



CMP Committee

June 4, 2024



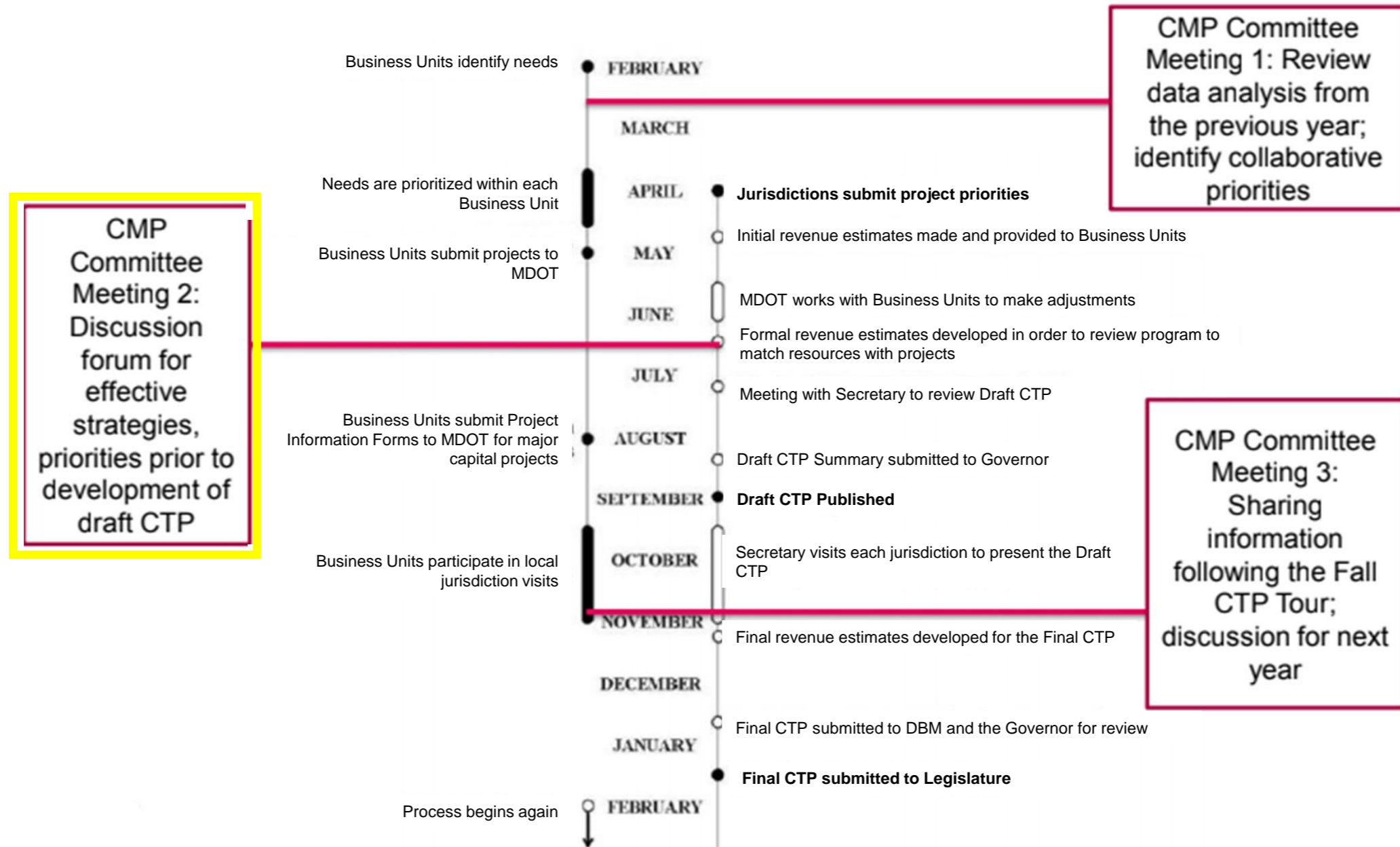
Agenda

1. **WELCOME AND INTRODUCTIONS** (5 min.)
2. **APPROVAL OF MINUTES FROM FEBRUARY 6, 2024 MEETING** (3 min.)
3. **MEETING OBJECTIVE** (2 min.)
4. **PRESENTATION OF HARBOR CROSSINGS SELECT LINK ORIGIN/DESTINATION ANALYSIS USING TERALYTICS DATA** (15 min.)
Mr. Brian Ryder, BMC, will present results of a select link O/D analysis using Teralytics data.
5. **BEFORE/AFTER ANALYSES** (20 min.)
Mr. Ed Stylc, BMC, will present on before/after analyses related to the impacts of the Francis Scott Key Bridge collapse on traffic patterns and on how current volume/delay compare to pre-COVID conditions.
6. **OVERVIEW OF UPDATES TO REGIONAL CMP RESOURCES** (10 min.)
BMC staff will present an overview of the updates to the [Online CMP Tool](#).
7. **PROJECT PRIORITIZATION AND PRIORITY LETTER DEVELOPMENT** (10 min.)
The group will discuss the status of local priority letter development for 2024.
8. **OTHER BUSINESS** (5 min.)

3. Meeting Objective

- Presentations
 - Harbor Crossing analysis using Teralytics data
 - Before/After traffic analyses
- Provide updates on regional CMP resources
- Discuss priority letter development

Reminder: CMP Committee Schedule





BALTIMORE METROPOLITAN COUNCIL

4. Harbor Crossings Select Link & Origin-Destination Analysis 2022

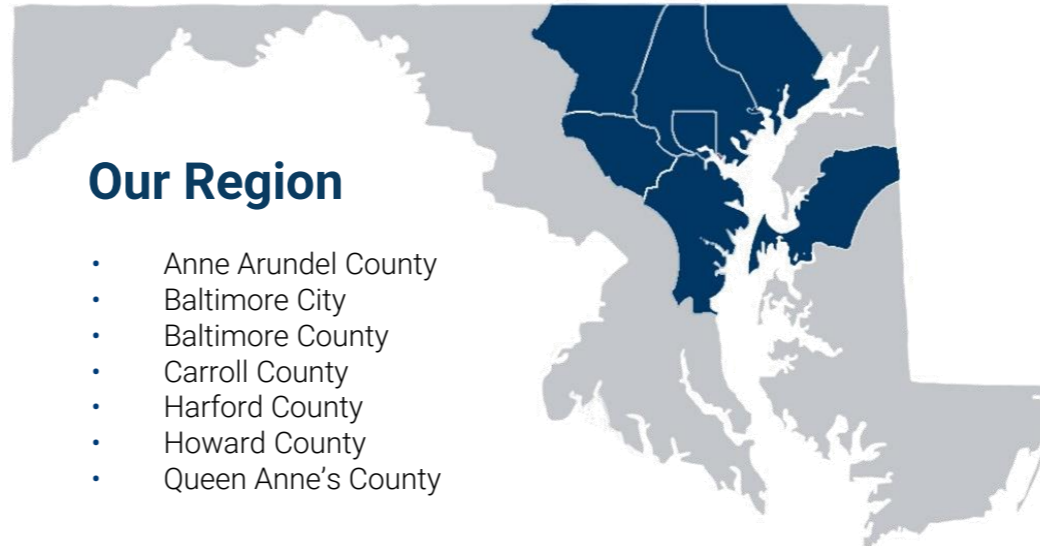
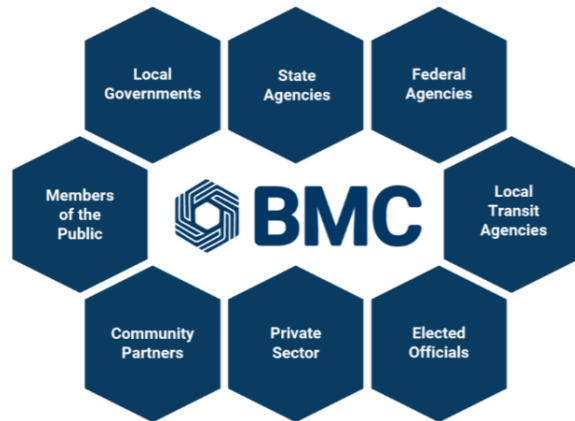
Teralytics LBS Data

June 4, 2024



Baltimore Metropolitan Council

Baltimore Metropolitan Council is a trusted group of experts who help guide the future of the Baltimore region, working with people and policy makers to make our communities more accessible, livable and prosperous for all. We evaluate needs and trends to develop and implement programs and projects as the Baltimore region is emerging from decades of disinvestment and capitalizing on many strengths to forge a vibrant economy and build a sustainable quality of life for future generations.



Baltimore Metropolitan Council

- Provide resources to our member jurisdictions in:
 - Transportation
 - Demographics
 - Travel Demand Modeling: Road & Transit
 - Environmental
 - Air Quality Conformity
 - Reservoir Protection/Agreements
 - Cooperative Purchasing
 - School and Government Purchasing
 - Preparedness
 - Security Grants
 - Emergency/Disaster Response
 - Housing
 - Voucher Program
 - Fair Housing Support

Using Traffic Data to Understand Traffic Patterns



- Use traffic data to understand Key Bridge traffic patterns
- Traffic Data: Teralytics
 - Location-Based Service (LBS) data
 - Data Available: 2019 & 2022
 - Define study area
 - Block groups to match BMC's study area zip codes
 - Define critical routes
 - Select links (segments) of each Harbor Crossing
 - Use BMC GIS
 - Export shapefiles from Teralytics to ArcGIS
 - map road volumes and block group origin-destinations trips

Teralytics Screenshot: Select Link Tool

The screenshot displays the Teralytics Studio web application. The browser's address bar shows the URL: `studio.teralytics.net/analytics/select-link/6a9889c6-bd91-4ad2-8c84-6d101d3f2ba2/edit`. The application's navigation menu includes Dashboard, Map, Datasets, Analytics (active), Exports, and Documentation. The main map area shows Baltimore, Maryland, with several road segments highlighted in different colors: orange, purple, green, and blue. A search bar at the top left of the map area contains the text "Search...". On the left side, there is a filter panel with the following options: Area of interest (Montgomery County + 9 ...), Time Period (2022), New Export button, Zones and Links buttons, Filters section with AADT selected, Day of Week (Monday - Thursday + 1 m), Hour of Day (6am to 7am + 3 more), Purpose (All), Map Layers (Volumes), Road Classes (Limited access highway), and Volumes (Min: 5, Max: 1,052). On the right side, the 'Select Link Tool' panel is visible, showing three groups of segments: Group 1 (1) (red dot), Group 2 (1) (green dot), and Group 3 (1) (blue dot). Each group has a search input field and a 'Configure' button. The bottom of the screen shows the Windows taskbar with the search bar, taskbar icons, and system tray showing 76°F Sunny, 11:52 AM, and 5/22/2024.

Teralytics Screenshot: Data Quality

The screenshot shows a web browser window displaying the Teralytics Studio documentation page for Data Quality. The browser's address bar shows the URL `studio.teralytics.net/docs/data-quality`. The page features a dark blue header with the Teralytics logo and navigation links for Dashboard, Map, Datasets, Analytics, Exports, and Documentation. Below the header, the main content area has a dark blue background with the title "Teralytics Studio: Data Quality" and the subtitle "How is Teralytics Studio Developed?".

The page is divided into three columns, each with an icon and a title:

- Sampled Movement** (Location pin icon): Billions of GPS location points from mobile devices and connected vehicles are transformed into trips routed on the road network, with origins and destinations, trip purpose, time of day, and home location.
- Referenced Movement** (Car icon): More than 2 million observed traffic counts from published government sources and toll road authorities, along with demographic and employment data, and points of interest data are regularly compiled to assist in the process of scaling sampled movements.
- Scaled Movement** (List icon): Mobility relationships derived from government surveys, and technical publications, are used in the expansion process along with the referenced movement data, to produce travel data representative of the total population.

Below these columns is a section titled "Quality Assurance" with the following text: "Quality assurance is an integral part of the Teralytics product creation process. When traffic volumes and trips are updated in Teralytics Studio, validation reports are automatically created to ensure quality goals are achieved. Validation is completed for every region of the US using local and national data sources such as traffic counts and travel survey data. Quality review and validation are completed across multiple dimensions, including:"

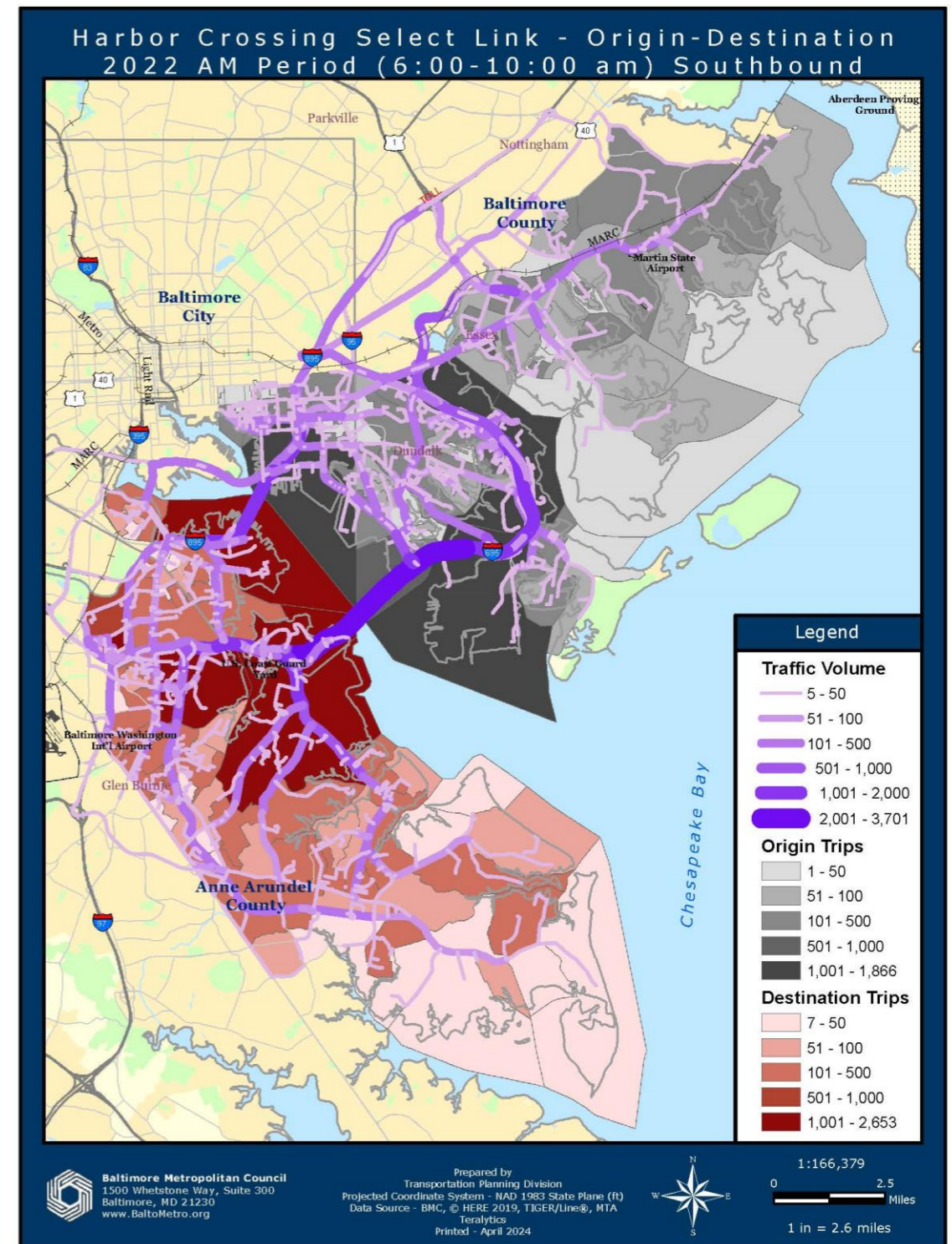
Under "Quality Assurance", there are three expandable sections:

- Trip production rates
- Trip purposes
- Trip length distribution

The Windows taskbar at the bottom shows the search bar, task view, and various application icons. The system tray on the right displays a weather alert, network status, and the date/time: 11:42 AM 5/22/2024.

Key Bridge AM Southbound

- **Harbor Crossing Traffic**
 - 3,701 AM period southbound on Key Bridge
 - 1,509 AM period southbound on Harbor Tunnel
 - 113 AM period southbound on Fort McHenry Tunnel
- **Origin-Destination by Trips block group**
 - 1,866 origins on Harbor Crossings from Eastpoint
 - 2,653 destinations on Harbor Crossings from Fairfield/Curtis Bay



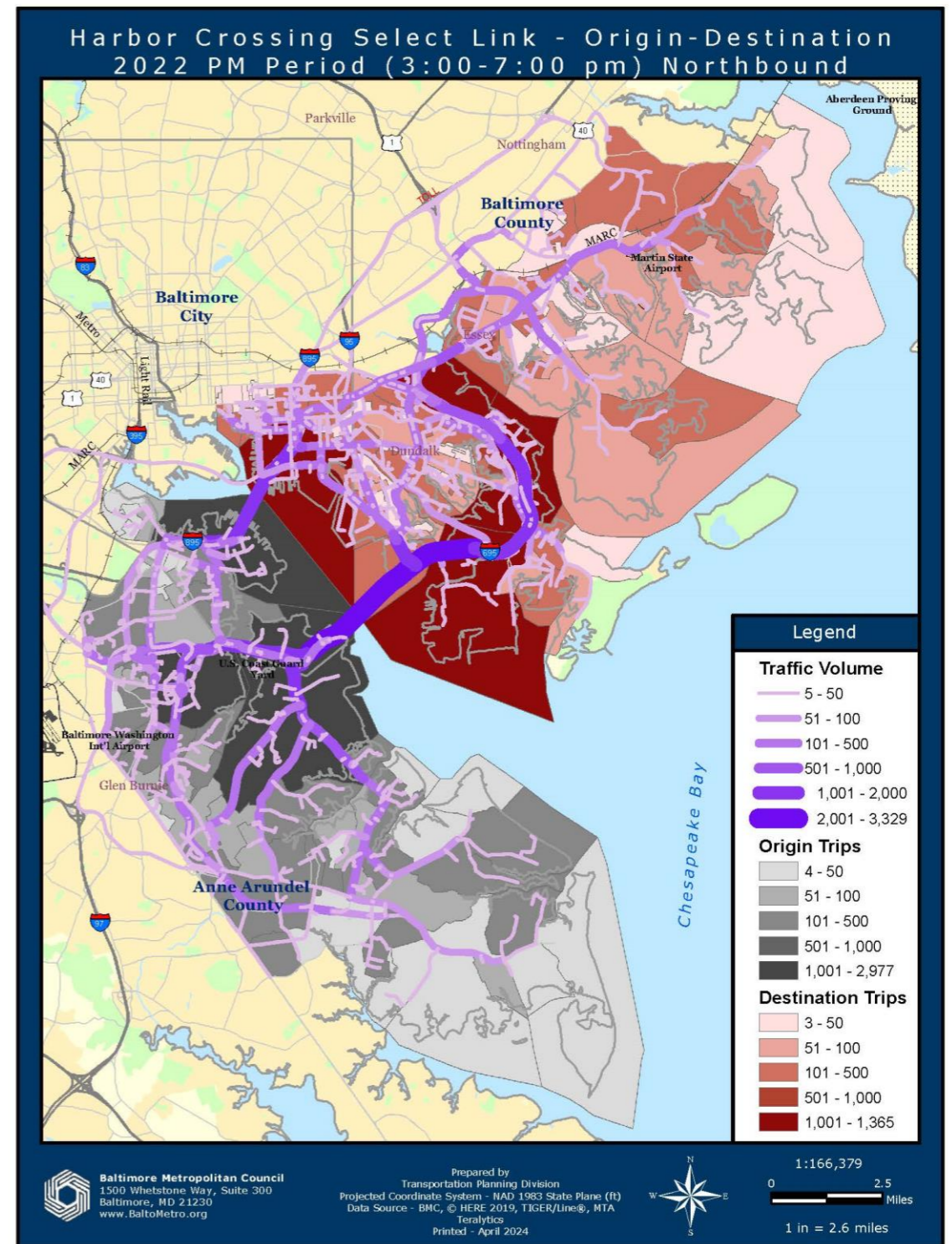
Key Bridge PM Northbound

• Harbor Crossing Traffic

- 3,329 PM period northbound on Key Bridge
- 1,424 PM period northbound on Harbor Tunnel
- 28 PM period northbound on Fort McHenry Tunnel

• Origin-Destination Trips by block group

- 2,977 origins on Harbor Crossings from Fairfield/Curtis Bay
- 1,365 destinations on Harbor Crossings from Eastpoint



Applications



- **Easy-to-Use maps of the Harbor Crossings**
- **Preliminary Understanding of Key Bridge travelers' Origins and Destinations**
- **Discussion**



5. BEFORE/AFTER ANALYSES

Impacts of the Francis Scott Key Bridge collapse on current traffic patterns
How current volume/delay compare to pre-COVID conditions

June 4, 2024





Key Bridge Collapse

Traffic Impacts in the Baltimore Region as of Thursday April 30th 2024



TRAFFIC AND TRANSPORTATION

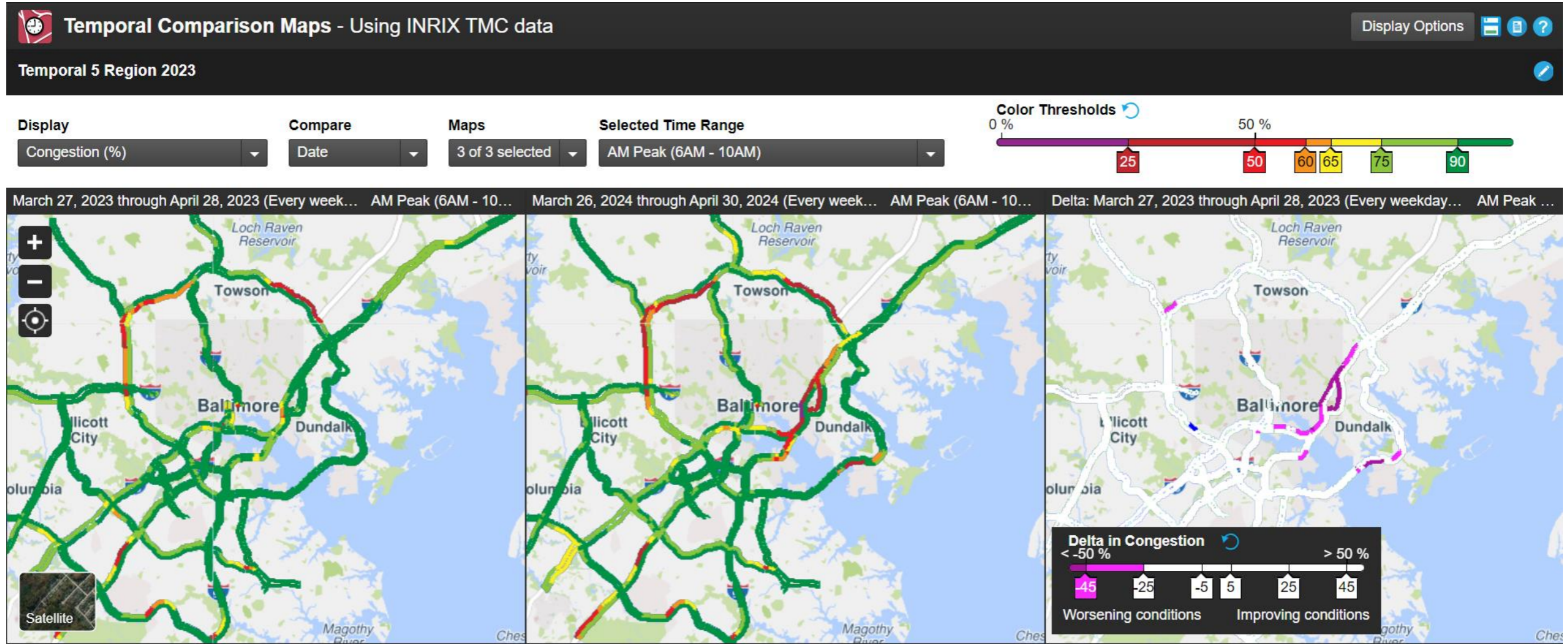
- FSK Averaged 34,000 crossings per day (4,000 commercial)
 - 39,000 weekday
 - 20,400 weekend
- Harbor Tunnel and Fort McHenry Tunnel average 198,000 crossings combined
 - Harbor Tunnel: 81,000 weekday, 71,300 weekend
 - FMT: 128,300 weekday, 99,600 weekend
- HAZ-MATS must find a new route (+/- 1,200 trucks daily)

Methodology

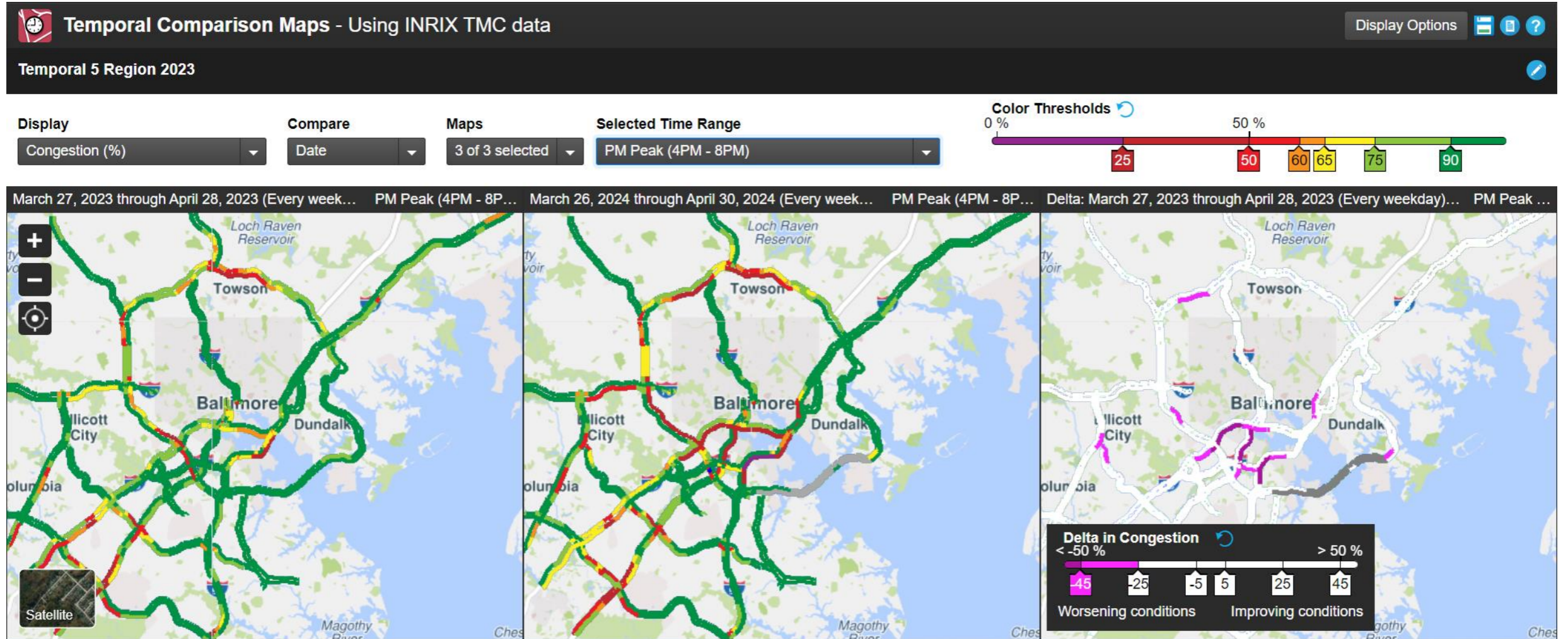
- Event Date: March 26th
- Baseline Data: 2023 March 27 – April 30 weekdays
- Analysis: 2024 March 26 – April 30 weekdays
- Extent: Observed hot spot areas with Congestion Percentage below 75%

(Congestion % = Percentage of Free Flow Speed)

Increased Congestion Segments AM Peak



Increased Congestion Segments PM Peak

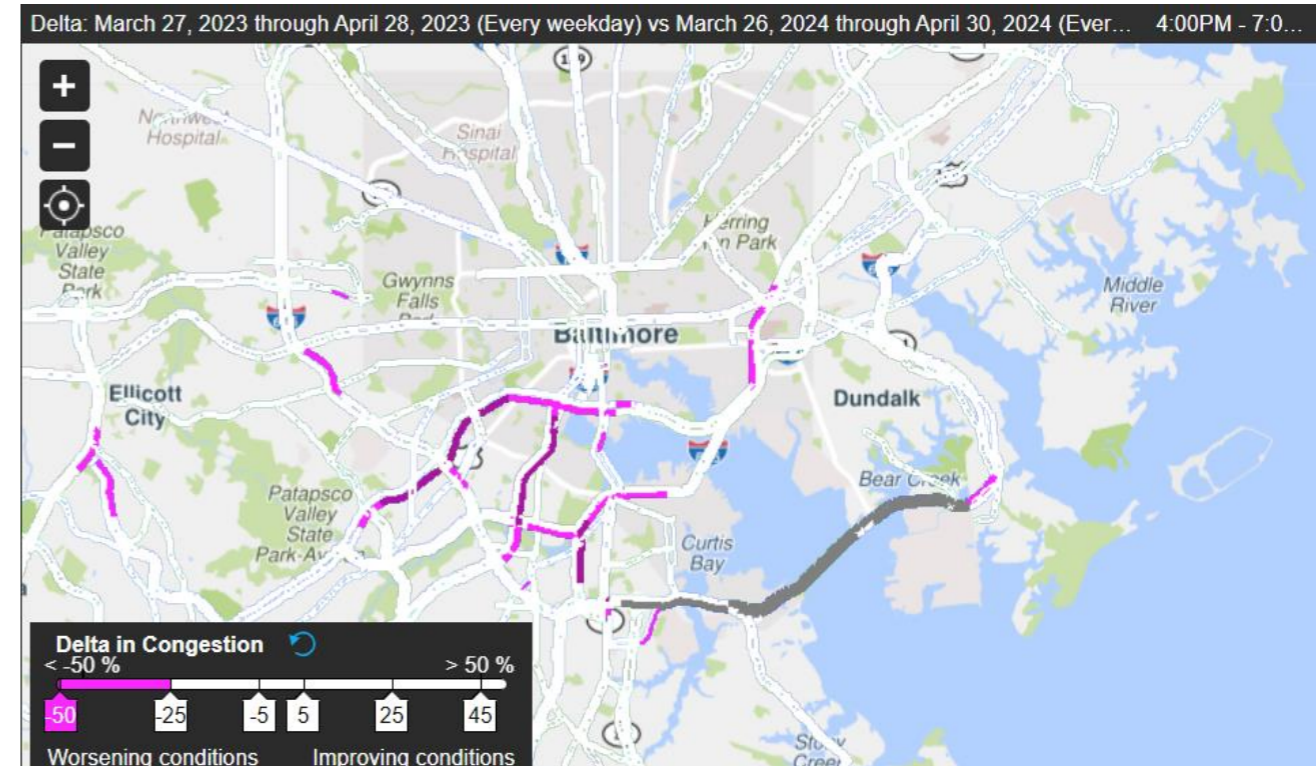
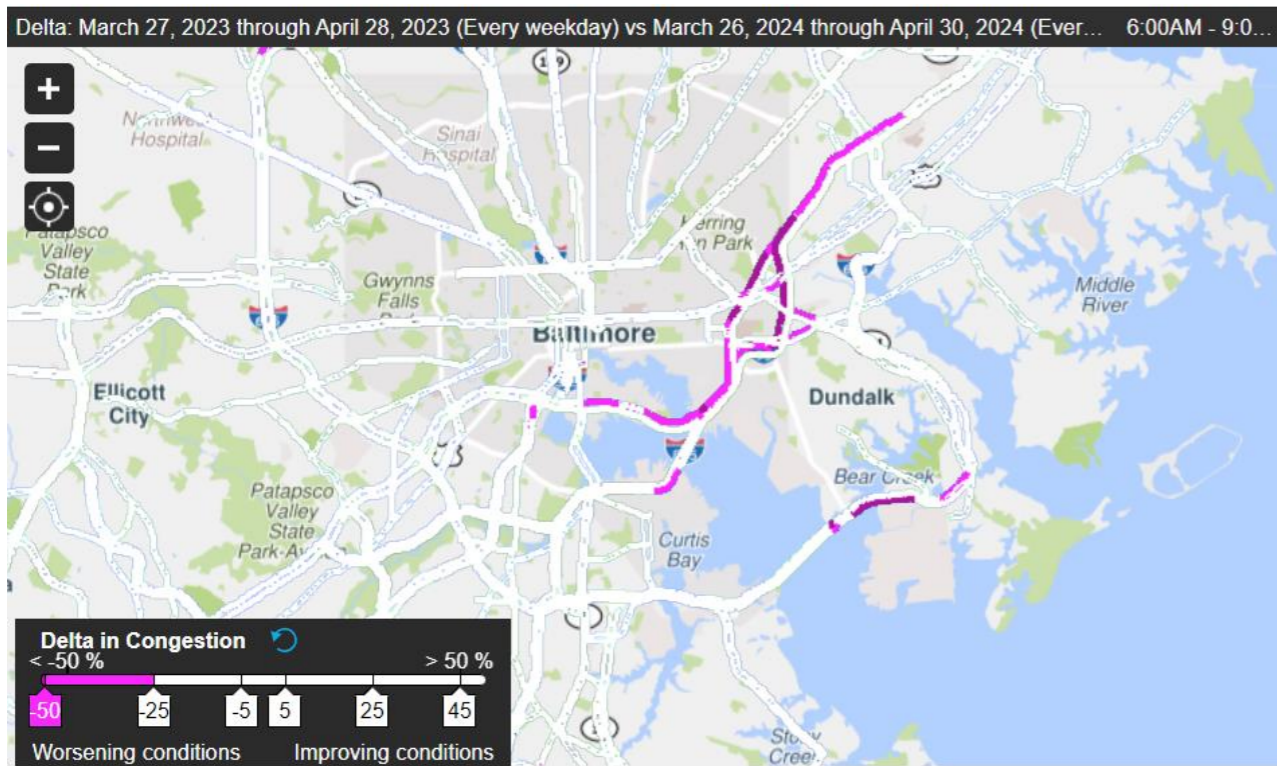


Increased Congestion Segments

Segments flagged with speeds worsening by 25% or more since FSK collapse

6-9 AM

4-7 PM



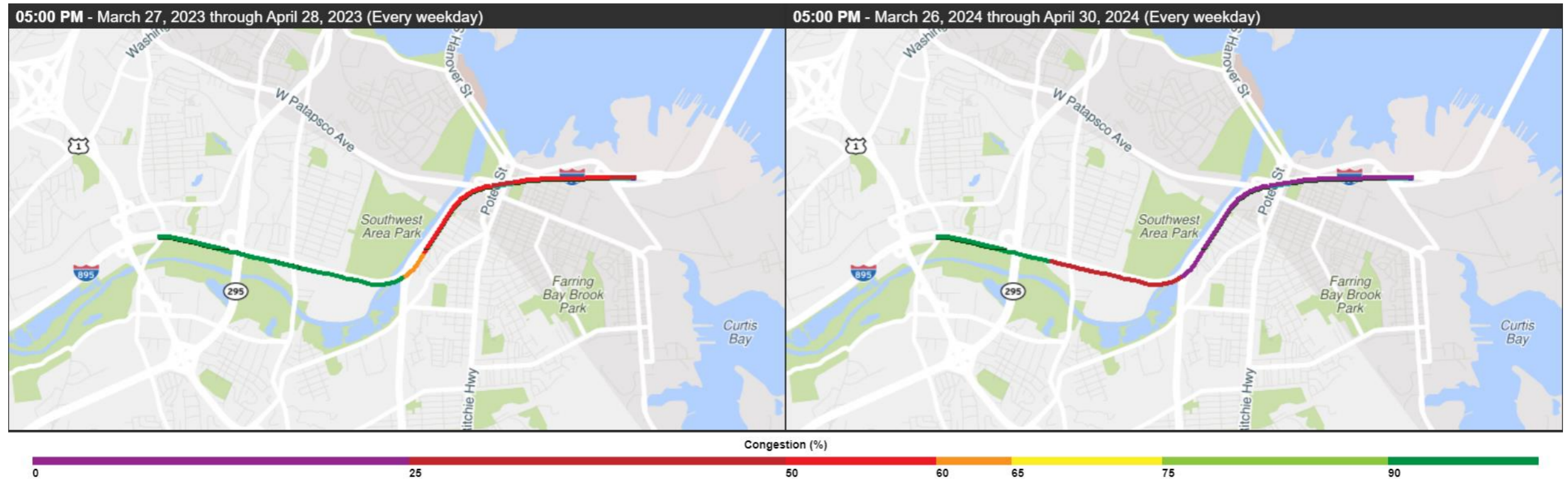
Roadway Segments Experiencing Increased Congestion

Segments	Peak	Length	TT Before	TT After	% Increase
I-895 NB from MD-295 to Harbor Tunnel Toll Plaza	PM (4-7 PM)	4.35	5.89	17.2	192%
I-895 NB from MD-2/Ritchie Hwy to I-895 Merge	PM (4-7 PM)	2.74	3.04	6.86	126%
I-95 NB from I-895/Exit 46 to Fort McHenry Tunnel	PM (4-7 PM)	10.00	13.77	30.18	119%
I-895 SB from I-95/Exit 62 to Harbor Tunnel Toll Plaza	AM (6-9 AM)	6.87	9.85	20.78	111%
I-95 SB from I-895 split to Fort McHenry Tunnel	AM (6-9 AM)	8.43	10.06	20.93	108%
MD-295 NB from Patapsco Ave to Bayard St	PM (4-7 PM)	1.75	3.23	6.44	99%
I-695 IL from Park Heights Ave to Greenspring Ave	PM (4-7 PM)	2.19	2.62	4.29	64%
MD-2/Ritchie Hwy NB from MD-710 to MD-171	PM (4-7 PM)	1.69	4.06	5.82	43%
I-695 OL from Reisterstown Rd to I-795	AM (6-9 AM)	2.16	3.02	4.31	43%
Hanover Street NB (I-895 to Cromwell)	PM (4-7 PM)	1.47	3.10	4.3	39%
US-40/Pulaski Hwy WB from City Line to N Haven St	AM (6-9 AM)	1.97	3.69	5.03	36%
I-895 SB from I-95/Exit 62 to Harbor Tunnel Toll Plaza	PM (4-7 PM)	6.87	9.67	13.01	35%
I-395 SB to I-95 NB (East Pratt to I-95)	PM (4-7 PM)	1.62	3.42	4.42	29%
MLK Blvd SB from W Baltimore St to I-395	PM (4-7 PM)	0.83	1.99	2.49	25%
I-395 SB to I-95 SB (East Pratt to I-95)	PM (4-7 PM)	1.5	3.12	3.56	14%
Length (miles)					
Travel Time: TT Before 3/27/2023 - 4/30/2023 (weekday AVG in minutes)					
Travel Time: TT After 3/26/3024 - 4/30/2024 (Weekday AVG in minutes)					

I-895 NB from MD-295 to Harbor Tunnel Toll Plaza

Congestion Percentage = % of Free Flow Speed

895 Northbound between MD-295/BALTIMORE WASHINGTON PKWY/EXIT 4 and HARBOR TUNNEL TOLL PLAZA Congestion Trend Map for March 27, 2023 through April 28, 2023 (Every weekday) and March 26, 2024 through April 30, 2024 (Every weekday)



I-895 NB from MD-295 to Harbor Tunnel Toll Plaza

Congestion Percentage = % of Free Flow Speed

Weekday Average



3/27- 4/30/2023

3/26- 4/30/2024

PK. TRAVEL TIME

PK. TRAVEL TIME

PM Peak | 4-7 PM

5.89 min

PM Peak 4-7 PM

17.20 min

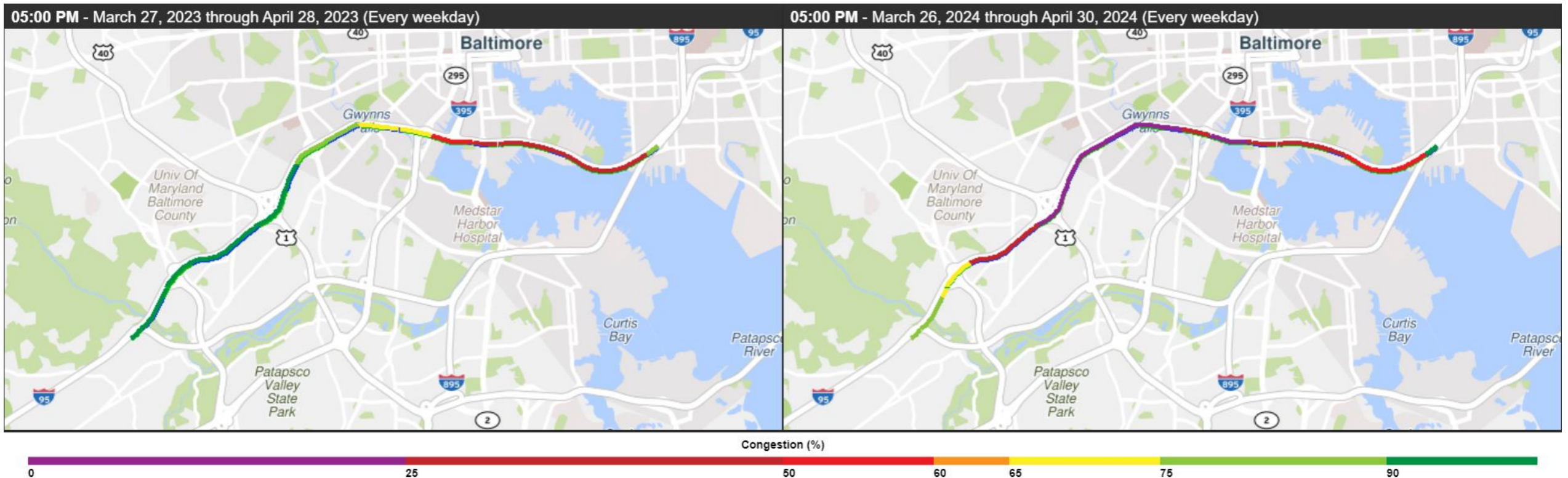
192% increase in Travel Time

Route Length = 4.35 miles

I-95 NB from I-895/Exit 46 to Fort McHenry Tunnel

Congestion Percentage = % of Free Flow Speed

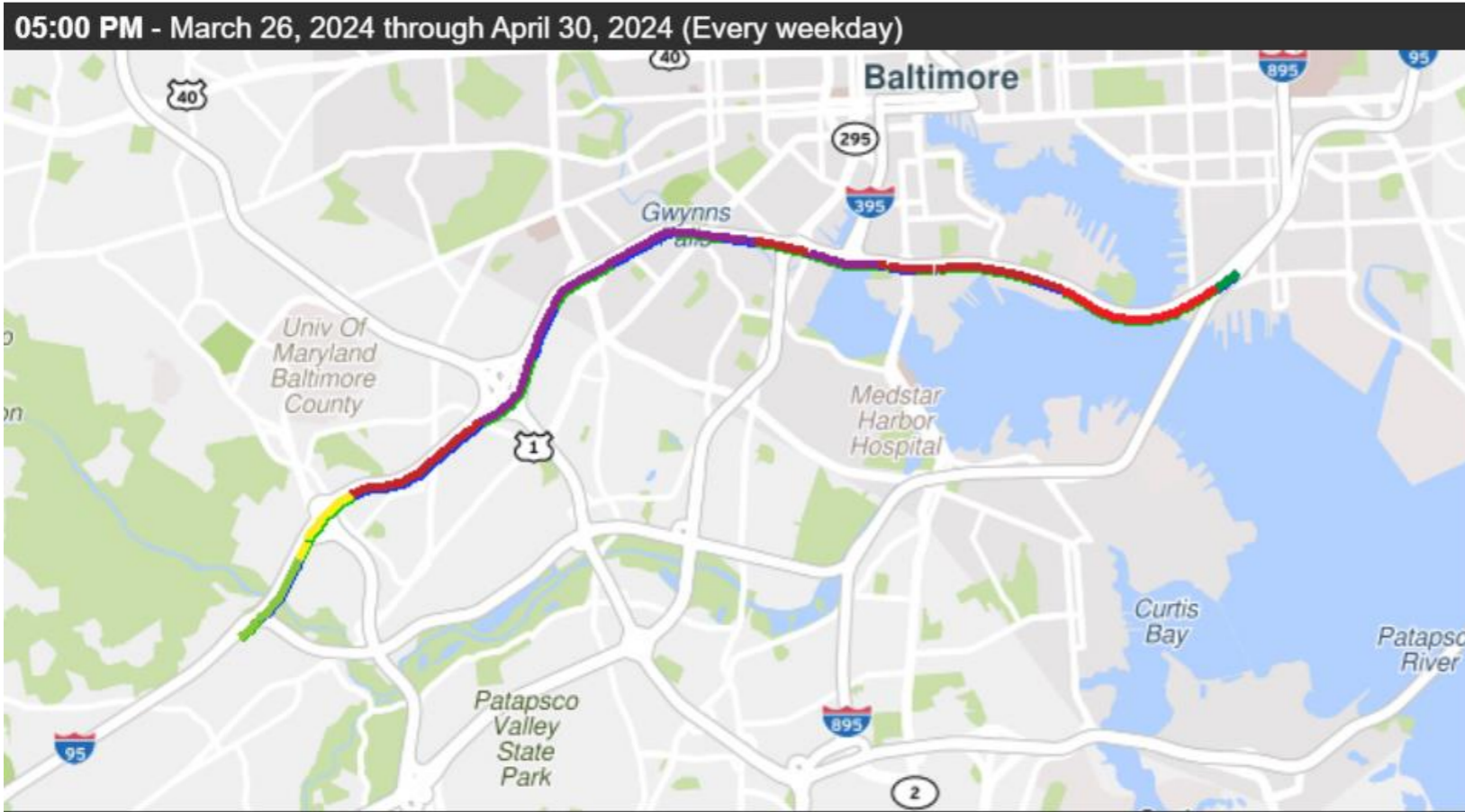
I-95 Northbound between I-895/EXIT 46 and FORT MCHENRY TUNNEL TOLL PLAZA Congestion Trend Map for March 27, 2023 through April 28, 2023 (Every weekday) and March 26, 2024 through April 30, 2024 (Every weekday)



I-95 NB from I-895/Exit 46 to Fort McHenry Tunnel

Congestion Percentage = % of Free Flow Speed

Weekday Average



3/27- 4/30/2023

3/26- 4/30/2024

PK. TRAVEL TIME

PK. TRAVEL TIME

PM Peak | 4-7 PM

13.77 min

PM Peak | 4-7 PM

30.18 min

119% increase in Travel Time

Route Length = 10 miles



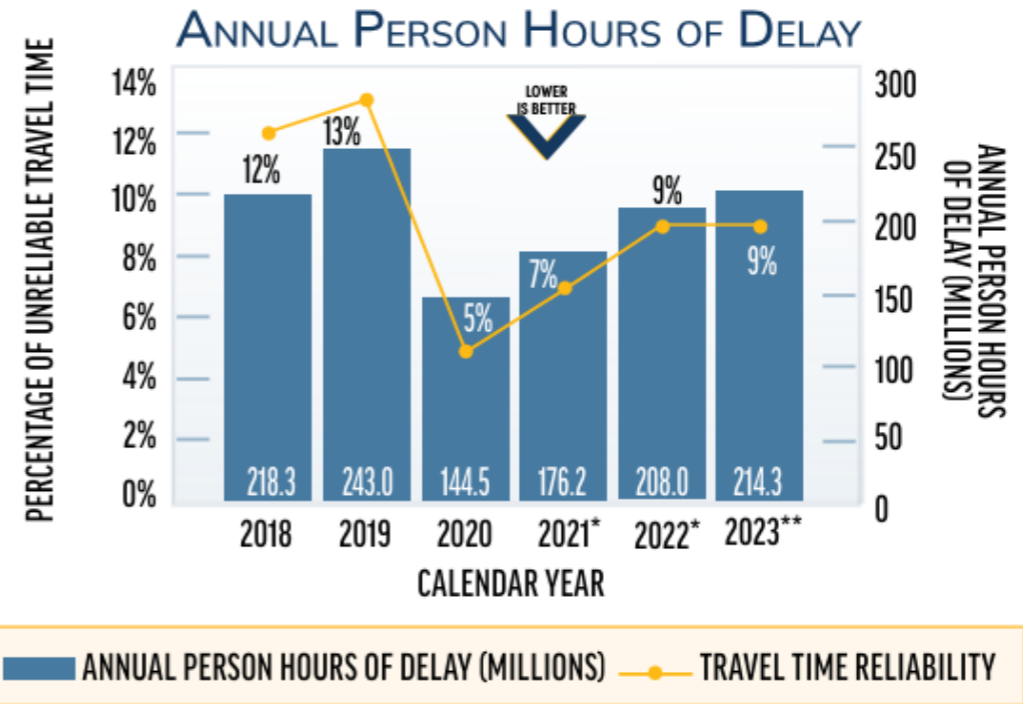
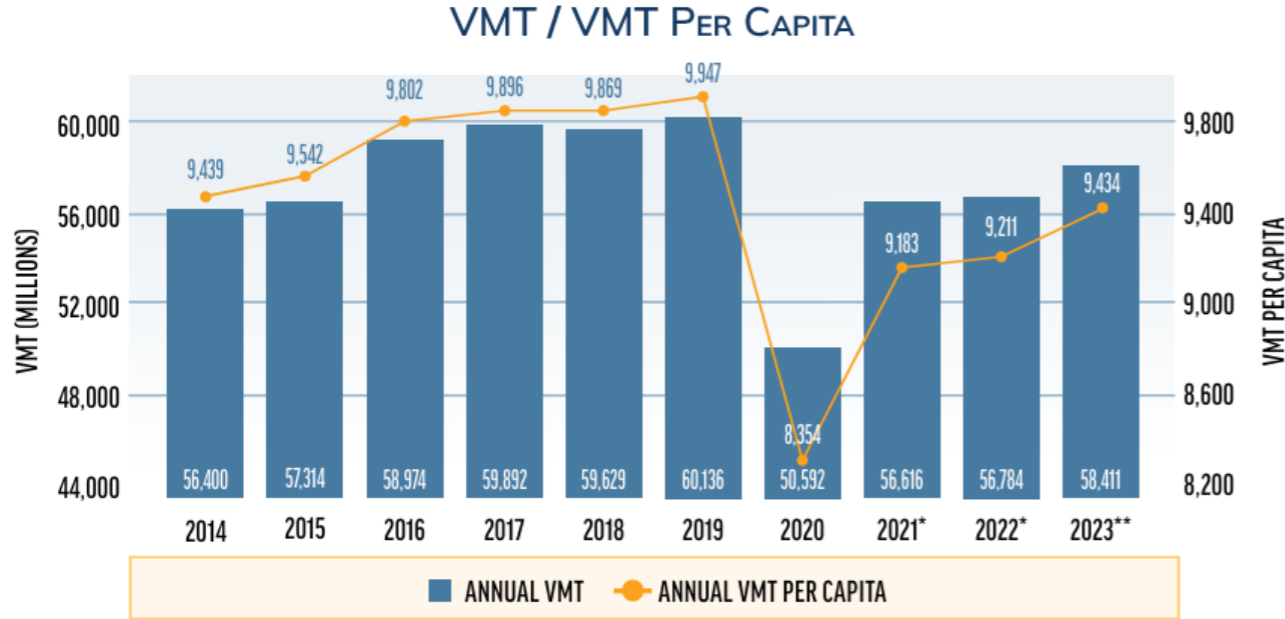
How current VMT values compare to pre-COVID conditions



Pre and Post Pandemic Conditions

- Travel on U.S. roads in 2023 rose 2.1% to 3.263 trillion miles setting a new yearly record and topping pre-COVID 19 levels for the first time (USDOT)

Pre and Post Pandemic Conditions



*Data are preliminary

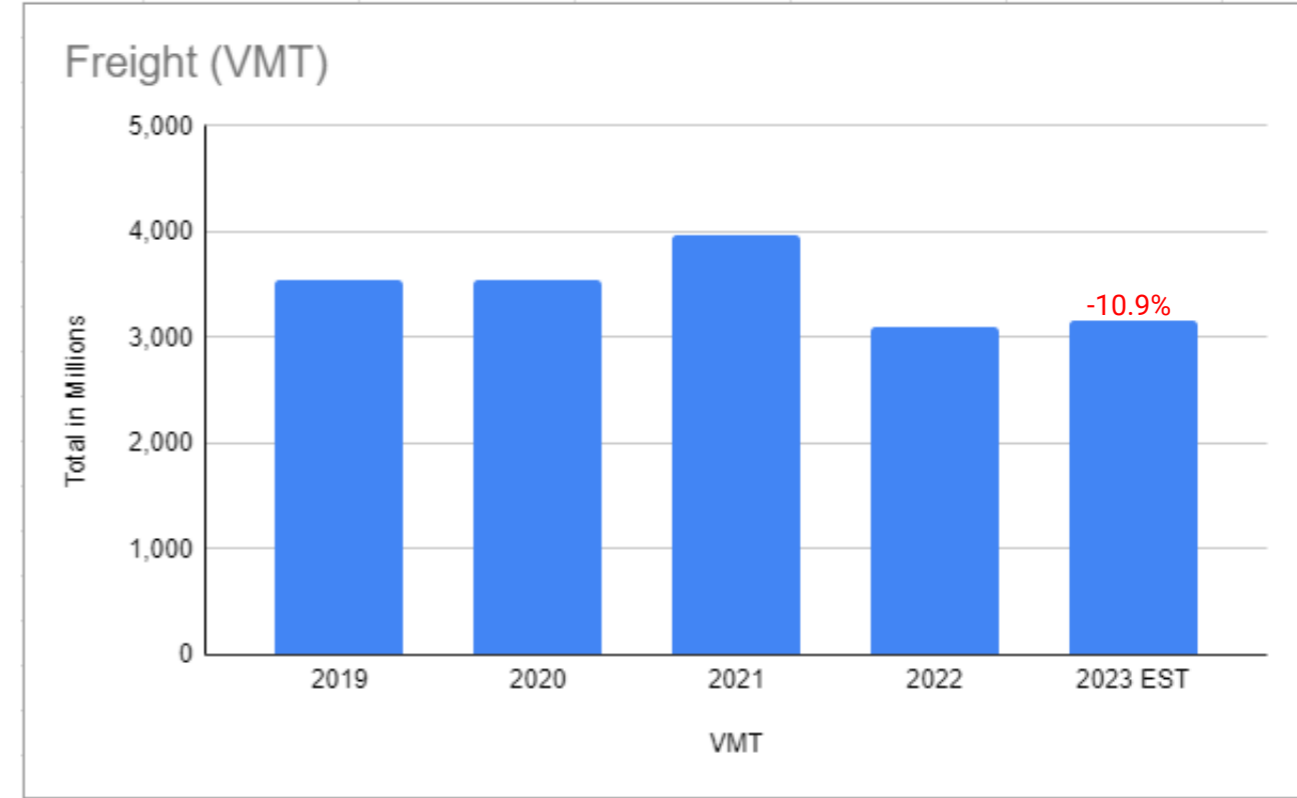
**2023 data are projected and subjected to change

Note: The methodology used for reporting the 2022 (and prior years) delay values was updated to reflect recent refinements in OPPE's Maryland Roadway Performance Tool (MRPT) and because the trends calculated seem to more reasonably reflect ADT/VMT and congestion trends. The methodology for TTR remains the same.

Pre and Post Pandemic Conditions



VMT	2019	2020	2021	2022	2023 EST
Total	60,136	50,592	56,616	56,784	57,927



Freight VMT	2019	2020	2021	2022	2023 EST
Total	3,547	3,553	3,961	3,092	3,161

For More Information

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6. Overview of Updates to Regional CMP Resources

- Online CMP Tool <https://baltometro.org/transportation/CMPmappingtool> updates:
 - 2023 Start of Bottleneck
 - 2023 Bottleneck Lines
 - 2023 Average Morning Speeds
 - 2023 Average Evening Speeds
 - 2023 Travel Time Index
 - 2023 Planning Time Index
 - 2023 Interstate Travel Time Reliability
 - 2023 Non-Interstate Travel Time Reliability
 - 2023 Truck Travel Time Reliability
- Regional Bicycle Facilities layer (updated 2023) added to the Current Layers group
- Layer categories and colors for 2023 and 2022 have been changed to match the INRIX colors. As time allows, colors for older layers (2021 and earlier) will be updated also.

7. Project Prioritization and Priority Letter Development



- Plan for 2024 priority letters and regional text

8. Other Business

- 2024 Meeting – November 5