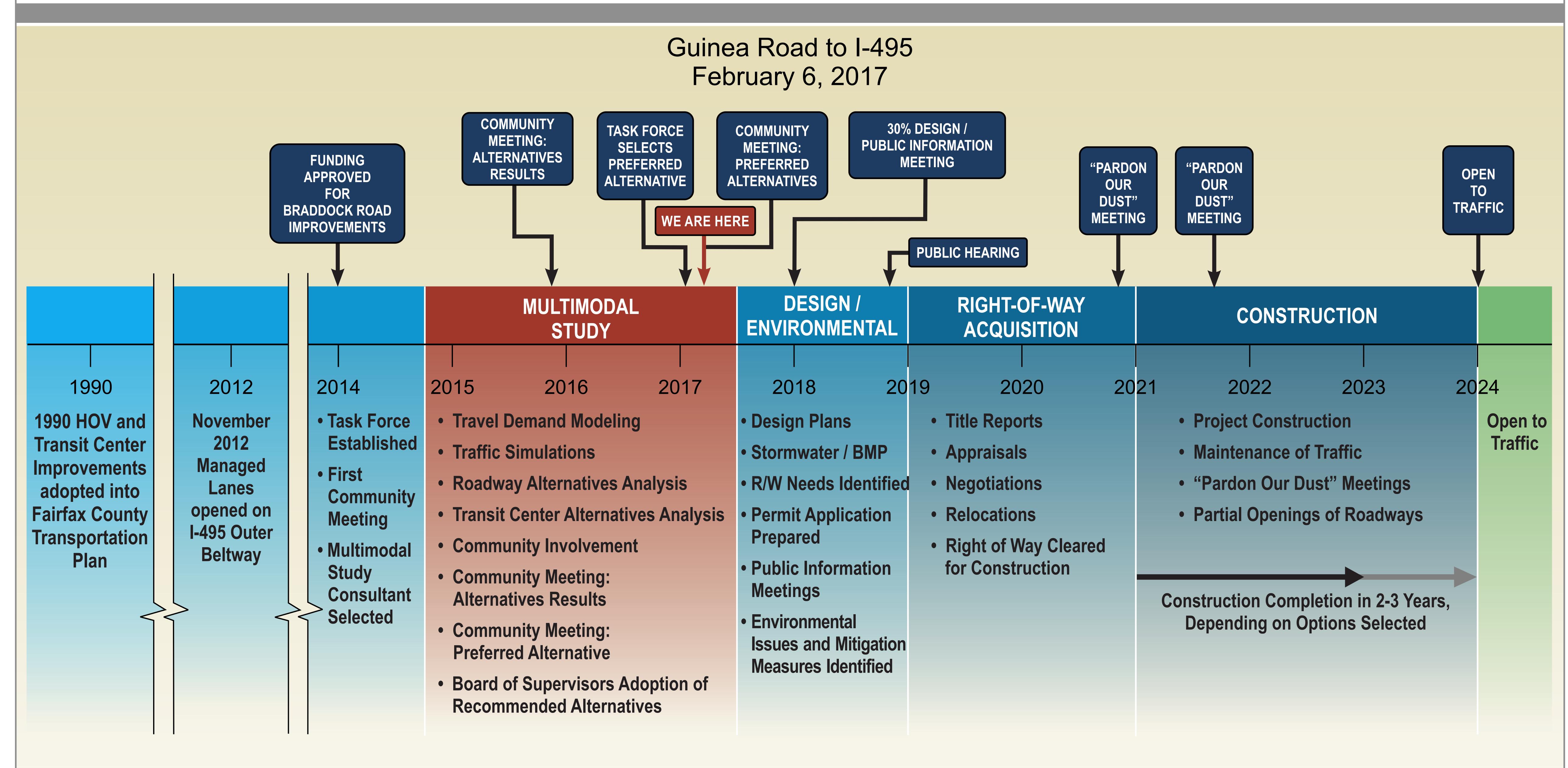
## BRADDOCK ROAD MULTIMODAL IMPROVEMENTS ESTIMATED TIMELINE





THIS EXHIBIT SHOWS THE PROJECT DEVELOPMENT TIMELINE AND MAJOR ACTIVITIES OF THE PROJECT.



# BRADDOCK ROAD CORRIDOR MAP





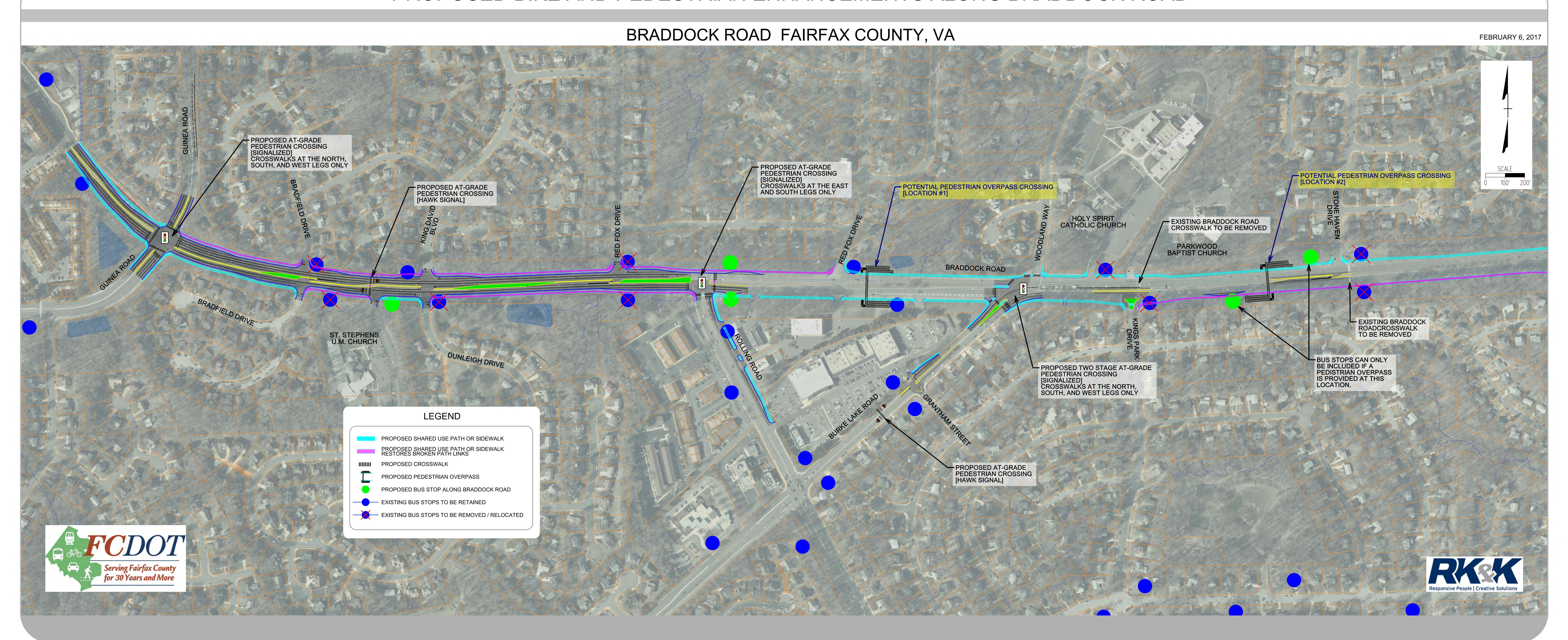


- Congestion And Delay Will Increase Dramatically If No Improvements Are Made
- Proposed Options Yield Substantial Improvements
- HOV+ "Outside" Eliminated Due To Side Street Delay
- Neighbors Concerned About Preserving Community
- Bicycle and Pedestrian Access Is A Priority
- Neighborhood Access And Mobility Is Essential

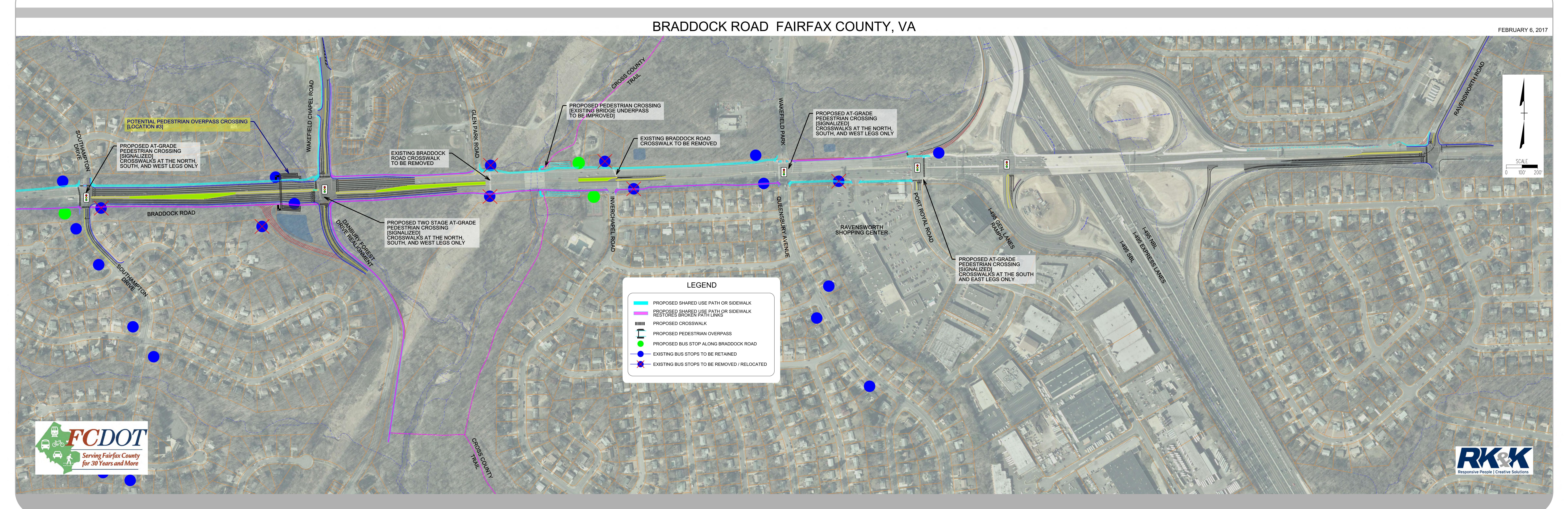




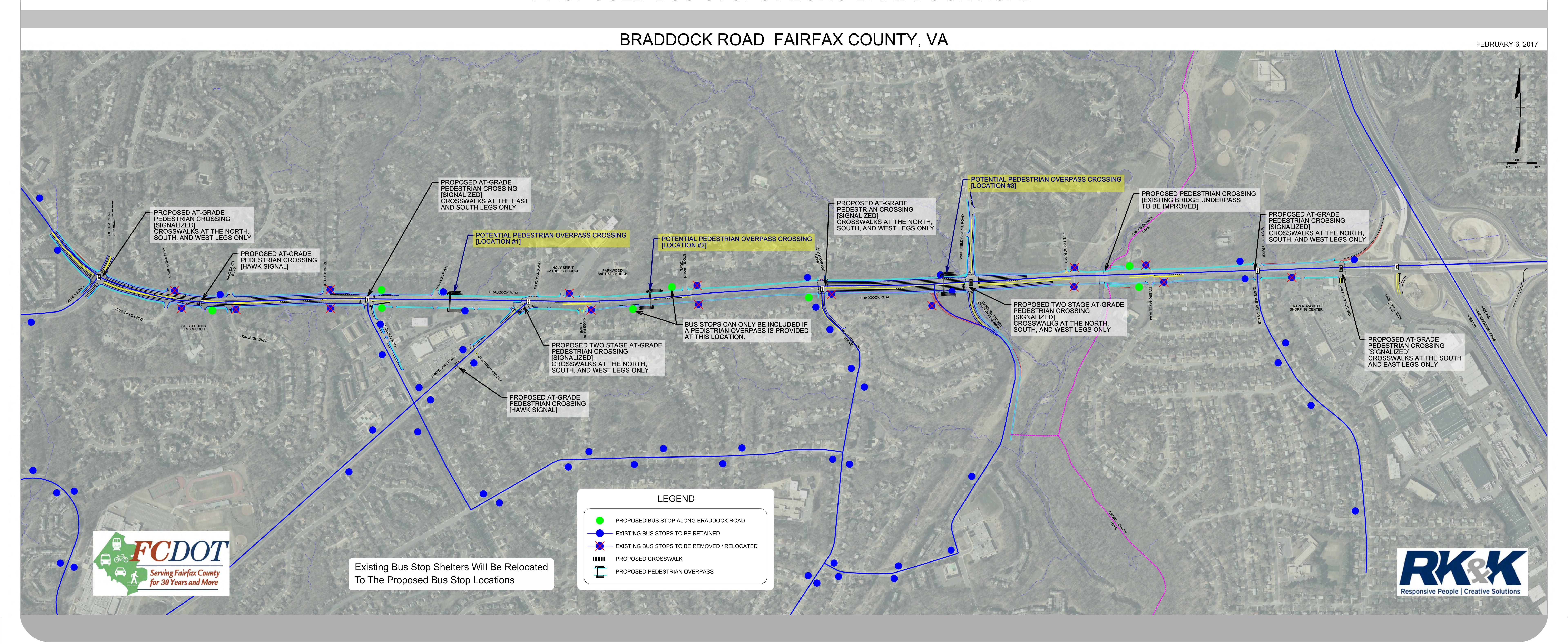
# PROPOSED BIKE AND PEDESTRIAN ENHANCEMENTS ALONG BRADDOCK ROAD



# PROPOSED BIKE AND PEDESTRIAN ENHANCEMENTS ALONG BRADDOCK ROAD



# PROPOSED BUS STOPS ALONG BRADDOCK ROAD



### BICYCLE / PEDESTRIAN CROSSINGS: STREET LEVEL

#### **CROSSING TYPES**

#### **High-Visibility Crosswalk**



#### Requirements for suitability:

Meets minimum standard for all crosswalks

Note: Standard crosswalk of two parallel lines is not suitable for the study area.

#### High-Intensity Activated Crosswalk (HAWK) Signal



#### Requirements for suitability:

- Minimum of 20 pedestrian crossings in peak hour
- Two lanes or fewer in each direction

Note: Used with high-visibility crosswalk

#### **Fully-Signalized Crossing**



Will be provided at all signalized intersections.

Note: Used with high-visibility crosswalk

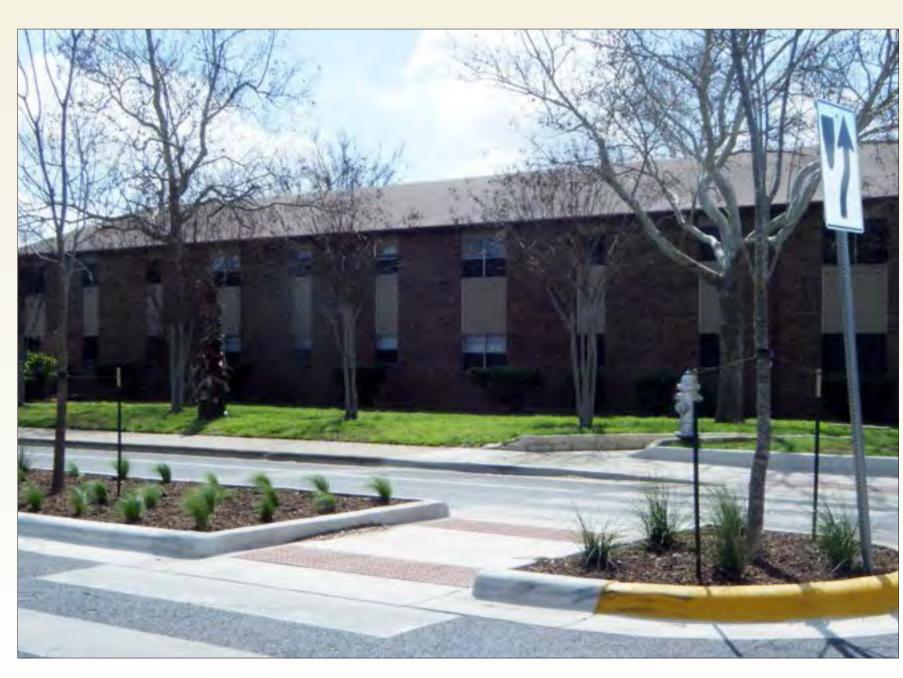
#### **ENHANCED CROSSING TREATMENT**

#### Pedestrian Refuge Islands



Median refuge provides waiting space if needed at wide road crossings; may incorporate plantings

Note: Used with high-visibility crosswalk





### BICYCLE / PEDESTRIAN CROSSINGS: BRIDGE

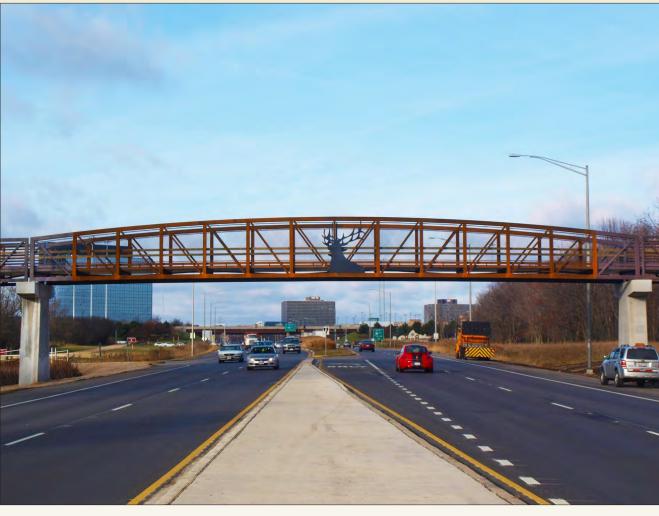
#### PRECEDENT IMAGES

#### Bridge over Wards Road, Lynchburg, VA



Ohio to Erie Trail Bridge over Country Line Road, Westerville, OH

Busse Woods Pedestrian Bridge, Elk Grove Village, IL



Requirements for suitability:

- High pedestrian volume
- High traffic volum

#### **VISUALIZATION**

Potential Pedestrian Bridge on Braddock Road



### BICYCLE / PEDESTRIAN CROSSINGS: UNDERPASS TRAIL

#### POTENTIAL UNDERPASS TREATMENTS

#### **Material and Facade**

West Yorkshire, England

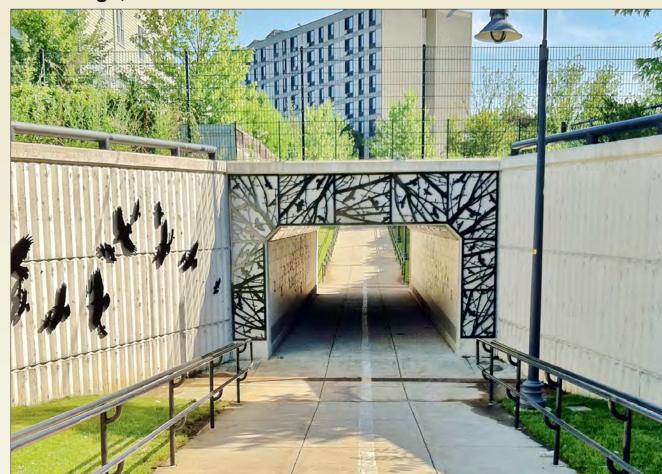




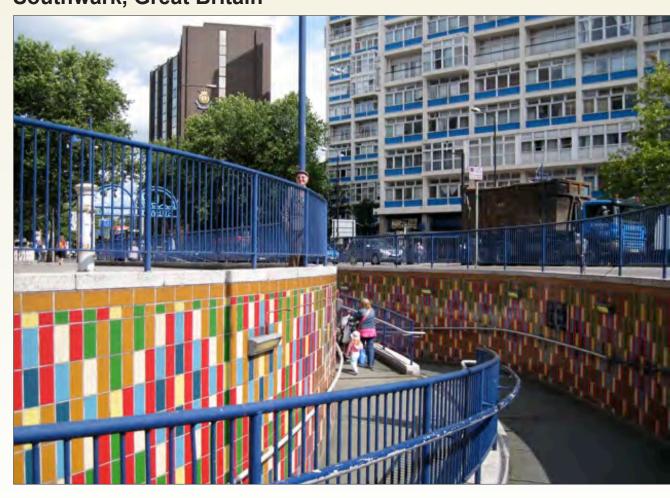
Seoul, South Korea



Cambridge, Massachusetts



Southwark, Great Britain



#### Paving and Edge Treatment

Sydney, Australia



Boulder, Colorado



St. Petersburg, Florida



#### **Lighting and Public Art**

OuluFinland



Singapore



Holland



#### <u>Murals</u>

Brentwood, California



Milwaukee, Wisconsin



Litchfield, Arizona



#### SUMMARY OF PUBLIC FEEDBACK RELATED TO BICYCLE / PEDESTRIAN FACILITIES

# What has the community said about facilities for riding a bicycle and walking along and across Braddock Road?

At the first two community meetings, participants had the chance to weigh in on many aspects of this project, including current conditions, areas of concern, and potential solutions related to riding a bicycle and walking along and across Braddock Road.

This board summarizes the input received to date. Full summaries of community input can be found at http://www.fairfaxcounty.gov/braddock/braddockroadmeetings.htm

#### Meeting #1 (June 9, 2015)



#### Input Received at Meeting #1

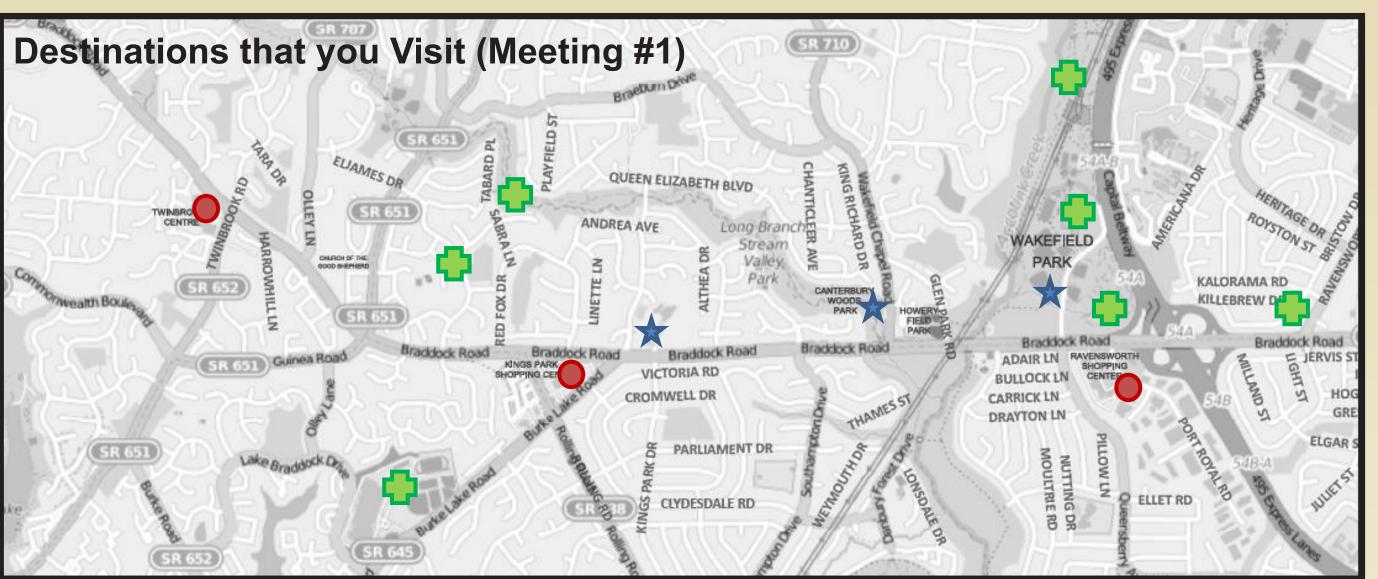
- · Destinations that people visit.
- Routes that require bicycle / pedestrian improvements.
- Priority pedestrian crossing locations.
- Preferred types of pedestrian accommodations (paths, signals, etc.).

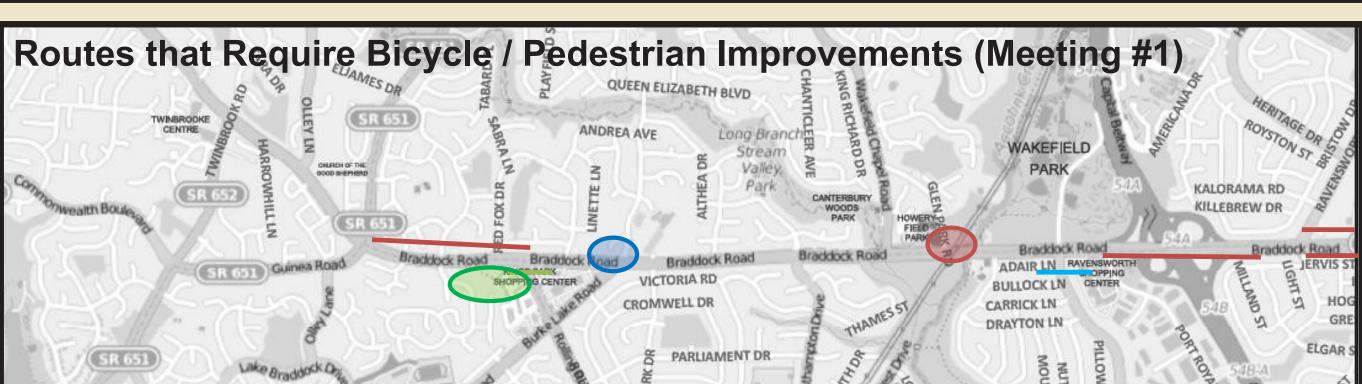
#### Meeting #2 (April 25, 2016)

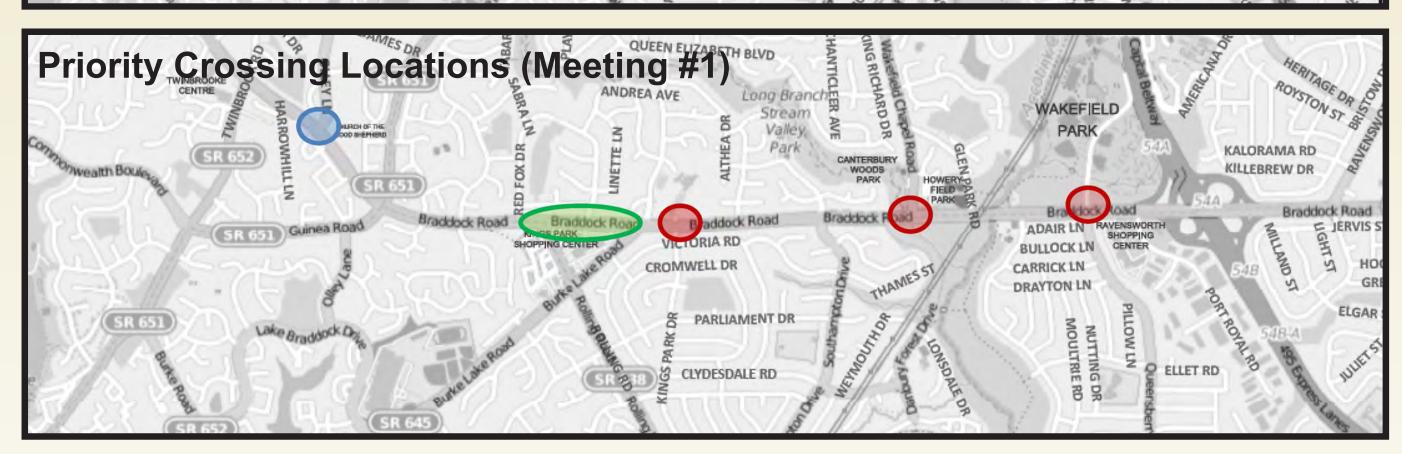


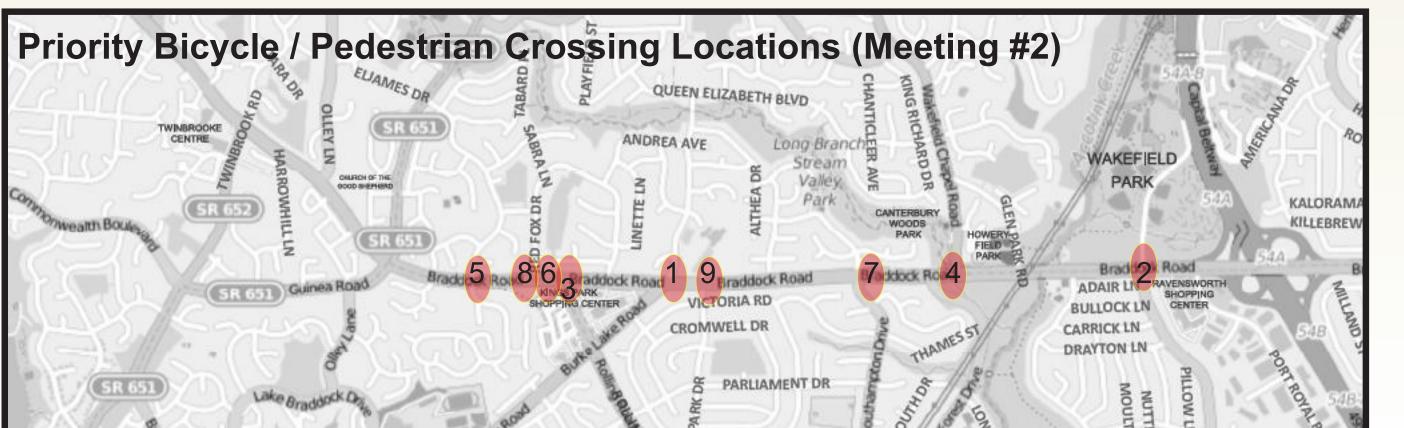
#### **Input Received at Meeting #2**

 Comments on proposed accommodations for improved bicycle / pedestrian access and safety, including proposed locations for several bridges.











Park & ride



Shopping



Other destinations (parks, greenways, schools, recreation centers, church)



No sidewalk or multiuse path exists



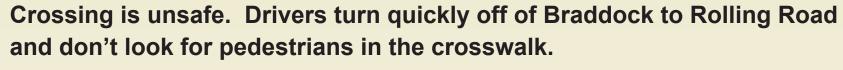
Dangerous intersection for pedestrians. A right turn is allowed on red, and drivers do not pay close attention to the pedestrians trying to cross the street.



This path is in particularly poor repair. It is not maintained.



Underground tunnel should be improved so that it feels safer.



Path needs further separation from the roadway and better access to the bus stop. Suggest elevated connection to shopping center.



**Crossing to Kings Park Shopping Center** 



**Crossings to three park & ride locations** 



Crosswalk at Olley Lane (does not exist today)

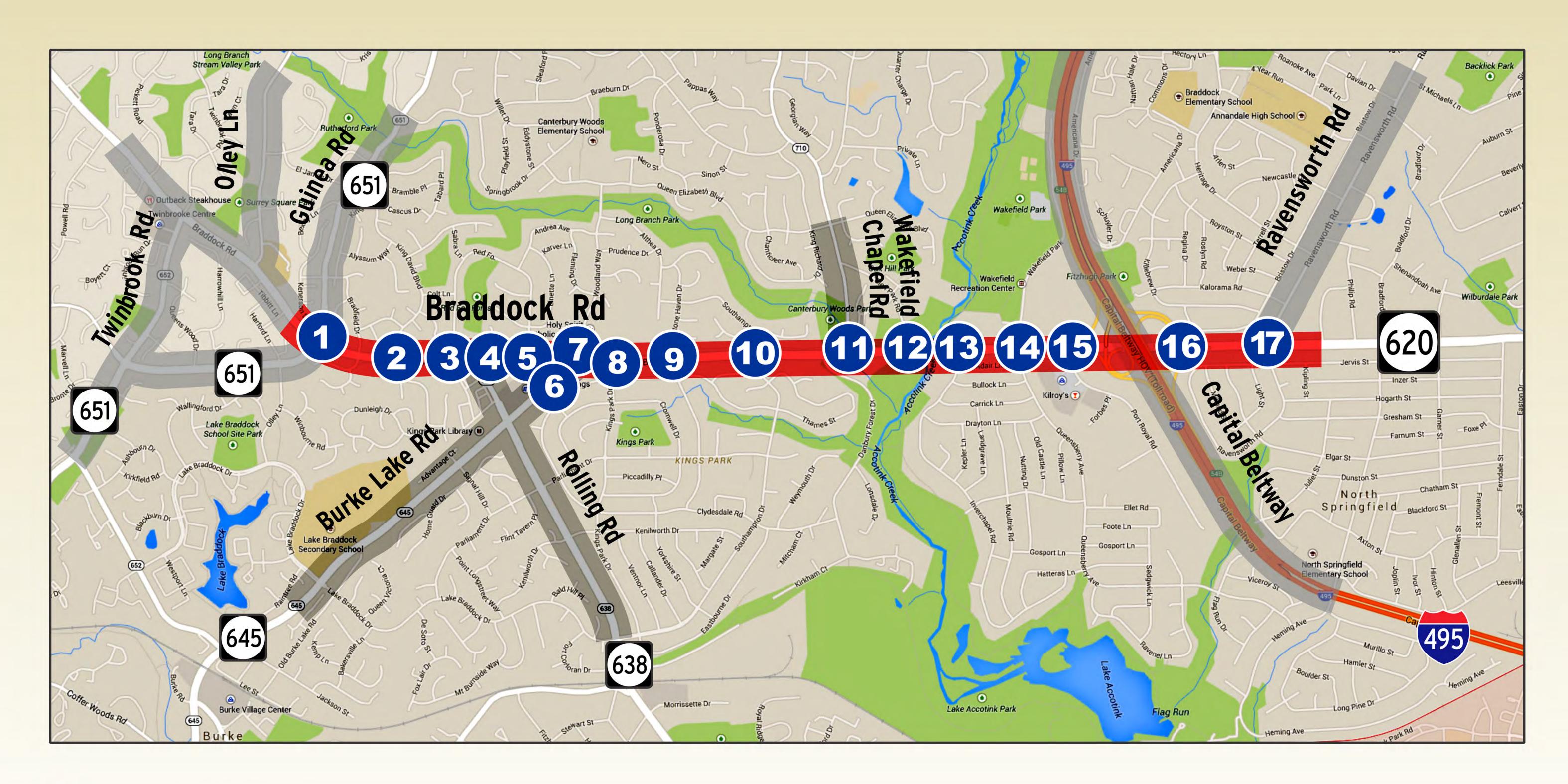
# of people who said this was a preferred location

	To dation						
#	Location (Intersection)	Bike/Ped Bridge	Street Level Crossing				
1	Braddock and Woodland Way/Burke Lake Road	14	2				
2	Braddock and Wakefield/Queensbur	14					
3	Braddock and Rolling Road	10					
4	Braddock and Wakefield Chapel/Danbury Fores	6					
To east of	Braddock and Bradford Drive	4					
map area							
5	Braddock and King David/Dunleigh	3	1				
6	Braddock and Red Fox Drive (east)	4					
7	Braddock and Southampton	3					
8	Braddock and Red Fox Drive (west)	2	2				
9	Braddock and Kings Park Drive	1	1				

### ACTIVITY - BICYCLE / PEDESTRIAN ACCOMMODATIONS PREFERENCE

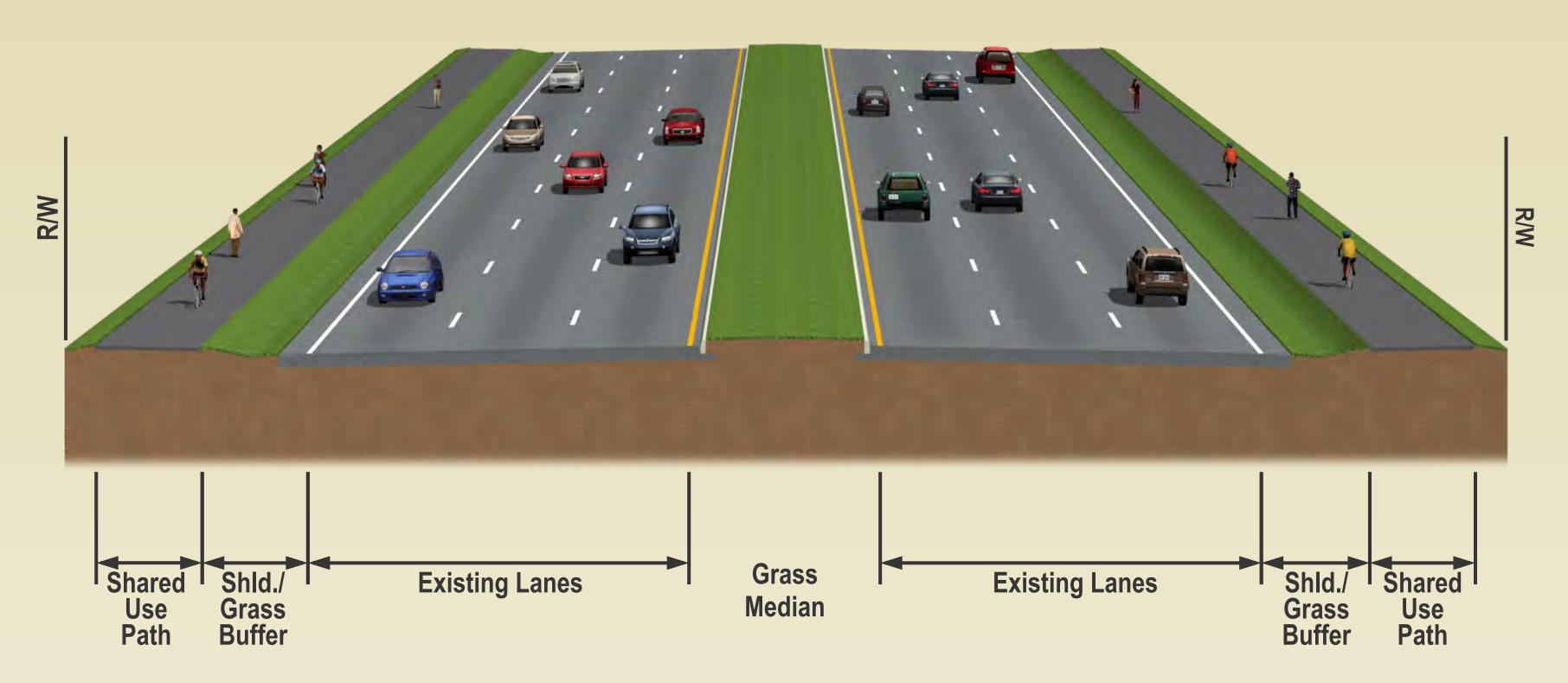
Potential Location Alternatives for a Bicycle / Pedestrian Bridge	Which Alternative do you think best addresses the community's concerns and needs? [Please choose one using a dot sticker.]	Do you have any comments about this alternative? [Please tell us by writing on the board or on a sticky note.]
Location #1 (Between Rolling Road and Burke Lake Road)		
Location #2 (Between Kings Park Drive and Stone Haven Drive)		
Location #3 (West of Wakefield Chapel Road)		
Other Suggested Locations		

### INTERSECTION AND CORRIDOR IMPROVEMENTS – INTERSECTION LOCATIONS

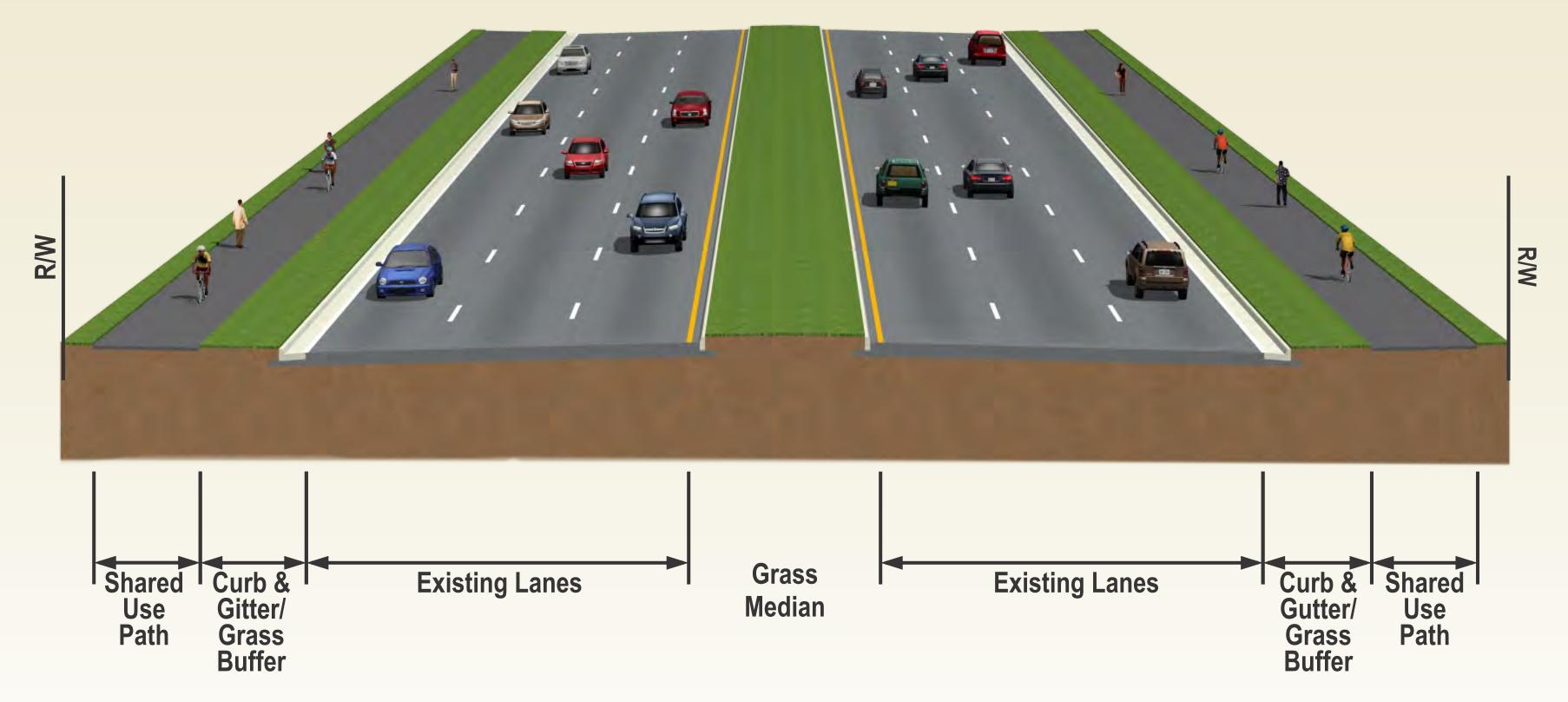








Intersection and Corridor Improvements (Shoulder Section)

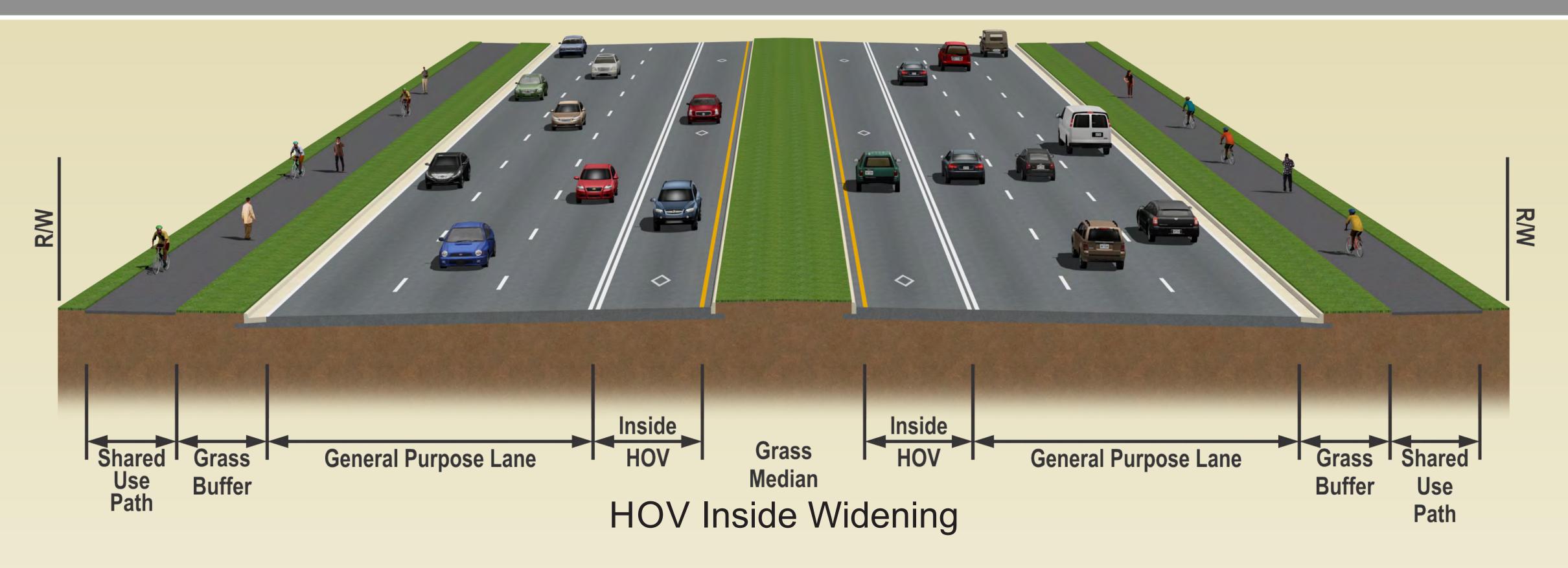


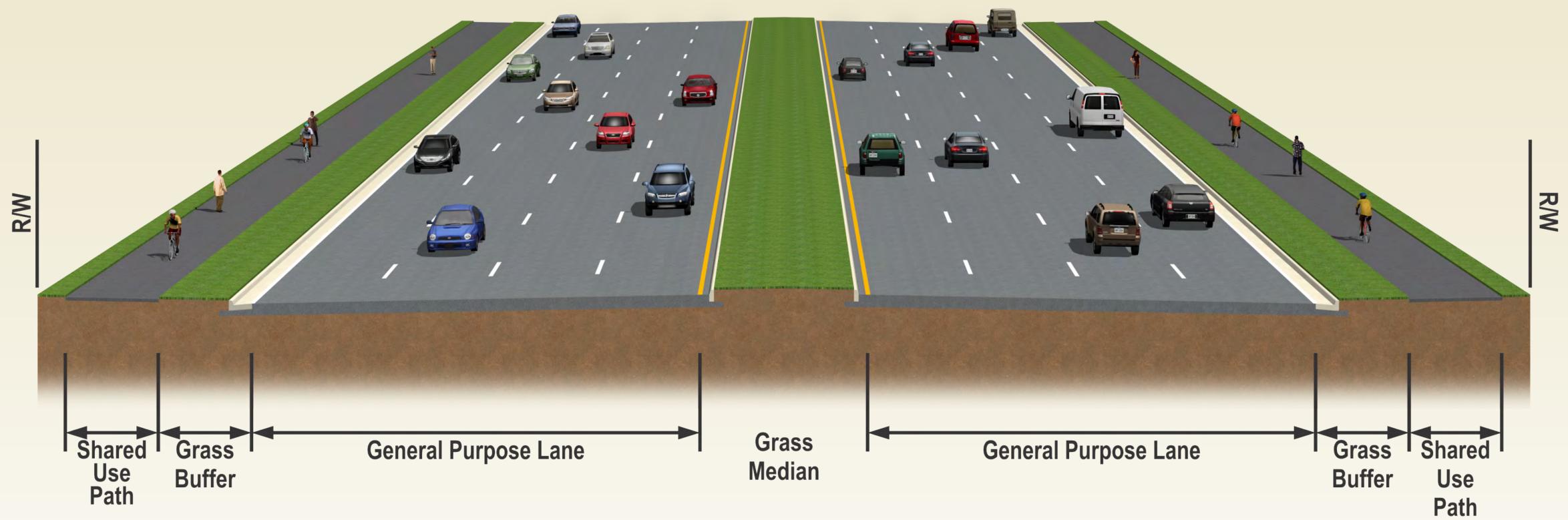


Intersection and Corridor Improvements Alternative (Curb and Gutter Section)



### BRADDOCK ROAD TYPICAL SECTIONS



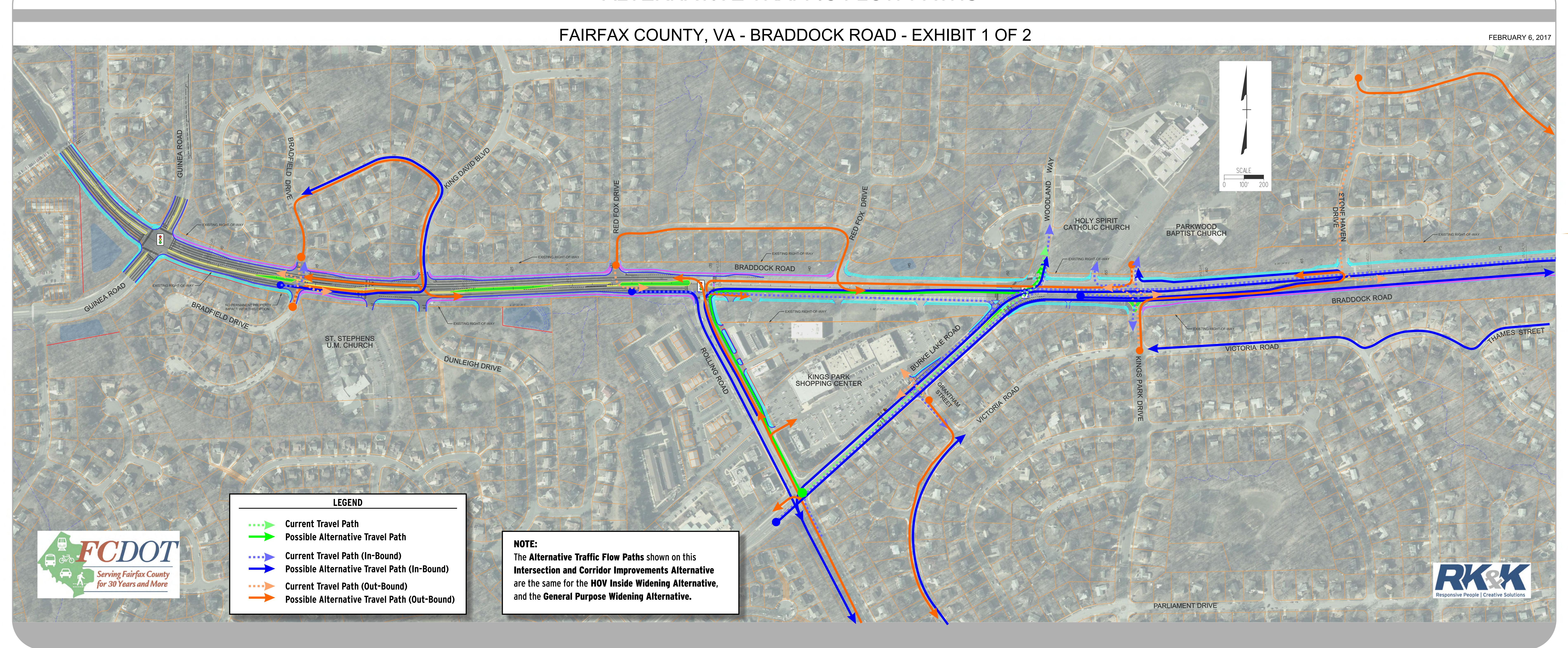




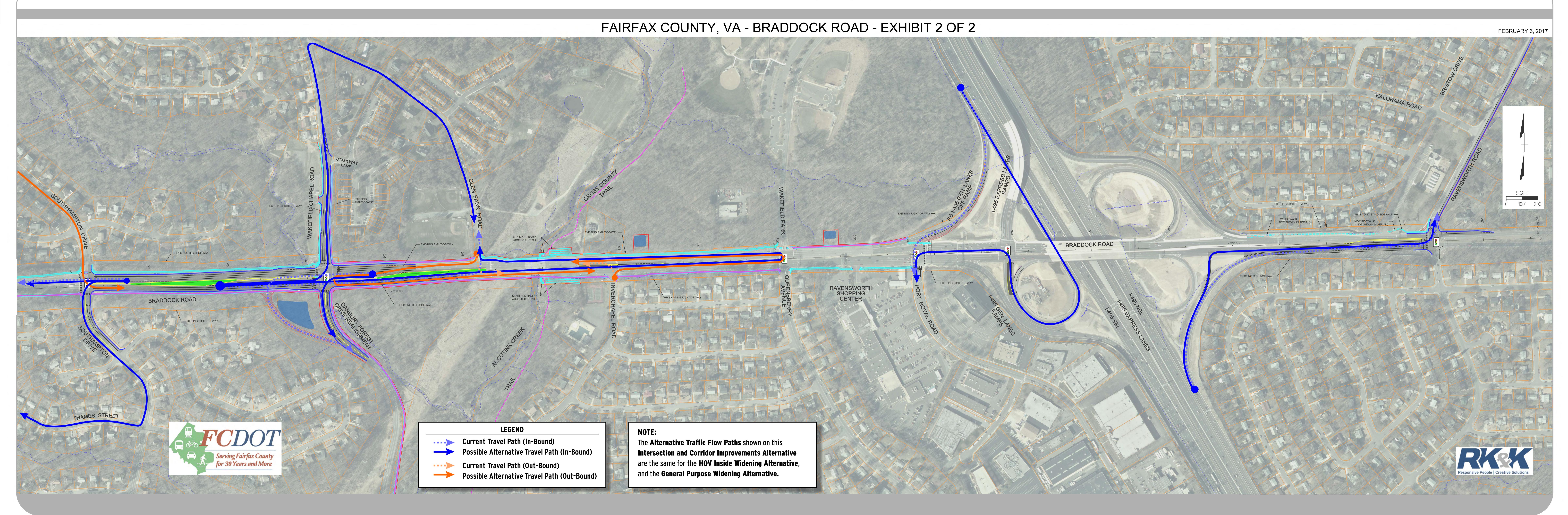




# ALTERNATIVE TRAFFIC FLOW PATHS

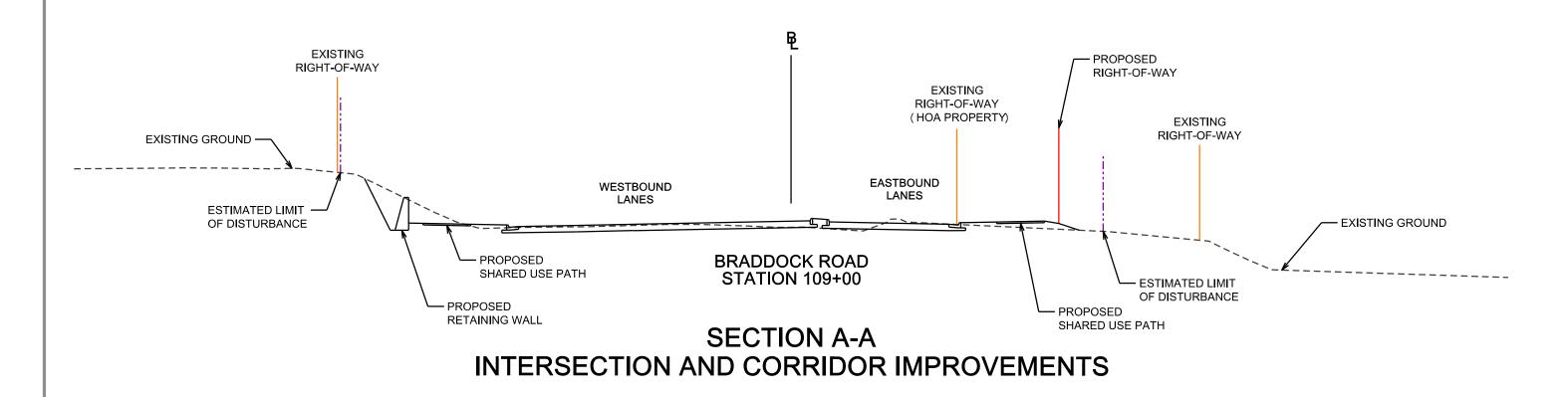


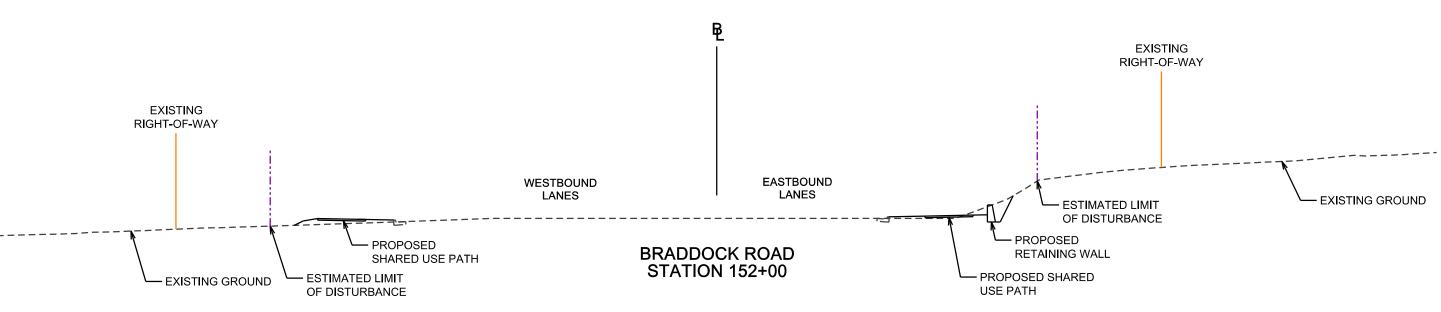
# ALTERNATIVE TRAFFIC FLOW PATHS



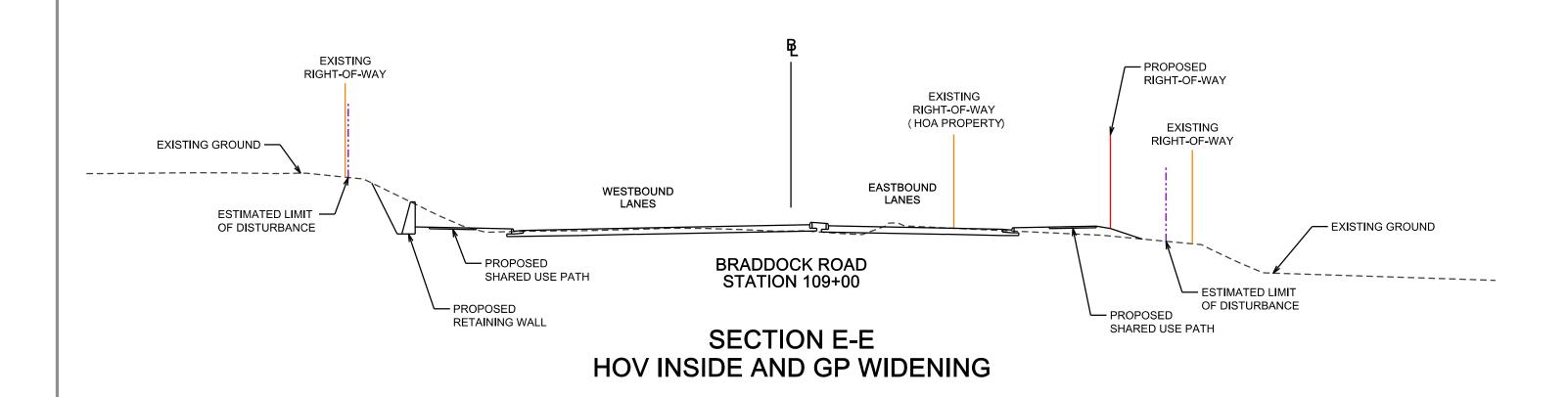
## SELECTED CROSS SECTIONS

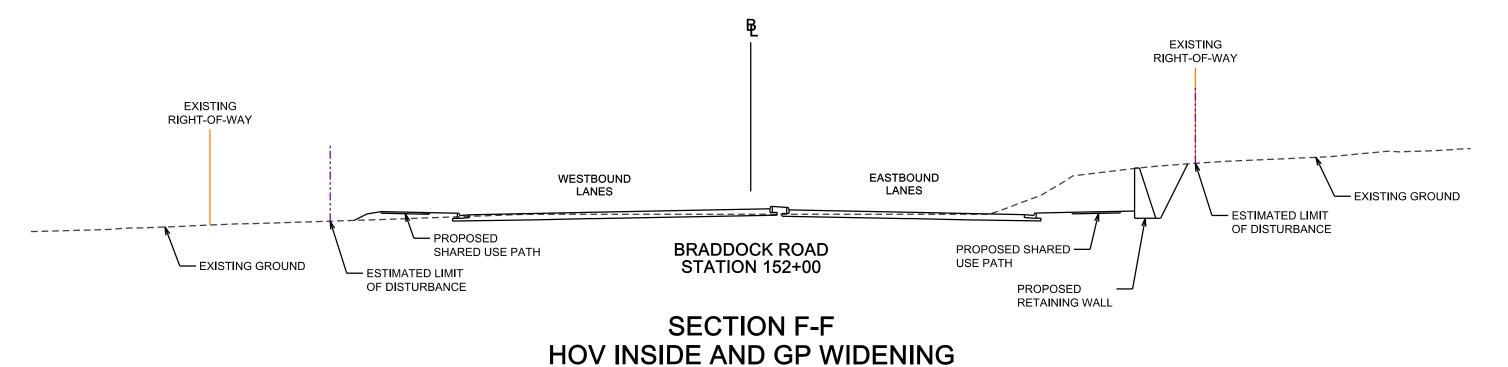
# THIS EXHIBIT DISPLAYS A FEW EXAMPLES OF THE CROSS SECTION VIEW FOR THE PROPOSED ALTERNATIVES



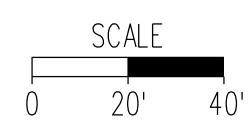


SECTION B-B
INTERSECTION AND CORRIDOR IMPROVEMENTS





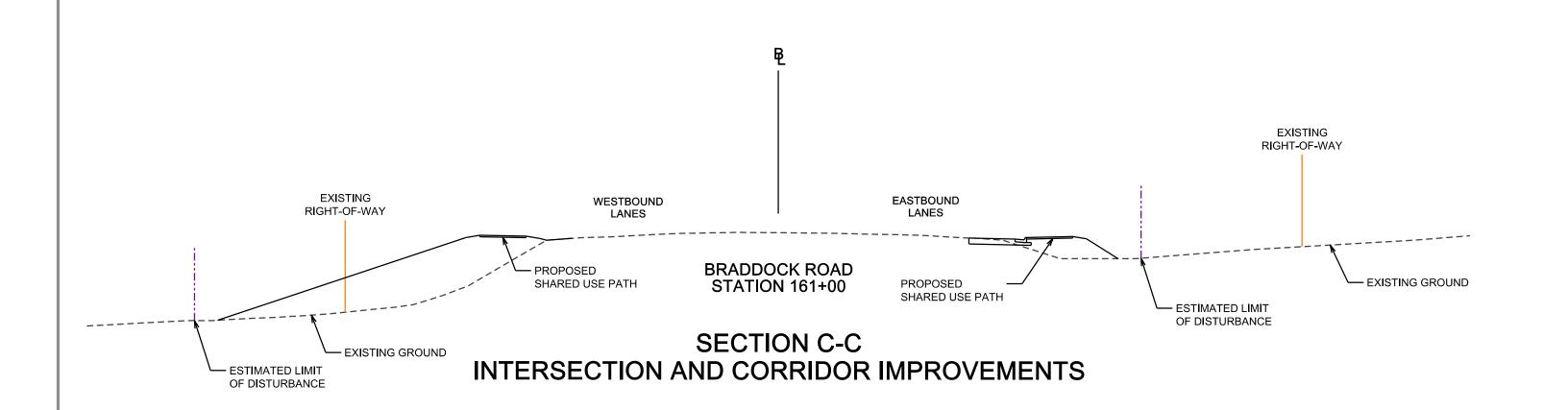


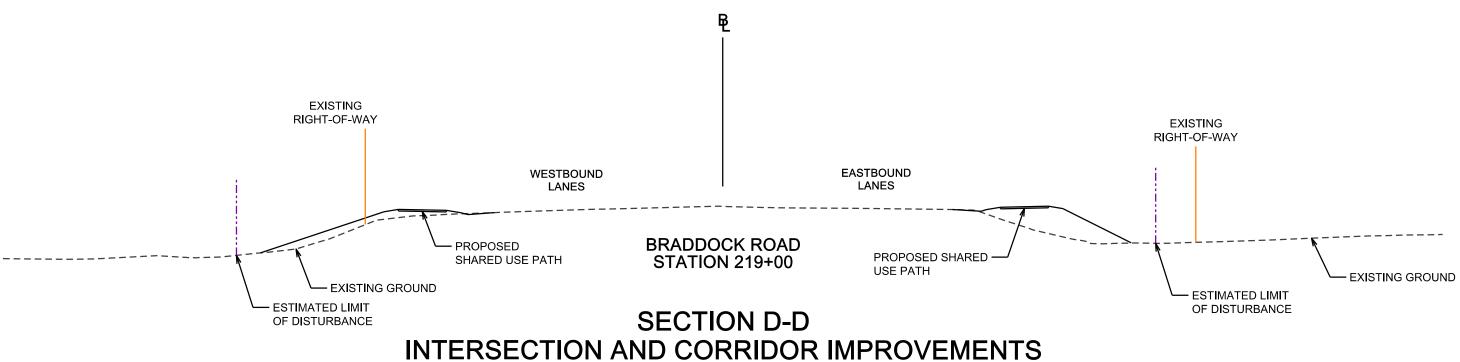


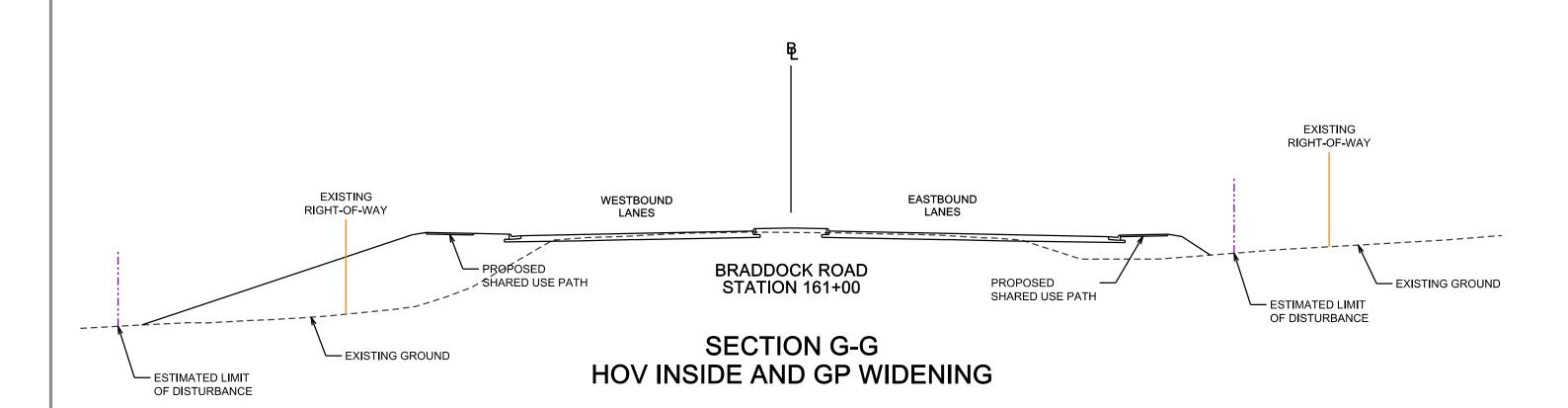


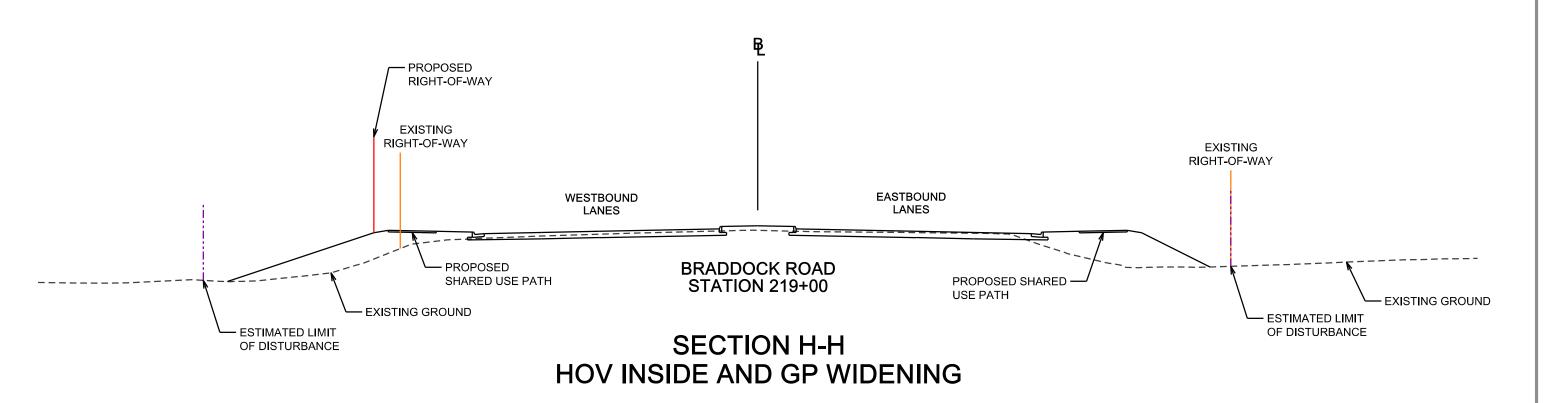
## SELECTED CROSS SECTIONS

# THIS EXHIBIT DISPLAYS A FEW EXAMPLES OF THE CROSS SECTION VIEW FOR THE PROPOSED ALTERNATIVES

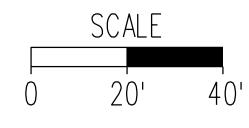






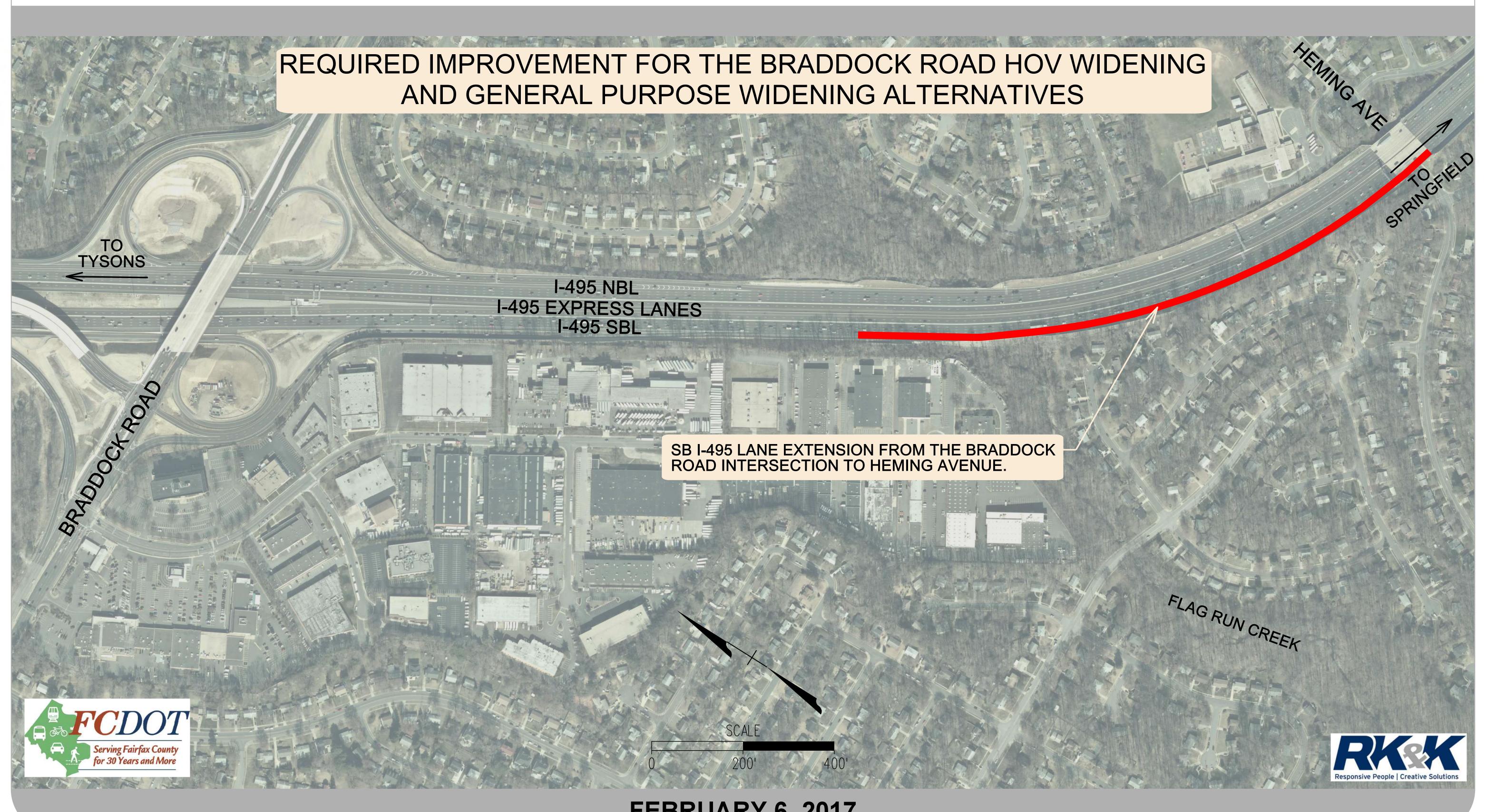






FEBRUARY 6, 2017

## I-495 LANE EXTENSION



## MEASURES OF EFFECTIVENESS (MOE) MEASUREMENT TABLE

What you c	are			Task Force	No-Build		Intersection Improvements		HOV2 Inside		General Use Lane Addition	
about/ MOE		Description of MOE	Performance Measures - Metrics		Measure	Score	Measure	Score	Measure	Score	Measure	Score
	1	Availability for screening or landscaping enhancements	Area available for tree planting minus area of tree removal (square feet). A negative number means that there is a net loss of plantable area.		0	0	-756,200		-968,800		-1,011,700	
Environment	2	Will alternative provide additional opportunities for bike/ pedestrian travel?	Linear feet of additional paths and number of crosswalks, crosswalk signals or pedestrian overpasses (length in feet). Considering this project is intended to provide additional access by all travel modes, a positive number means more bike/pedestrian path opportunities are available		0	0	23680 ft 6-8 crossings		23680 ft 6-8 crossings		23680 ft 6-8 crossings	
	3	Park Land Impacts	Amount of land taken from parks for road (acres). This is a measure of the area of land taken from parks for the road improvements. The evaluation should consider the area taken related to the overall park area and the potential loss of amenities due to the loss of area.	4.5	0	0	5.53		6.35		6.58	
	4	Does the alternative improve or degrade the noise levels experienced by those adjacent to the corridor?	Noise levels as measured by traffic models (decibels average - based on average AM / PM TNM Lookup values.) Evaluation should consider where a change becomes noticeable, where it becomes painful and where it becomes damaging.		67.0	0	66.3		66.6		66.6	
	5	Does the alternative improve or degrade the air quality experienced by those adjacent to the corridor?	Air quality levels as measured by traffic models (Pounds of GHG emissions average - sum of AM / PM peak based on WSDOT corridor planning values.). Evaluation should consider where a change becomes noticeable, where it becomes unhealthy.		5,943,167	0	5,816,042		6,249,021		6,213,590	
Mobility	6	Does the alternative facilitate community access to Braddock Road?	Travel time for vehicles in the system to and from the neighborhoods (seconds per vehicle averaged over all trips.) This is an indication of how long it will take to get into and out of the neighborhoods adjacent to the study corridor.		167.21	0	86.10		111.35		69.82	
	7	Pedestrian/Bicycle travel time	Pedestrian/bicycle Travel time (minutes - for the entire network and critical movements for EB and WB traffic along Braddock Road). Lowering the pedestrian/bicycle travel time improves the desirability of the corridor for pedestrian and bicycle trips.	4.7	73.3	0	71.8		67.2		67.2	
	8	Will the alternative provide better access and circulation for pedestrians and bicycles, as represented by the number of broken path links restored?	Net change in the number of broken path links restored by the option (number).  This is a measure of how the option provides connectivity of paths to and between the neighborhoods along the study corridor.		0	0	14		14		14	
	9	Is it likely that existing conflict areas are improved?	Number of corridor-wide conflict points (number). This is a count of the number of conflict points along the corridor. A reduction in the number of conflict points is considered to improve safety.		597	0	510		480		480	
Safety	10	Is it likely that the suggested improvements will lower or increase potential crashes?	Highway Safety Manual Computed Expected Crash Rate (crashes/year - current value 150.) This is a computation of the anticipated number of crashes along the corridor, based on the proposed characteristics of the corridor. An improvement is the reduction in the number of crashes computed.	4.7	345	0	275		253		253	
	11	Are safe movements provided for pedestrians and bicycles?	Number of signal-protected crossings and number of grade separated crossings. A higher number is considered better for pedestrian and bicycle access.		7 signal 1 grade sep	0	7 signal 2 grade sep		7 signal 2 grade sep		7 signal 2 grade sep	
twork	12	Option that creates the least aggregate travel time	Vehicular travel time (minutes per vehicle). Lowering the travel time improves network traffic flow as well as travel time within the community.		17.10	0	10.76		11.10		11.23	
ortation Net Efficiency	13	Travel time represented by critical movements	Average Travel time (minutes - Average of EB / WB travel time and average of AM / PM peak values.) Lowering the travel time improves person throughput through the corridor.	2.6	20.3	0	13.3		13.1		13.4	
Transpor	14	Does the alternative facilitate traffic through the corridor?	Person throughput (number of person trips processed through the corridor - sum of AM and PM peaks.) This is a measure of how well the option processes person trips through the network.		18840	0	22,326		23,988		23,851	
/ Impacts	15	Total area of right-of-way taken (fee R/W - acres)	Area of right-of-way taken (acres). Total area of right-of-way taken is land permanently taken from the adjacent property for the corridor improvements. The area taken does not necessarily mean that the use of the properties impacted is reduced in any way.	3	0.00	0	9.69		12.72		12.94	
ROW	16	Number of parcels impacted (including temporary and permanent easements)	Number of impacted parcels (each). This is the total number of parcels where some sort of right-of-way or easements will be required, based on the conceptual plans developed.		0	0	46		50		50	
Scoring Ke	ey:	Compared to the "No-Build" scenario, is this element for the subject alternative:	Much Worse: -2, Worse: -1, No Change: 0, Better: 1, Much Better: 2									



December 1, 2016
Braddock Road Multimodal Study
Fairfax County, Virginia



## MEASURES OF EFFECTIVENESS (MOE) SCORING TABLE



December 1, 2016

Braddock Road Multimodal Study

Fairfax County, Virginia



#### **Braddock Road - Roadway MOE Measurements**

What you care about/ MOE		Description of MOE	Task Force Weights	Intersection Improvements	HOV2 Inside	General Use Lane Addition
	1	Availability for screening or landscaping enhancements		Score = 1,5	Score	Score
_		Will alternative provide additional opportunities for bike/ pedestrian travel?	4.5	1.25	#1.0	+1.0
Environment	3	Park Land Impacts		-20	7.5	-2.0
Enviro	4	Does the alternative improve or degrade the noise levels experienced by those adjacent to the corridor?		Ó	-1.0	-1.0
	5	Does the alternative improve or degrade the air quality experienced by those adjacent to the corridor?		5.5	0	1.0
	6	Does the alternative facilitate community access to Braddock Road?		+1.0	10	+1.0
<u></u>		Pedestrian/Bicycle travel time		0.0	0.0	O.C
Mobility	8	Will the alternative provide better access and circulation for pedestrians and bicycles, as represented by the number of broken path links restored?	4.7	2.0	2.0	2.0
	9	Is it likely that existing conflict areas are improved?		1.0	1.25	1.75
Safety	10	Is it likely that the suggested improvements	4.7	1.0	1.0	1.0
	11	Are safe movements provided for pedestrians and bicycles?		1.0	1.0	1.0
atio rk	12	Option that creates the least aggregate travel time		2.0	1.0	5.0
sportat etwork iciency	13	Travel time represented by critical movements	2.6	20	1.0	2.0
Trans n N Effi	14	Does the alternative facilitate traffic through		1.0	1.5	1.5
w cts	Number o			-1.5	-5.0	-S.O
ROI		Number of parcels impacted (including	3	-1.0	- 2.0	- S.O

TOTAL SCORE:







### PRELIMINARY PROJECT COST SUMMARY

<u>OPTION</u>	COST*

"No Build" \$0

Intersection & Corridor \$35.0 Million Improvements

HOV2+ Lanes \$101.7 Million

General Purpose Lane \$101.7 Million

<sup>\*</sup> Preliminary Cost Estimates Including: Engineering, Right of Way, Construction. Does Not Include Operations or User Costs.





### BRADDOCK ROAD TASK FORCE REPRESENTIVES

- Braddock District Council
- Bradfield
- Canterbury Woods
- Carleigh (aka The Elms)
- Danbury Forest
- Dunleigh
- Kings Park
- Long Branch
- Park Glen Heights

- Ravensworth
- Red Fox Forest
- Signal Hill Estates
- Southport
- Stone Haven
- Townes of Wakefield
- Woodhirst
- Friends of Long Branch
   Stream Valley



