capital beltway HOT lanes

presentation to

Virginia Department of Transportation

PPTA Advisory Committee

December 2003

some like it HOT!
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<td>Herb Morgan</td>
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fluor daniel

- One of the world’s largest publicly owned engineering, procurement, construction, and maintenance companies
- Leader in public-private partnerships
- Successful implementation of large-scale infrastructure projects
- In business for almost 100 years
- Consistently ranked on ENR’s “Top Design-Build Firms” and “Top 400 Contractors” lists
- One of the world’s safest contractors

- 2002 Revenues
  - $10 Billion
- 30,000 employees worldwide

FLOU R DANIEL
A FLUOR Company
relevant design build experience

**Pocahontas Parkway**
$302 Million
Completed: September 2002

**E-470 Toll Road**
$323 Million
Completed: May 2000

**Conway Bypass**
$383 Million
Completed: May 2001
<table>
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<tr>
<th>Company</th>
<th>Role</th>
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<tbody>
<tr>
<td>Fluor Daniel</td>
<td>Prime Contractor/Developer</td>
</tr>
<tr>
<td>HNTB Corporation</td>
<td>Design and CE&amp;l</td>
</tr>
<tr>
<td>The Lane Construction Corp.</td>
<td>Lead Civil Contractor</td>
</tr>
<tr>
<td>Vollmer Associates</td>
<td>Traffic and Revenue Forecasting</td>
</tr>
<tr>
<td>Greenhorne &amp; O’Mara, Inc.</td>
<td>Utilities and ROW Acquisition</td>
</tr>
<tr>
<td>Wetland Studies &amp; Solution, Inc.</td>
<td>Wetland Permitting/Mitigation</td>
</tr>
<tr>
<td>Bear Stearns &amp; Company</td>
<td>Bond Underwriter</td>
</tr>
<tr>
<td>Research/Strategy/Mgmt Inc.</td>
<td>Opinion Polling</td>
</tr>
<tr>
<td>Reed Smith LLP</td>
<td>Government Relations</td>
</tr>
<tr>
<td>VMS, Inc.</td>
<td>Asset Management</td>
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<tr>
<td>Edelman</td>
<td>Public Outreach</td>
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</table>
What is a HOT lane?

- Multiple passenger vehicles ride free
  - HOV3+
  - Vanpools
  - Express bus services
- Single and double occupancy pay toll
- NO TRUCKS
- NO TOLL BOOTHS
- Actively managed

FLUOR DANIEL, A FLUOR Company
beltway HOT lanes

- 12 miles (West of the Springfield interchange to South of Georgetown Pike)
- 7 entry/exits
- 5 intermediate entry/exit points
- 2 direct ramp to ramp access
  - Dulles Access
  - I-66
- Potential for expansion
HOT lanes in operation

12 lane configuration
8 GP and 4 HOT Lanes
HOT lanes in operation
why not two HOT lanes?

- Beltways – no distinct directional demand; thus HOT lanes must operate both directions, reversible lanes are not an option
- Single lane does not permit the passing of slower or stalled vehicles, and has reduced capacity
- Inability to pass will increase travel time
- People less likely to pay tolls at minimal travel time savings
- Unable to guarantee level of service C or better
- Reduced capacity may not allow HOV3 and buses to ride free
proven technology that is upgradeable

toll technology timeline

<table>
<thead>
<tr>
<th>yesterday (all manual tolls)</th>
<th>today (Fluor Daniel proposal)</th>
<th>tomorrow (ITS managed lanes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>collection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toll Booth</td>
<td>HOV 3+buses free/Smart Tag</td>
<td>Back office toll processing</td>
</tr>
<tr>
<td>$</td>
<td>- Smart Tag read</td>
<td>- License plate read</td>
</tr>
<tr>
<td>$</td>
<td>- In vehicle equipment</td>
<td>- No effort for drivers</td>
</tr>
<tr>
<td>$</td>
<td>- Extra costs</td>
<td></td>
</tr>
<tr>
<td>$</td>
<td>- EZ Pass compatible</td>
<td></td>
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| enforcement                 |                               |                              |
| Patrol car monitors         | Back office video monitoring  |                              |
| toll violators              | with onsite patrol car final  |                              |
|                             | checks on HOV 3+ and bus      |                              |
|                             | compliance                    |                              |

<table>
<thead>
<tr>
<th>operations</th>
<th></th>
<th>Managed high-speed lanes</th>
</tr>
</thead>
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<tr>
<td>Toll Booth</td>
<td>Managed high-speed lanes</td>
<td>Managed high-speed lanes</td>
</tr>
<tr>
<td>Toll booths caused</td>
<td>HOV 3+ Buses</td>
<td>All electronic processing</td>
</tr>
<tr>
<td>congestion as traffic</td>
<td>Smart Tag</td>
<td>- HOV3+/buses bypass tolling</td>
</tr>
<tr>
<td>increased over time</td>
<td></td>
<td>- Pay with open road technology</td>
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<tr>
<td></td>
<td></td>
<td>- Highest overall throughput</td>
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Some like it HOT!
HOT lanes in operation in 2009

**Project Schedule**

-提交详细提案 (submit detailed proposal)
-评论/审查提案 (comment/review proposal)
-公共传达和信息计划 (public outreach and information program)
-发展协议 (development agreement)
-签署发展协议 (sign development agreement)
-交通和收益研究 (traffic and revenue study)
-环境与决定记录程序 (environmental & record of decision process)
-优先替代方案 (preferred alternative)
-设计-建造合同 (design-build contract)
-签署设计-建造合同 (sign design-build contract)
-安排项目融资 (arranging project financing)
-财务关闭 (financial close)
-设计 (design)
-建设 (construction)

-假定EIS和ROD完成于2004年
-如果环境批准，则在2005年开始建设
-2009年开放操作
responding to citizen concerns

2002 EIS proposals . . .
take up to 300+ homes and businesses

2003 Fluor HOT Lane proposal . . .
takes 6 or fewer residences
<table>
<thead>
<tr>
<th>Concerns</th>
<th>Response</th>
</tr>
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<tbody>
<tr>
<td>Accommodating other modes of transportation</td>
<td>Fluor’s HOT lane proposal is compatible with future transit alternatives, including rail and Bus Rapid Transit</td>
</tr>
<tr>
<td>Multi-billion dollar price-tag</td>
<td>Fluor’s concept cost 1/3 less than lowest cost EIS alternative; it virtually pays for itself with toll revenue</td>
</tr>
<tr>
<td>Lack of Long-term mobility</td>
<td>Managed HOT lanes assure mobility far into the future</td>
</tr>
<tr>
<td>Environmental sensitivity</td>
<td>Incorporate all EIS mitigation (e.g. new noise walls)</td>
</tr>
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</table>
ROW requirements comparison:
Tysons Corner - Route 123 & 7

Capital One Building

1951 Kidwell Drive Bldg (8 stories)
2000 Corp. Ridge Bldg (10 stories)
2010 Corp. Ridge Bldg (10 stories)

Tysons Doubletree Hotel

Legend
- Existing ROW
- ROW required for Fluor Daniel HOT Lane Concept
- Additional ROW required for VDOT alternative
ROW requirements comparison: I-66

Area Displacement:
EIS = 138
Fluor Daniel = Maybe 1

Legend:
- Existing ROW
- ROW required for Fluor Daniel HOT Lane Concept
- Additional ROW required for VDOT alternative
ROW requirements comparison:
little river turnpike - route 236

3 Apartment Bldgs (60 units)
Small Parkland Taking

Legend
- Existing ROW
- ROW required for Fluor Daniel HOT Lane Concept
- Additional ROW required for VDOT alternative
ROW requirements comparison: braddock road - route 620

Residential structures (6 homes)
Major Parkland taking (4 acres)
Beltway roadway will be improved to today’s safety design standards, as will 80 percent of interchange ramps.

Eliminates unsafe left entry/exit points from main roadway.

Reduces congestion, the greatest cause of Beltway accidents.

Safety is one of the major reasons commuters choose HOT lanes.

The Beltway will be safer with HOT Lanes than it is today.
toll revenues are primary funding source

Est. construction cost = $693.4 million

Funding Strategy

- Bonds and TIFIA loan financing account for 87 percent of costs
  - Both to be repaid with revenue from tolls
  - No state or county general or moral obligation
- Public investment 13 percent
- Variable tolls ($1 to $4.80) for one and two passenger vehicles
- Dollars inflated to year of construction
financial benefits go to the public

- Privately developed, publicly owned project at lowest cost
- Set price and on-time guarantee
  - Fluor will be responsible for cost overruns, and pay liquidated damages if the job is not completed on schedule
- Bondholders bear all revenue projection risk
  - Taxpayers will not be responsible for the debt
  - Bonds will not count against Virginia’s or Fairfax County’s AAA bond rating
- VDOT funds operation and maintenance
- When bonds and loans are paid, $100 million per year in revenue could finance other transportation improvements
Commuters will have new travel choices on the Beltway.

HOT lanes are “free” lanes for HOV 3+, vanpools, and express bus services.

HOT lane users will travel at 65 mph 24/7.

HOT lanes will reduce congestion on the remainder of the Beltway and reduce shortcuts through adjacent neighborhoods.

HOT lanes provide the missing link in the Northern Virginia HOV system by connecting I-95, I-66 and the Dulles Toll Road.

Congestion relief and more commuter choices in 2009.
transit benefits

New HOV Connections

- HOV along the Capital Beltway
- Linkages between: I-95, I-66, I-395, and VA 267
- Existing park and ride lots
transit benefits

- New HOV Connections
- BRT/Express Operations
  - Improved routing for existing bus service
  - Opportunities for new express service
  - Potential for high quality “BRT-like” service
transit benefits

- New HOV Connections
- BRT/Express Operations
- Enhanced opportunities for “slugging”
  - Promotes slugging at existing P&R lots
  - Creates opportunities for new slug lots
  - Opens a new corridor for slugs

 Slug Pick Up Sites
 Park and Ride Lots
transit benefits

- New HOV Connections
- BRT/Express Operations
- Enhanced opportunities for “slugging”
- Improved access to Metrorail and VRE
  - New linkages for existing feeder bus
  - Increased possibilities for kiss and ride
  - Improved connections to Blue, Orange, Yellow and Silver Line
HOT lanes make sense for Fairfax County

- HOT lanes will be added substantially within the existing right-of-way
- No more than 6 homes to be taken
  - Earlier EIS alternatives would have taken more than 300 homes and businesses
- HOT lanes reinforce existing residential and business development patterns in a corridor key to Fairfax County's economic vitality
- Fluor's HOT lane proposal will not significantly impact air quality
- Full NEPA compliance
HOT lanes make sense for Virginia

- A new way to move more people than cars
- Helps finance itself reducing taxpayer burden
- Reduces need for more conventional widening solutions
- Can be implemented faster than rail solutions
- Citizens will accept tolls if there is a measurable benefit
- Potential for expanding into a regional system
600 adults (303 in Fairfax; 297 other Northern Virginia jurisdictions); 15 minute telephone survey

Interviews conducted September 2-7, 2003 by Research/Strategy/Management using random digit dialing

62 percent support adding HOT lanes to the Beltway

Support increases much more when certain conditions are added to the concept:

- Shortening travel time on a consistent basis (15 to 1)
- Fixed cost/fixed date with financial penalties to contractor (8 to 1)
- Banning trucks from HOT lanes (7.5 to 1)
- No new taxes (6 to 1)
- Minimal displacement (5.5 to 1)
- Variable tolling (2 to 1)

Now a private firm, Fluor, has come up with a plan which seems to make a great deal of sense... The Fluor plan will allow improvement of the Beltway capacity in the correct way. It is environmentally sensitive and, critically, is mass-transit friendly...

We have two messages for VDOT as the process proceeds:

1. Keep the improvements to the Beltway within the existing right-of-way.
2. Move this along on the fastest schedule possible. We cannot afford to have this project languish because of the bureaucratic delays.

Signed by:

Delegates
Vincent Callahan
David Albo
Kristen Amundson
Thomas Bollin
Jeannemarie DeVolites
James Dillard
Timothy Hugo

Senators
Richard Saslaw
Ken Cuccinelli
Janet Howell
Jay O'Brien
Linda Puller
Patricia Ticer
Mary Margaret Whipple

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A FLUOR Company

some like it HOT!
HOT lanes in action

- **Katy Freeway near Houston, Texas**, so successful the state is currently expanding the lanes from 2 to 4 lanes. This facility was constructed, and is owned and operated by the Houston Metropolitan Transit Authority.

- **I-15 in San Diego, California**, has been so popular the San Diego Associated Government is lengthening it from 8 to 20 miles and widening it from 2 to 4 lanes.

- **SR-91 in Orange County, California**, recently purchased by local government and continues to be extremely popular among users.
fluor daniel’s commitment

- Best construction practices
- Fair, equitable and honest dealings with affected landowners
- Fixed price contract – guaranteed schedule with liquidated damages for late completion... a first for Northern Virginia
- Ongoing dialogue with VDOT, Fairfax supervisor and citizens during planning, construction and operational phases – no surprises!