



# County of Fairfax, Virginia

## Fairfax County Parkway Corridor Study

Board of Supervisors  
Transportation Committee

December 1, 2015

Neil Freschman

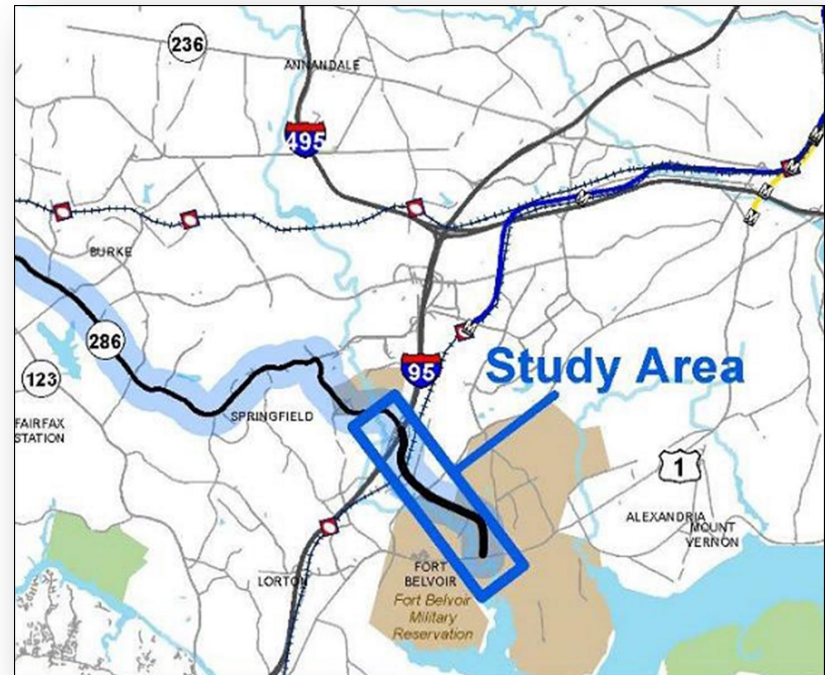
Fairfax County Department of Transportation





# Study Purpose and Scope

- Initiated in response to concerns regarding recurring congestion during weekday AM and PM commuter peak periods
- Evaluate existing conditions, project traffic growth to 2023, and identify limitations of the current transportation network.
- Develop short-term improvements for congestion relief and operational improvements for the study area.
- Identify projects that can be scoped, designed, and implemented within the next 5 years, as funding becomes available.







## Recommended Improvements

- **Improvement B2: Loisdale Road** – Add Southbound Left-, Westbound Left-, and Northbound Right-Turn Lanes
- **Improvement C: Terminal Road** - Add Left-Turn Lane along Eastbound Approach
- **Improvement D: Backlick Road Connector** - Realign Backlick Road Northbound approach
- **Improvement E1: Southbound FCP Ramp to Telegraph Road Intersection** - Modify SB Right-Turn Lane to Provide Free-Flow Operation
- **Improvement F1: John J. Kingman Road** - Extend Southbound Left-Turn Lane Storage
- **Improvement F2: John J. Kingman Road** - Widen Westbound Approach and Modify Lane Configurations
- **Improvement F3: John J. Kingman Road** - Add Third Southbound Left-Turn Lane and Extend Southbound Left-Turn Lane Storage
- **Improvement F4: Southbound Fairfax County Parkway** - Add an Auxiliary Lane along Southbound FCP from John J. Kingman Road to US Route 1



## Improvement Prioritization

- Staff selected the priority improvements that are being considered for funding based on:
  - Benefit cost analysis
  - Minimize right-of-way impacts
  - Overall operational benefit to the corridor





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# Priority Improvements



# Improvement C: Terminal Road - Add Left-Turn Lane along Eastbound Approach

## Improvement Summary:

- Add left-turn lane to EB Terminal Road and extend storage length

## Design Considerations:

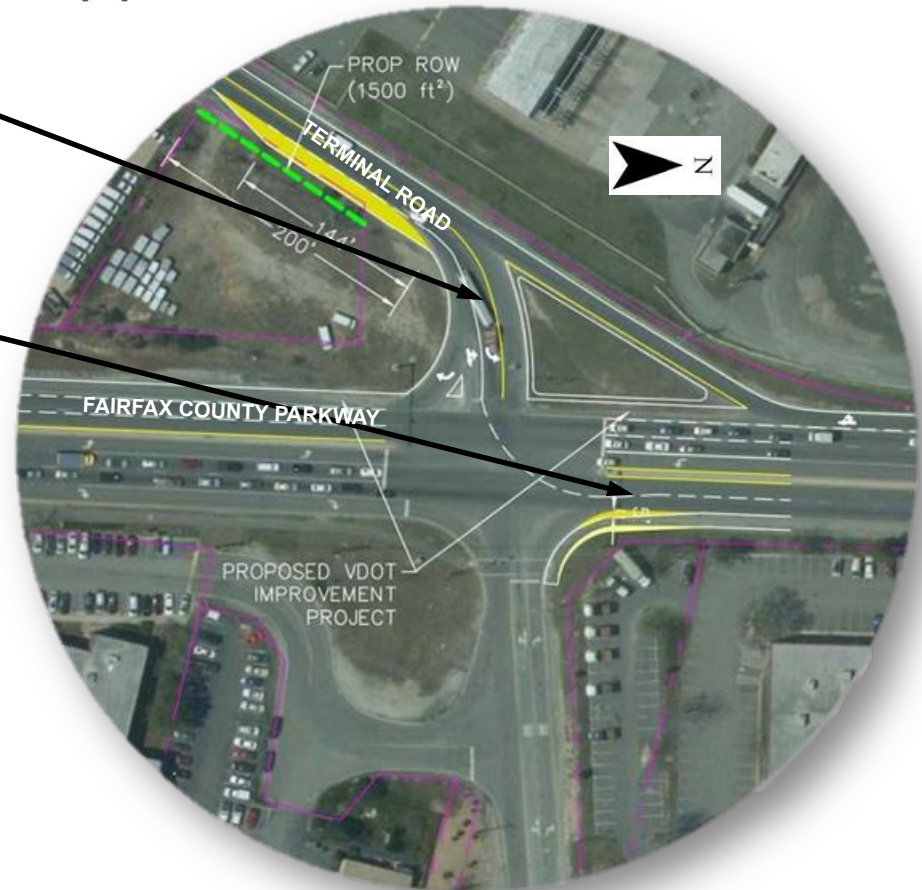
- Utilities in SW quadrant will need to be relocated
- 15-ft receiving lanes on NB FCP are suggested to accommodate heavy truck volumes.
- Shared-use path on the east side of FCP would need to be moved 5 ft to the east to accommodate the two 15-ft receiving lanes from Terminal Road.

## Project Benefits:

- Improves intersection LOS from F to D in the PM peak
- Reduces the eastbound left queue length by approximately 200 feet in the AM and PM peak compared to 2023 No Build conditions

Benefit Cost Ratio = 0.9

Planning level cost estimate = \$1,485,000





# Improvement D: Backlick Road Connector - Realign Backlick Road Northbound approach

## Improvement Summary:

- Realign the south approach of Backlick Road to re-orient the T-intersection and increase storage length

## Design Considerations:

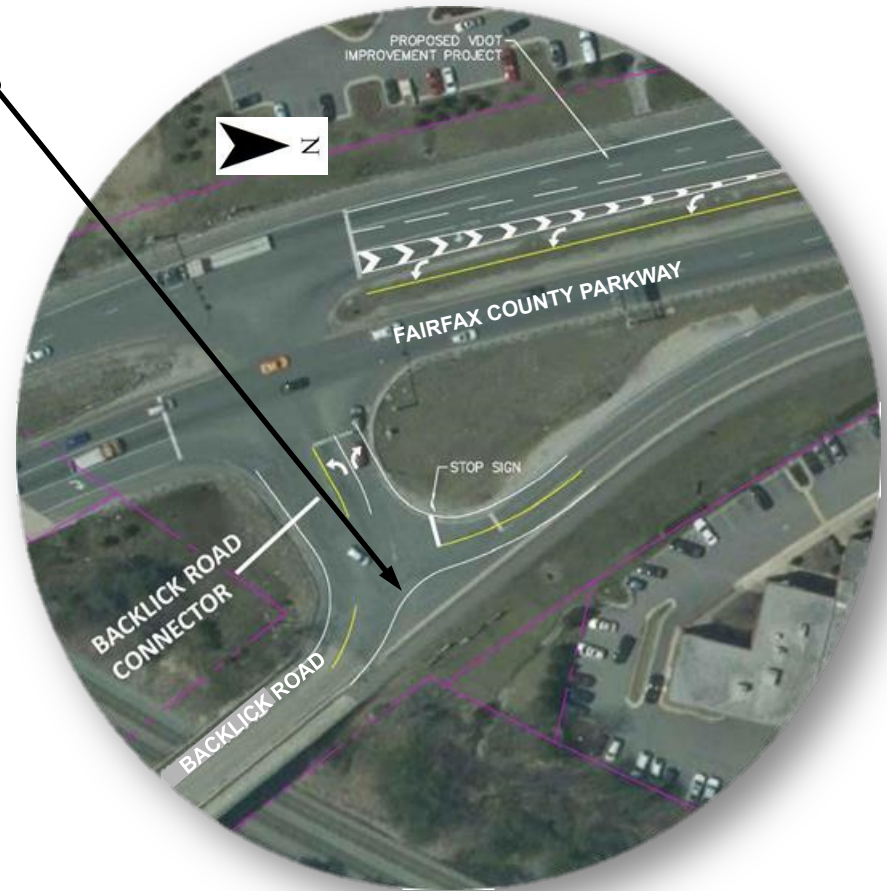
- Realignment of the south approach can be tested as an interim design with pavement markings and temporary devices (flex posts and/or rubber curb)
- Appropriate turning radius must be provided to accommodate buses and large vehicles.

## Project Benefits:

- Improves circulation for traffic coming to/traveling from the south leg of Backlick Road. This roadway serves a Fairfax County bus facility and will be the main access for a future WMATA bus facility.
- Improves access and line of sight/visibility of the right-turn lane on the Backlick Road Connector

Benefit Cost Ratio N/A

Planning level cost estimate = \$96,000







## County of Fairfax, Virginia

# Improvement F1: John J. Kingman Road - Extend Southbound Left-Turn Lane Storage

### Improvement Summary:

- The project consists of increasing the storage capacity of the SB FCP left-turn lanes at John J. Kingman Road by extending the SB left-turn lanes.

### Design Considerations:

- John J. Kingman Gate sign in the median will need to be relocated.
- Will need to coordinate with the future access to the proposed National Museum of the United States Army

### Project Benefits:

- Increases SB left storage to 1000' per lane, to accommodate future AM peak hour queue length.
- Minimizes blocking of thru lanes by left-turn queues, and allows left-turning vehicles to access left turn lane when a long thru queue is present

Benefit Cost Ratio N/A

Planning level cost estimate =  
\$460,000





# County of Fairfax, Virginia

## Improvement F4: Southbound Fairfax County Parkway- Add an Auxiliary Lane along Southbound FCP from John J. Kingman Road to US Route 1

### Improvement Summary:

- Increase the capacity of FCP in the vicinity of John J. Kingman Road by adding a third thru lane in the SB direction to Route 1.

### Design Considerations:

- Signal modifications will be required to accommodate the auxiliary lane. Design will need to be coordinated with VDOT project at Route 1.

### Project Benefits:

- Increases capacity of SB FCP.
- Reduces potential of through vehicle queuing to block left-turning vehicles at the intersection
- Reduces the overall intersection vehicle delay

Benefit Cost Ratio = 5.1

Planning level cost estimate =  
\$3,226,000





## Other Improvements For Future Consideration

- Four improvements are not being considered for funding at this time based on:
  - Potential right-of-way impacts
  - Relatively lower regional operational benefits





## Other Improvements For Future Consideration

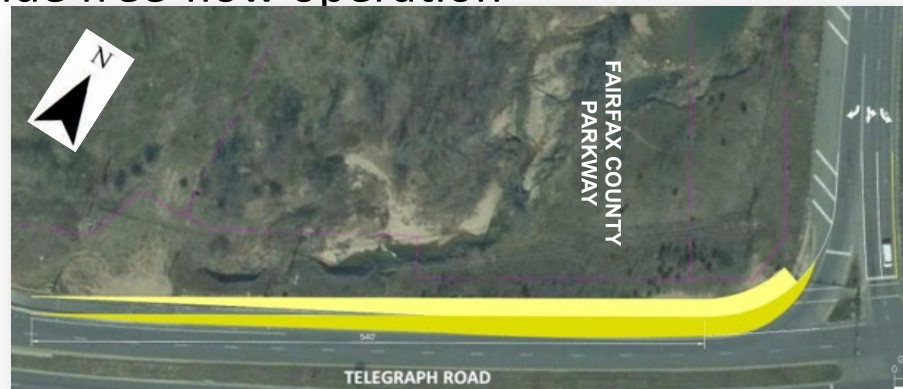
- Improvement B2: Additional turn lanes at Loisdale Road and FCP

Planning level  
cost estimate =  
\$2,909,000



- Improvement E1: Change the right-turn lane from southbound FCP to Telegraph Road to provide free-flow operation

Planning level  
cost estimate =  
\$1,231,000





## Other Improvements For Future Consideration

- Improvement F2: Widen westbound approach of John J. Kingman Road at FCP

Planning level  
cost estimate =  
\$1,408,000



- Improvement F3: Add Third southbound Left-Turn Lane on FCP at John J. Kingman Road

Planning level  
cost estimate =  
\$2,066,000





## Next Steps

- Identify potential funding sources
- Establish a timeline for improvement implementation
- Begin project scoping
- Improvement design
- Acquire ROW as necessary
- Utility relocation
- MOT design
- Improvement construction





## Summary of Priority Improvements

- **Improvement C: Terminal Road** - Add Left-Turn Lane along Eastbound Approach
  - Planning level cost estimate = \$1,485,000
- **Improvement D: Backlick Road Connector** - Realign Backlick Road Northbound approach
  - Planning level cost estimate = \$96,000
- **Improvement F1: John J. Kingman Road** - Extend Southbound Left-Turn Lane Storage
  - Planning level cost estimate = \$460,000
- **Improvement F4: Southbound Fairfax County Parkway** - Add an Auxiliary Lane along Southbound FCP from John J. Kingman Road to US Route 1
  - Planning level cost estimate = \$3,226,000



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# Reference Maps – Priority Improvements



## County of Fairfax, Virginia

### Improvement C: Terminal Road - Add Left-Turn Lane along Eastbound Approach







## County of Fairfax, Virginia

### Improvement D: Backlick Road Connector - Realign Backlick Road Northbound approach





## County of Fairfax, Virginia

### Improvement F1: John J. Kingman Road - Extend Southbound Left-Turn Lane Storage

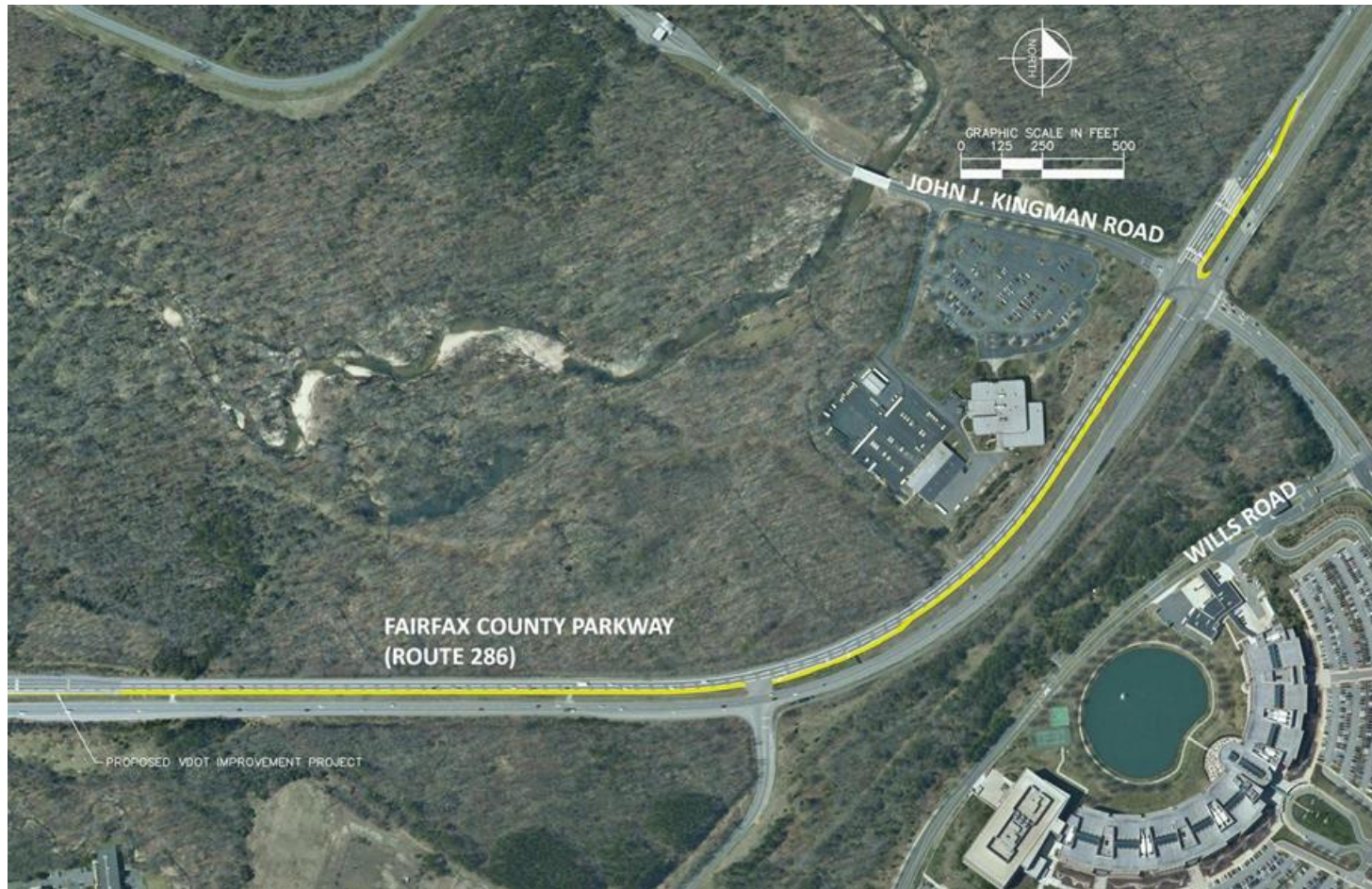






## County of Fairfax, Virginia

### Improvement F4: Southbound Fairfax County Parkway- Add an Auxiliary Lane along Southbound FCP from John J. Kingman Road to US Route 1





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# Reference Maps – Other Improvements for Future Consideration





## County of Fairfax, Virginia

# Improvement B2: Loisdale Road – Add Southbound Left-, Westbound Left-, and Northbound Right-Turn Lanes

### Improvement Summary:

- Increase the capacity of the SB, NB, and WB intersection approaches by adding an additional SB left-turn lane, an exclusive NB right-turn lane, and constructing an additional WB left-turn lane.

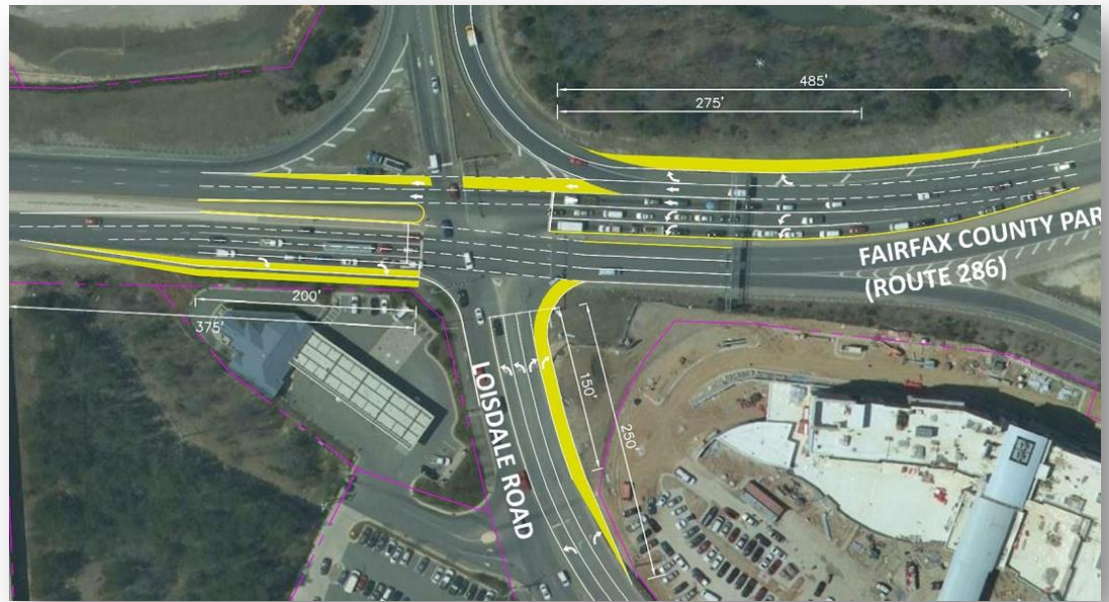
### Design Considerations:

- WB left- and NB right-turn lanes may require ROW. NB right may require the relocation of the shared-use path. Left-turn lane along Loisdale Road will require a raised median, impacting commercial property access

### Project Benefits:

- Increases capacities of SB left, WB left, and NB right-turn movements
- Minimizes potential for turning vehicles queues to block through lanes
- Reduces overall intersection delay in both peak hours and improves PM LOS
- Reduces delays for SB left, WB left, and NB thru movements in both peak hours
- Reduces queues for WB and SB left-turn movements in both peak hours

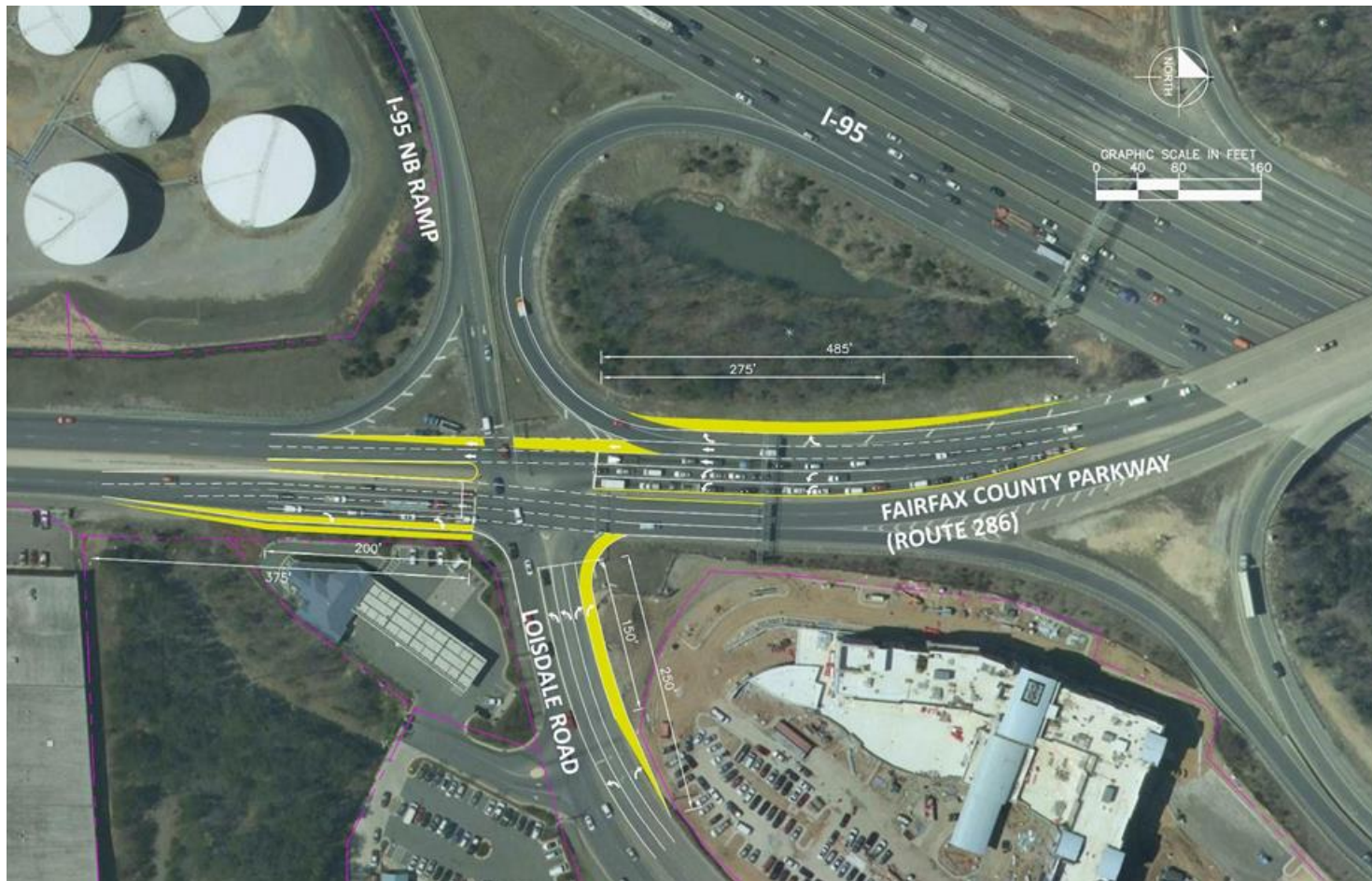
Estimated Cost = \$2,909,000





## County of Fairfax, Virginia

### Improvement B2: Loisdale Road – Add Southbound Left-, Westbound Left-, and Northbound Right-Turn Lanes







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### Improvement E1: Southbound Route 286 Ramp to Telegraph Road Intersection - Modify SB Right-Turn Lane to Provide Free-Flow Operation





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### Improvement F2: John J. Kingman Road - Widen Westbound Approach and Modify Lane Configurations







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### Improvement F3: John J. Kingman Road - Add Third Southbound Left-Turn Lane and Extend Southbound Left-Turn Lane Storage

