



**Interstate 95 Corridor Improvement Program
Workshop with Richmond Area MPO
Transportation Advisory Committee**

June 12, 2012

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Office of the Commissioner

Virginia's Interstate 95

- Opened to Traffic in the 1950's
- 178 Miles from NC to DC
- Crosses 17 Jurisdictions
- 427 Structures
- 40% of the Interstate Traffic in Virginia
- Some of the Worst Congestion in the US
- 67 Fatal Crashes from 2008 to 2010



I-95 is a Critical Link for Virginia's Economy

- Serves 45% of Population
- Links 1.7 Million Jobs
- Connects Virginians to the World's Largest Regional Economy
- Links 8 Million Square Feet of Warehouse/Distribution Facilities
- Access to 3 International Airports
- Serves Richmond and Norfolk Ports



I-95 Needs

80% Mainline Bridges Over 40 Years Old

67% Portion of I-95 at or above Capacity by 2035

72% Mainline Pavement in Need of Maintenance

40% Projected Increase in Travel Time by 2035

\$12.1B Projected 25-Year Need

\$ 2.5B Projected 25-Year Funding at Current Levels

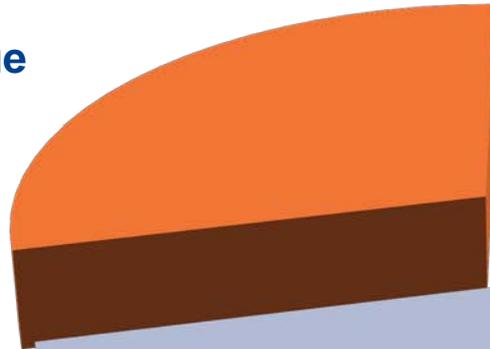
(\$ 9.6B) Funding Gap



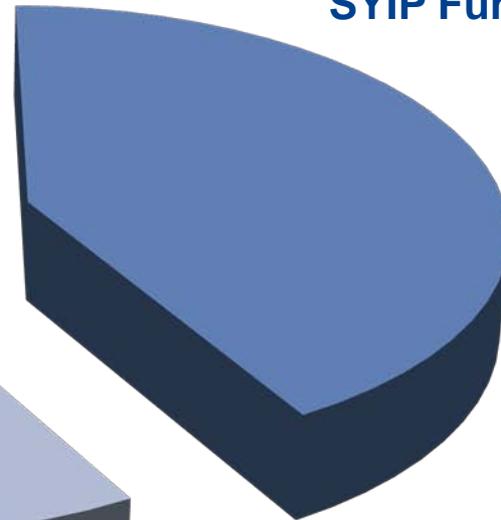
Balanced Approach

- VDOT is suggesting a Balanced Approach to Project Advancement

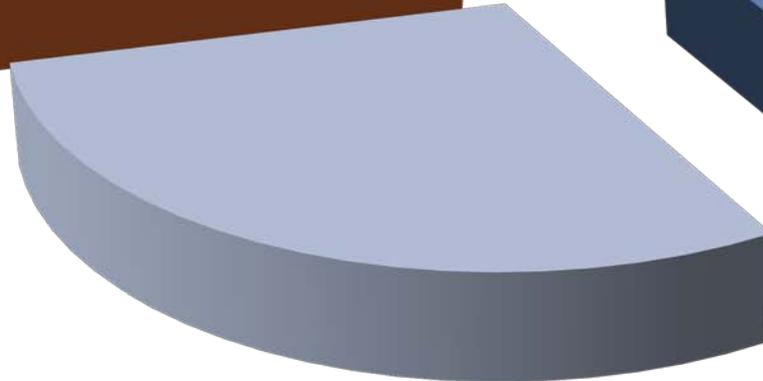
Toll Revenue



SYIP Funding

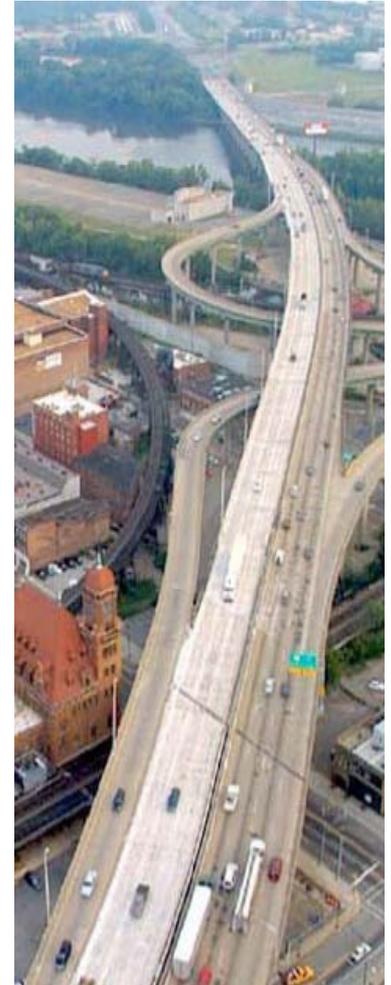


O&M Funding



Tolling Proposal Background

- **FHWA's Interstate System Reconstruction and Rehabilitation Pilot Program (ISRRPP) permits a state to toll an interstate facility**
 - **Limited to three facilities in three different states**
- **April 2010: VDOT submitted a proposal to toll I-95**
- **January 2011: VDOT submitted an expression of interest**
- **September 2011: FHWA granted conditional provisional approval**
- **The toll revenue will be used to make pavement, structural, operational, capacity, and safety improvements throughout the corridor**

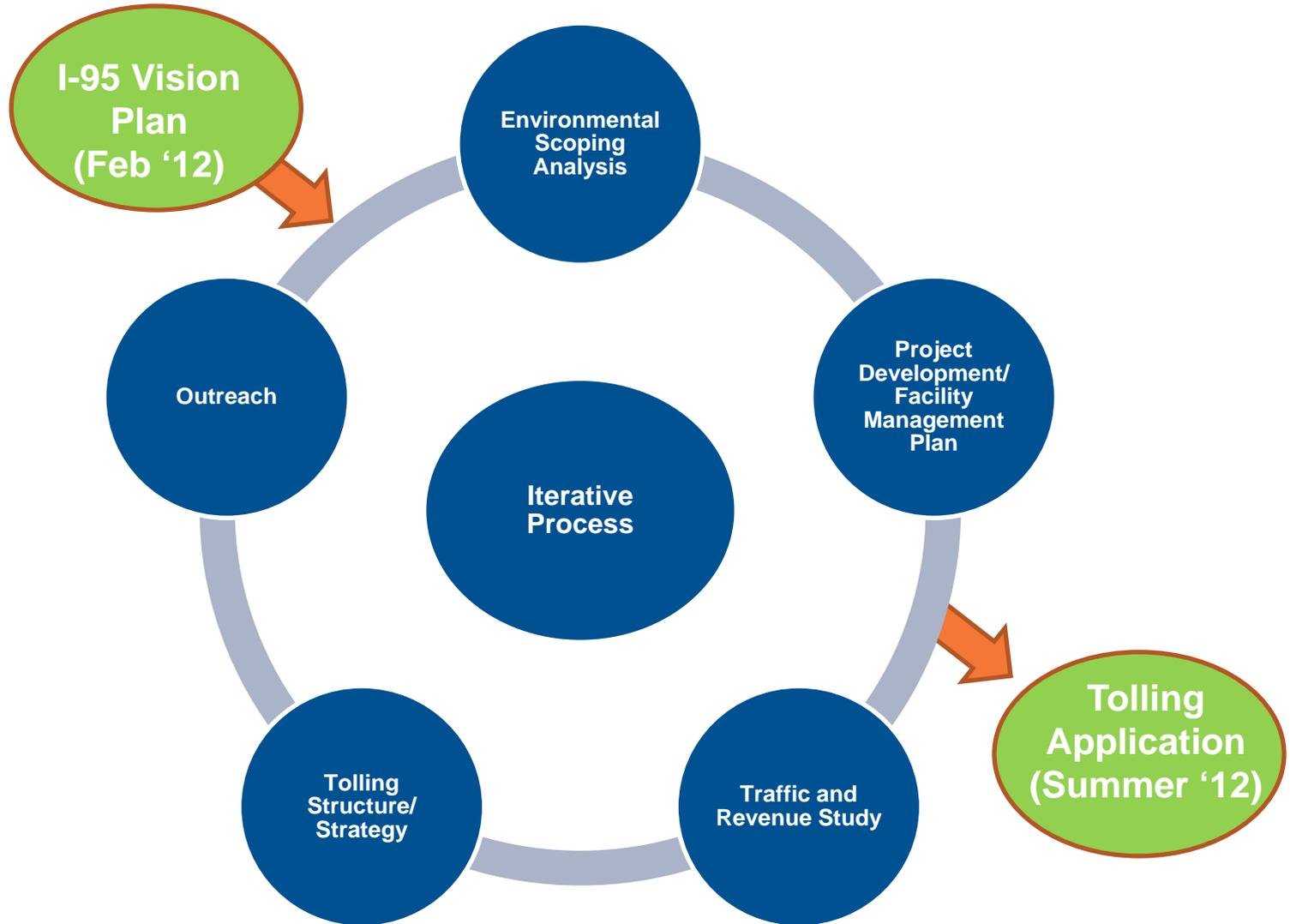


ISRRPP Application

- **Final application will require:**
 - **I-95 Corridor Vision Plan**
 - **Environmental scoping analysis**
 - **Consultation with planning organizations**
 - **Short-term improvements to be funded by toll revenues**
 - **Explanation of how tolling will support new capacity**
 - **Structure and location of the toll collection points**
 - **Facility Management Plan**



Implementation Roadmap



Implementation Process

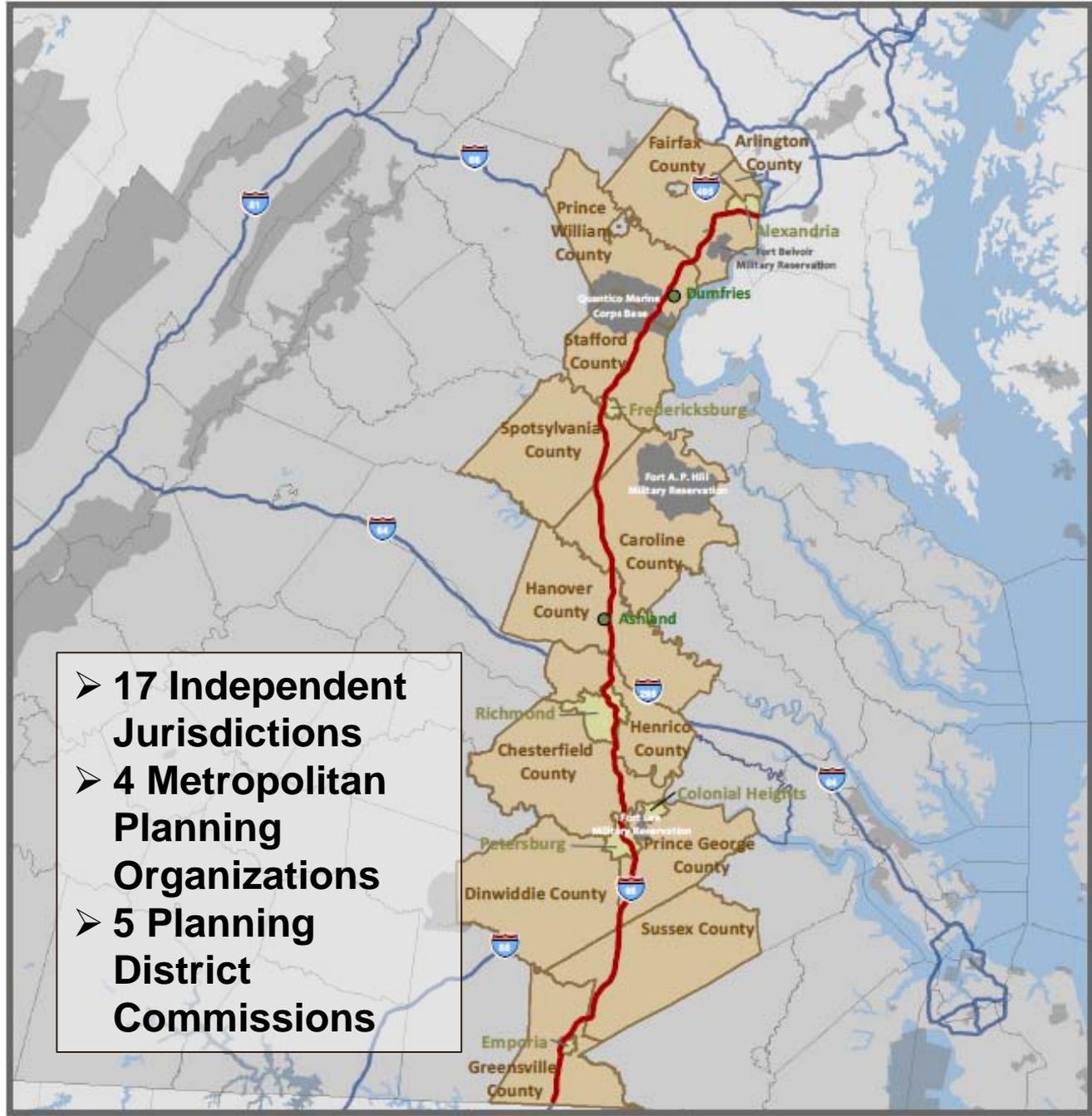
- **Vision Plan**
 - Reviewed with FHWA
 - Shared with MPOs and local jurisdictions
- **Environmental Scoping Analysis**
 - Environmental traffic data analysis underway
 - Socioeconomic analysis underway (effect of tolling on Virginia)
- **Traffic and Revenue Study**
 - Level II Study
 - Data collection, modeling, and preliminary scenario analysis complete
- **Project Development Plan/Facility Management Plan**
 - Candidate project list developed
 - Toll structures, methods, and program management under review
- **Economic Benefits**
 - Preliminary analysis of assumed annual revenue complete
 - Detailed analysis of specific tolling scenario underway

Outreach & Coordination

Municipal Stakeholders

- Interstate 95
- Other Interstate
- I-95 Corridor Counties
- I-95 Corridor Cities
- I-95 Corridor Towns
- Major Federal Installations

Source Data:
 ESRI National Data
 US Census TIGER 2010 Data



- 17 Independent Jurisdictions
- 4 Metropolitan Planning Organizations
- 5 Planning District Commissions



Outreach & Coordination

- **Outreach & Coordination (MPOs/PDCs/Local Governments)**
 - Kick-off (February 8th Winter meeting)
 - Individual meetings with MPO & PDC staff
 - Environmental coordination letters
 - MPO Policy Board meetings
 - Regional workshops
- **Business Stakeholders**
 - Virginia Trucking Association (Briefing June 14th)
 - Virginia Chamber of Commerce
 - Others
- **Continued Outreach - Public Meetings (Fall 2012)**
 - Residents
 - Businesses

Environmental Scoping Analysis

- Environmental scoping analysis will contribute to completing the required NEPA process
- Primary driver of impacts is diversion of traffic from I-95
- Impact on the following factors is being studied:
 - Socioeconomics
 - Community Facilities
 - Parks and Recreation
 - Air
 - Noise
 - Wildlife and Habitat
 - Wetlands
 - Historic Properties
 - Hazardous Materials
 - Farmland and Soils
 - Indirect and Cumulative Effects
- Letters have been received from:
 - Citizens
 - Tri Cities MPO/Crater Planning District Commission
 - Richmond Area MPO
 - Department of Game and Inland Fisheries
 - Fairfax County
 - Greenville County
 - Henrico County
 - City of Emporia
 - City of Petersburg
 - Prince William County
 - City of Richmond



Key Themes of Input Received

- Location of tolling facilities needs to consider economic and mobility impacts on local and regional communities
- VDOT needs to assess the impact on roadways affected by diversion
- The use of funds should be equitable and reflect where funds are being collected
- Program of projects should include all transportation aspects such as transit, rail, ITS, and park and ride projects
- Environmental studies should include whether tolling would increase emissions of pollution and/or storm water runoff
- Consideration should be given to the methods of toll collection and their effect on congestion
- Toll rate setting needs to consider impact on highway users
- Toll facilities and roadway improvements should be context sensitive

Outreach & Coordination

MPO Policy Board Briefings (elected officials)	Process, Scenarios, etc.	Traffic & Revenue, Tolling strategies, etc.
Richmond Area	April 12 th	June 14 th
Tri-Cities	April 12 th	June 14 th
Fredericksburg Area	April 16 th	June 18 th
National Capital Region	April 18 th	June 20 th

MPO/Local Government Staff Workshops	Date
Richmond Area MPO Transportation Advisory Committee	June 12 th
Southern Workshop (Petersburg)	June 4 th
Northern Workshop (Fredericksburg)	June 6 th



Outreach & Coordination

- **Methods of Communication**
 - Mailings
 - Public Workshops
 - Email: Interstate95@vdot.virginia.gov
 - Website:

http://www.virginiadot.org/projects/i-95_corridor_improvement.asp

- **Contacts:**
 - **Michael Estes, P.E.**
Office of the Commissioner
804-225-2813
 - **Ryan Kelly**
Office of the Secretary of Transportation
804-225-2849



Implementation Goals & Criteria

- **Tolling Structure & Strategy**

Analysis of various scenarios to maximize benefit for the Commonwealth is underway.

- **Goals**

- Generate sufficient revenue to support identified needs
 - Safety, system preservation, mobility, and economic vitality
- Minimize diversion & environmental impact
- Minimize negative economic impact to local business
- Maximize economic benefits through project advancement

- **Toll Collection Points**

- Evaluating locations based on above-listed goals
- Limit tolls to south of mile marker 126 (Massaponax)

- **Toll Rates**

- Market-based range of toll rates for evaluation
- Evaluating potential for commuter/frequent user incentives

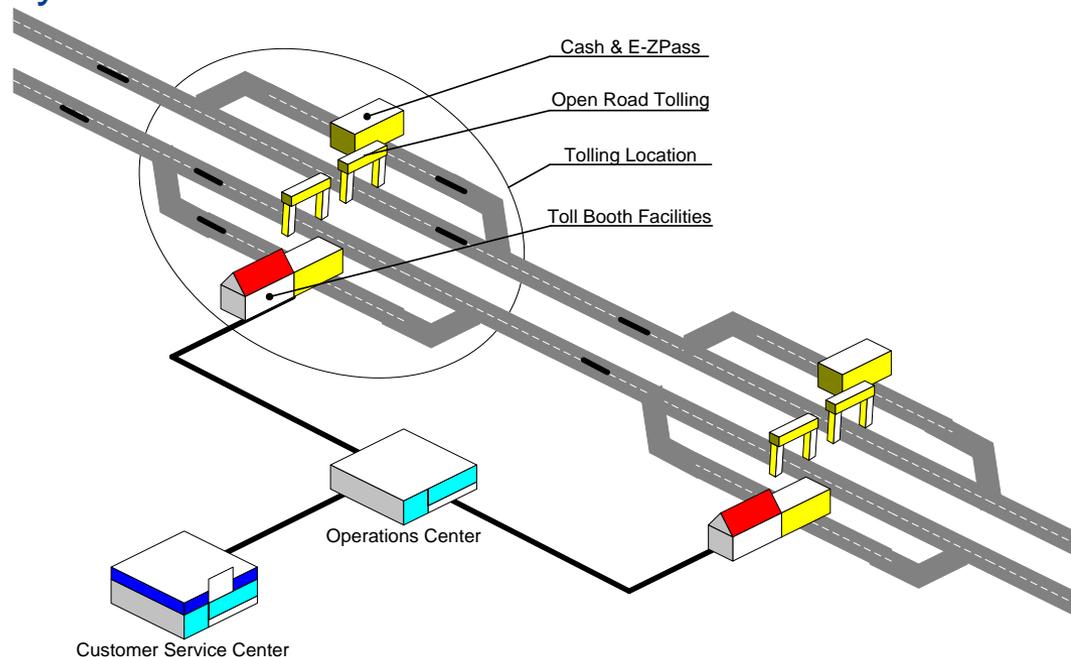
- **Toll Methodology**

- Evaluating methods of collection (Open Road Tolling/Cash Option and All Electronic Tolling)



Toll Collection Method

- Open Road Tolling (ORT):
 - Collection at highway speeds
 - E-ZPass Only
 - Non E-ZPass will be mailed a bill with an administrative fee
- Cash:
 - Vehicles exit the mainline traffic through off-ramp
 - Pay cash toll at traditional toll booths.



What Toll Rates to Employ?

- If Virginia attempted to fund the entire \$9.6 billion gap over 25 years by tolls alone, the toll rate required would be:
 - Utilizing two collection points, one north of Richmond and one south of Petersburg, the toll rate would be ~ **\$0.53 per mile***
 - Using a barrier system with 6 collection points, the toll rate would be ~ **\$0.27 per mile***
 - Using a closed system where all trips were charged based on actual miles traveled, the toll rate would be ~ **\$0.14 per mile**
- VDOT analyzed rates from **\$0.02 to \$0.15 per mile**
- VDOT is requesting approval to initiate tolling at a reduced rate of ~ **\$0.02 per mile**



* Note that diversion would be extremely high with rates of \$0.27 to \$0.53 per mile under these scenarios.

Toll Scenarios Analysis

Potential Locations:

- **A1: 1 Gantry System (tolling both directions)**
- **A2: 2 Gantry System (one toll northbound; one toll southbound)**
- **A3: 2 Gantry System (tolling both directions)**
- **B: 6 Gantry System (tolling both directions at ~ 20 mile intervals)**
- **C: Closed System (tolling at every interchange – ramps)**
- **D: Hybrid System (mainline tolling + ramp tolling)**
- **E: Closed System (tolling between every interchange)**

How to toll? (location and # of gantries)

Factors to consider (location):

- **Traffic Characteristics**
 - Local vs long-distance
 - Truck %
- **Diversion**
 - Availability of routes for local trips
 - Ability to reduce diversion (i.e. capacity for ramp tolling)
 - Number and types of businesses in area (i.e. truck services, lodging, food services, etc.)

Factors to consider (# of gantries):

- **Implementation (ease and timeliness of construction, etc.)**
- **Cost effectiveness of up-front capital costs**
- **Operations and maintenance implications**



Toll Scenario Analysis (Preliminary Findings)

Only 5 scenarios met initial goals and criteria

Scenario	Tolled Location (Between)	Tolled Direction	Tolled Ramps	Collection Method	6-Year Gross / Net* Revenue	Toll Rate Option: Cost per Through Trip
A-1	MP 20 to MP 24	NB & SB	Yes	ORT & Cash	Gross: \$250 M Net: \$155 M (Level 2 forecast)	\$4.00
A-2	MP 20 to MP 24	NB	Yes	ORT & Cash	Gross: \$410 M Net: \$320 M (Preliminary forecast**)	\$4.00
	MP 98 to MP 104	SB	No	ORT & Cash		
A-3	MP 20 to MP 24	NB & SB	Yes	ORT & Cash	Gross: \$550 M Net: \$385 M (Preliminary forecast)	\$4.00
	MP 98 to MP 104	NB & SB	No	ORT & Cash		
B	6 Locations Every 20 Miles	NB & SB	Yes	ORT (All Electronic)	Gross: \$800 M Net: \$520 M (Preliminary forecast)	\$4.50
E	Every Major Segment	NB & SB	No	ORT (All Electronic)	Gross: \$930 M Net: \$700 M (Preliminary forecast)	\$5.04



*Net revenue reflects capital cost of toll collection facilities and toll operating costs.

**Preliminary forecasts for A-2, A-3, B, E undergoing review. Level 2 forecasts expected by 6/15.

Socioeconomic Impacts & Economic Benefits

- \$100 million of annual toll revenue spent on road improvement projects each year for 20 years (\$2 billion; 2015-2035)
 - Construction Impacts: occur during construction phase
 - The majority of which come from the construction sector and related industries
 - Ongoing Economic Benefits: sustained economic benefits for businesses and residents of the I-95 corridor
 - Reduced road maintenance costs
 - Travel time savings
 - O&M savings by vehicle owners
 - Reduction in accidents

Benefits	Cumulative Impacts
Construction Impacts	
Economic Impacts (\$ millions)	\$3,488
Jobs Impacts (job years)	18,075
Ongoing Benefits (\$ millions)	\$ 556

Source: Chmura Economics & Analytics; Economic Benefits of Road Improvements from I-95 Toll Revenues – Phase 1

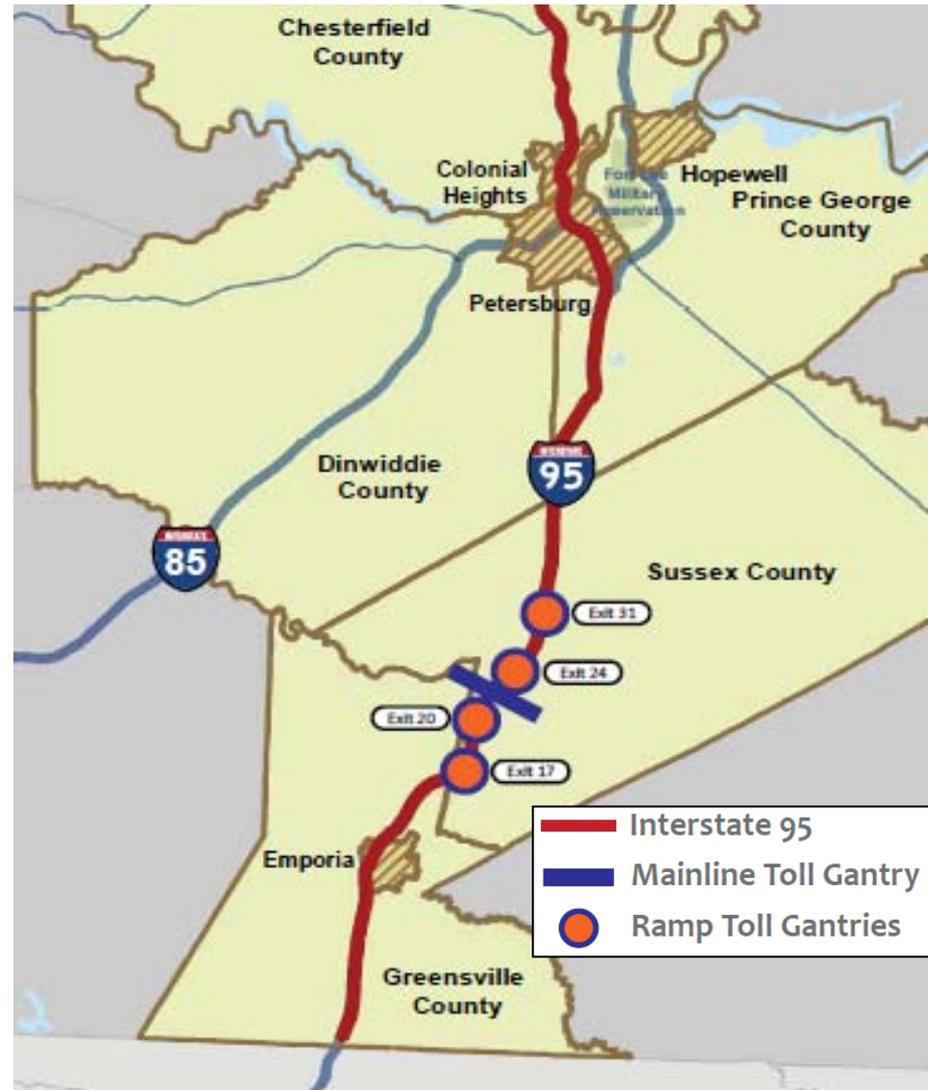
Option A-1: One Gantry System (tolling both directions)

Current Condition

- ADT 36,000
- 15% trucks
- 48% of traffic continues through mile marker 100
- Low commuter traffic
- Low local trucks
- High long-haul trucks

Items Under Further Review

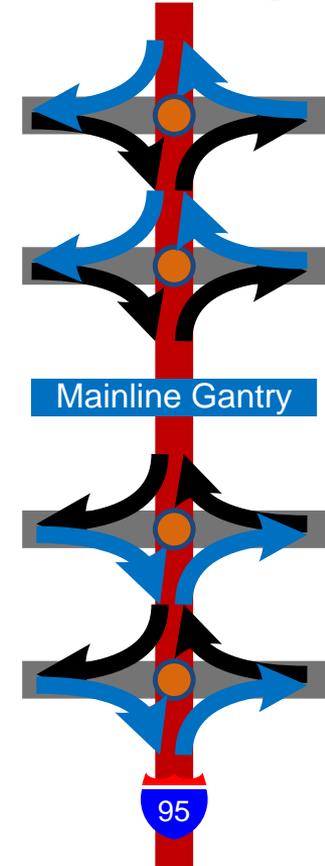
- Diversion
- Toll Rate vs Revenue
- Economic Review



Facility Management Plan (for option under further consideration)

A-1: One Gantry System (tolling both directions)

- **Location:** Gantry Between MP 20 and MP 24
Ramp Gantries to Minimize Diversion
- **Method:** Open Road Tolling & Cash Collection
- **Rate:** \$4.00 2-Axle Mainline (~\$0.02/mile)
\$2.00 2-Axle Ramp
5-Axle Vehicle: 3X Base Rate
- **Duration:** >30 Yrs
- **Operator:** VDOT will own, operate, and maintain (option to contract)
- **Congestion Pricing:** None, Fixed Rates
- **Rate Changes:** Indexed to Inflation



Benefits of Tolling Revenue

Acceleration of an identified need (SYIP, CLRP, STP, and other priorities)

- **Safety**
 - Advances road safety audit findings
- **System Maintenance & Preservation**
 - Improves pavement quality and safety
 - Regular investment results in reduced and stabilized maintenance costs (pavement and structures)
- **Mobility (Capacity Improvements)**
 - Improves capacity and provides more reliable travel times
 - Enhances communication/information (Intelligent Transportation Systems)
- **Economic Vitality**
 - Supports growth of regional, statewide, and national economies



Benefits of Tolling Revenue

Gross Revenue Projections:

- Scenario A-1 ~ \$35M - \$40M/year (gross)
- Other Scenarios ~ \$55M - \$160M/year (gross)

Acceleration of an identified need (SYIP, CLRP, STP, and other priorities) – Potential uses of Scenario A-1 revenue:

- Safety
 - I-95/I-64 Overlap Study – Short Term Improvements
- Mobility/Economic Vitality
 - I-95/I-85/460 Interchange upgrades
- System Maintenance & Preservation
 - Pavement Reconstruction (~ 35 Lane Miles)
 - Bridge Reconstruction (~ 4 Bridges)

Preliminary Schedule

- **Jan – April 2012** **Data Collection/Analysis**
- **Feb 2012** **Vision Plan**
- **April 2012** **MPO/Locality Briefings**
- **May 2012** **Preliminary Traffic & Revenue Forecasts, tolling scenario analysis, etc.**
- **June 2012** **MPO/PDC/Locality Workshops**
- **Summer 2012** **Submit ISRRPP application to FHWA HQ**
- **Fall 2012** **Public Hearings**
- **Winter 2012** **Execute Tolling Agreement**

Closing

- **I-95 is the economic backbone of Virginia and critical to its future.**
- **Without additional revenue, residents, business, and visitors will face:**
 - Degradation of travel times due to congestion and emergency repairs
 - Higher costs due to failing infrastructure
 - Reduced safety
- **VDOT has performed outreach and will continue coordinating with MPOs, local governments, businesses, and residents to develop a program that meets the needs of its users.**
- **VDOT's plan for imposing tolls is sound and will address many critical needs of the corridor.**
- **VDOT is committed to developing a program (tolling is but one aspect) that will generate value for users of I-95 through:**
 - Capacity improvements
 - Safety improvements
 - A more reliable system

