



Malcolm T. Kerley, P.E.  
Chief Engineer's Directorate  
Route 460 Corridor Improvements  
April 9, 2007

## Project Description

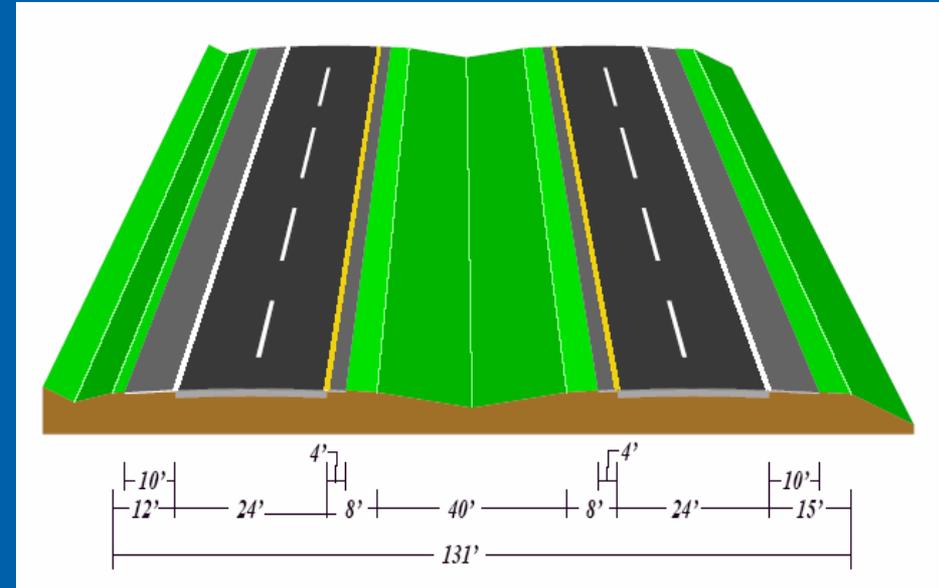
- Located between I-295 (Petersburg) and Route 58 (Suffolk)
- 55 miles long, four-lane divided, limited access hwy. with nine interchanges
- Part of the National Highway System & Strategic Highway Network
- Existing Route 460 was widened to four lanes in the 1950's and has no medians or shoulders
- New roadway needed to address safety, freight traffic, improve military connectivity, provide hurricane evacuation capability, and meet legislative mandates

## Engineering Evaluation

- Conceptual Proposals
- Common Proposal Elements
  - To design, build, finance, operate, and maintain the new Route 460 facility
  - Base Proposal in accordance with NEPA Draft Environmental Impact Statement (DEIS)
  - Approved CTB Alignment (CBA-1 modified) was used for base proposals

## Base Case Design

- GS-1 (rural principal arterials)
- Design Speed of 70 mph
- Freeway Standards
- Limited Access Facility
- 7 diamond interchanges
- 2 flyover interchanges at project termini



Base Case  
Typical Section

# Proposal Evaluation Criteria

## Categories

- Qualifications and Experience
- Project Characteristics
- Project Financing – Finance Directorate
  - Methodology of Estimated Construction Costs
- Public Support – Environ./Planning Directorate
  - Public Involvement Plan
- Project Compatibility – Environ./Planning Directorate

# Qualifications and Experience

## Evaluation:

- All Three proposers are qualified and experienced from an engineering perspective

## Project Characteristics

### Evaluation:

- All Three proposers provided sufficient information to determine the project characteristics

## General Considerations

- Issues to be better defined in Request for Detailed Proposal (Phase 4)
  - Project Management
  - Leadership Structure
  - Risk Allocation
  - Legal Assumption

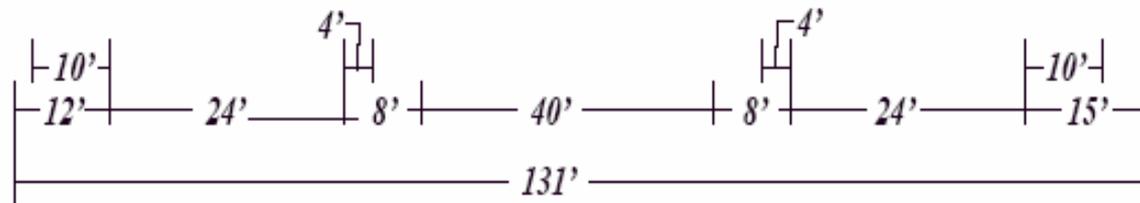
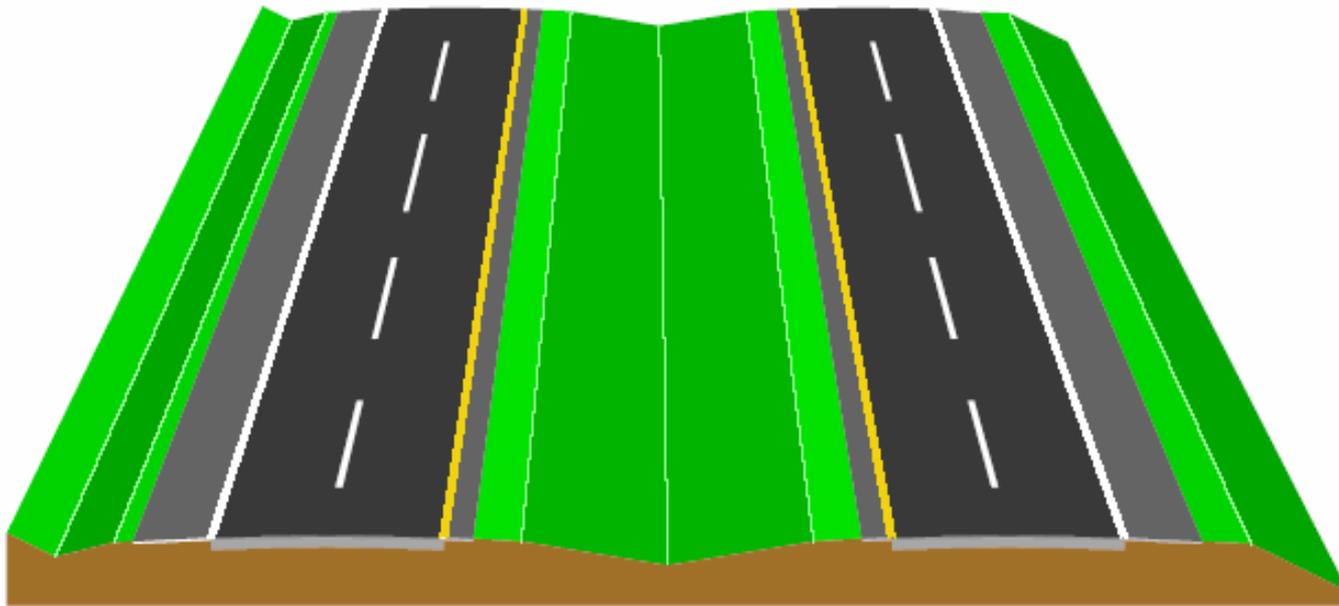
# Comparison/Evaluation Factors

- Right-of Way
- Design
- Construction
- Estimated Bridges
- Network Connectivity
- Interchange Comparison
- Cost Comparison
- Work by VDOT

- Conceptual Proposals
- No specific details on property impacts
- All proposers stayed within DEIS corridor (Base Case Scenario)
- Planning Corridor is 500ft
- Design Corridor is 230ft
- Average Typical Section is 131ft
- Proposers Est. R/W Cost range - \$33.8M-\$71.0M

- Conceptual Proposals
- Design Challenges
  - Termini Interchanges (I-295 & Rte. 58)
  - Hydraulic Analysis
  - Structure Location v. Environmental Impacts
- Design Exceptions
  - None anticipated with new facility

## Base Case Typical Section



SFP Interchange	Cintra			Itinere		VCP
	Base	Base Optimized	Enhanced	Base	Proposed Options	Base
I-295	x+	x+	x++	x	x+	x
Rt 156	x	x	x	x	x	x
Rt 625	x	defer	x	x	x	x
Rt 602	x	defer	x	x	x	x
Rt 40	x	x	x	x	x	x
Rt 620	x	defer	x	x	remove	x
Rt 616	x	defer	x	x	x	x
Rt 258	x	x	x	x	x	x
Rt 58	x+	x+	x++	x	x+	x
New I-295					x	
Rt 625					relocate	
Rt 607					add	
Rt 628					add	

	<b>Cintra</b>	<b>Itinere</b>	<b>VCP</b>
Frontage Roads	yes	yes	no
Road Crossings	yes	yes	yes
Cul de Sacs	no	no	yes
Secondary Road Improvements	yes*	yes*	no
Bicycle & Pedestrian Crossings	no	yes	no

\*limited improvements at road crossings



## Estimated Bridges (Base Case)

	<b>VDOT</b>	<b>Cintra</b>	<b>Itinere</b>	<b>VCP</b>
Estimated # of Bridges	29	50	80	62
Estimated Total Length (Lin. Ft.)+/-	12,371	19,800	70,000	36,415
Estimated # of Culverts	NQ	Variable	56	5
Estimated Total Length (Lin. Ft.)+/-	NQ	15,800	20,000	1,900



## Estimated Base Case Cost Comparison 2007 Dollars (Millions)

	VDOT	Cintra	Itinere	VCP
ROW	\$186.8	\$33.9	\$68.8	\$71.0
Utility Relocations		\$58.1	\$64.8	\$40.0
Environmental	\$85.1	\$15.0	\$74.5	\$5.0
Design		\$68.5	\$120.4	\$58.0
Constr. - Roadway	\$542.2	\$506.8	\$630.9	\$510.0
Constr. – Structure	\$153.9	\$263.9	\$570.7	\$330.0
Project Management	***	\$61.5	\$39.6	\$96.0
Constr. Admin/Inspection	\$76.2	\$44.6	\$58.1	\$15.0
Initial Toll Facility	NQ	\$69.8	\$21.7	\$38.0
<b>TOTAL CONSTRUCTION COSTS</b>	\$1,044	\$1,122	\$1,649	\$1,163
Roadway Maintenance	NQ	\$3.0	\$9.2	\$5.7
Toll Operations (Annual)	NQ	\$18.1	\$8.6	\$11.4

Activity	Cintra	Itinere	VCP
Complete the NEPA process and obtain a Record of Decision (ROD) for the Project.	Yes	Yes	---
Ensure Project conforms to Regional Air Quality Models	---	yes	---
Include Project in VDOTs Six-Year Improvement Plan	---	Yes	---
Secure MPO approval and inclusion in CLRP	---	Yes	---
Complete all additional NEPA documents (i.e. Reevaluation or Supplemental EIS)	---	Yes	---
Assist with ROW acquisition, exercise power of eminent domain	---	Yes	---
Coordinate toll collections and enforcement	---	Yes	---
Provide digital survey, utility, topographic, aerial photography, mapping, environmental, design and travel demand model information, and data from VDOT environmental and design contracts	---	Yes	---

Activity	Cintra	Itinere	VCP
Participate in Public Meetings	---	Yes	---
Participate and assist in regulatory agency coordination	Yes	Yes	---
Assist in Permit Procurement Effort	Yes	Yes	---
Assume full responsibility after concession term terminates	Yes	---	---
All (some) of ROW acquisition functions, including negotiation, surveying, purchase, and condemnation	---	---	Yes
All permit duties	---	---	Yes
All back office functions for electronic tolling, including clearing, validating, and enforcing toll accounts with users	---	---	Yes
Provide Owner-Controlled Insurance Program	---	---	Yes
All ROW acquisition, design, and construction services for any and all frontage roads/local road connections	---	---	Yes
Compress procurement schedule	---	---	yes

## Construction Schedule/Total Cost

	<b>Cintra</b>	<b>Itinere</b>	<b>VCP</b>
Estimated Start Date	Jan 2011	Mid 2009	Mid 2010
Estimated Completion Date	Jan 2014	Late 2013	June 2014
Estimated Duration	3 years	4 years	4 years
Estimated Cost (Millions) 2006\$ and 2007\$	\$1,051 and \$1,122	\$1,550 and \$1,649	\$1,536 and \$1,163

- All teams have the ability to design and construct the proposed facility
- Conceptual costs are within a reasonable range
- Estimated schedules are within a reasonable range
- Consider establishing standard scope

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