

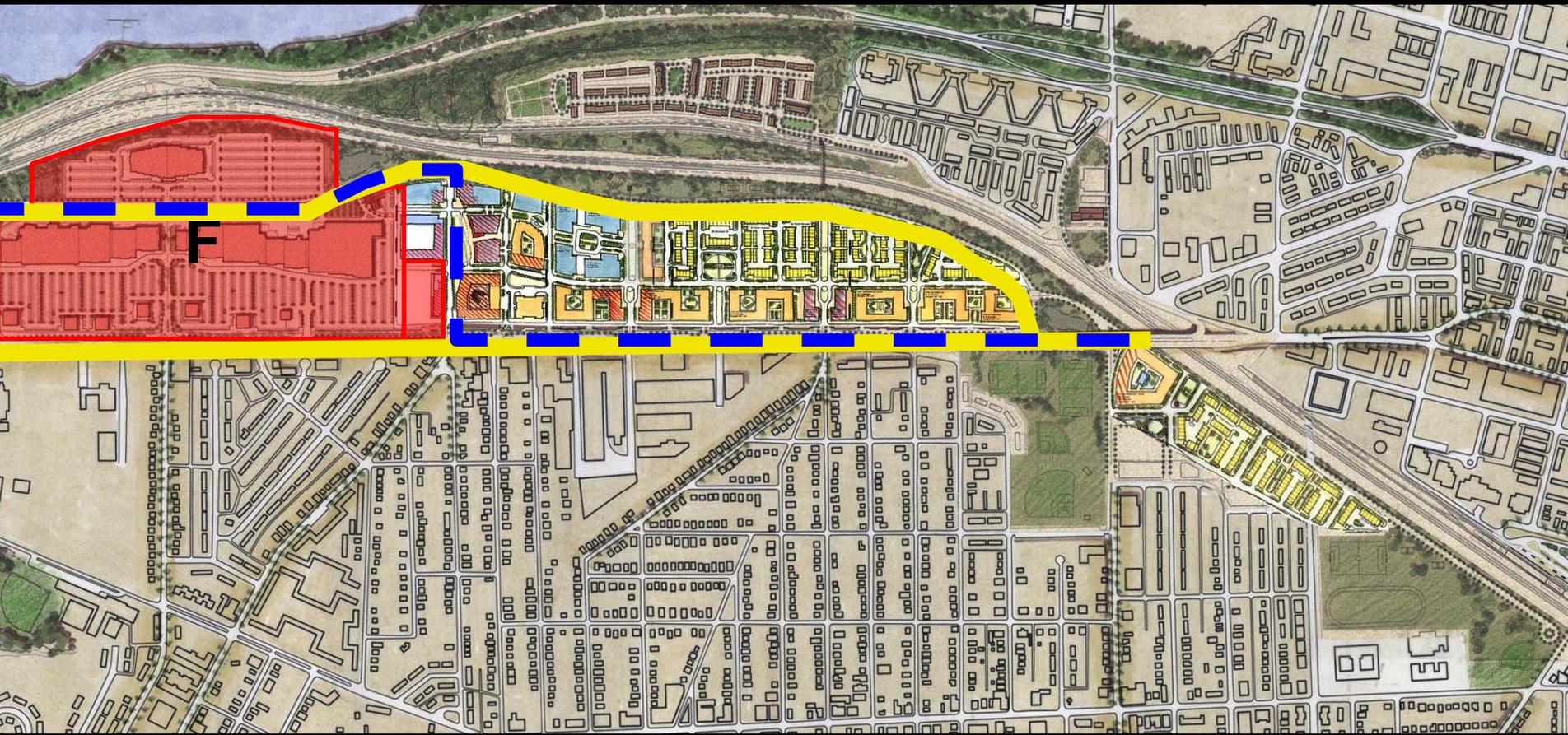
Potomac Yard Planning Advisory
Group (PYPAG)
Transportation Subcommittee

May 13, 2009

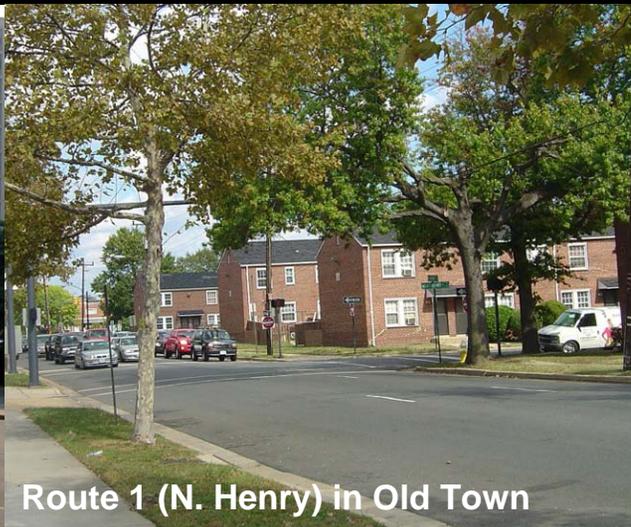
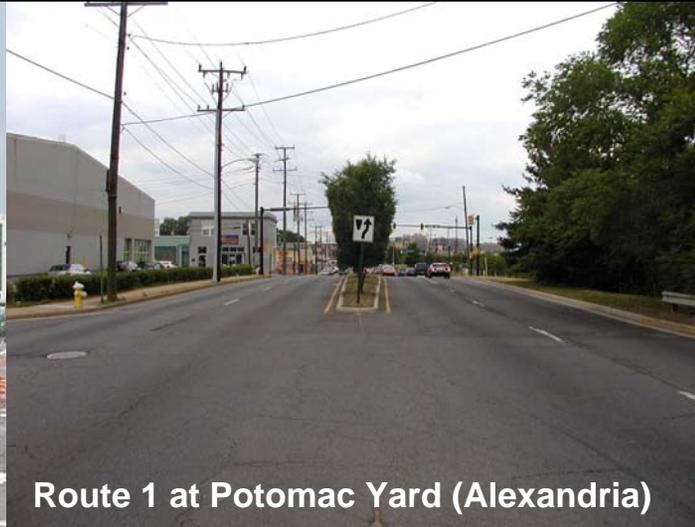
PYPAG Plan Principles

- Create Potomac Yard as a **model of environmental sustainability** for its site planning, infrastructure, and buildings.
- Create an **economically sustainable development**
- Promote **excellence in design** with a new standard in architecture, urban design, and materials that creates a compelling and lasting identity.
- Create a **vibrant and diverse mixed-use community** that provides options for living, working, shopping, recreation, culture, and civic uses for a wide range of incomes and ages.
- Pursue a **comprehensive multi-modal approach to transportation** based on a highly walkable urban environment, minimal automobile impact, and maximum use of existing and new Metro stations.
- Create **attractive landscaped streets** and a **network of usable open spaces and parks** with a strong connection to Four Mile Run and the Potomac.
- Provide **connections and transitions appropriate to and protective of the character of surrounding neighborhoods.**

Potomac Yard Context



Policies for Route 1 / Streets



Urban Amenities



Four Mile Run Restoration Master Plan



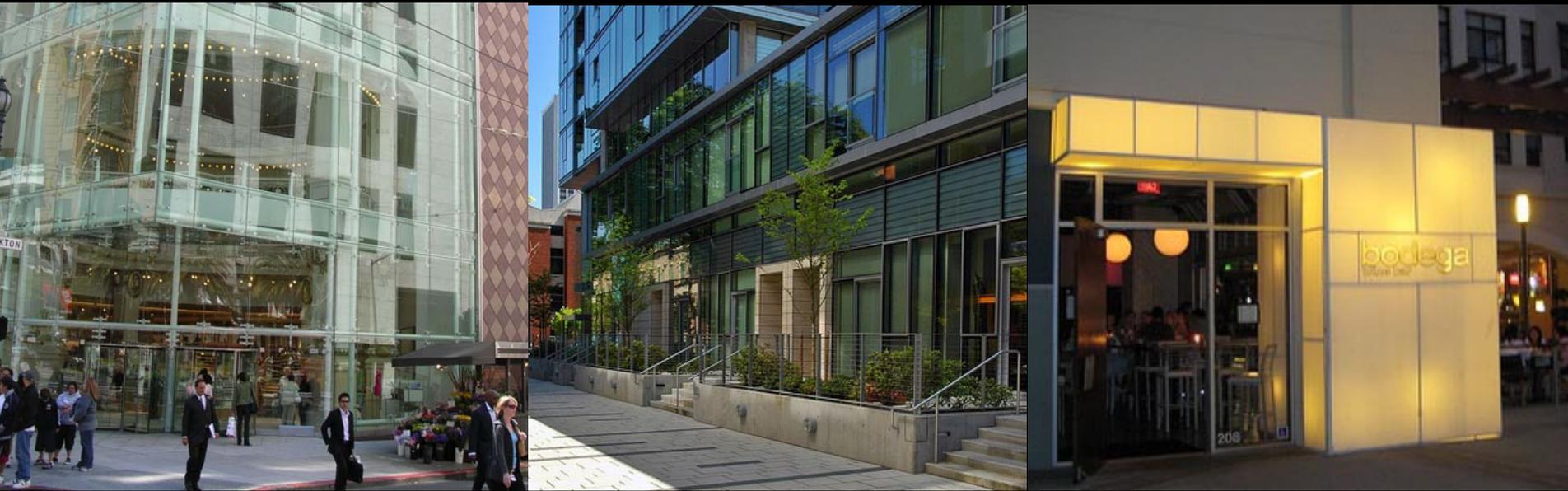
Community Open Space – Civic Spaces



Quality Building Design – Uses



High Quality Mix of Building Types and Uses



Transportation Amenities



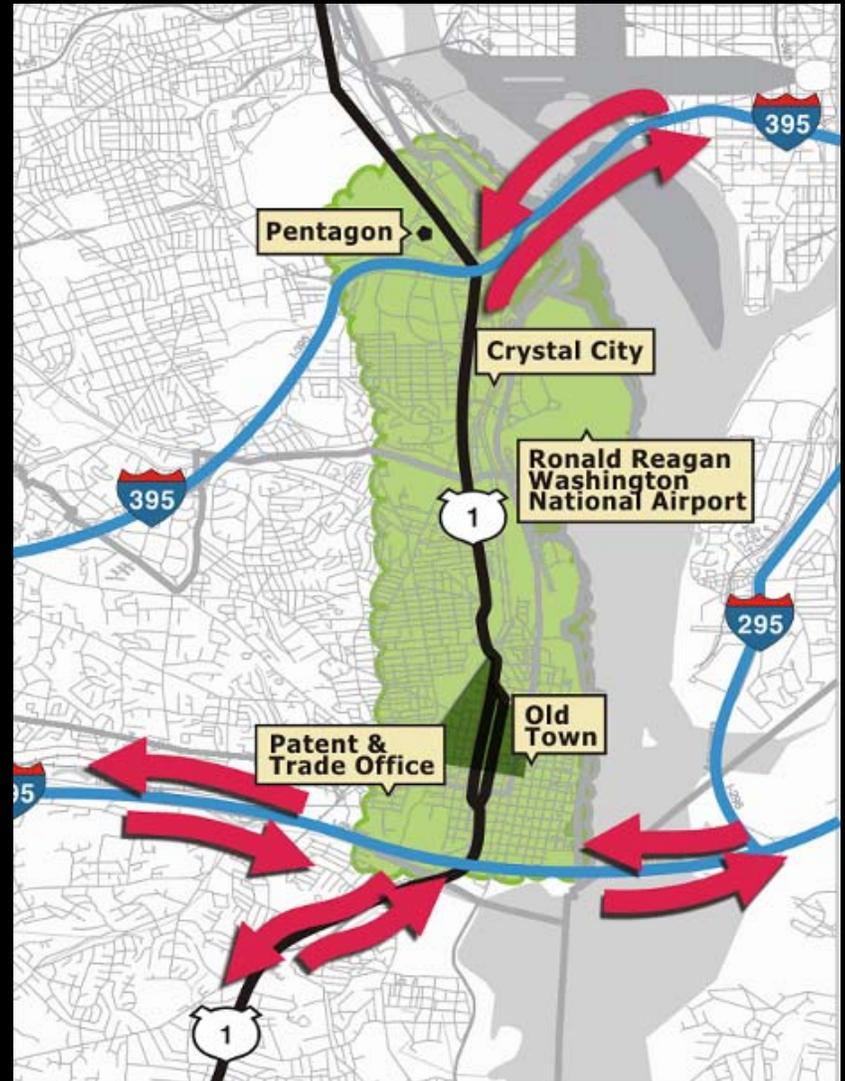
Other Amenities

- Affordable Housing
- Streetscape Improvements – Route 1
- Green Buildings – Sustainability
- Public Art
- Civic Facilities
- Other



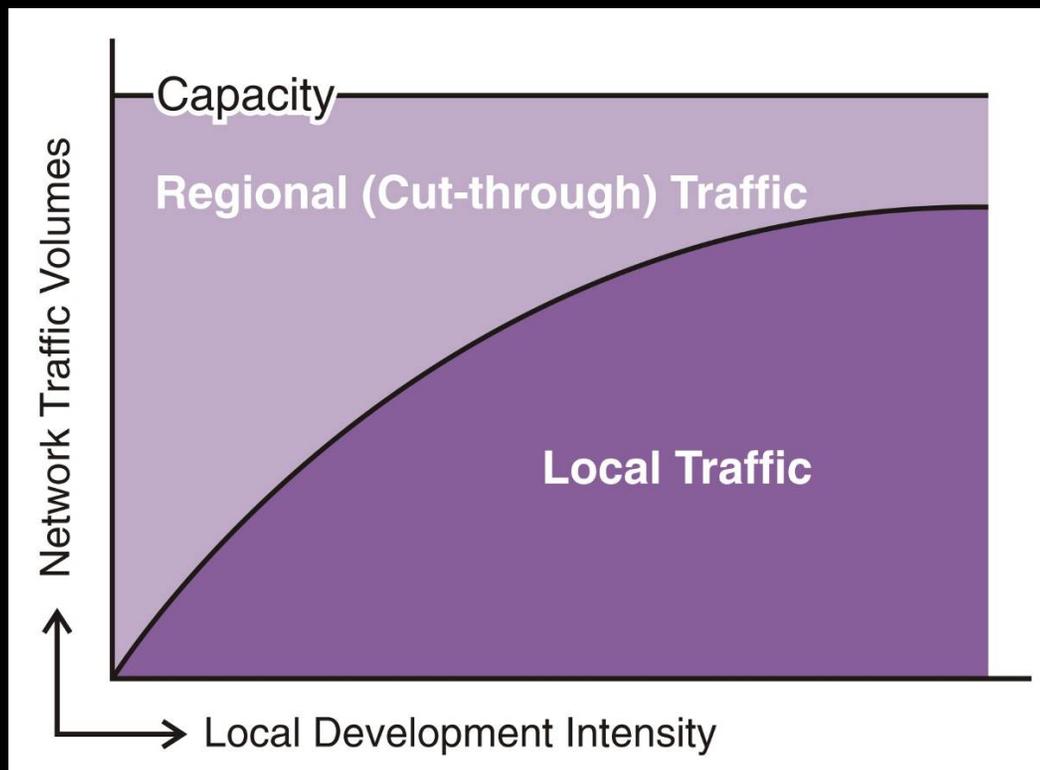
Regional Conditions

- Natural and physical barriers constrain travel options
- Major destinations along Route 1
- Beltway heavily influences traffic conditions along Route 1



What does this assessment tell us?

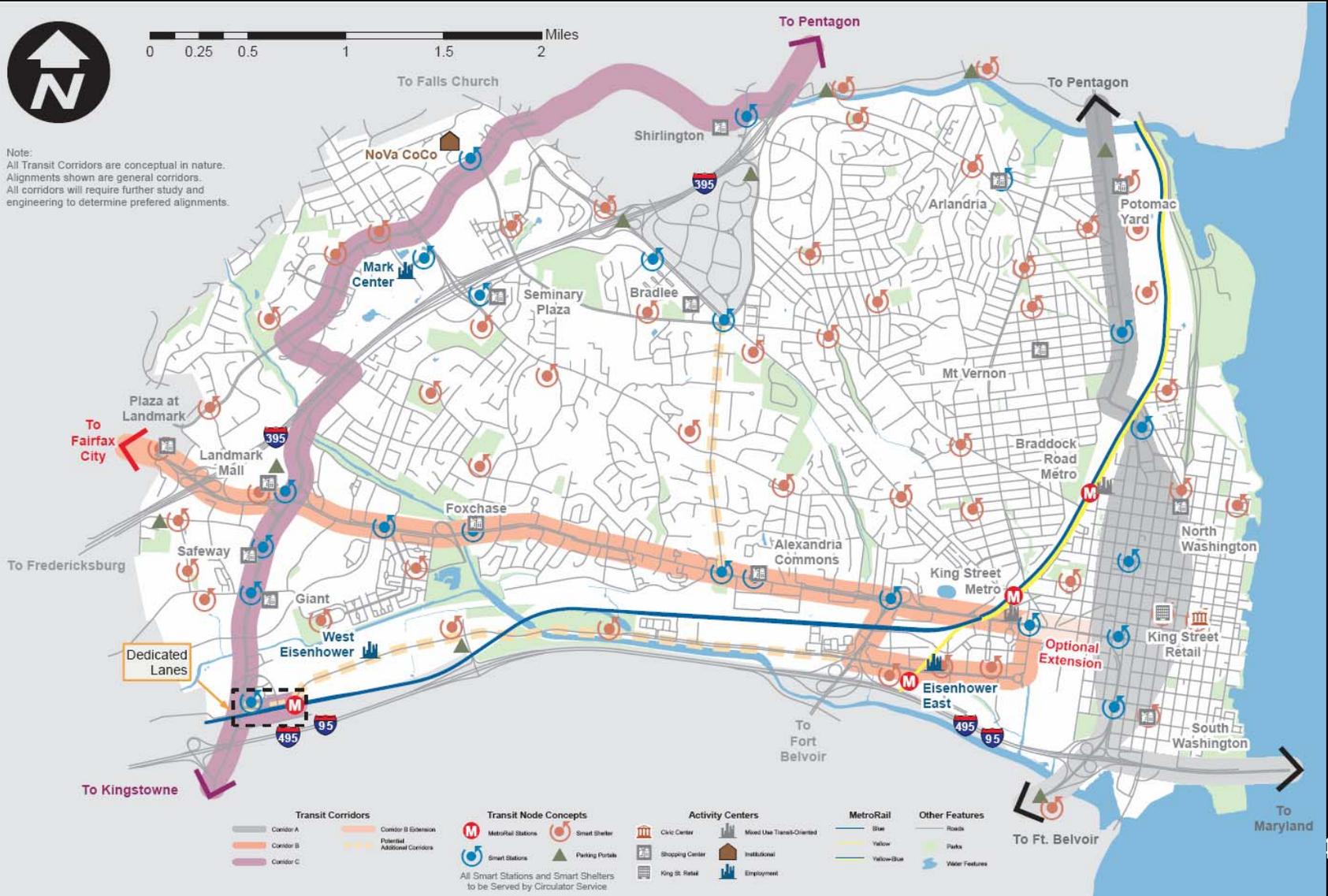
- Congestion on US 1 will continue
- Local growth in a constrained network results in:
 - “squeezing out” of regional trips
 - Peak hour spreading (extended duration of congestion)



Future Transit Corridors



Note:
 All Transit Corridors are conceptual in nature.
 Alignments shown are general corridors.
 All corridors will require further study and
 engineering to determine preferred alignments.



Transit Corridors Corridor A (Blue) Corridor B (Orange) Corridor C (Purple) Corridor B Extension (Light Blue) Potential Additional Corridors (Light Orange)		Transit Node Concepts MetroRail Stations (M) Smart Stations (Blue circle with 'S') Smart Shelters (Red circle with 'S') Parking Portals (Green triangle)		Activity Centers Civic Center (Red building icon) Shopping Center (Blue building icon) King St. Retail (Red building icon) Mixed Use Transit-Oriented (Green building icon) Institutional (Brown building icon) Employment (Blue building icon)		MetroRail Blue Yellow Yellow-Blue		Other Features Roads (Grey line) Parks (Green area) Water Features (Blue area)	
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All Smart Stations and Smart Shelters to be Served by Circulator Service

Full Regional BRT Network for 2030

BRT recommendations made here can be the first steps towards the regional high-quality BRT system currently being studied by the TPB Scenario Study.

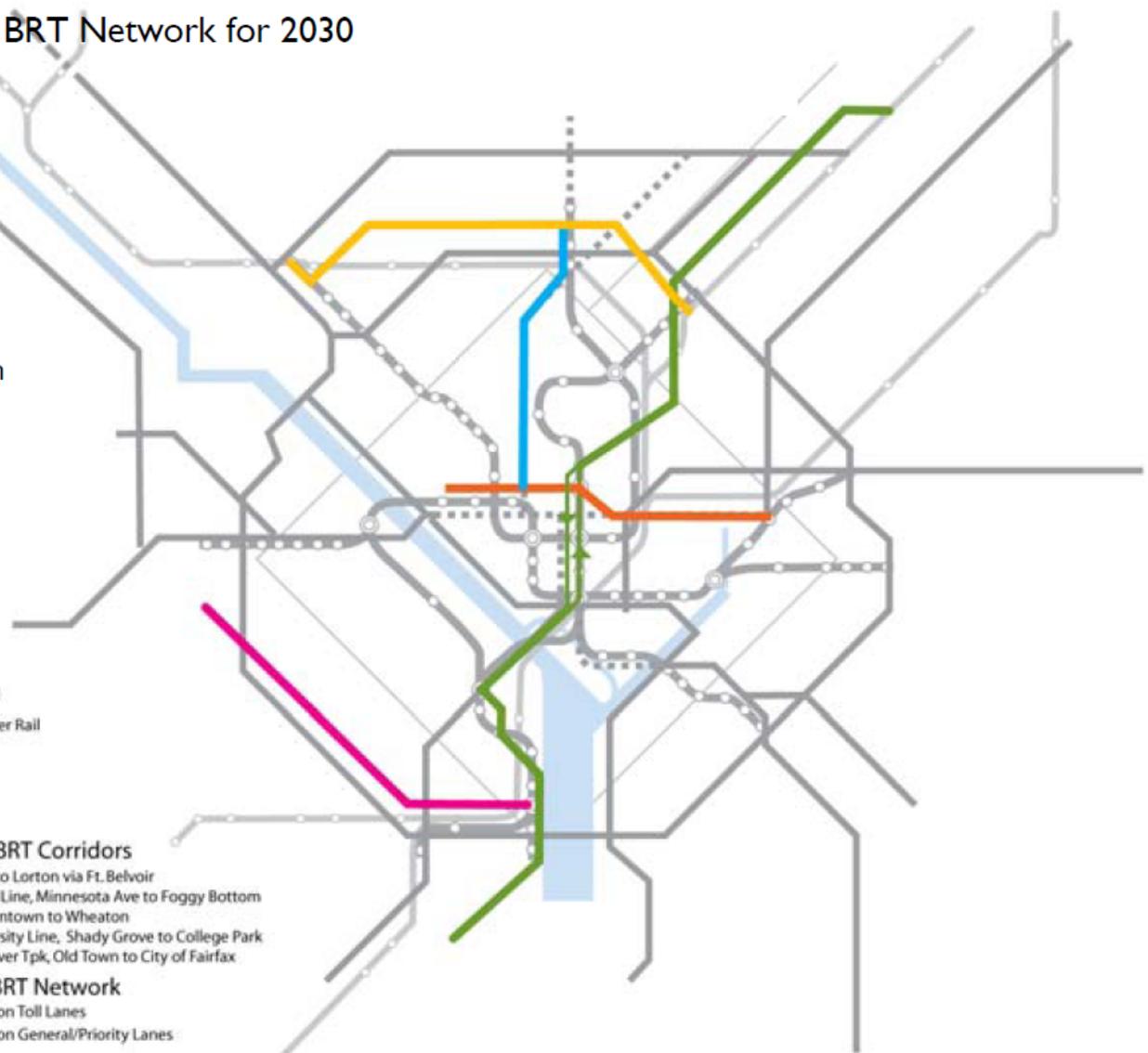
- Existing Metrorail
- Existing Commuter Rail

Recommended BRT Corridors

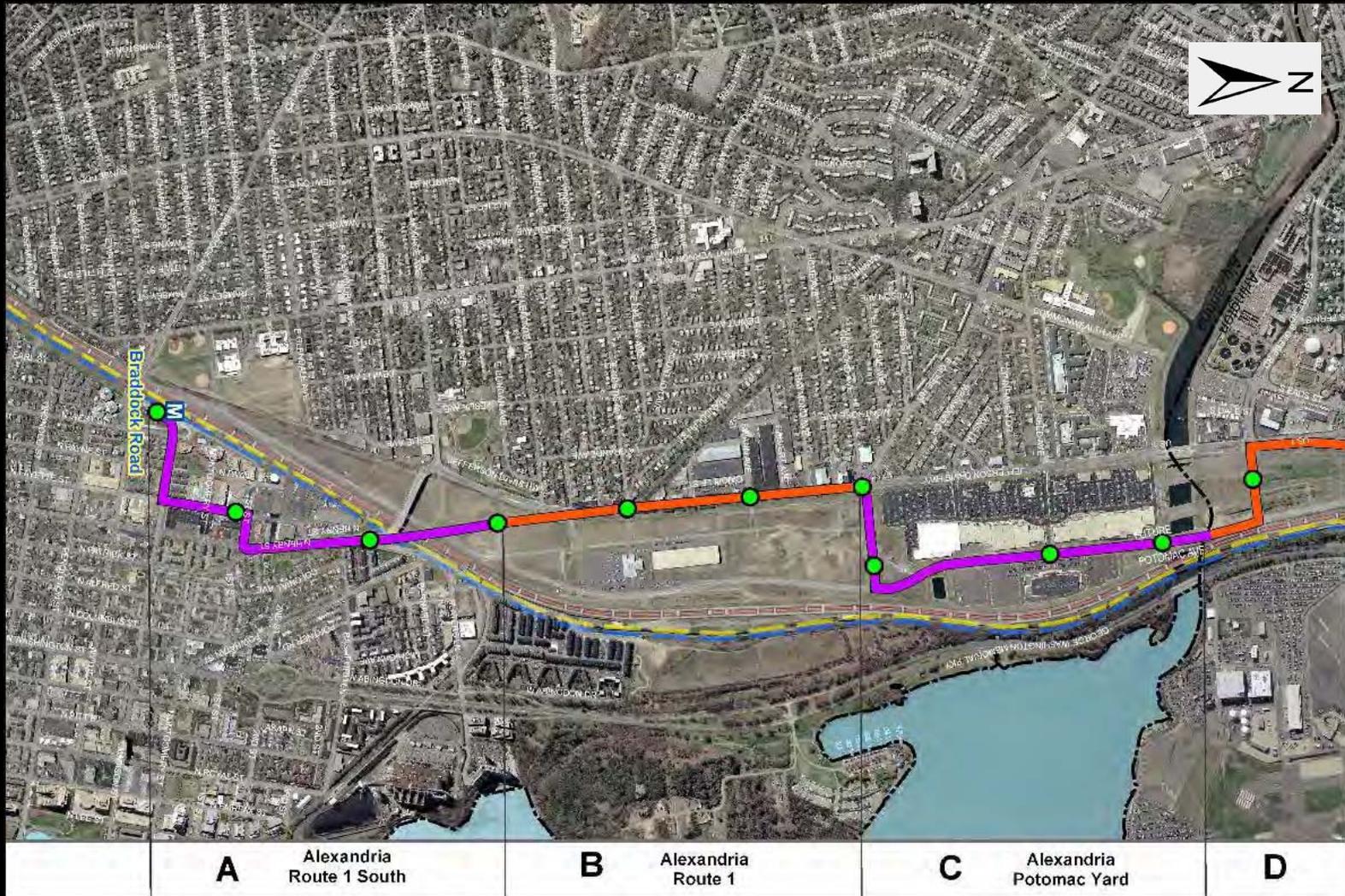
- US 1 Line, Laurel to Lorton via Ft. Belvoir
- H St NE / K St NW Line, Minnesota Ave to Foggy Bottom
- 16th St Line, Downtown to Wheaton
- Viers Mill / University Line, Shady Grove to College Park
- Duke St / Little River Tpk, Old Town to City of Fairfax

Scenario Study BRT Network

- Buses Operating on Toll Lanes
- Buses Operating on General/Priority Lanes



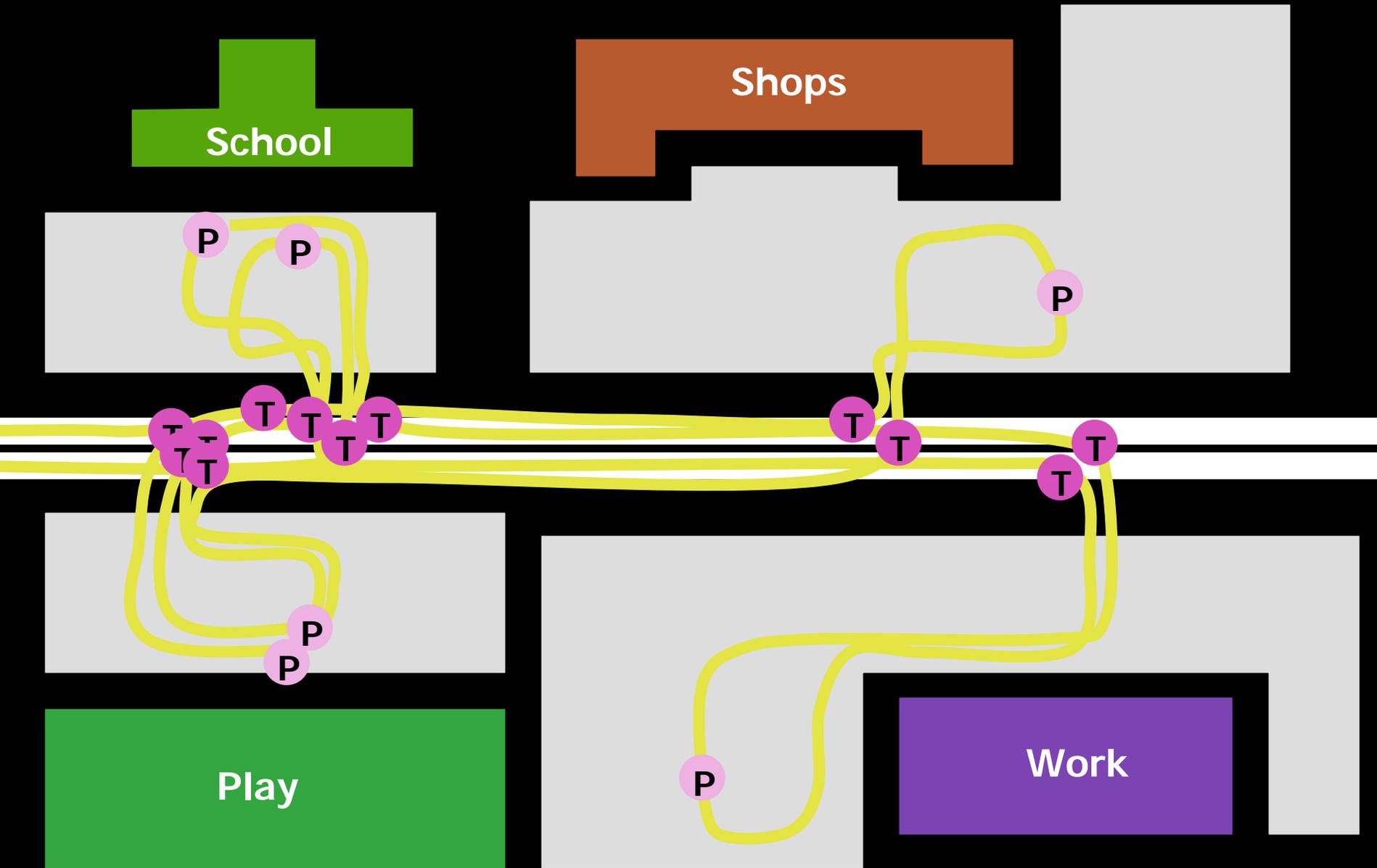
BRT Route



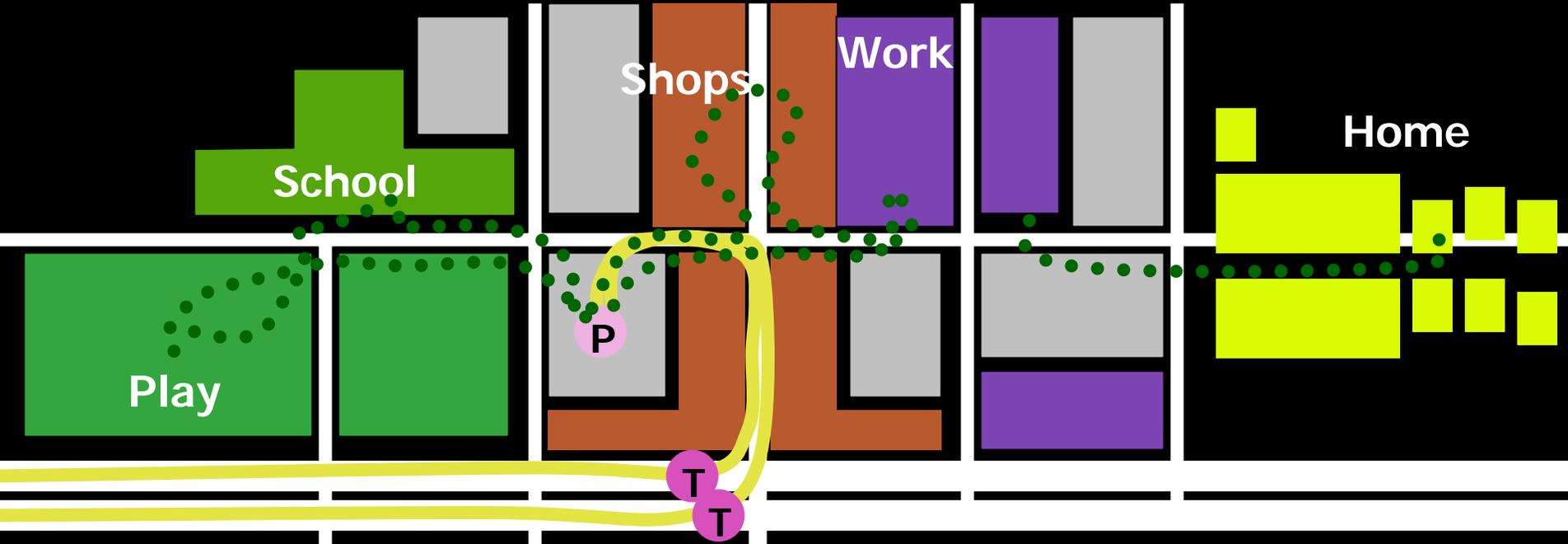
Illustrative Cross-section



Access and Mobility in a Conventional Development Pattern



Interconnected Street Pattern with Mixed-Use Development



Results:

- Less parking needed
- Fewer arterial trips
- Less traffic impact
- Fewer vehicle miles traveled
- Less congestion
- More travel choice



Overview

- Assumptions
- Findings
- Summary

Study Assumptions

- Development density
- Future transportation network
- Travel mode choice
- General traffic growth

Development Density

<u>Land Use</u>	<u>Landbay F</u>	<u>Landbay L</u>
Office	1,475,000 sf	-
Residential	4,750 dwelling units	1,000 dwelling units
Hotel	400 rooms	-
Retail	1,000,000 sf	10,000 sf



Future Transportation Network

Metro Station
Potomac Avenue

Bicycle & Pedestrian Facilities

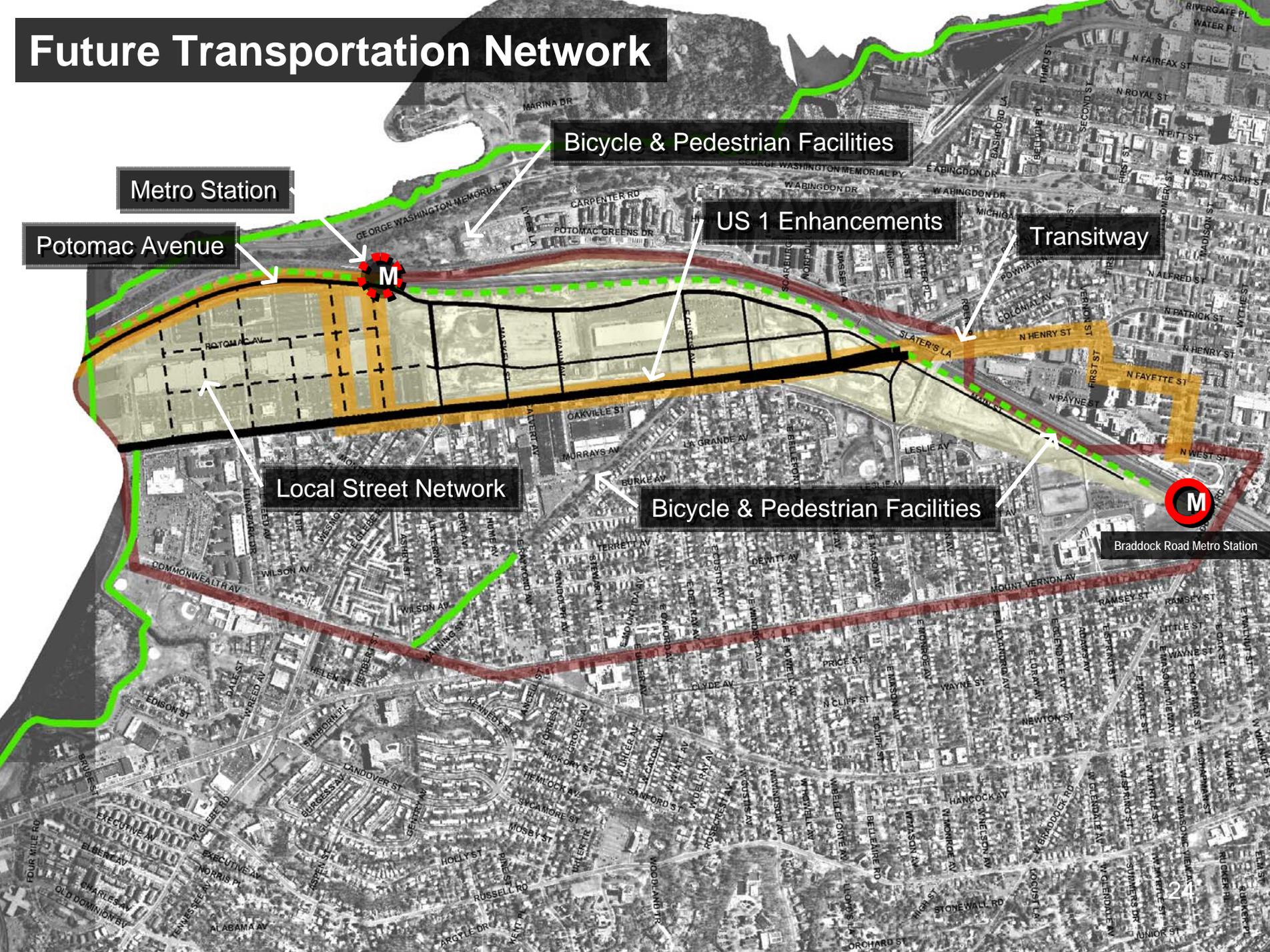
US 1 Enhancements

Transitway

Local Street Network

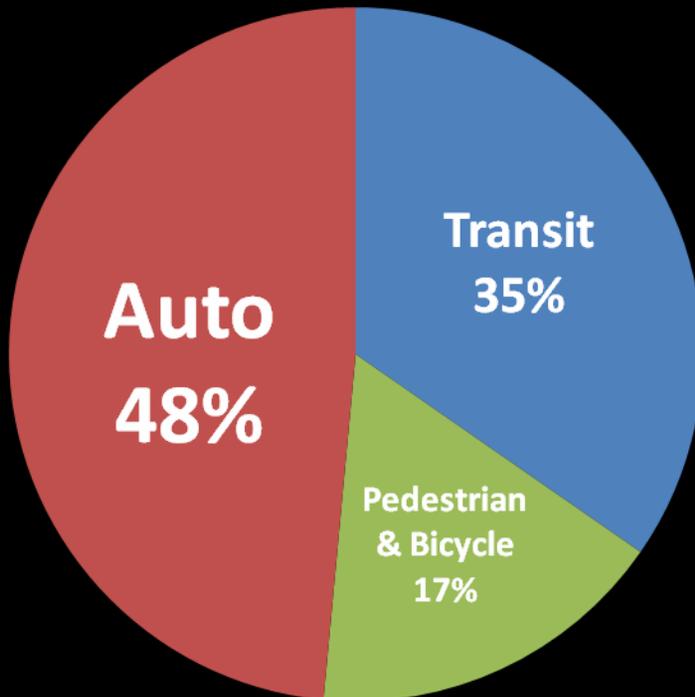
Bicycle & Pedestrian Facilities

Braddock Road Metro Station

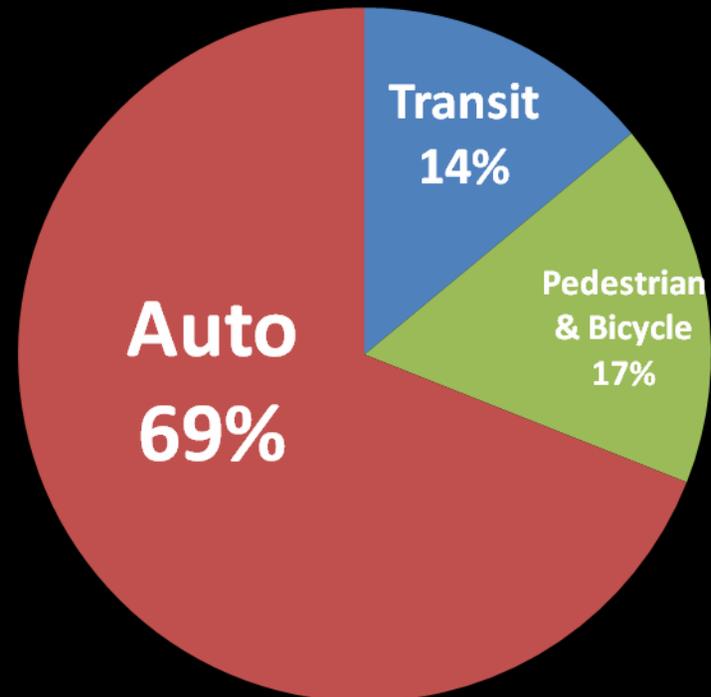


Travel Mode Choice

Scenario Including a New Metro Station



Scenario Not Including a new Metro Station



Initial Findings

- Existing conditions
- Future no build conditions
- Future build conditions
 - With Metro station
 - Without Metro station

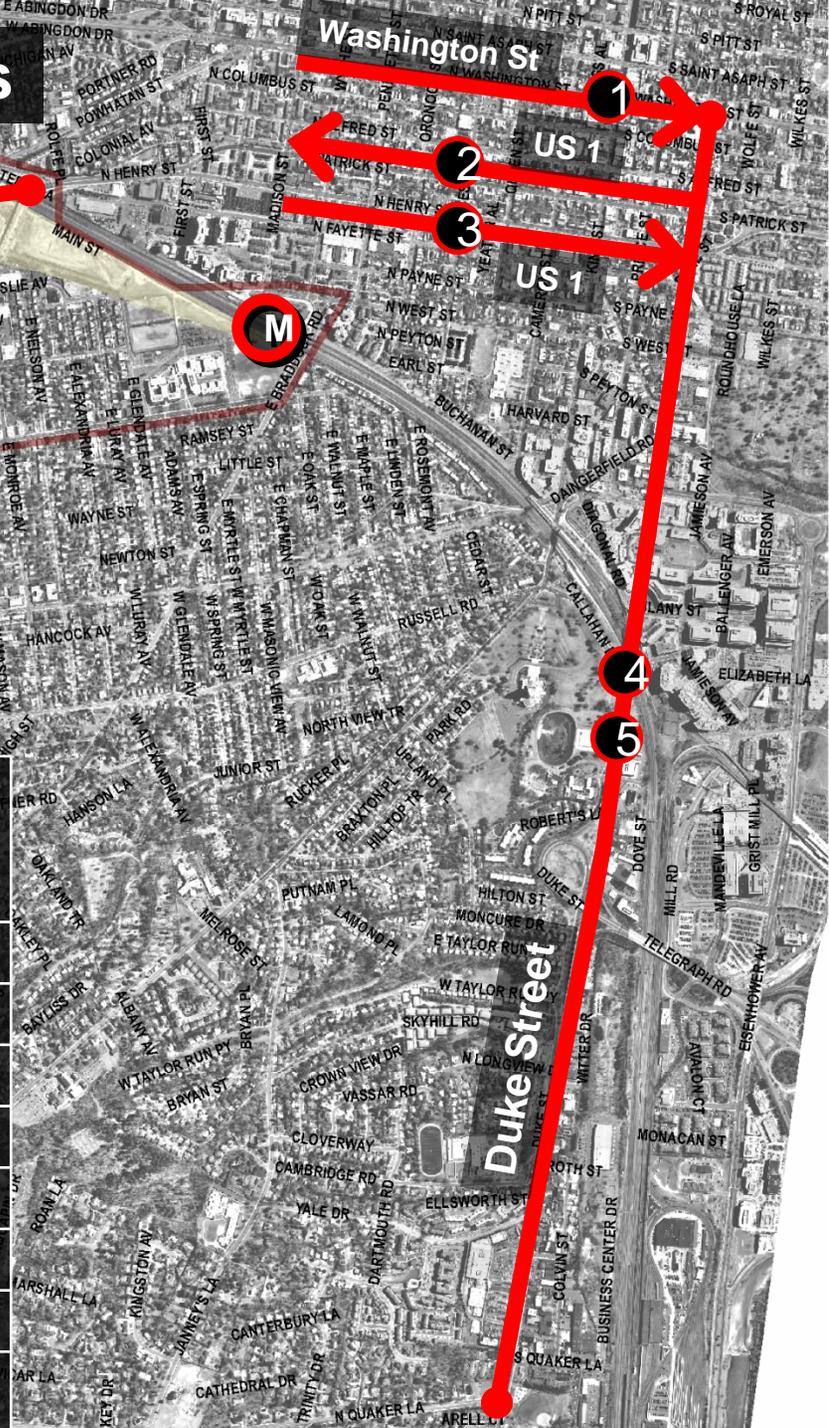
Existing Conditions

- Some traffic congestion during peak periods
- Auto-oriented development pattern
- Barrier-effect of US 1 for pedestrians, bicycles, and transit
- Limited transit service
- Limited street interconnectivity
- Some pressure on neighborhood streets (cut-through traffic)

Existing PM Peak Hour Operations



Existing PM Peak Hour Travel Time and Speeds



Location/Direction	Average Travel Speed (mph)	Average Travel Time (in minutes for 1.7 miles*)
1. Washington Street Southbound	8.8	11.5
2. US 1 Northbound (Old Town)	13.0	8.0
3. US 1 Southbound (Old Town)	5.3	19.0
4. Duke Street Westbound	14.4	7.0
5. Duke Street Eastbound	11.6	9.0
6. US 1 Northbound (PY)	22.3	4.5
7. US 1 Southbound (PY)	20.9	5.0

* This is the equivalent time required to travel 1.7 miles, which is the same as the length of US 1 from S. Glebe Road to Slater's Lane

Existing and Future Operations

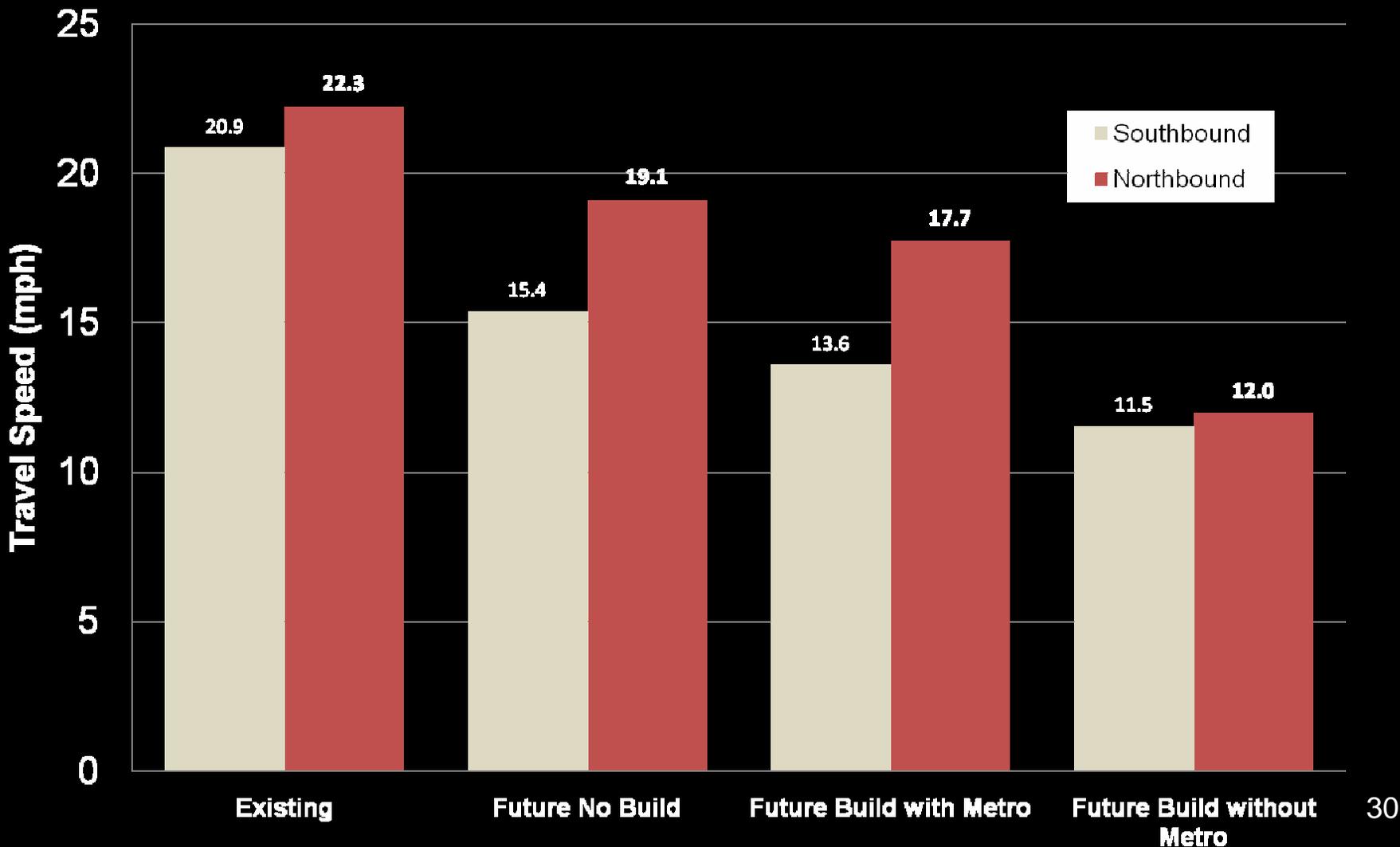


Potomac Yard PM Peak Hour Travel Time and Speeds

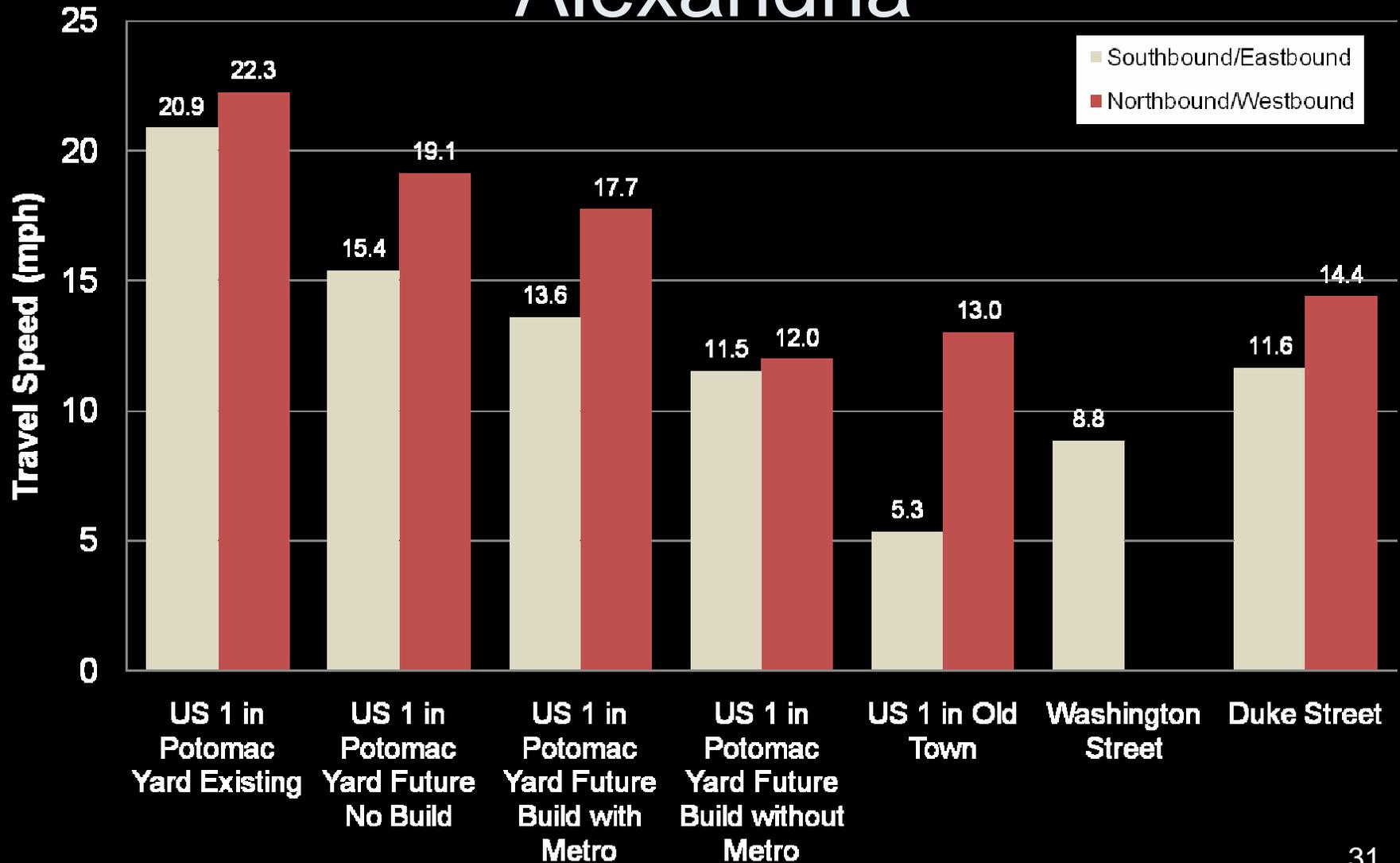
Scenario	Southbound			Northbound		
	Speed (mph)	Travel Time (min)	Increase in Travel Time/Speed (from existing)	Speed (mph)	Travel Time (min)	Increase in Travel Time/Speed (from existing)
Existing	20.9	5.0	-	22.3	4.5	-
Future Background (no-build)	15.4	6.5	30%	19.2	5.5	22%
Future Build (with Metro station)	13.6	7.5	50%	17.7	6.0	33%
Future Build (without Metro station)	11.5	9.0	80%	12.0	8.5	89%



PM Peak Hour Travel Speed on US 1 Along Potomac Yard



PM Peak Hour Travel Speed in Alexandria



Future Spot Transportation Concerns

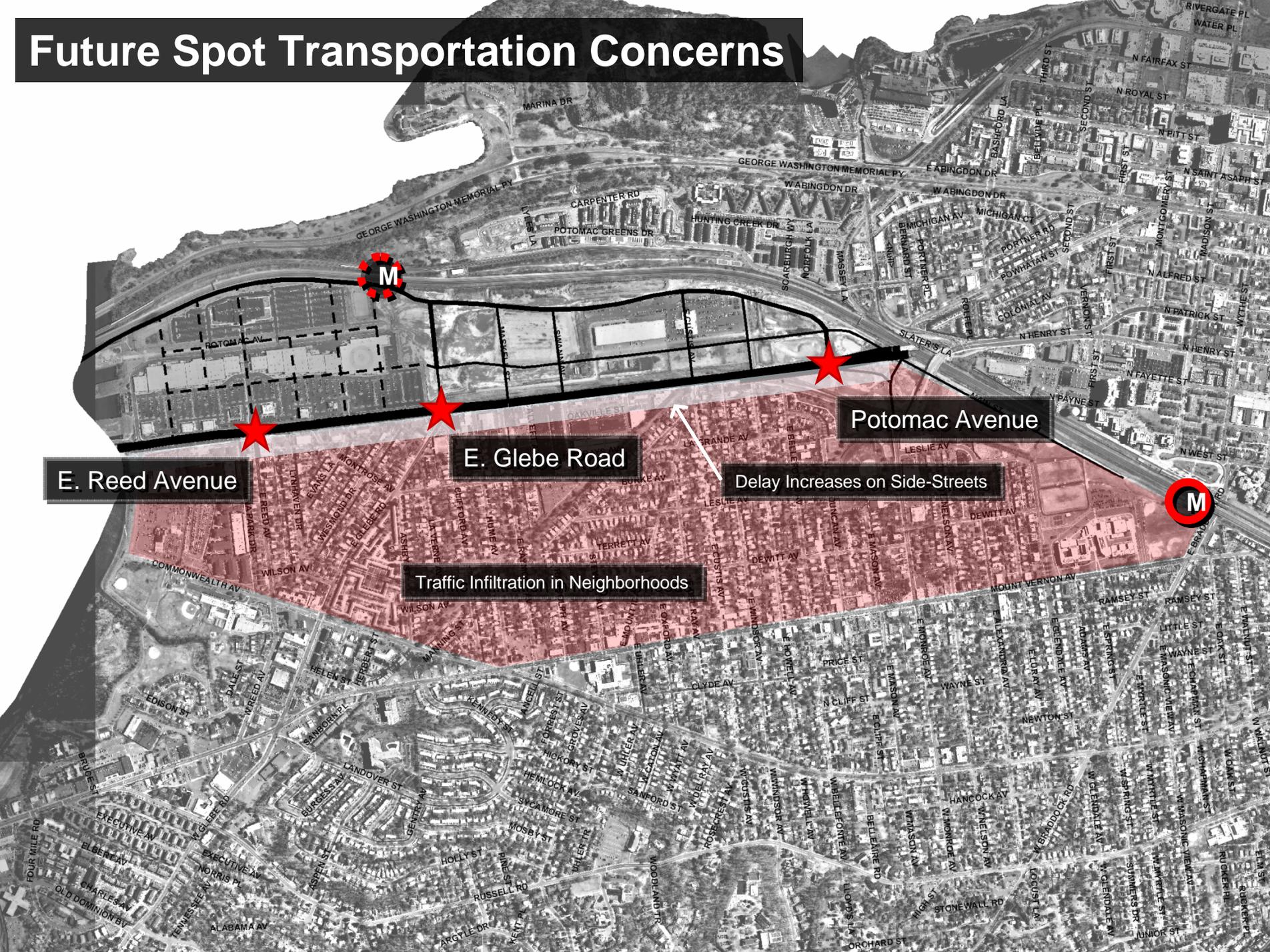
E. Reed Avenue

E. Glebe Road

Potomac Avenue

Delay Increases on Side-Streets

Traffic Infiltration in Neighborhoods



Summary Points

- US 1 will approach capacity regardless of redevelopment
 - With additional urbanization, more local trips will be carried
 - With less urbanization, more regional through trips will be carried
- Planned multimodal improvements can accommodate projected levels of density
 - With new Metro station – additional density can be accommodated
 - Without new Metro station – less new density can be accommodated
- Neighborhood streets can be protected
 - Managing intersections
 - Comprehensive neighborhood traffic management strategy
- Redevelopment creates opportunity
 - New Metro station
 - Transitway
 - Decreased auto-orientation
 - Amenities

