



# Transportation Commission

September 7, 2011



# Agenda Item #2

# Funding Update



# Funding Update

- City Council:
  - Adopted revised 10-Year Transportation Project Plan.
  - Approved increased frequencies on King Street Trolley.
- Commonwealth Transportation Board:
  - Awarded City additional funds to be used for transit projects in FY2012.
- Transportation Planning Board:
  - Approved resolution to approve air quality conformity analysis needed for an amendment for the Constrained Long Range Plan to build exit ramp from HOV lanes on I-395 to Seminary Road.

# Funding Update

- WMATA:
  - Approved institution of new Metrobus service (7M) from Pentagon to Mark Center.
  - Approved a new set of bylaws / procedures to govern WMATA.
- NVTC:
  - Staff given permission to file TEAM request to the FTA for CMAQ funds to construct transitway stations.
- NVTA:
  - Approved possible requests for CMAQ/RSTP funds if they can be obligated quickly.
  - Approved allocation of \$300k for final engineering for King St. Metrorail access project.



# Agenda Item #3

## RSTP / CMAQ Request for FY2013 (Public Hearing)



# RSTP / CMAQ Request for FY2013

- **Congestion Mitigation and Air Quality (CMAQ) Improvement Program** - Funds to invest in projects that will reduce emissions and various types of air pollutants regulated from transportation related sources.
- **Regional Surface Transportation Program (RSTP)** – Funds to make regional transportation improvements. RSTP funds have fewer restrictions than CMAQ funds.

# RSTP / CMAQ Request for FY2013

- CMAQ and RSTP funds are allocated annually to VDOT and given to the Northern Virginia Transportation Authority (NVTA) for distribution among NoVA jurisdictions.
- Both CMAQ and RSTP funds are used to advance transportation projects.

# Recent RSTP / CMAQ Actions

- CMAQ-RSTP requests have always been done annually in September.
- In September, 2010, an allocation request for FY2012 was made by the City Council, with guidance from the Transportation Commission.
- NVTa approved the program indicated in the following slide for FY2012 funds on November 12, 2011.

# FY 2012 CMAQ-RSTP Allocation for Alexandria

Project	Total
1. Preliminary Engineering of Exclusive Transitway Improvements	\$240,000
2. DASH Bus Acquisition	\$1,300,000
3. Transportation Demand Management Analysis and Initiatives/Transit Store	\$400,000
4. Bike Racks on DASH Buses	\$180,000
5. Bicycle Parking at Major Transit Stops	\$380,000
6. Holmes Run Pedestrian/Bicycle Tunnel Construction, Phase II	\$500,000
<b>TOTAL</b>	<b>\$3,000,000</b>

# Requirement for a FY2013-FY2017 Allocation Request for CMAQ-RSTP

- VDOT notified all jurisdictions receiving CMAQ-RSTP funds that in order to better program the funds, they need a multi-year request for these funds from FY2013-FY2017.
- The Northern Virginia Transportation Authority (NVTa) requested all jurisdictions provide a plan for these years by February 15, 2011, contingent upon the consent of the jurisdiction's governing body.

# Actions Taken to Develop the FY2013-2018 CMAQ-RSTP Allocation Plan

- The City submitted an initial plan to the NVTAs for these funds
- NVTAs made a final allocation of the funds
- Adopted by the Commonwealth Transportation Board in May, 2011.

# CMAQ-RSTP Plan for CMAQ-RSTP Funds adopted by the CTB in May, 2011

	FY12	FY13	FY14	FY15	FY16	FY17
<b>Preliminary Engineering of Exclusive Transitway Improvements</b>	\$240,000					
<b>Dash Bus Replacement</b>	\$1,300,000	\$1,950,000	\$2,500,000	\$2,050,000	\$2,100,000	\$2,870,000
<b>Bike Sharing</b>		\$400,000				
<b>Bike Racks on DASH Buses</b>	\$180,000					
<b>Holmes Run Pedestrian/Bicycle Tunnel Construction</b>	\$500,000					
<b>Bike Parking</b>	\$380,000			\$25,000	\$225,000	
<b>Mt Vernon Trail</b>		\$50,000	\$450,000			
<b>Transit Store</b>			\$500,000		\$500,000	
<b>Transit Analysis Study</b>				\$500,000		
<b>TDM</b>	\$400,000	\$700,000	\$500,000	\$500,000	\$500,000	\$700,000
<b>Braddock Road Parking Tech</b>			\$250,000	\$900,000		
<b>Total</b>	<b>\$3,000,000</b>	<b>\$3,100,000</b>	<b>\$4,200,000</b>	<b>\$3,975,000</b>	<b>\$3,325,000</b>	<b>\$3,570,000</b>

# Changes to FY2013 CMAQ-RSTP Funding

- After CTB adopted the FY2012-FY2017 CMAQ-RSTP plan, and City Council adopted a city budget with reserved real estate tax funds for transportation
- Staff has revised the plan to account for changing transportation needs
- Staff is requesting that the Transportation Commission review revisions and send a recommendation to City Council

# Proposed FY2013-FY2018 CMAQ-RSTP Allocation Plan

	FY13	FY14	FY15	FY16	FY17	FY18
<b>DASH Bus Replacement</b>	\$1,950,000	\$2,660,000	\$2,030,000	\$2,080,000	\$2,820,000	\$2,160,000
<b>Bike Sharing</b>	\$400,000	\$100,000	\$110,000	\$120,000	\$260,000	\$270,000
<b>Bike Parking</b>			\$25,000	\$225,000		
<b>Mt Vernon Trail</b>	\$50,000	\$450,000				
<b>Transit Store</b>		\$500,000		\$540,000		\$560,000
<b>Transit Analysis Study</b>			\$500,000			
<b>TDM</b>	\$700,000	\$500,000	\$510,000	\$530,000	\$760,000	\$560,000
<b>Braddock Road</b>			\$600,000	\$550,000		
<b>Parking Tech</b>			\$250,000	\$260,000	\$270,000	\$280,000
<b>Total</b>	\$3,100,000	\$4,210,000	\$4,025,000	\$4,305,000	\$4,110,000	\$3,830,000

**QUESTIONS?**

# 1. DASH Bus Replacement (Capital)

- **Description:** New, energy-efficient buses to replace aging fleet. Recent guidance from FHWA indicates that this is an allowable CMAQ/RSTP expense without a need to comply with FTA regulations.
  - **Schedule:** Buses can be acquired one year after they have been ordered.
- **Project Cost:** Each new bus is estimated at \$650,000. plus yearly inflation.
- **FY2013-17 Funding Request:** In \$1,950,000 in FY2013, \$2,660,000 in FY2014, \$2,030,000 in FY2015, \$2,080,000 in FY2016, \$2,820,000 in FY2017 and \$2,160,000 in FY2018. (Adjusted for inflation)



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## 2. Bicycle Sharing Initiative (Capital)

- **Description:** Provides short-term bicycle rental from unattended urban locations near Metro. Alexandria's program would be a pilot program which could be incorporated into a regional effort including DC and Arlington, which has been working regionally to hire a provider/operator.
  - **Schedule:** Installation/operation targeted for FY2013
- **Project Cost:** \$50,000/bike station
- **FY2013-2017 Funding Requests:** \$400,000 in FY2013, \$100,000 in FY2014, \$110,000 in FY2015, \$120,000 in FY2016, \$260,000 in FY2017, and \$270,000 in FY2018.



### 3. Bicycle Parking at Major Transit Stops (Capital)

- **Description:** Funding for modular, enclosed bicycle parking “stations” at Metro stops. Shelters/stations (10’x40’) may provide parking for up to 80 bikes, provide 24/7 access, require less space and funding. Stations include vandal/theft deterrents.
  - **Schedule:** Installation targeted for FY2016. Installation of modular stations can begin 7-8 weeks after project funding and agreements are in place.
- **Project Cost:** Project for \$380,000 funded in FY2012. Requesting \$25,000 in FY2015 and \$225,000 in FY2016.
- **Funding Request:** \$25,000 in FY2015 and \$225,000 in FY2016



## 4. Rebuilding the Mt. Vernon Trail Parallel to Abingdon Drive

- **Description:** This project will widen out the Mt. Vernon Trail parallel to Abingdon Drive, south of Slater's Lane.
  - This project is scheduled to occur in FY2013
- **Project Cost-** \$500,000
- **FY2013-2017 Funding Request:** \$50,000 in FY2013 and \$450,000 in FY2014.

# 5. Old Town Transit Shop

- **Description:** Fund the continuing operation of the Old Town Transit Shop.
- **Project Cost:** Approximately \$250,000 per year
- **Funding Requests:** \$500,000 in FY2014 and \$540,000 in FY2016, and \$560,000 in FY2018.



## 6. Transit Analysis Study

- **Description:** Conduct a study of the effectiveness of all transit services being provided in Alexandria (WMATA, DASH, and Private Shuttles) , and to suggest service change options which will provide better transit services to the City's residents.
- **Project Cost:** \$500,000
- **Funding Request:** \$500,000 in FY2015

# 7. Transportation Demand Management (TDM) Programs (Operating)

- **Description:** Funding for operating costs of existing TDM program to promote non-SOV travel using electronic outreach, events and education; and to monitor the effectiveness of these efforts. Consistent with Transportation Master Plan and Eco-City Charter.
  - **Schedule:** Ongoing
- **Project Cost:** Provides additional TDM services, consistent with the Long Term TDM Plan, beyond the basic TDM funding provided annually by the Virginia Department of Rail and Public Transportation
- **FY2012 Funding RequestS:** \$700,000 in FY 2013, \$500,000 in FY2014, \$510,000 in FY 2015, \$530,000 in FY2016, \$760,000 in FY2017, and \$560,000 in FY2018.



## 8. Braddock Road Metro Multimodal Tunnel (Study and Capital)

- **Description:** Project would study Braddock Metro area to develop preliminary designs and probable costs for tunnels and shared-use paths to improve multimodal access and improve mobility options to the station.
  - **Schedule:** To begin in FY2012
- **Project Cost:** Project currently estimated at \$1,150,000
- **FY2013-2017 Funding Request:** \$600,000 in FY15 and \$550,000 in FY16.



## 9. Parking Technologies

- **Description:** This project will fund various techniques for improved parking management and will fund the installation of multi-space meters, real-time parking management, performance parking implementation, and/or pay-by-phone parking as a means of cutting emissions.
- **Project Cost:** Expenses noted below.
- **FY2013-2017 Funding Requests:** \$250,000 in FY2015, \$260,000 in FY2016 , \$270,000 in FY2017, and \$280,000 in FY2018.





## Agenda Item #4

# King Street Metro Station Improvements



# King Street Access Improvement Project

- City received comments from several groups interested in the King Street Access Improvements:
  - Transportation Commission (*May 4 Meeting*)
  - General Public (*May 4 Public Hearing*)
  - WMATA Internal Staff
  - City and DASH Staff

# King Street Access Improvement Project

- Transportation Commission- Sample Comments and Responses
  - Will the taxis be close to the street? Will the taxis be mixed in with the shuttles? Have the taxi companies been consulted in regards to the plan?
    - ✓ *Taxis will be assigned space on Diagonal Road, north of the pedestrian walkway. The Shuttles and taxis will have separate loading and unloading locations. Taxi drivers have provided input to this plan.*

# King Street Access Improvement Project

- Transportation Commission- Sample Comments and Responses
  - What kinds of wayfinding will be in the plan?
  - *Wayfinding signage will definitely be erected at the station entrance. We are looking at the possibility of installing three other signs around the station. All signs will be in conformance with the City's wayfinding plan.*
  - What is the current status of renaming the King Street station to King St-Old Town?
  - *The Mayor and City Council will be polled this week to determine if they want to commit to funding the name change.*

# King Street Access Improvement Project

- General Public
  - Alexandria Commission on People with Disabilities- Sidewalk material should be easy to traverse
    - ✓ *Bricks will be set in concrete and will have good coefficients of friction are used in the construction of the sidewalks.*
  - Some concern that there could be better bicycle crossings to the Metro Station.
    - ✓ *The current location is the only feasible location for safely crossing King Street.*

# King Street Access Improvement Project

- General Public

- Any possibility of getting bike lanes around the Metro Station?

- ✓ *Street width is too constricted to allow for a dedicated bike lane around the station.*

- During the past 15 years, the number of cab spots has remained the same while the number of cabs in the City has substantially increased.

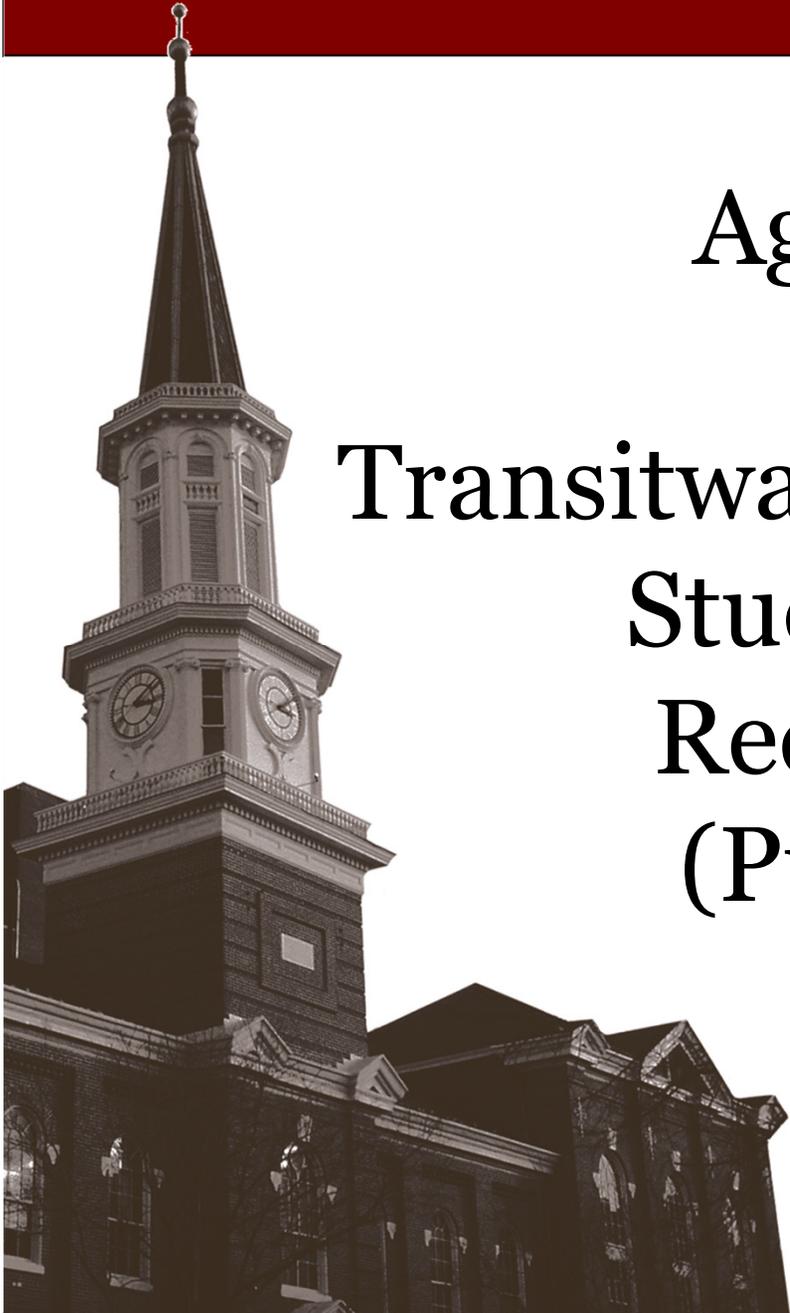
- ✓ *The number of King Street station taxi stands has increased from 6 to 8.*

**QUESTIONS?**



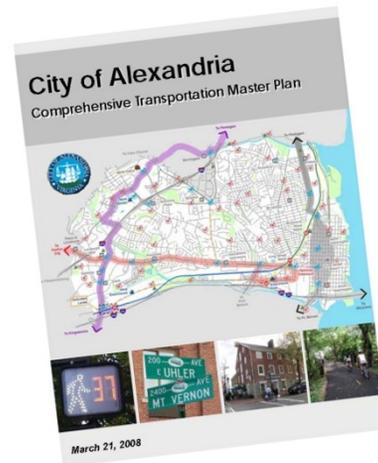
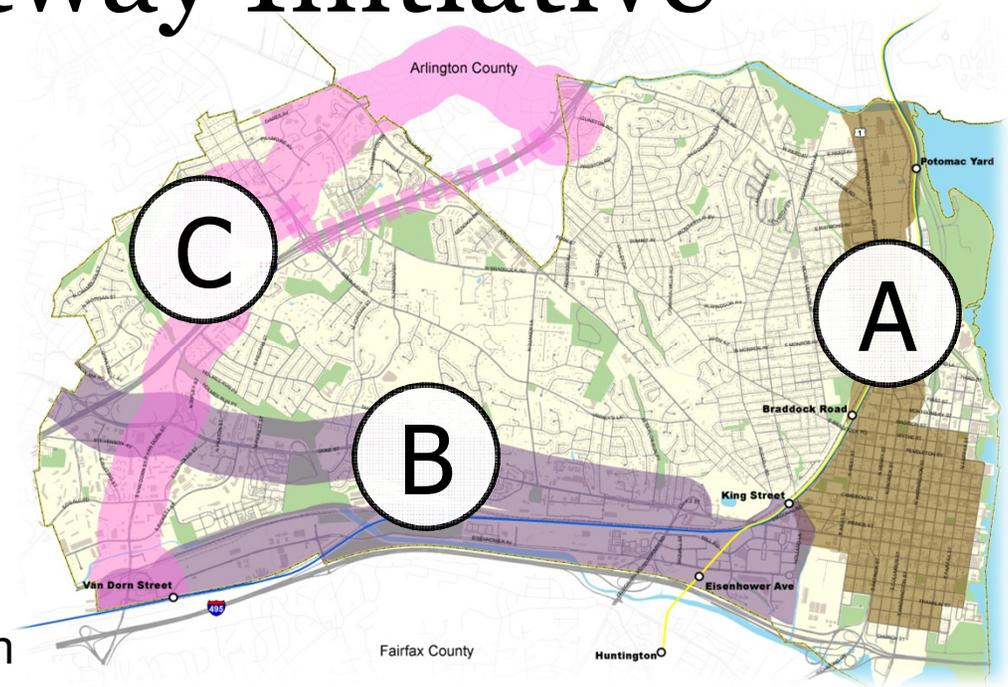
## Agenda Item #5

# Transitway Corridor Feasibility Study – Corridor C Recommendation (Public Hearing)



# City Transitway Initiative

- Corridors identified by Transportation Master Plan
  - Corridor A: North-South Corridor
  - Corridor B: Duke/Eisenhower
  - Corridor C: Beauregard/Van Dorn

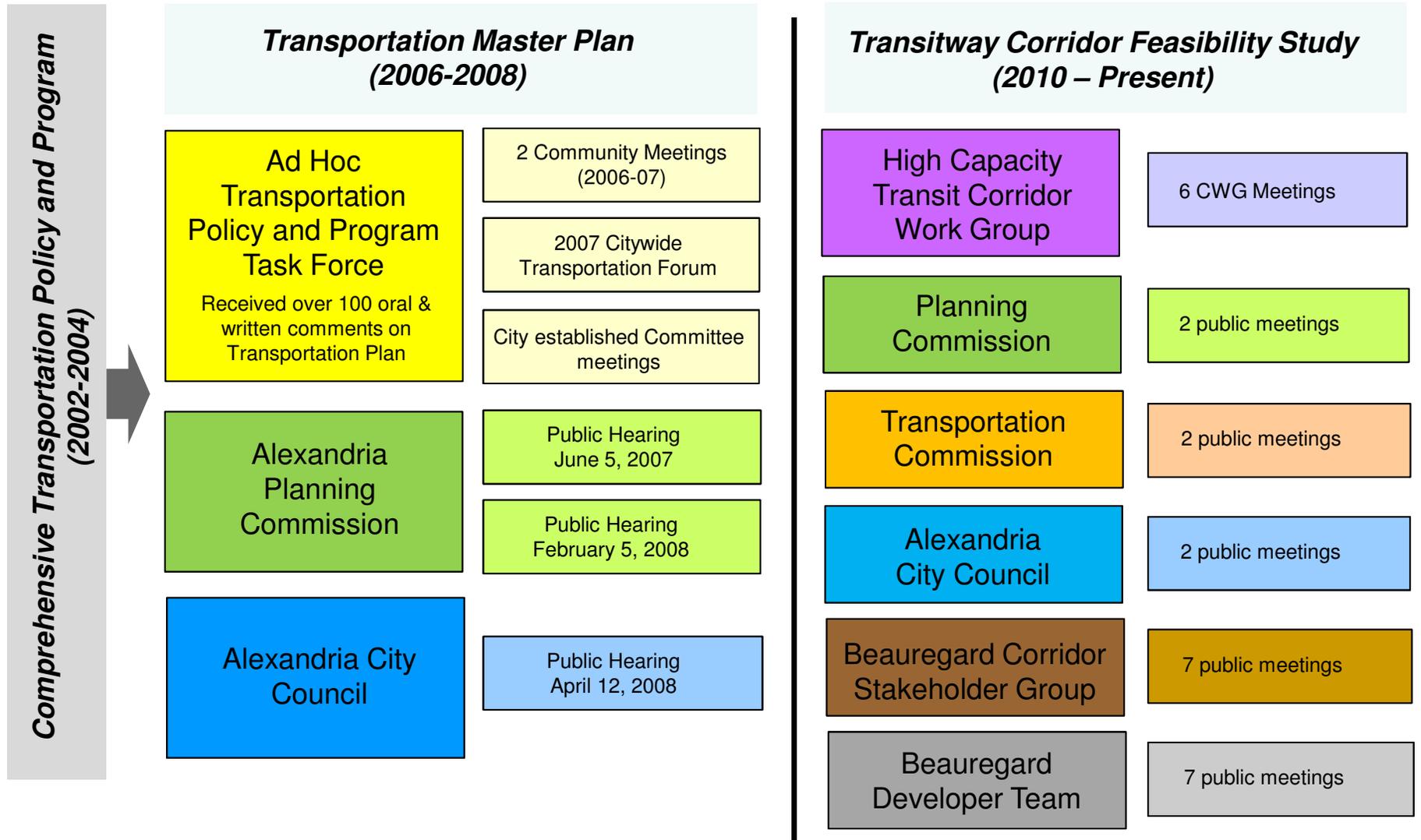


# High Capacity Transit Corridor Work Group

To provide citizen inputs to such issues as include **route alignments, cross-sections, methods of operation, types of vehicles** which should be used in these corridors at specific times, **land use considerations, ridership, and financial implications.**

- City Council – 2 representatives
- Planning Commission
- Transportation Commission
- Budget & Fiscal Affairs Advisory Committee
- Chamber of Commerce
- Federation of Civic Associations – 2 representatives
- Resident with Transit Planning Expertise

# Corridor C Transitway Public Outreach History



# Corridor C Transitway Public Outreach History

## Corridor Work Group

- October 21, 2010: Overview of the Project
- November 18, 2010: Corridor C Concepts
- January 20, 2011: Meeting to Discuss Overall Assessment of Corridor C
- March 17, 2011: Secondary Screening of Corridor C Alternatives
- May 5, 2011: Work Session on Corridor C
- May 19, 2011: Selection of Recommended Alternative for Corridor

## Commissions and Council

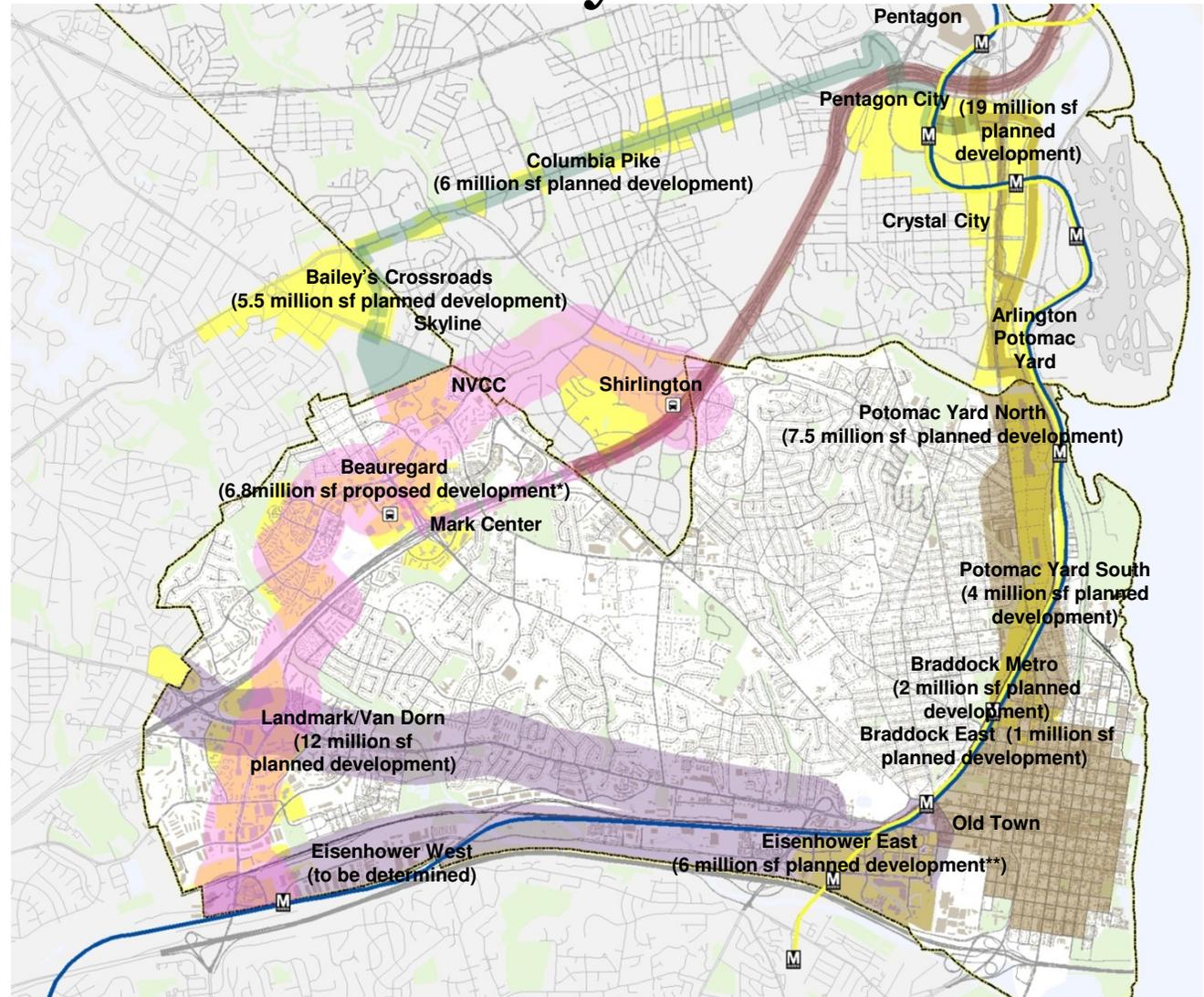
- February 1, 2011: Planning Commission - Transitway Overview
- April 6, 2011: Transportation Commission – Refined Alternatives
- September 7, 2011: Transportation Commission – Corridor C Recommendation
- September 8, 2011: Planning Commission – Corridor C Recommendation
- September 13, 2011: Council – Corridor C Recommendation
- September 17, 2011: Council Hearing – Corridor C Recommendation

**← Periodic Transportation Commission Staff Updates →**

**← Beaugard Corridor Stakeholder Group Meetings →**

# Land Use and Transportation Connectivity

- Beaugard corridor plan
- Braddock Metro & Braddock East plans
- Columbia Pike Initiative
- Crystal City plan
- Eisenhower East plan
- Eisenhower West area development
- Landmark/Van Dorn corridor plan
- Mark Center plan
- Metrorail Blue & Yellow lines
- NVCC Community College master plan
- Old Town
- Pentagon
- Pentagon City development
- Potomac Yard plans (Arlington and Alexandria)
- Shirlington



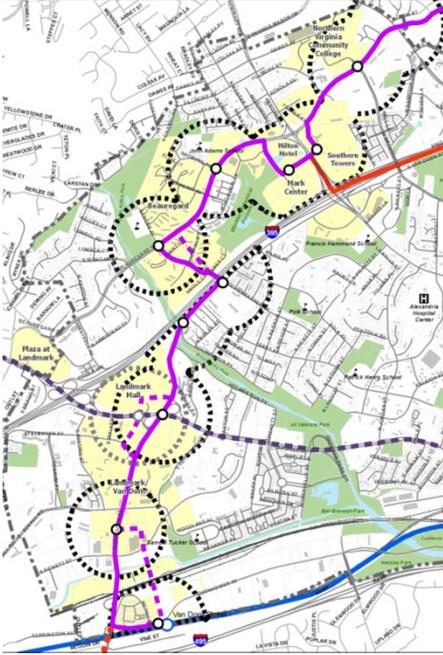
Regional development values approximate  
 \*Value approximate based on current developer plans for Beaugard Area that have not been approved by City Council  
 \*\*Value does not include Carlyle

# Preliminary Alternatives Selected for Further Evaluation

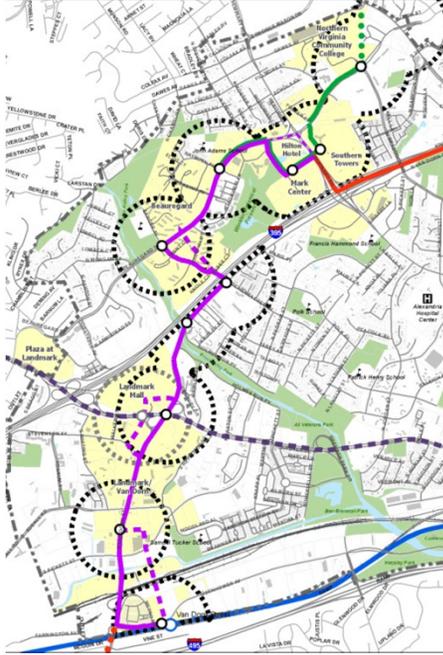
**Alternative B**



**Alternative D**



**Alternative E**



**Alternative G**



- Possible preliminary phase of any other alternative
- Baseline for evaluation

- Support from CWG
- BRT
- Shirlington connection
- Moderate capital cost

- Support from CWG
- BRT and streetcar
- Single seat ride between Columbia Pike and potential Beauregard Town Center
- Moderate-high capital cost

- Public support
- Streetcar option
- Compatibility with Columbia Pike
- High capital cost

<b>Legend</b>	
	Rapid Bus
	Streetcar - Mixed Flow
	BRT (Bus Rapid Transit)
	Streetcar (dedicated lanes)
	Phased Route
	Optional Route
	Transitway Station
	Quarter-mile station area
	or Columbia Pike Connection

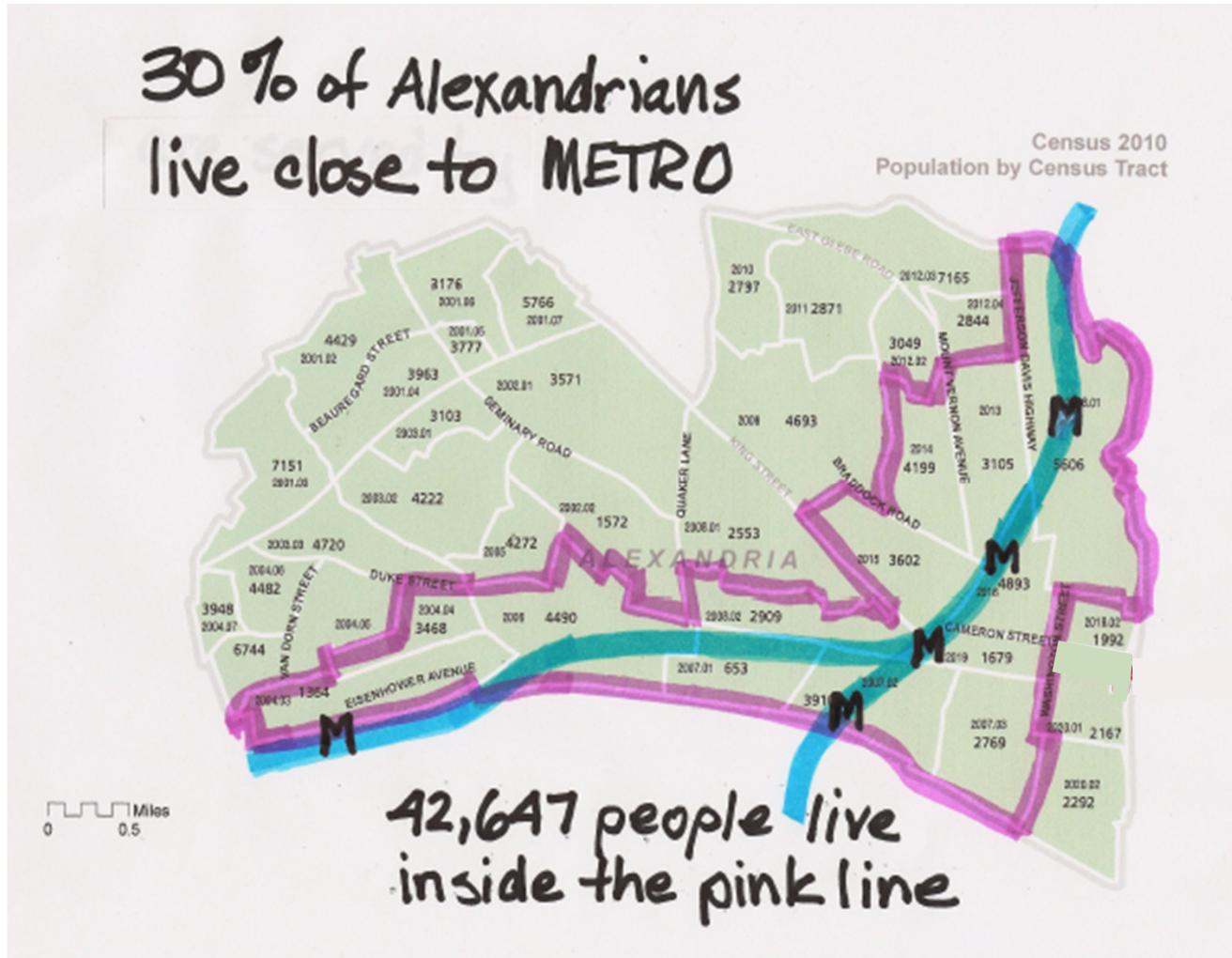
# Secondary Evaluation Criteria – Effectiveness

Criteria Sub-Group	Evaluation Criteria	Measurement Method
Coverage	<b>Service to Population, Employment, and Other Destinations</b>	Tabulate population, employment, key destinations, and similar, served by option
	Transit Connectivity	Access to other transit services (existing and planned)
Operations	Running-way Configuration(s)	Quantify amount of runningway that is dedicated and amount that is mixed flow
	Corridor Length	Measured length of the corridor (mi or feet)
	<b>Capacity</b>	Potential corridor capacity (hourly) based on mode technology, headways, and other conditions
	Interoperability	Identification of whether the chosen runningway configuration and transit mode technology are compatible with regionally planned systems
	Avoidance of Congestion	Number and locations of LOS E/F intersections avoided
	Transit Travel Time	Transit travel time
	Intersection Priority	Percent of intersections where TSP is needed and can be implemented successfully - notation of where it cannot be implemented successfully
	<b>Ridership</b>	Forecast number of riders
Alignment	Geometrics	Geometric quality of alignment
	Runningway Status	Percent of corridor to be located on new or realigned roadway
Phasing	Phasing	Identification of ability to phase operations and implementation

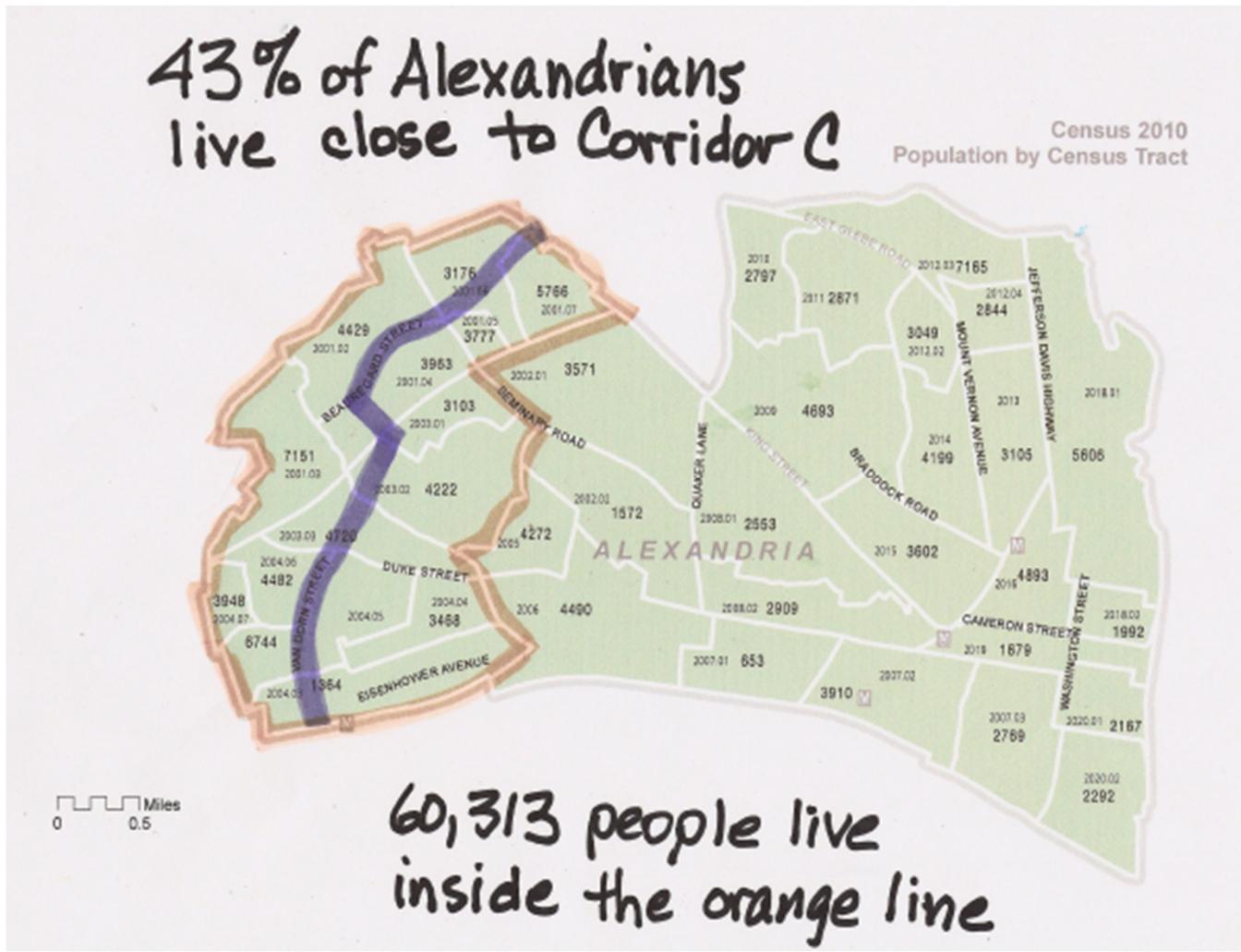
# Secondary Evaluation Criteria - Impacts

Criteria Sub-Group	Evaluation Criteria	Measurement Method
Economic	<b>Development Incentive</b>	Perceived value of transit mode technologies with regard to development potential
Natural Environmental	Natural Environment	Summary of key environmental conditions affected (wetlands, floodplains, T&E, streams, and similar)
	Parks and Open Space	Summary of parks and/or open spaces affected
Neighborhood and Community	Property	Number, use type, and quantity of properties impacted with anticipated level of impact (ROW only, partial take, total take)
	<b>Streetscapes</b>	Impact to existing streetscapes
	Community Resources	Identify number and location of historical, cultural, community, archaeological resources affected
	Demographics	Identification of impacts to special populations
	Noise and Vibration	Summarize relative noise and vibration impacts of different mode types and corridor configurations
Transportation	<b>Traffic Flow Impact</b>	Effect of transit implementation on vehicular capacity of corridor
	Traffic Signals	Number of existing signalized intersections affected by transit, identification of need for new signal phases, and number/location of new traffic signals needed to accommodate transit
	<b>Multimodal Accommodation</b>	Impacts to, and ability to accommodate bicycles and pedestrians
	Parking	Impacts to parking

# Corridor C – Existing High Capacity Transit Service



# Corridor C – Existing High Capacity Transit Service



# Typical Vehicle Capacity

Vehicle	Seated Capacity	Standing Capacity	Total Capacity
BRT Vehicle	30 to 60 passengers	30 to 60 passengers	80 to 90 passengers
Streetcar Vehicle	approximately 30 passengers	110 to 140 passengers	140 to 170 passengers

- BRT vehicles typically seat more people than streetcars
- Streetcar vehicles have a higher overall capacity than BRT vehicles

# Planning-Level Ridership Forecasts

	Alternative			
	B <i>(baseline)</i>	D	E	G
Transit Mode:	Rapid Bus (mixed)	BRT (mixed & dedicated)	Streetcar (mixed) & BRT (mixed & dedicated)	Streetcar (dedicated)
Northern Connection:	Shirlington & Pentagon	Shirlington & Pentagon	Columbia Pike & Pentagon	Columbia Pike
Year 2035 Daily Weekday Ridership	-	12,500 to 17,500 riders/day	13,500 to 19,000 riders/day	15,000 to 20,000 riders/day

- Approximately 20% difference between lowest and highest daily ridership

# Secondary Evaluation - Effectiveness

Evaluation Criteria		Alternative				
		B <i>(baseline)</i>	D	E	G	
Transit Mode:		Rapid Bus (mixed)	BRT (mixed & dedicated)	Streetcar (mixed) & BRT (mixed & dedicated)	Streetcar (dedicated)	
Northern Connection:		Shirlington & Pentagon	Shirlington & Pentagon	Columbia Pike & Pentagon	Columbia Pike	
Coverage	Service to Regional Destinations					
	Service to Population, Employment, & Retail in the Corridor					
	Transit Connectivity					
Operations	Running-way Configuration(s)					
	Corridor Length					
	Capacity					
	Interoperability					
	Avoidance of Congestion					
	Transit Travel Times	In Corridor				
		Between Termini				
	Ridership					
	Intersection Priority					
Align-ment	Alignment Quality					
	Runningway Status					
Phasing		N/A				

Rating:		Best		Fair		Poor
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# Secondary Evaluation - Impacts

Evaluation Criteria		Alternative			
		B (baseline)	D	E	G
Transit Mode:		Rapid Bus (mixed)	BRT (mixed & dedicated)	Streetcar (mixed) & BRT (mixed & dedicated)	Streetcar (dedicated)
Northern Connection:		Shirlington & Pentagon	Shirlington & Pentagon	Columbia Pike & Pentagon	Columbia Pike
Economic	Development Incentive	□	■	■	■
	Natural Environment	■	□	□	□
Natural Environment	Parks and Open Space	■	□	□	□
	Property	■	□	□	□
Neighborhood and Community	Streetscapes	■	□	□	□
	Community Resources	■	■	■	■
	Demographics	■	□	□	□
	Noise and Vibration	□	□	□	■
	Traffic Flow Impact	□	■	■	■
Transportation	Traffic Signals	■	□	□	□
	Multimodal Accommodation	□	■	□	■
	Parking	■	□	□	□

Rating:	■	Best	□	Fair	□	Poor
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# Corridor C Transitway – Development Incentive

## **Case Studies on BRT and Economic Development (Heinz College BRT Study)**

- Looked at Cleveland, Boston, Ottawa
- All three successful in attracting new investments during / after BRT
- Cleveland – Economic Impact of \$4.3 billion (already invested)
- Anticipate the following development by 2025
  - 7.9 million sq. feet in Commercial development
  - 5,400 new / renovated residential units
  - \$1.3 billion in capital investments
  - \$6.2 million in annual local taxes
  - 13,000 new jobs
- Ottawa – Economic Impact of \$1.4 billion
  - Has focused on development of mixed use / commercial nodes along BRT corridor
- Boston – Economic impact of \$1.7 billion

*Source: Recommendations for implementing Bus Rapid Transit in Pittsburgh's Oakland-Uptown-Downtown Transit Corridor, Carnegie Mellon Heinz College, Center for Economic Development, May 6, 2011.*

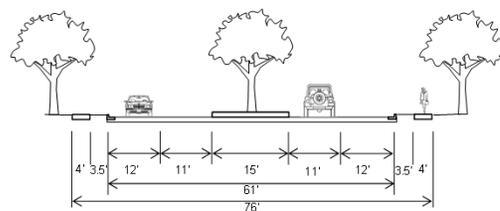
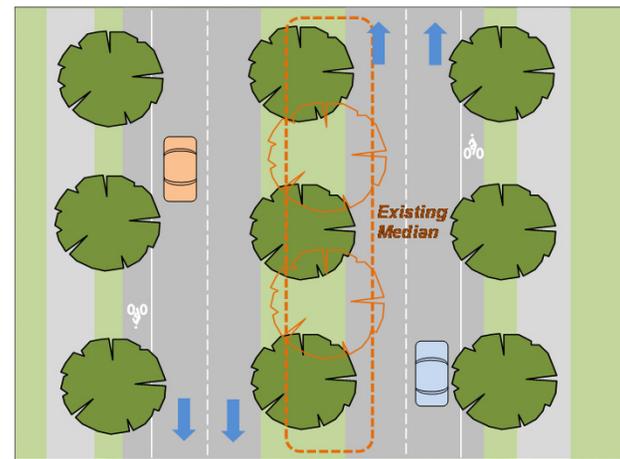
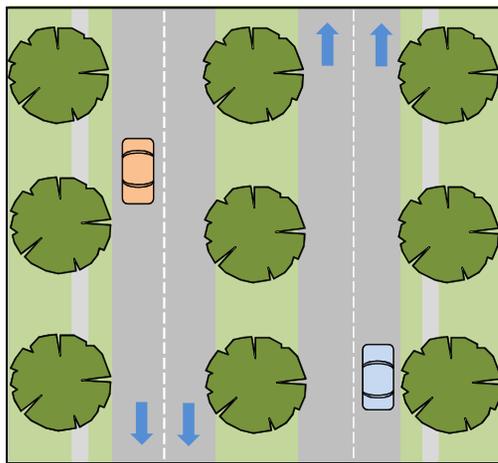
# Corridor C Transitway – Streetscape Impacts

## **What are Complete Streets?**

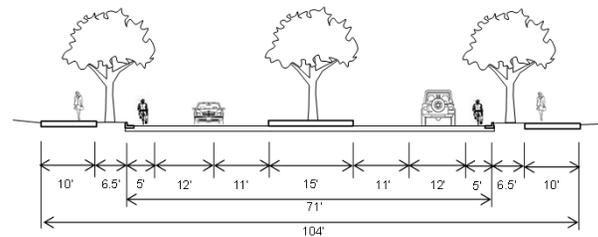
- Complete Streets policies ensure that roadway projects will safely accommodate all users including pedestrians, bicyclists, transit-riders, persons with disabilities and motor vehicles.
- Council adopted Complete Streets policy resolution in March 2011

# Corridor C Transitway – Streetscape Impacts

## Complete Streets



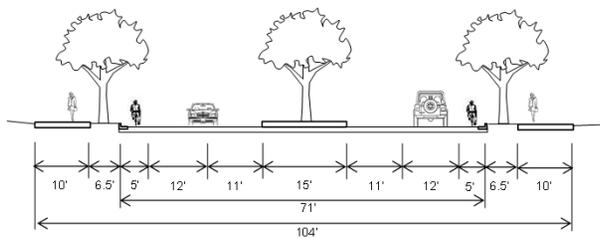
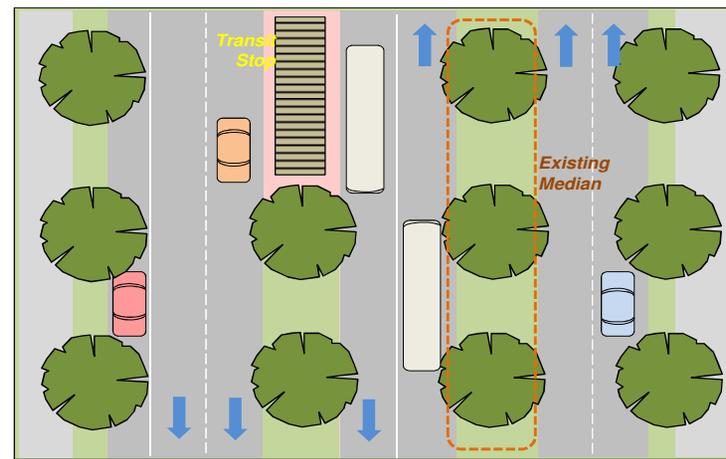
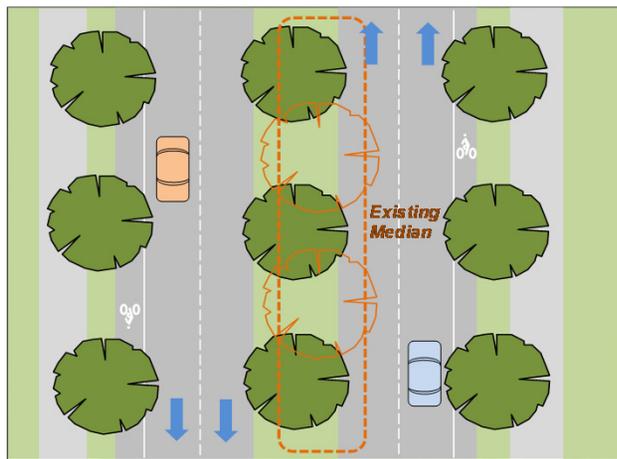
*Existing (Suburban)*



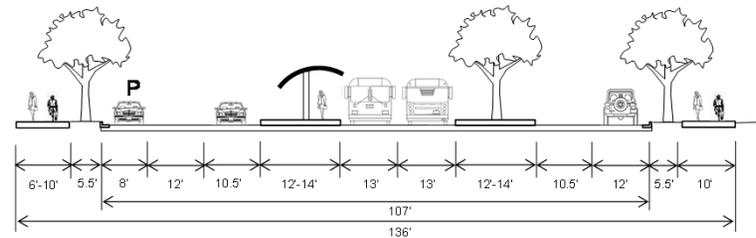
*Complete Street*

# Corridor C Transitway – Streetscape Impacts

## Transitway



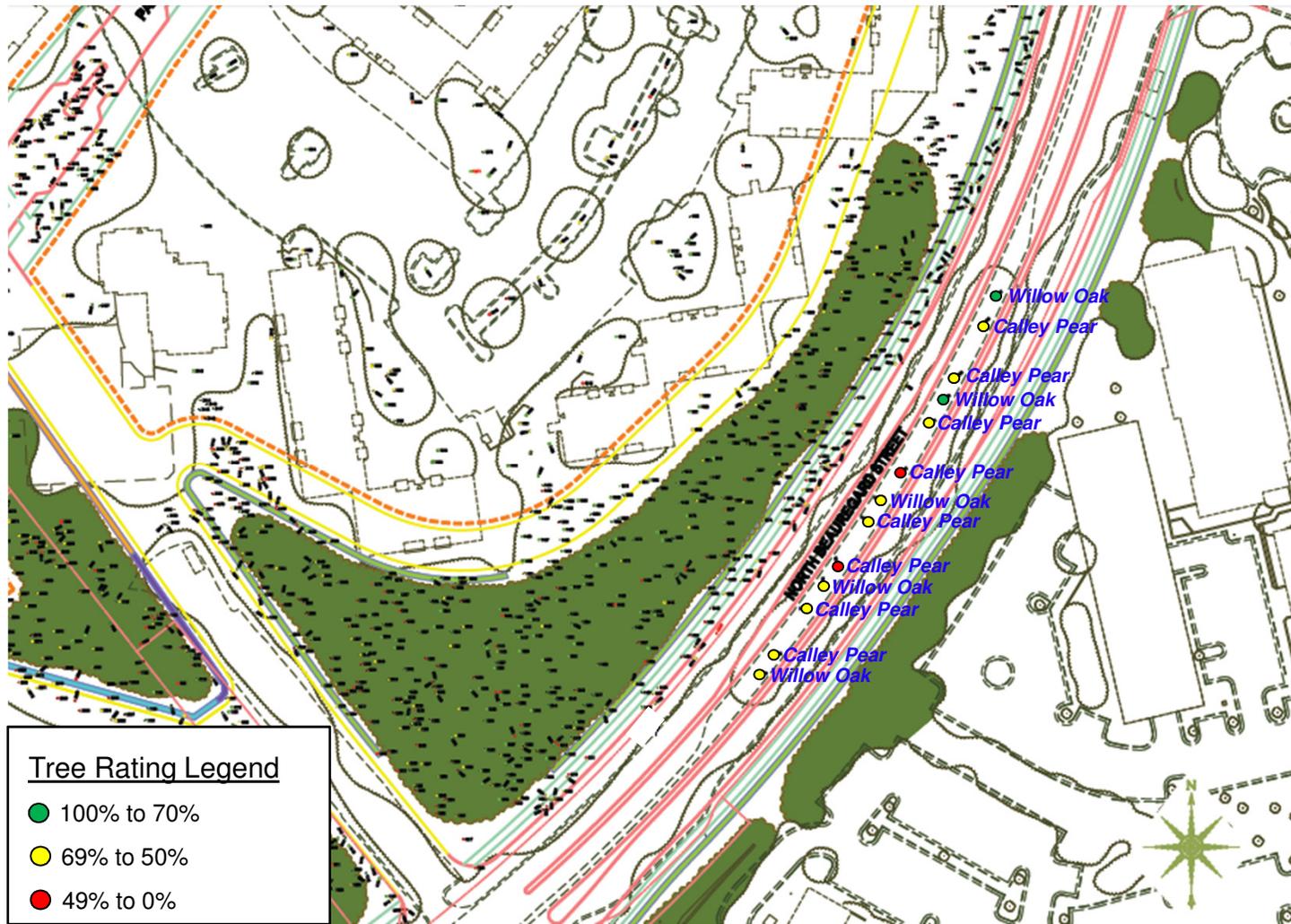
Complete Street



Transitway

# Corridor C Transitway – Streetscape Impacts

## Tree Survey (Reading to Roanoke)



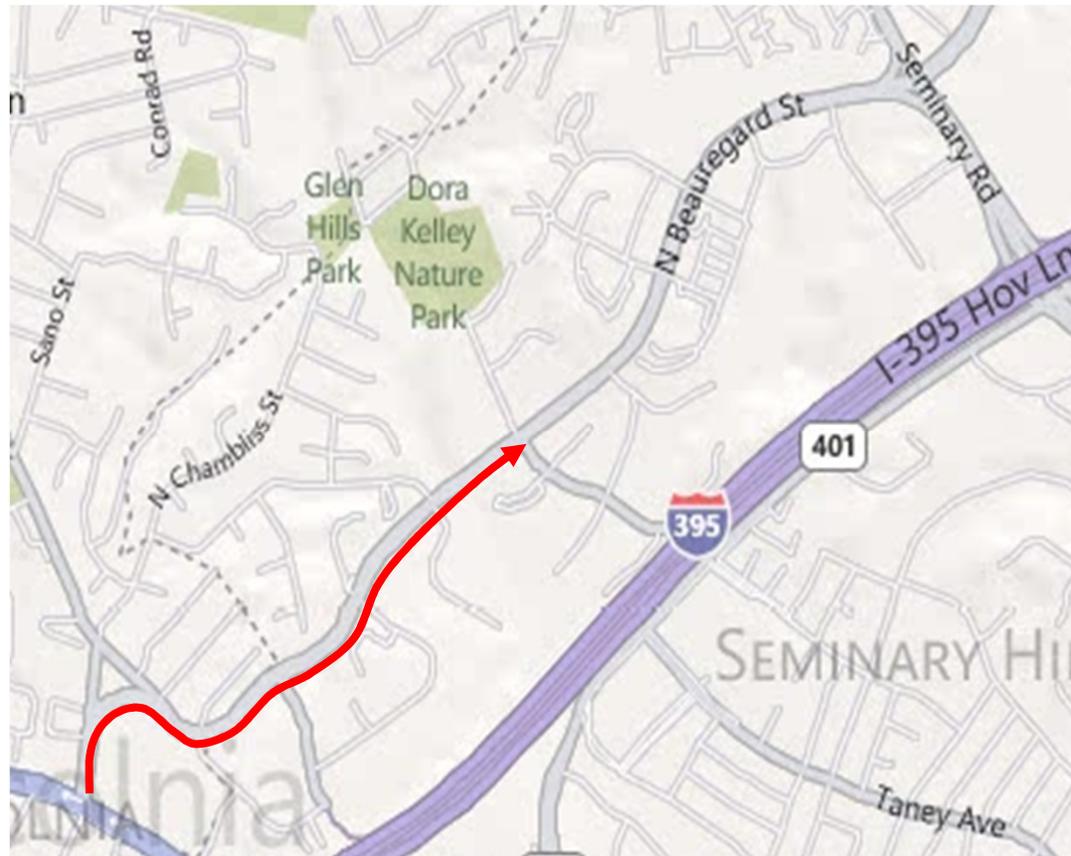
# Traffic Analysis (Year 2035)

## **Convert existing lane (each direction) on Beauregard to dedicated transit lane**

- One General Purpose (GP) lane each direction on Beauregard between Sanger and Mark Center Drive
- Two GP lanes each direction on Beauregard between Mark Center Dr. and Beauregard
- Reduction of daily volume along Beauregard of up to 14,000
- Increase of 8,000 vehicles per day on Van Dorn and parallel road (combined)
- **Result in excessive NB queue lengths (maximum queues) during AM peak (impacting upstream intersections) and delays along Beauregard**
- **Level of Service (LOS) F on Beauregard**

# Traffic Queues

**Convert existing lane (each direction) on Beauregard to dedicated transit lane (2035 AM)**



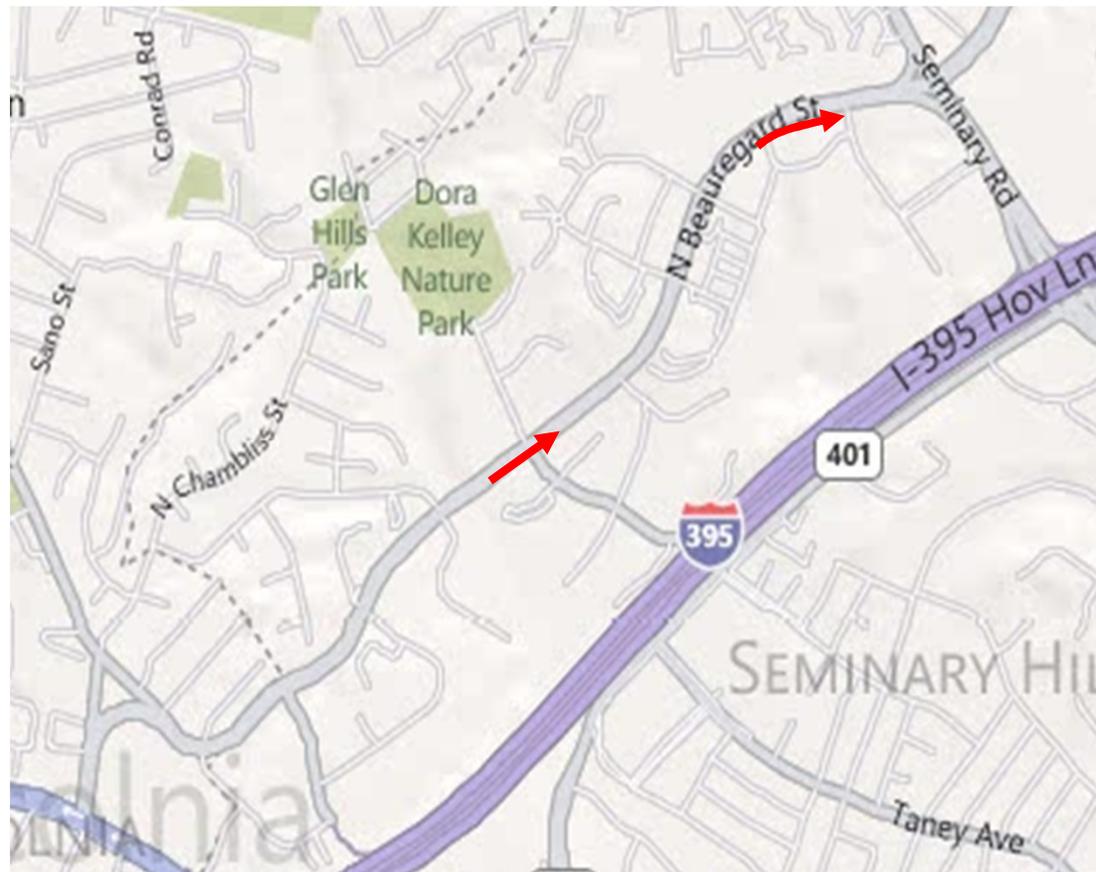
# Traffic Analysis (Year 2035)

## **Maintain Two GP lanes each direction on Beauregard and Dedicated Transit Lanes**

- Assumes parallel road only between Sanger and Mark Center Drive
- Two GP lanes each direction on Beauregard between Sanger and Beauregard
- Assumes construction of ellipse at intersection of Beauregard at Seminary
- **Some minor queues on NB Beauregard during AM Peak (Maximum queues)**
- **Level of Service operates at LOS E or better along Beauregard between Sanger and Seminary**
- Only one intersection operates at LOS E (Seminary / Beauregard, 2035 PM Peak)

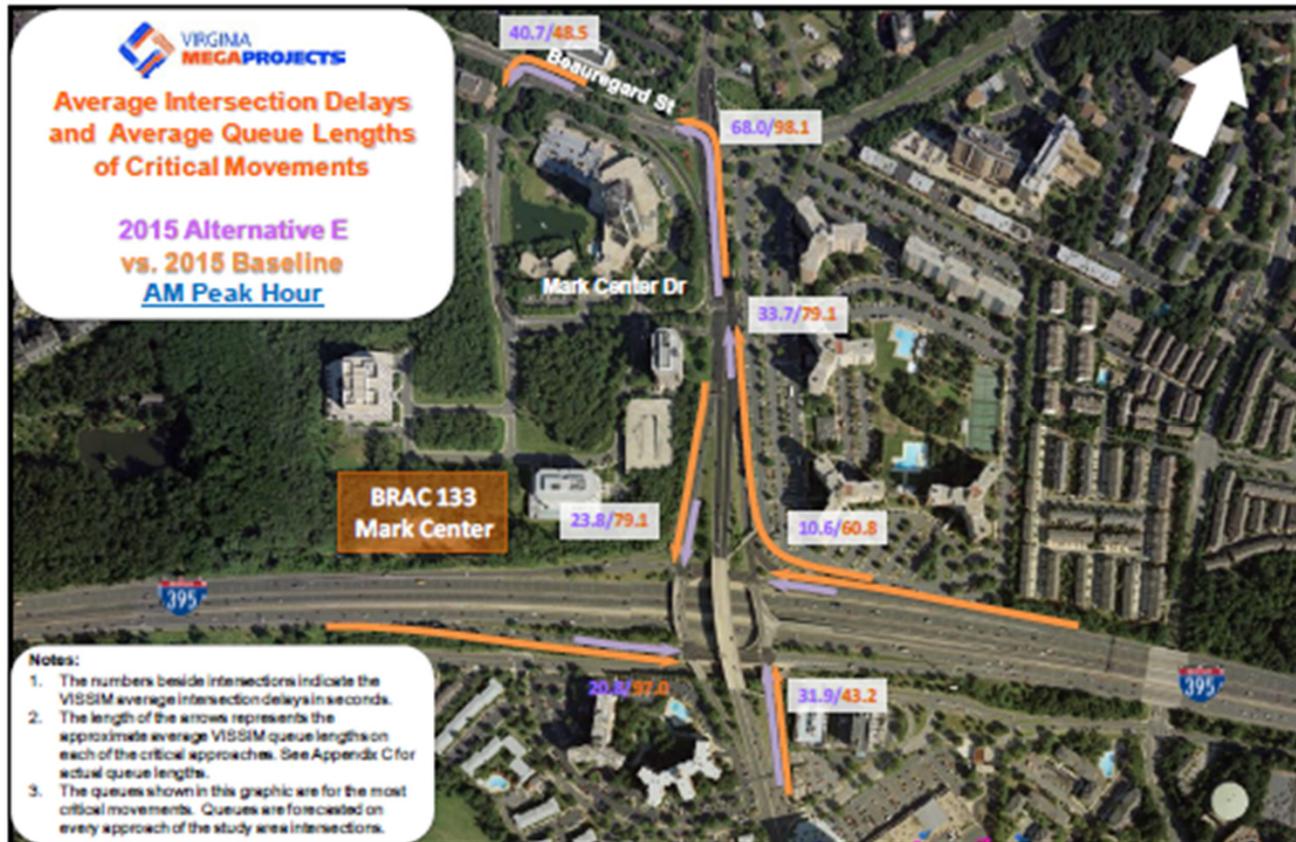
# Traffic Queues (Year 2035 AM)

**Two GP lanes each direction on Beauregard and Dedicated Transit Lanes**



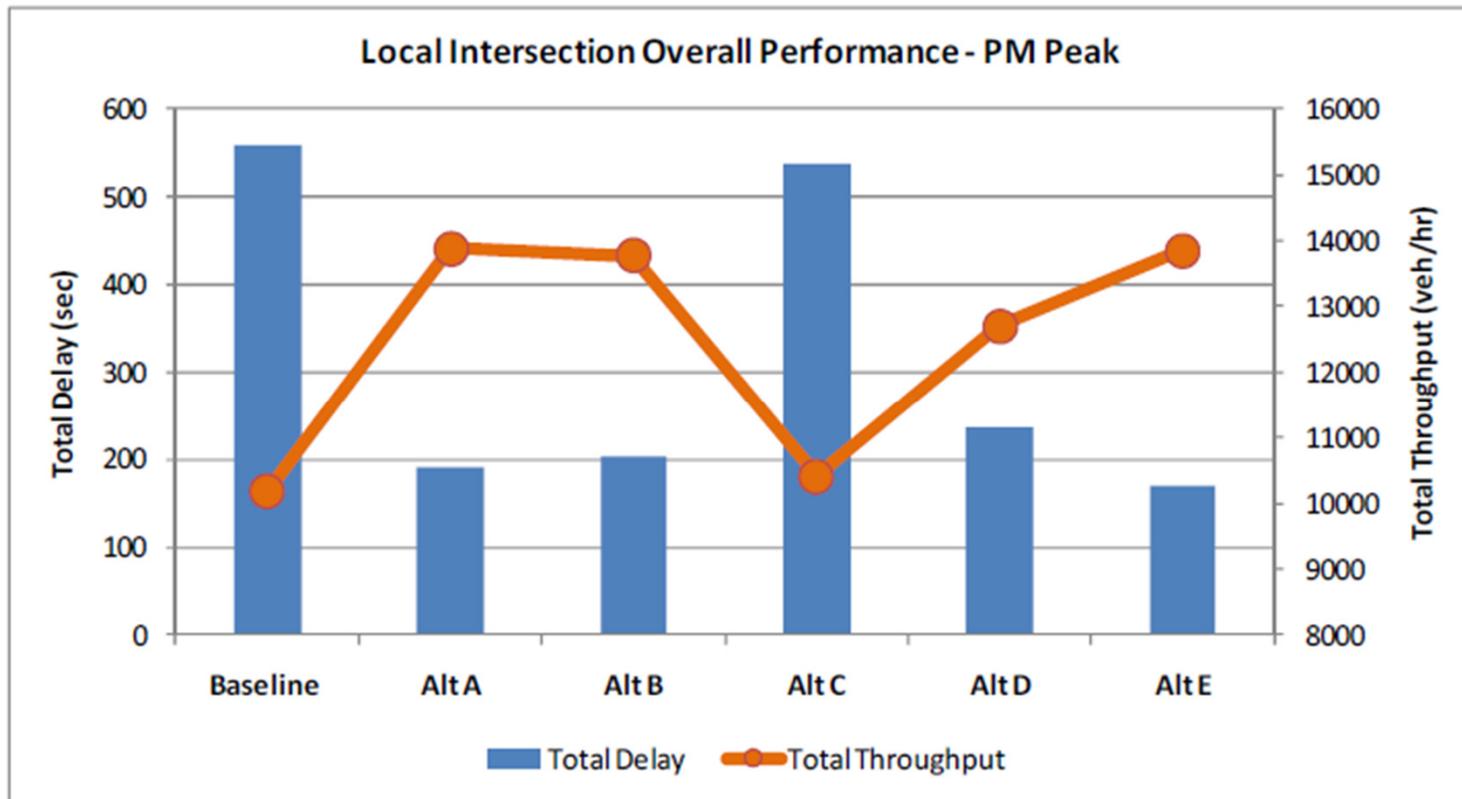
# Traffic Queues

## Impact of Short / Mid Term BRAC Improvements (2015 AM)



# Traffic Queues

## Impact of Short / Mid Term BRAC Improvements (2015 PM)



# Planning-Level Cost Estimates

	Alternative			
	B <i>(baseline)</i>	D	E	G
<b>Transit Mode:</b>	Rapid Bus (mixed)	BRT (mixed & dedicated)	Streetcar (mixed) & BRT (mixed & dedicated)	Streetcar (dedicated)
<b>Northern Connection:</b>	Shirlington & Pentagon	Shirlington & Pentagon	Columbia Pike & Pentagon	Columbia Pike
<b>Capital Cost Estimate<sup>1</sup></b> <small>(exclusive of vehicles, based on modal cost per-mile within the City and maintenance facility cost estimation)</small>	\$15 M	\$48 M	\$67 M	\$185 M
<b>25-year Fleet Cost Estimate<sup>2</sup></b>	\$24 M	\$20 M	\$34 M	\$29 M
<b>Right-of-Way Cost Estimate<sup>1, 3</sup></b>	\$0 M	\$33 M	\$43 M	\$50 M
<b>25-year Operating Cost</b>	\$67 M	\$60 M	\$73 M	\$59 M
<b>Planning-Level Cost Estimate<sup>4</sup></b>	<b>\$106 M</b>	<b>\$161 M</b>	<b>\$ 217 M</b>	<b>\$323 M</b>

Notes

1. Costs assume that Arlington's Columbia Pike streetcar terminates at NVCC at a maintenance facility. Costs for Alternatives E and G would be higher if the Columbia Pike maintenance facility is located in Long Bridge Park due to the location of the terminus of Columbia Pike.
2. Streetcar fleet costs are for the Alexandria portion of the streetcar only and are assumed to supplement Arlington's Columbia Pike fleet.
3. Right of way costs do not include property along Eisenhower Avenue, within Northern Virginia Community College, or in locations where development contribution is expected.
4. Planning level cost estimates are shown in year 2010 dollars and do not include additional contingency or escalation to a future year mid-point of construction. Totals listed do not include costs for major utility relocations/new service, or the capital costs for roadway/streetscape improvements that may be implemented concurrently, but are not required for the transit project. Alignments designated as "optional" or "phased" are not included in the cost.

# Summary of Public Comments

## **Phasing**

- Need for a multi-phased approach to implementing the transitway
- Start out with something smaller, not high capacity transit
- Need to understand where people are and where they need to go

## **Connectivity**

- Provide connectivity to local activity centers in Alexandria, Arlington, and Fairfax
- Serve local residents first, then regional connections
- Important to provide pedestrian and bicycle connectivity

## **Mode and Operation**

- Need something that is permanent, like streetcars, that will attract visitors and development
- Need dedicated lanes for system effectiveness
- Use existing travel lanes to accommodate transit
- Make sure there is a seamless connection between corridors and other transit
- Needs to be a high quality operation
- Must operate at high frequencies throughout the day

# Summary of Public Comments

## Impacts

- Don't reduce or impact current local transit services after high capacity transit is implemented
- Need to understand the impacts of the BRAC facility, especially to the roadway system.
- Do not worsen the traffic impacts
- Sanger Avenue cannot handle a transitway – it's already constrained
- There are potential environmental impacts to Holmes Run
- Concerned about the impacts at Sanger and Van Dorn intersection – it's already congested
- Minimize the impacts to the West End – it's already being impacted by BRAC
- A streetcar system is too expensive to
- BCSG – Provide adequate facilities for emergency response and traffic operations

# CWG Recommendation – May 19, 2011

*"Alternative D is the preferred alternative for phased implementation of transit in dedicated lanes in Corridor C **until such time as Alternative G becomes feasible and can be implemented.** This course of action is **consistent with the Council's recent decision to provide dedicated lane transit along the segment of Corridor A** that is north of Braddock Road. Evaluation and analysis will continue of Alternative D in preparation for future implementation of Alternative G. **Construction of transit in Corridor C shall be the first priority of Alexandria's transportation projects.** Each subsequent corridor shall be evaluated separately regarding the need to acquire additional right-of-way for dedicated lanes as discussed in the Transportation Master Plan."*

# Corridor C Transitway – Recommended Operation

## Alternative D

### Bus Rapid Transit in Dedicated Lanes from Van Dorn Metro to Pentagon

#### Planning-Level Cost Estimate

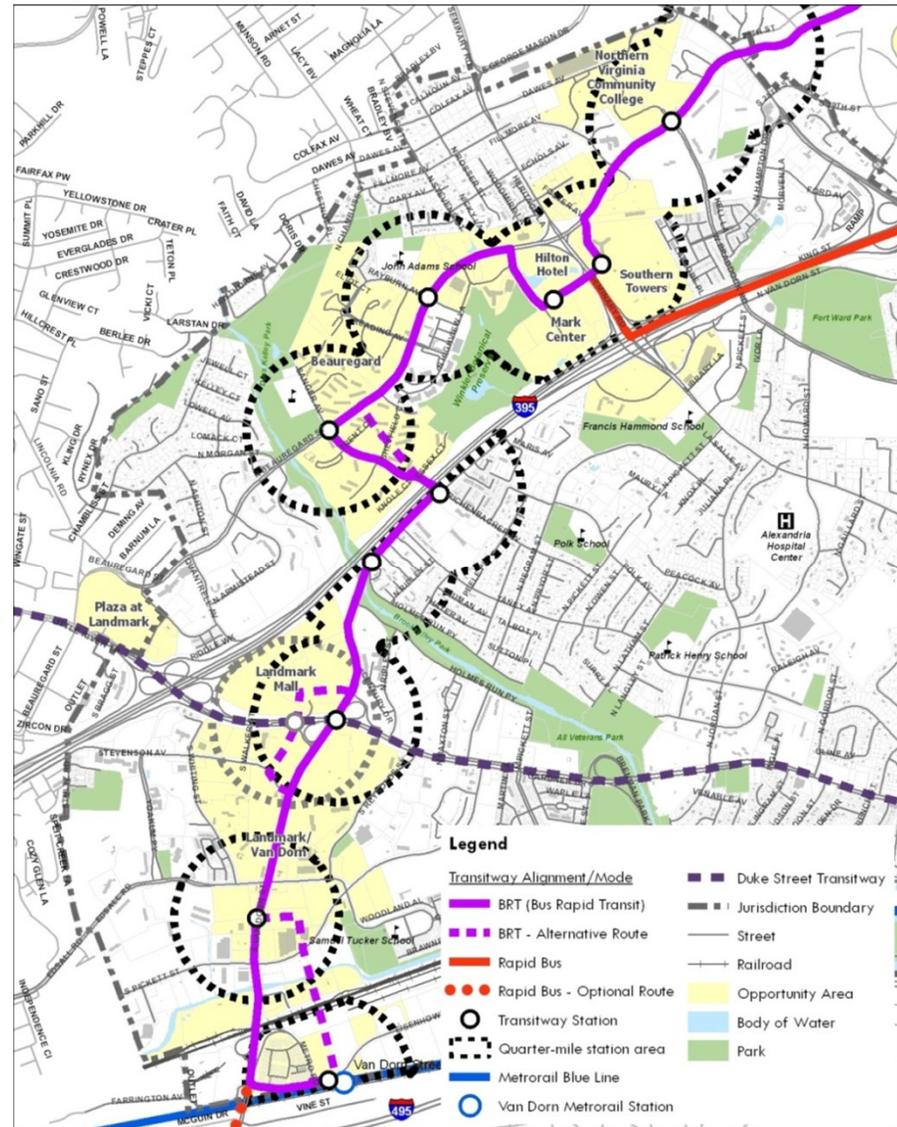
- Capital: \$48 million
- Fleet (25-year): \$20 million
- ROW: \$33 million
- Operating (25-year): \$60 million

#### Physical Characteristics

- Low-floor BRT vehicles
- Dedicated lanes (~80% to 90% of corridor)
- Off-board fare collection
- Service specific branding and identity
- Substantial transit stations

#### Operational Characteristics

- Transit signal priority at intersections
- Real-time service information
- 7.5-minute peak period headways
- 15-minute off-peak headways
- 18 hours of service (Monday through Saturday)
- 12 hours of service on Sunday
- 2035 Weekday Ridership estimate of 12,500 to 17,500 riders per day



# Corridor C Transitway – Recommended Operation

## Alternative G (Long Term)

### Streetcar in Dedicated Lanes from Van Dorn Metro to Pentagon via Columbia Pike

#### Planning-Level Cost Estimate

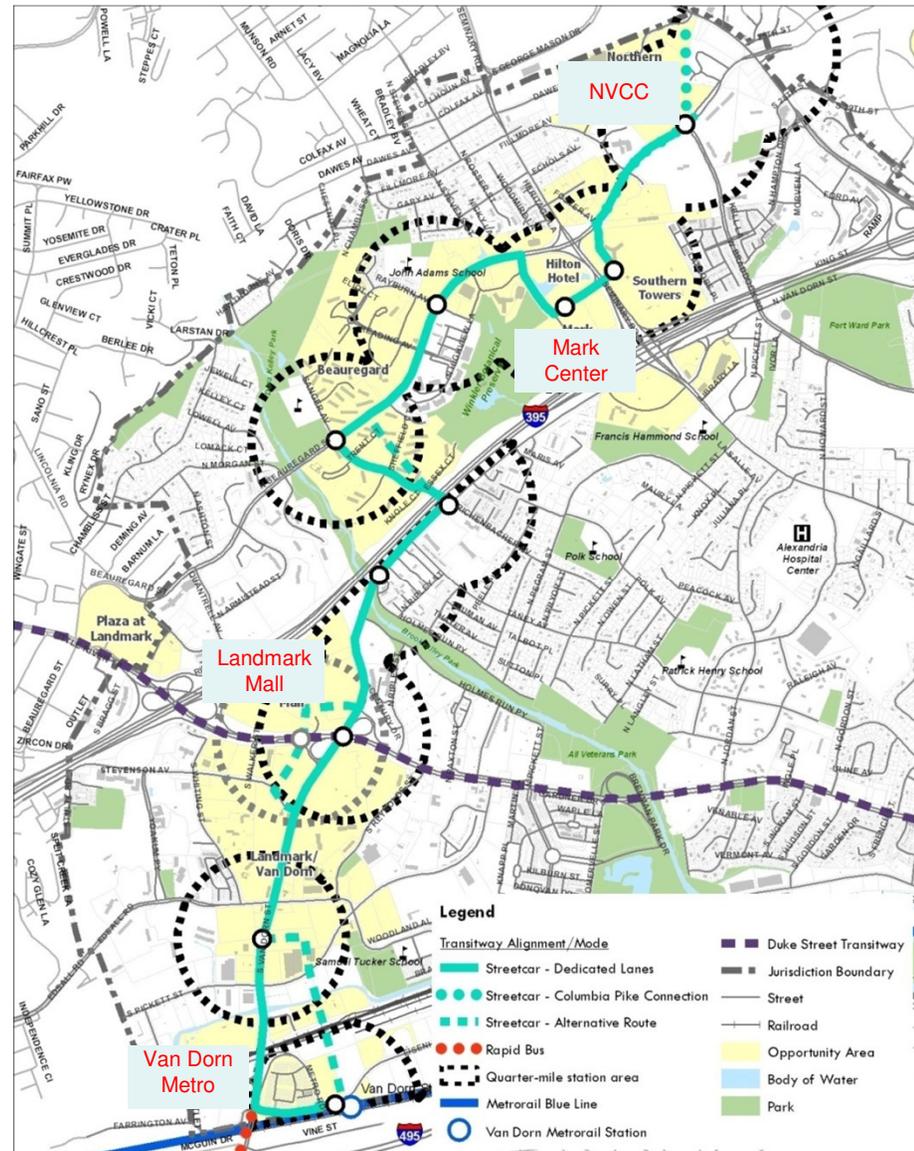
- Capital: \$185 million
- Fleet (25-year): \$29 million
- ROW: \$50 million
- Operating (25-year): \$59 million

#### Physical Characteristics

- Streetcar vehicles
- Dedicated lanes (~80% to 90% of corridor)
- Off-board fare collection
- Service specific branding and identity
- Substantial transit stations
- Connection to Columbia Pike Streetcar

#### Operational Characteristics

- Similar to Alternative D
- 2035 Weekday Ridership estimate of 15,000 to 20,000 riders per day

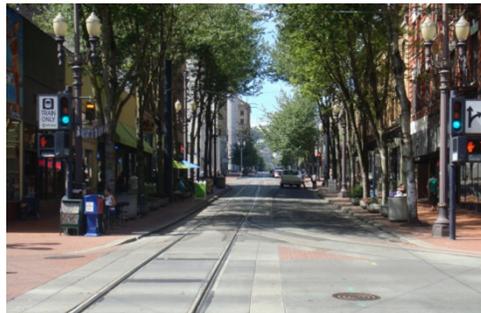


# Corridor C Transitway – Recommended Operation

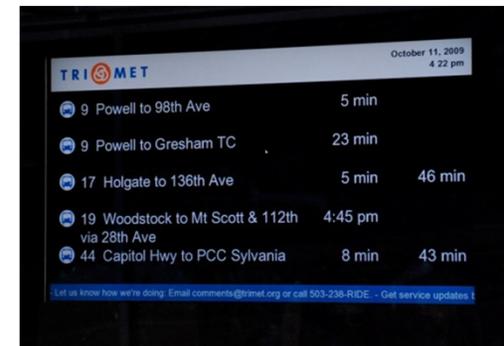
## BRT Characteristics



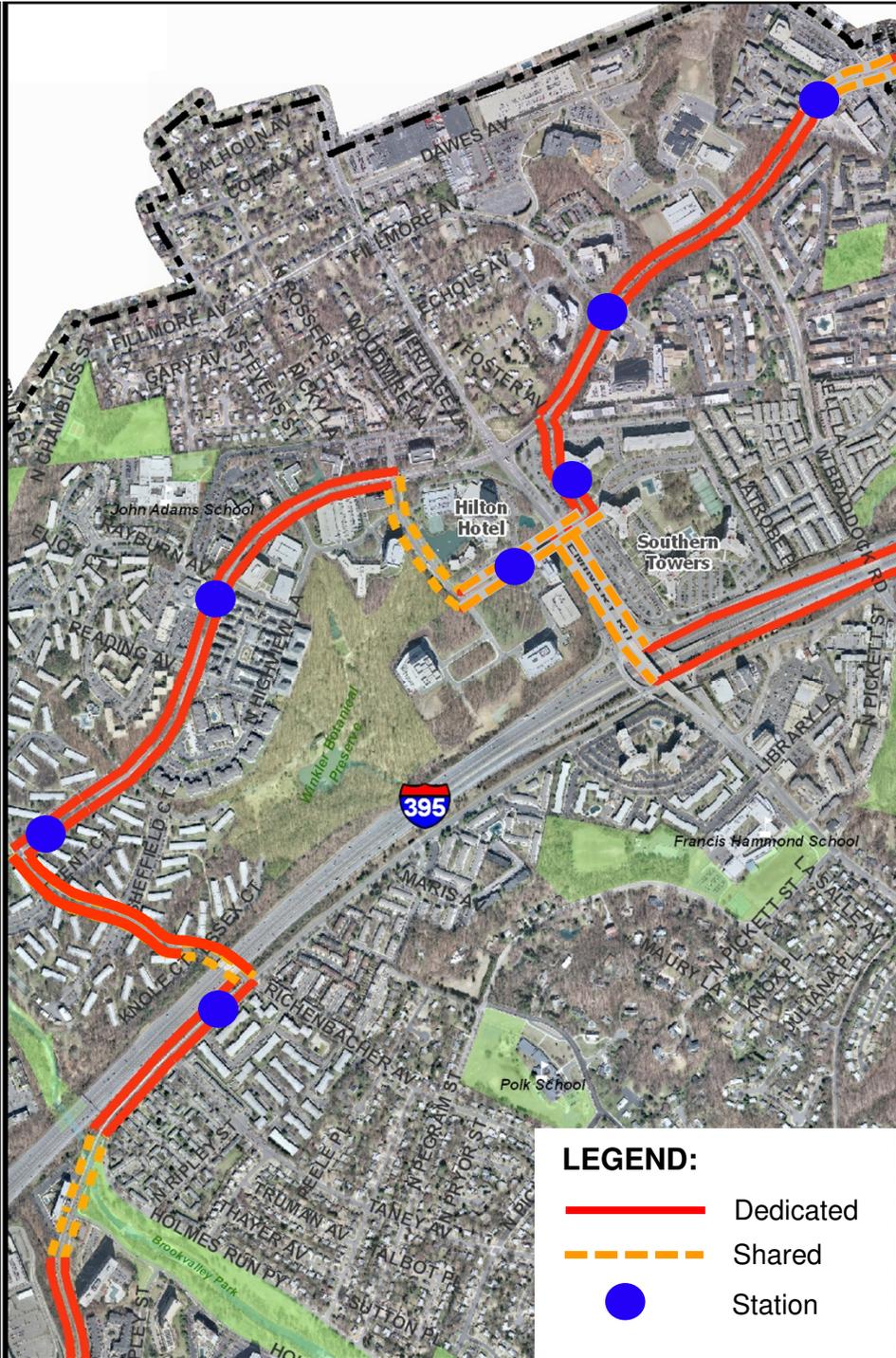
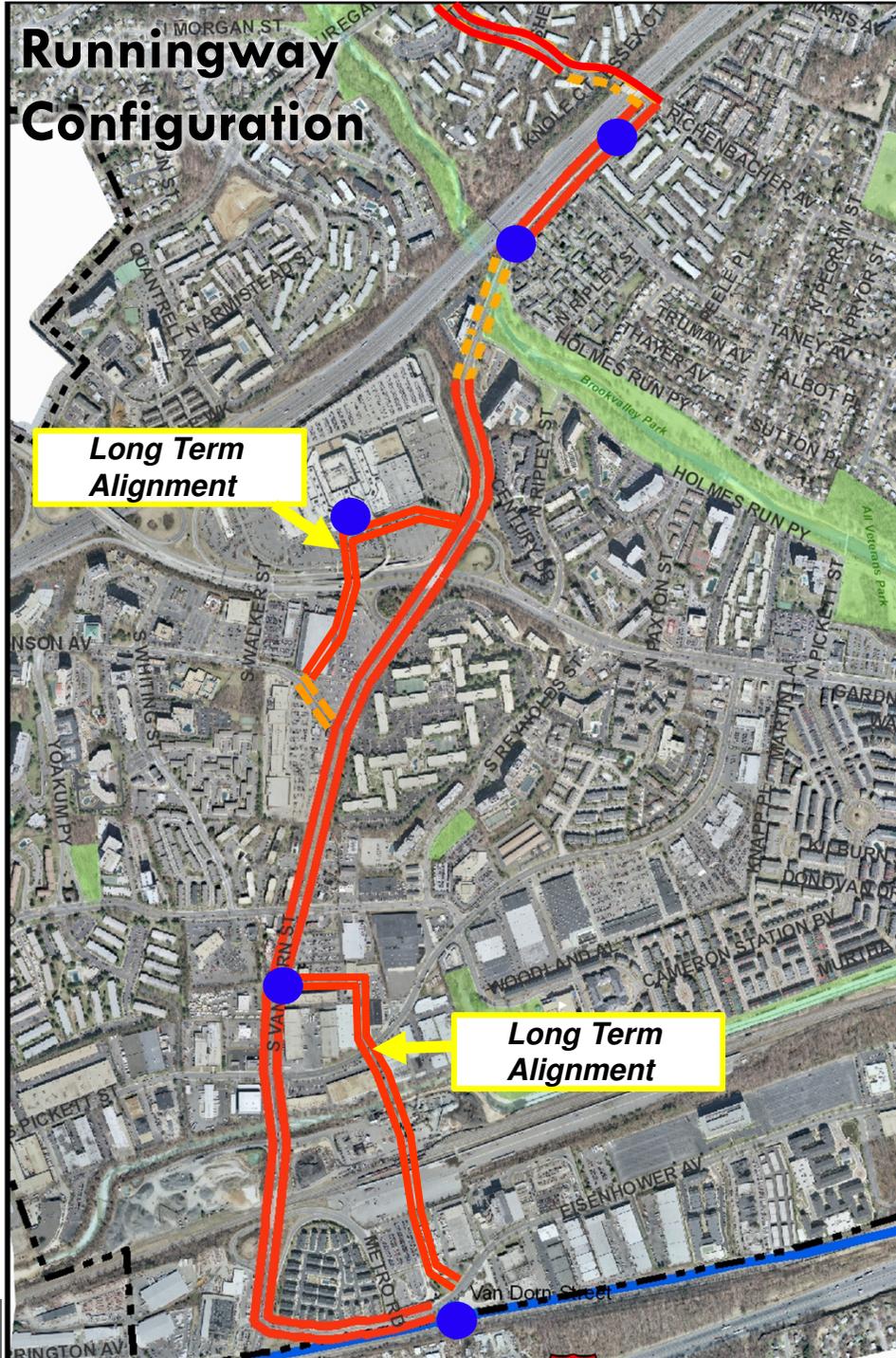
## Streetcar Characteristics



## Station Characteristics



# Runningway Configuration



**LEGEND:**

-  Dedicated
-  Shared
-  Station

# Next Steps for Corridor C

- Planning Commission Public Hearing – September 8
- City Council Meeting – September 13
- City Council Public Hearing and Recommendation – September 17
- Alternatives Analysis / Environmental Analysis – 2012-2013
- Preliminary Design – 2014
- Briefings to Transportation / Planning Commissions / Council regarding design elements
- Final Design and Right-of-way Acquisition – 2015
- Construction – 2016 - 2017

# **DISCUSSION & PUBLIC HEARING**

# Thank you for your attention!

For access to the information that was presented tonight, as well as other study information, please visit the project website at:

- <http://alexandriava.gov/HighCapacityTransit>

Once there, follow the link for the  
“[High Capacity Transit Corridor Work Group](#)”



# Agenda Item #6

## 2012 Legislative Package





# Agenda Item #7

## FY 2013 CIP Update



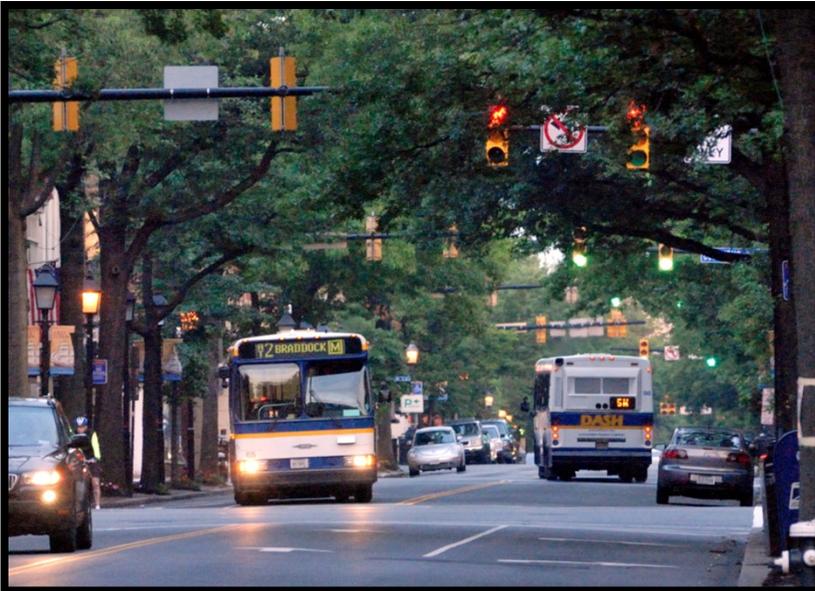
# Process

- TC sub-committee prioritized projects not fully funded
- TC sub-committee reviewed fully funded projects
- TC Recommendation to staff
- Preliminary CIP recommendation for TC consideration in October
- Winter- presentation of Budget to Council
- Spring- Public hearings
- May- Budget adoption

# **FY 2013 CIP**

- **DASH Bus Fleet Replacements**
- **DASH Bus Fleet Expansion**
- **Bus Shelters and Benches**
- **Shared Use Paths**
- **Non-Motorized Transportation Mobility**
- **Non-Motorized Transportation Safety**
- **Fixed Equipment**
- **Transportation Technologies**

# DASH Bus Fleet Enhancements and Bus Fleet Expansion



- Add 3 or more DASH buses to the fleet
- Request bus expansion

# Bus Shelters and Benches



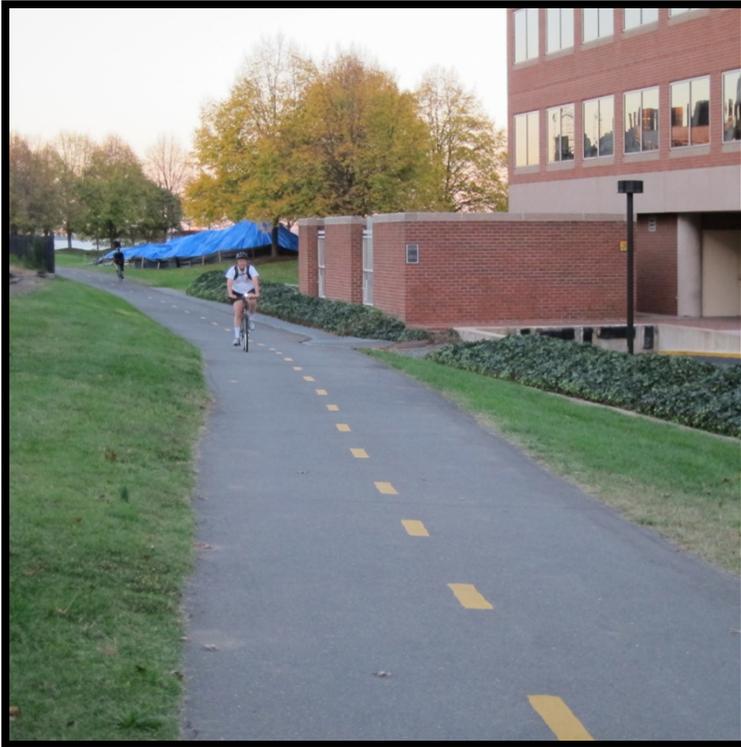
- Request additional funding for bus benches



Bench installation is separate from the grant to install shelters



# Shared Use Paths



- Special revenues and grants are used for enhancement of the network
- Widening project for the Mount Vernon Trail at East Abingdon
- Four Mile Run Ped/Bike Bridge

# Non-Motorized Transportation/ Complete Streets



- Capital funds for maintenance of sidewalks, curbs, gutters, crossings, and access ramps
- Grants are used for new mobility enhancements
- Funding for Complete Streets Design Manual

# Non-Motorized Transportation Safety



- Capital funds for signals, markings, signs, crossing islands, bicycle parking, and detection devices at intersections
- Grants are used for new safety enhancements

# Fixed Equipment and Transportation Technologies



- Upgrade and replacement of signs, signals, and meters
- Signal operations, traffic cameras, transit signal priority, queue jumps, real time transit information, and parking technologies



# Agenda Item #8

## Staff Updates

