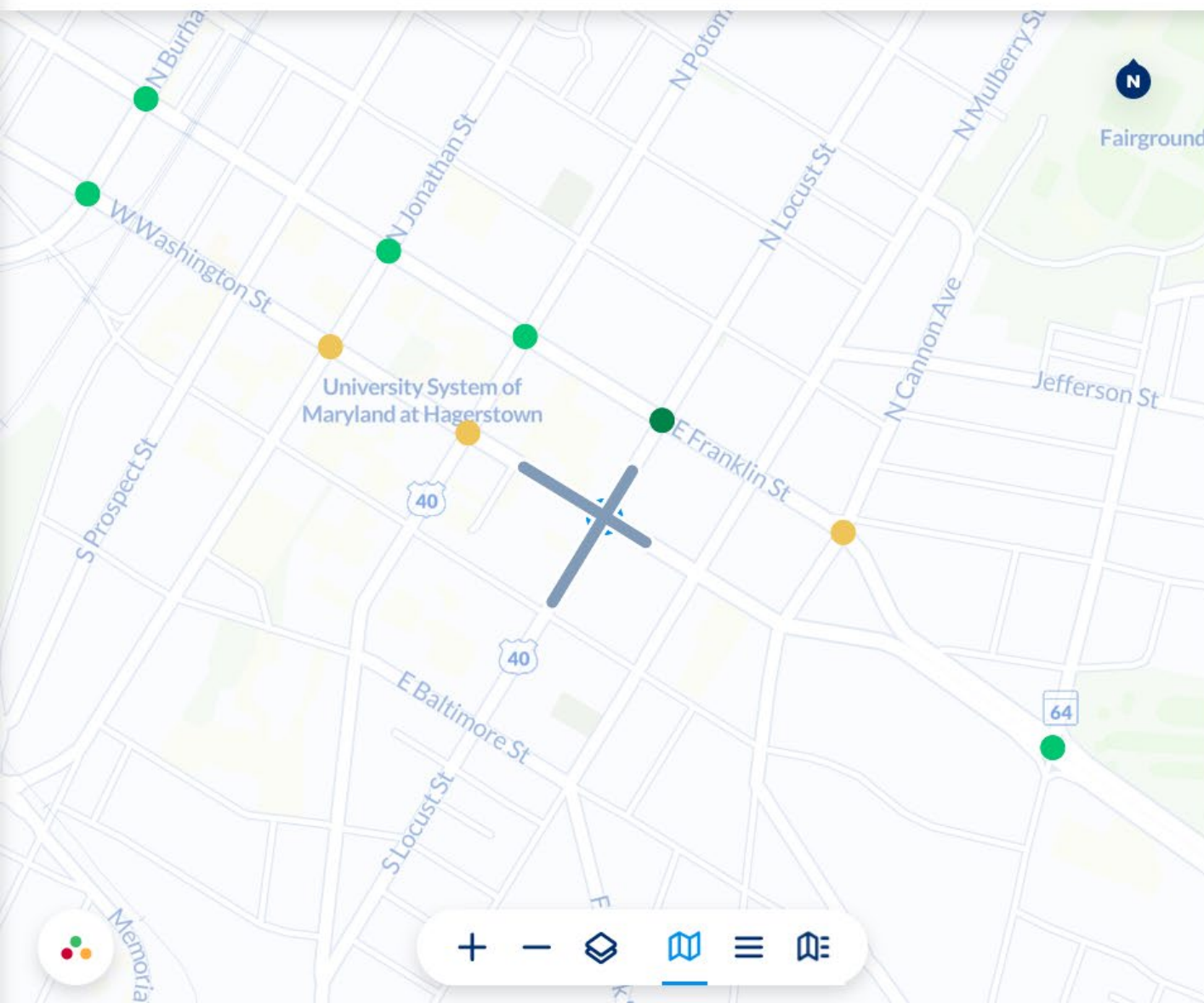
03/01/2024 TO 03/31/2024, Weekdays, AM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip Co



Diagram

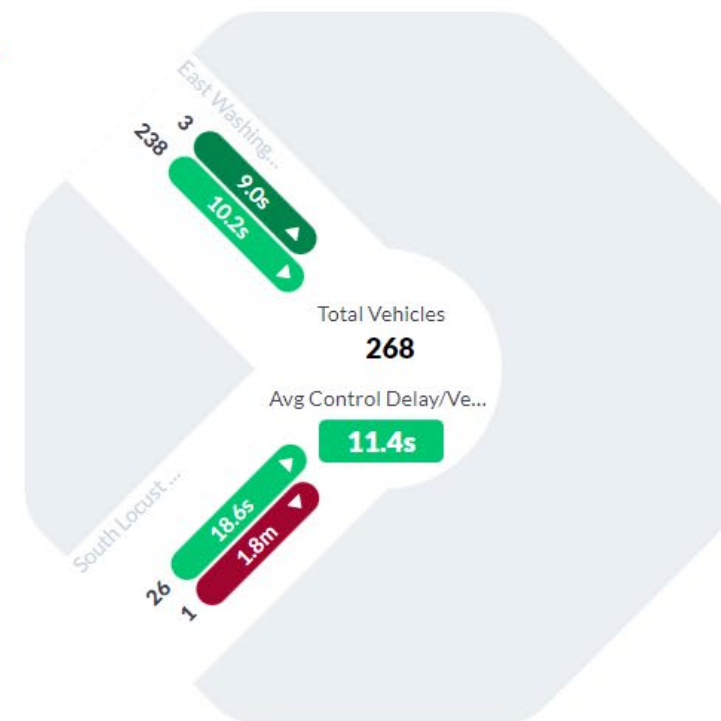
List

Approaches

Movements

South Locust Street & East Washington Street

Report Issue



Time Range Display

03/01/2024 TO 03/31/2024, Weekdays, PM Peak

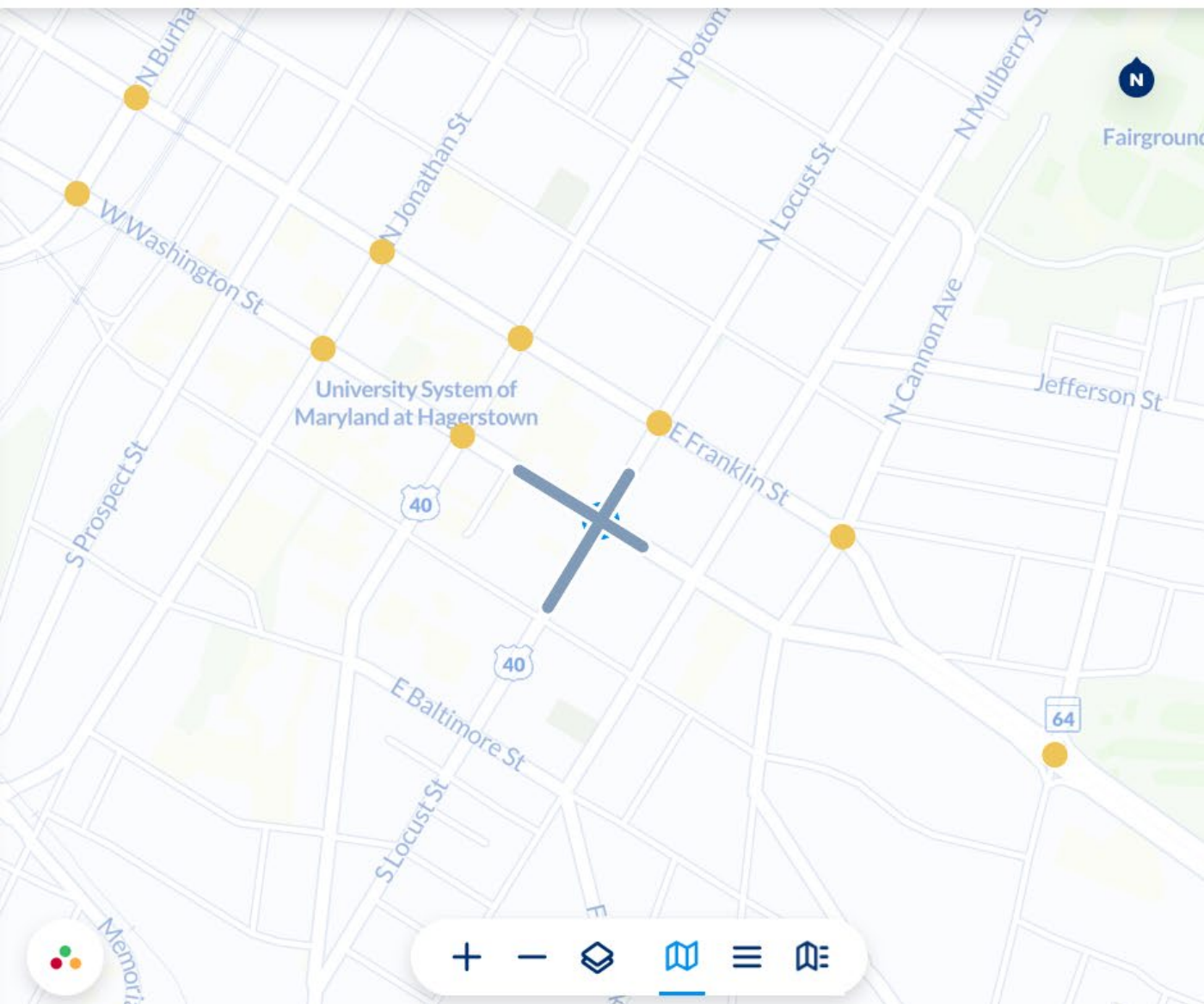
LOS Values | Avg. Control Delay/Vehicle



Display on map

Search

Enter City, State, Zip Code



Diagram

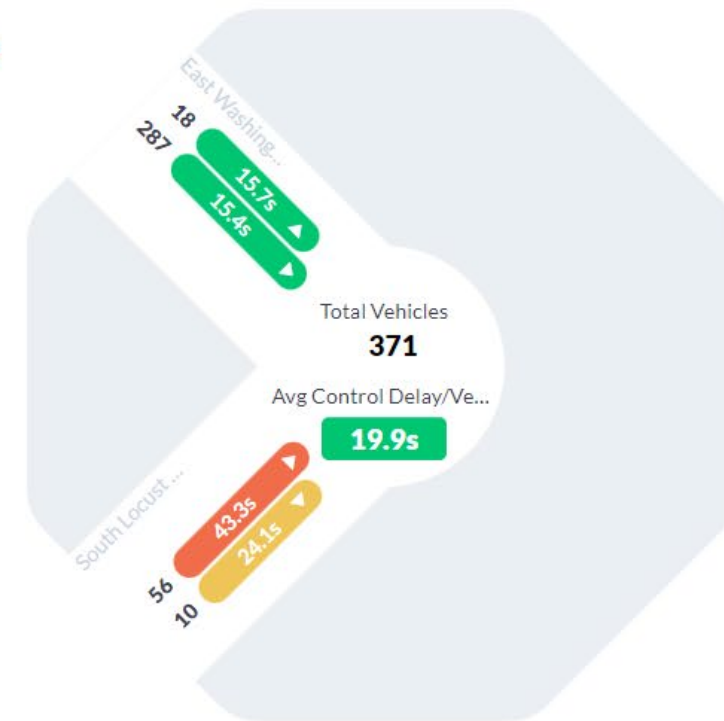
List

Approaches

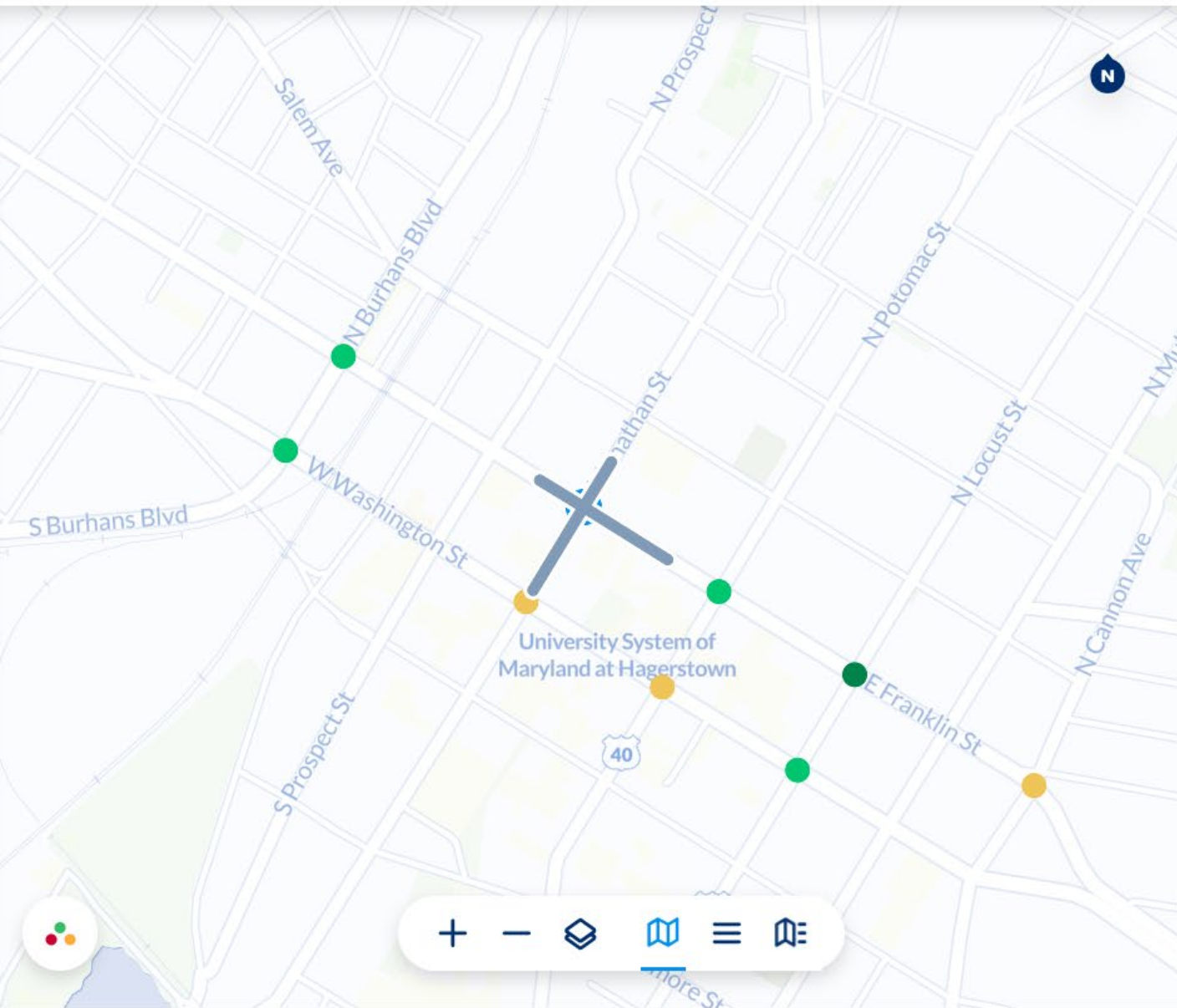
Movements

South Locust Street & East Washington Street

[Report Issue](#)



Franklin St
(Burhans Blvd to N Cannon Avenue)

Diagram

List

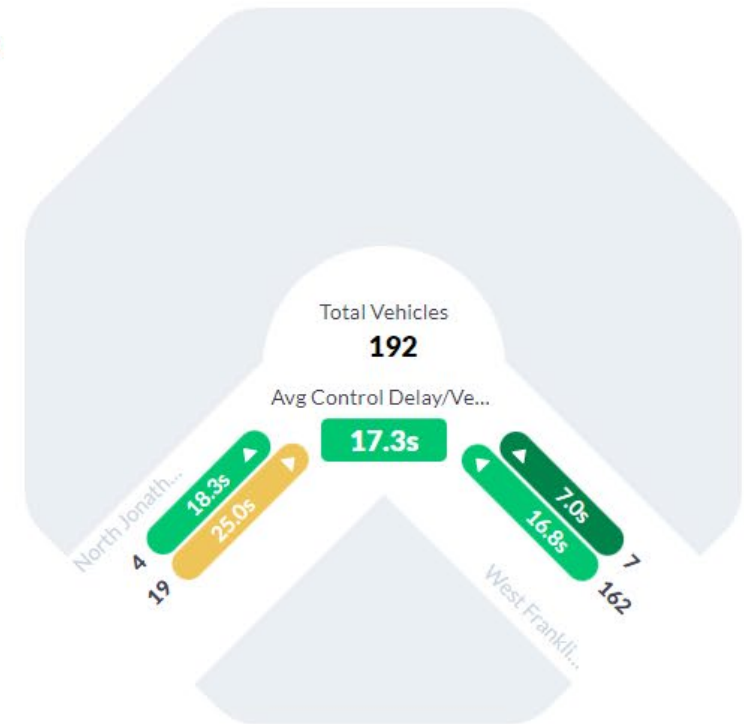
Approaches

Movements


West Franklin Street & North Jonathan Street


Report Issue

A
B
C
D
E
F
...



Time Range Display

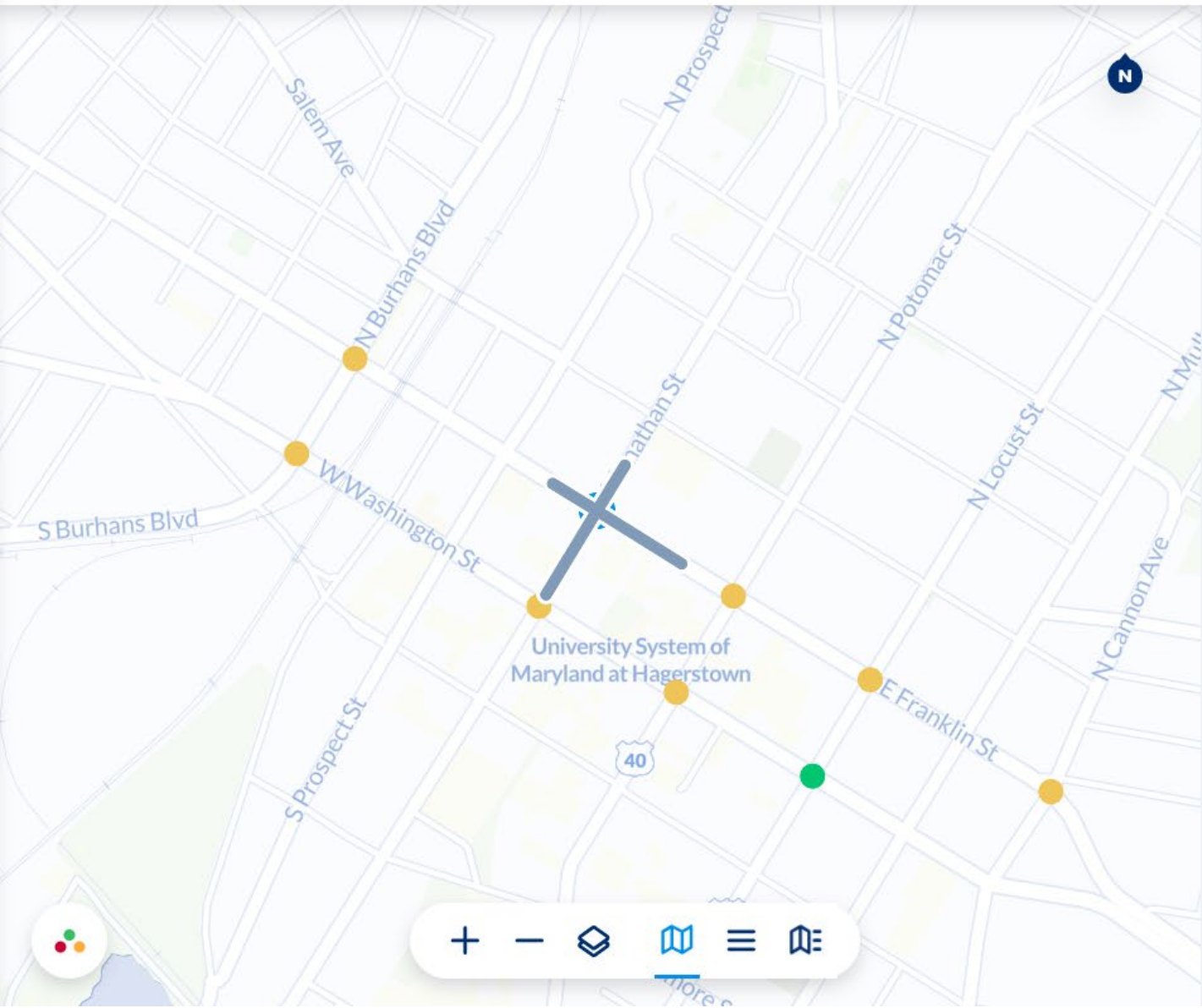
03/01/2024  03/31/2024, Weekdays, PM Peak 

LOS Values | Avg. Control Delay/Vehicle 

 Display on map

Search

Enter City, State, Zip Co



Diagram

List

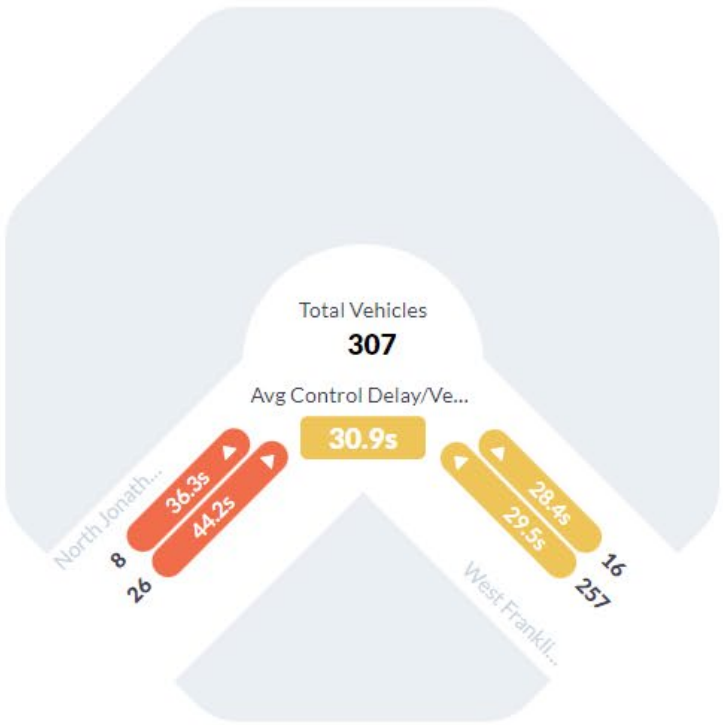
Approaches

Movements

West Franklin Street & North Jonathan Street

 Report Issue

- A
- B
- C
- D
- E
- F
-



Time Range Display

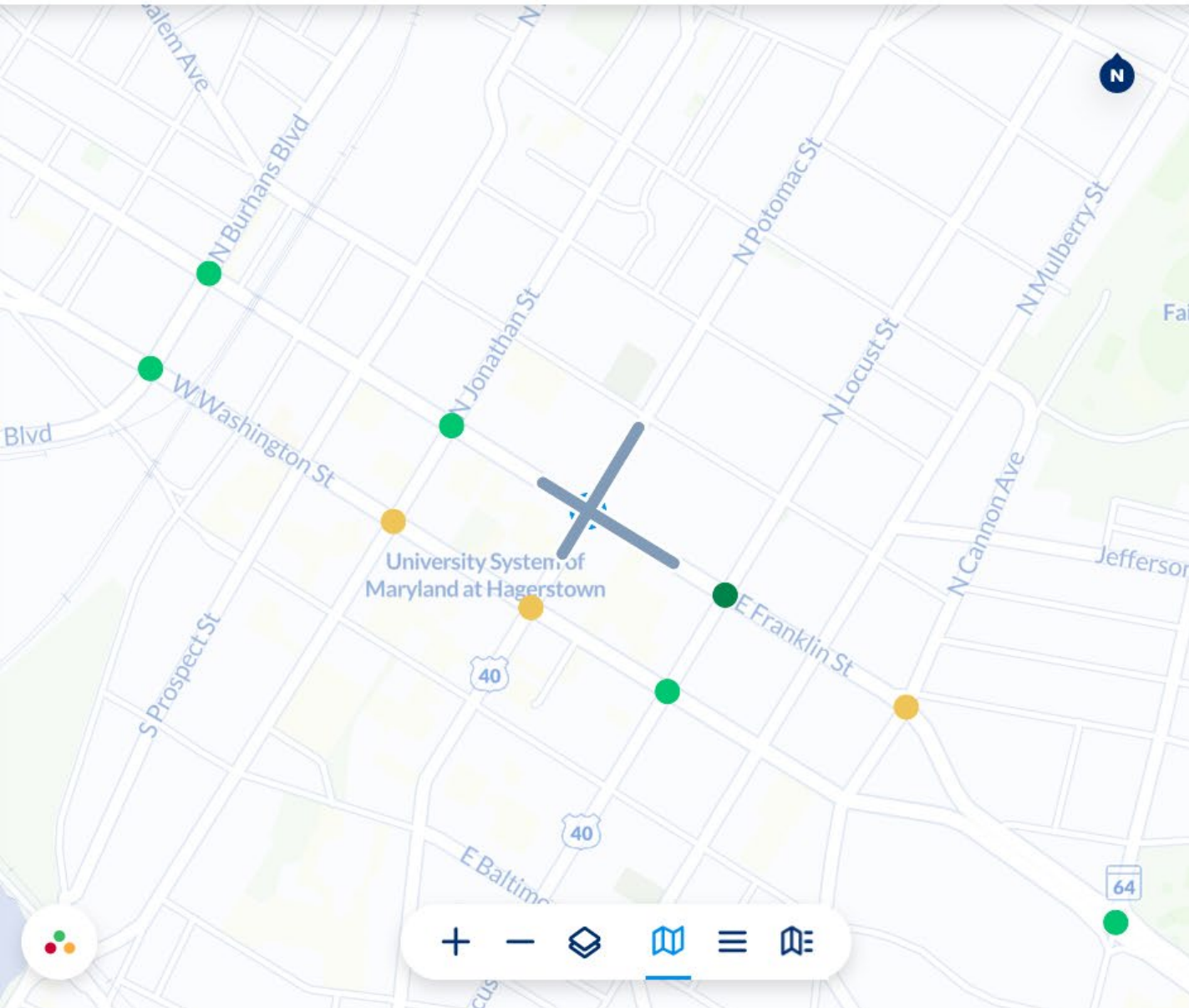
03/01/2024 TO 03/31/2024, Weekdays, AM Peak 

LOS Values | Avg. Control Delay/Vehicle 

 Display on map

Search

Enter City, State, Zip



Diagram

List

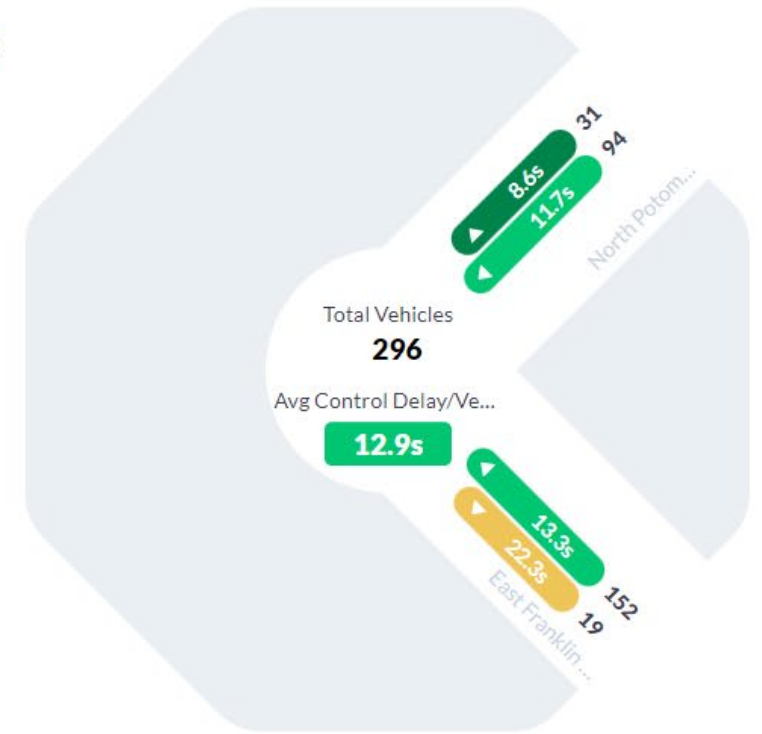
Approaches

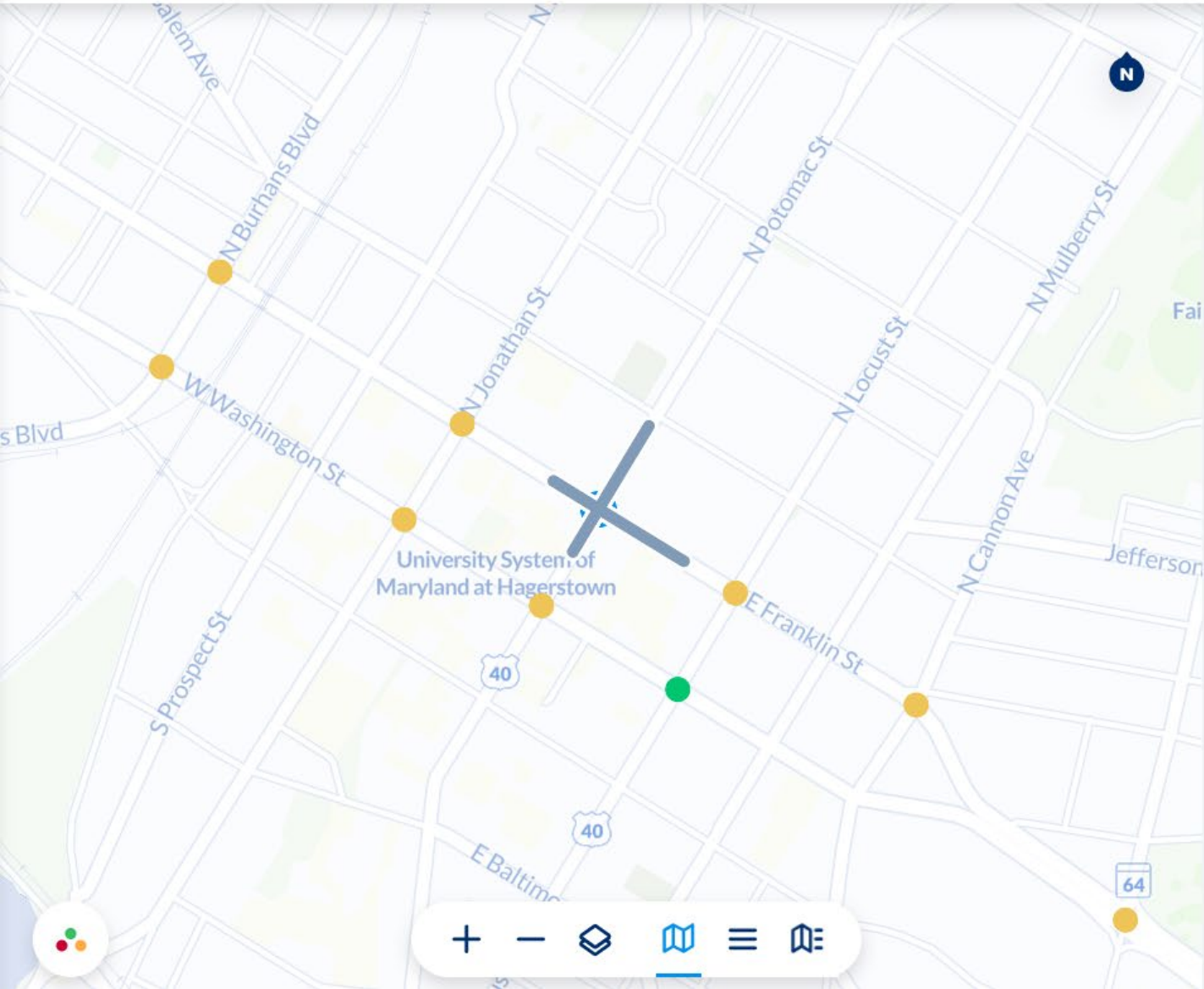
Movements

North Potomac Street & West Franklin Street

 Report Issue

- A
- B
- C
- D
- E
- F
-





Diagram

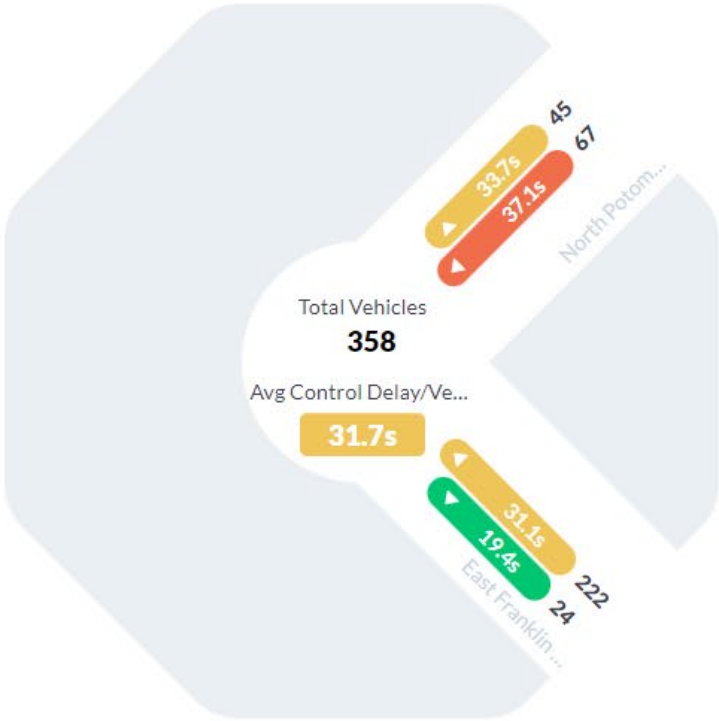
List

Approaches

Movements

North Potomac Street & West Franklin Street

Report Issue



- A
- B
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- ...

Time Range Display

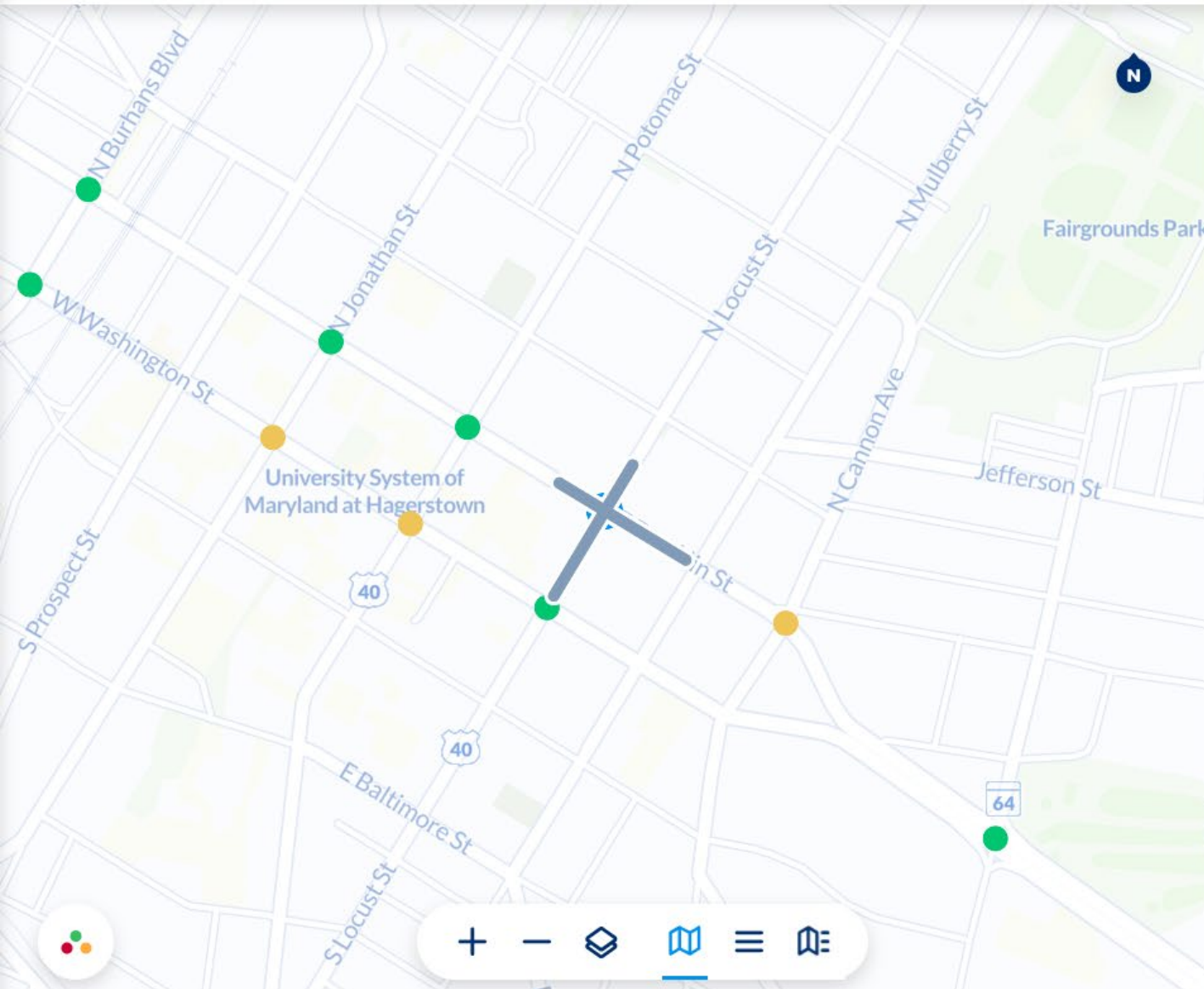
03/01/2024 TO 03/31/2024, Weekdays, AM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip C



Diagram

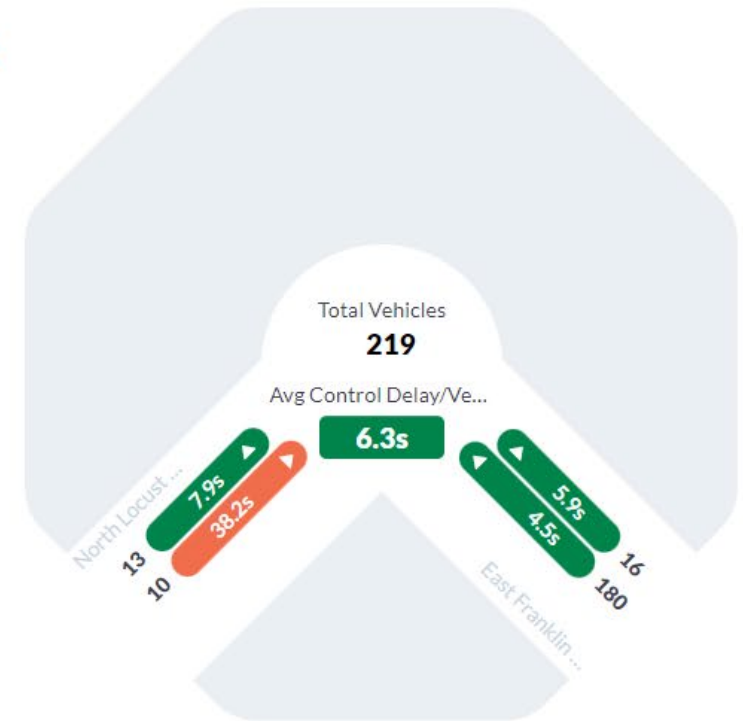
List

Approaches

Movements

East Franklin Street & North Locust Street

Report Issue



Time Range Display

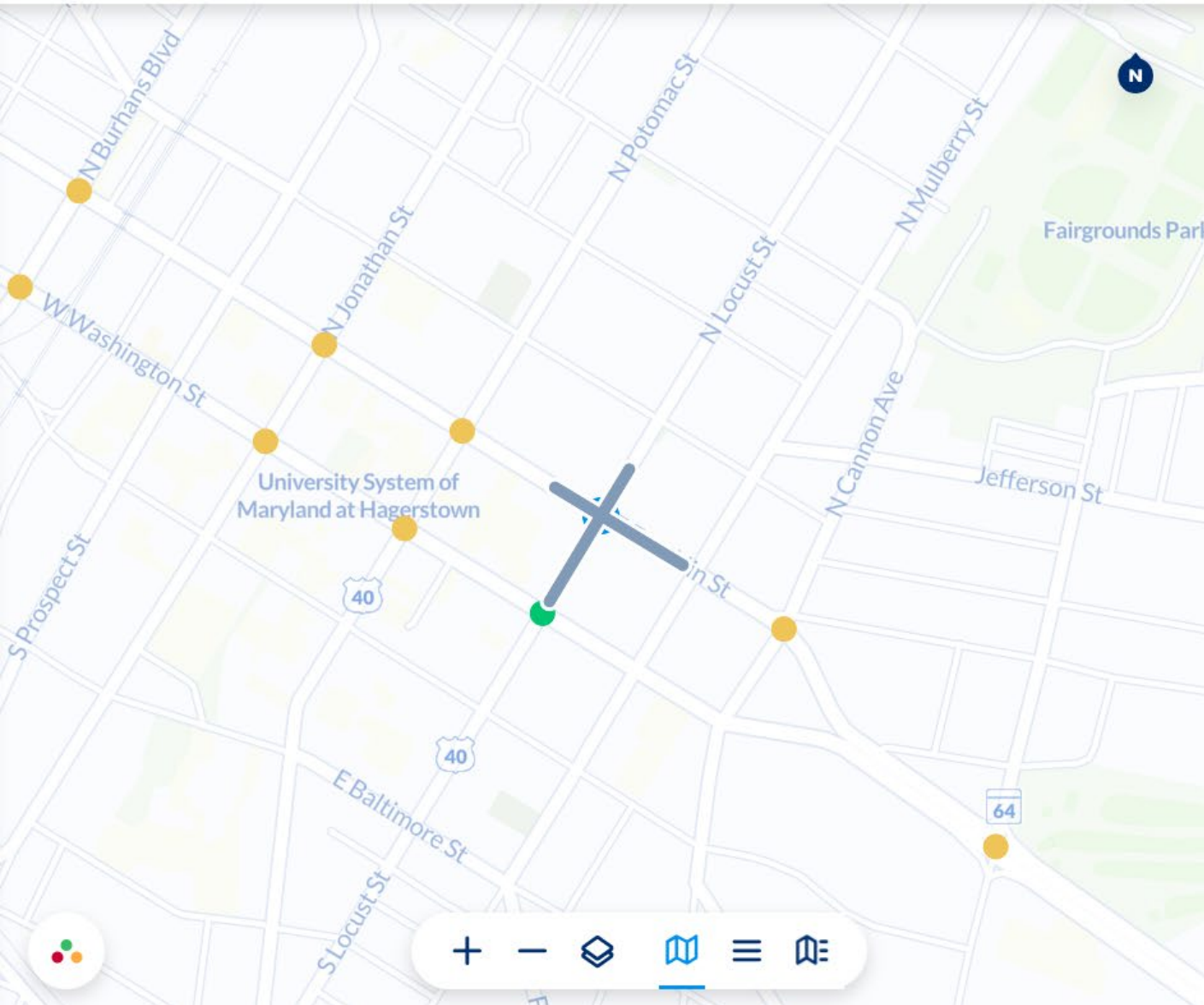
03/01/2024 TO 03/31/2024, Weekdays, PM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip Co



Diagram

List

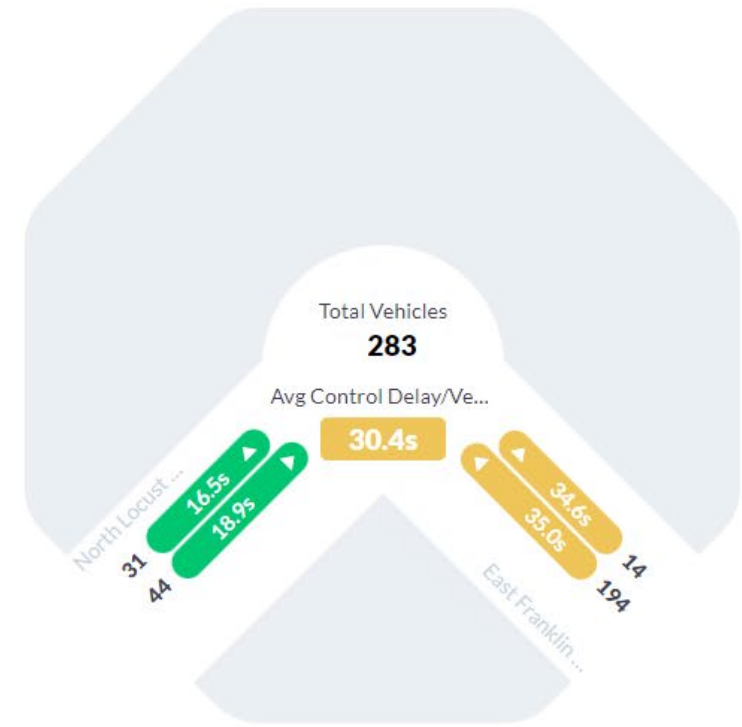
Approaches

Movements

East Franklin Street & North Locust Street

Report Issue

- A
- B
- C
- D
- E
- F



Time Range Display

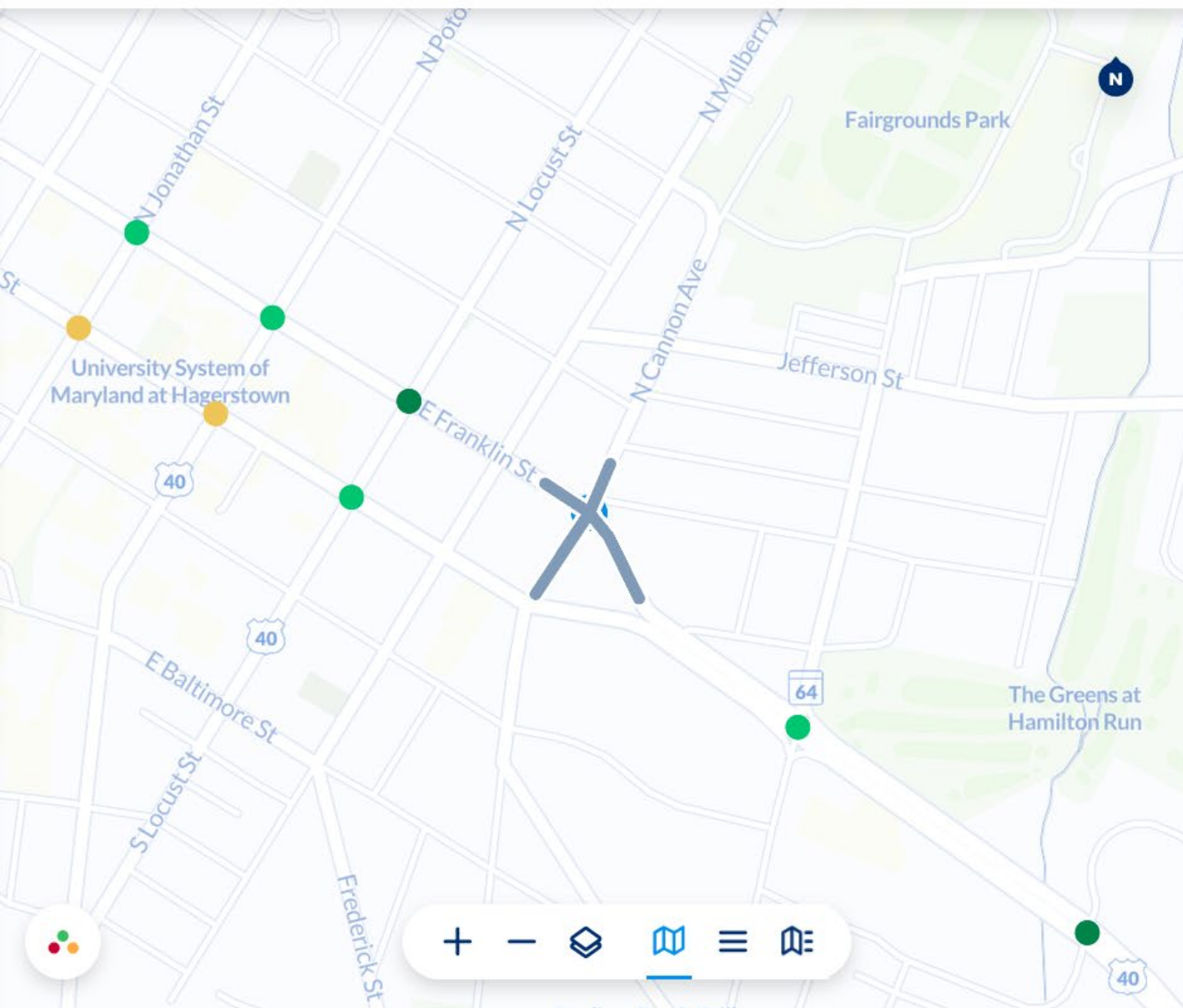
03/01/2024 **to** 03/31/2024, Weekdays, AM Peak

LOS Values | Avg. Control Delay/Vehicle

☒ Display on map

Search

Enter City, State, Zip



Diagram

List

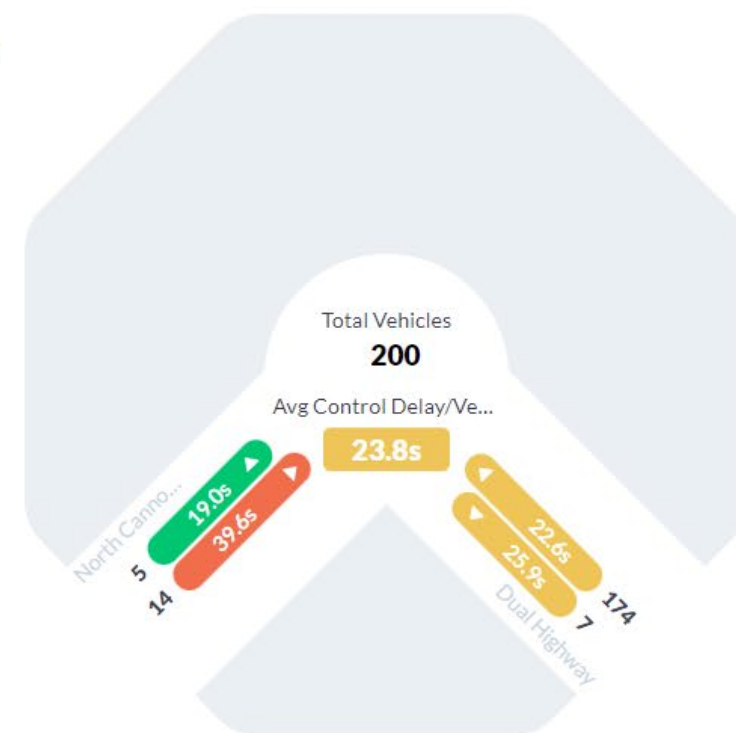
Approaches

Movements

Dual Highway & North Cannon Avenue

[Report Issue](#)

- A
- B
- C
- D
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-

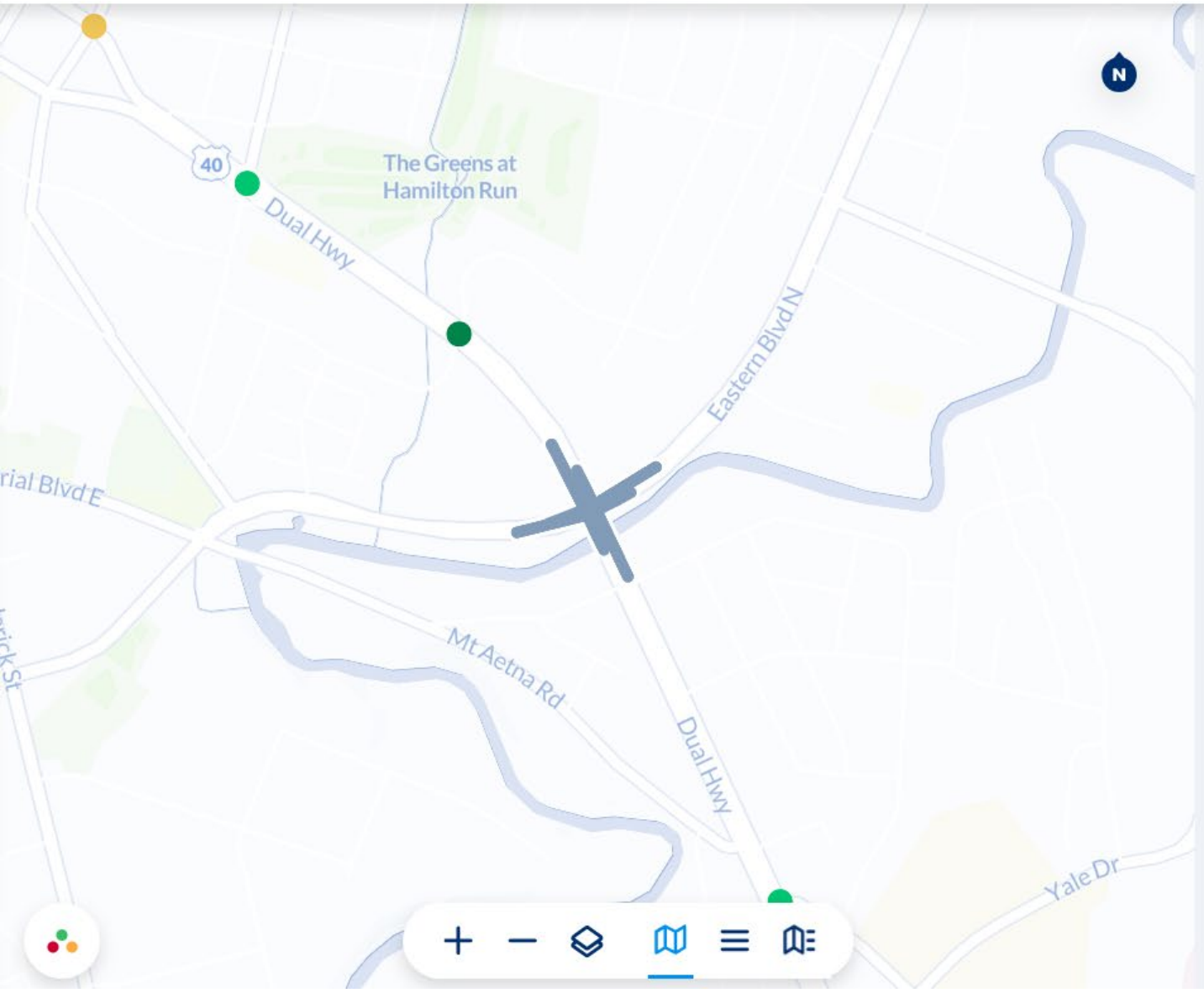




Movements

[Report Issue](#)

Eastern Blvd
(Dual Highway to Jefferson Blvd)



Diagram

List

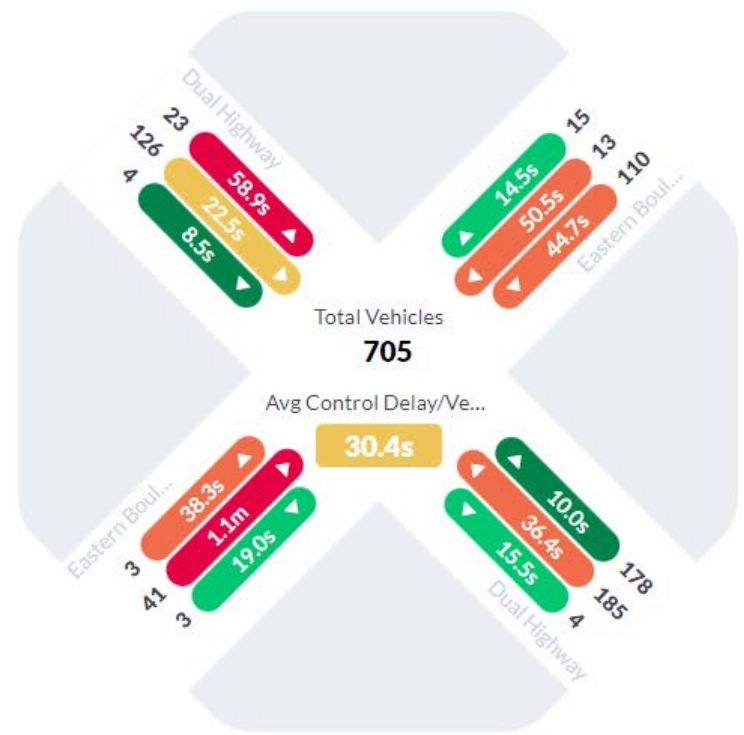
Approaches

Movements

Eastern Boulevard South & Dual Highway

Report Issue


- A
- B
- C
- D
- E
- F
-



Time Range Display

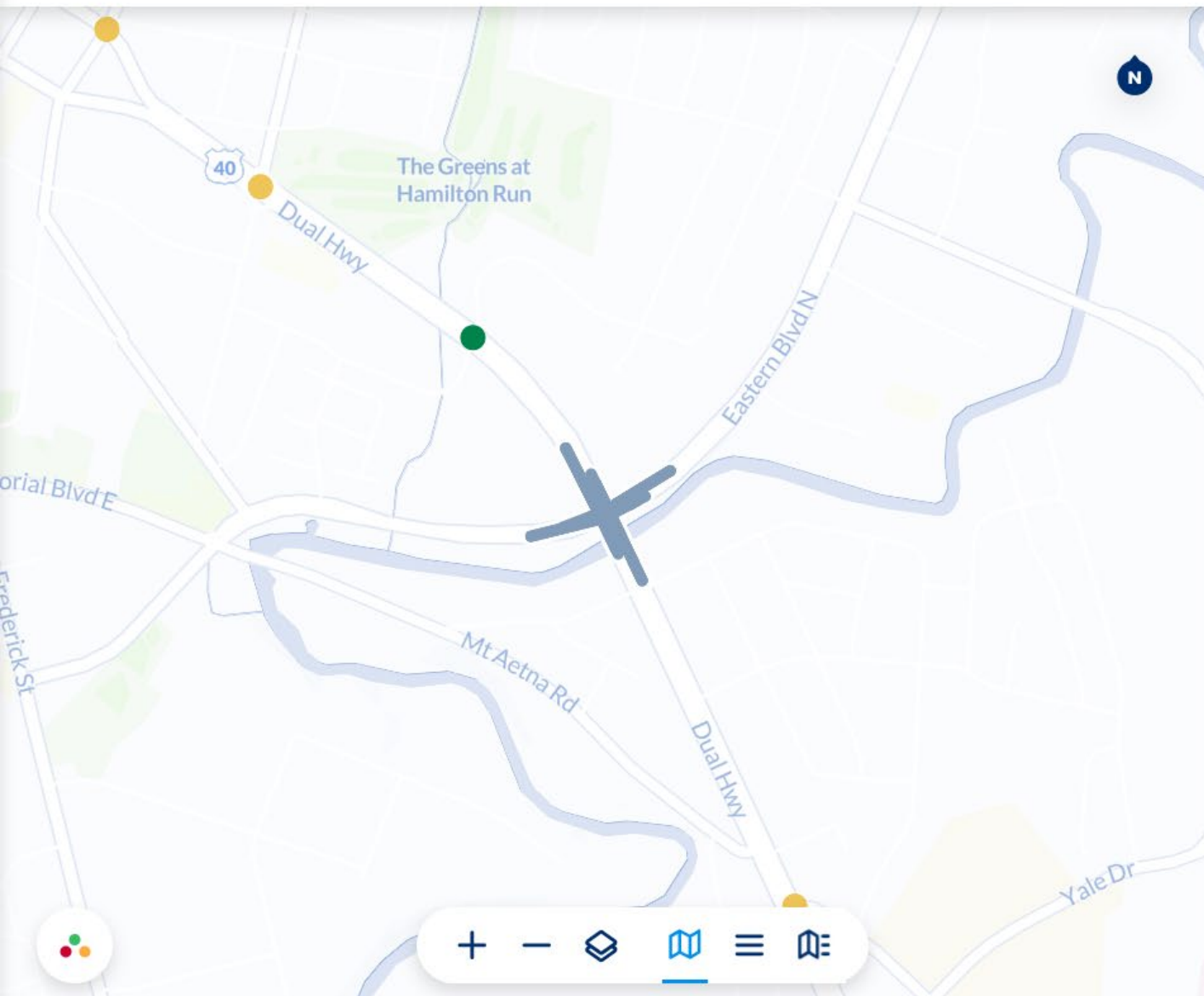
03/01/2024 TO 03/31/2024, Weekdays, PM Peak 

LOS Values | Avg. Control Delay/Vehicle 

 Display on map

Search

Enter City, State, Zip Co



Diagram

List

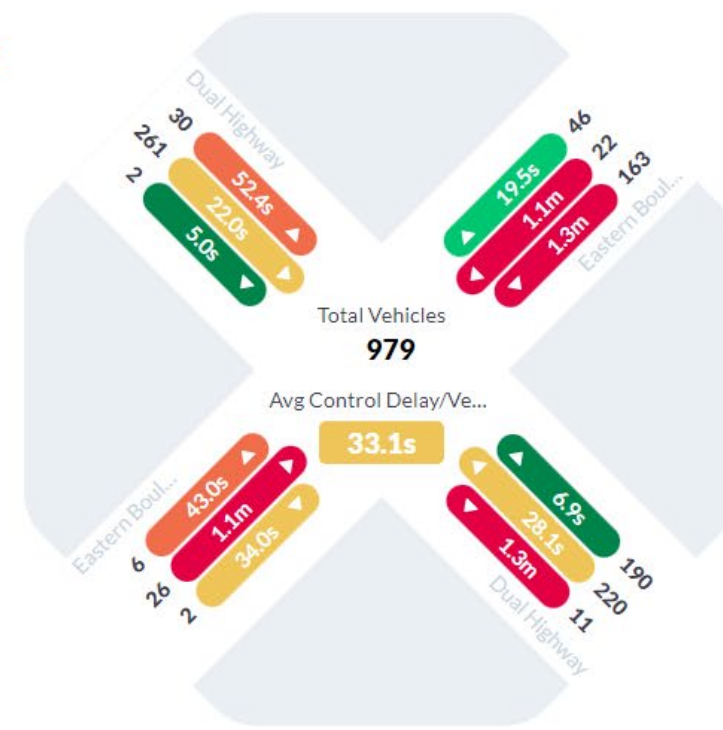
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Eastern Boulevard South & Dual Highway

 Report Issue

- A
- B
- C
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- E
- F
- ...



Dual Highway
(N Cannon Avenue to Edgewood Dr)

Time Range Display

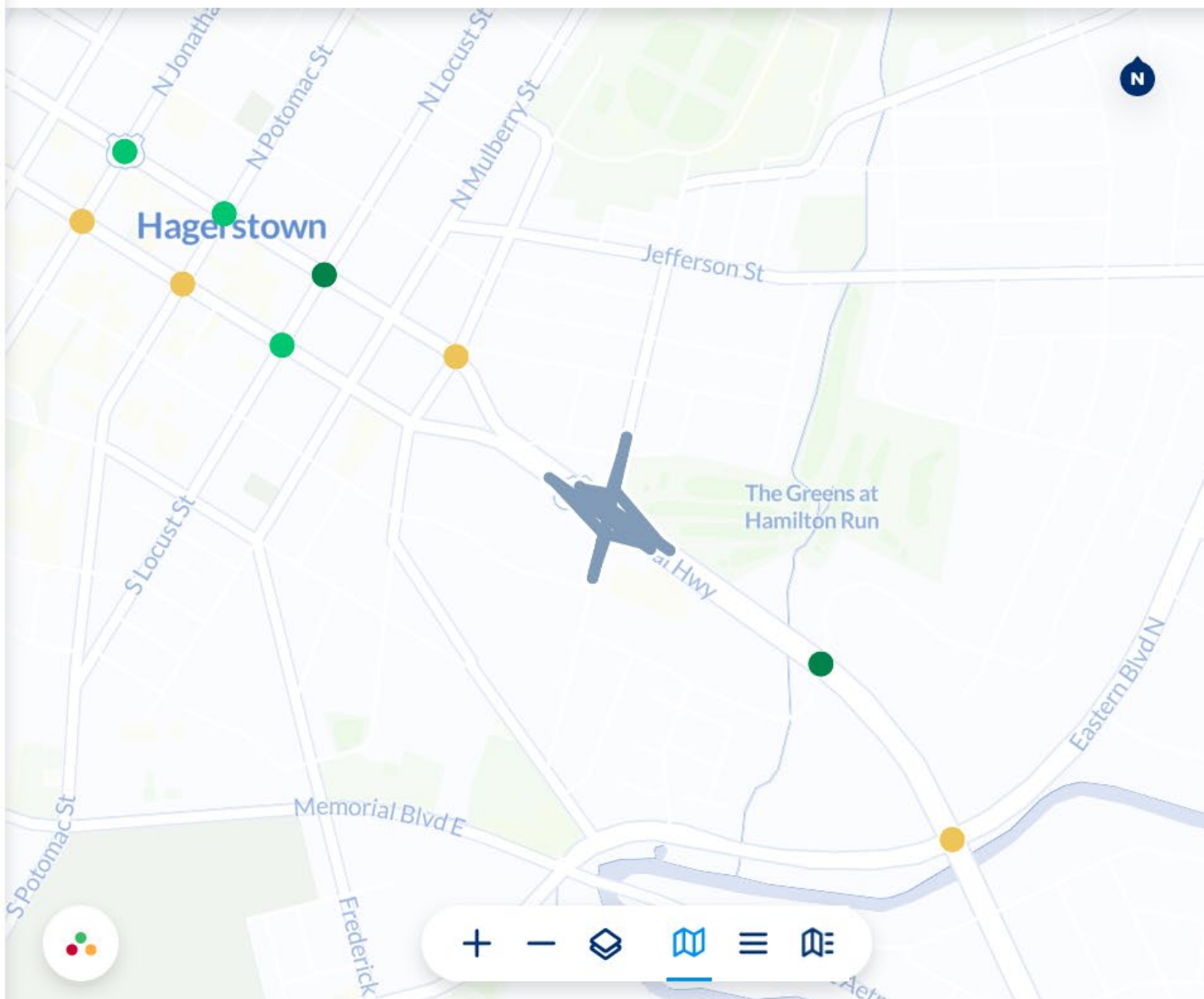
03/01/2024 TO 03/31/2024, Weekdays, AM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip C



Diagram

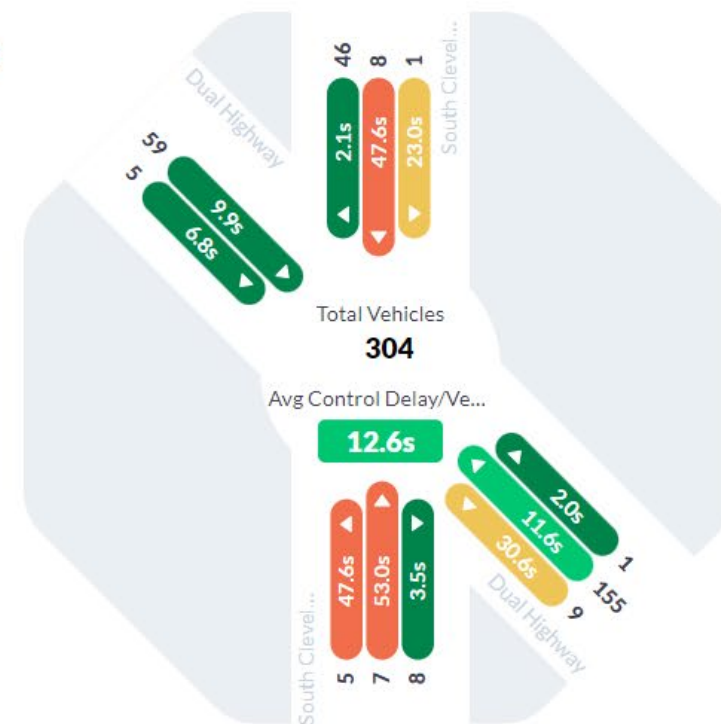
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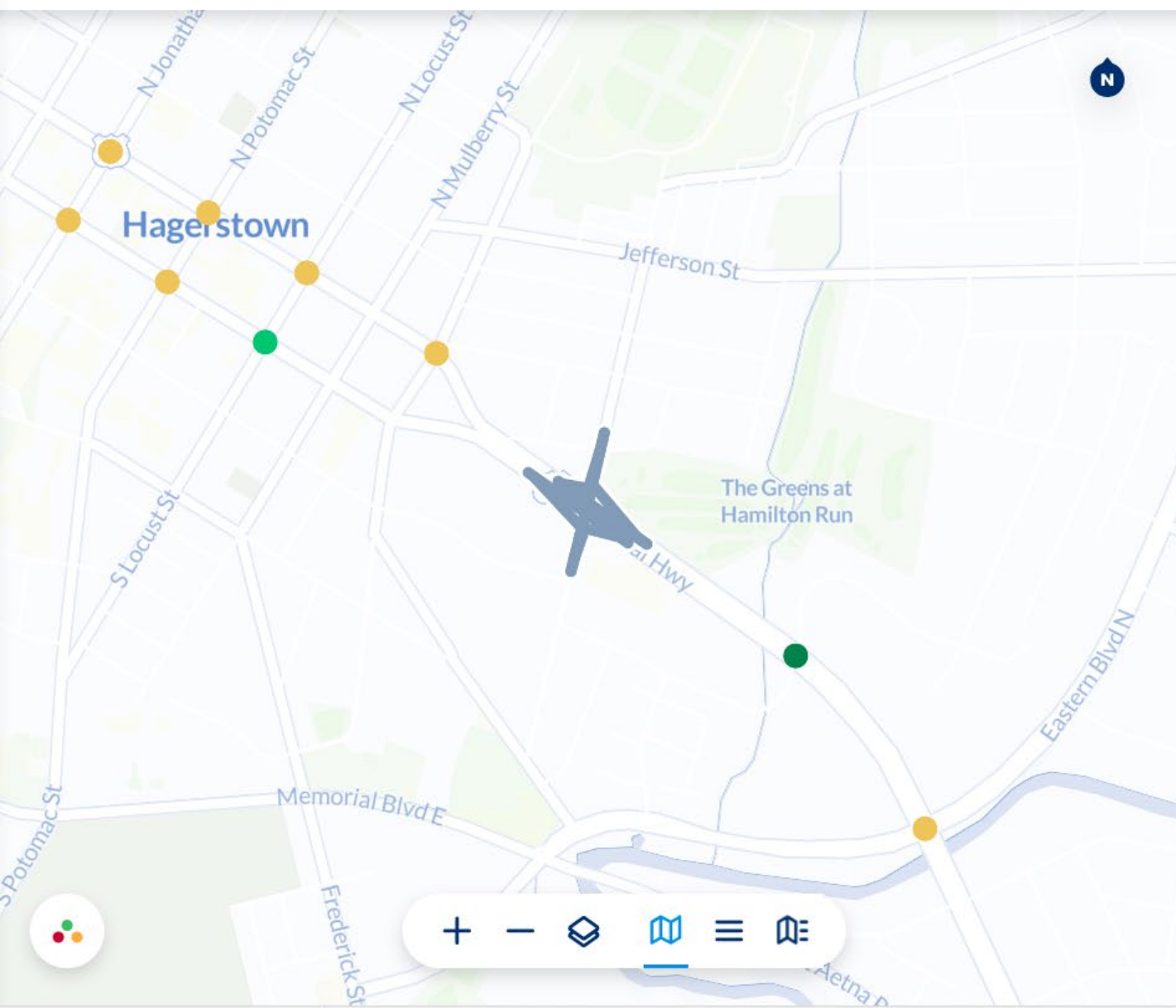
Approaches

Movements

Dual Highway & South Cleveland Avenue

Report Issue





Diagram

List

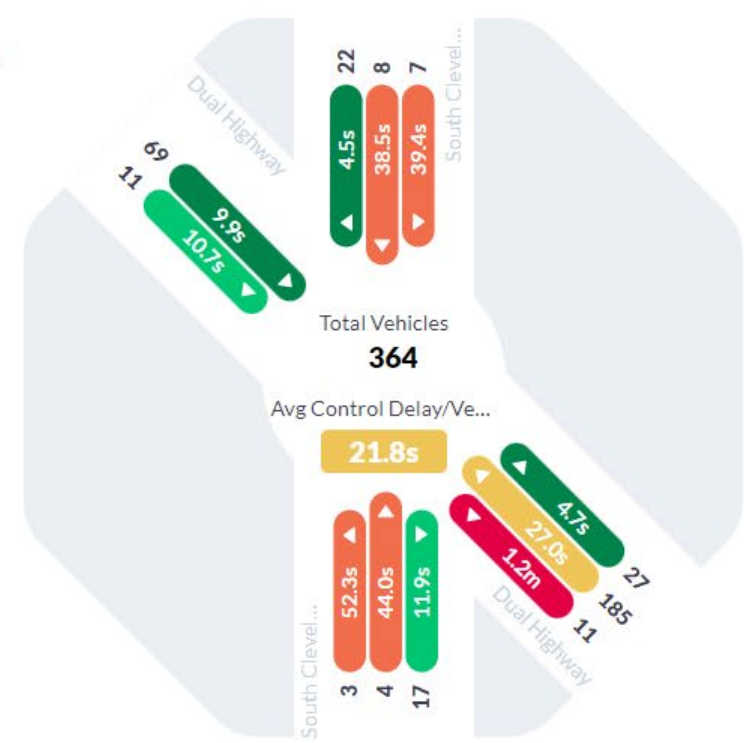
Approaches

Movements

Dual Highway & South Cleveland Avenue

Report Issue

- A
- B
- C
- D
- E
- F



Time Range Display

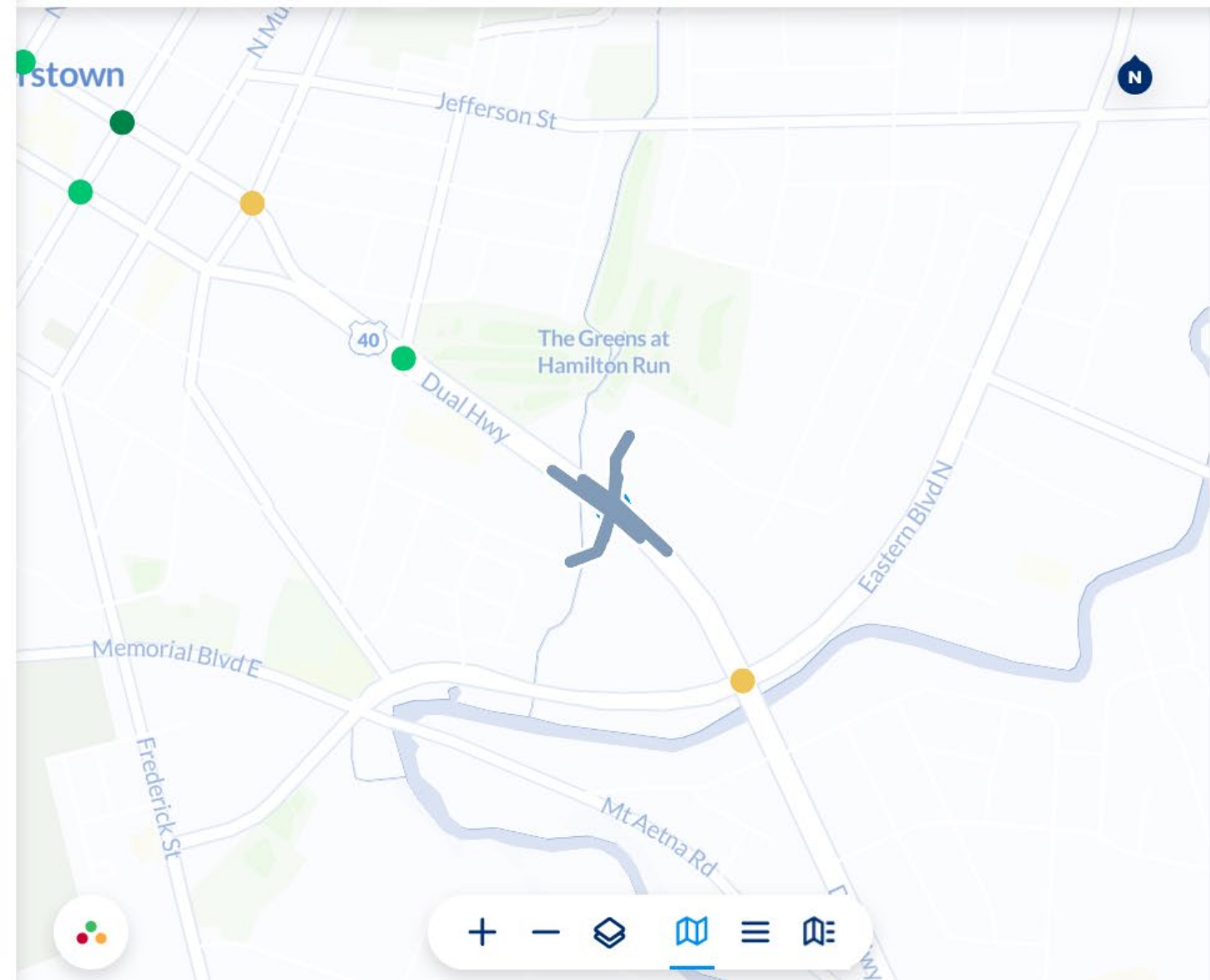
03/01/2024 **to** 03/31/2024, Weekdays, AM Peak

LOS Values | Avg. Control Delay/Vehicle

☒ Display on map

Search

Enter City, State, Z



Diagram

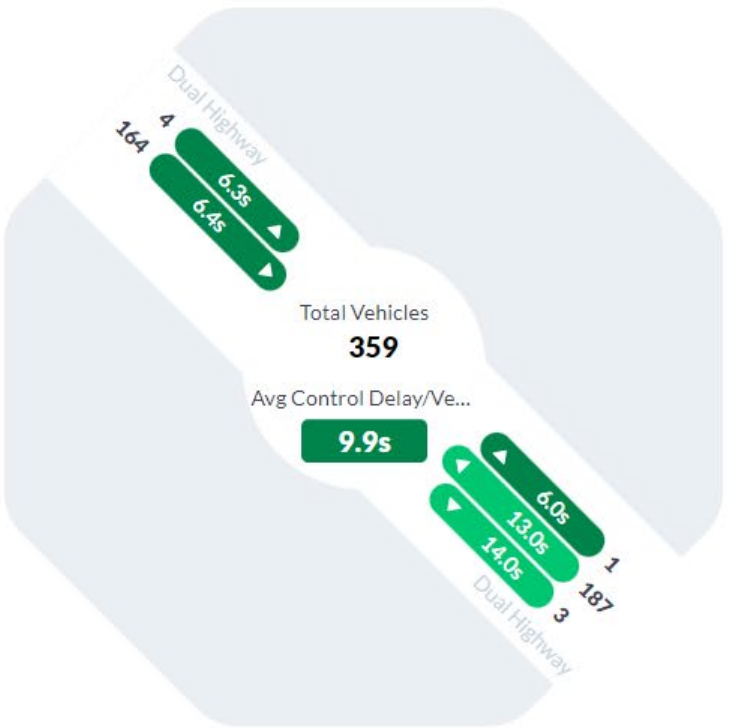
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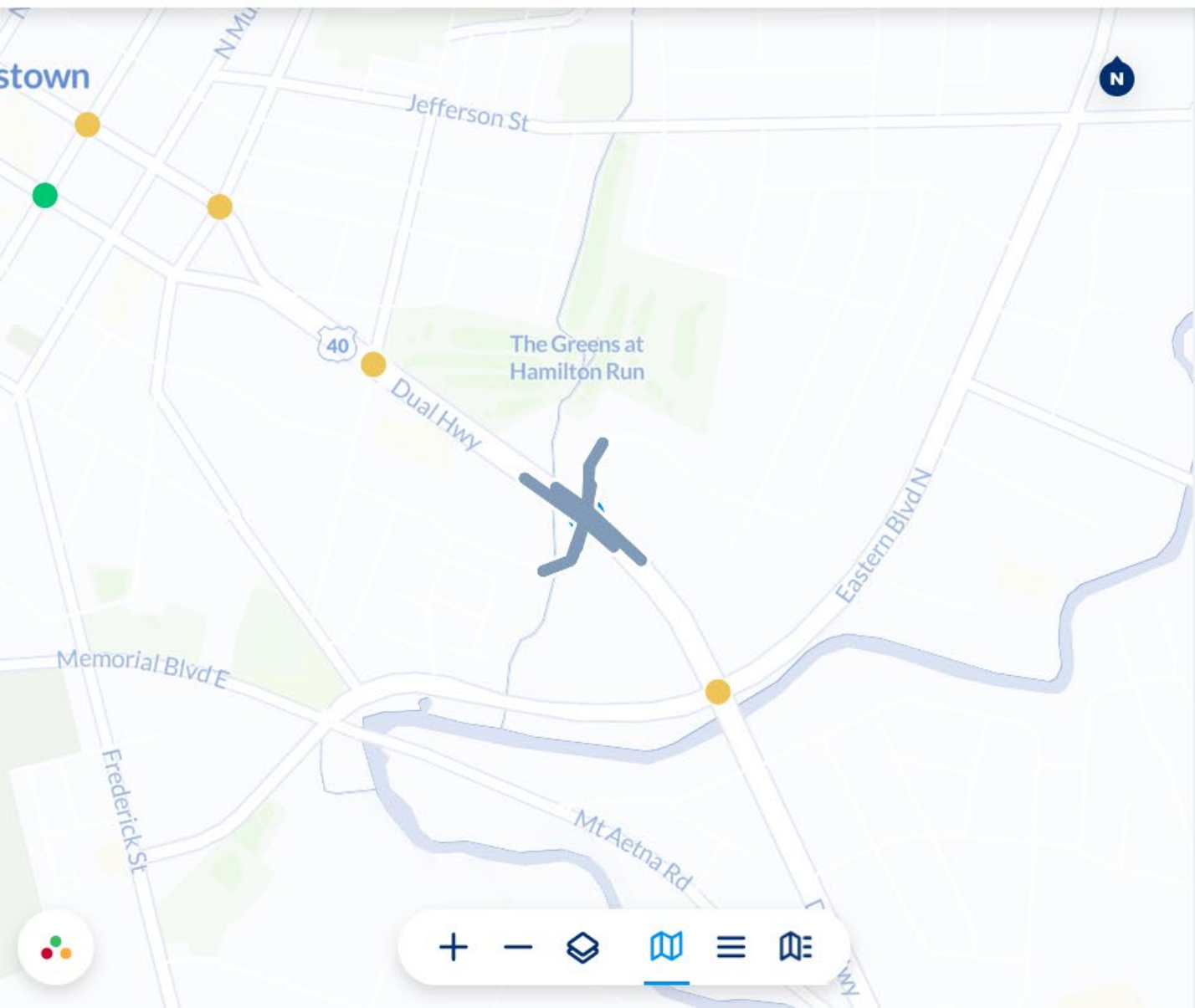
Approaches

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Dual Highway & Tracys Lane

[Report Issue](#)





Diagram

List

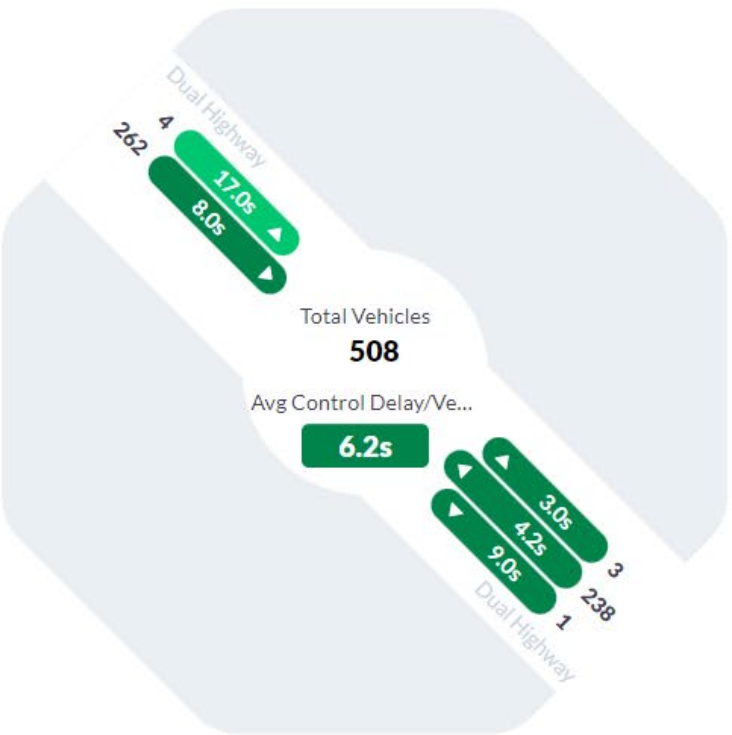
Approaches

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Dual Highway & Tracys Lane

Report Issue

- A
- B
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Time Range Display

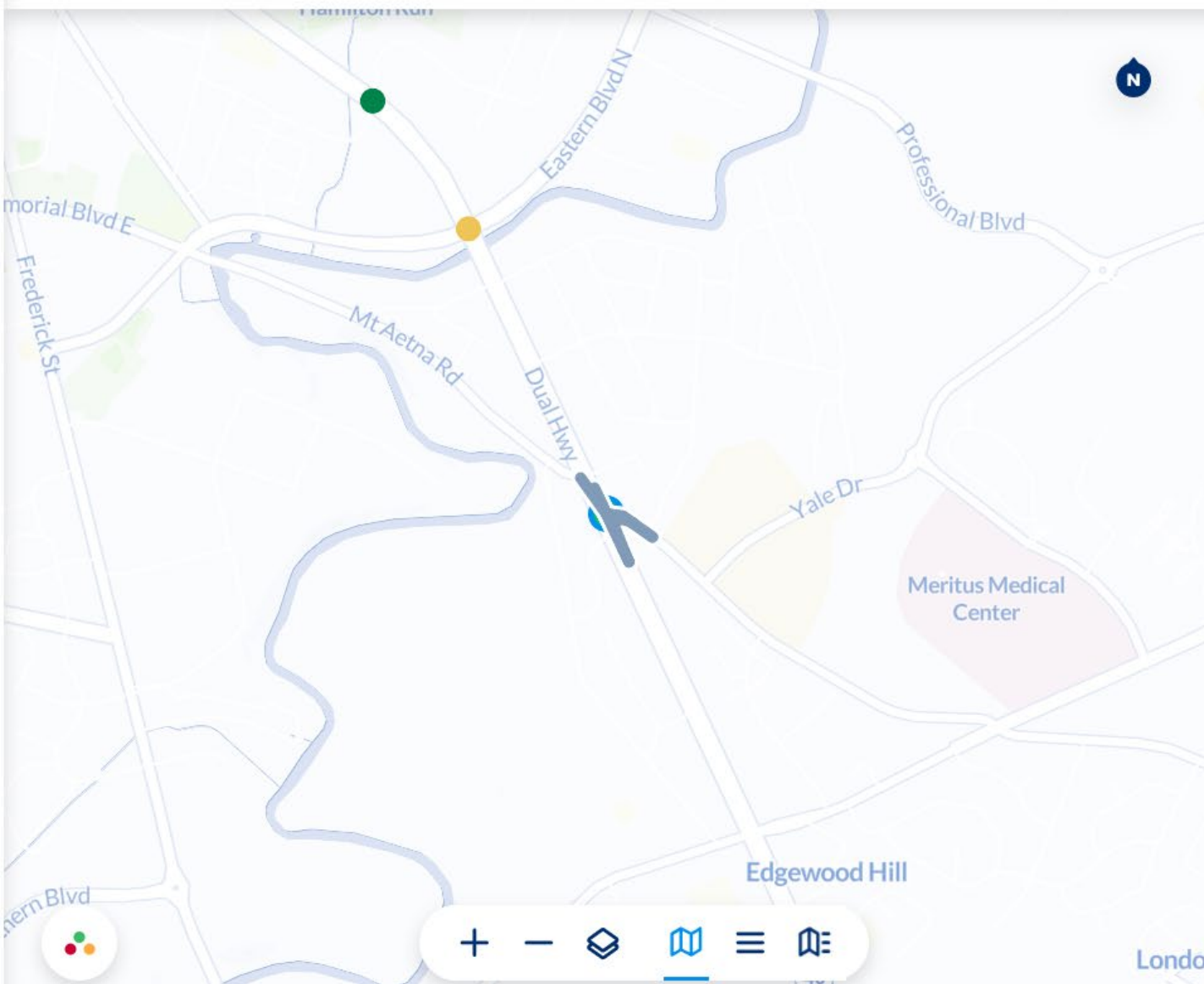
03/01/2024 TO 03/31/2024, Weekdays, AM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip



Diagram

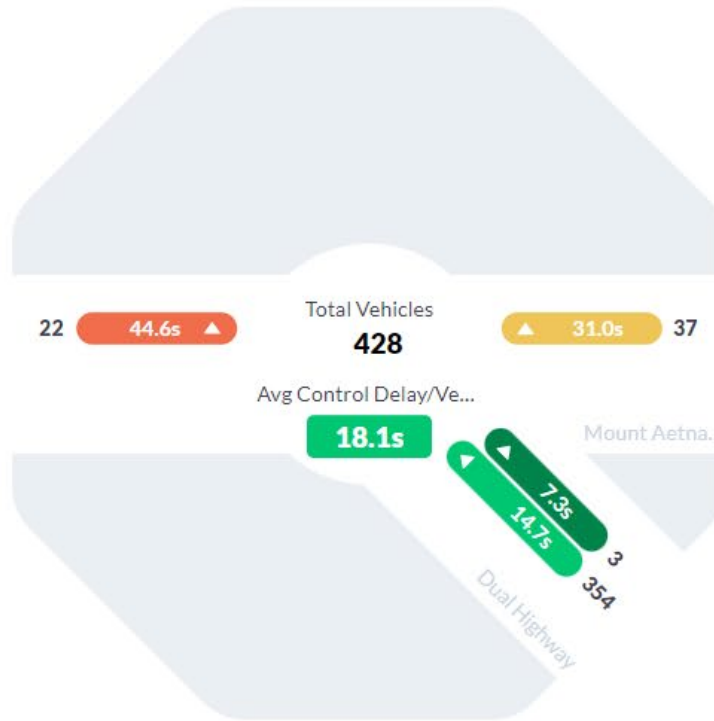
List

Approaches

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Mount Aetna Road & Dual Highway

Report Issue



- A
- B
- C
- D
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-

Time Range Display

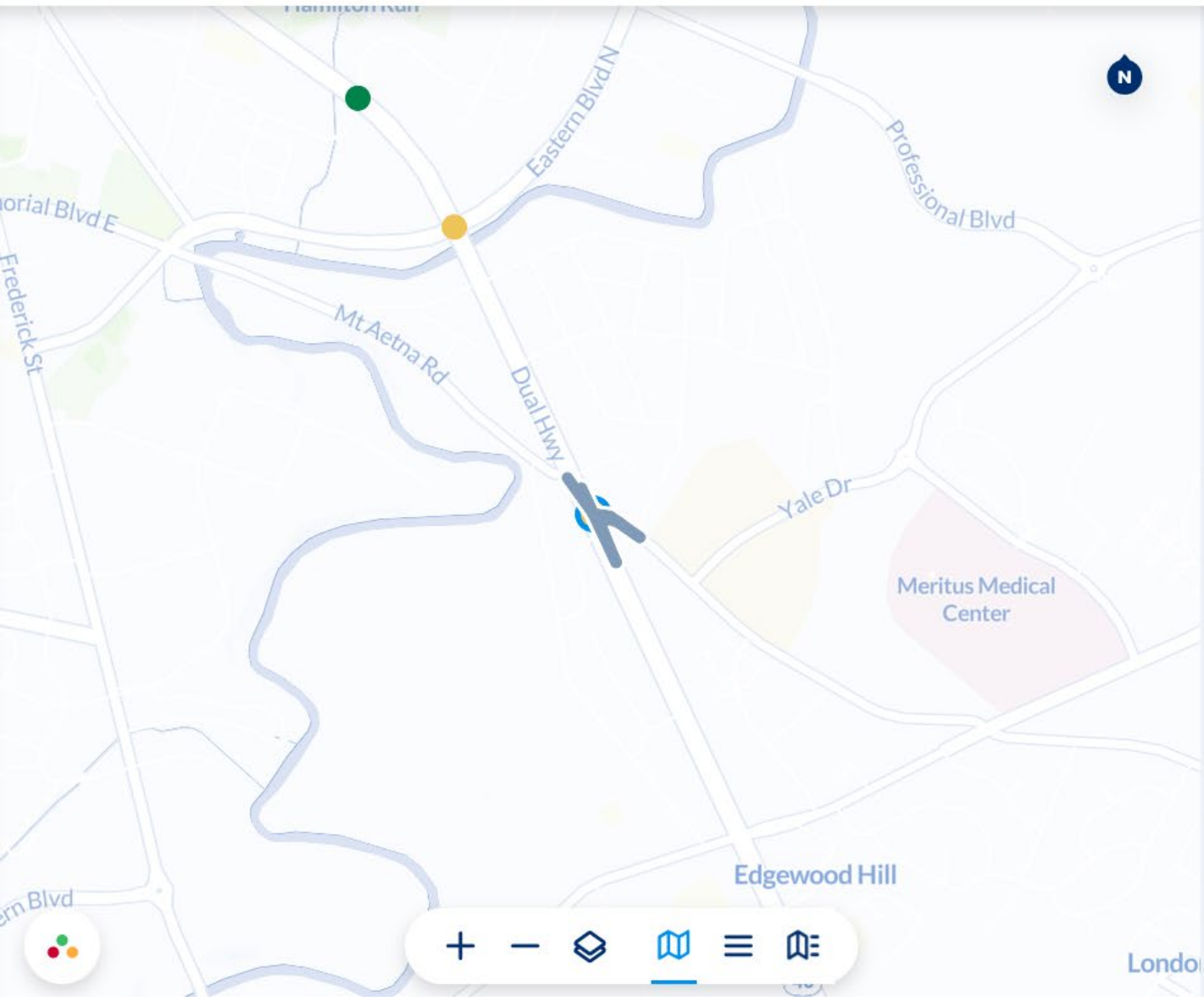
03/01/2024 TO 03/31/2024, Weekdays, PM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip Co



Diagram

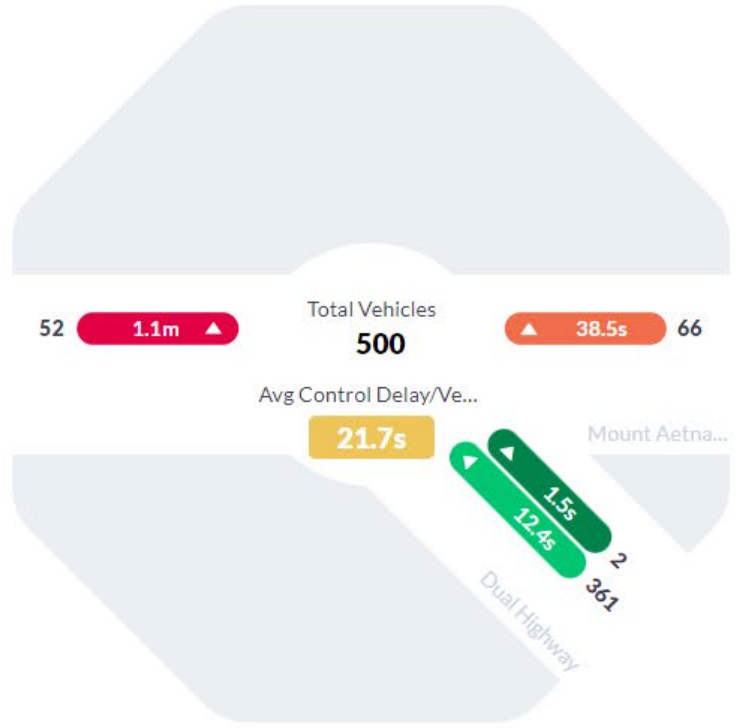
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Approaches

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Mount Aetna Road & Dual Highway

Report Issue



Maugans Ave
(I-81 to Pennsylvania Ave)

Time Range Display

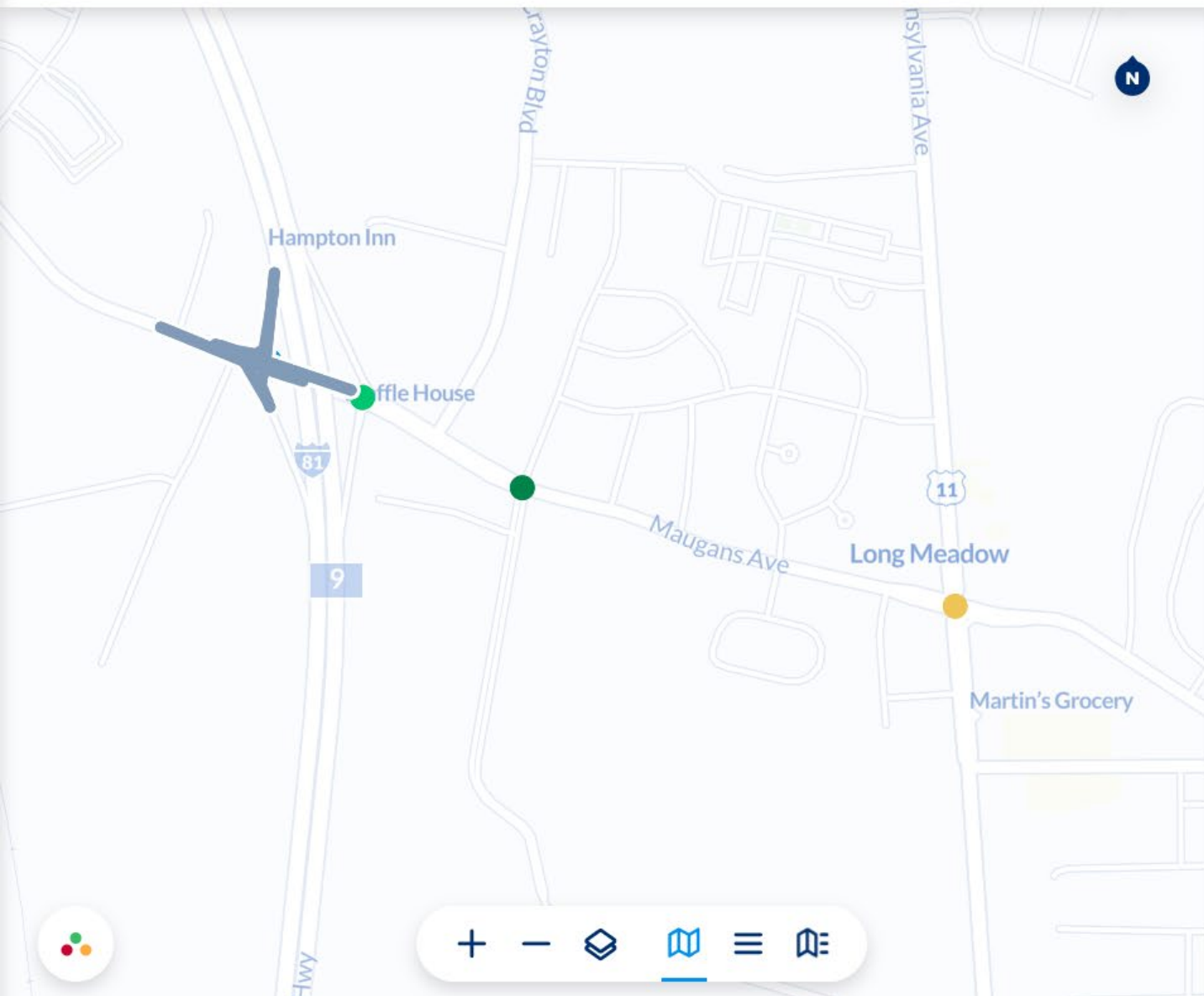
03/01/2024 TO 03/31/2024, Weekdays, AM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip



Diagram

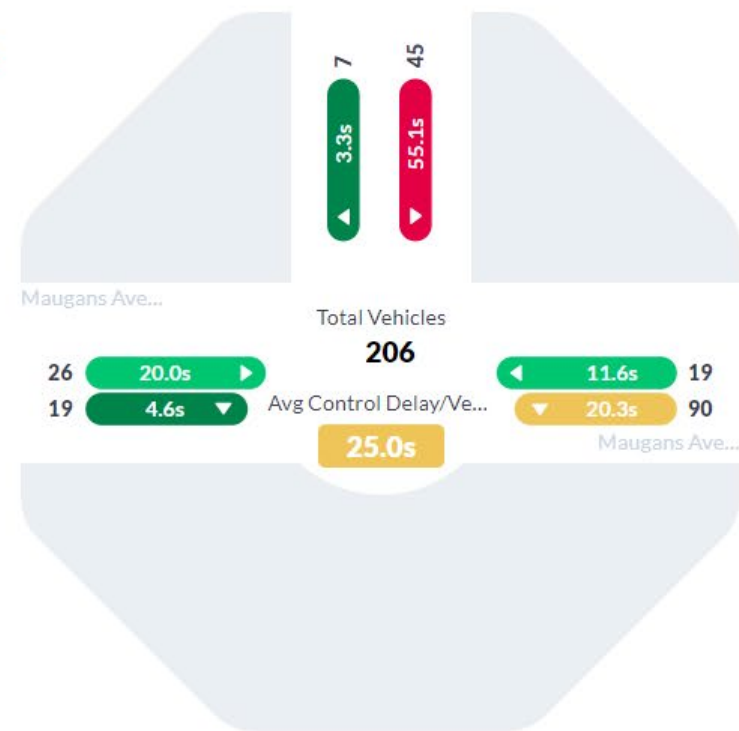
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Maugans Avenue

Report Issue



Time Range Display

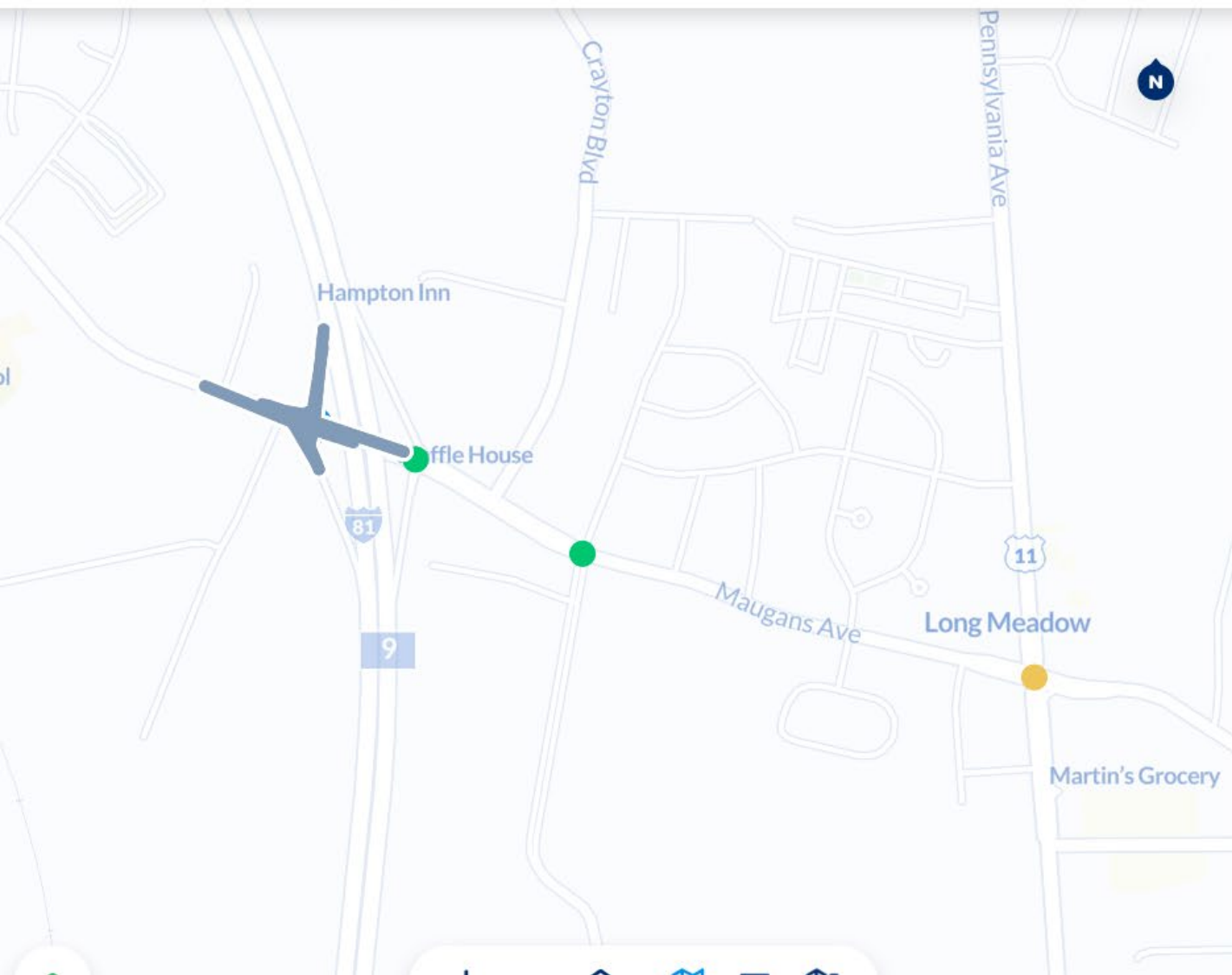
03/01/2024 TO 03/31/2024, Weekdays, PM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip



Diagram

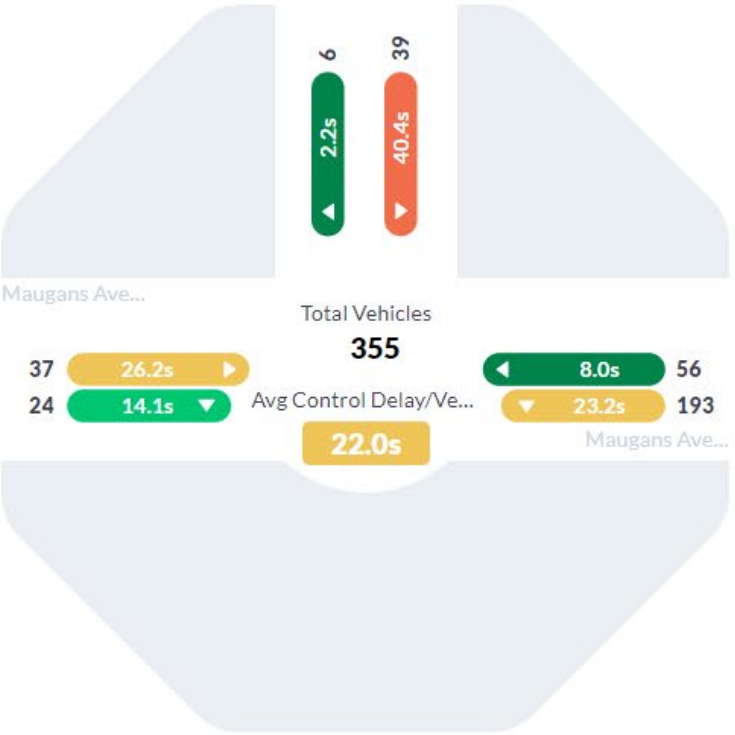
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Maugans Avenue

Report Issue



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Time Range Display

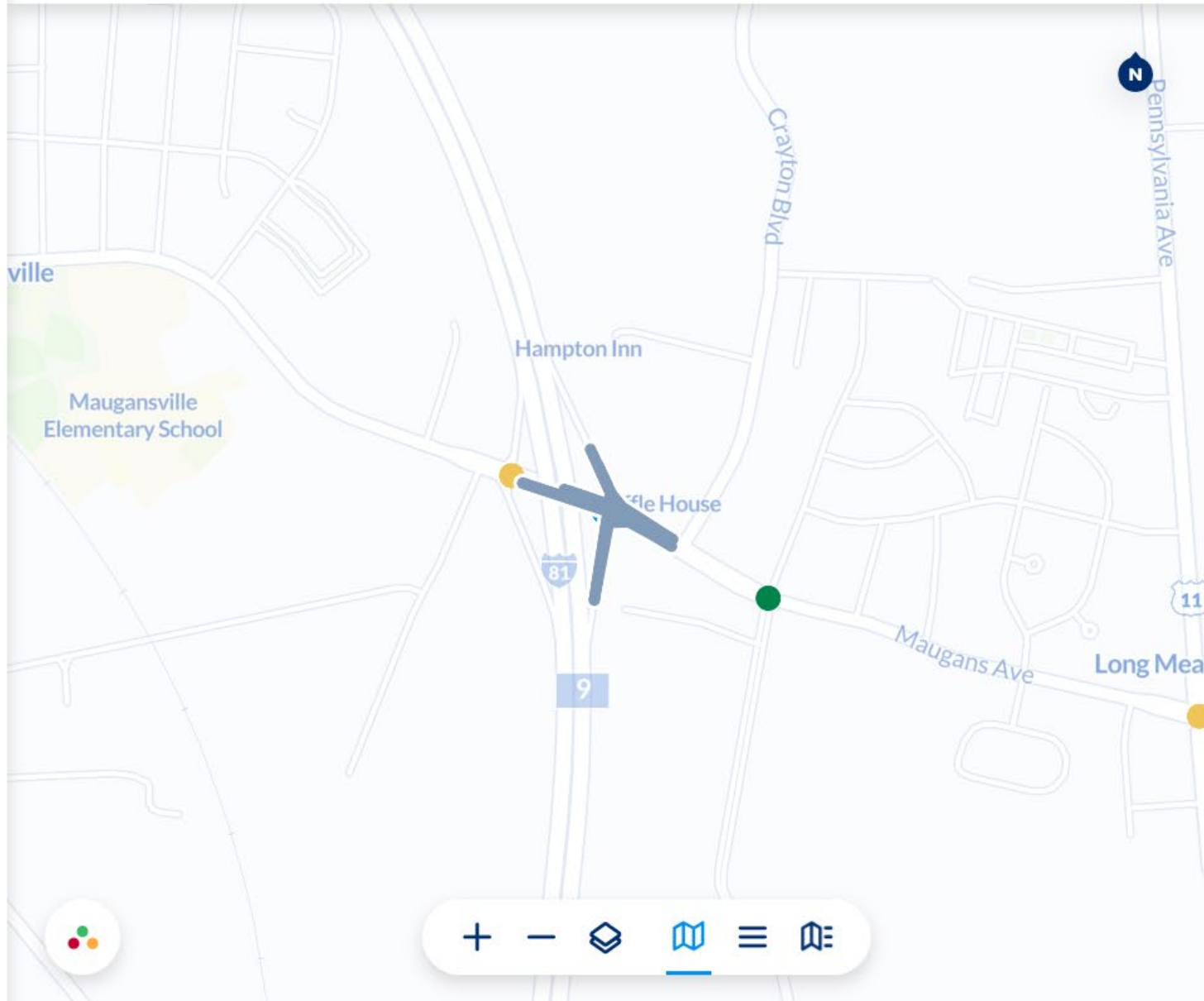
03/01/2024 TO 03/31/2024, Weekdays, AM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, S



Diagram

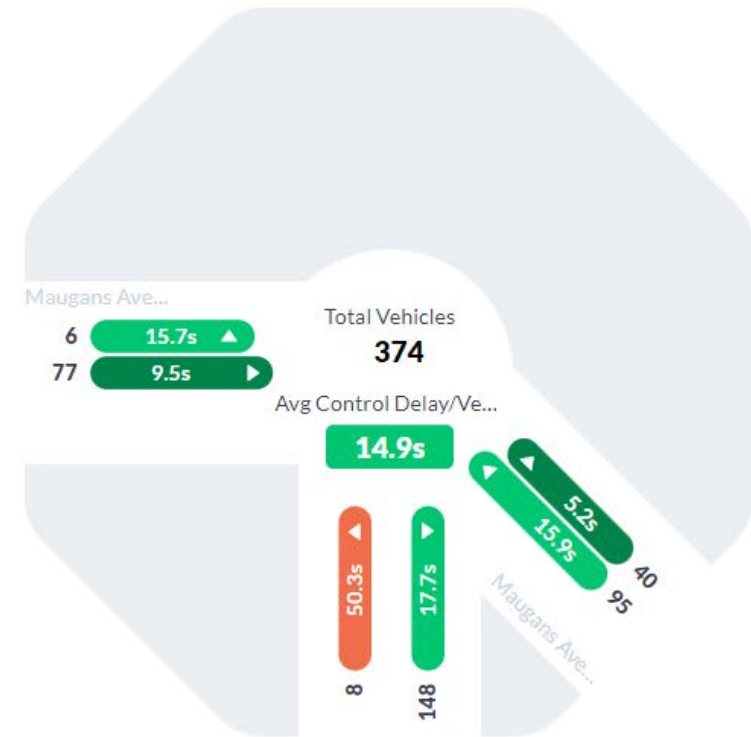
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Time Range Display

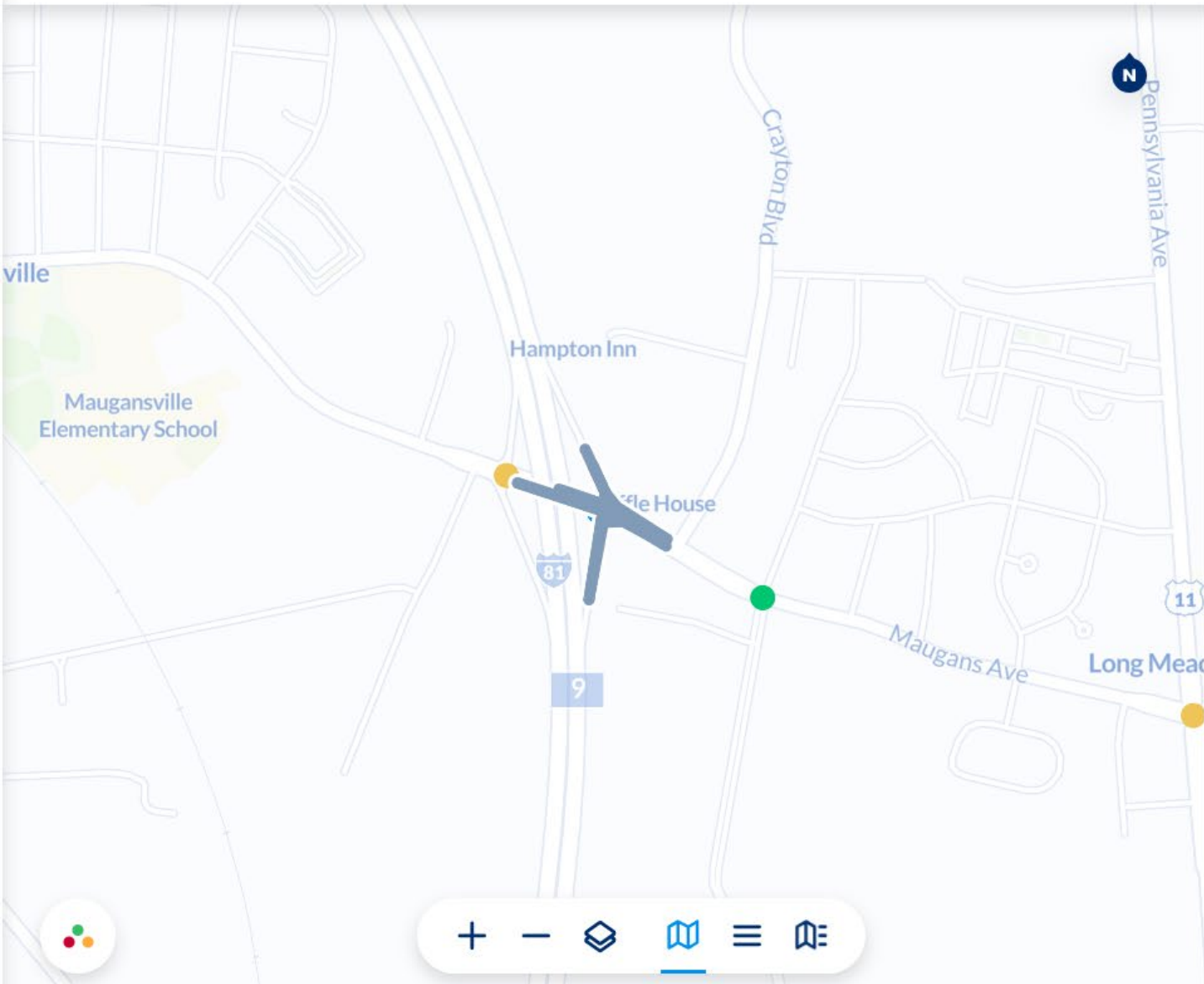
03/01/2024 TO 03/31/2024, Weekdays, PM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip



Diagram

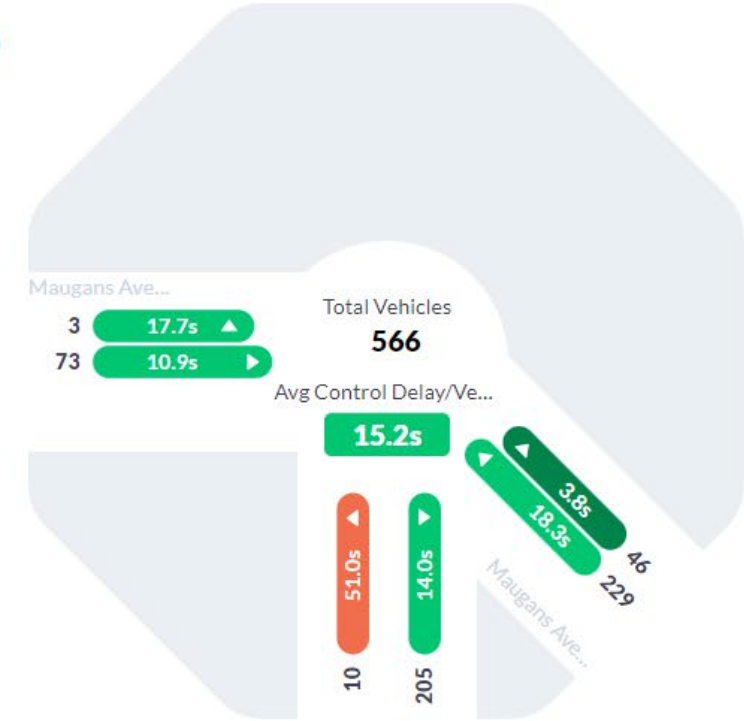
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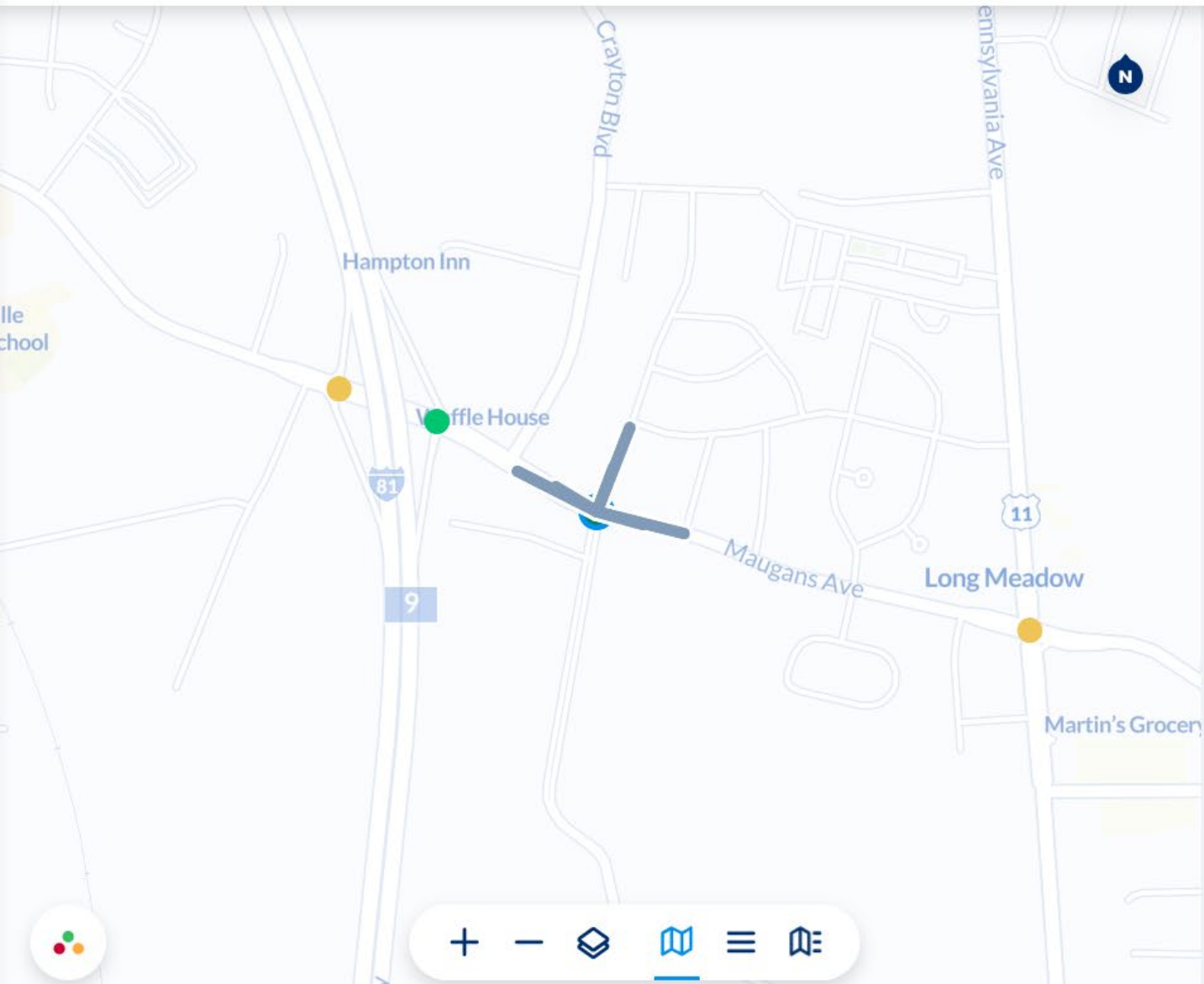
Approaches

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Maugans Avenue

Report Issue





Diagram

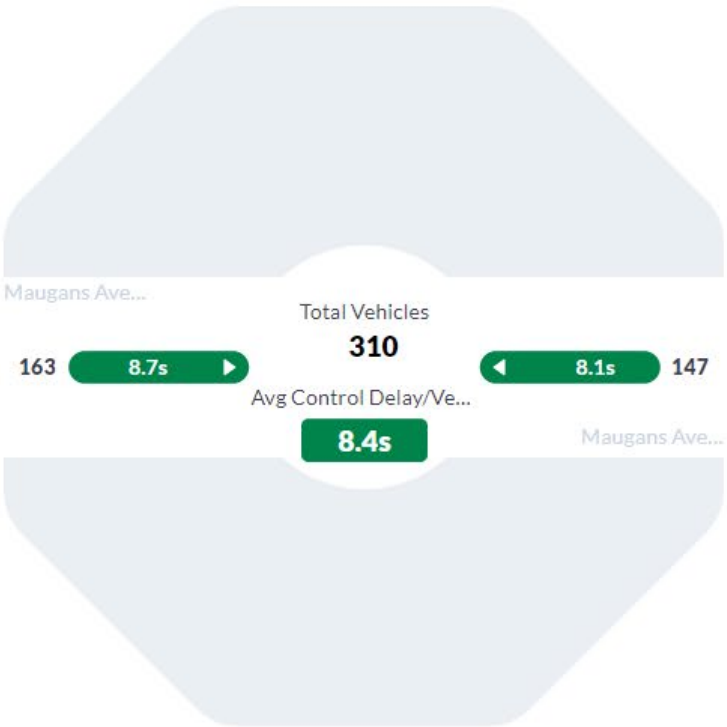
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Maugans Ave & Volvo Way

Report Issue



Time Range Display

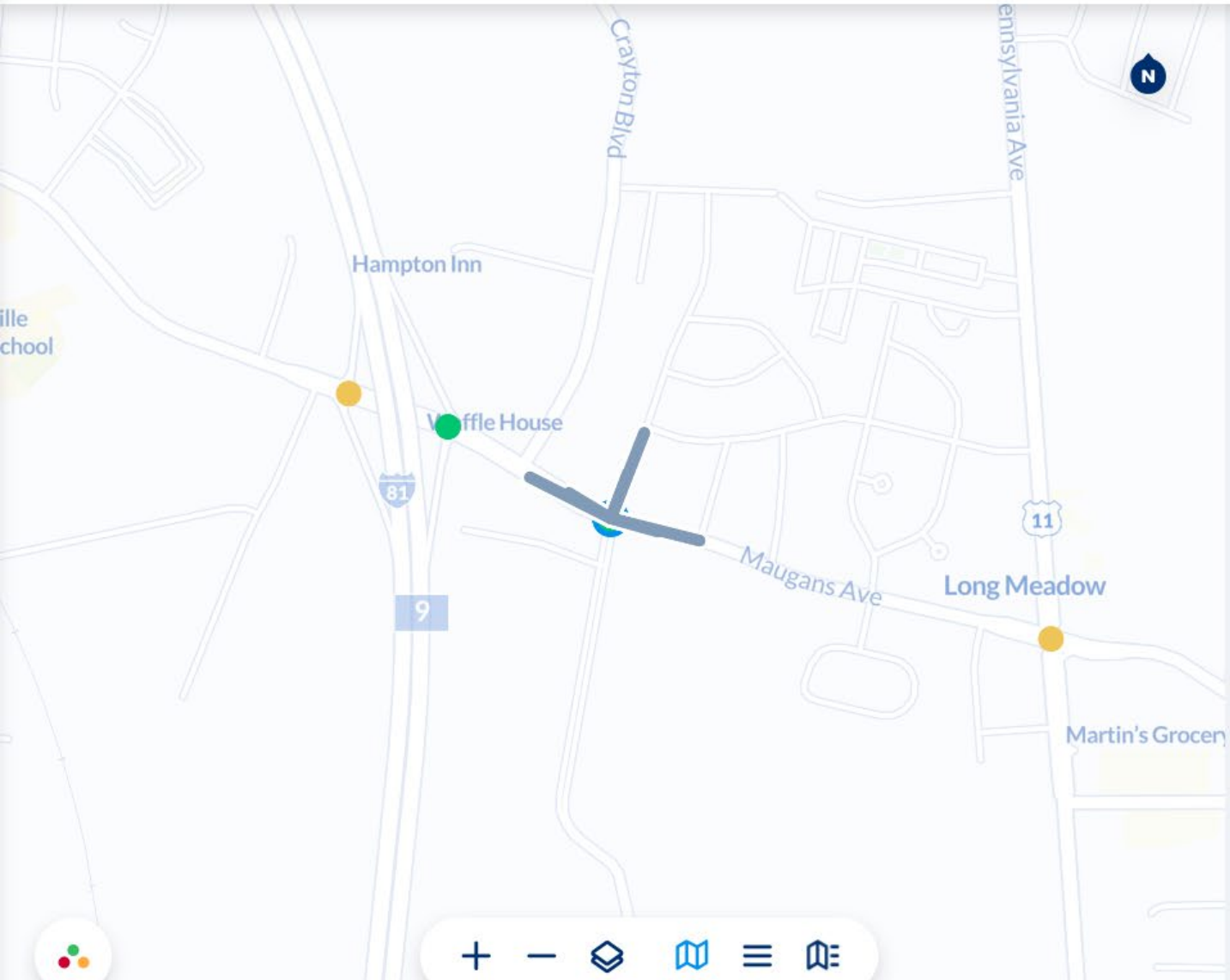
03/01/2024 TO 03/31/2024, Weekdays, PM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip



Diagram

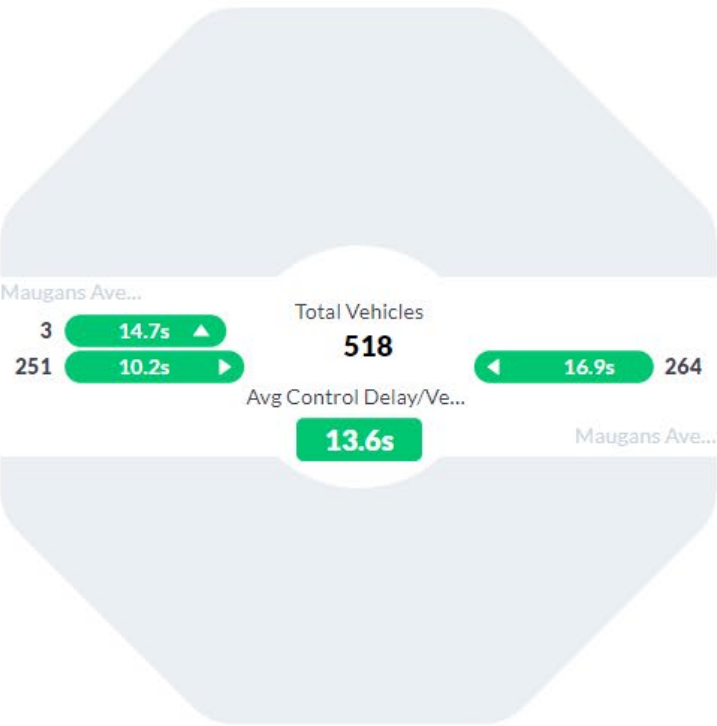
List

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Maugans Ave & Volvo Way

Report Issue



Time Range Display

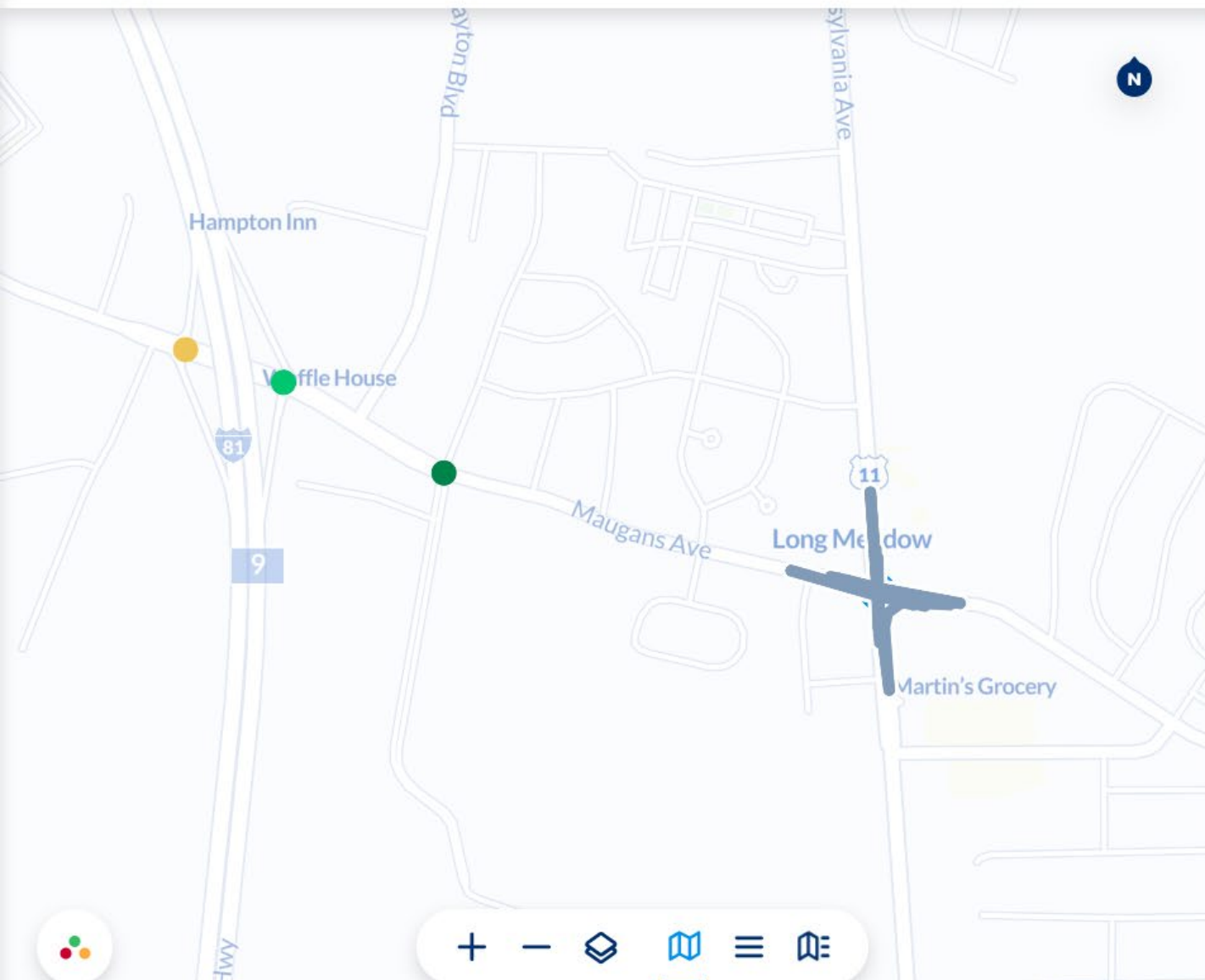
03/01/2024 TO 03/31/2024, Weekdays, AM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip C



Diagram

List

Approaches

Movements

Maugans Avenue & Pennsylvania Avenue

Report Issue



Time Range Display

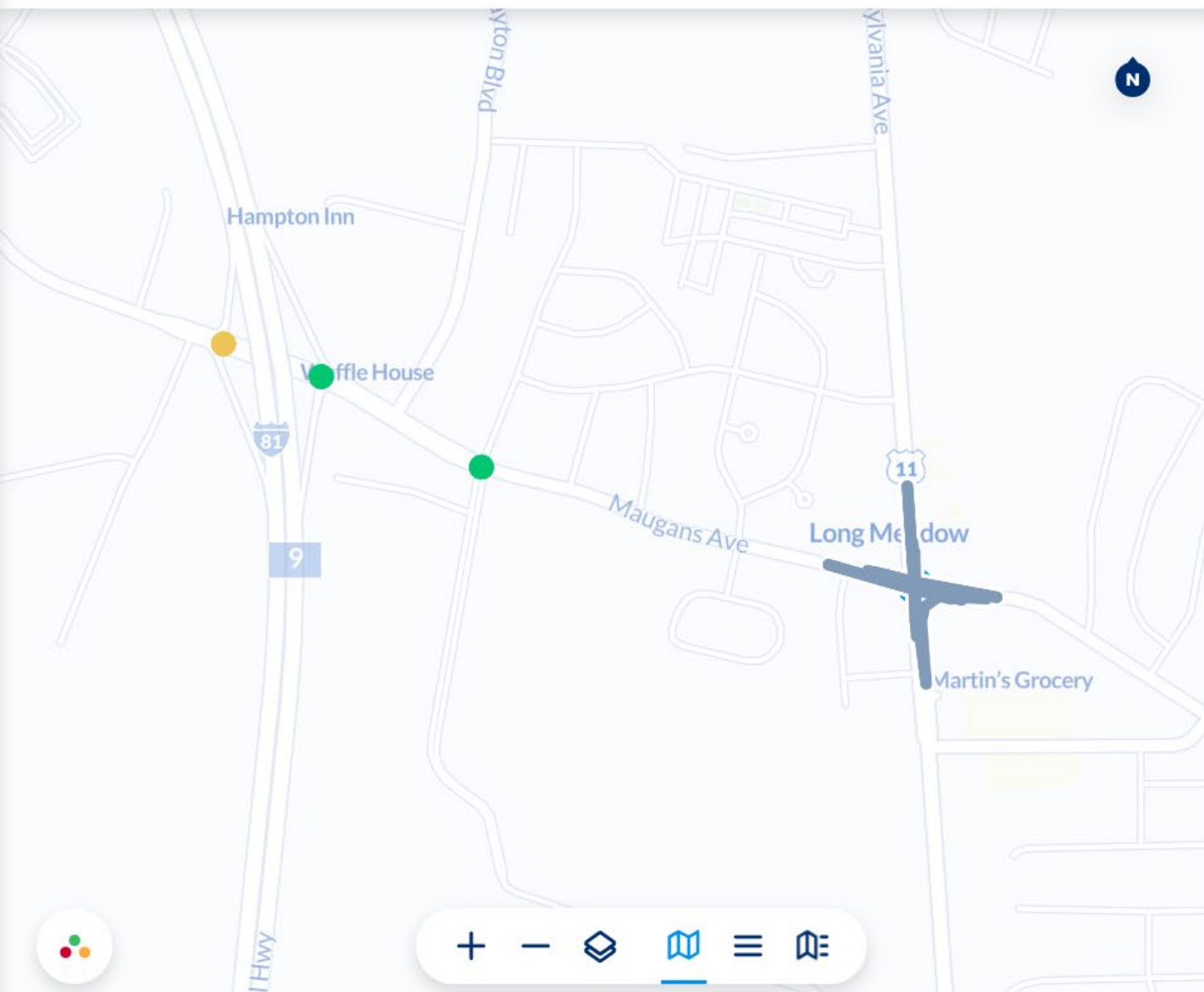
03/01/2024 TO 03/31/2024, Weekdays, PM Peak

LOS Values | Avg. Control Delay/Vehicle

Display on map

Search

Enter City, State, Zip C



Diagram

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Maugans Avenue & Pennsylvania Avenue

Report Issue



APPENDIX E

CONGESTION

VISUALS FOR CMP

LOCATIONS

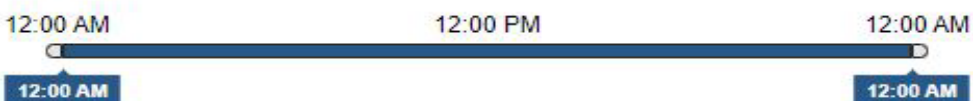


Franklin St (Burhans Blvd to N Cannon Avenue)

E-3



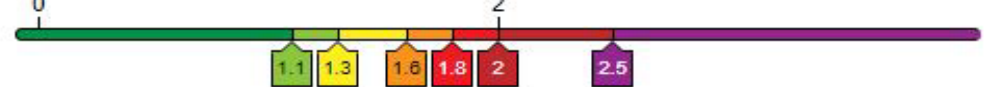
Time range



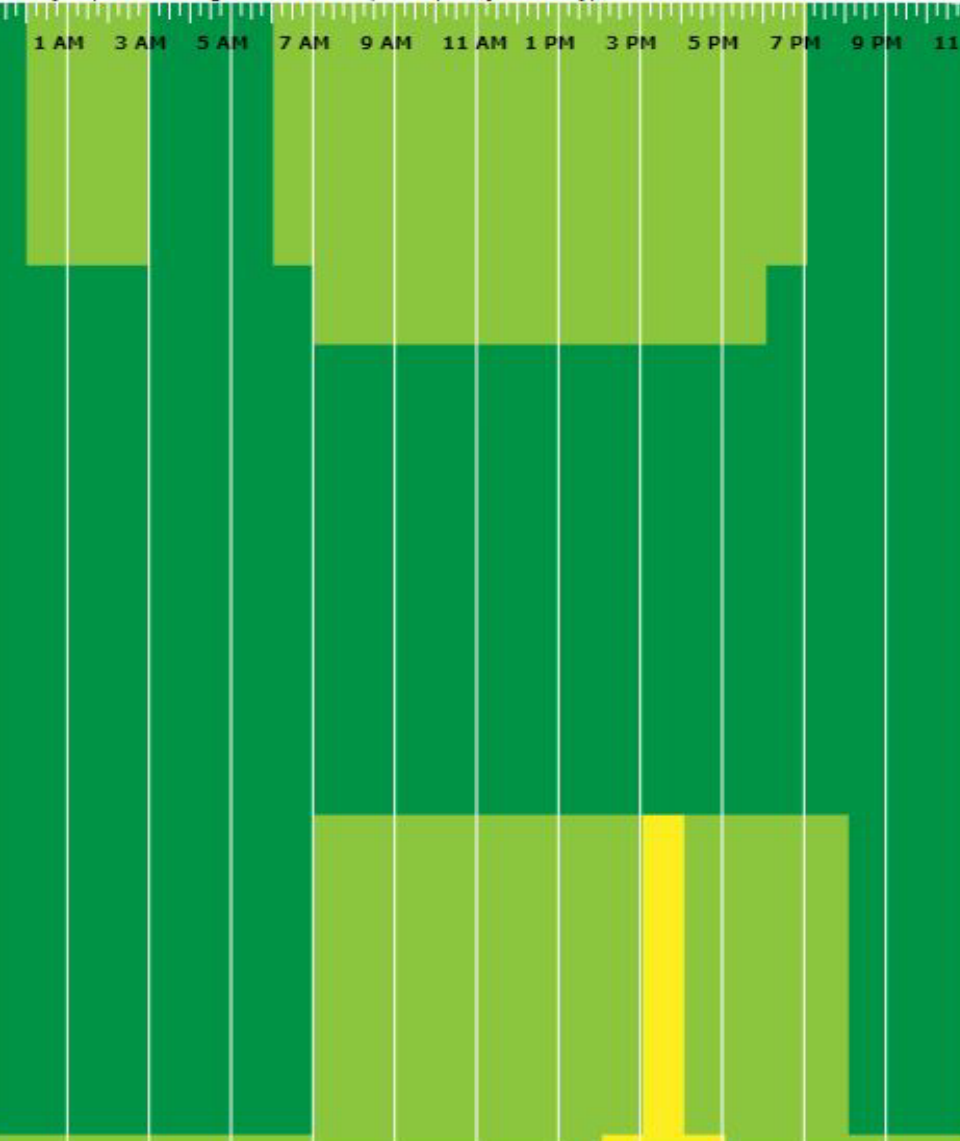
Data type

Travel time index

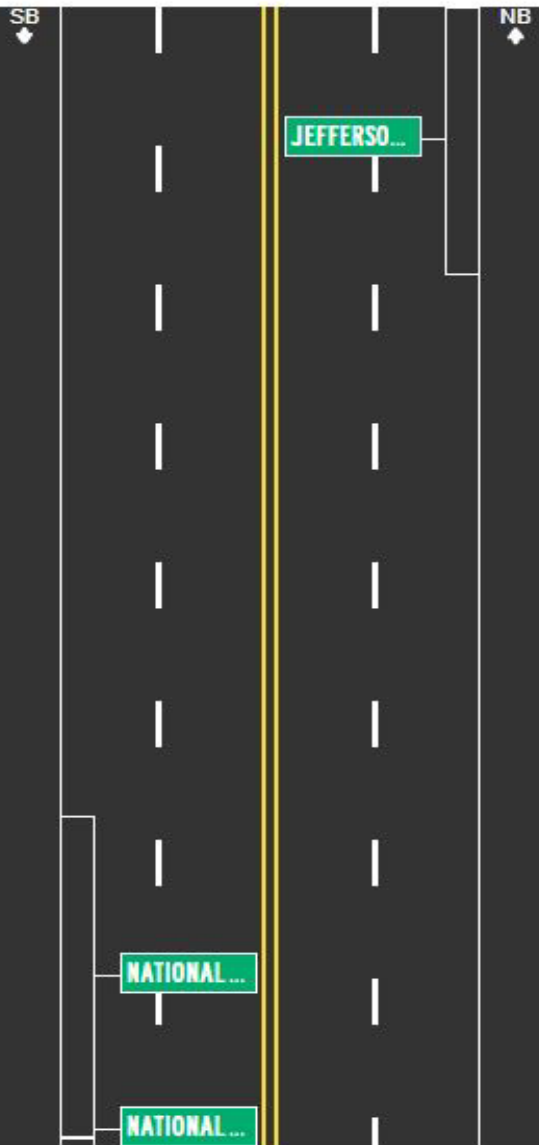
Color Thresholds



January 03, 2022 through December 30, 2022 (Every weekday)

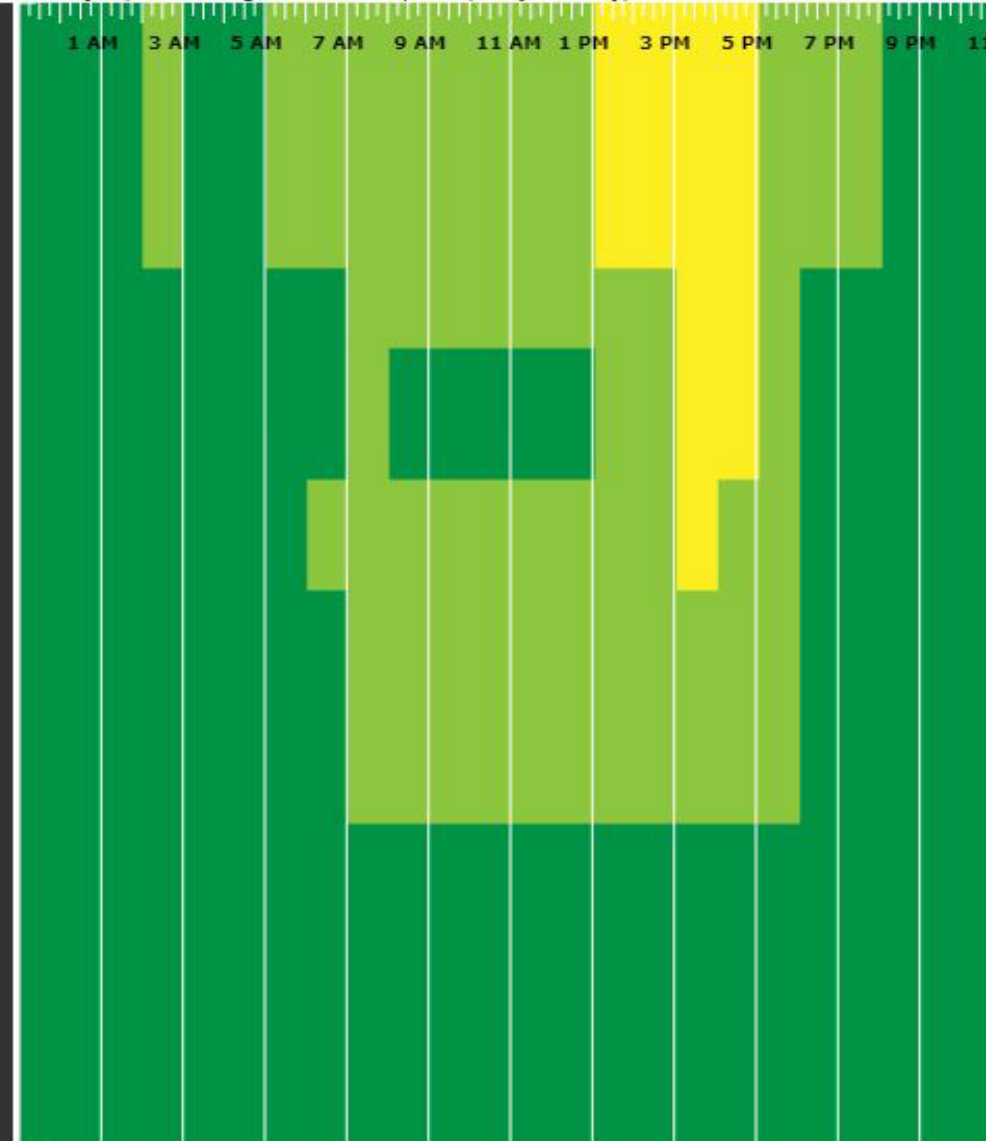


SB



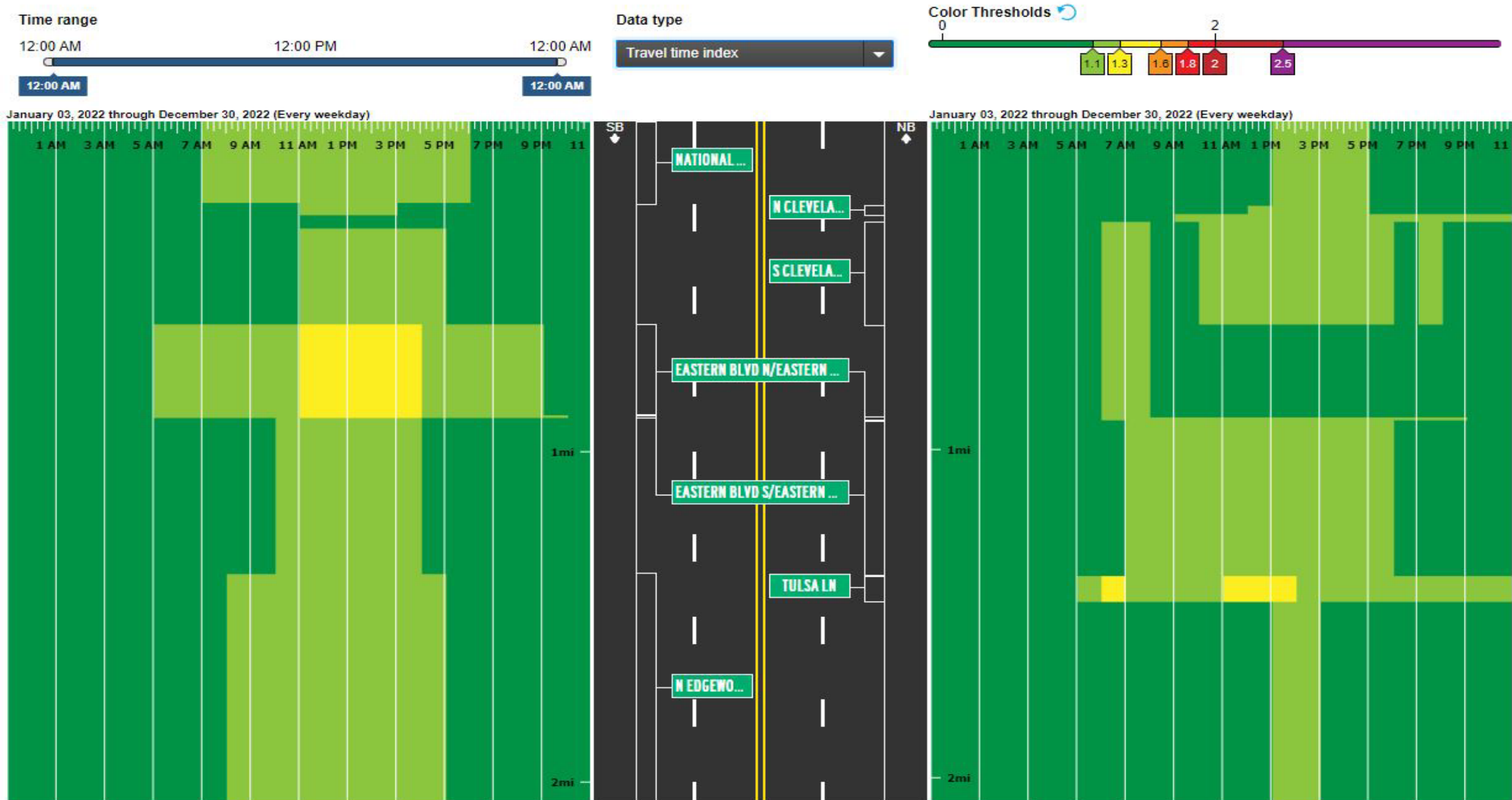
NB

January 03, 2022 through December 30, 2022 (Every weekday)



Dual Highway (N Cannon Avenue to Edgewood Dr)

E-6



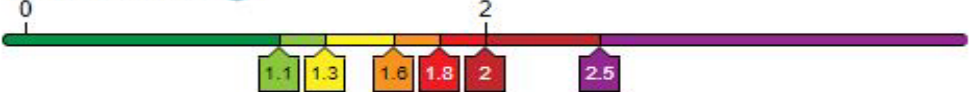
Time range



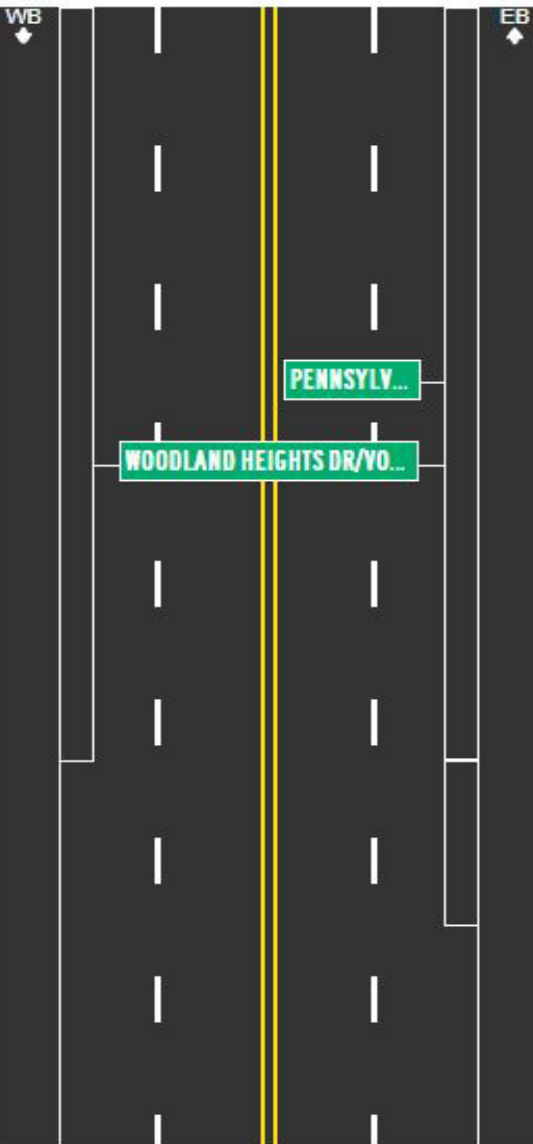
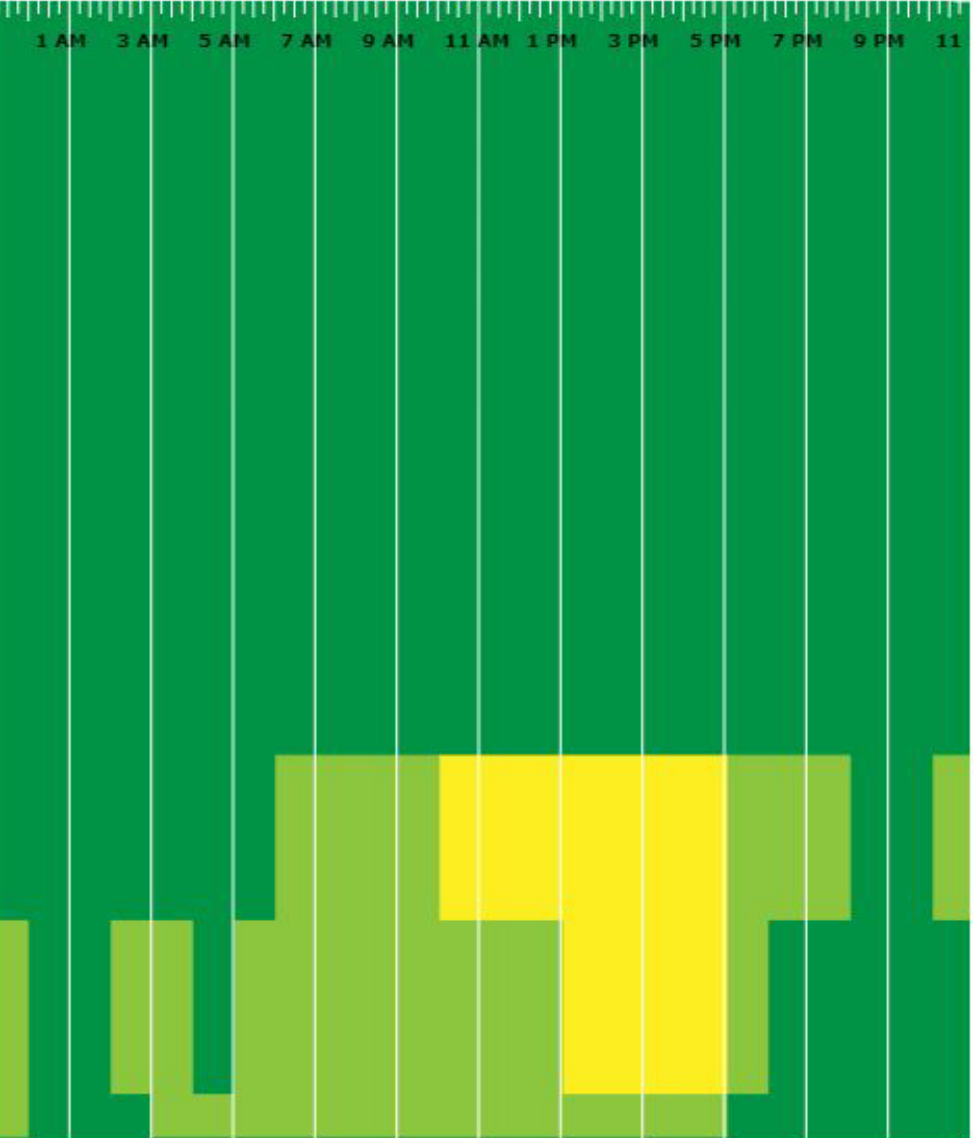
Data type

Travel time index

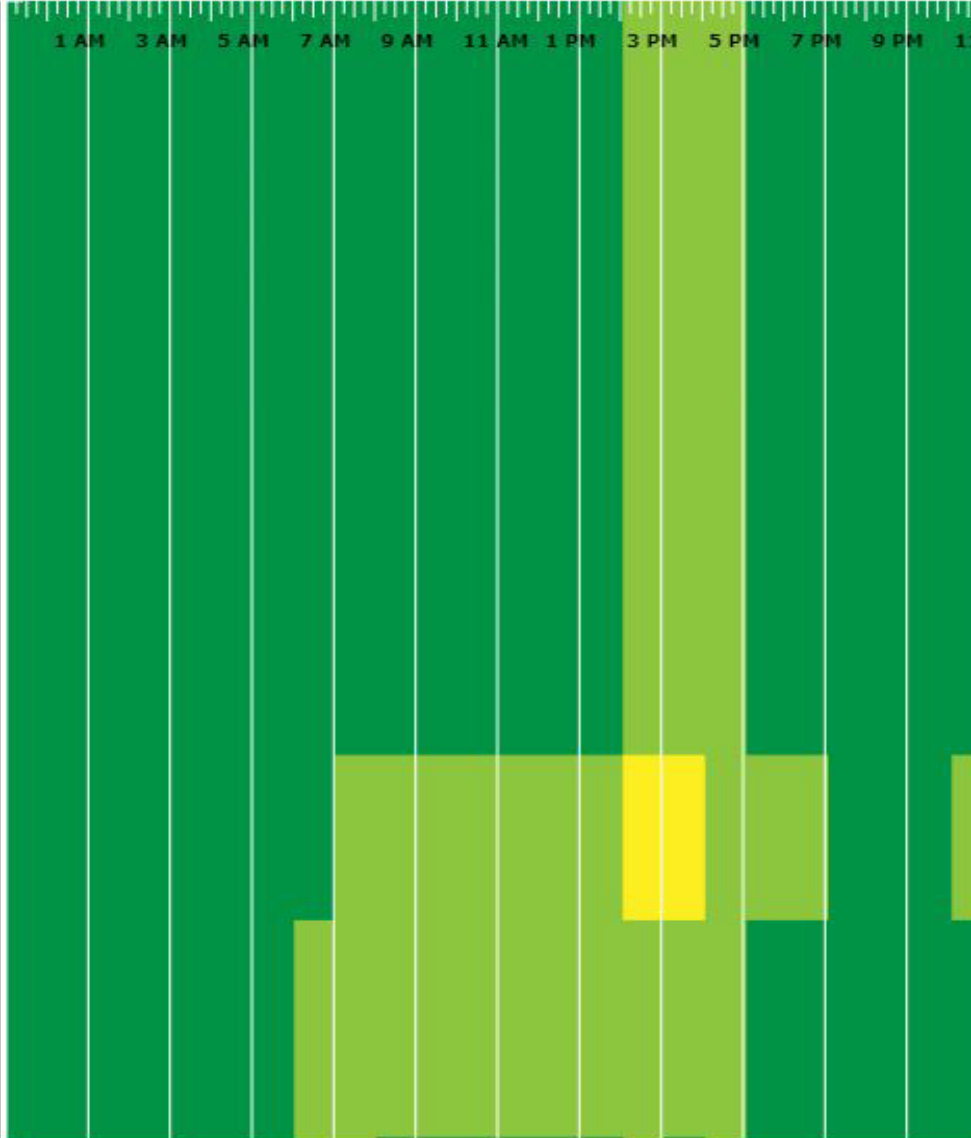
Color Thresholds



January 03, 2022 through December 30, 2022 (Every weekday)



January 03, 2022 through December 30, 2022 (Every weekday)



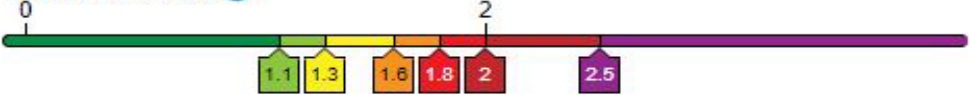
Time range



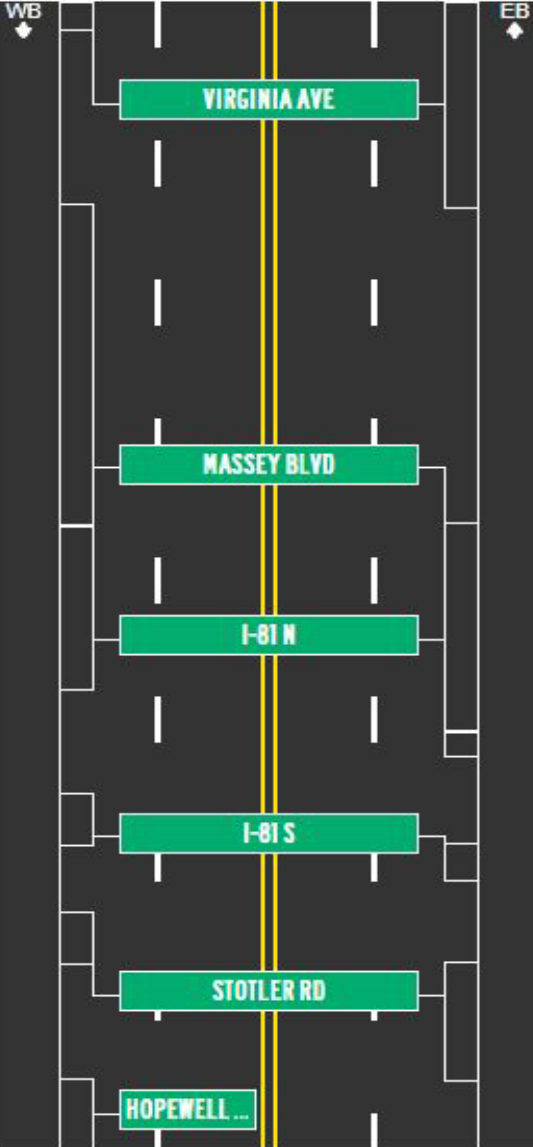
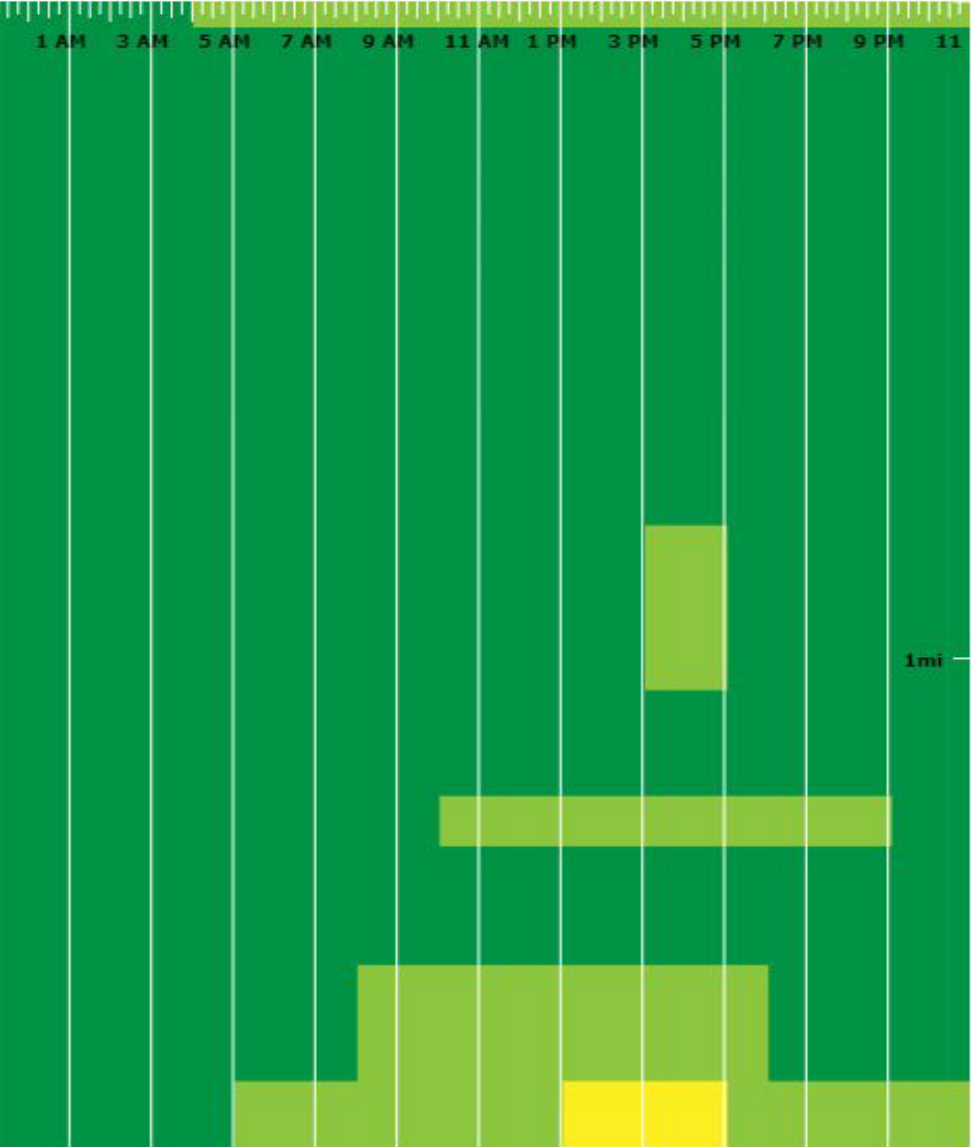
Data type

Travel time index

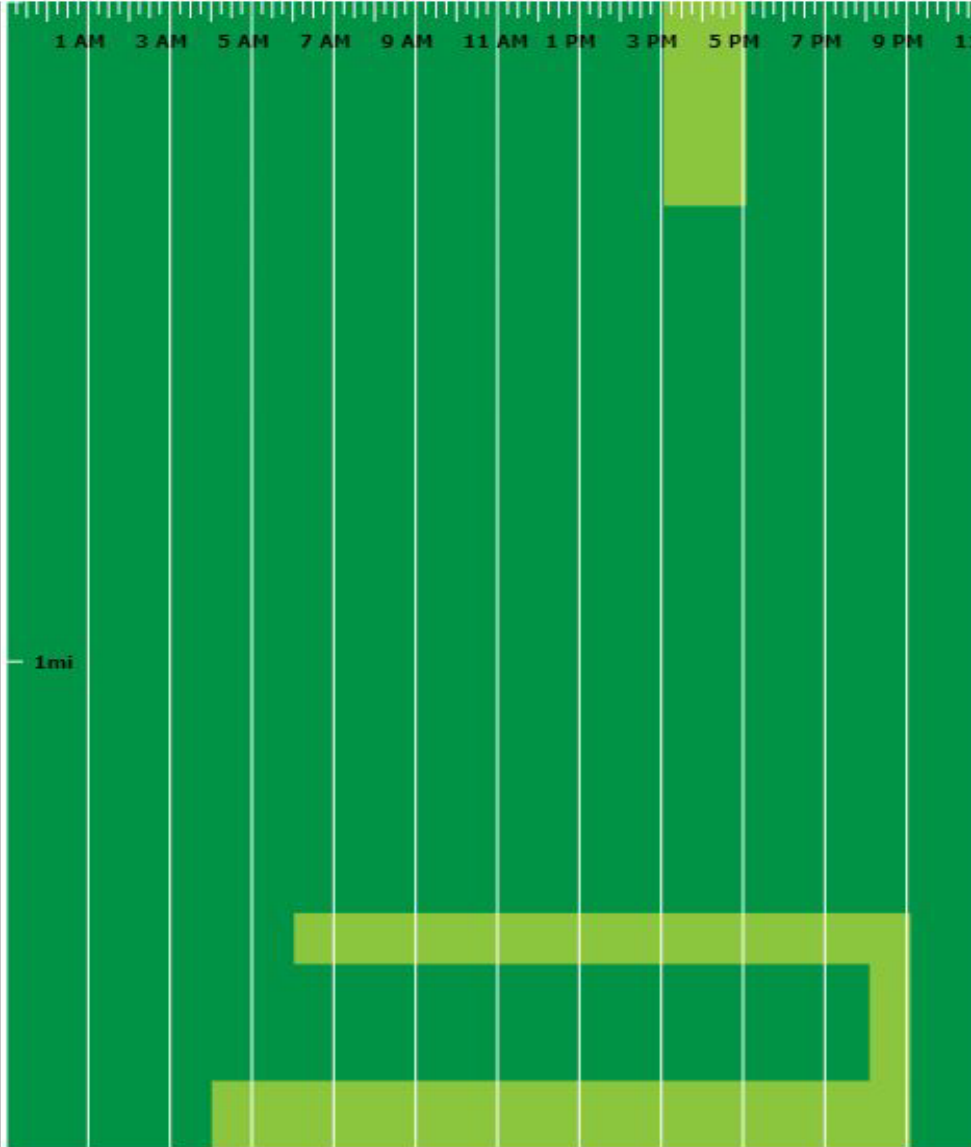
Color Thresholds



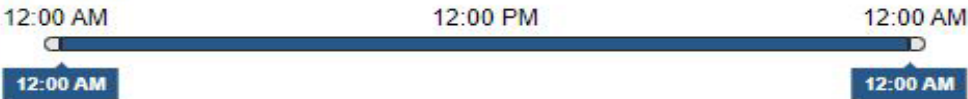
January 03, 2022 through December 30, 2022 (Every weekday)



January 03, 2022 through December 30, 2022 (Every weekday)



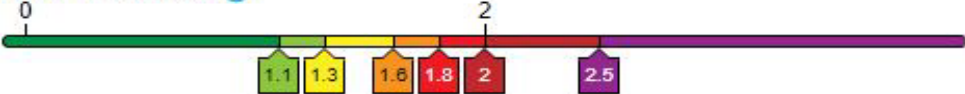
Time range



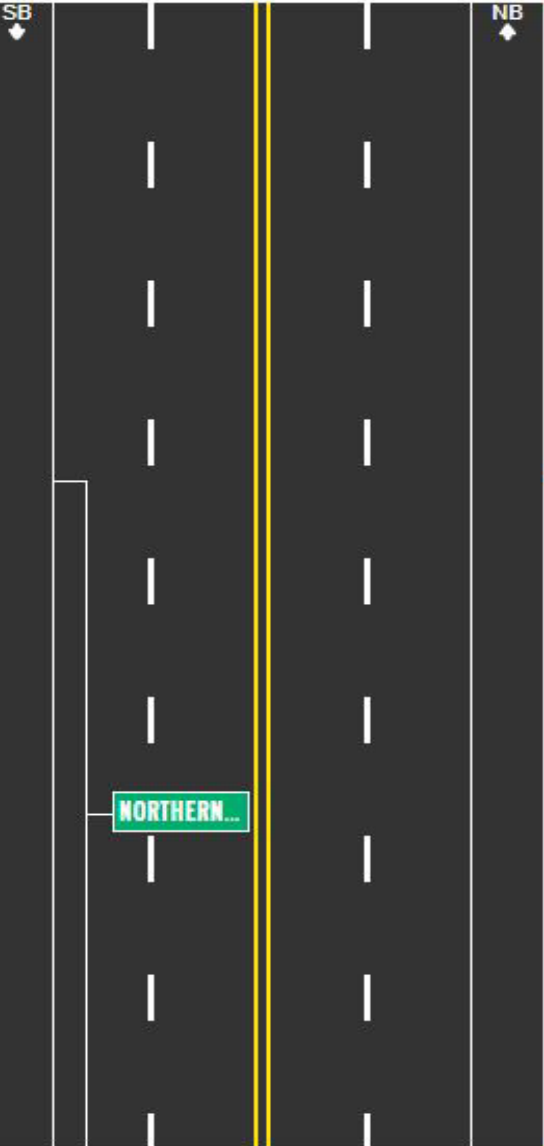
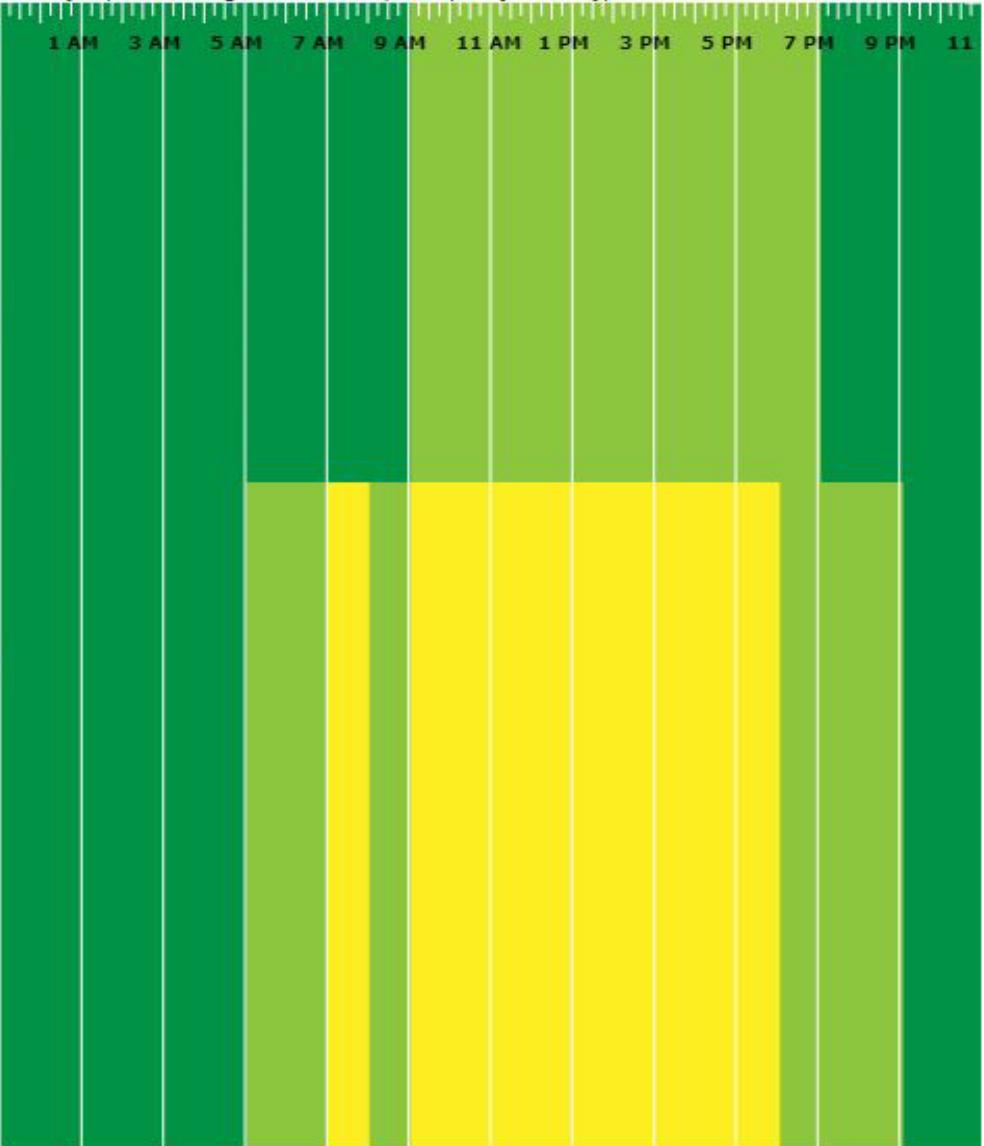
Data type

Travel time index

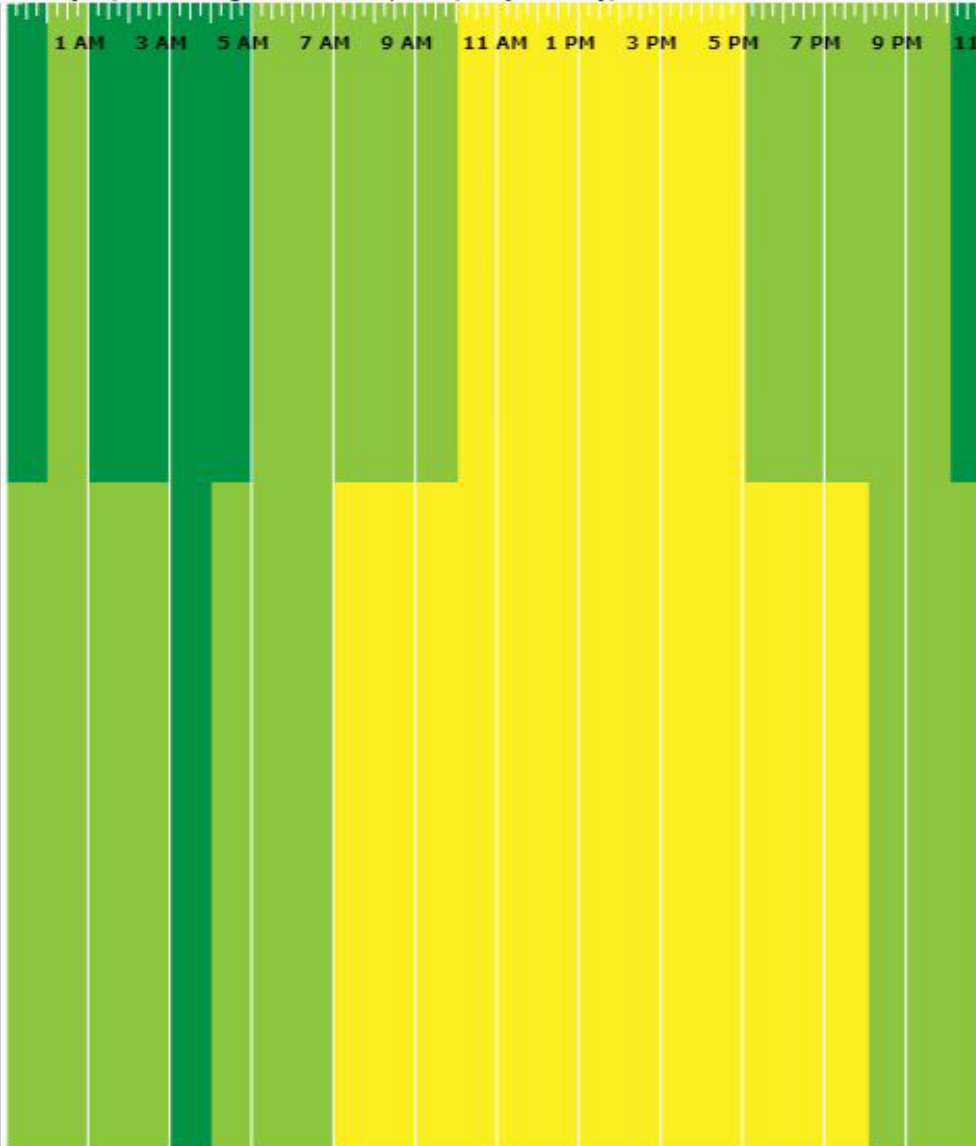
Color Thresholds



January 03, 2022 through December 30, 2022 (Every weekday)

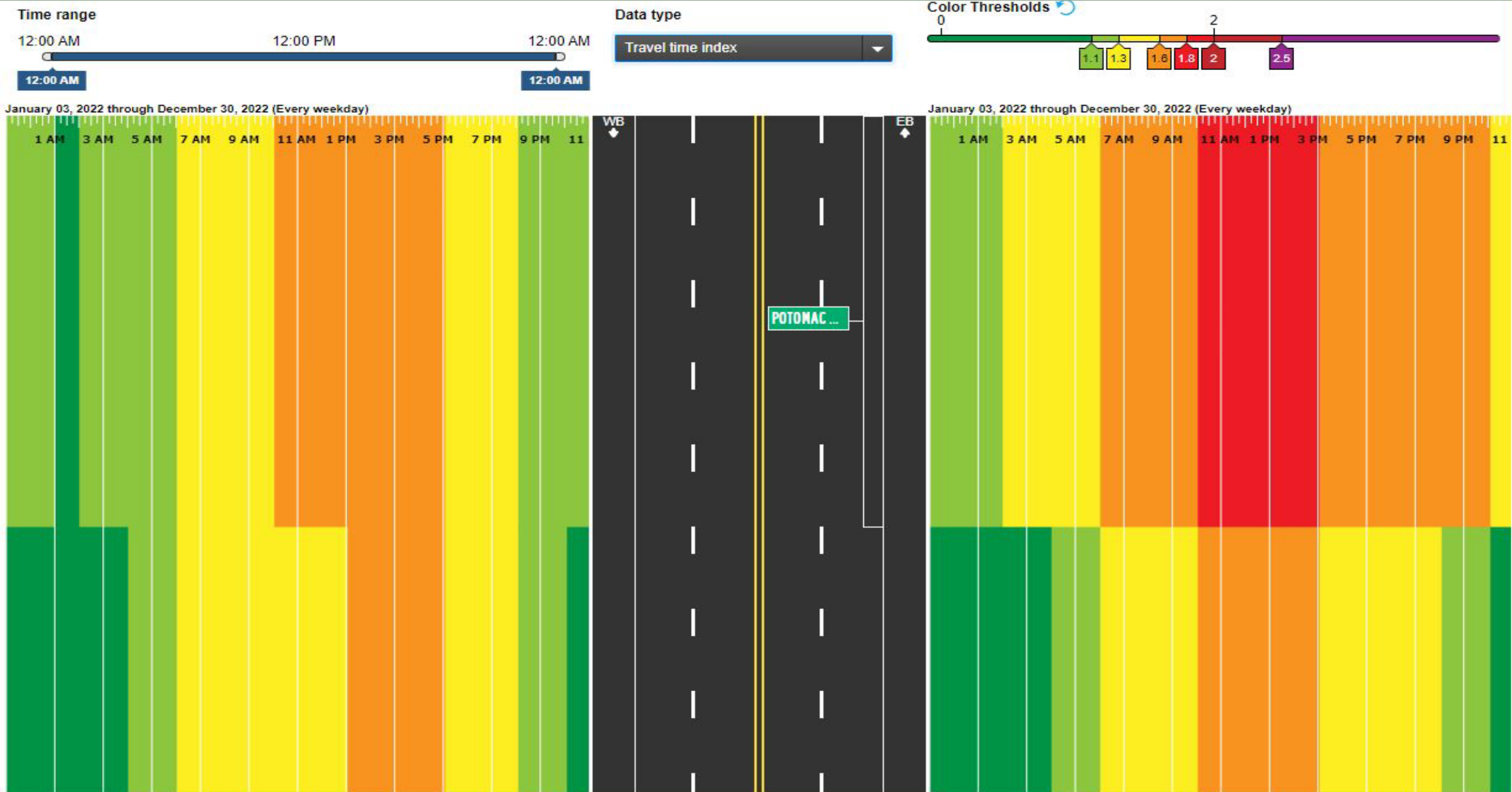


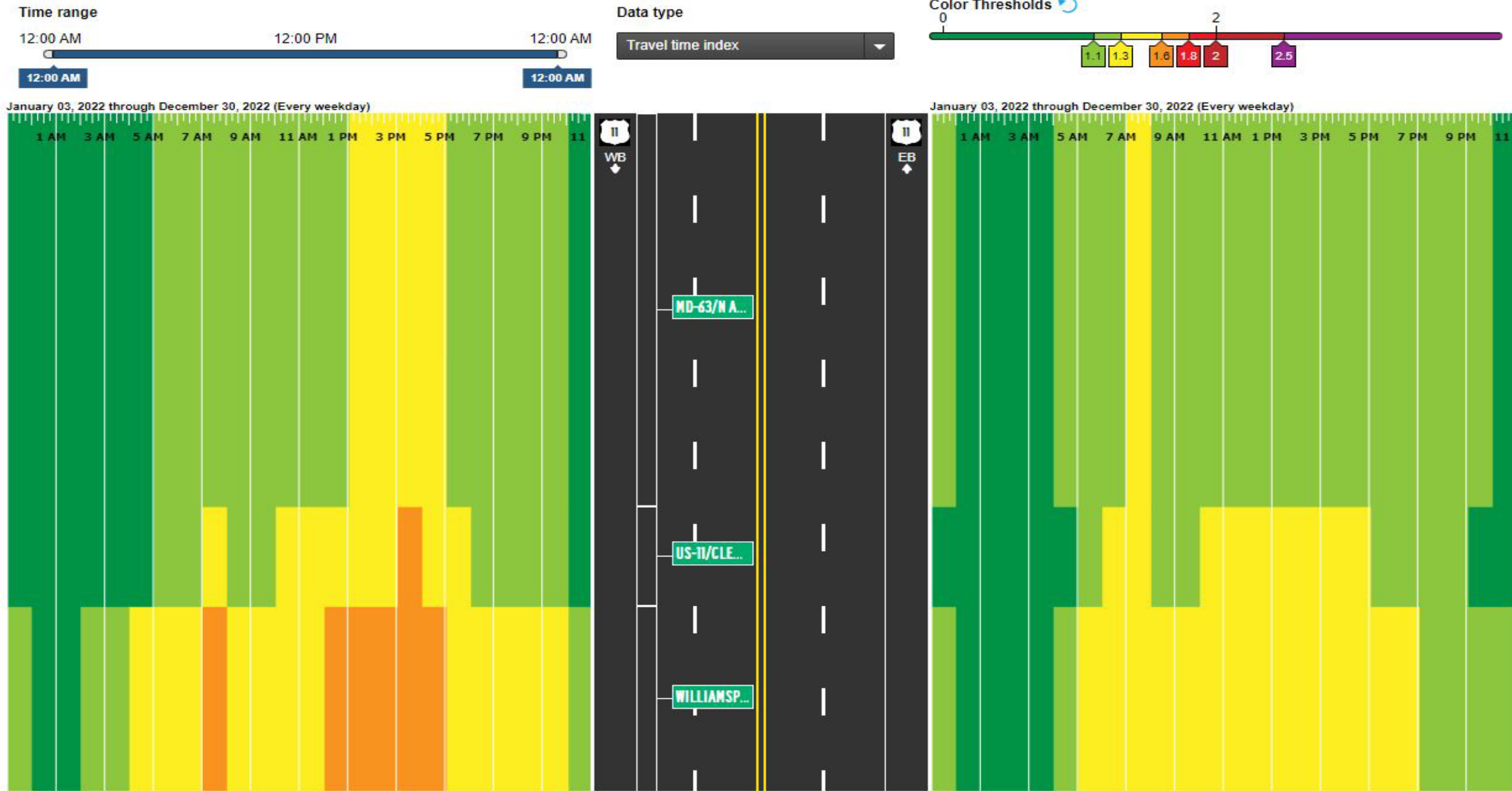
January 03, 2022 through December 30, 2022 (Every weekday)

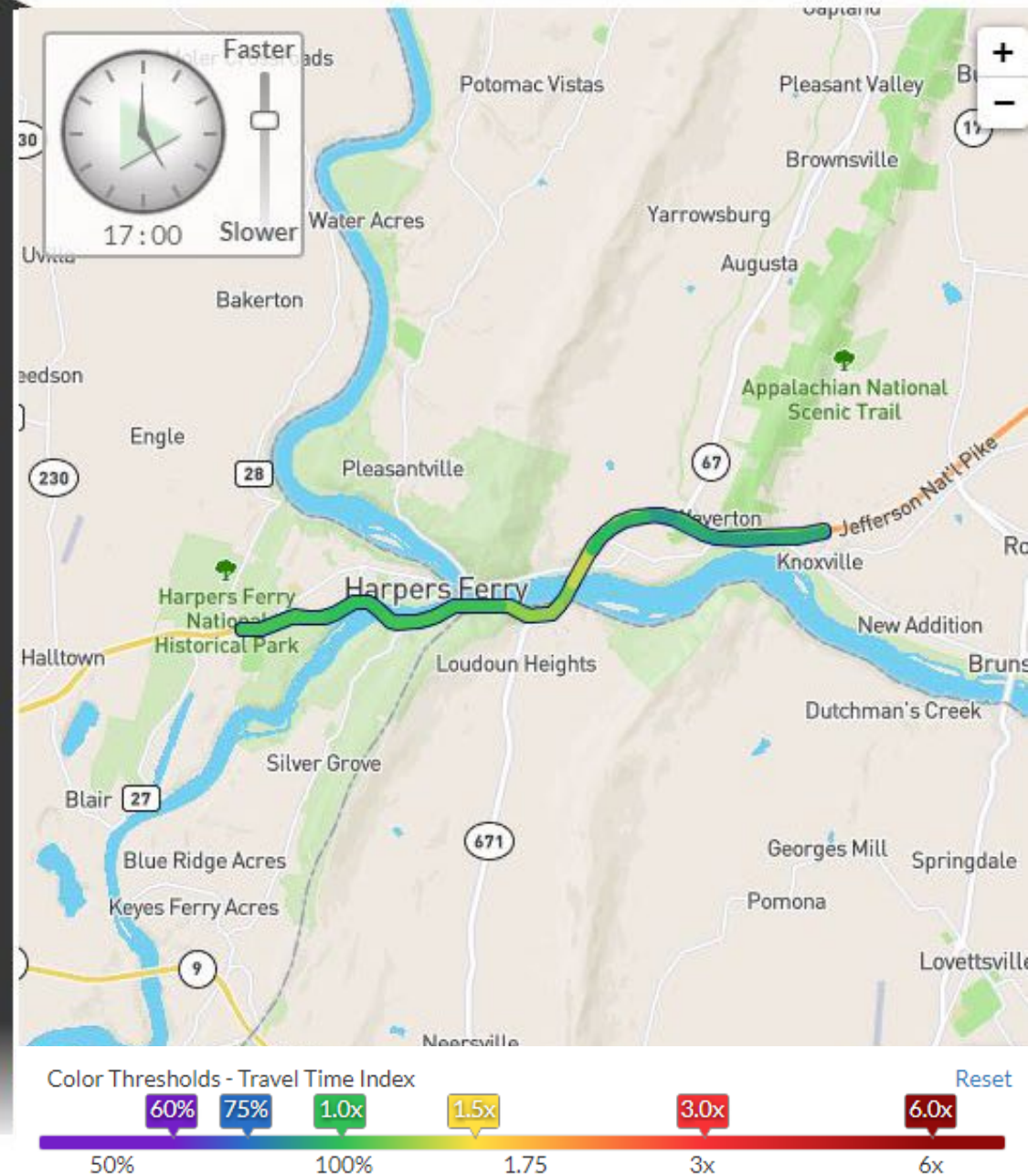
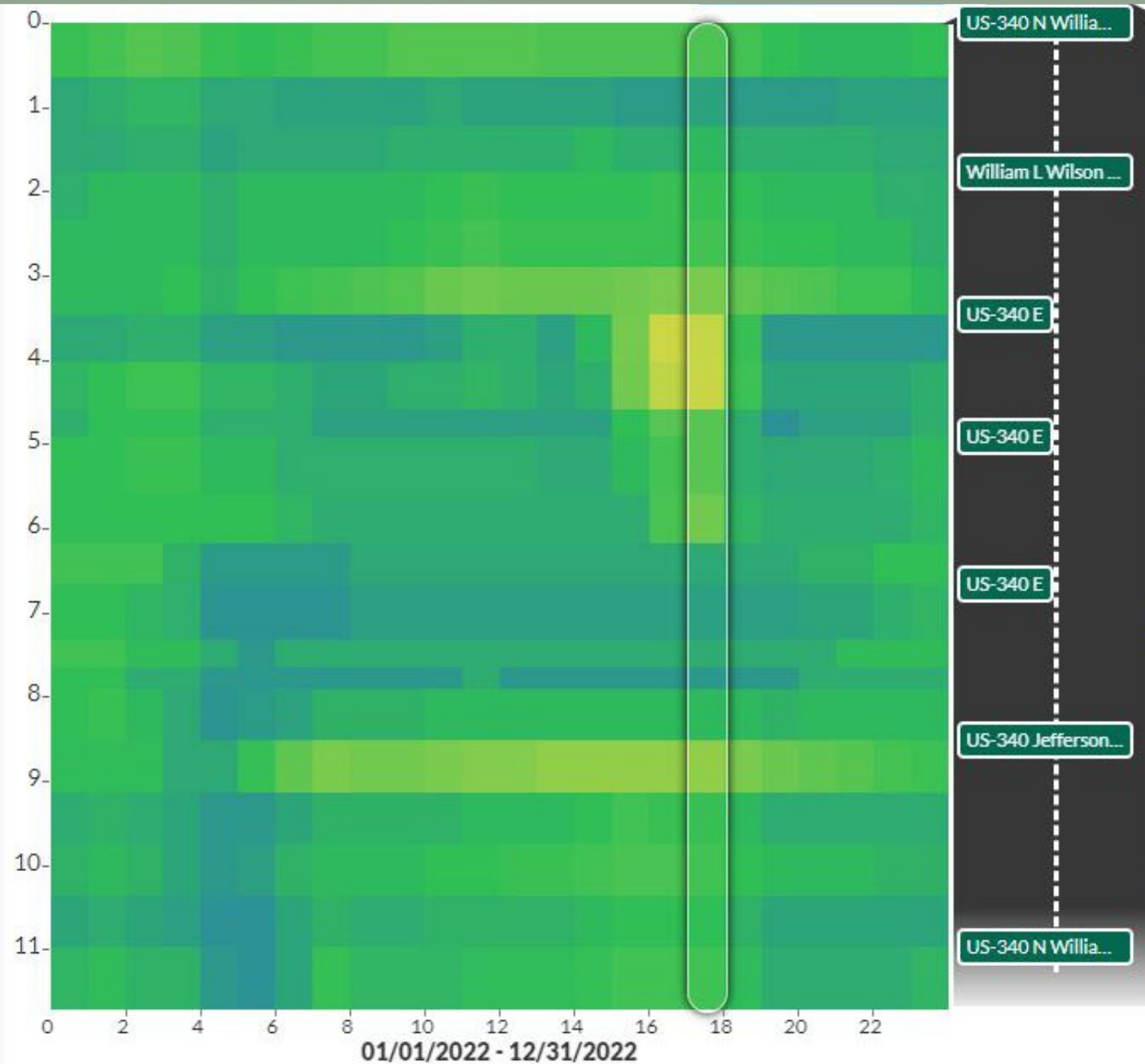


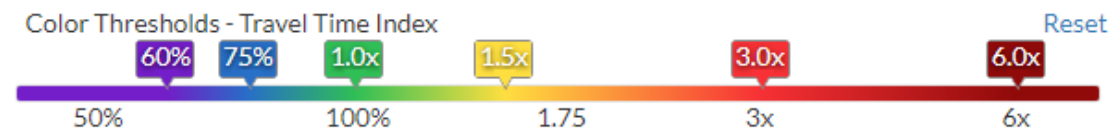
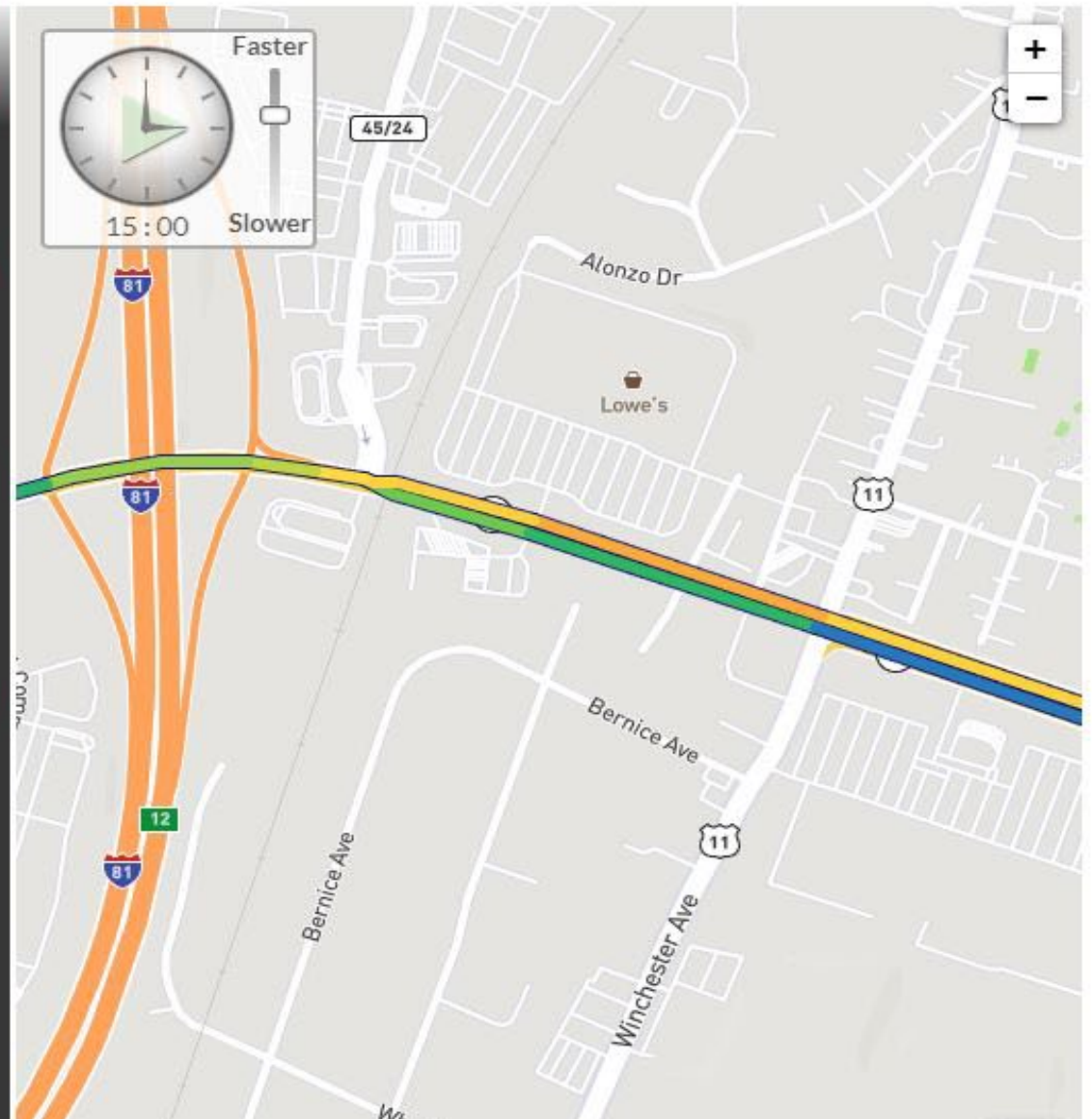
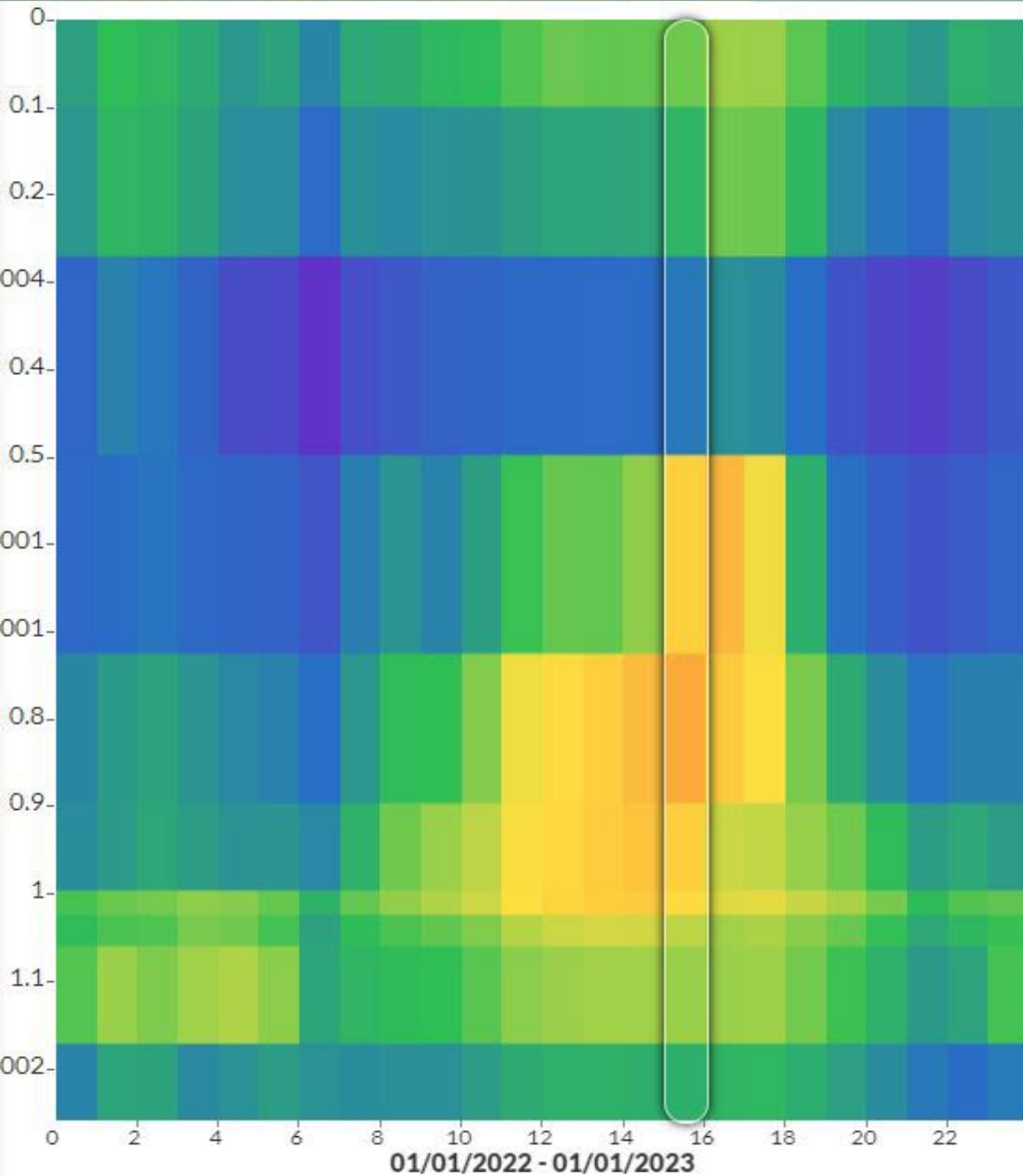
Northern Ave (Part of Leitersburg Pike Corridor)

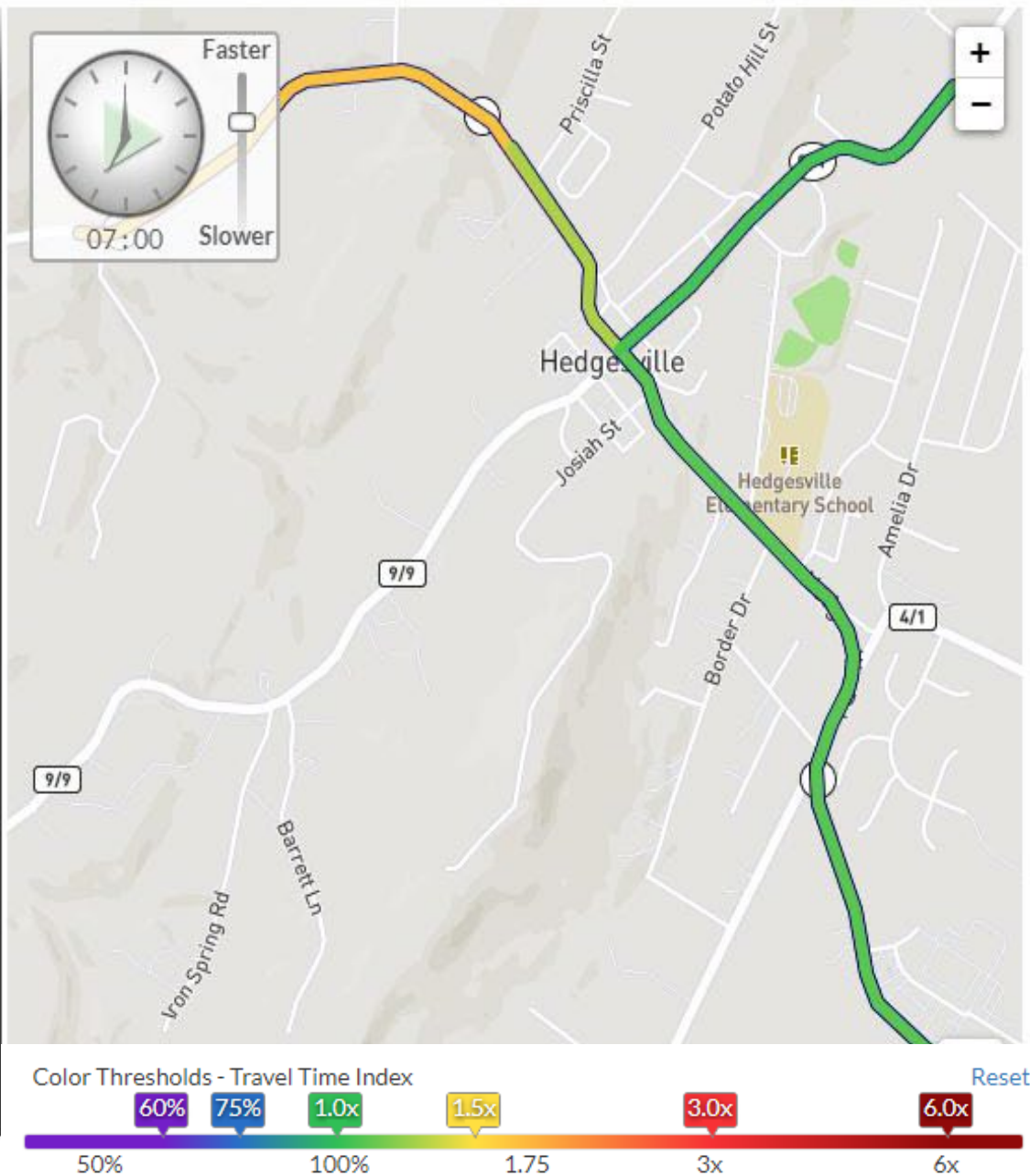
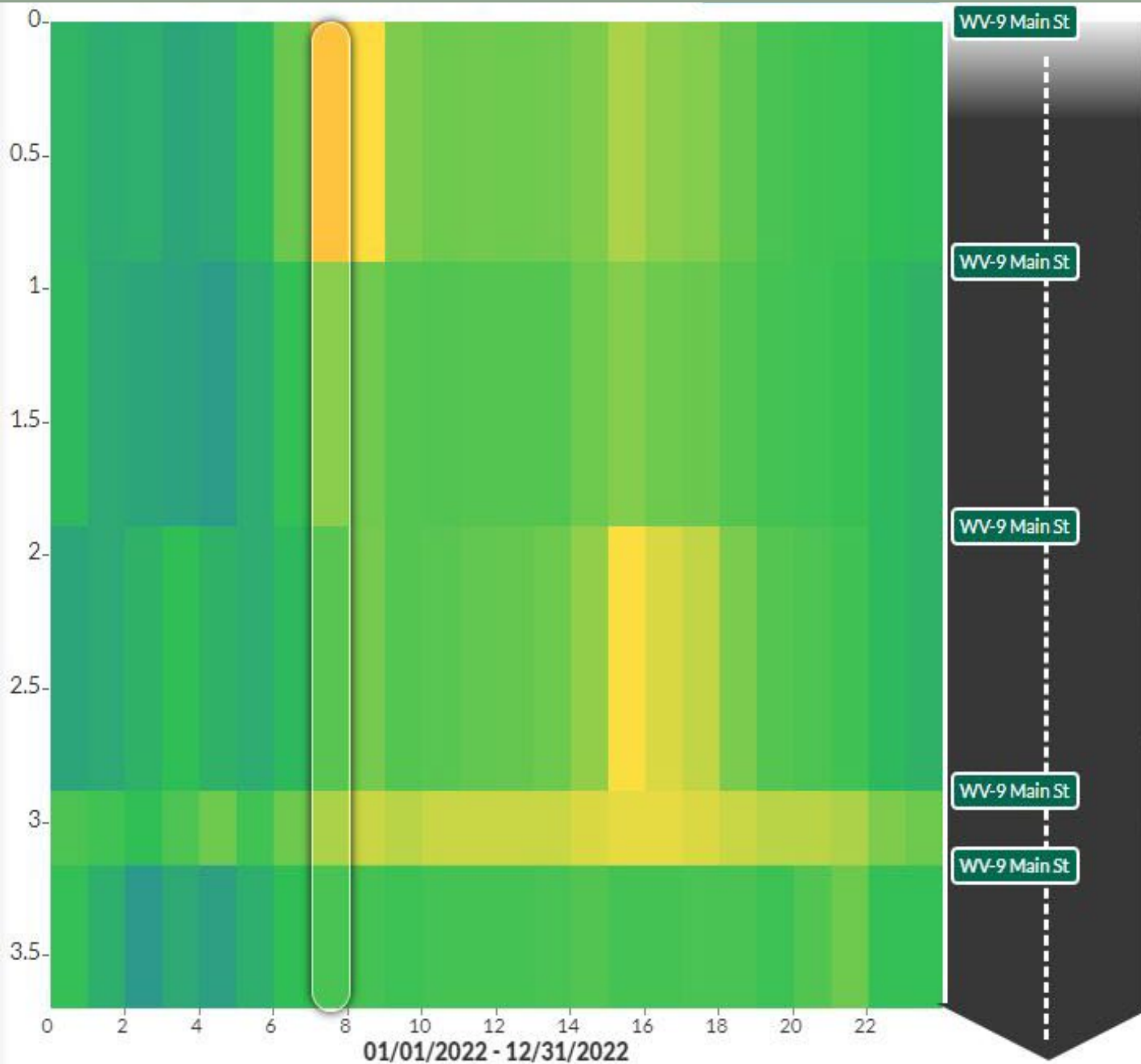
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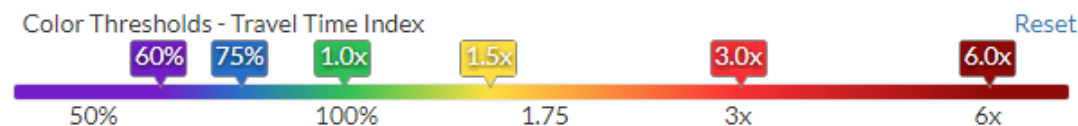
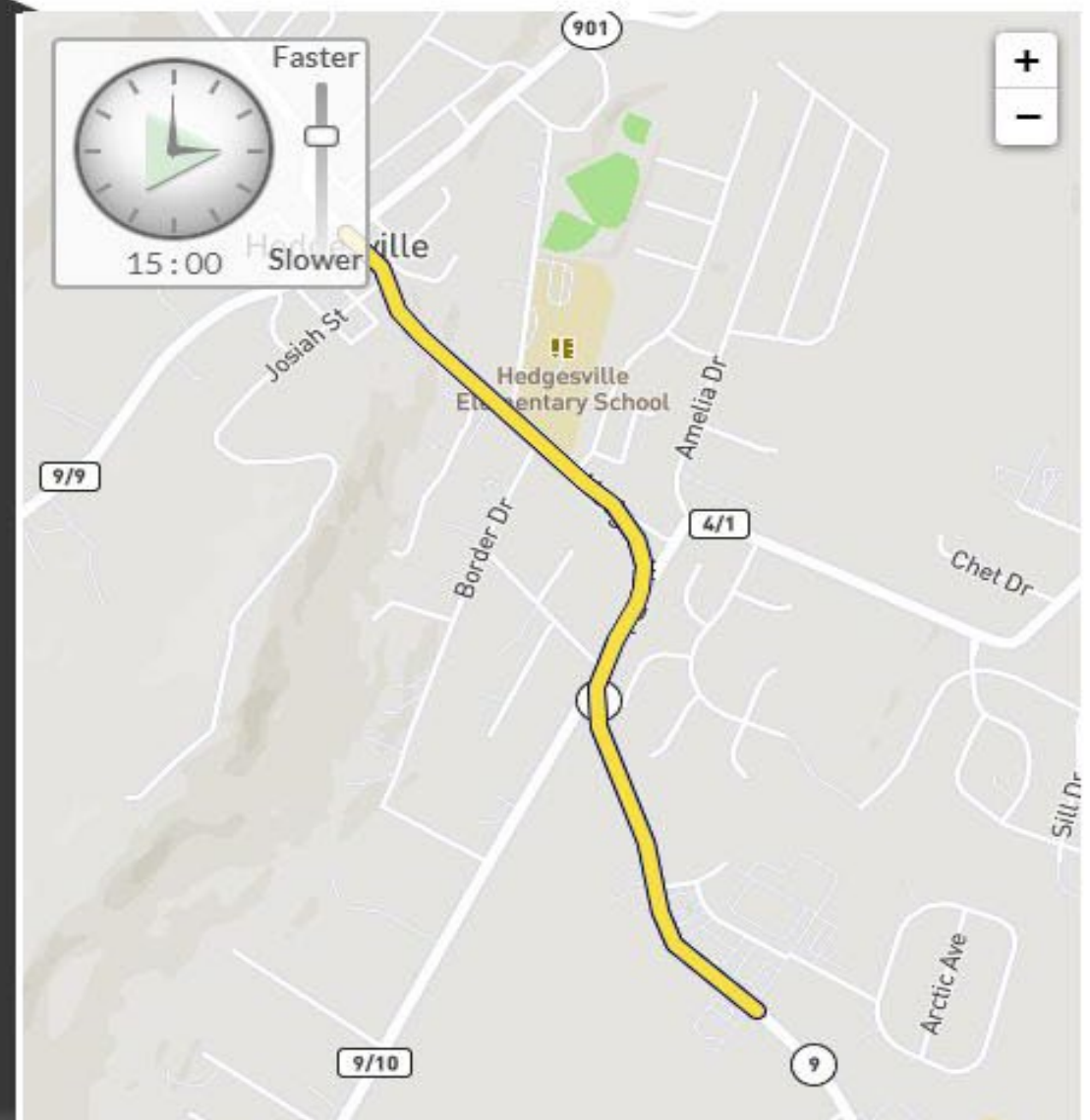
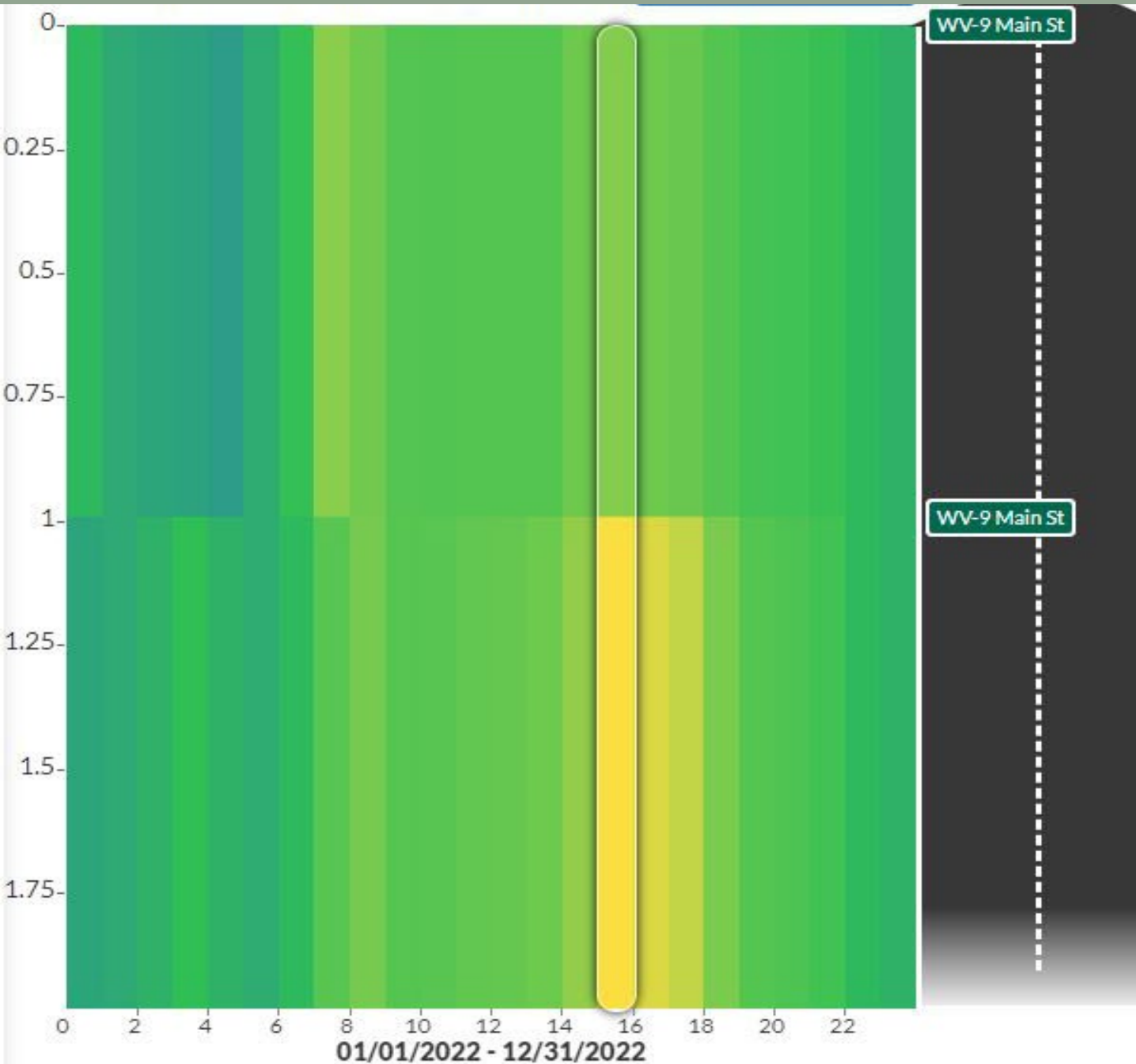


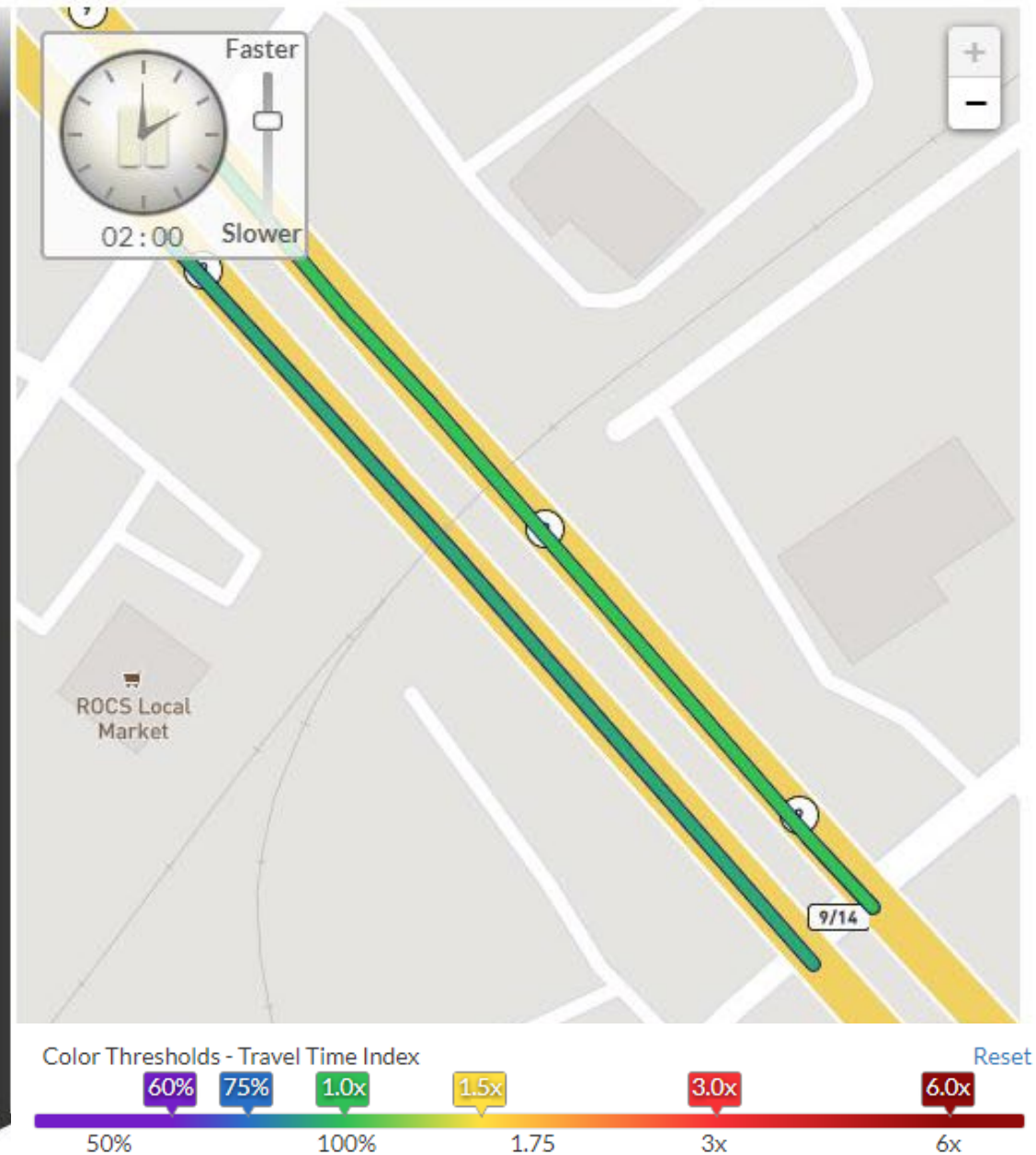
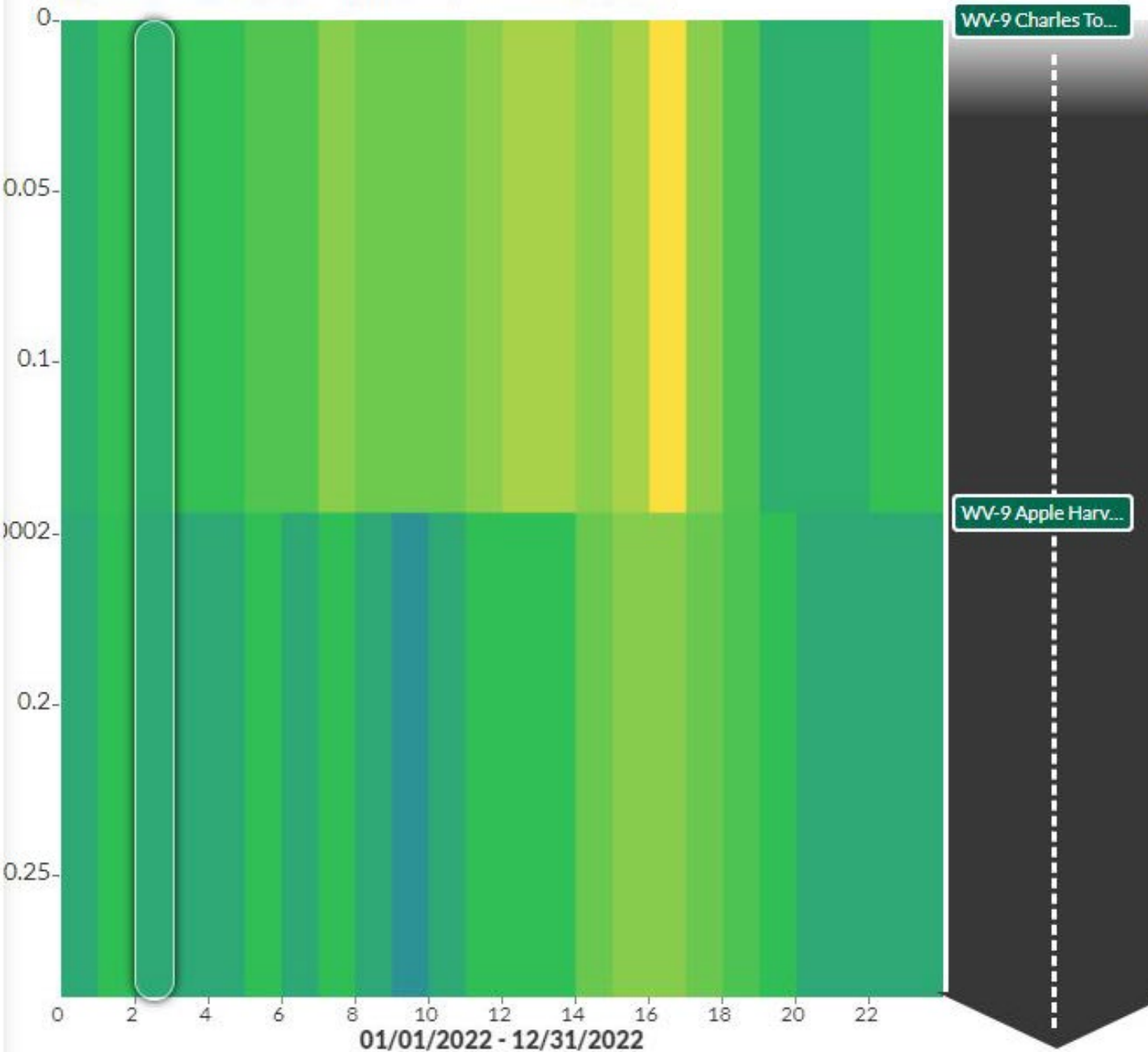


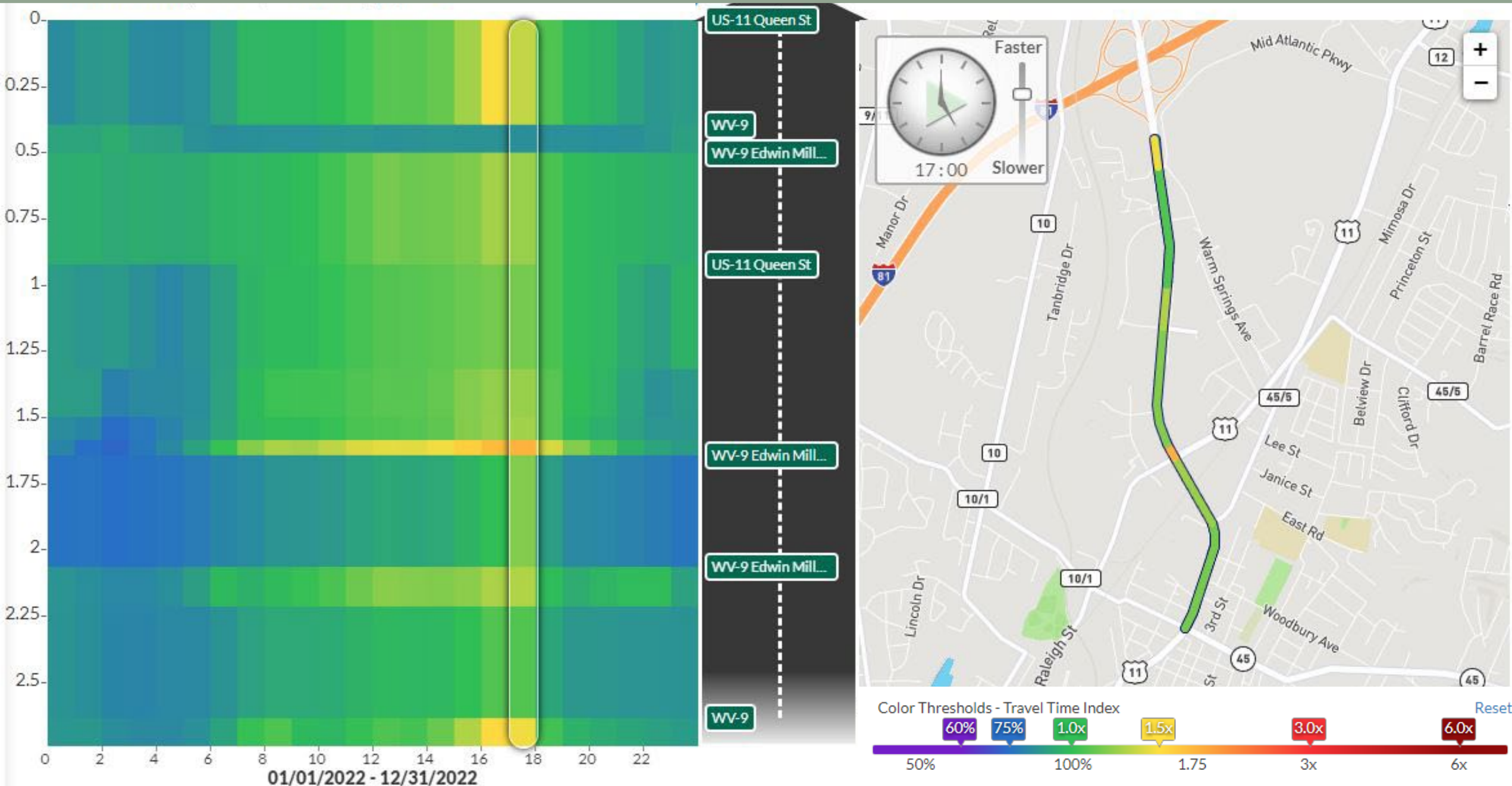












Hedgesville Rd (Harlan Springs Rd to North of I-81 Interchange)

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