# City of Hampton Traffic Analysis

January 26, 2022

# Agenda

- Data Analysis Results
- FHWA Coordination
- Next Steps

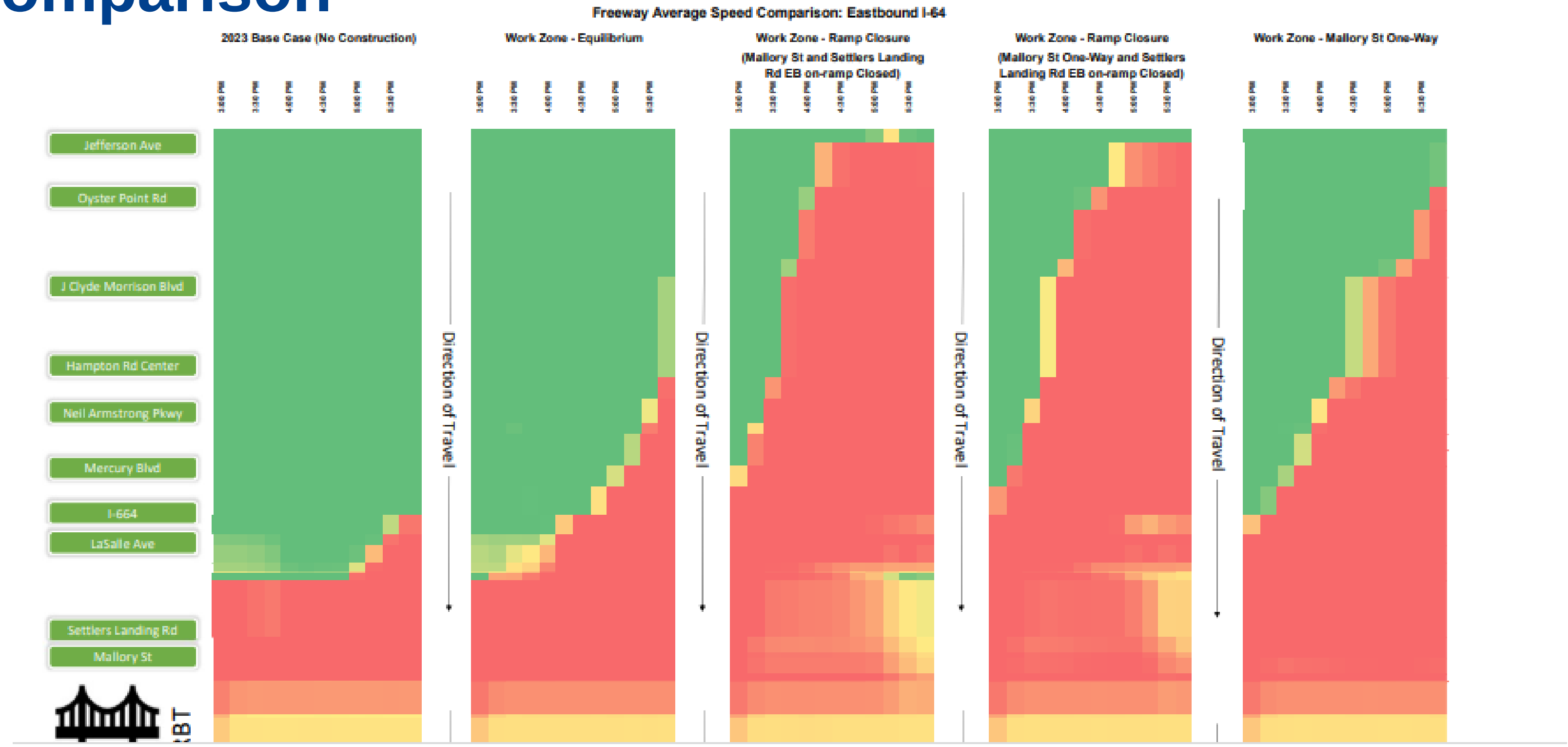
# Traffic Analysis Scenarios

- **Modeling conducted on 3 scenarios and traffic data collected on MLK / Emancipation Drive closure pilot**
  - **Scenario 1: Closure of Mallory Street & Settlers Landing Road EB on-ramps**
  - **Scenario 2: Mallory Bridge One Way with Settlers Landing Road EB on-ramp closed**
  - **Scenario 3: Mallory Bridge One Way with no ramp closures**

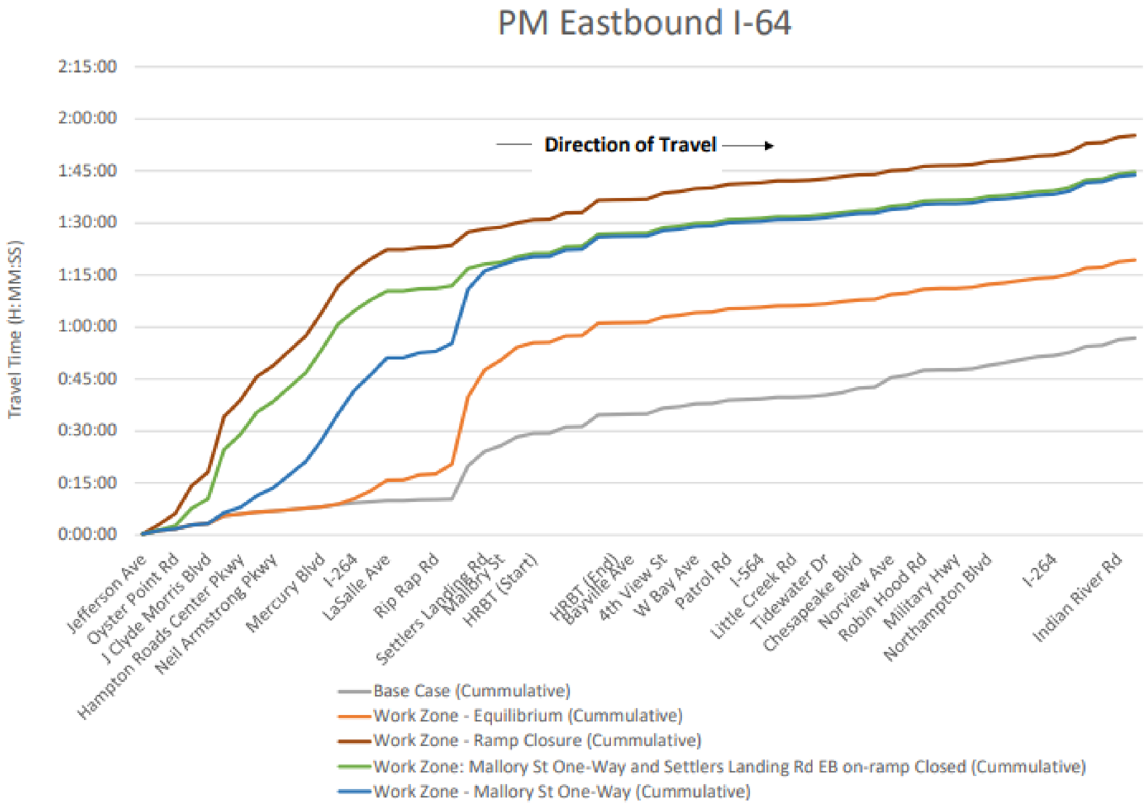
# Analysis Results: Change in Traffic Counts after VAMC/HU Traffic Restriction

- **Counts were performed in July 2021 (before), then again in November 2021 (after)**
  - All counts were taken manually by technicians on weekdays during the 3-6 PM peak period
  - Settlers Landing Road
    - Decrease in volume turning left onto Emancipation Dr and MLK Blvd and straight through onto William Harvey Way
  - Mallory Street
    - Decrease in volume turning left onto the Mallory Street overpass.
    - Increase in volume on Mallory Street turning left onto I-64E on ramp
  - Overall general consensus was that the pilot had a positive impact in reducing traffic but very resource intensive to maintain long term

# I-64 Ramp Closure Modeling Analysis Speed Comparison



# I-64 Ramp Closure Modeling Analysis Travel Time



# Analysis Results: Closing Mallory and Settlers Landing Ramps (Scenario 1)

- **Interstate impacts**
  - Slight congestion reduction between Settlers Landing Road and HRBT due to ramp closures
  - Congestion gets worse at LaSalle Avenue Interchange due to traffic re-routing, overall congestion across the corridor increases signifcantly
  - LaSalle Avenue on-ramp to I-64 EB cannot process all the demand
    - About 20% of the demand for this on-ramp is unserved resulting in higher delays and queues on arterial segments

# Analysis Results: Closing Mallory and Settlers Landing Ramps (Scenario 1)

- **City Street impacts (high impacts)**
  - Delays increase at a few intersections due to traffic re-routing to the LaSalle Avenue on-ramp
  - Delay reduced at the ramp terminal intersection of Mallory Street with ramp closures
  - Delay for the remaining study intersections are within +/- 1 minute compared to Existing PM

# Analysis Results: Mallory Bridge One-Way Scenario/Settlers Landing Ramp Closure (Scenario 2)

- **Interstate impacts**
  - Congestion gets better at Mallory Street and Settlers Landing Road but gets significantly worse at LaSalle Avenue interchange
  - Congestion extends to Jefferson Avenue
  - Interstate travel time increases significantly for all three scenarios
  - Scenario 2 performs slightly better than Scenario 1
- **City street impacts**
  - LaSalle Avenue on-ramps will not be able to process the demand, leading to degradation along the arterial (approximately 20% of the demand is unserved)
  - Delays reduce at the ramp terminal intersection of Mallory Street for all scenarios

# Analysis Results: Mallory Bridge One-Way, No Ramp Closures (Scenario 3)

- **Interstate impacts**
  - Congestion gets better at Mallory Street and Settlers Landing Road but gets slightly worse at LaSalle Avenue interchange
  - Interstate travel time increases significantly for all three scenarios
  - Scenario 3 performs better than Scenarios 1 and 2
- **City street impacts**
  - Delays reduce at the ramp terminal intersection of Mallory Street for all scenarios

# FHWA Coordination

- **The Federal Highway Administration has jurisdiction over changes to the interstate system and therefore must approve any restriction such as temporary ramp closures. The process includes the following:**
  - Formal Public Hearing (not yet scheduled)
  - Operational/Traffic Analysis (Complete)
    - Results of the I-64 PM peak traffic modeling show signifcant congestion increases along the entire I-64 cooridor prohibiting ramp closure options being further considered.

# Next Steps

- **Focus analysis on local network change options**
  - Continue to refine options as part of the Region's Traffic Management Plan
  - Pursue legislation on local traffic ordinance camera enforcement
  - Pursue pilot options

- **VDOT to enhance camera monitoring at Settlers Landing and Mallory Street Interchanges**

- **Hampton Roads Bridge Tunnel (HRBT) Incident Management efficiency efforts**
  - Hiring of two additional on site Incident Management Coordinators (IMCs)
  - Additional wrecker service asset contracted to augment existing team
  - Virginia State Police (VSP) on site support during peak hours

# Questions

# Backup Slides

# Timeline (History)

- Ramp Metering Study not recommended (2019-2020)
- Ongoing traffic analysis of ramp closures (2021)
- Discussions to identify potential alternatives (2021)
- VDOT Presentation at City Council (8/11/2021)
- Kickoff of HREL Transportation Management Plan (TMP) effort with key stakeholders including City staff (9/1/2021)
- City Council Public Comment (9/8 and 9/23/2021)
- City Council Resolution supporting request to FHWA to temporarily close ramps (9/23/2021)
- VA Medical Center and Hampton University pilot project to restrict access on their private roads (began 10/4/2021, ongoing)

# Timeline (History), continued

- VDOT Traffic Engineering manual traffic counts were performed in the area of the VAMC/HU pilot project
    - June/July 2021 (to establish baseline)
    - November 2021 (to determine impact of VAMC/HU pilot project)
- To date, VDOT has invested ~ $200K to perform in-depth traffic analysis and modeling as part of the HREL TMP effort

# Ongoing Actions

- VDOT/City of Hampton/VA Medical Center/Hampton University met to review all traffic analysis (1/6/2022)
- VDOT briefs Hampton City Council on traffic analysis results (1/26/2022)
- VDOT continuous updates and discussions with FHWA on specific requirements
- Continue Hampton Roads Express Lanes (HREL) Transportation Management Plan (TMP) process to identify a variety of solutions