

## **CMP Committee**

February 2, 2021





## Agenda

- 1. WELCOME AND INTRODUCTIONS (5 min.)
- 2. PURPOSE OF MEETING (5 min.)
- 3. UPDATE ON ONLINE CMP TOOL (10 min.) BMC staff will provide an update on the <u>Online CMP Tool</u>.
- 4. REVIEW CONGESTION SUMMARY FROM 2020 (15 min.) BMC staff will present an overview of the most congested locations identified in 2020 for the region and by jurisdiction and compare to past years.
- IDENTIFICATION OF REGIONAL PRIORITY CONGESTED LOCATIONS (40 min.) Based on the congestion summary discussion, the group will identify regional priorities for consideration in Priority Letter projects.
- 6. NEXT STEPS (5 min.)





## 2. Purpose of Meeting

 Identify regional congestion priorities to consider in advance of local jurisdiction priority letter development

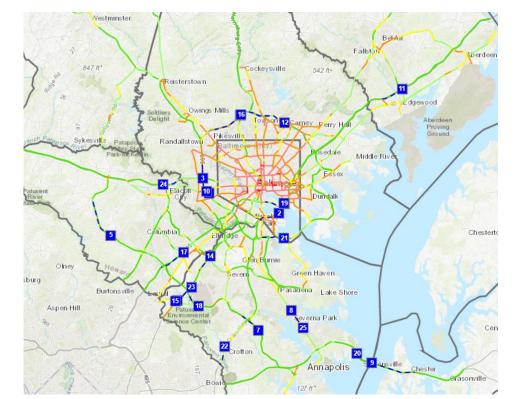
<b>3</b>	Business Units identify needs Needs are prioritized within each	MARCH	<ul> <li>Counties submit project priorities</li> </ul>	CMP Committee Meeting 1: Review data analysis from the previous year; identify collaborative priorities
CMP Committee Meeting 2:	Business Unit Business Units submit projects to MDOT	МАҮ	O Initial revenue estimates made and provided to Be	
Discussion		JUNE	MDOT works with Business Units to make adjus Formal revenue estimates developed in order to re	
forum for effective		JULY	match resources with projects O Meeting with Secretary to review Draft CTP	
strategies, priorities prior to	Business Units submit Project Information Forms to MDOT for major capital projects	AUGUST	O Draft CTP Summary presented to Governor	CMP Committee Meeting 3:
development of draft CTP		SEPTEMBER	Draft CTP published	Sharing
	Business Units participate in county visits	OCTOBER	Secretary visits each county to present the Draft (	
		NOVEMBER	Final revenue estimates developed for the Final C	
		DECEMBER		year
		JANUARY	O Final CTP submitted to DBM and the Governor f	or review
	Process begins again	FEBRUARY	Final CTP submitted to Legislature	



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## 3. Update on Online CMP Tool

- Online CMP Tool
- Refer to <u>Proposed Performance Metrics and Data</u> <u>Collection & Management Plan</u> for other data





Layers O
Start of Bottleneck (2018)
✓ Bottleneck Lines (2018)
Transportation Improvement Program 2020-2023 (Points)
Transportation Improvement Program 2020-2023 (Lines)
Maximize 2045: Long Range Plan (Points)
Maximize 2045: Long Range Plan (Lines)
✓ Average Morning Speeds (2018)
Average Evening Speeds (2018)
2045 Congested Roads - Existing and Committed Projects
BMC Boundary

## **CMP Tool – Development Schedule**

### 2018 – Baseline Year

Completed Layers: -Bottlenecks -TIP -LRTP -Avg. Speeds (AM/PM) -2045 Congested Roads

Layers under final review:

-Travel Time Index (TTI) -Planning Time Index (PTI) -Truck Travel Time Reliability Index -Interstate Travel Time Reliability -Non Interstate Travel Time Reliability

Layers Under Consideration:

Priority Letter Projects
Vulnerable Population Data
Duration of Congested Conditions (typical weekday/weekend, etc)

- Multi-modal



- Safety

**Tentative Release Schedule:** 

2018 – Quarter 1 – Online. Additional layers under review

2019 – Quarter 2 – Bottlenecks identified and geocoded

2020 - Quarter 3 - Bottlenecks identified



## **Review Congestion Summary from 2019 and 2020**

#1	Bottleneck Ranking		
	Rank congestion locations over long periods of time and discover which ones have the greatest impact.		
1.	Select ro	ads	
	TMC segm	ents from	NRIX 👻
	Road	Region	Segment codes Map Saved
		Regions	All
		Directions	All
		Zip Codes	Example: 20742, 20904
	Ro	oad Classes	All
			Select All Add region
			US Route
2.	Select a time perio	State Route	
		Parkway	
3.	Select da	ata source	Turnpike
			Expressway
	HERE		Frontage
		m	Interchange
4.	Select in	clusion cr	iteria
	Include	e congestion	that originates outside your selected geography
	Querie	s of more tha	an 50 segments may fail if this option is checked.

**SBMC** 

 Bottleneck presentations for 2019 and 2020



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### **Performance Metrics for Use in the CMP**

## Objective 1: Enhance access to jobs and other opportunities

- Number of jobs accessible within a 30-minute drive
- Number of jobs accessible within a 45-minute transit trip

## Objective 2: Improve travel times and reduce traveler delay on all modes of travel

- Travel time index (ratio of peak-period to offpeak travel time)
- Duration of congested conditions (e.g., on typical weekdays, weekends)
- 3. Person hours of peak hour excessive delay
- 4. Average bus speeds
- Anticipated growth in V/C ratio in peak period (base year to 2045)

### Objective 3: Improve travel time reliability and resiliency for motorists and transit

- 1. Level of Travel Time Reliability (LOTTR)
- 2. Transit on-time performance
  - Bus
  - Rail

### **Objective 4: Improve freight reliability**

1. Truck Travel Time Reliability (TTTR) Index

### Objective 5: Enhance travel choices, including access to transit, bicycling, walking, and other non-SOV modes

- 1. Non-SOV mode share
- Transit network extent and frequency Access to frequent transit (secondary)
- 3. Bicycle network extent
- 4. Bicycle Level of Traffic Stress (LTS)
- 5. Park and ride utilization

# Objective 6: Reduce traffic incidents that contribute to traveler delays and loss of life or injury

- 1. Number of crashes
- 2. Number of pedestrian/bicycle crashes

# Objective 7: Enhance interjurisdictional coordination to optimize transportation system performance

To be addressed in implementation plan



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## 4. Review Congestion Summary from 2019 and 2020





## **Recommendations: Process to Analyze Areas of Congestion and Associated Mobility Issues**

 Identify priority multimodal needs

- Map key multimodal performance metrics across the region
  - Level of travel time reliability (LOTTR)
  - Bus speeds
  - Transit on-time performance
  - Bicycle level of traffic stress
  - Park and ride lot utilization

Analyze freight corridors (special analysis)

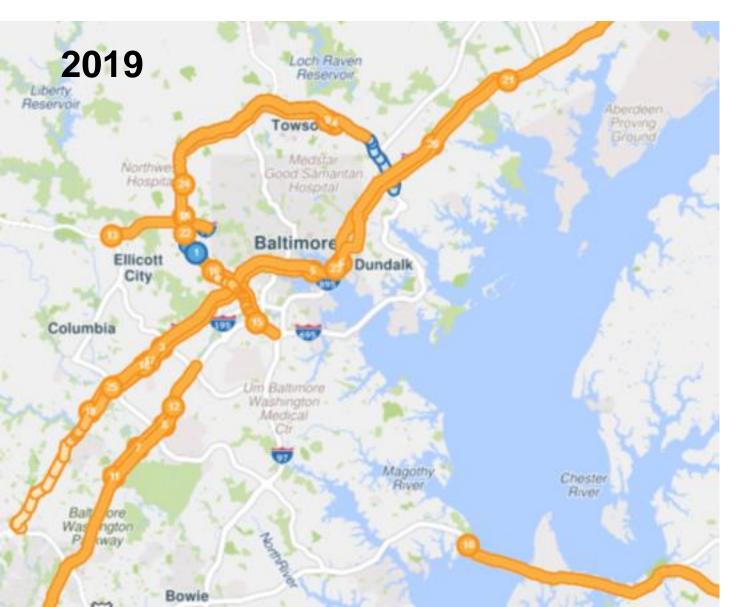
- Map travel time index (TTI) and truck travel time reliability (TTTR) index on key goods movement routes
- Can be done every 3-4 years

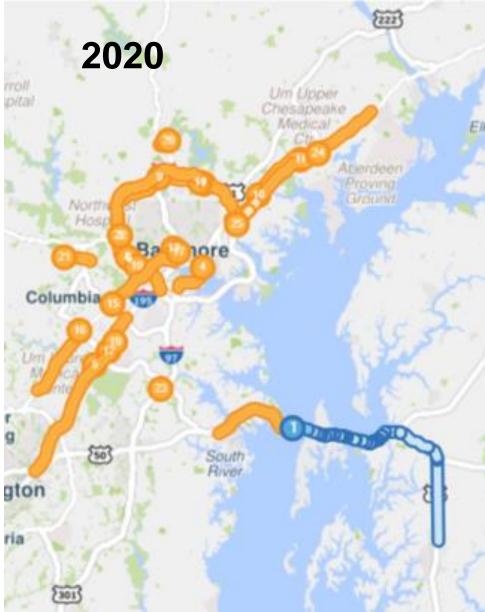
- 2. Identify deficiencies (based on thresholds, examples below)
  - Transit on-time performance: In relation to MDOT MTA goals: Core bus - 80%; Light rail/Metro subway - 95%; MARC train - 93%
  - Park and ride lot utilization: Over 85% (oversubscribed), under 15% (underutilized)



### S BMC

## Top 25 Bottlenecks in the Region – All Roads





## Top 25 Bottlenecks in the Region – All Roads

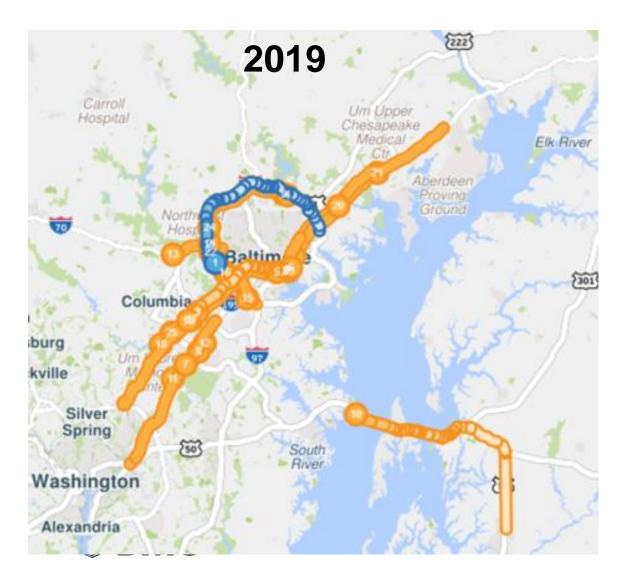
Rank	Location	Rank	Location
1	I-695 OL @ EDMONDSON AVE/EXIT 14	1	US-50 W @ BAY BRIDGE
2	I-695 IL @ MD-122/SECURITY BLVD/EXIT 17	2	US-50 E @ BAY BRIDGE
3	I-95 N @ MD-100/EXIT 43	3	I-695 IL @ MD-122/SECURITY BLVD/EXIT 17
4	I-695 IL @ MD-542/LOCK RAVEN BLVD/EXIT 29	4	I-895 N @ HARBOR TUNNEL THWY (NORTH)
5	I-95 N @ FORT MCHENRY TUNNEL	5	MD-295 S @ MD-198
6	I-895 S @ HOLABIRD AVE/EXIT 10	6	I-695 OL @ MD-144/FREDERICK RD/EXIT 13
7	MD-295 S @ MD-198	7	I-695 IL @ MD-542/LOCK RAVEN BLVD/EXIT 29
8	MD-295 N @ CANINE RD	8	I-695 OL @ EDMONDSON AVE/EXIT 14
9	I-695 OL @ MD-567/CROMWELL BR RD/EXIT 29	9	I-695 IL @ I-83/MD-25/EXIT 23
10	US-50 W @ BAY BRIDGE	10	I-695 IL @ MD-372/WILKENS AVE/EXIT 12
11	MD-295 S @ PRINCE GEORGE'S/ARUNDEL CO LINE	11	I-95 N @ MD-152/EXIT 74
12	MD-295 N @ MD-175	12	MD-295 N @ CANINE RD
13	I-70 W @ US-29/EXIT 87	13	W FRANKLIN ST W @ N MARTIN LUTHER KING JR BLVD
14	I-695 OL @ MD-122/SECURITY BLVD/EXIT 17	14	I-695 OL @ MD-567/CROMWELL BR RD/EXIT 29
15	I-695 OL @ MD-295/WASH-BALT PKY/EXIT 7	15	I-95 S @ MD-100/EXIT 43
16	I-695 IL @ MD-372/WILKENS AVE/EXIT 12	16	I-95 N @ MD-32/EXIT 38
17	I-95 N @ MD-175/EXIT 41	17	HOWARD ST N @ W LOMBARD ST
18	I-95 S @ MD-175/EXIT 41	18	I-95 S @ MD-43/WHITE MARSH BLVD/EXIT 67
19	I-95 S @ MD-216/EXIT 35	19	MD-295 N @ MD-175
20	I-95 S @ MD-43/WHITE MARSH BLVD/EXIT 67	20	WARREN RD E @ MD-45/YORK RD
21	I-95 N @ MD-152/EXIT 74	21	FREDERICK RD W @ US-40/BALTIMORE NATIONAL PIKE
22	I-695 OL @ I-70/EXIT 16	22	I-695 OL @ MD-122/SECURITY BLVD/EXIT 17
23	I-95 S @ FORT MCHENRY TUNNEL TOLL PLAZA	23	MD-175 N @ MD-3/ROBERT CRAIN HWY
24	I-695 OL @ MD-26/EXIT 18	24	I-95 N @ MD-24/EXIT 77
25	I-95 N @ MD-32/EXIT 38	25	MD-7 S @ I-695/BALTIMORE BELTWAY LOOP

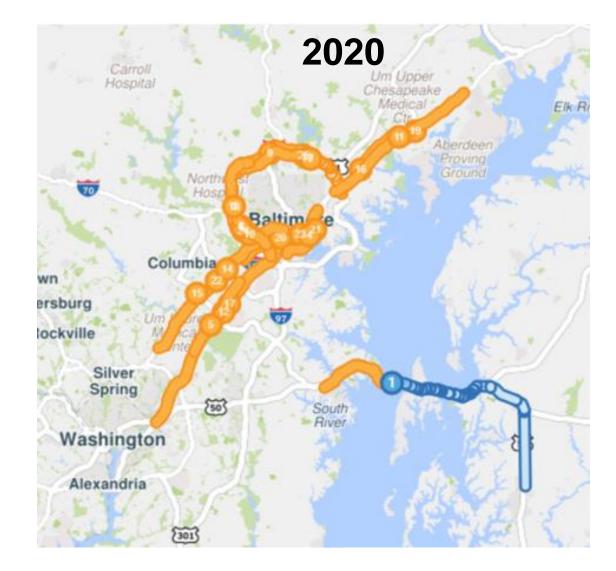
2020

2019



## **Top 25 Bottlenecks in the Region – Freeways**



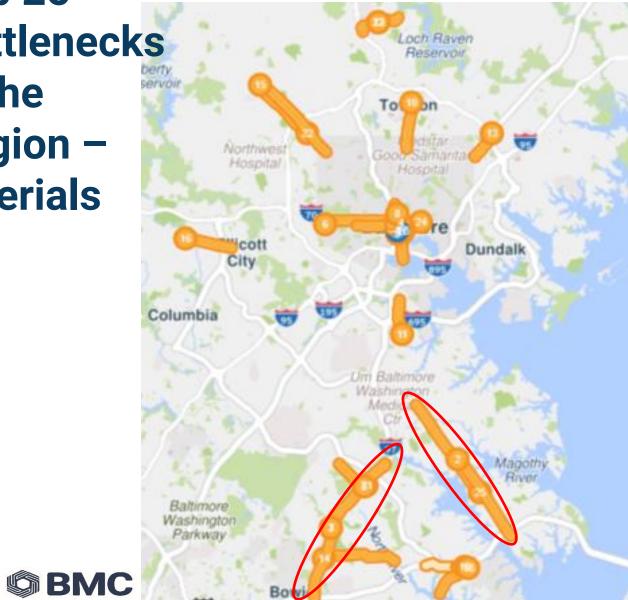


## Top 25 Bottlenecks in the Region – Freeways

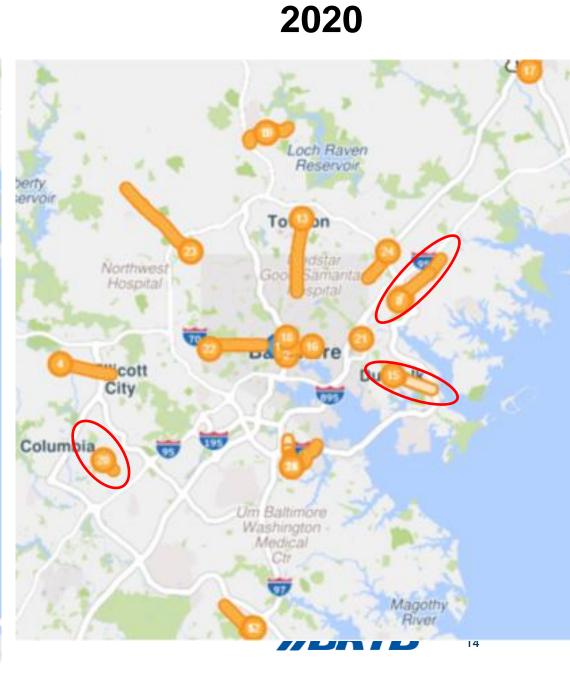
	2019		2020
Rank	Head Location	Rank	Location
1	I-695 OL @ EDMONDSON AVE/EXIT 14	1	US-50 W @ BAY BRIDGE
2	I-695 IL @ MD-122/SECURITY BLVD/EXIT 17	2	US-50 E @ BAY BRIDGE
3	I-95 N @ MD-100/EXIT 43	3	I-695 IL @ MD-122/SECURITY BLVD/EXIT 17
4	I-695 IL @ MD-542/LOCH RAVEN BLVD/EXIT 29	4	I-895 N @ HARBOR TUNNEL THWY (NORTH)
5	I-95 N @ FORT MCHENRY TUNNEL	5	MD-295 S @ MD-198
6	I-895 S @ HOLABIRD AVE/EXIT 10	6	-695 OL @ M D-144/FREDERICK RD/EXIT 13
7	MD-295 S @ MD-198	7	I-695 IL @ MD-542/LOCK RAVEN BLVD/EXIT 29
8	MD-295 N @ CANINE RD	8	I-695 OL @ EDMONDSON AVE/EXIT 14
9	I-695 OL @ MD-567/CROMWELL BR RD/EXIT 29	9	I-695 IL @ I-83/MD-25/EXIT 23
10	US-50 W @ BAY BRIDGE	10	I-695 IL @ MD-372/WILKENS AVE/EXIT 12
11	MD-295 S @ PRINCE GEORGE'S/ARUNDEL CO LINE	11	I-95 N @ MD-152/EXIT 74
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14	I-695 OL @ MD-122/SECU RITY BLVD/EXIT 17	14	I-95S @ MD-100/EXIT 43
15	I-695 OL @ MD-295/WASH-BALT PKY/EXIT 7	15	I-95 N @ MD-32/EXIT 38
16	I-695 IL @ MD-372/WILKENS AVE/EXIT 12	16	-95 S @ MD-43/WHITE MARSH BLVD/EXIT 67
17	I-95 N @ MD-175/EXIT 41	17	MD-295 N @ MD-175
18	I-95 S @ MD-175/EXIT 41	18	1-695 OL @ M D-122/SECU RITY BLVD/EXIT 17
19	I-95 S @ MD-216/EXIT 35	19	I-95 N @ MD-24/EXIT 77
20	I-95 S @ MD-43/WHITE MARSH BLVD/EXIT 67	20	MD-295 N @ MD-648/ANNAPOLIS RD/WATERVIEW AVE
21	I-95 N @ MD-152/EXIT 74	21	I-895 S @ HOLABIRD AVE/EXIT 10
22	I-695 OL @ I-70/EXIT 16	22	I-95 N @ MD-175/EXIT 41
23	I-95 S @ FORT MCHENRY TUNNEL TOLL PLAZA	23	I-95 N @ FORT MCHENRY TUNNEL
24	I-695 OL @ MD-26/EXIT 18	24	I-695 IL @ MD-144/FREDERICK RD/EXIT 13
25	I-95 N @ MD-32/EXIT 38	25	I-695 OL @ PROVIDENCE RD/EXIT 28



## **Top 25 Bottlenecks** in the Region – **Arterials**



2019



## Top 25 Bottlenecks in the Region – Arterials

2019
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Rank	Location
1	HOWARD ST N @ W LOMBARD ST
2	MD-2 N @ ROBINSON RD
3	MD-3 N @ MD-424/DAVIDSONVILLE RD/CONWAY RD
4	US-40 E @ MD-2/ST PAUL PL
5	MD-3 S @ MD-175/ANNAPOLIS RD/MILLERSVILLE RD
6	US-40 W @ COOKS LN
7	MD-3 S @ MD-424/DAVIDSONVILLE RD/CONWAY RD
8	MARTIN L KING JR BLVD N @ PARK AVE/W CHASE ST
9	HOWARD ST S @ W CONWAY ST
10	MD-45 N @ MD-146/DULANEY VALLEY/E JOPPA RD
11	MD-2 S @ MD-710/ORDNANCE RD
12	WARREN RD E @ MD-45/YORK RD
13	US-1 N @ ROSSVILLE BLVD
14	MD-450 W @ MD-3/CRAIN HWY
15	MD-140 W @ OWINGS MILLS BLVD
16	FREDERICK RD W @ US-40/BALTIMORE NATIONAL PIKE
17	E LOMBARD ST W @ MD-2/LIGHT ST
18	MD-450 E @ MD-2/SOLOMONS ISLAND RD
19	RIVA RD N @ US-301/US-50/MD-450/WEST ST
20	MD-2 N @ E PRATT ST
21	MD-175 S @ MD-3/ROBERT CRAIN HWY
22	MD-140 E @ SUDBROOK LN
23	WARREN RD W @ MD-45/YORK RD
24	US-40 E @ WOLFE ST
25	MD-2 S @ COLLEGE PKY

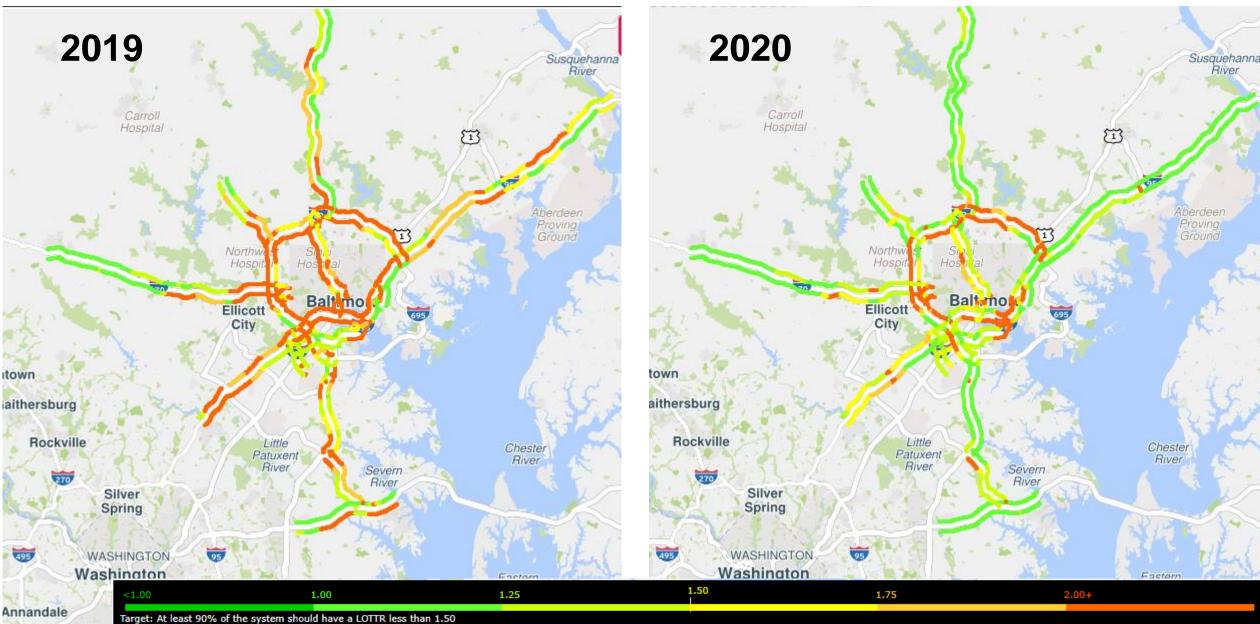


Rank	Location
1	W FRANKLIN ST W @ N MARTIN LUTHER KING JR BLVD
2	HOWARD ST N @ W LOMBARD ST
3	WARREN RD E @ MD-45/YORK RD
4	FREDERICK RD W @ US-40/BALTIMORE NATIONAL PIKE
5	MD-175 N @ MD-3/ROBERT CRAIN HWY
6	RIVA RD N @ US-301/US-50/MD-450/WEST ST
7	MD-7 S @ I-695/BALTIMORE BELTWAY LOOP
8	MD-7 S @ MD-588/GOLDEN RING RD
9	MD-450 E @ MD-2/SOLOMONS ISLAND RD
10	MD-450 W @ MD-3/CRAIN HWY
11	MD-387 S @ FOREST DR
12	MD-175 S @ MD-3/ROBERT CRAIN HWY
13	MD-45 N @ MD-146/DULANEY VALLEY/E JOPPA RD
14	ORDNANCE RD S @ MD-2/RITCHIE HWY
15	WISE AVE W @ MERRITT BLVD
16	US-40 E @ WOLFE ST
17	US-1-BR S @ MD-24/VIETNAM VETS MEMORIAL HWY
18	MARTIN L KING JR BLVD N @ PARK AVE/W CHASE ST
19	WARREN RD W @ MD-45/YORK RD
20	MD-175 N @ DOBBIN RD
21	N NORTH POINT RD S @ MD-151/ERDMAN AVE
22	US-40 W @ COOKS LN
23	MD-140 E @ SUDBROOK LN
24	US-1 N @ ROSSVILLE BLVD
25	MD-2 S @ MD-710/ORDNANCE RD
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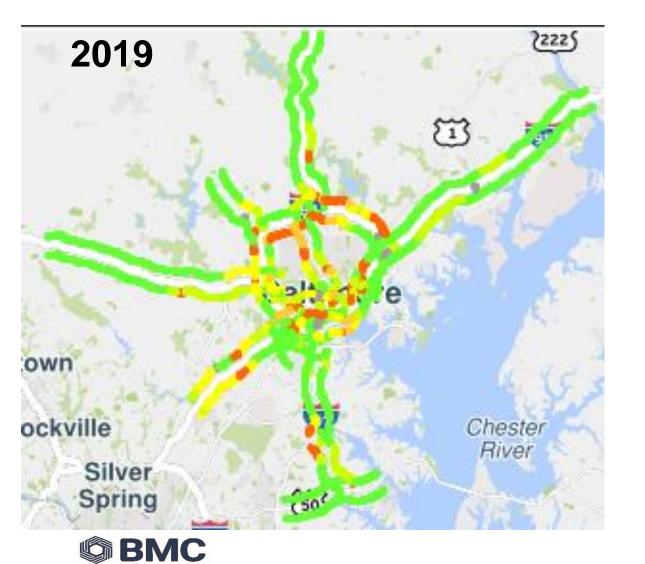


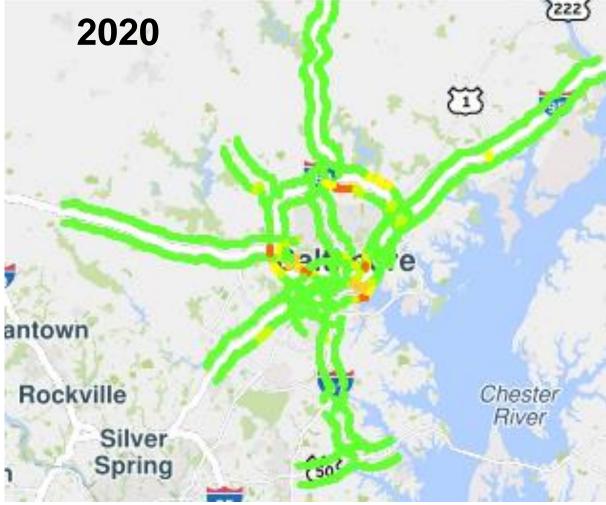


## **Truck Travel Time Reliability**



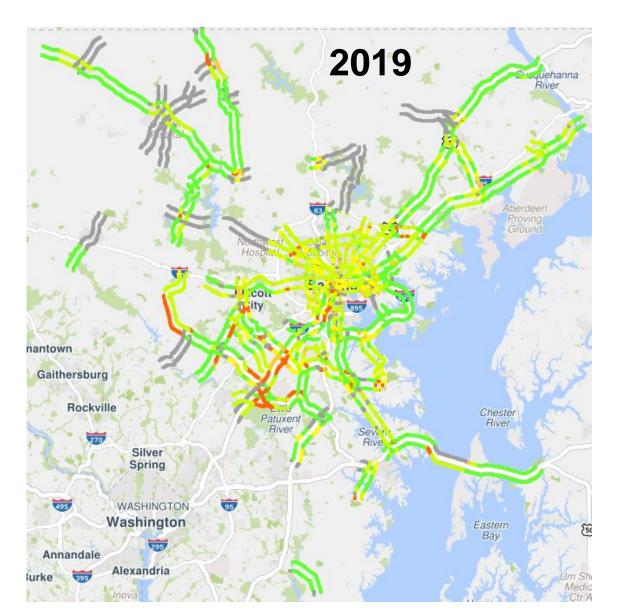
## **Interstate Reliable Percent Person Hrs Traveled**

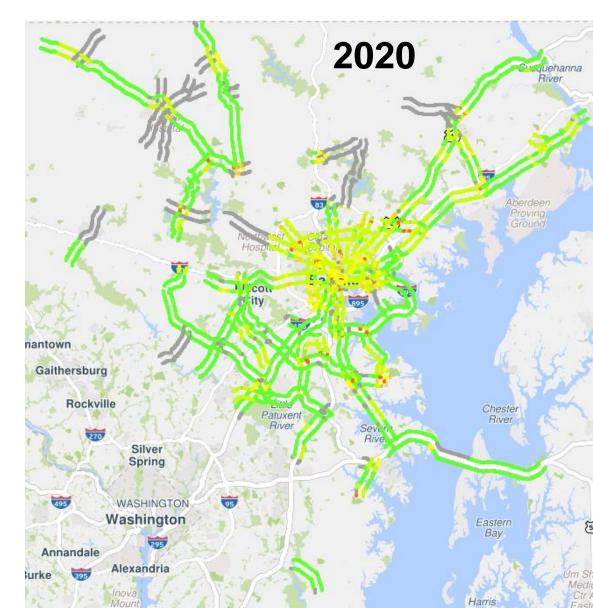




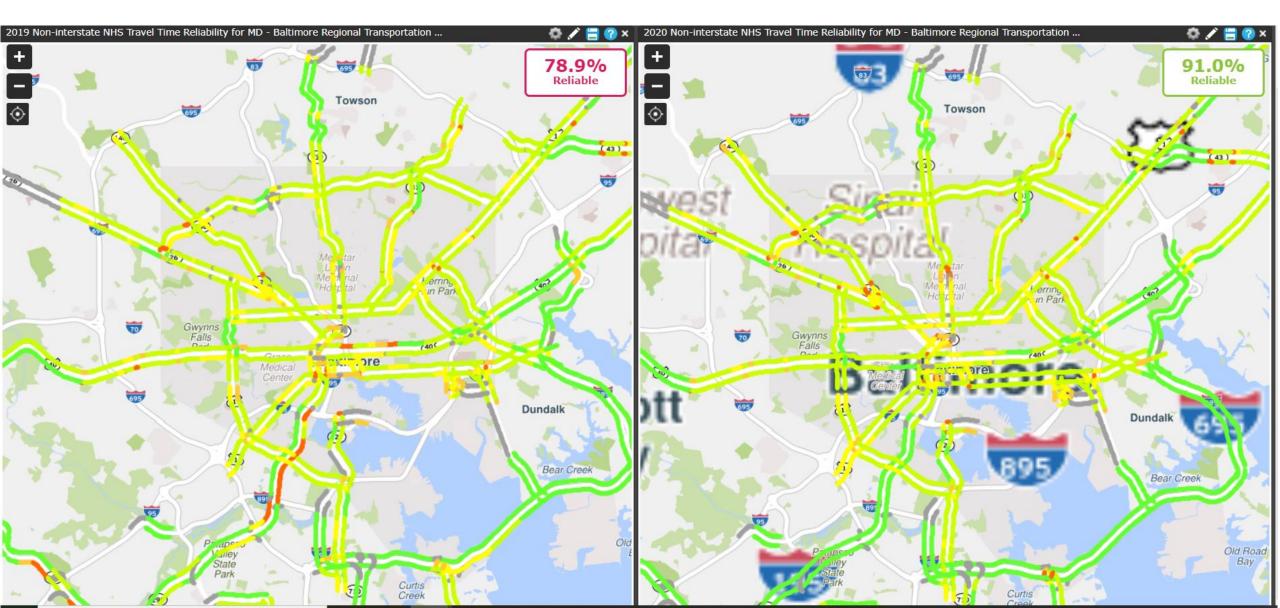


### **Non-interstate Reliable Percent Person Hrs Traveled**





## **Non-interstate Reliable Percent Person Hrs Traveled**



## **Other - Discussion**





## 5. Identification of Regional Priority Congested Locations / Modes

**Reminder of Congestion Management Objectives** 



Enhance access to jobs and other opportunities



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Improve travel times and reduce traveler delay on all modes of travel



Improve freight reliability



Reduce traffic incidents that contribute to traveler delays and loss of life or injury



Improve travel time reliability (consistency and predictability of travel times) and resiliency for motorists and transit



Enhance travel choices, including access to transit, safe and convenient bicycling and walking, and other alternatives to driving alone



Enhance inter-jurisdictional coordination to optimize transportation system performance



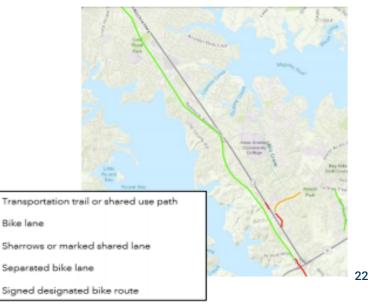
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### BMC

## **Recommendations: Process to Analyze Areas of Congestion and Associated Mobility Issues**

 Identify priority congested roadway corridors

- 1. Identify top freeway and non-freeway bottlenecks
  - Rank the top 15 bottlenecks in each category (freeways and non-freeways) using an annual analysis of the data from the PDA Suite
- 2. Conduct additional analyses to characterize congestion issues
  - Whether the bottleneck appeared seasonally or across all quarters
  - Primary times of day of congestion
  - Ranking of bottleneck in terms of congestion from the individual driver's perspective
- 3. Identify travel options
  - Transit routes and frequencies
  - Bicycle network extent
  - Park and ride lot utilization
  - Other data as available (e.g., bus speeds)
- 4. Prepare corridor profile



### S BMC

### **Objective 1**

Enhance access to jobs and other opportunities



#### Land Use

Land Use Controls

Growth Management

Transit-Oriented Developments

High-Density Development Incentives

TSMO

Transit Signal Priority

Conversion

Parking Management

#### Public Transportation

Optimize Transit

Transit Trip Planner Enhanced Transit-

Real-Time Transit Data

Supportive Infrastructure

Universal Farecards

Expand Transit Network Transit Priority Treatments

Bus Rapid Transit

Increase Transit Frequency/Service

First/Last Mile Connections

Ferry Boats

Demand-Responsive Parking Pricing

### **Road Capacity**

Intersection One-Way/Two-Way Street Improvements

Closing Network Gaps

Bicycle / Pedestrian & Micro-mobility
Bike Lanes
Traffic Calming
Pedestrian Infrastructu
Streetscape
Road Diets
Expand Trail Network

re

Bikeshare Program Electric Scooter Sharing Ride Sourcing Applications

Microtransit Car Sharing

Carpooling Applications

Autonomous Vehicle Services

### **Objective 2**

Improve travel times and reduce traveler delay



#### Pricing

Value/Congestion Pricing

Demand-Responsive Parking Pricing

#### VMT Fees

Spot Improvements Intersection Improvements

Safety Improvements

Public

Transportation

Transit Priority Treatments

**Road Capacity** 

Real-Time Transit Data

Transit Trip Planner

Bus Rapid Transit

Ferry Boats

Operational Improvements

New HOV or HOT Lanes

Removing Bottlenecks

Adding Turn Lanes

Grade Separated Intersections

Closing Network Gaps

Add Travel Lanes

#### TSMO

Incident Management

Traffic Signal Coordination

Adaptive Traffic Signals

Adaptive Ramp Metering

Active Traffic Management

Reversible Commuter Lanes

Access Management

Moveable Median Barriers

Electronic Toll Collection

Hard Shoulder Running

Restrict Intersection Movements

Geometric Improvements

One-Way/Two-Way Street Conversion

Transit Signal Priority

Traveler Information Systems

Work Zone Management

Road/Weather Information Systems

Traffic Management for Special Events

Off-Hours Delivery Programs

Freight Management

Demand Management

Employer Outreach Programs

Commuter Benefits Policies

Parking Cash Out Policies

### Pricing

### **Objective 3**

## Improve travel times reliability



#### Pricing

Value/Congestion Pricing

### Public Transportation

Real-Time Transit Data Transit Trip Planner Bus Rapid Transit Transit Priority Treatments Ferry Boats

### **Road Capacity**

Spot Improvements

Intersection Improvements

Safety Improvements

Operational Improvements

New HOV or HOT Lanes

Removing Bottlenecks

Adding Turn Lanes

Grade Separated Intersections

Closing Network Gaps

Add Travel Lanes

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Work Zone Management

Road/Weather Information Systems

Traffic Management for Special Events

Off-Hours Delivery Programs

### Objective 4

Improve freight reliability

#### Road Capacity

Freight Network Upgrades Freight Rail/ Port Capacity TSMO

tk Upgrades Real-Time Truck Parking Information

Truck Weigh Technology

Freight Management

Off-Hours Delivery Programs

## **Objective 7**

Enhance interjurisdictional coordination



Demand Management

Regional Coordination

### **Objective 5**

## Enhance travel choices



#### Land Use

Land Use Controls

Growth Management

Transit-Oriented Developments

High-Density Development Incentives

Parking Management

### Public Transportation Optimize Transit Real-Time Transit Data Transit Trip Planner Enhanced Transit-Supportive Infrastructure Universal Farecards Bus Rapid Transit Expand Transit Network Increase Transit Frequency/Service Transit Priority Treatments First/Last Mile Connections Ferry Boats

Demand Management

Employer Outreach Programs

Commuter Benefits Policies

Parking Cash Out Policies

#### Pricing

Demand-Responsive Parking Pricing

### TSMO One-Way/Two-Way Street Conversion

Transit Signal Priority

#### Bicycle / Pedestrian & Micro-mobility

Bike Lanes

Traffic Calming

Pedestrian Infrastructure

Streetscape

Road Diets

Expand Trail Network

Bikeshare Program

Electric Scooter Sharing

Ride Sourcing Applications

Microtransit

Car Sharing

Carpooling Applications

Autonomous Vehicle Services

**Road Capacity** 

Intersection Improvements

### **Objective 6**

Reduce traffic incidents



#### Bicycle / Pedestrian & Micro-mobility

Bike Lanes

Traffic Calming

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Pedestrian Infrastructure Streetscape

Road Diets

Ferry Boats
Pricing
Value/Congestion Pricing

Public

Transportation

Road Capacity

Spot Improvements

Intersection Improvements

Freight Network Upgrades

Safety Improvements

Operational Improvements

New HOV or HOT Lanes

Removing Bottlenecks

Adding Turn Lanes

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Active Traffic Management

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Traveler Information Systems

Work Zone Management

Road/Weather Information Systems

Traffic Management for Special Events

Off-Hours Delivery Programs

## **Discussion of Regional Priority Congested Locations /** Modes

- Process for integrating regional priorities in CTP process
- **Coordinating priority letter projects** •







- Identify a chair and vice chair for CMP Committee
- Next meeting June 1, 2021





## **For More Information**

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**(D)** @BALTIMORE METROPOLITAN COUNCIL

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