



Route 1 Multimodal Alternatives Analysis

Public Meeting #3

October 9, 2014

Tonight's Schedule

Open House

6:00 – 6:30 pm

Presentation

6:30 – 7:00 pm

Share your ideas

7:00 – 8:00 pm



Agenda

1. Purpose of the study
2. What we've learned from you
3. Review of study process and status
4. Evaluation of Alternatives
5. Key considerations for implementation

Population and employment growth

Traffic capacity

Phasing and funding of multimodal improvements

6. Next Steps

1. Purpose of the Study



Alternatives Analysis Study Outcomes

- Recommend a program of **multimodal transportation improvements** for adoption by Fairfax County and Prince William County
- Define **transit**, **roadway**, and **bicycle/pedestrian** projects that could be advanced for implementation.



Purpose and Need

Purpose:

Provide improved performance for **transit, bicycle and pedestrian,** and **vehicular conditions** and facilities along the Route 1 corridor that support **long-term growth** and **economic development.**

Needs:

- Attractive and competitive transit service
- Safe and accessible pedestrian and bicycle access
- Appropriate level of vehicle accommodation
- Support and accommodate more robust land development



Project Goals

GOAL 1: Expand attractive multimodal travel options to improve local and regional mobility

GOAL 2: Improve safety; increase accessibility

GOAL 3: Increase economic viability and vitality of the corridor

GOAL 4: Support community health and minimize impacts on community resources

2. What we've learned from you



Where We've Been

Public Meeting #1 (Fall 2013)

- Study introduction
- Existing conditions
- Goals and objectives



Public Meeting #2 (Spring 2014)

- Initial alternatives
- Evaluation measures
- Land use analysis



Public Meeting #3 (Today)

- Evaluation of alternatives
- Study recommendations
- Phasing and implementation

Outreach Methods

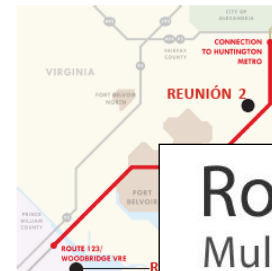
- Committee Meetings
(technical, elected, community)
- Public Meetings
- Social Media
- News Ads and Press Release
- Flyers and Fact Sheets
- Metro Station and Bus Ads
- Community Event Booths
- Bilingual
- On-Line and On-Corridor
- Targeted Efforts to Engage Diverse Populations

Route 1



Multimodal Alternatives Analysis

¡ACOMPÁÑENOS A LA TERCERA REUNIÓN PÚBLICA!



REUNIÓN 1: PRINCE WILLIAM COUNTY
el miércoles 8 de octubre
6:00 pm – 8:00 pm (Presentación a las 7:00)
Belmont Elementary School
751 Norwood Lane, Woodbridge
Transporte Público: La Ruta Uno de OmniLink se desviará de su ruta para proveer servicio a la escuela el día de la junta.



El Análisis de Alta movilidad a lo largo en Woodbridge y la publica para mejorar el transporte

route1multimodalaa
Department of Rail and Public Transportation
para una sesión exclusiva de participación en dichos servicios por motivo de su rol del Título VI de la Ley de Derechos Civiles. Para procedimientos de no discriminación, visite el sitio de Internet www.drpt.virginia.gov
Linda Balderson, 600 E. Main Street

Route 1



Multimodal Alternatives Analysis

JOIN US FOR OUR THIRD PUBLIC MEETING!



MEETING 1: PRINCE WILLIAM COUNTY
Wednesday, October 8
6:00 p.m. – 8:00 p.m. (Presentation at 7:00)
Belmont Elementary School
751 Norwood Lane, Woodbridge
Public Transit: OmniLink's Route One bus will travel off-route to serve the elementary school that evening.

MEETING 2: FAIRFAX COUNTY
Thursday, October 9
6:00 p.m. – 8:00 p.m. (Presentation at 6:30)
South County Center
8350 Richmond Hwy, Alexandria
Public Transit: Fairfax Connector Route 171 and the REX.



The Route 1 Multimodal Alternatives Analysis is a study to enhance mobility along a 15-mile segment of Route 1 between the VRE station in Woodbridge and Huntington Metro Station. Join us at the upcoming public meeting to learn about the study's findings and recommendations for improved transit, roadway, bicycle, and pedestrian facilities along Route 1.

route1multimodalaa.com

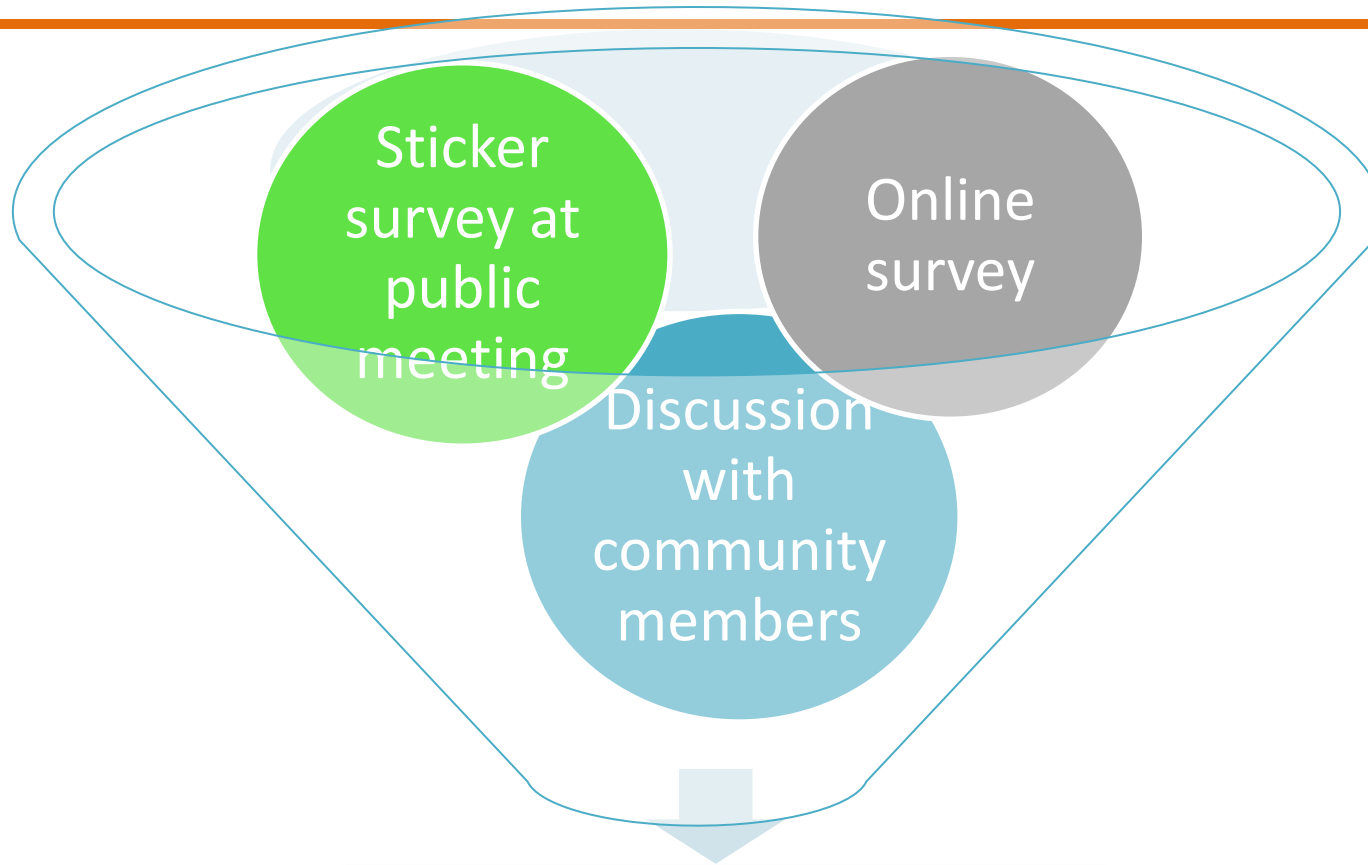
[route1multimodalaa](https://www.facebook.com/route1multimodalaa)

[@r1multimodalaa](https://twitter.com/r1multimodalaa)

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What We've Learned From You



Goals for Today's Meeting

Key takeaways:

- Evaluation of alternatives process
- Study recommendations
- Potential phasing and implementation sequence for corridor improvements

We want to hear feedback from you on:

- Draft recommendations
- Implementation action plan

3. Review of study process and status



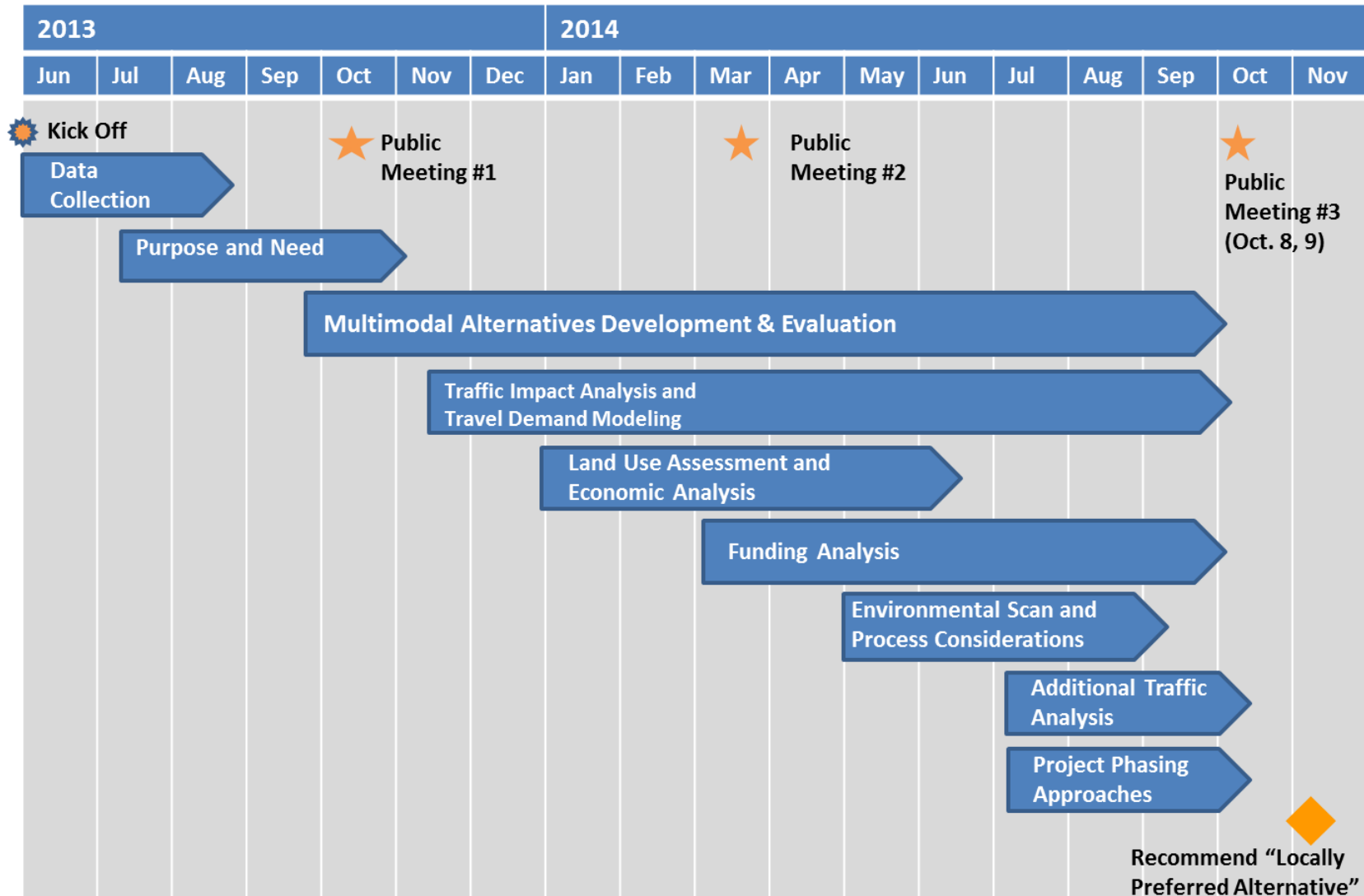
Alternatives Analysis Study Outcomes

The recommended projects would:

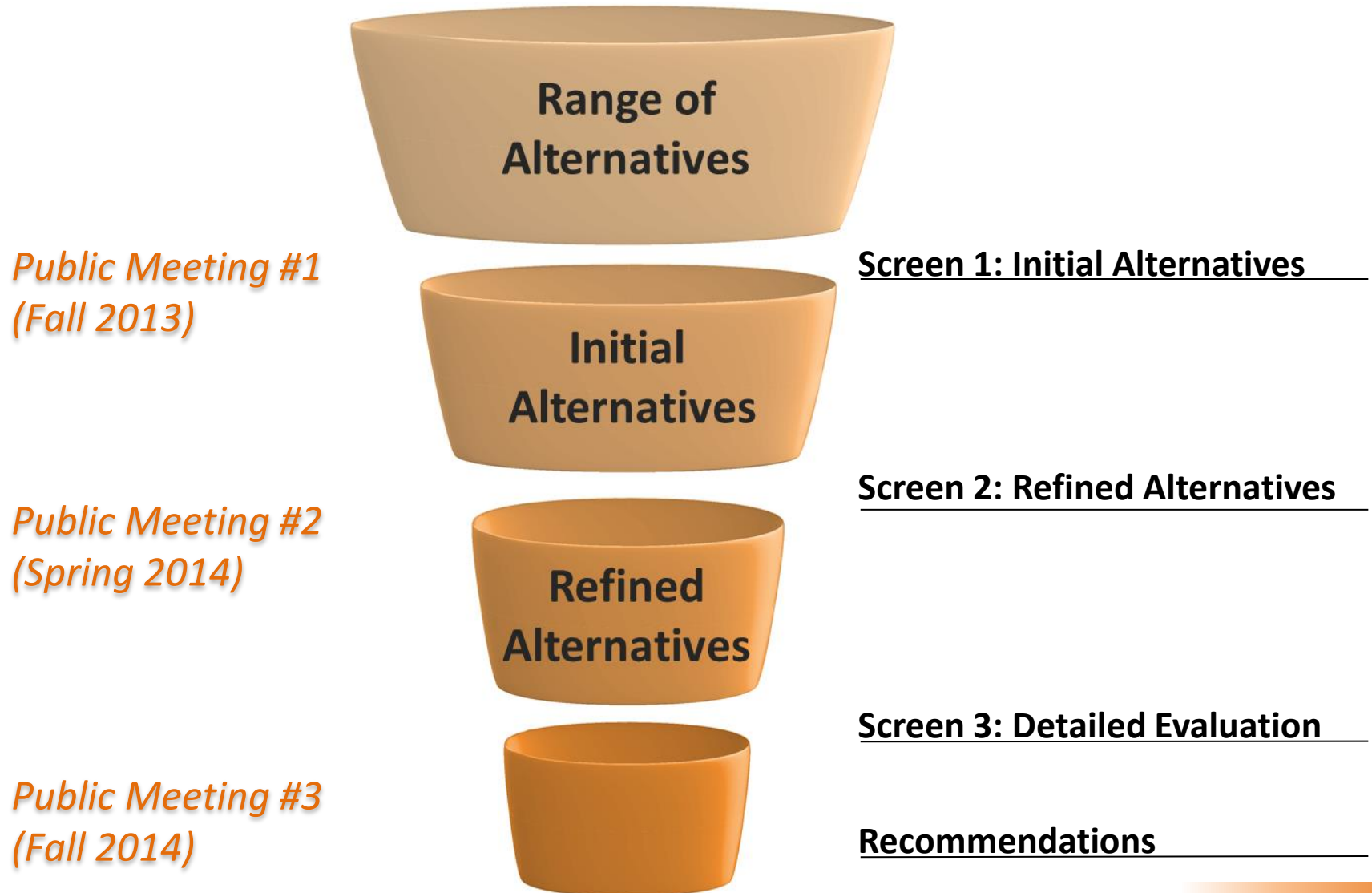
- Respond to County and State transportation and land use plans and policies
- Support economic development goals
- Be financially feasible and potentially competitive for federal funding



Study Schedule: Major Activities



Evaluation Process



4. Evaluation of Alternatives:

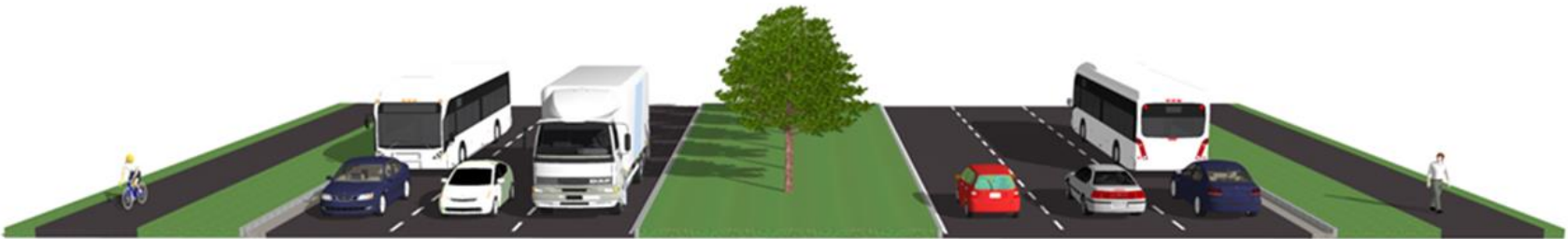
Ability to address goals and objectives



Bicycle/Pedestrian and Roadway Recommendations

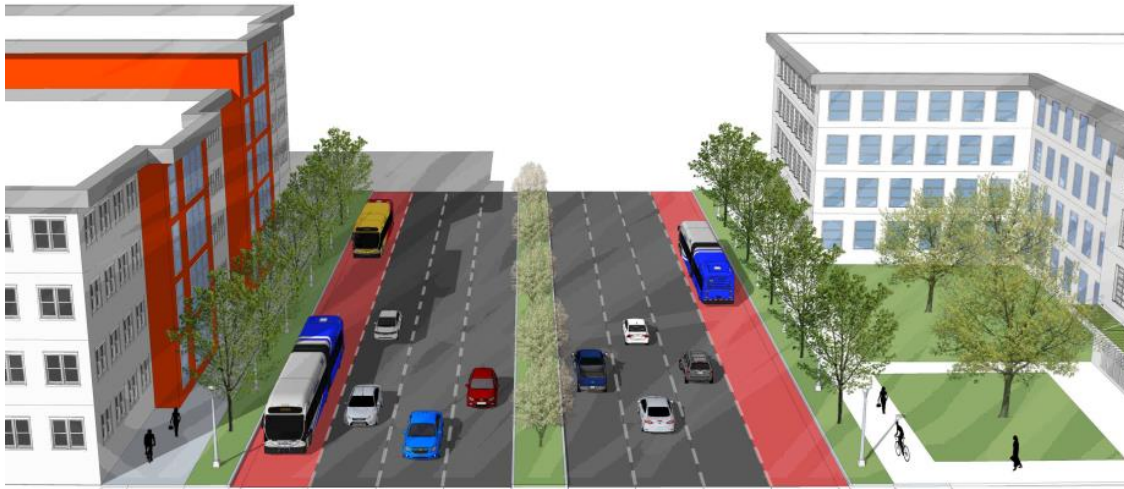
Recommendations:

- Roadway: Consistent, 6 vehicular lanes along the corridor
- Bike/Ped: 10-foot multiuse path
(Note: implementation of recommended section varies along the corridor)

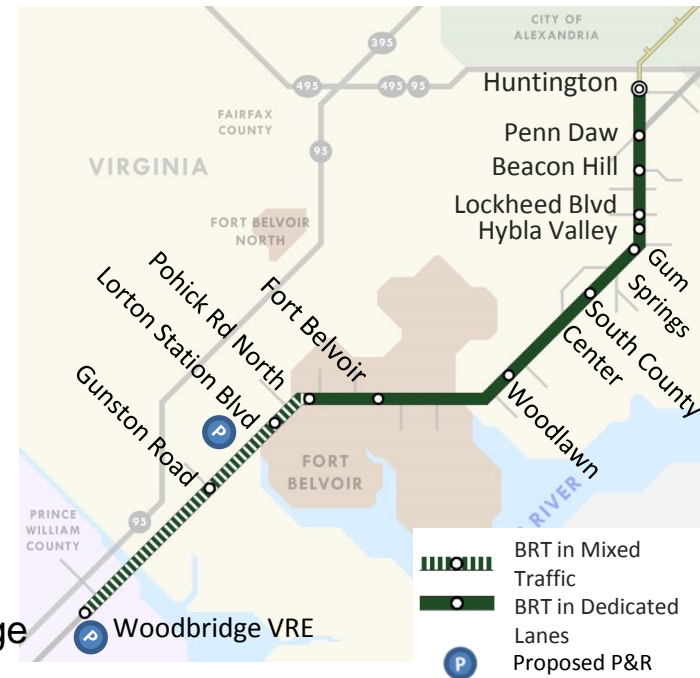


Alternative 1: Bus Rapid Transit – Curb Running

BRT operates in dedicated curb lanes to Pohick Road North

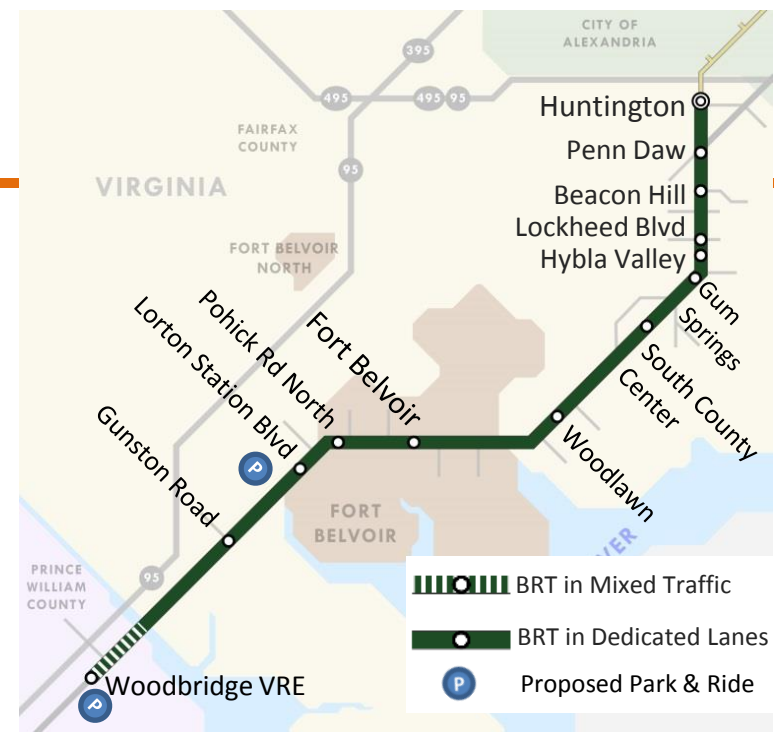


BRT operates in mixed traffic from Pohick Road North to Woodbridge



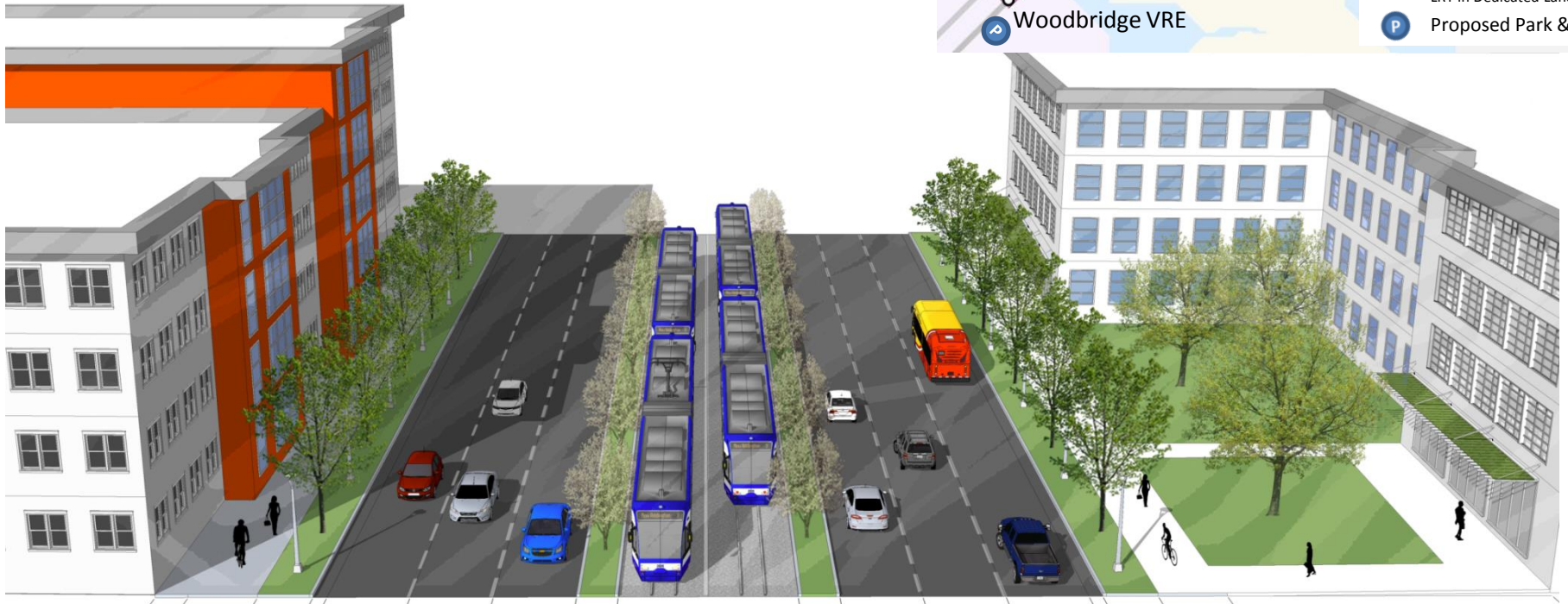
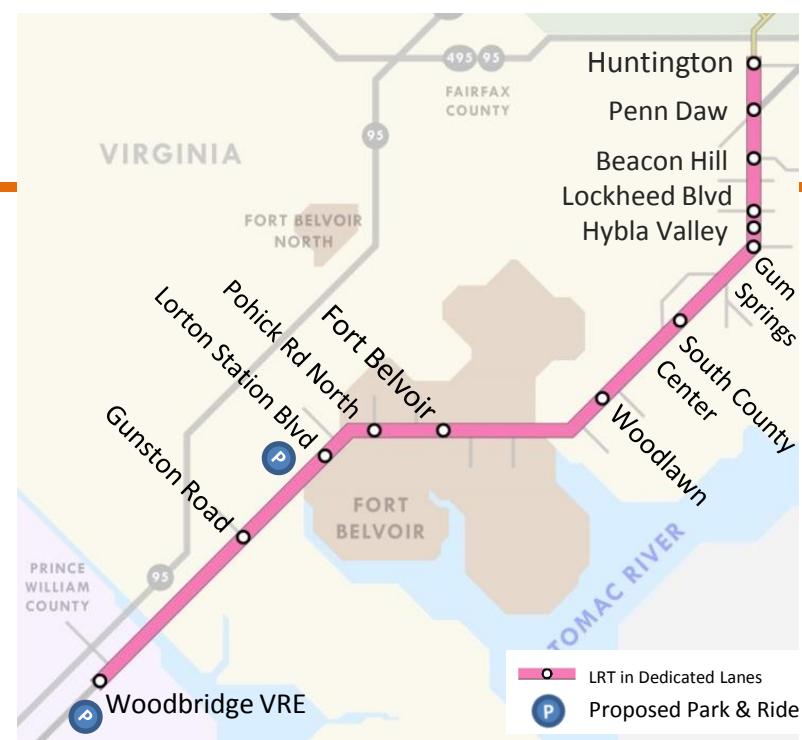
Alternative 2: Bus Rapid Transit - Median

BRT operates in median in dedicated lanes in Fairfax County; transitions to mixed traffic through Prince William County



Alternative 3: Light Rail Transit

Light Rail operates in median in
dedicated lanes for entire corridor

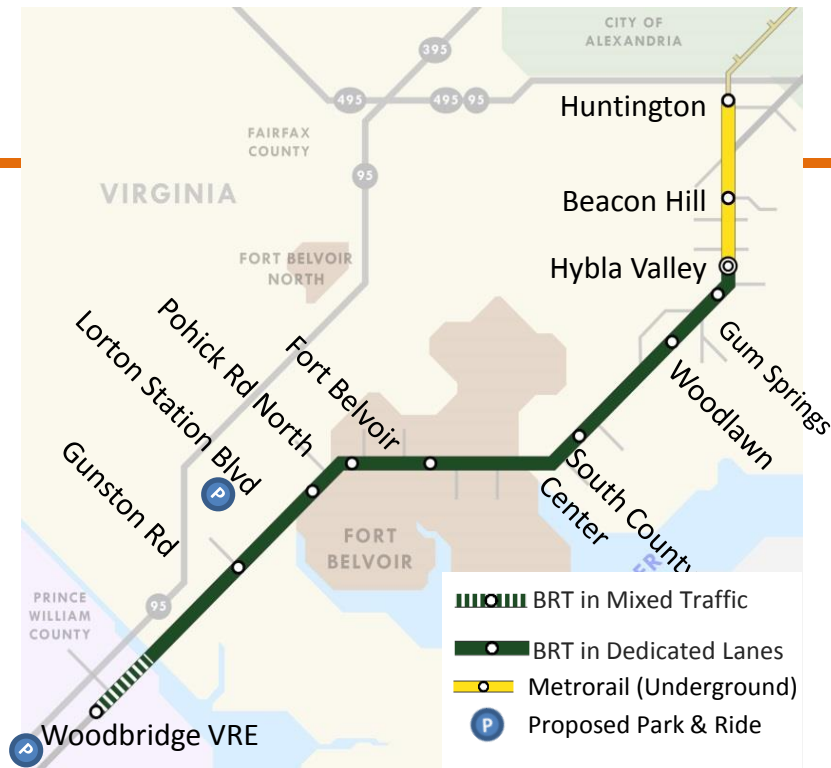


Alternative 4: Metrorail- BRT Hybrid

Median Running BRT in the near-term



Metrorail underground to Hybla Valley with supporting BRT in the long-term



Summary of Key Indicators

Based on Scenario 1 Land Use (COG 2035 Forecast)

	Alt 1: BRT- Curb	Alt 2: BRT- Median	Alt 3: LRT	Alt 4: Metro/BRT Hybrid
Average Weekday Ridership (2035)	15,200	16,600	18,400	26,500 (BRT 10,600; Metro 22,900)
Conceptual Capital Cost	\$832 M	\$1.01 B	\$1.56 B	\$2.46 B* (Metro \$1.46B; BRT \$1 B)
Annual O&M Cost (Each Alternative includes \$5 M annual cost for Ft. Belvoir shuttle service)	\$18 M (BRT \$13M; Ft Belvoir Shuttle \$5M)	\$17 M (BRT \$12M; Ft Belvoir Shuttle \$5M)	\$24 M (LRT \$19M; Ft Belvoir Shuttle \$5M)	\$31 M** (Metro \$17M; BRT \$8M; Ft Belvoir Shuttle \$5M)
Cost Effectiveness (Annualized capital + operating cost per rider)	\$19	\$20	\$27	\$28** (Metrorail: \$28; BRT: \$29)

























* This figure represents full BRT construction between Huntington and Woodbridge, then Metrorail extension from Huntington to Hybla Valley

** These figures assume operation of Metrorail between Huntington and Hybla Valley, and BRT between Hybla Valley and Woodbridge

Evaluation of Alternatives

Goals	Example Measures
Goal 1: Local and Regional Mobility	<ul style="list-style-type: none"> • Ridership • Travel time savings
Goal 2: Safety and Accessibility	<ul style="list-style-type: none"> • Traffic • Pedestrian access
Goal 3A: Economic Development	<ul style="list-style-type: none"> • Economic development effects • Implementation
Goal 3B: Cost Effectiveness	<ul style="list-style-type: none"> • Capital costs • Operating costs
Goal 4: Community Health and Resources	<ul style="list-style-type: none"> • Environmental impacts • Change in Vehicle Miles Traveled (VMT)

Evaluation of Alternatives: Findings

Evaluation Factors (Goals)	Alternative 1: BRT-Curb	Alternative 2: BRT-Median	Alternative 3: LRT	Alternative 4: Metrorail-BRT (Hybrid)
Goal 1: Local and Regional Mobility	 0.7	 0.8	 0.8	 1.00
Goal 2: Safety and Accessibility	 0.7	 0.8	 0.8	 0.8
Goal 3A: Economic Development	 0.6	 0.6	 0.6	 0.7
Goal 3B: Cost Effectiveness	 1.0	 0.9	 0.7	 0.5
Goal 4: Community and Health Resources	 0.7	 0.7	 0.7	 0.8
Ability to Meet Project Goals Average	 0.7	 0.8	 0.7	 0.8

Check out
Board 4
for full
evaluation
results!

Draft Recommendation

Evaluation results suggest:

- Median running **Bus Rapid Transit (BRT)** in the **near-term** would provide a cost effective transportation solution to support economic development plans.
- **Metrorail extension** to Hybla Valley in the **long-term** has potential to provide a higher level of local and regional mobility and support long-term corridor development, contingent upon increased future land use density.



Hybla Valley with BRT



Hybla Valley with BRT and Metrorail



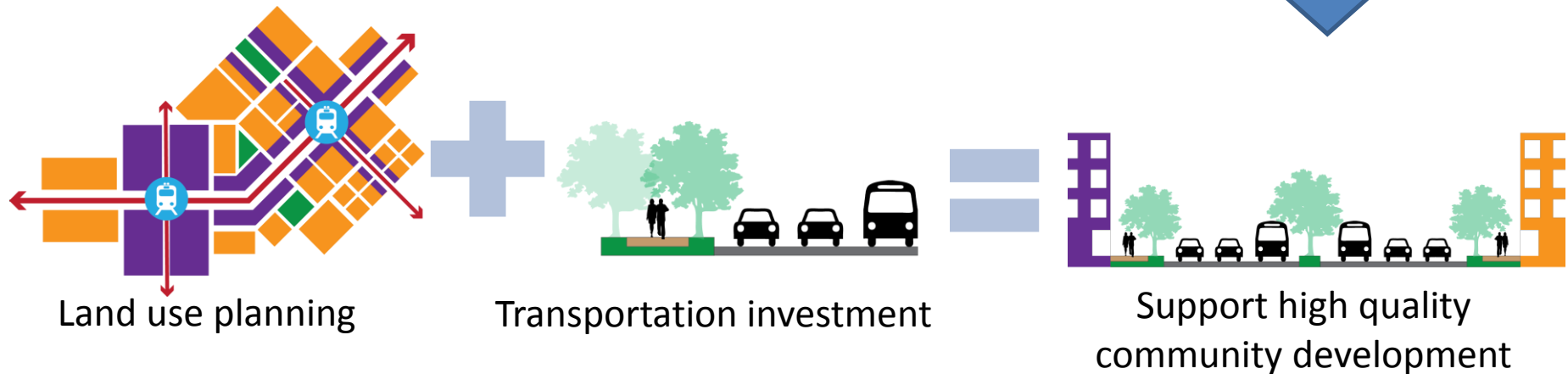
5. Key Considerations for Implementation

Population and employment growth

Traffic capacity

Phasing and funding of multimodal improvements

Transportation investment supports economic viability and vitality of the corridor



Example: Arlington County



Example: Alexandria, VA



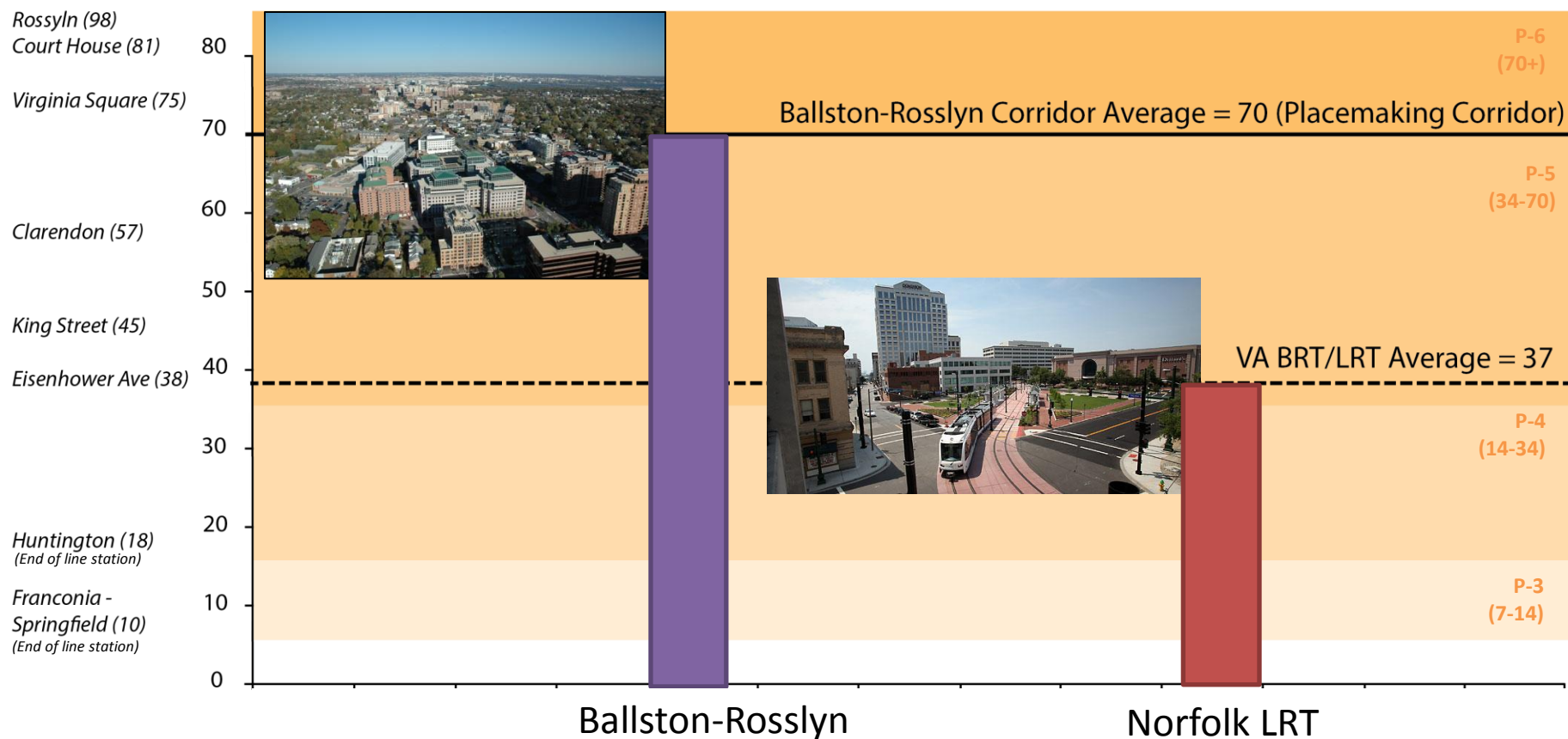
Woodlawn: Transit Oriented Development Concept



Artist's Rendering

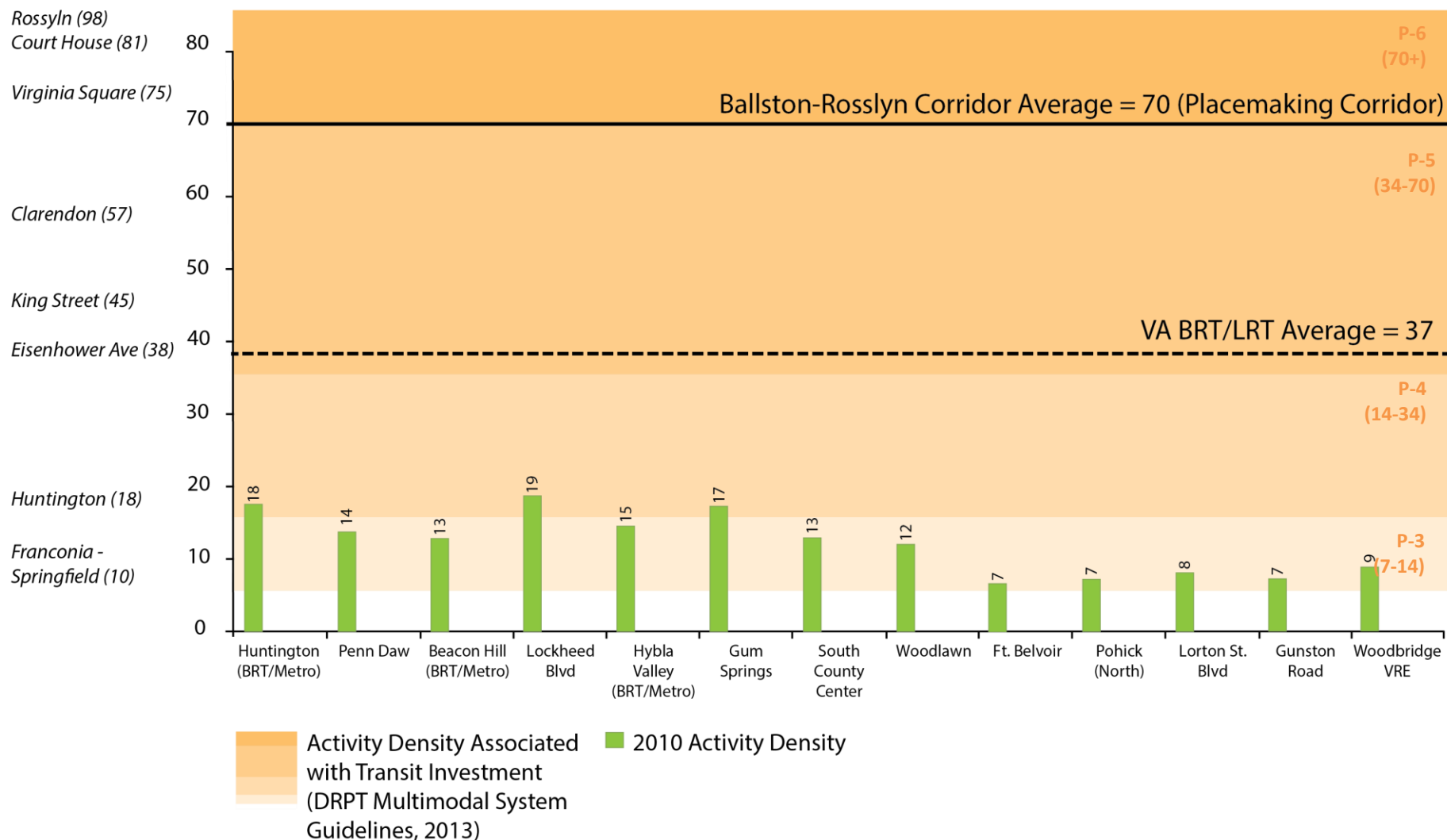
Station Activity Levels

(Population + Employment per Acre)



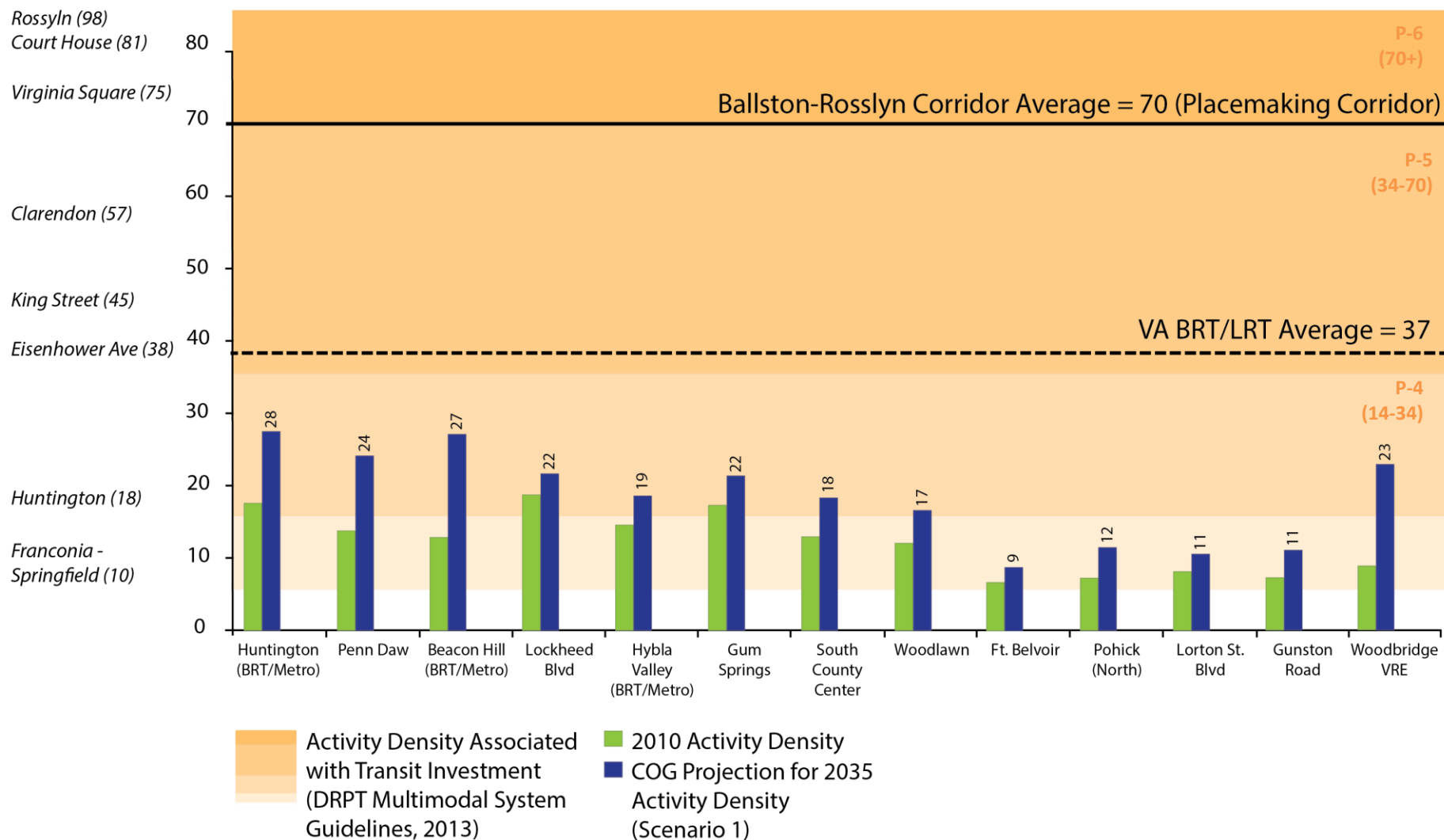
Station Activity Levels

(Population + Employment per Acre)



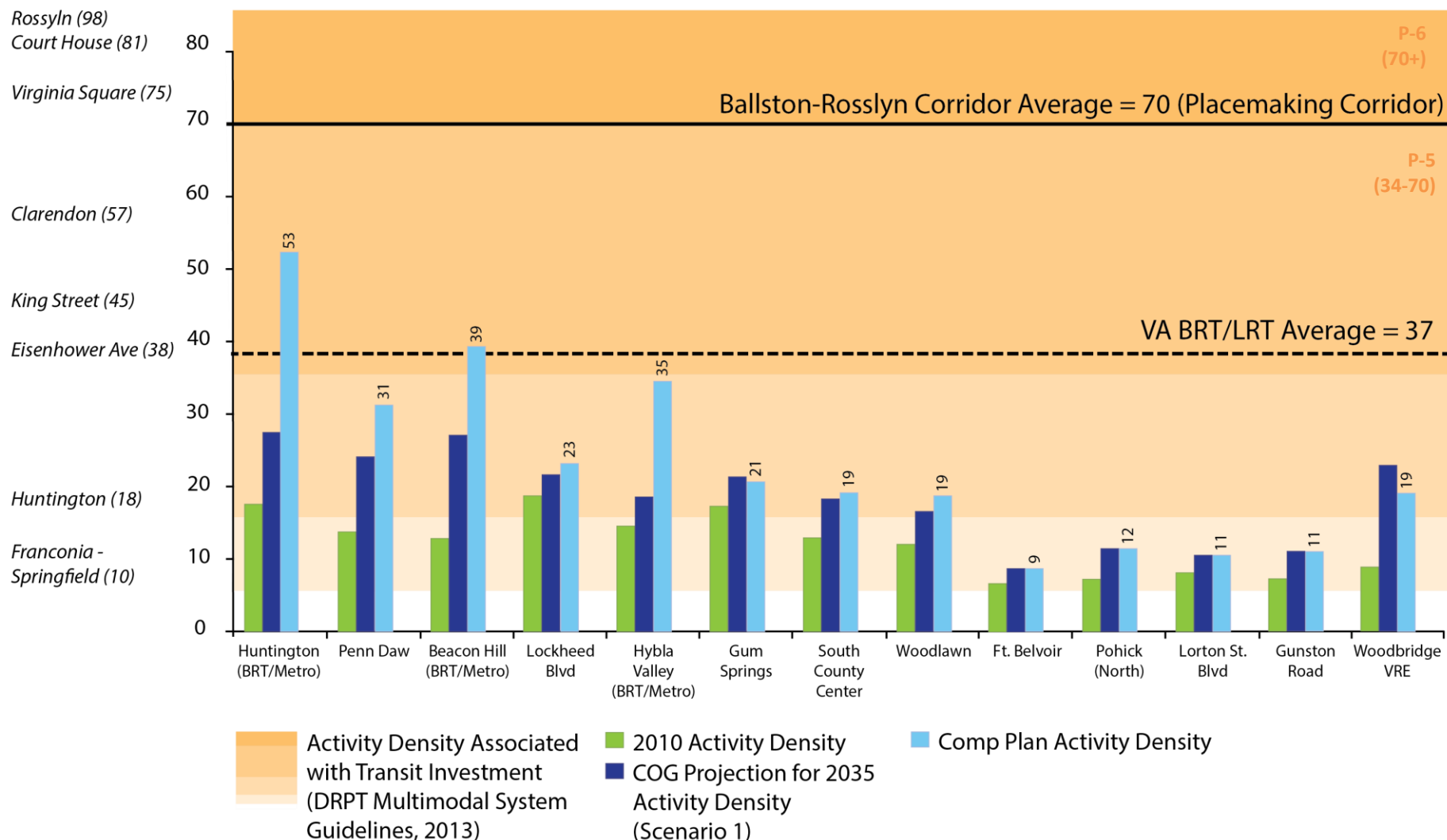
Station Activity Levels

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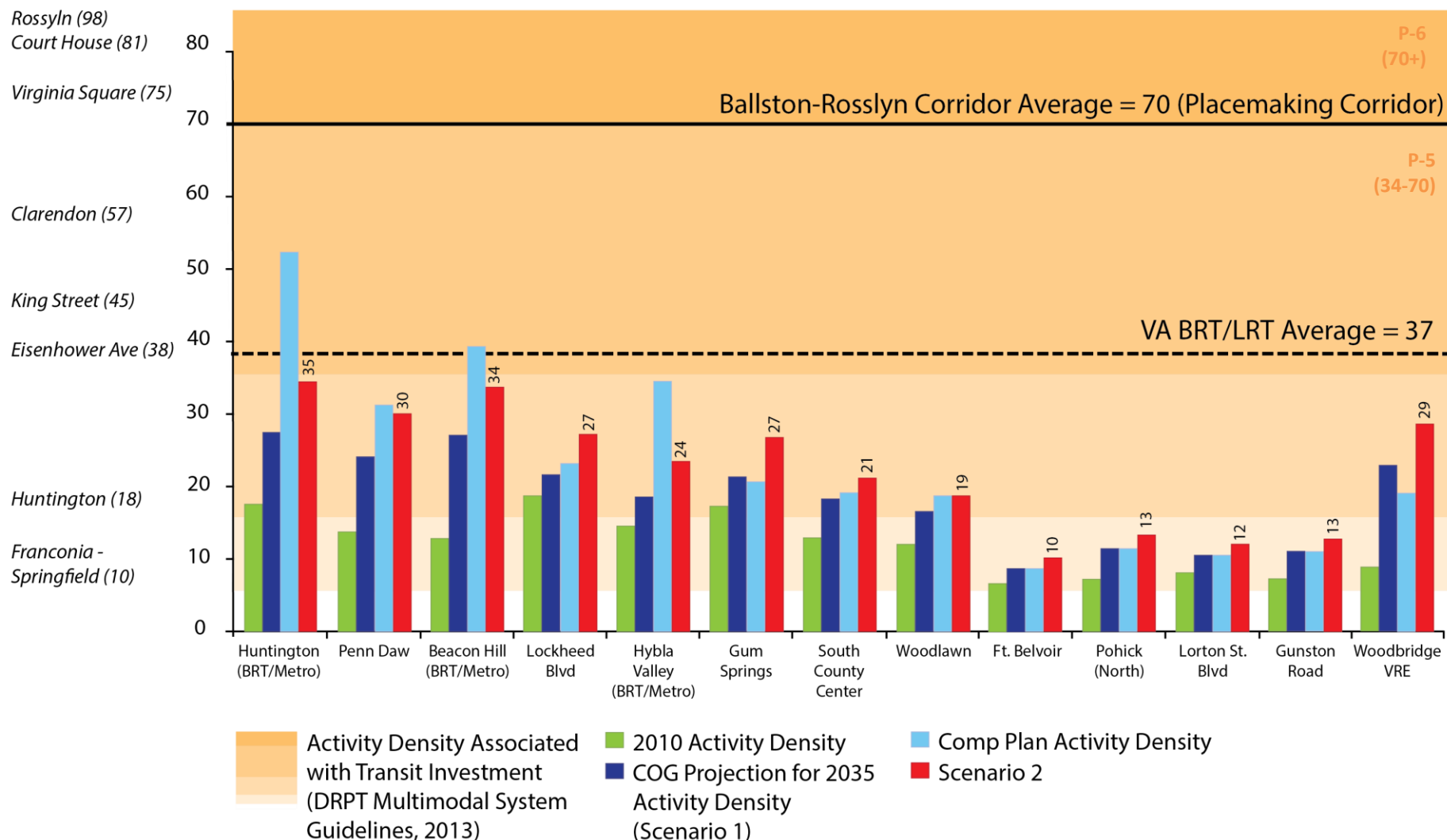
Station Activity Levels

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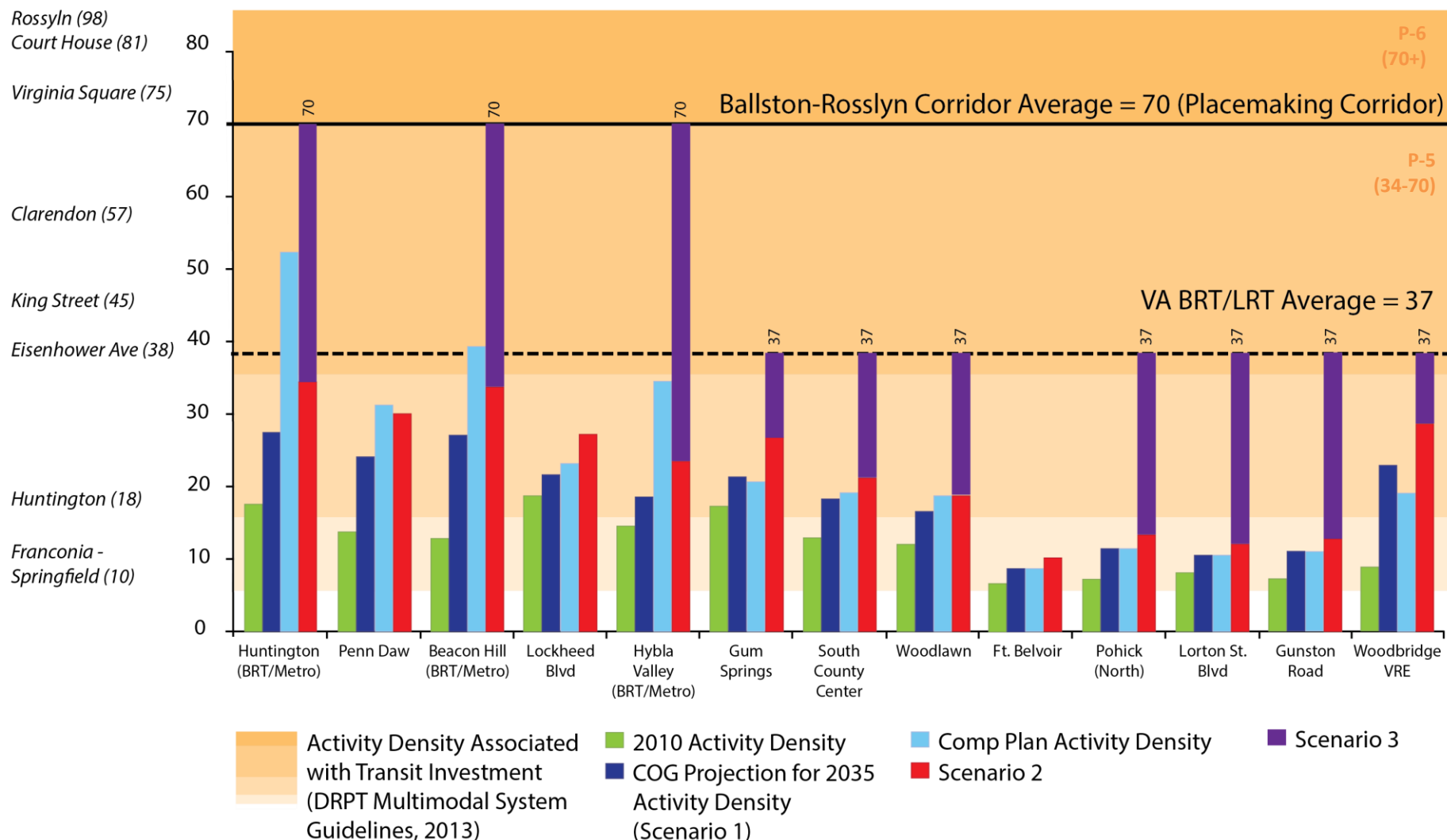
Station Activity Levels

(Population + Employment per Acre)



Station Activity Levels

(Population + Employment per Acre)



Beacon Hill Scenario 2



Beacon Hill Scenario 3



Woodbridge Scenario 2



Growth Scenarios and Requirements for Public Infrastructure Investment



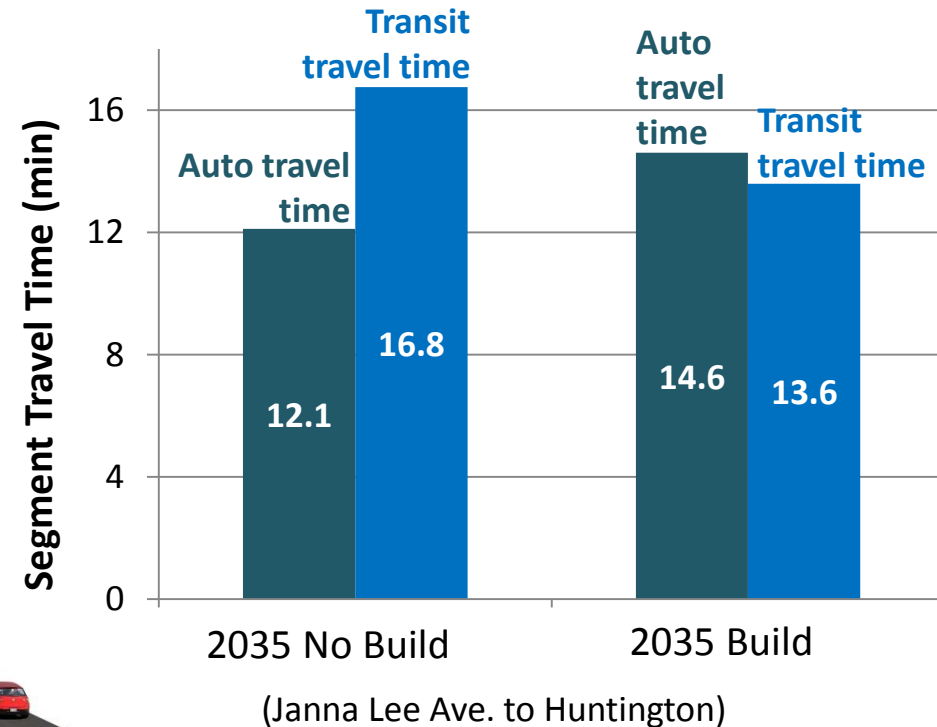
Growth Scenarios Require Transportation and other Public Investment

- **Major growth** is anticipated in the Route 1 corridor in **all scenarios** including COG 2035 forecast
- In Comprehensive Plan updates, corridor infrastructure needs will be evaluated:
 - **Streets**
 - **Schools**
 - **Parks and public space**
 - **Public safety**
 - **Water and utilities**
- Metrorail supportive growth levels require significantly more infrastructure investment than BRT levels
- Current analysis focuses on traffic capacity

Traffic Analysis Findings: **Scenario 1**

Addition of median transit lanes:

- Improves transit travel time
- Incrementally increases automobile travel time
- Left turns impacted
- Does not significantly degrade overall intersection performance



Traffic Analysis Findings: **Scenarios 2 and 3**

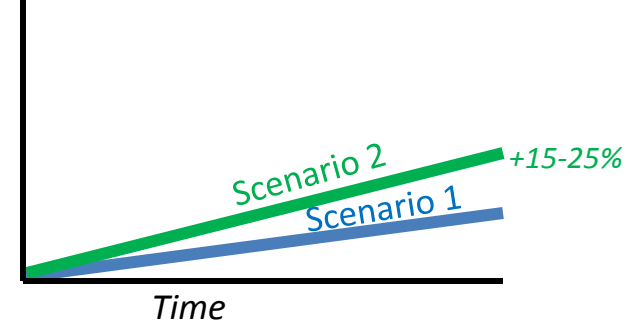
Street Infrastructure Required to Accommodate Growth

For highest density proposed station areas:

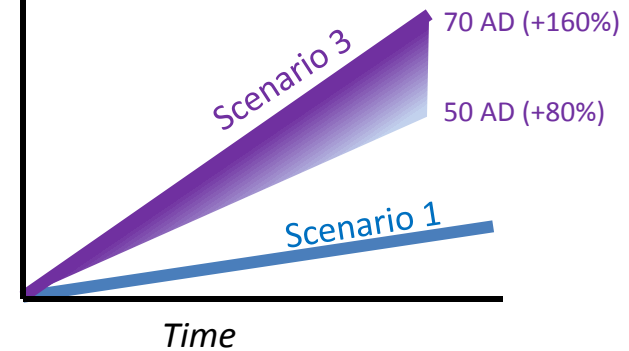
Beacon Hill and Hybla Valley

	<i>Share of trips transit, walk, bike, internal, and peak spreading</i>	<i>Add street capacity to supplement Route 1, equivalent to:</i>
Scenario 2	20%	One new 2-lane street
	25%	One new 2-lane street
Scenario 3	25%	Six new 2-lane streets
	40% to 50%	Three new 2-lane streets

Population and employment Growth
+15-25% over Scenario 1



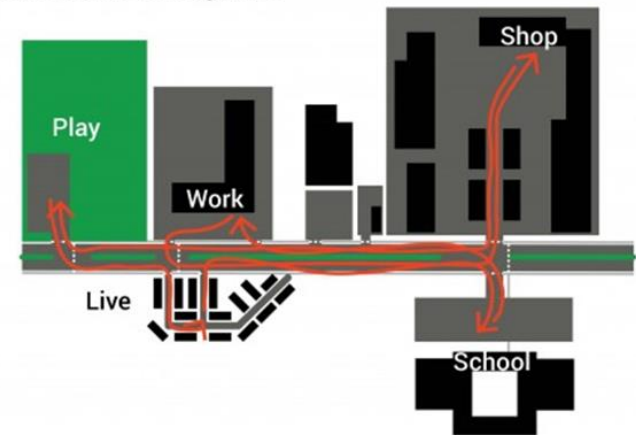
Population and employment growth up to
160% over Scenario 1



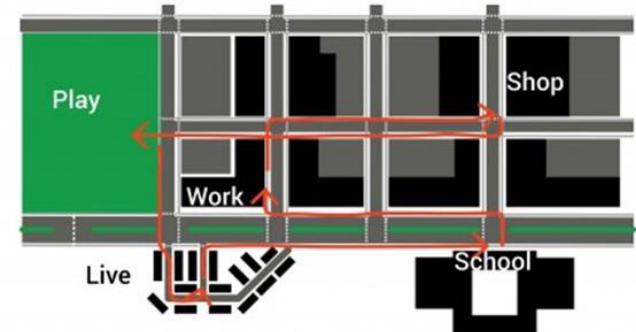
Traffic Analysis Conclusions

- Major growth is anticipated in the Route 1 corridor in all scenarios, including COG 2035 forecast
- To accommodate growth, recommended Route 1 transportation investment must be complemented by other major features (roads, schools, public safety, parks):
 - Network of local streets
 - Mixed use development
 - Walkable, pedestrian friendly environment
- Metrorail supportive growth levels require significantly more infrastructure investment than BRT levels

Conventional development



Grid pattern, mixed-use development



- Requires less parking
- Uses less land
- Produces fewer automobile trips

- Reduces vehicle turning movements
- Reduces vehicle miles traveled

Project Phasing and Funding



Phasing and Implementation Approach

Phase I:
Huntington to
Hybla Valley
(\$306 M)

3.1 mi

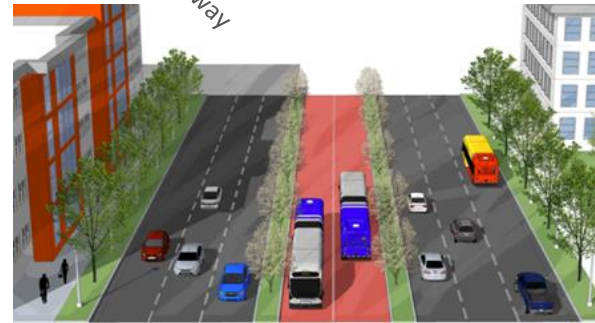
Huntington

Hybla Valley

Fort Belvoir

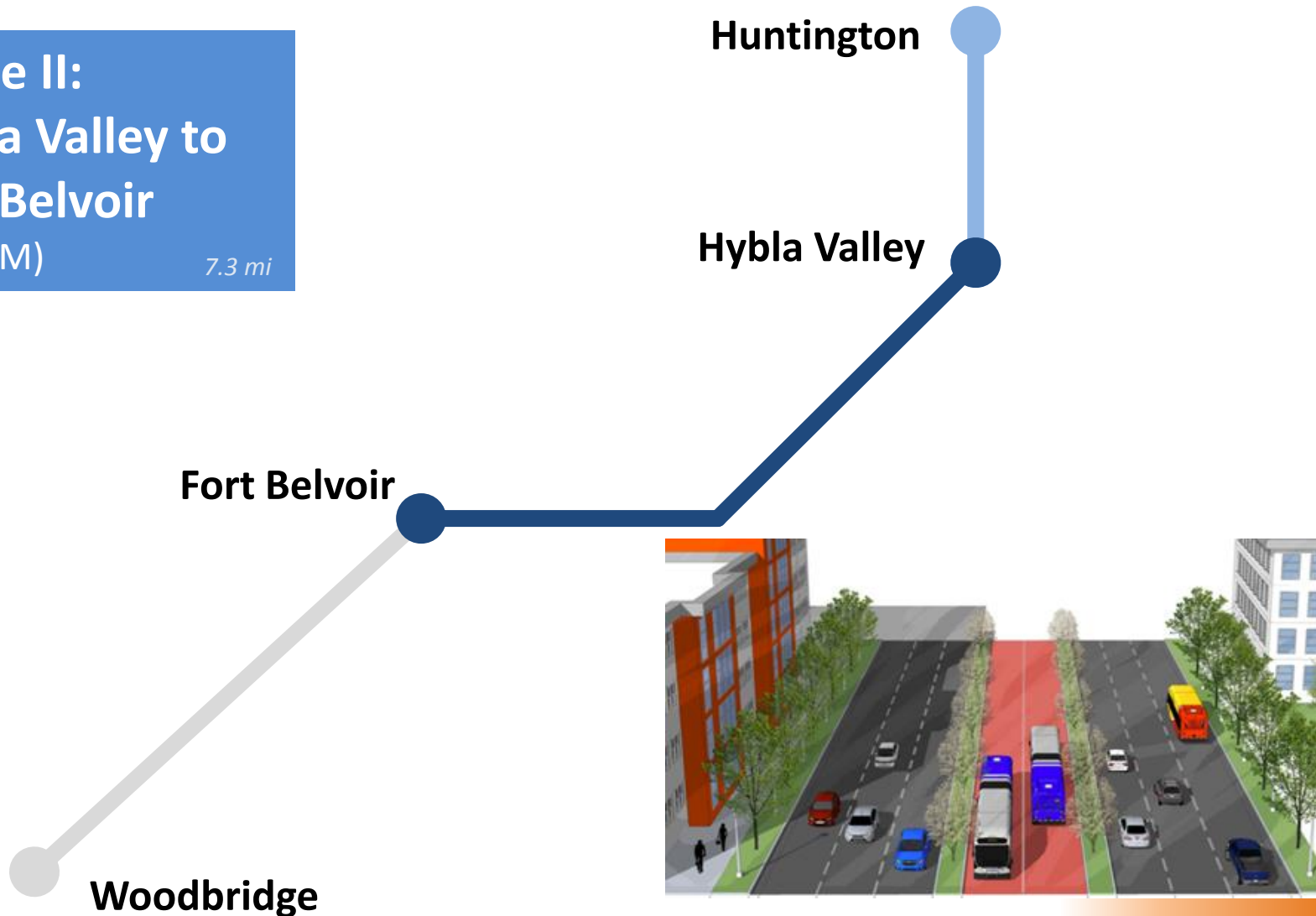
Woodbridge

Napper Rd
Route 1 Widening
Project
Mount Vernon
Memorial Highway



Phasing and Implementation Approach

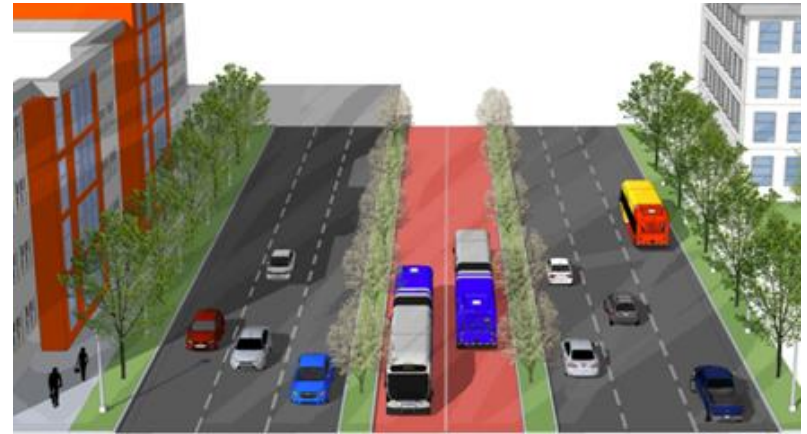
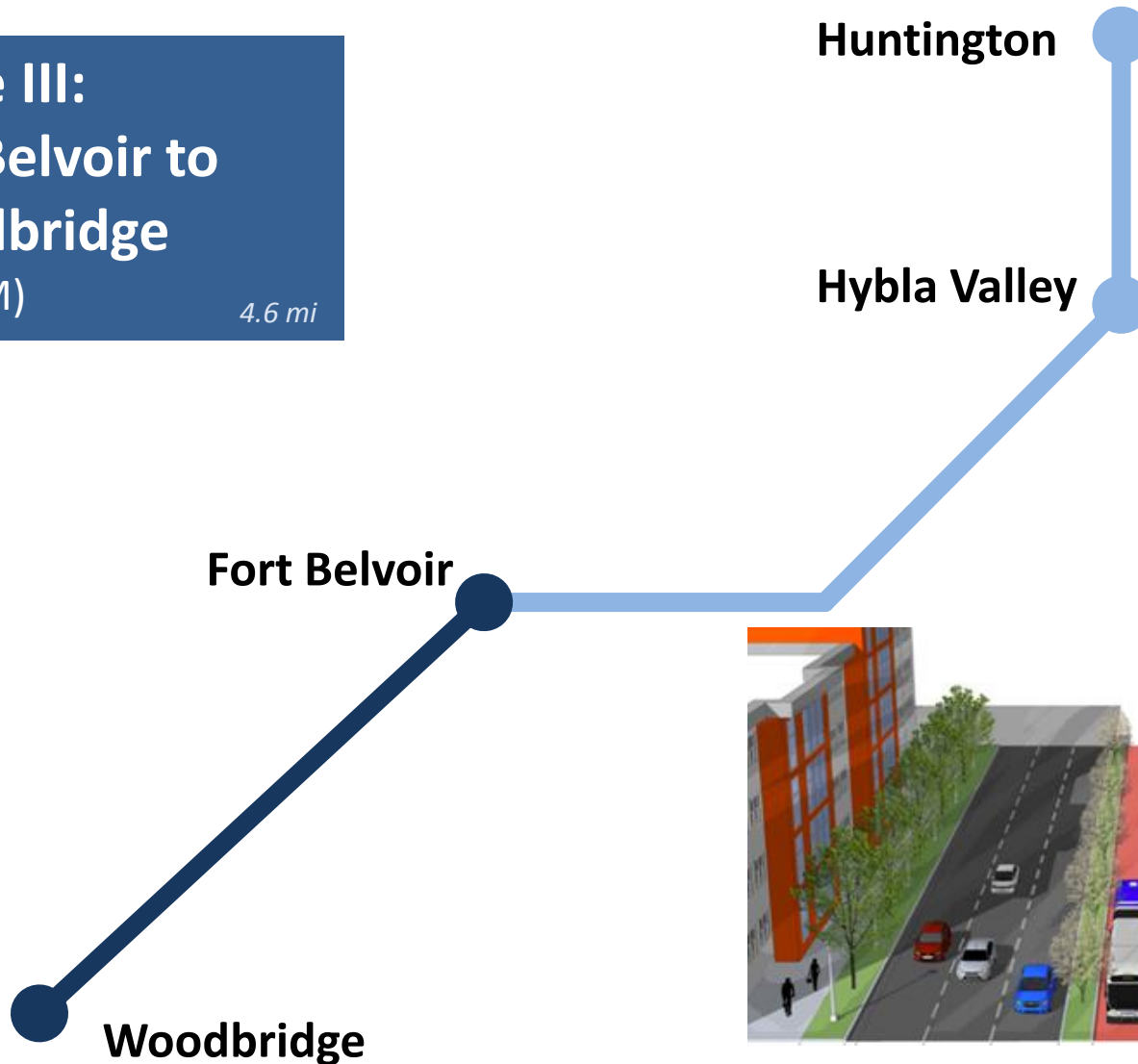
Phase II:
Hybla Valley to
Fort Belvoir
(\$224 M) 7.3 mi



Phasing and Implementation Approach

**Phase III:
Fort Belvoir to
Woodbridge**
(\$472 M)

4.6 mi



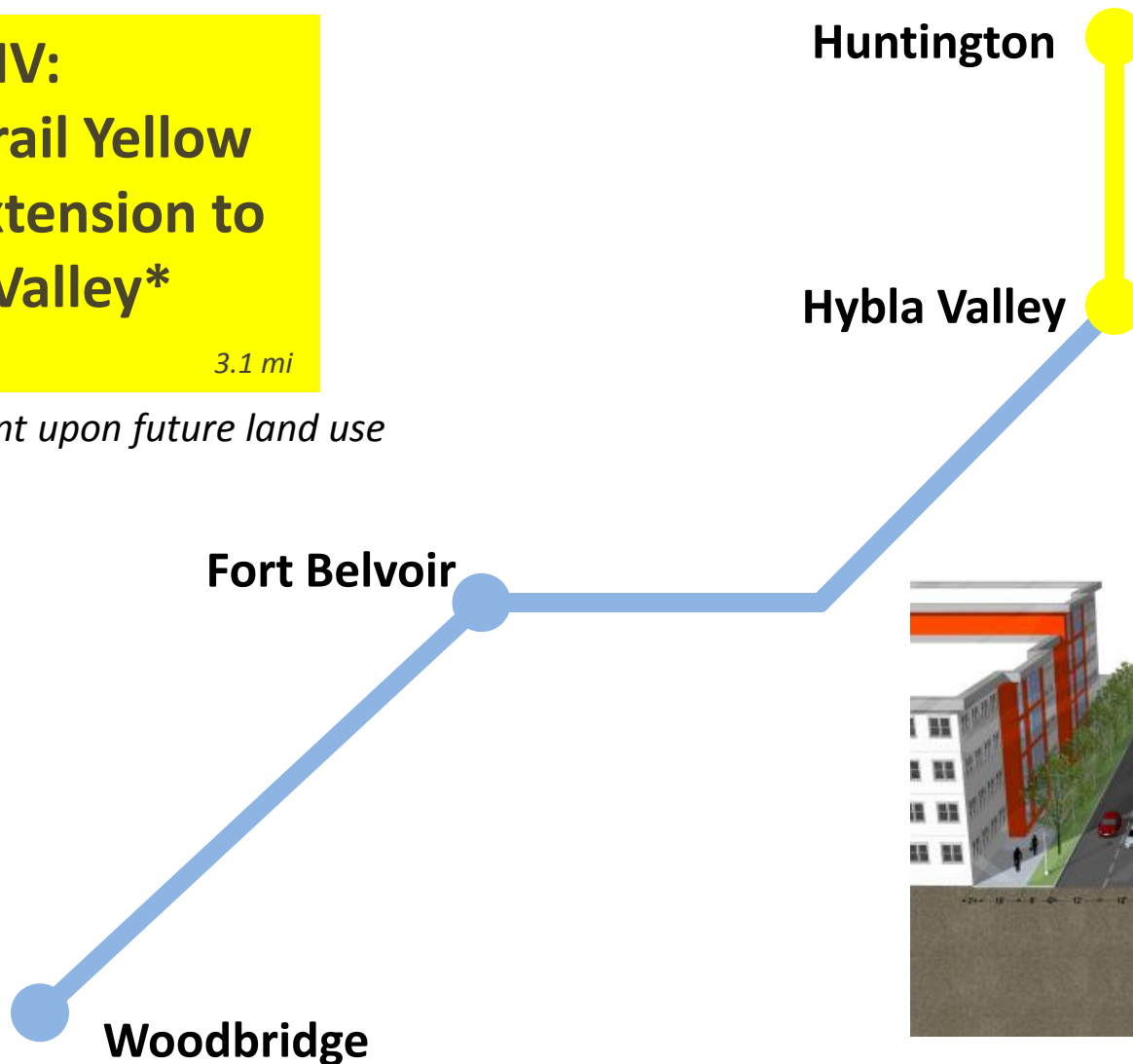
Phasing and Implementation Approach

Phase IV: Metrorail Yellow Line Extension to Hybla Valley*

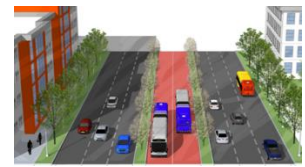
(\$1.46 B)

3.1 mi

**Contingent upon future land use*

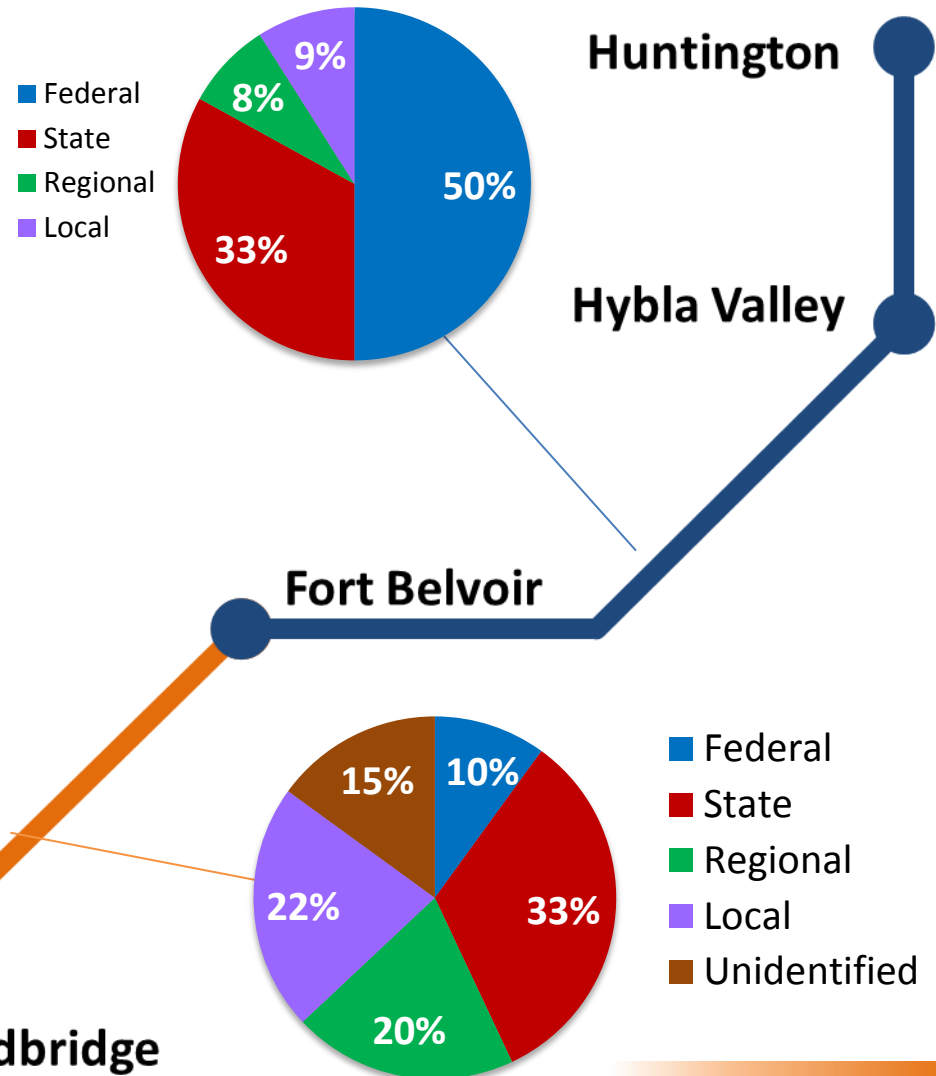


Transit Funding Assumptions by Geographic Segment



Phase I+II: Huntington to Fort Belvoir

- **Potentially competitive for federal New Starts/Small Starts funding**
- Highest population and employment
- Highest ridership potential



Phase III: Fort Belvoir to Woodbridge

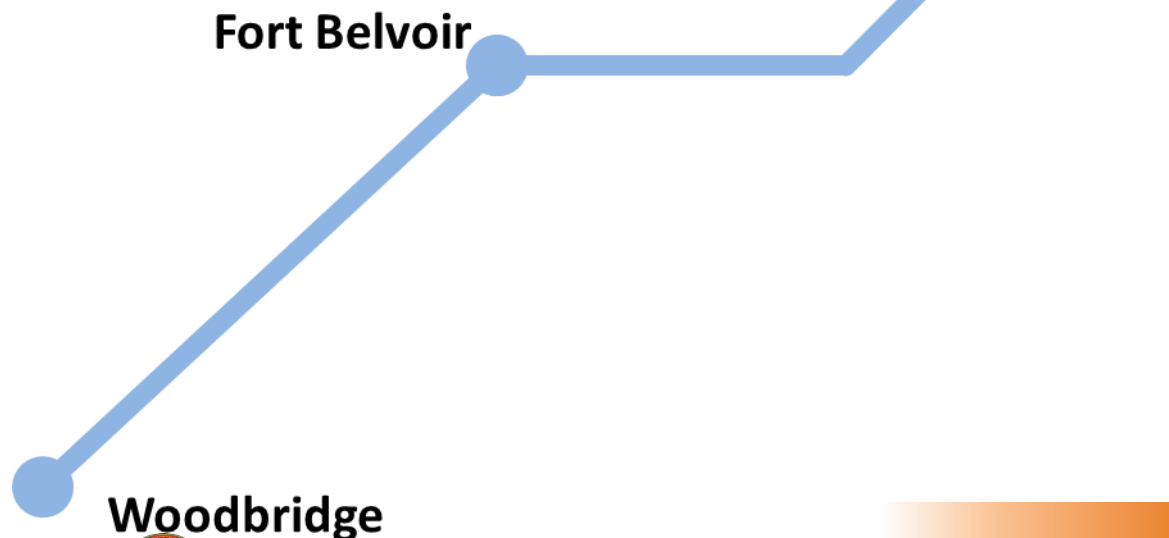
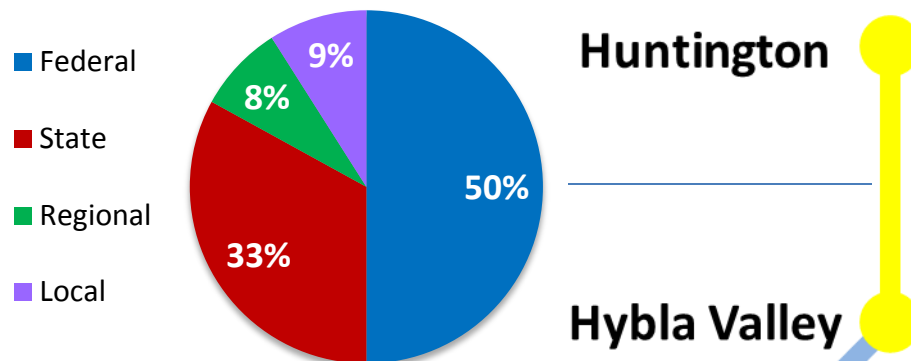
- Less competitive for federal funding
- Lower population and employment
- Includes planned VDOT widening

Funding by Geographic Segment



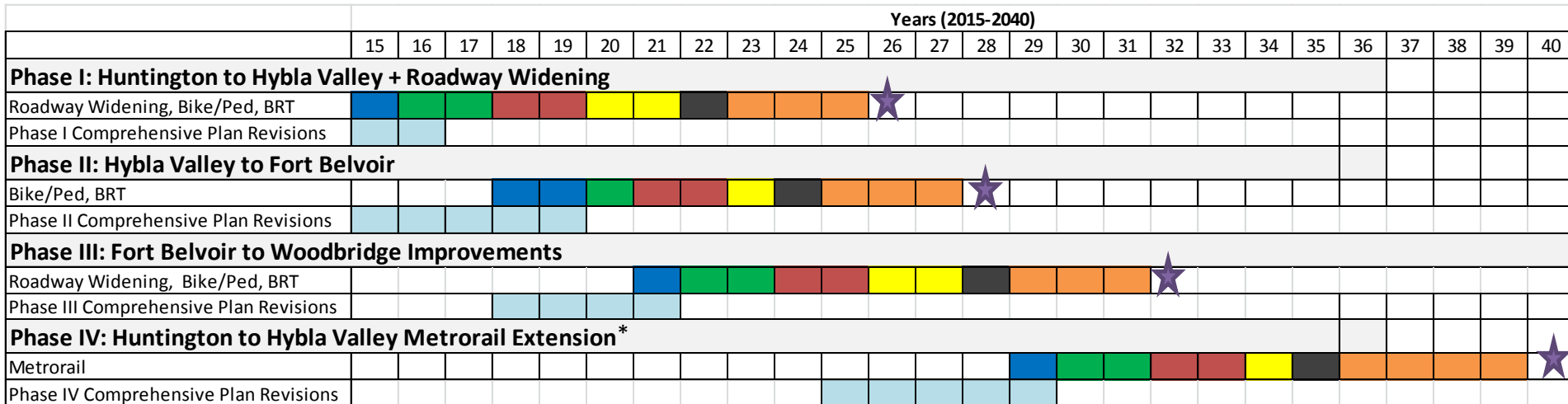
Phase IV: Huntington to Hybla Valley

- Potentially competitive for federal New Starts funding in 2040
- Contingent upon increased future land use density



Potential Implementation Timelines

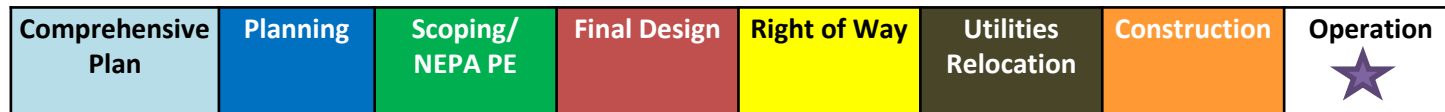
Approach: BRT and Long-Term Metrorail Implementation (2040)



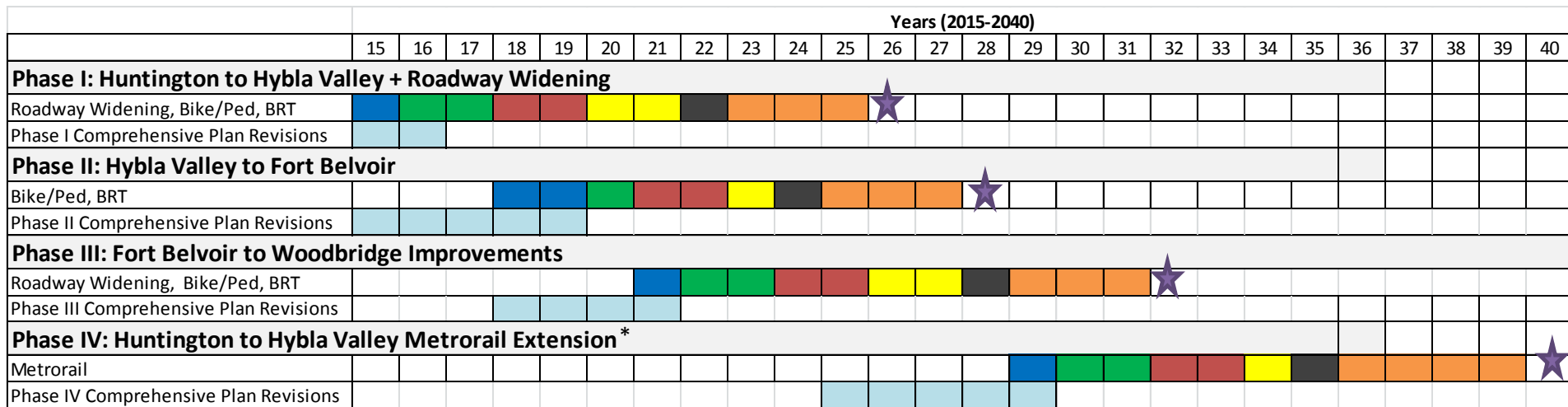
Note: Timelines assume a funding stream to support projects implementation.

*Contingent upon increased future land use density.

Legend: General Project Development Sequence



Potential Implementation Timelines



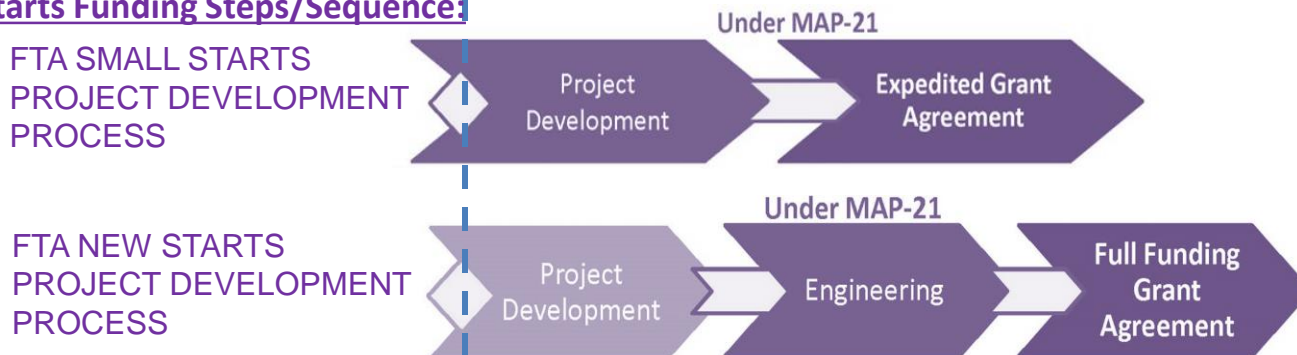
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Legend: General Project Development Sequence



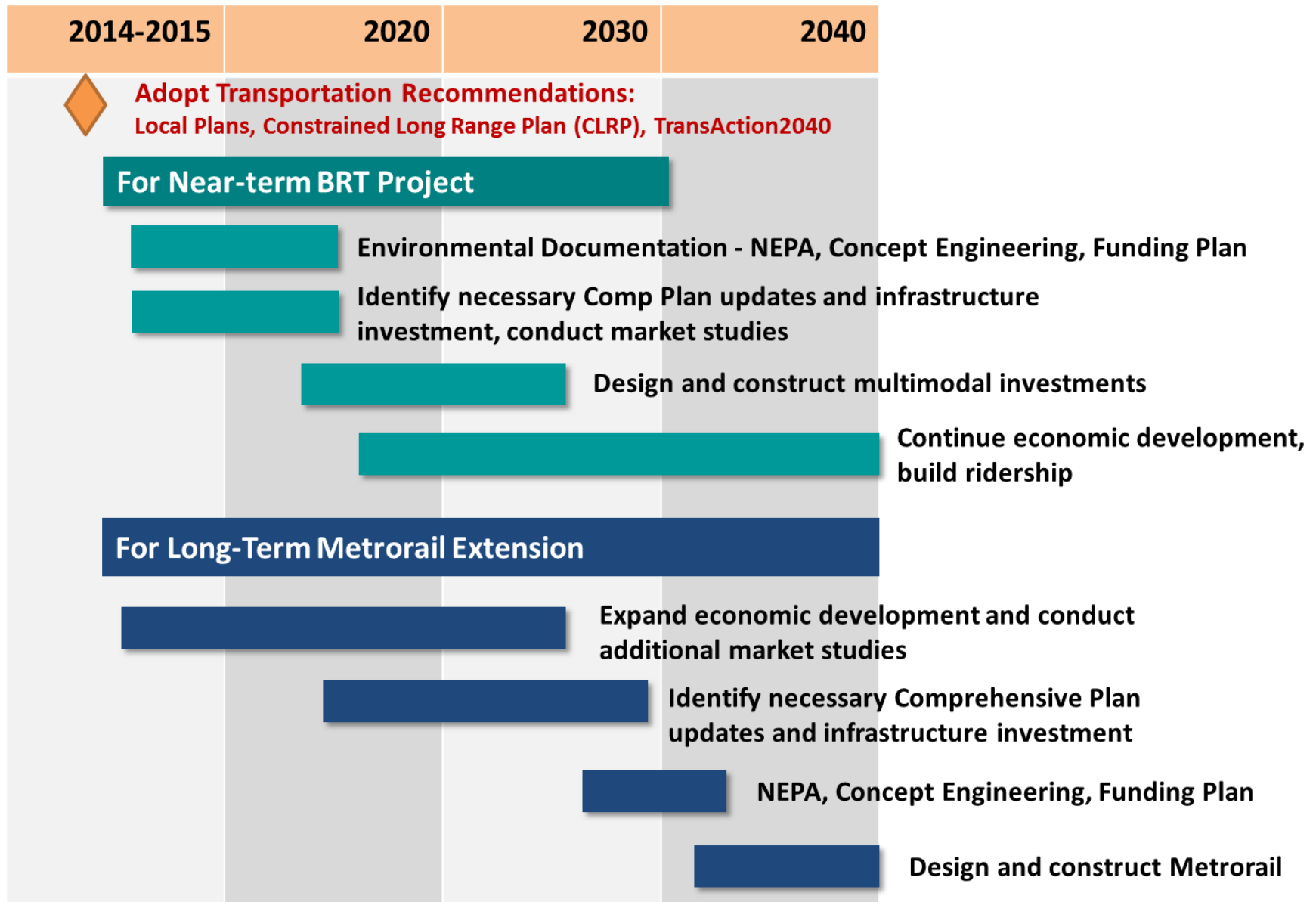
Typical New Starts Funding Steps/Sequence



6. Next Steps



Action Plan for Implementation



Next Steps: Adopt Study Findings and Continue Toward Implementation

Process Overview

Coordination with public stakeholders and state and federal agencies

Conduct Market Studies,
Identify Comprehensive
Plan Updates

Study team completes
Alternatives Analysis

Local and state officials adopt
findings and recommendations

Project team completes
environmental documentation and
concept engineering

Project team refines
cost estimates and funding plans

Comments and Questions

