

VDOT

Midtown Tunnel Corridor Project

Welcome: Secretary Pierce Homer

Presenters: Dusty Holcombe

Raymond Partridge

Dwayne Cook

Chris Collins

Jennifer Rasnick

Robin Grier

Date: April 24, 2007

Welcome

Secretary of Transportation

Pierce Homer

April 24, 2007

Virginia's Public Private Partnership (P3) Overview

Dusty L. Holcombe
Assistant Director, P3 Program
Innovative Project Delivery
April 24, 2007

Virginia P3 Program

- Public Private Transportation Act of 1995 (PPTA)
- Authorizes Private Entities to Construct and/or Operate Qualifying Transportation Facilities
- Provides for Solicited and Unsolicited Proposals

Virginia P3 Program

2002 Program Modifications

- Cost and risk sharing
- Economic benefit not otherwise available

2005 Program Modifications

- FOIA – Balancing transparency and competition
- Implementation Guidelines

2006 Program Modifications

- Concessions
- FOIA enhancements

Virginia P3 Program Lessons Learned Over First Decade

- Increasing international participation in PPTA procurements
- Engineering is the easy part, project financing key challenge to successful PPTA
- VDOT establishing programmatic approach to PPTAs
- PPTA not appropriate for all projects

Virginia P3 Program Lessons Learned Over First Decade (cont'd)

- Each agreement will become precedent for next
- Solicit Proposals – control procurement process
- Development of expertise takes time - (Supplement with attorneys, financial advisors and traffic modeling)
- Significant time commitments by both public and private partners (Senior & dedicated (IPD/IFRO) staff)

Virginia P3 Program Benefits

- Access to Private Sector Technical, Management and Financial Resources
- Balance Risk Allocation Between Public Agency and Private Sector
- Private Sector Gains Expanded Business Opportunities

- Not a sale of property
 - Commonwealth maintains ownership
 - Concession transfers rights for the use or control of the facility
 - Rights return to owner at the end of the term
- Contractually, a concessionaire's interests are well aligned with Owner's:
 - Build quality at low cost,
 - Operate a well-maintained facility
 - Provide good customer service

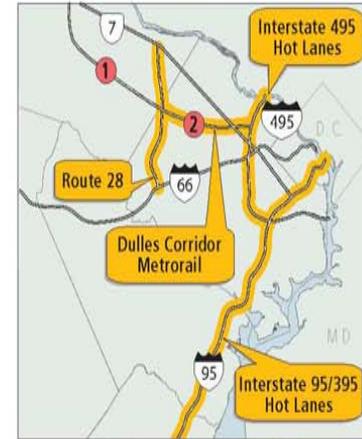
Six Phase Procurement Process

1. Department-Level Quality Control Review
2. Review of Proposal(s) by Independent Review Panel (IRP)
3. Commonwealth Transportation Board (CTB) Review and Recommendation
4. Final Selection of Detailed Proposals
5. Negotiate Draft Interim/Comprehensive Agreement
6. Execution of Interim/Comprehensive Agreement

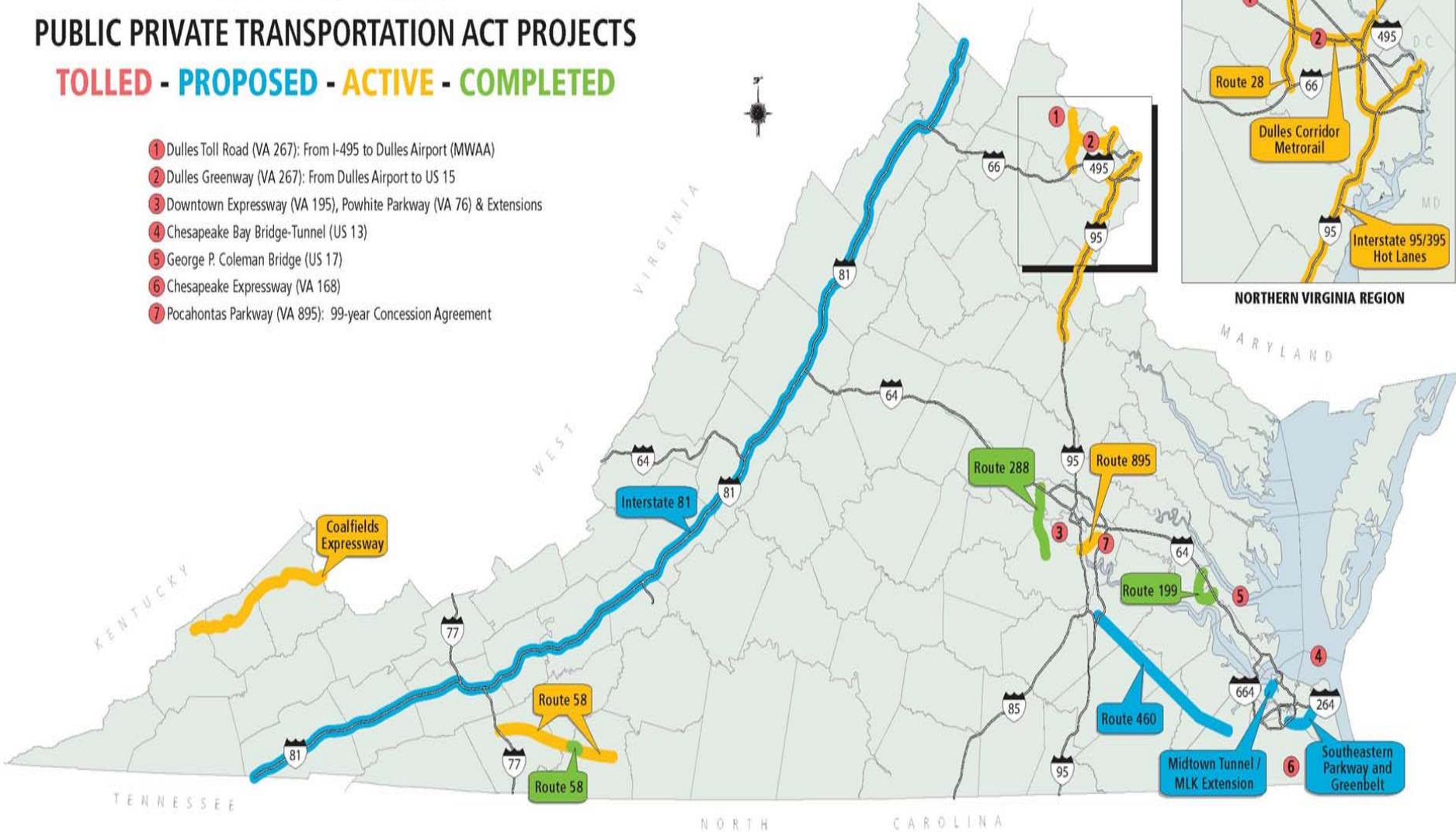
TOLLED FACILITIES & PUBLIC PRIVATE TRANSPORTATION ACT PROJECTS

TOLLED - **PROPOSED** - **ACTIVE** - **COMPLETED**

- 1 Dulles Toll Road (VA 267): From I-495 to Dulles Airport (MWA)
- 2 Dulles Greenway (VA 267): From Dulles Airport to US 15
- 3 Downtown Expressway (VA 195), Powhite Parkway (VA 76) & Extensions
- 4 Chesapeake Bay Bridge-Tunnel (US 13)
- 5 George P. Coleman Bridge (US 17)
- 6 Chesapeake Expressway (VA 168)
- 7 Pocahontas Parkway (VA 895): 99-year Concession Agreement



NORTHERN VIRGINIA REGION



PPTA Project Summary

- 48 Unsolicited Proposals
- 5 Solicited Proposals
- 5 Active Projects Under Contract
- 3 Active Proposals
- 2 Candidate Projects
- 5 Completed Contracts
- 1 Concession

Summary of VDOT's PPTA Portfolio

Value of All Projects	~ \$6 Billion
Value of Completed Projects	= \$767 Million
Value of Active Projects	+ \$5 Billion
Value of Active Proposals	~ \$1.5 Billion
Value of Concessions	= \$520 Million

Project	Contract Value in Millions	Date Signed
VMS – Interstate Maintenance	\$132	December 1996
Route 895	\$ 346	June 1998
Route 288	\$ 237	December 2000
VMS – R (Renewed)	\$ 162	June 2001
Coalfields Expressway	\$ 2,500	January 2002/06
Route 28	\$ 324	September 2002
Route 199	\$ 32	October 2002
Route 58 (Phase I)	\$ 20	December 2003
Dulles Rail Phase 1 (DRPT)	\$2,400 – 2,700	2004
I- 495 HOT Lanes	\$ 1,200	April 2005
Route 895 Concession	\$ 520	June 2006
I-95/395 HOT Lanes	\$ 913	October 2006
Total Value	\$ 6,386*	*(not including Dulles Rail Phase 1)

Midtown Tunnel Corridor Project Overview

Raymond T. Partridge
Program Manager
Innovative Project Delivery
April 24, 2007



LOCATION MAP

MIDTOWN TUNNEL CORRIDOR PROJECT
 (Midtown Tunnel, Downtown Tunnel, MLK Freeway Extension)

APRIL 2007

Project Elements

1. Midtown Tunnel

- Parallel Tunnel from Pinners Point to Norfolk Interchange at Brambleton Blvd and Hampton Blvd.
 - 2-lane twin tunnel paralleling north-west (upstream) existing facility (4200 feet)
 - Sunken tube method is proposed construction approach
 - Tunnel trench 110 feet below water surface – width 46 bottom X 210 top
 - Approx 1.5 M cubic yard dredged river sediment (disposal/storage)
 - Construction in navigable waters – sequencing & permit coordination
- Modifications to Brambleton Interchange including over height design provisions
- Improvements to existing tunnel – NFPA 502
- Considers open road tolling

Project Elements Cont'd)

2. Martin Luther King (MLK) Extension – US 58
 - Southern Extension of MLK Freeway from London Blvd to new Interchange on I-264 (0.7 miles), approx 2 miles west of Downtown Tunnel
 - Provides system-to-system connection between I-264 and Pinners Point Interchange and Midtown Tunnel
 - North-south four-lane freeway with raised median
 - Interstate Justification Report (IJR) preferred option assumes widened Midtown and improves operational efficiencies to access at I-264 between US 17 (Exit 5) & Des Moines Ave (Exit 6)
 - Elevated structure over CSX & com/ind/res/ ROW

Project Elements Cont'd)

2. MLK Extension (continued)
 - Fly-over and ramp construction along eastbound I-264 between Portsmouth Blvd. and Des Moines Ave.

3. Downtown Tunnel
 - Improvements to existing tunnel – NFPA 502
 - Considers open road tolling

4. Coordinate Multi-modal and Transit Needs

Project Objectives

- Provide connection to enhance movement within corridor to airports, freight or light rail lines, the Virginia Port Authority, or other existing and rail and transit facilities
- Provide for congestion relief and efficient and safe movement between Portsmouth and Norfolk
- Provide better access to and from Portsmouth Marine Terminal (PMT)
- Improve capacity to accommodate forecasted traffic volumes and growth within the corridor

Project Objectives

- Provide additional capacity at the existing Midtown Tunnel
- Provide critical system linkage directly to the regional interstate highway system
- Eliminate through traffic on local streets and provide better alternative to Downtown Tunnel for traffic traveling to Norfolk from points to the west and south
- Better access for heavy truck traffic traveling from PMT to I-264, particularly when traveling to points to the west and south
- Open road tolled facility

Project Objectives

- Integration of Multi-modal/intermodal component for consistency with public transportation plans
- Promote transparency and public involvement
- Require at-risk and equity participation

Current Activities & Schedule

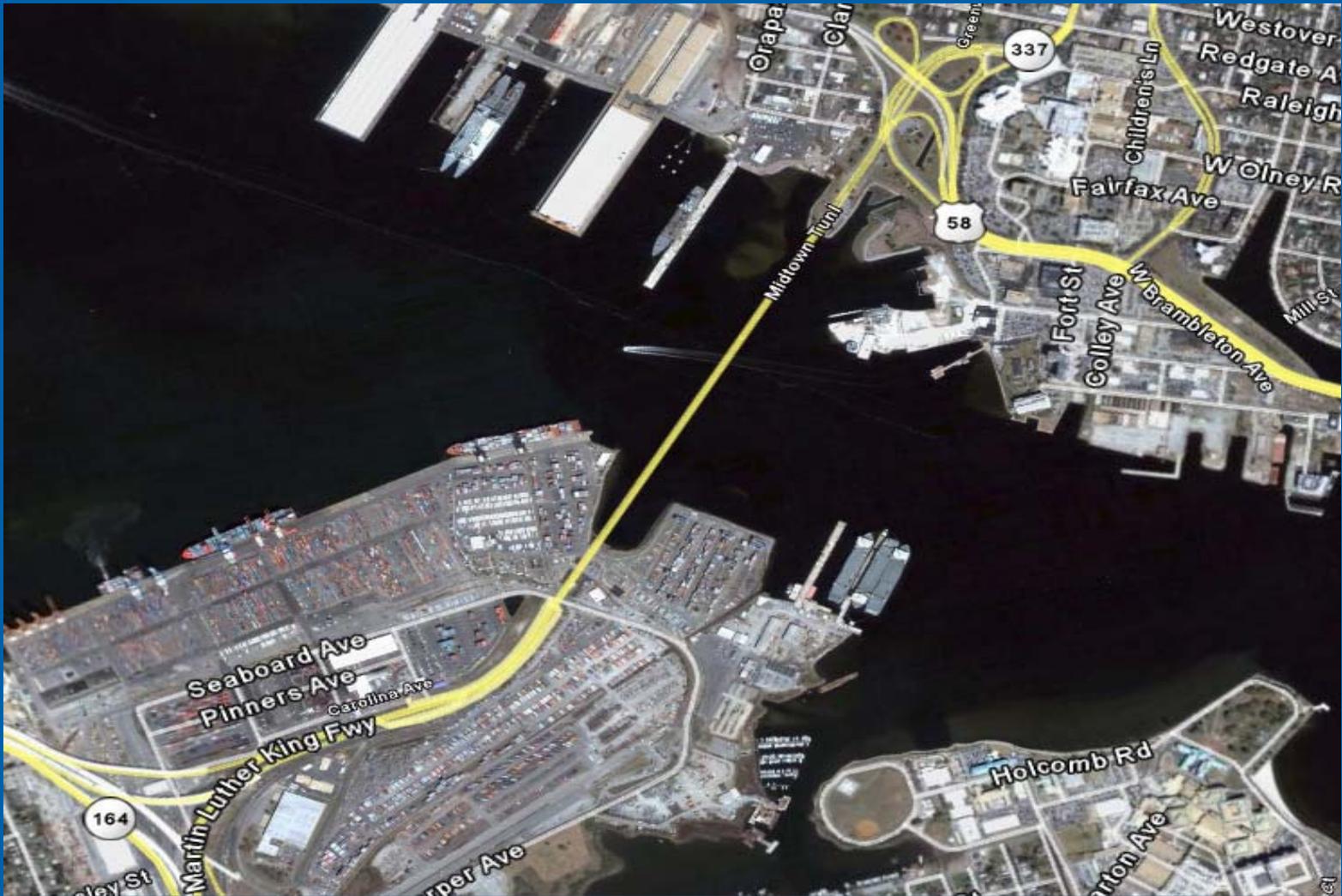
- Tunnel Re-eval, May 2007
- Toll Feasibility Study, May 2007
- FHWA Action on IJR, May 2007
- Geotech Report & website development (Discussion Forum), May 2007
- VE Study w/ input gained from Industry Briefing, May 2007

Current Activities & Sched. (Cont'd)

- Tolling Expression of Interest, spring 2007
- Solicitation for Conceptual Proposals, summer 2007
- EA development for MLK Freeway Extension, summer 2008
- Tolling Strategies & Public Outreach - Ongoing
- Solicitation for Detail Proposals, summer 2008

Elizabeth Tunnel Operations

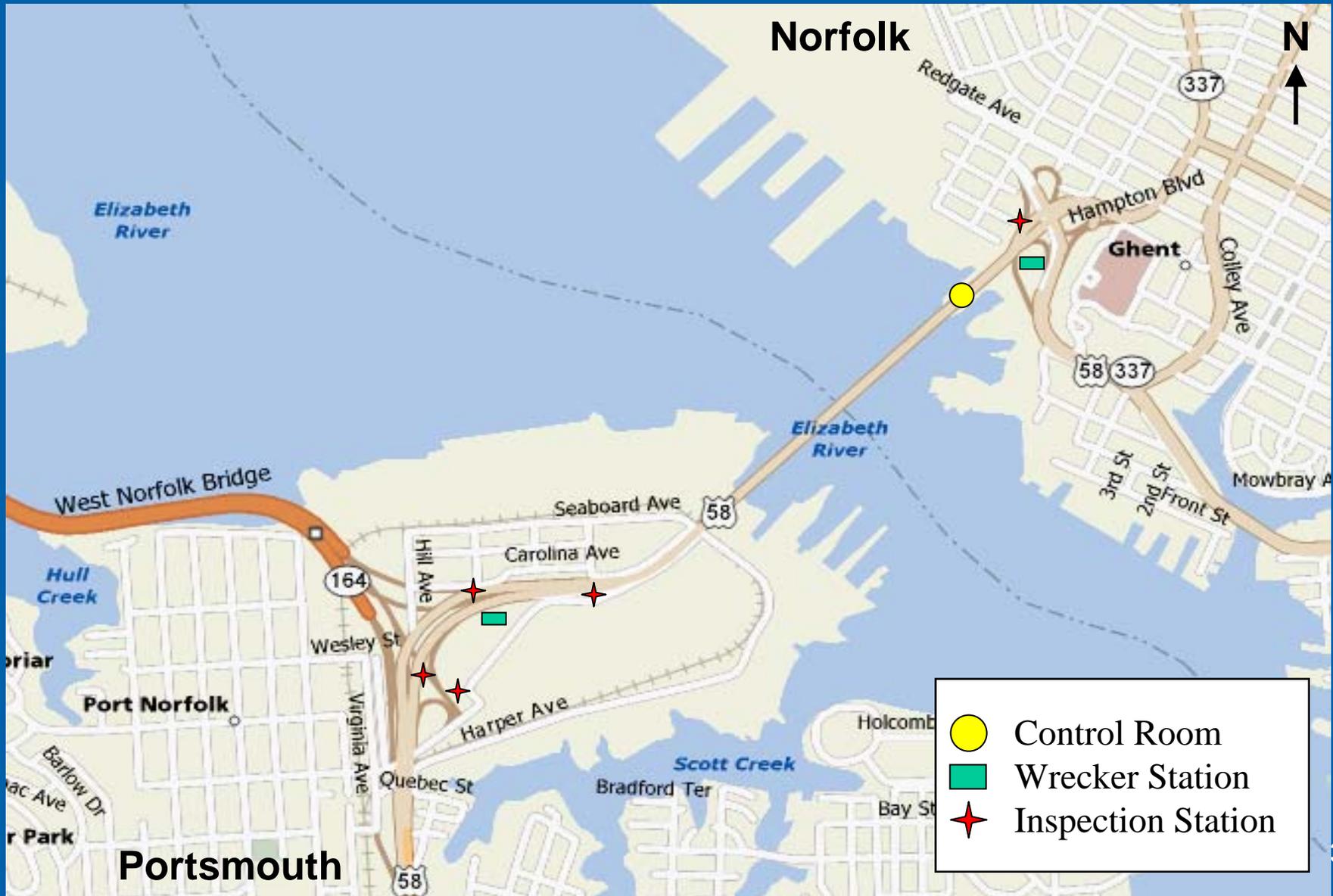
Dwayne Cook
Eastern Region
Operations Director
April 24, 2007



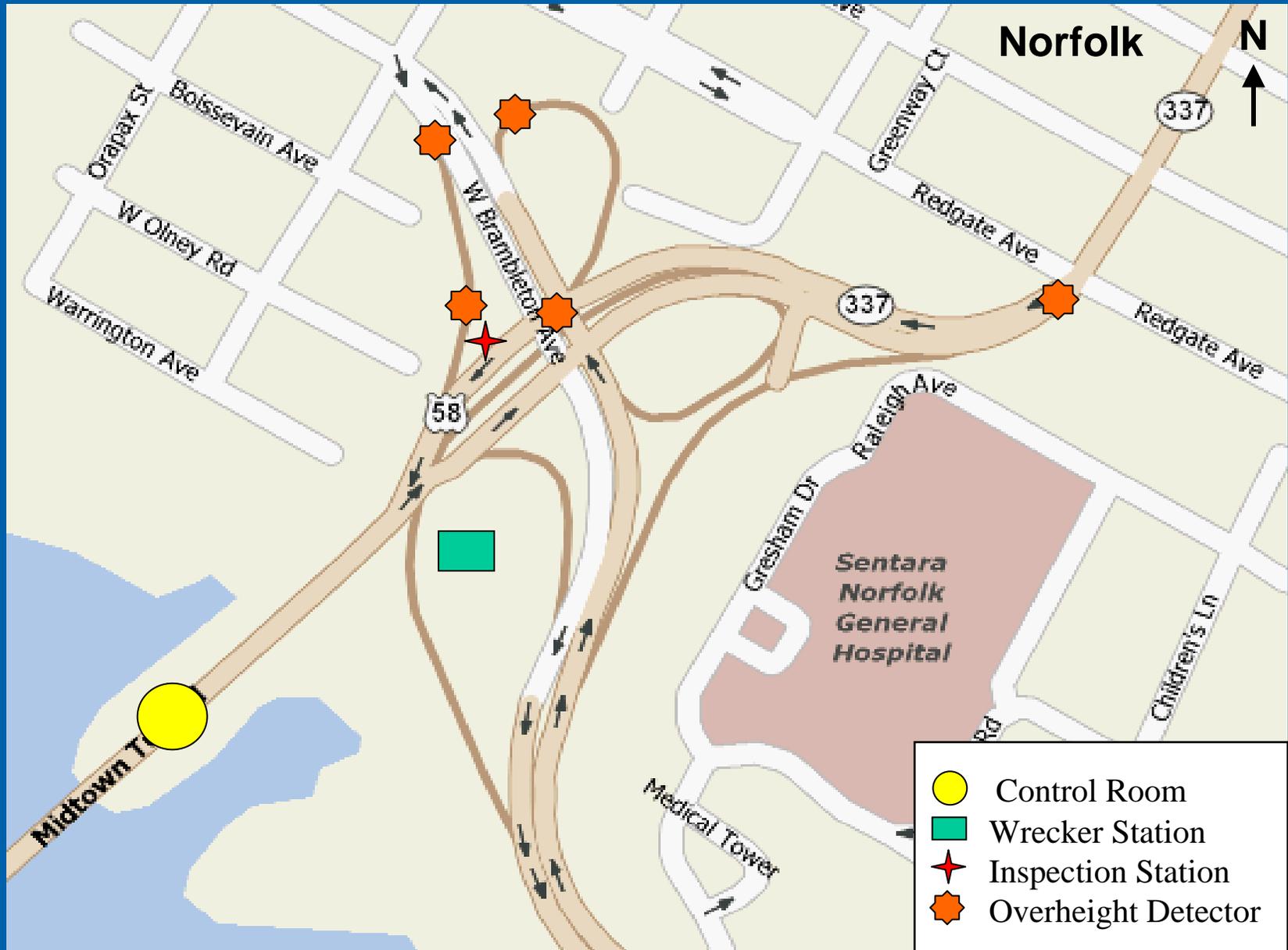
- Mission
- Organizational Structure
- Operational Overview
- Traffic Volumes and Stoppages
- Major Systems
- Standards - Fire, Life & Safety (NFPA 502)
- Issues
- Summary

Safely and efficiently operate & maintain assigned facilities to maximize vehicular throughput in support of enhanced regional mobility and reduced congestion

- **Operations Section (40 personnel)**
 - 24X7 multiple station staffing
 - Incident management and traffic control
 - Vehicle inspection and overheight compliance
 - Facility security
- **Maintenance Section (20 personnel)**
 - Maintenance & emergency response
 - Electrical, electronic and mechanical trades
 - Roadway maintenance and inclement weather response
- **Management & Administration Section (8 personnel)**
 - Management
 - Contract administration
 - Payroll, inventory, accounts payable/receivable



Overheight Process Midtown Tunnel - Norfolk Side



➤ Traffic Volumes:

Midtown Tunnel	2003	2004	2005	2006
Average Daily Traffic	28,927	29,681	32,326	35,461
Total Annual Volume	10,558,259	10,833,591	11,798,952	12,943,435

Downtown Tunnel	2003	2004	2005	2006
Average Daily Traffic	95,232	97,410	95,209	94,786
Total Annual Volume	34,759,603	35,554,478	34,751,385	34,597,044

Reportable Incidents	2004	2005	2006
Inspection	13,365 EB - 7,018 WB - 6,347	14,572 EB - 7,489 WB - 7,083	15,693 EB - 7,559 WB - 8,134
Overheight	973 EB - 410 WB - 563	724 EB - 263 WB - 461	746 EB - 319 WB - 427
Stalled Vehicles	197	222	215
Vehicle out of Gas	107	88	130
Flat Tires	65	91	81
Accidents	90	84	80
Vehicle Escorts	78	62	98
Fires	1	2	0
Miscellaneous*	1,136	872	1,310

* Debris pick-up, gate check, pedestrian on bridge, marine-time incidents & call investigation.

Reportable Incidents	2004	2005	2006
Inspection	49,867 EB - 23,293 WB - 26,574	47,674 EB - 22,276 WB - 25,398	58,496 EB - 26,086 WB - 32,410
Overheight	5,089 EB - 1,215 WB - 3,874	4,940 EB - 1,017 WB - 3,923	5,413 EB - 1,248 WB - 4,165
Stalled Vehicles	1,080	1,039	1,004
Accidents	575	454	597
Vehicle out of Gas	442	463	509
Flat Tires	190	225	237
Vehicle Escorts	83	111	95
Fires	8	7	5
Miscellaneous*	213	675	1,394

* Debris pick-up, gate check, pedestrian on bridge, marine-time incidents & call investigation.

- Electrical Systems
 - Power distribution, emergency generators, lighting

- Traffic control system
 - Overheight detection, traffic signals, changeable message signs, CCTV, communications

- Ventilation system
 - Supply fans, exhaust fans, CO detection system

- Drainage and pump system

- Fire suppression

- Flood/Tide Gate

- National Fire Protection Association (NFPA)
- NFPA 10 – Portable Fire Extinguishers
- NFPA 14 – Standpipe and Hose Systems
- NFPA 70 – National Electric Code
- NFPA 72 – National Fire Alarm Code
- NFPA 101 – Life Safety Code
- NFPA 502 – Road Tunnels, Bridges and Other Limited Access Highways
- ANSI/IESNA RP-8-2000 – Practice for Roadway Lighting
- National Electrical Safety Code (NESC)
- Institute of Electrical and Electronics Engineers (IEEE)

➤ **NFPA 502 – Road Tunnels, Bridges and Other Limited Access Highways**

- Fire Detection
- Communications Systems
- Traffic Control
- Fire Apparatus
- Standpipe & Water Supply
- Portable Fire Extinguishers
- Fire Sprinklers
- Emergency Ventilation
- Tunnel Drainage Systems
- Alternative Fuels
- Control of Hazardous Material
- Emergency Response Plan
- Emergency Egress



NFPA 502 – Fire, Life & Safety Items Midtown Tunnel (RTE 58)

Item	Description	Ref. Chapter
1	Traffic Control	
1.1	Lane Use Signals	3.5
4	Ventilation	
4.1	Rehab Tunnel Ventilation Fans (8 Fans)	6.1
4.2	CO Analyzers, Option 2 - Electrochemical	6.2
4.3	Install Single Point Extraction System	6.3
4.4	Clear & Rehab Lower Air Flues	---
5	Tunnel Lighting	
5.1	Uninterruptible Power Supply	7.1
6	Power	
6.1	Enclose Generator Panel Board	8.3
6.2	125 VDC Station Battery Systems	8.4
6.2	Dedicated Space for Existing Batteries	8.4
6.3	Ventilation Fan Motor Controllers - Supply Fans	8.5
6.3	Ventilation Fan Motor Controllers - Exhaust Fans	
7	Communications	
7.1	Label Emergency Telephones	9.1
7.3	Bypass fan motor overload trip	9.8
8	Drainage	
8.1	Mid River Pump Replacement	
8.2	Hydrocarbon Detection in 3 Sumps	10.0
	Total Cost	\$7,800,000



NFPA 502 – Fire, Life & Safety Items Downtown Tunnels (I-264)

Item	Description	Ref. Chapter
2	Fire Protection	
2.1	Stand Pipe: Cap Tees, Repair 4 Hose Valves	5.1
4	Ventilation	
4.1	Rehab Exhaust Fans (8 Fans)	6.1
4.2	CO Analyzers - Option 2, Electrochemical	6.2
4.3	Exit Portal Door for Fire Control	6.3
5	Tunnel Lighting	
5.1	Uninterruptible Power Supply	7.1
6	Power	
6.1	Relocate Berkley Generator Panel Board	8.3
6.2	125 VDC Station Battery Systems	8.4
6.2	Dedicated Space for Existing Batteries	8.4
6.3	Ventilation Fan Motor Controllers	8.5
7	Communications	
7.1	Label Emergency Telephones	9.2
7.2	Restoration of equipment local control	9.8
7.3	Bypass fan motor overload trip	9.8
8	Drainage	
8.1	Mid-River Pump Replacement	
8.2	Hydrocarbon Detection in 6 Sumps	10.0
	Total Cost	\$ 4,400,000

- **Two Lane Bi-Directional Tunnel**
- **Seasonal and Tidal Flooding**
 - Portal elevations above flood plane
 - Accommodate for future growth and drainage/runoff
- **Geographical Concerns**
 - Norfolk and Portsmouth shipyard and dock facilities
 - APM Terminal expansion
- **Aged Infrastructure & Systems**
 - Midtown Tunnel opened in 1962 (45 years old)
- **Post 9/11 Security Changes**
 - Evolving security processes, equipment and requirements
 - Blockade systems

- **Industry Standard Control System Retrofits**
 - PLC based HMI systems
 - Switchgear and power realignment
 - Equipment cycling and usage monitoring
 - Ventilation system response to fire

- **Design height and lane width**

- **Overheight Vehicle Turnaround Design**
 - See following examples

Overheight Turnaround – Poor Design Midtown Tunnel – Norfolk Side



-  Control Room
-  Wrecker Station
-  Inspection Station
-  Overheight Detector



-  Inspection Station
-  Overheight Detector

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Environmental Issues for Midtown Tunnel and MLK Freeway

**Chris Collins
Project Studies Manager
Environmental Division
April 24, 2007**

- NEPA
- Permits
- Mitigation
- Other laws and regulations
- CLRP

- Included in Pinners Point EIS
- Not in CLRP when ROD was issued
- Approval not granted in ROD
- Reevaluation required

- Reevaluation complete
- No additional significant impacts; no SEIS required
- Included in 2026 and 2030 CLRP
- New ROD in July 2007

- Previously prepared draft EA 1990
- CTB location decision 1990
- No IJR approval from FHWA
- No FONSI from FHWA

- New IJR identified changes
- New EA initiated March 2007
- Draft EA fall 2007
- Hearing winter 2007
- FONSI anticipated mid 2008

- Secure Midtown Tunnel ROD
- Complete MLK EA
- Require proposers to meet all environmental requirements

- Secure and comply with water quality permits
- Implement NEPA commitments
- Additional NEPA analysis required by changes in the location or corridor
- Comply with other environmental laws and regulations

- Environmental standards will be identified by state and federal regulatory agencies as design progresses
- Clarification of environmental responsibilities and approach can be addressed in proposals and negotiation

Toll Feasibility Study

Jennifer Rasnick

Financial Services Specialist

Innovative Finance Revenue and Operations

April 24, 2007

Purpose:

- To investigate and recommend the feasibility of using toll revenue to finance planned improvements in the Midtown Tunnel Corridor.

Feasibility:

- The project will be deemed feasible if a toll plan produces sufficient revenues to cover the full cost of
 - Tunnel Construction and Improvements,
 - comprised of anticipated development costs, construction of a parallel tube and ancillary structures; including improvements to existing Midtown and Downtown Tunnels.
 - The MLK Freeway Extension,
 - Operating and maintenance costs; and
 - Long-term maintenance/improvement costs.
- Both Traditional Public Sector toll financing and PPP financial frameworks will be considered.

Alternatives Analyzed:

- Tolls on the Midtown and Downtown Tunnels, without tolls on MLK Highway
- Tolls on the Midtown and Downtown Tunnels and MLK Highway
- The impact to the project if the anticipated Hampton Roads Third Crossing Project is built

Schedule:

- The study is due for release in May 2007

Public Involvement and Variable Pricing Pilot Program

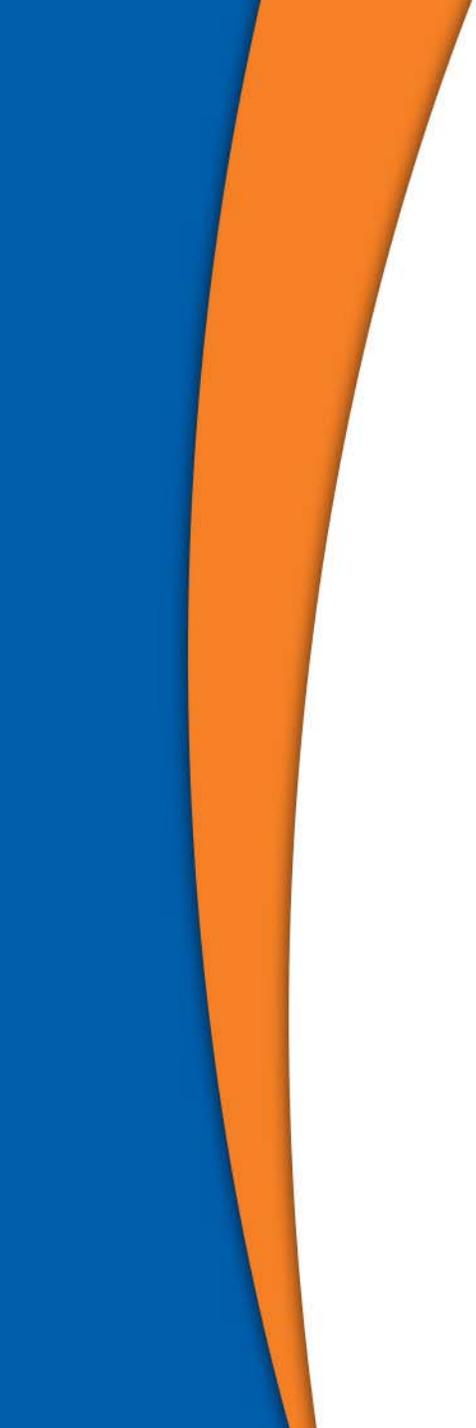
Robin Grier
Assistant Division Administrator
Transportation and Mobility Planning
April 24, 2007

- Virginia is one of 15 value pricing pilot program states
- Public acceptance and understanding are important to develop and implement a successful program
- Federal grant resources for:
 - (1) collection of public opinions through marketing research and
 - (2) for public outreach

- Marketing research is being conducted to identify, examine and assess responses to the potential introduction of variable priced tolling on the Downtown and Midtown tunnels
- Three phases of research are being conducted:
 1. Preliminary qualitative online interviews with area residents
 2. Focus groups and one-on-one interviews with residents and commercial vehicle/fleet managers
 3. Telephone survey with residents

- First two phases of this research have been completed
- Initial findings indicate:
 - Residents and commercial fleet managers recognize the need to generate funds
 - There is resistance to instituting tolls at these two tunnels
 - Variable priced tolling does not increase support for tolls at these tunnels
 - Electronic tolling can make tolls at these tunnels more “acceptable”

- Next steps include development of a website, newsletter and computer simulated video showing open road tolling
- The next phase of the research is a telephone survey among area residents – which will validate preliminary findings.
- Results will guide the development of a communications plan for public outreach
- All of these efforts will be completed by March 2008



VDOT

- Discussion Forums
- Private Meeting Time & Locations
 - April 24th – 1:00p.m. to 6:30 p.m. – Annex Bldg. 3rd Floor, Commissioners' Conference Room (Gather in Lobby)
 - April 25th – 7:30 a.m. – 10:30 a.m. – Annex Bldg. 14th Floor, Inspector Generals Conference Room (Gather in Lobby)

- Site Tour 1- April 25th 1:00 p.m.
 - Logistics, Meeting Time & Locations
 - Central Office Van Pool: April 25th – 11:00a.m. (Lobby)
 - ERT Admin Bldg: April 25th – 12:45 p.m. (Alternate mtg. location)
 - Escorted Van Pool Site Tour & Record Document Review: 12:45 p.m. – 4:00 p.m.

Site Tour 2 – May 17, 2007

Available Documents

- IJR MLK Freeway Ext. (Draft) Feb 2007
- Midtown Tunnel Reevaluation April 2007
- Panners Point Interchange/MLK Freeway MIS/CMS Compliance Study Jan 1995
- FEIS w/ 4(f) Midtown Tunnel Nov 1996
- Midtown Location Summary Report Feb 1990
- MLK Conceptual Design Report Jan 1993
- MLK Plan 1/2 size Sheets (Prj. 005-124-Fo4, C-501)

Available Documents

- Applied Marine Research Lab Tech Report No. 741, March 1991
- Assessment of Trace Element Geochemistry of Hampton Roads Harbor and Lower Chesapeake Bay Area Sediment, 1986
- Chesapeake Bay Sediment Trace Elements, March 1983
- Elizabeth River Water Quality Plan, Sep 1988
- Heavy Metals Uptake by Shrimp and Clams, 1985
- PPTA Implementation Guidelines Oct 2005

Additional Information

VDOT Innovative Project Delivery
Division Website:

[http://www.virginiadot.org/business/ppta-
default.asp](http://www.virginiadot.org/business/ppta-default.asp)

