



**I-64 HOV to HOT Conversion
Feasibility Study
Norfolk/Virginia Beach/Chesapeake**

James Utterback
Hampton Roads District Administrator

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I-64 HOV to HOT Conversion Feasibility Study

Regional Opportunity

- 32 miles of HOV lanes in Hampton Roads are underused
- Opportunity to provide travel choices to reduce traffic congestion by using the underused HOV lanes
- Improve reliability and reduce congestion in both general purpose and HOV travel lanes

Objective

- Determine the feasibility of converting portions of the existing HOV network to HOT lanes
- Identify the potential benefits and implications of a HOV to HOT conversion

Study Scope

The study will evaluate I-64 HOV lanes on the Southside from I-564 to Battlefield Boulevard.

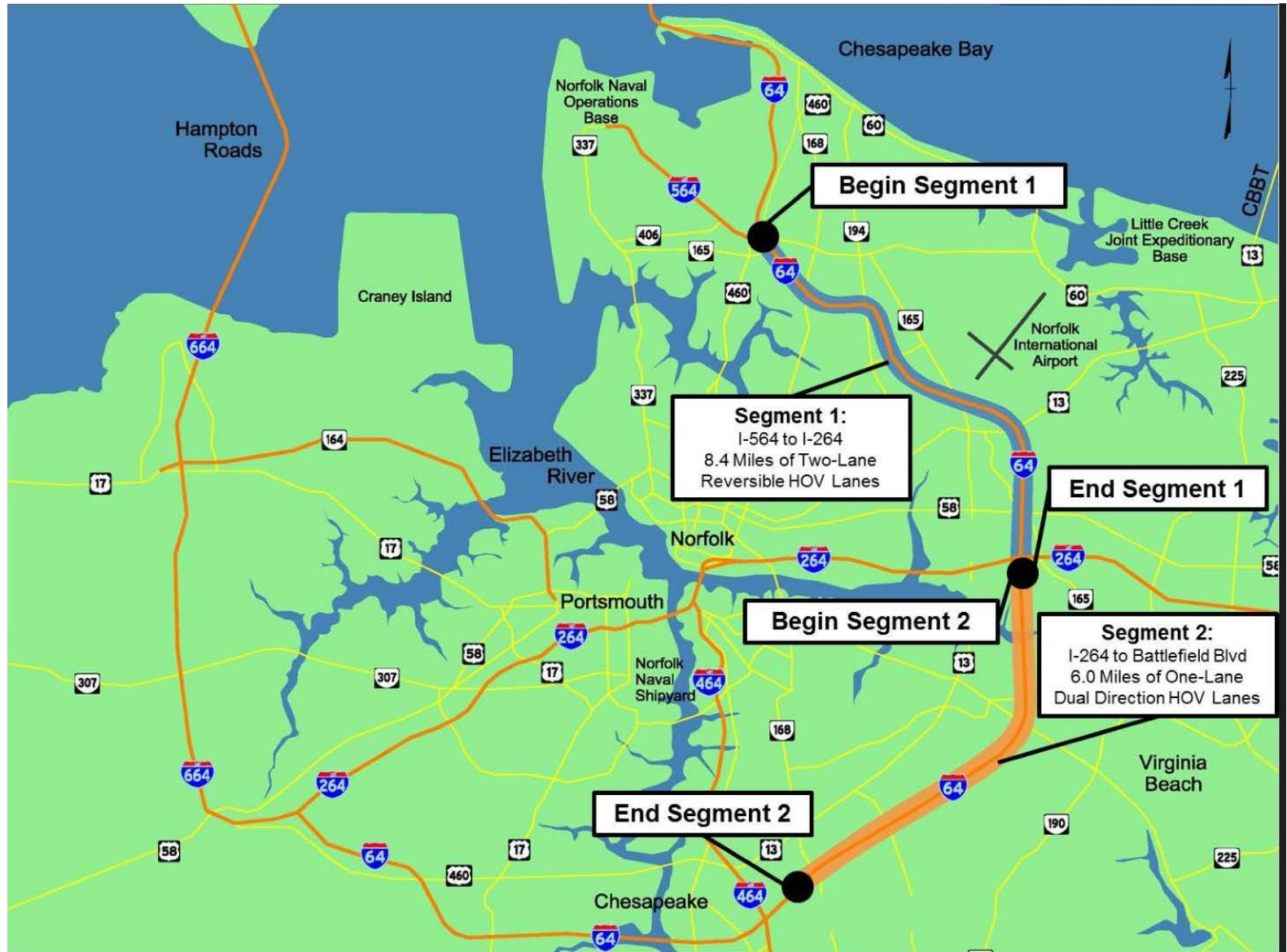
First Segment: I-564 to I-264

- 8.4 miles of two-lane reversible HOV lanes

Second Segment: I-264 to Battlefield Boulevard

- 6.0 miles of dual direction one-lane HOV (diamond) lanes

Study Scope -- Location Map



I-64 HOV to HOT Conversion Solutions— Three Initial Policy Choices

HOV/HOT Occupancy Requirements

- HOT 2+ or HOT 3+

HOT Hours of Operation

- 2 hours in both the AM and PM peak period*
- 4 hours in both the AM and PM peak period*
- 24 hour operation

*Includes HOT operation in off-peak direction on Segment 2

HOT Days of Operation

- Weekday only
- Weekends

I-64 HOV to HOT Conversion – Two Initial Pricing Policy Choices

Pricing Methodology

- Time of day pricing (pre-defined rate schedule)
- Dynamic pricing (toll rates based on traffic flow)

Pricing Strategy

- Transaction based
- Trip based

Four Elements Define Feasibility

Improved corridor throughput and reduced congestion in the general purpose lanes

- **Build condition travel speeds compared to no-build scenario**

Revenues generated by HOT lanes exceed cost of operations

- **Operations and Maintenance costs covered in year 1**
- **Capital costs paid back over 30 years or less**

Design layout of toll infrastructure feasible

- **Lane configuration and geometry supports conversion of HOV to HOT**

HOT solution has flexibility to support potential future managed lane segments

Feasibility Assessment Relative to Benchmarks

Segment 1 is feasible

- HOT2+
- 4 hours in both the AM and PM peak
- Weekday only
- Dynamic Pricing
- Transaction-based

Segment 2 is not feasible financially* * may be feasible, pending further study, if combined with managed lanes on High-Rise Bridge

- HOT2+
- 4 hours in both the AM and PM peak and non-peak
- Weekday only
- Dynamic Pricing
- Transaction-based

Benefits

Segment 1

- **Average utilization during 2 Hour AM & PM HOV restricted periods**
 - AM: 1603 (existing), 4325 (2018), 4825 (2034)
 - PM: 2348 (existing), 5275 (2018), 5725 (2034)
- **GP utilization decreases 17% - 20% due to shifts to HOT**
- **Free flow capacity = 6000+ vehicles**
(1,500 vehicles / lane x 2 lanes x 2 hours)

Segment 2

- **Utilization during 2 Hour AM & PM HOV restricted periods**
 - AM: 1335 (existing), 2315 (2018), 2805 (2034)
 - PM: 1651 (existing), 2450 (2018), 2925 (2034)
- **GP utilization decreases 3% - 10% due to shifts to HOT**
- **Free flow capacity = 3000+ vehicles**
(1,500 vehicles / lane x 1 lane x 2 hours)

Next Steps

Finalize study report - June for Segments 1 and 2

Assess integration of High Rise Bridge managed lane segment on traffic operations and revenue

- **VDOT operation**
- **MOT and timing of procurement and construction**

Request regional support through HRTPO

Develop Implementation Plan to include design, construction and operation