

# ***I-64 Express Lanes Concept 2040 Analysis***



***Presented to Hampton City Council***

***By***

***Robert A. Crum, Jr.***

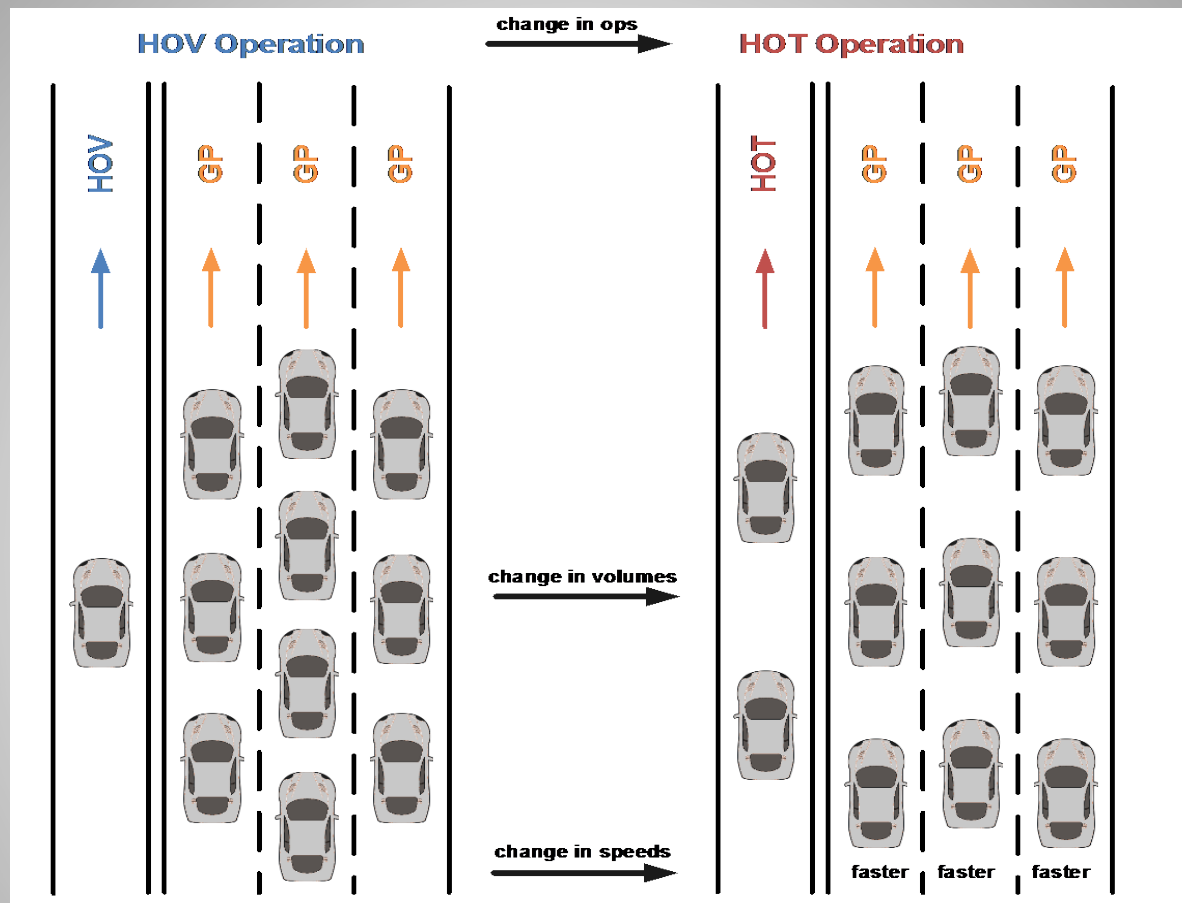
***Executive Director***

***October 23, 2019***

# *Guidance from July 2019 HRTPO Board Meeting*

- *VDOT staff model managed lanes network performance in 2025*
- *HRTPO staff model system performance in 2040*
  - *Baseline – All new capacity at HRBT and High-Rise Bridge projects as General Purpose (GP) lanes*
  - *Managed Lanes Network*
- *Coordinated effort – VDOT, HRTPO, HRTAC staffs*
- *Start managed lanes network at Mercury Boulevard or further west*
- *Impact on local roadways in Hampton*
- *Impact on local roadways in Norfolk*

# What are Managed Lanes?



## HOV-2

- 2+ Occupants in Vehicle (Free)

## HOT-2

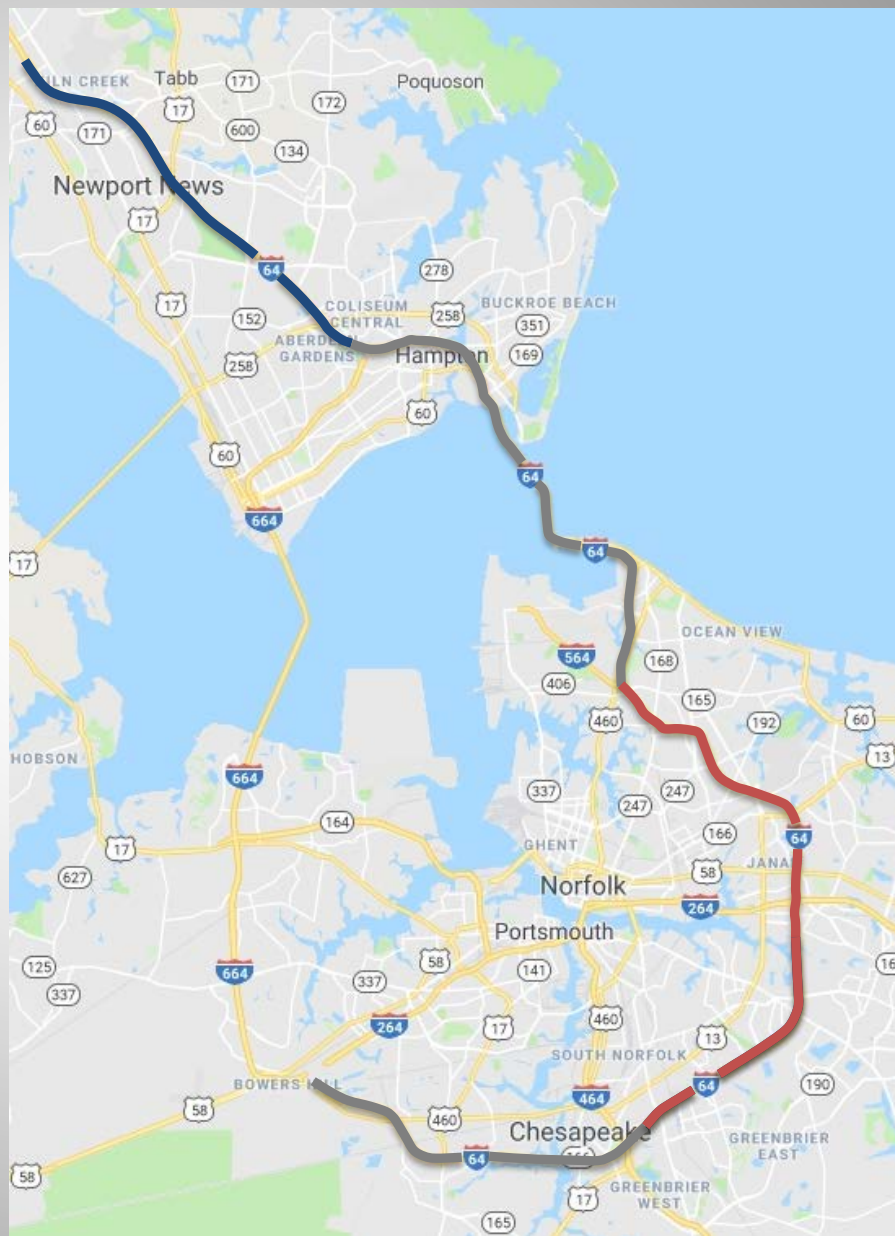
- 2+ Occupants in Vehicle (Free)
- Single Occupancy (Toll)

# Baseline – No New Managed Lanes

- *All General Purpose lanes at HRBT and High-Rise Bridge projects*
- *Current Managed Lanes remain Managed Lanes*

## Legend

- *All GP Lanes*
- *HOV Lanes*
- *HOT Lanes*

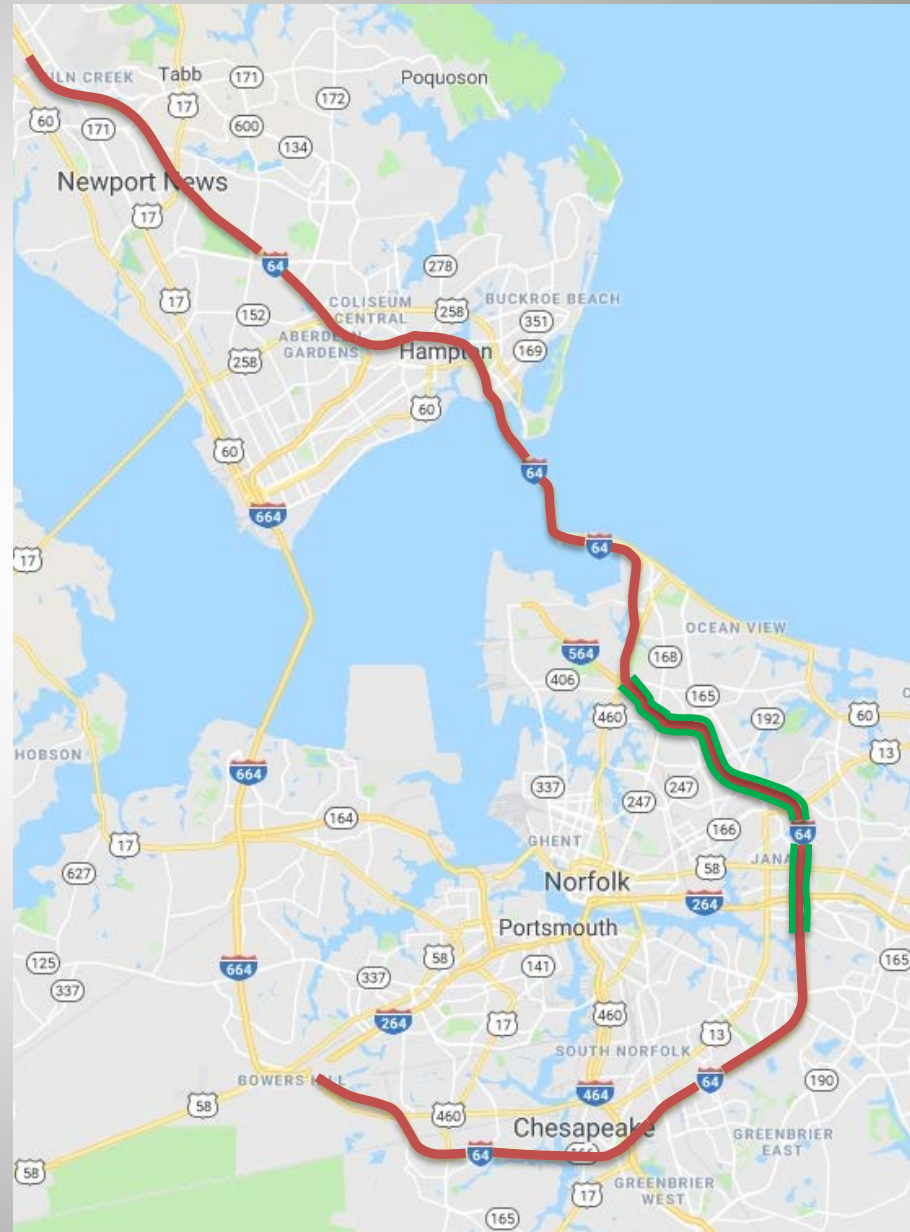


# Managed Lanes Network

- *HOT-2 lanes on I-64 from Jefferson Ave to Bowers Hill*
- *Includes HOT-2 Shoulder Lane adjacent to Reversible HOT Lanes (allow for 2-way HOT operation)*

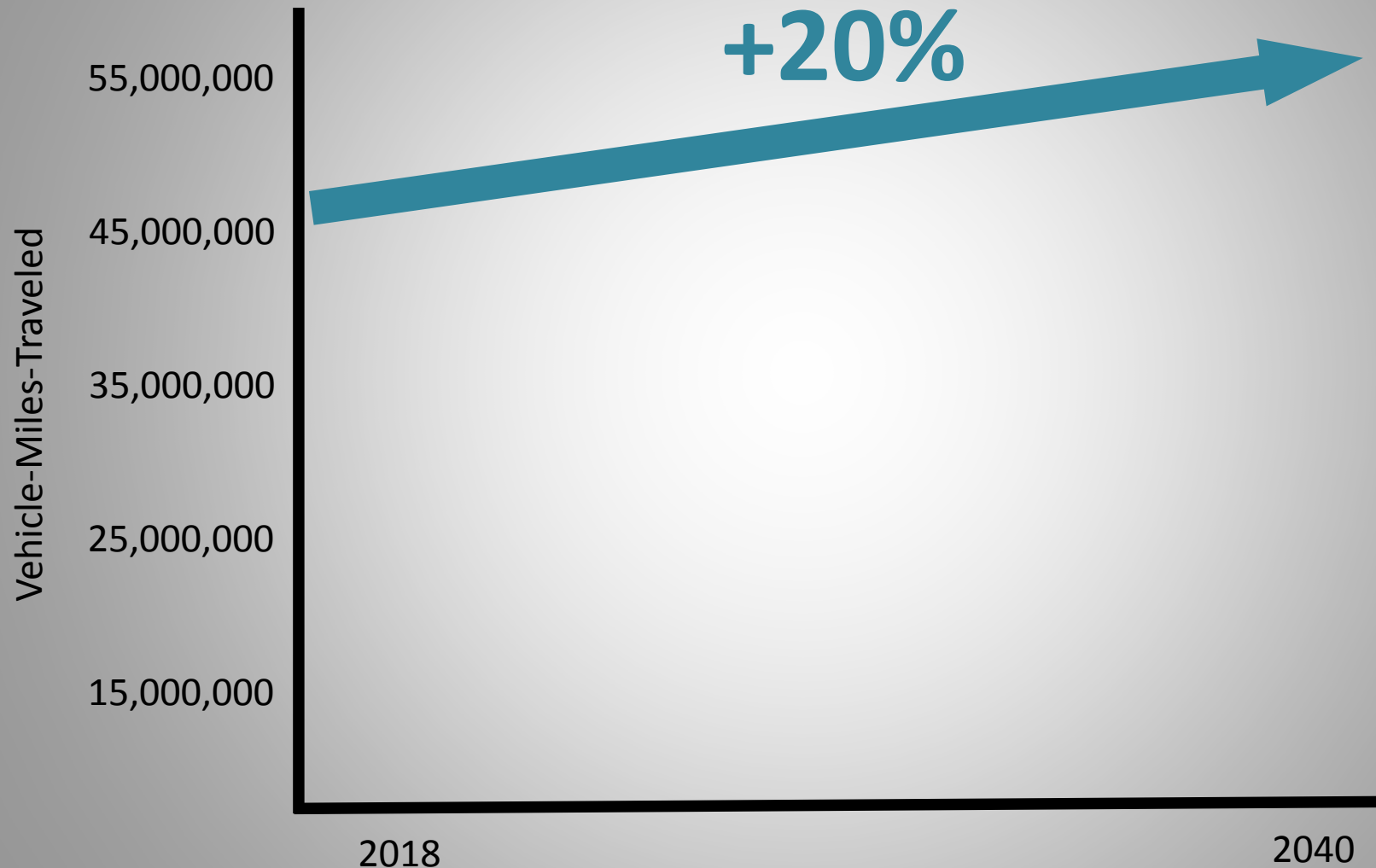
## Legend

- *HOT Lanes*
- *HOT Shoulder*



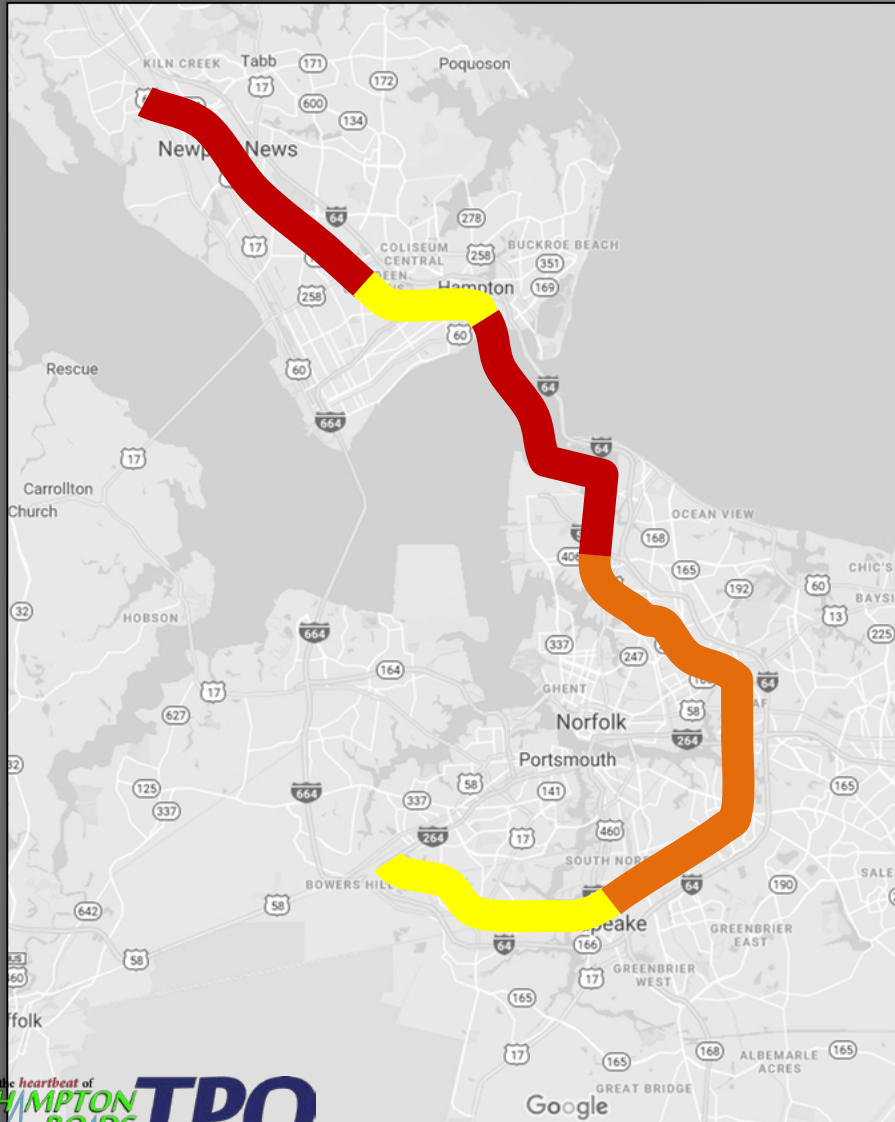


# Forecasted Regional Vehicle-Miles-Traveled

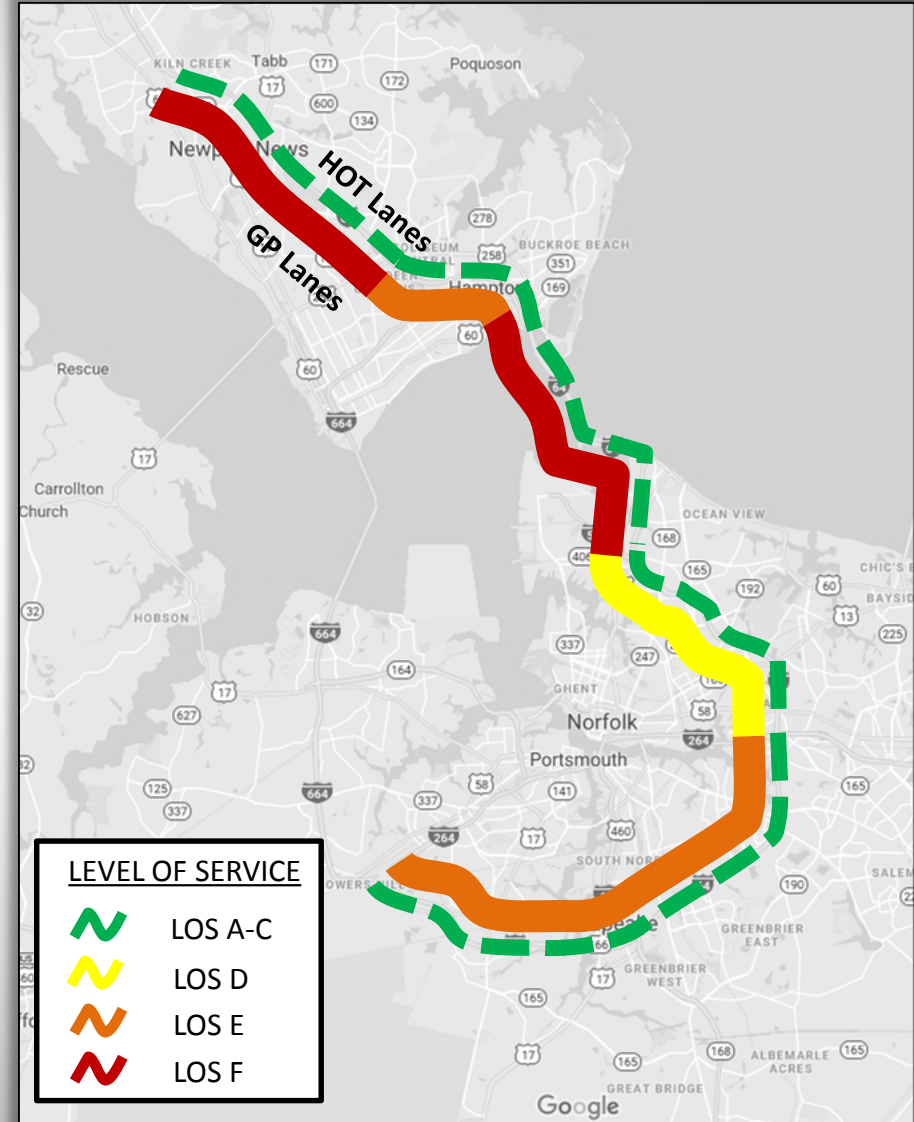


# 2040 Congestion - AM Peak Hour Eastbound

## Baseline (General Purpose) Scenario

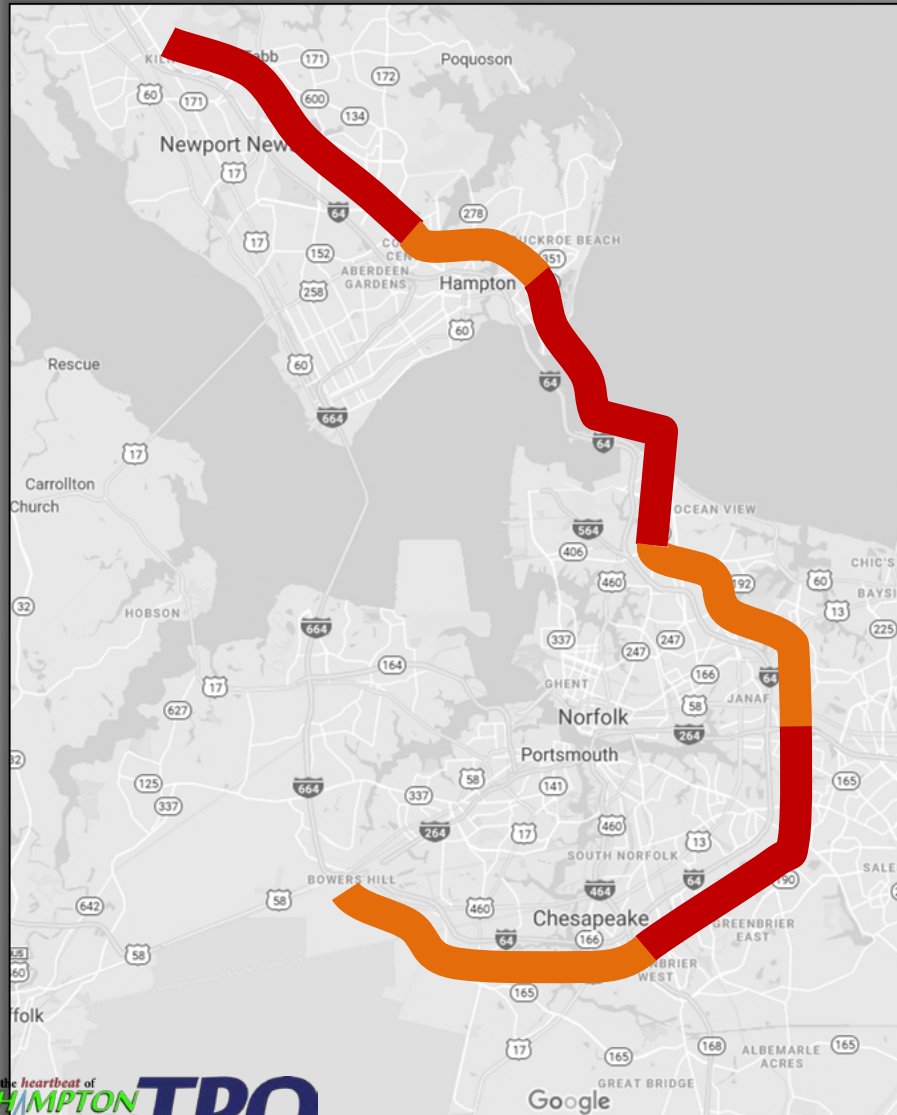


## Managed Lanes Scenario

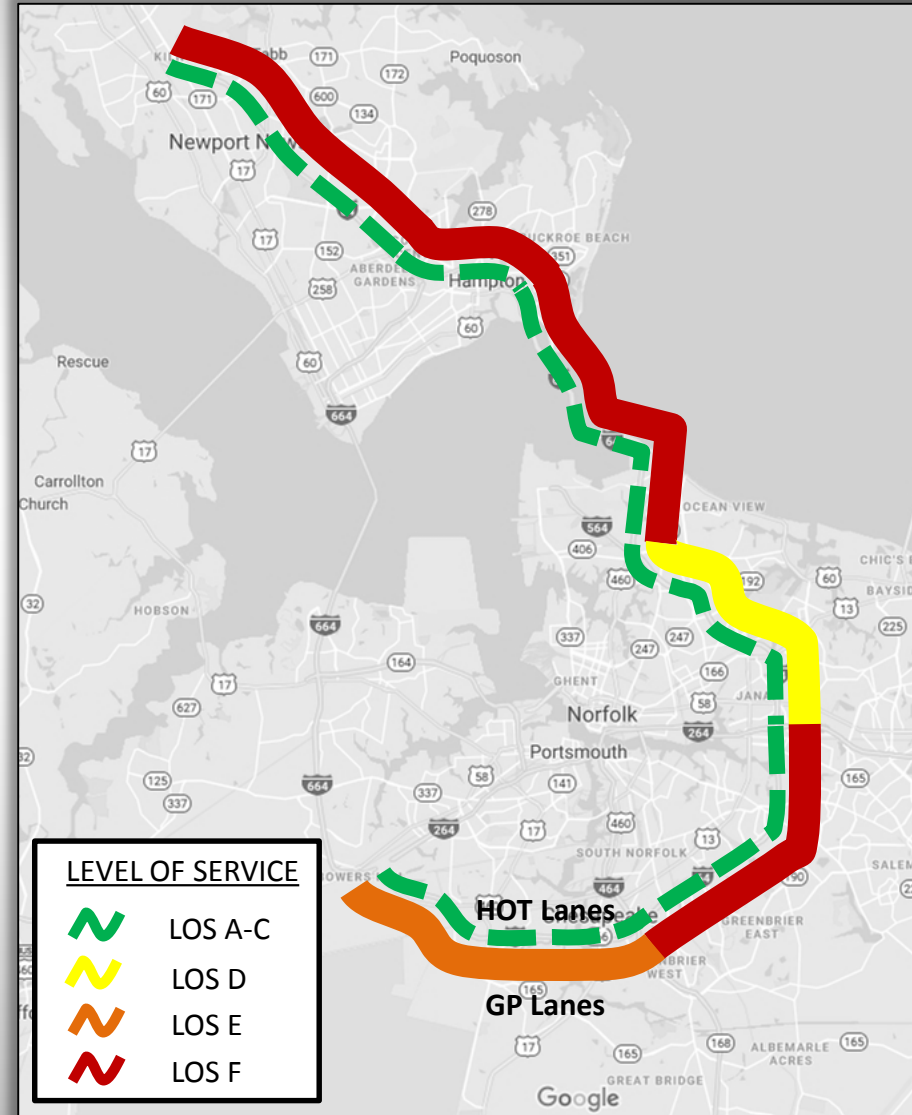


# 2040 Congestion - PM Peak Hour Westbound

## Baseline (General Purpose) Scenario



## Managed Lanes Scenario

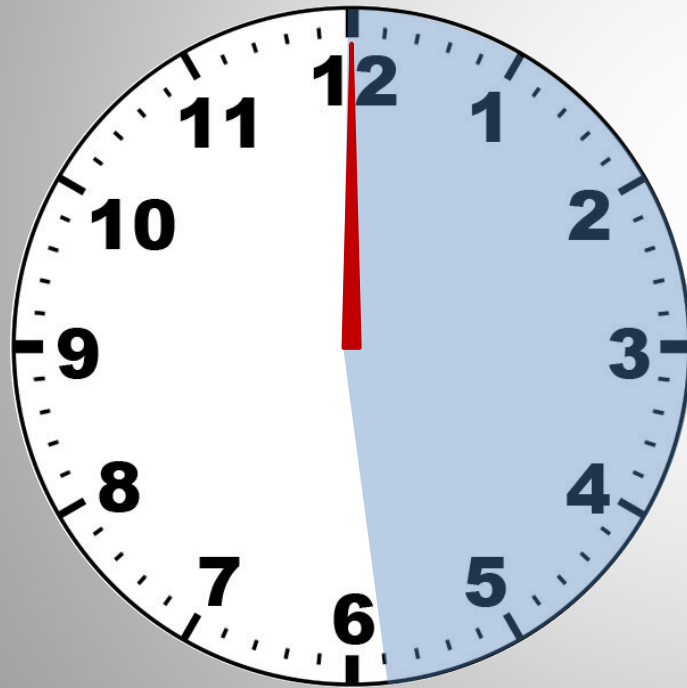




# 2040 Managed Lanes Scenario – AM Travel Times

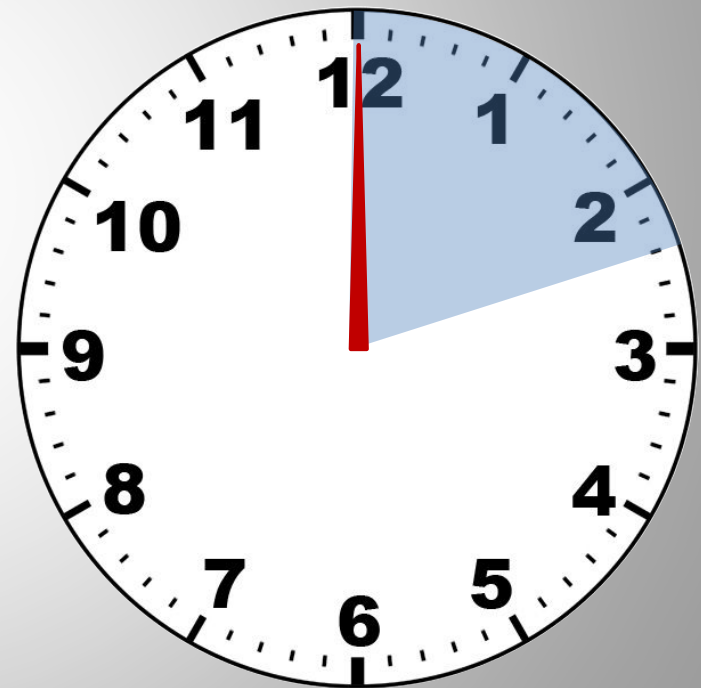
## Eastbound - Settlers Landing Rd to I-564 (9 miles)

### General Purpose Lanes



**At least 29 minutes  
(19 mph)**

### HOT Lanes

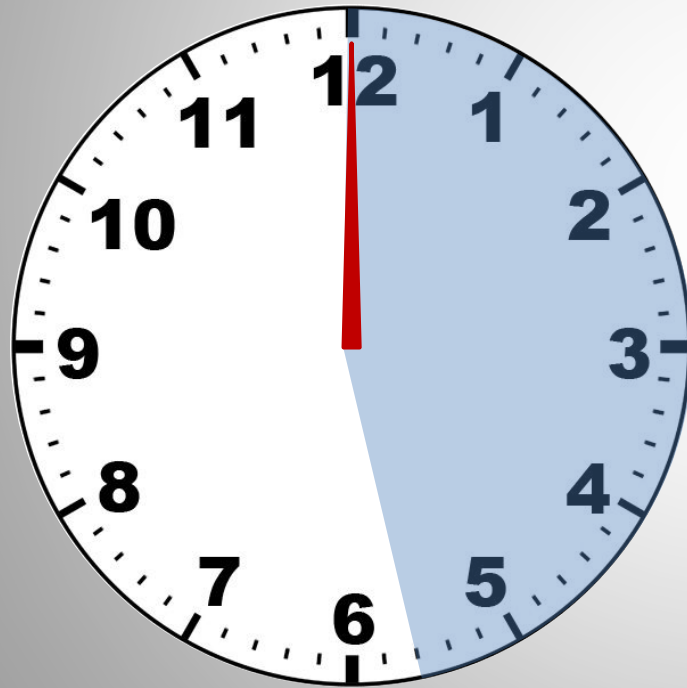


**No more than 12 minutes  
(45 mph)**

# 2040 Managed Lanes Scenario – PM Travel Times

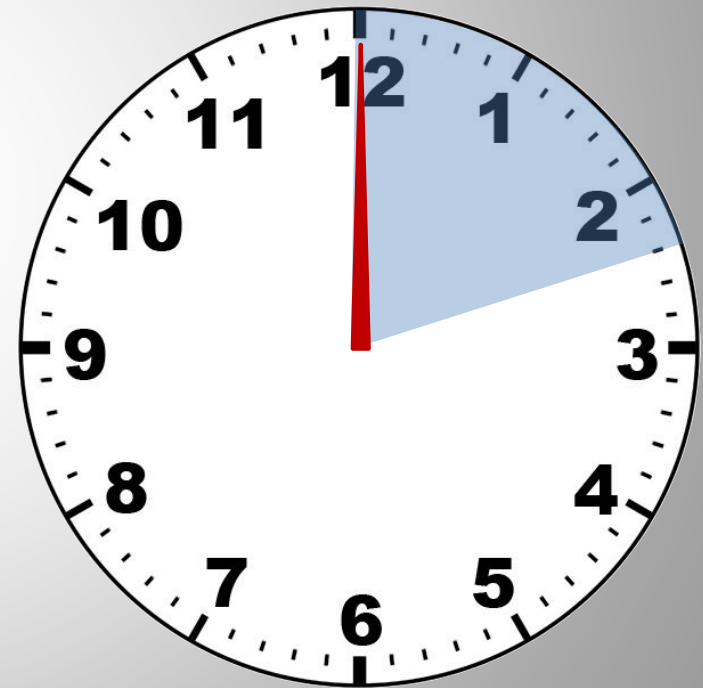
## Westbound - I-564 to Settlers Landing Rd (9 miles)

### General Purpose Lanes



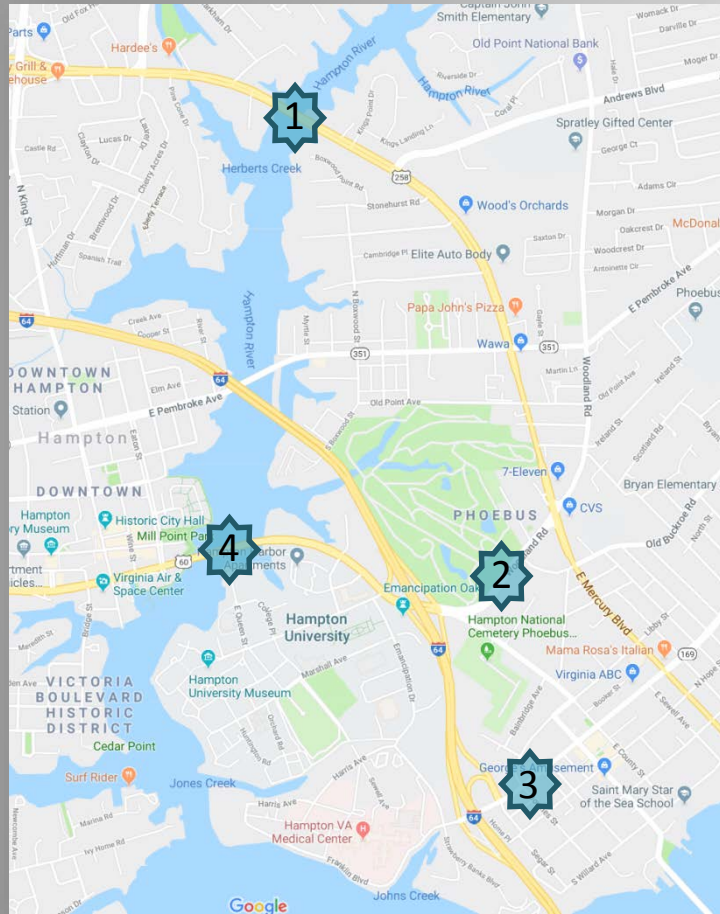
**At least 28 minutes  
(20 mph)**

### HOT Lanes



**No more than 12 minutes  
(45 mph)**

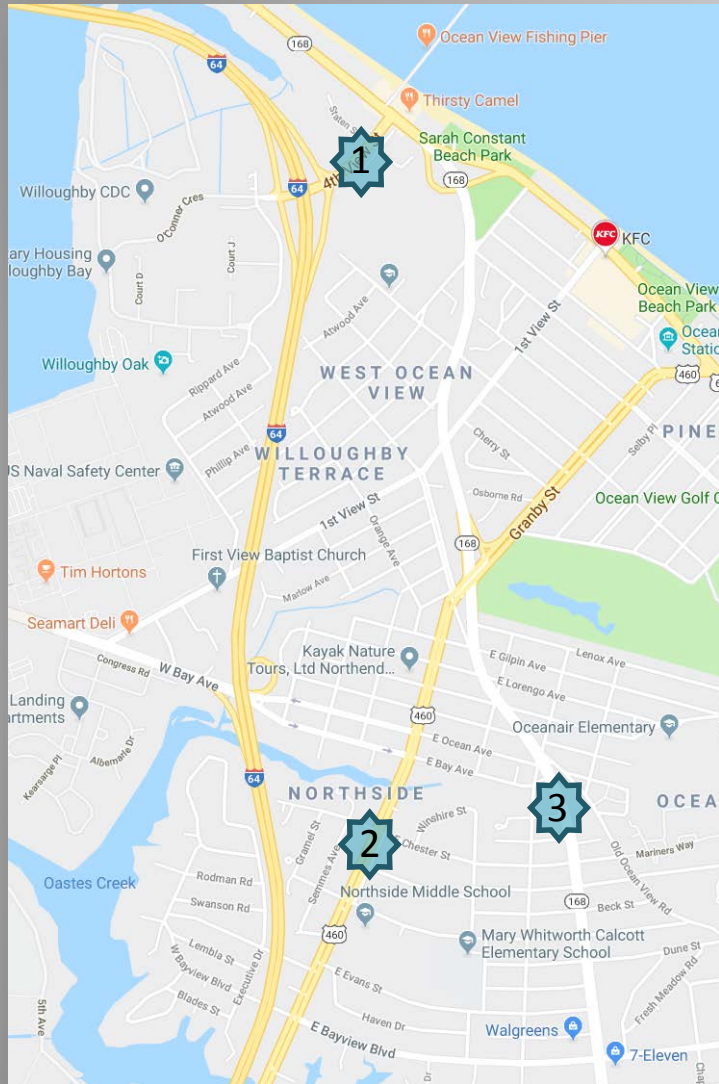
# Impact to Local Roadways in Hampton



Roadway	Forecasted 2040 Peak Period Volumes AM		Forecasted 2040 Peak Period Volumes PM	
	Baseline	Managed	Baseline	Managed
1 - Mercury Blvd	6,400	6,300	8,600	8,700
2 - Woodland Rd	3,800	3,400	3,900	4,200
3 - Mallory St	3,400	2,900	3,000	2,900
4 - Settlers Landing Rd	3,900	3,900	5,100	5,000

- *Forecasted volumes are similar between scenarios*
- *Managed-lanes scenario does not induce diversion to Hampton city streets*

# Impact to Local Roadways in Norfolk



Roadway	Forecasted 2040 Peak Period Volumes AM		Forecasted 2040 Peak Period Volumes PM	
	Baseline	Managed	Baseline	Managed
1 – 4th View St	3,200	3,500	2,900	3,300
2 – Granby St	2,200	2,300	3,900	4,500
3 – Tidewater Dr	2,100	2,700	3,300	4,400

- *Forecasted volumes are slightly higher in Managed Lanes scenario*
- *Roadways are uncongested during peak periods under both scenarios*



# Key Takeaways of 2040 Analysis

- *Baseline Scenario (General Purpose Lanes) severely congested by 2040*
- *Managed Lanes (HOT-2) Network provides a reliable trip for:*
  - *High-Occupancy Vehicles (HOV-2)*
  - *Single-Occupancy Vehicles willing to pay toll*
  - *Transit Vehicles*
- *Travel time between I-564 and Settlers Landing Road via the Hampton Roads Bridge-Tunnel*
  - *28 minutes (in General Purpose Lanes)*
  - *12 minutes (in HOT Lanes)*
- *Managed Lanes scenario impact to Local Roadways:*
  - *Does not induce diversion to local roadways in Hampton*
  - *Volumes increase slightly in Norfolk but roadways remain uncongested during peak periods*

# Next Steps

- *October 17, 2019 – Concurrent HRTPO and HRTAC Board meeting*
- *November 21, 2019 – HRTPO Board meeting*
- *December 12, 2019 – HRTAC meeting*