

Embark Richmond Highway Advisory Group Meeting #8

June 27, 2016

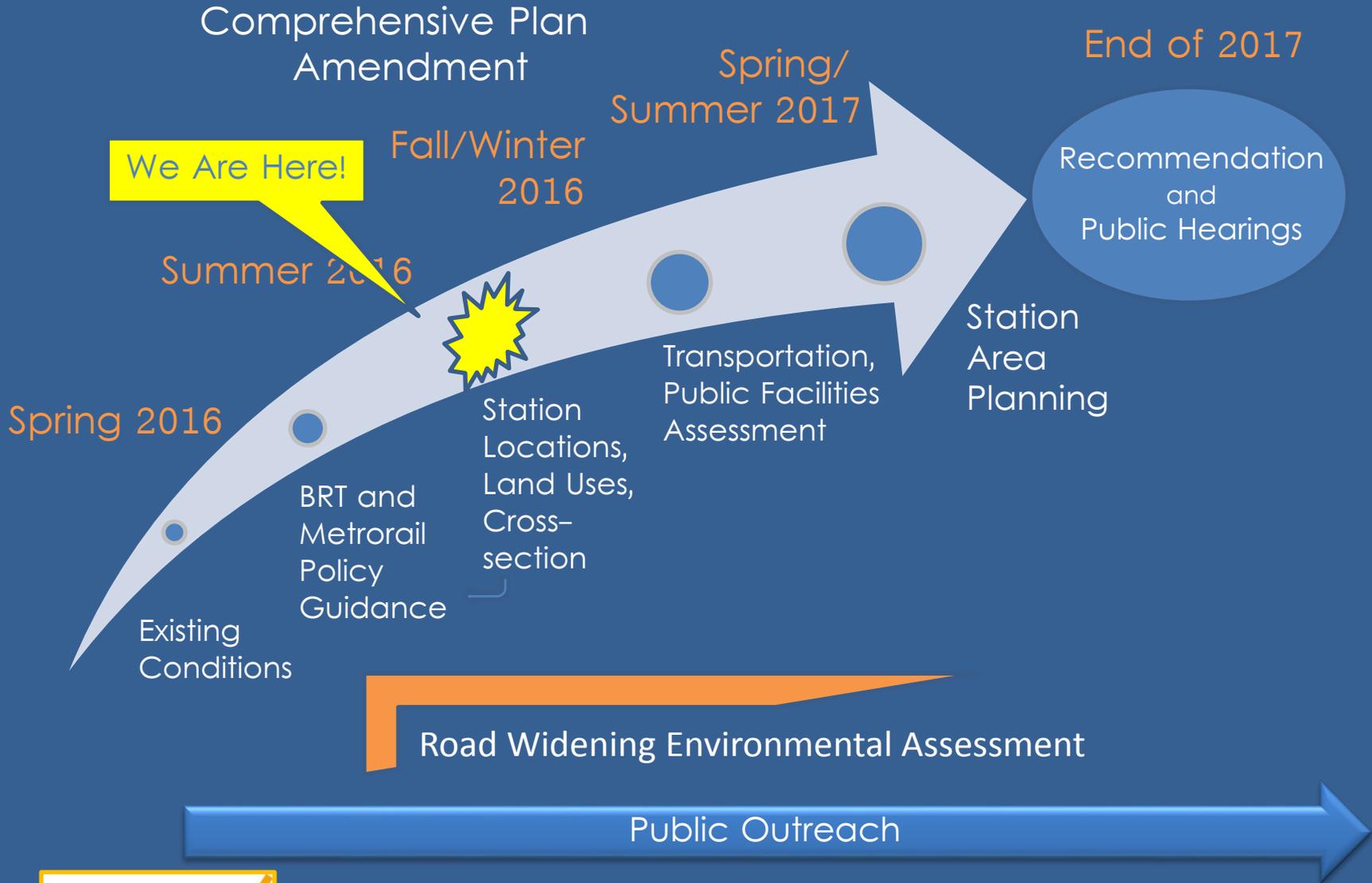


Presentation Outline

- Project schedule
- Transportation analysis introduction
- Revised areawide guidance, planning objectives, bus rapid transit definition
- Street grids
- Community Meeting #2: July 25

I. PROJECT SCHEDULE

General Timeline



Recent Advisory Group Activities

April 2016

Criteria for developing land use alternative
Initial evaluation of land use data
Conceptual grids for Penn Daw, Beacon Hill, Hybla Valley BRT station areas

May – June 2016

Draft cross section for Richmond Highway
Conceptual grid Woodlawn BRT station area
Transportation analysis status

October – December 2016

Community Meeting #3
Finalize land use alternative
Finalize cross section for Richmond Highway
Review draft cross section for North Kings Highway

End of 2015 – March 2016

Existing conditions assessments
Plan amendment schedule
Draft revisions to Plan guidance (Countywide and Richmond Highway Corridor)

May 9

Community Meeting #1

Embark introduction

July – September 2016

July 25 Community Meeting
Review draft land use alternative and conceptual building placement for BRT station areas
Updates on transportation analysis
Refine Richmond Highway cross section

Recent Staff Activities

1. BRT Project Management Consultant bids received and being evaluated
2. VDOT traffic counts completed
3. Staff BRT workshops
4. Transit oriented development pilot program FTA grant application submitted
5. Begin developing land use alternative for 1st station area grouping (Huntington, Penn Daw, Beacon/Groveton)
6. Meetings with developers about site-specific rezoning applications and Plan amendments
7. Transportation analysis consultant selected
8. Community Outreach
 - Podcast – audio interview about Embark
 - Preparation for July 25 community meeting
 - Spring Bank community meeting

II. TRANSPORTATION ANALYSIS INTRODUCTION

Embark Richmond Highway Transportation Analysis

- Analyze alternative land use scenario(s) for the Comprehensive Plan Amendment
 - Estimate transit ridership and BRT performance
 - Assess intersection levels-of-service
 - Conceptual-level analysis of grid of streets
 - Evaluate need for additional north/south road capacity
- Review multimodal cross-sections and street networks, and pedestrian and bicycle connectivity



Study area

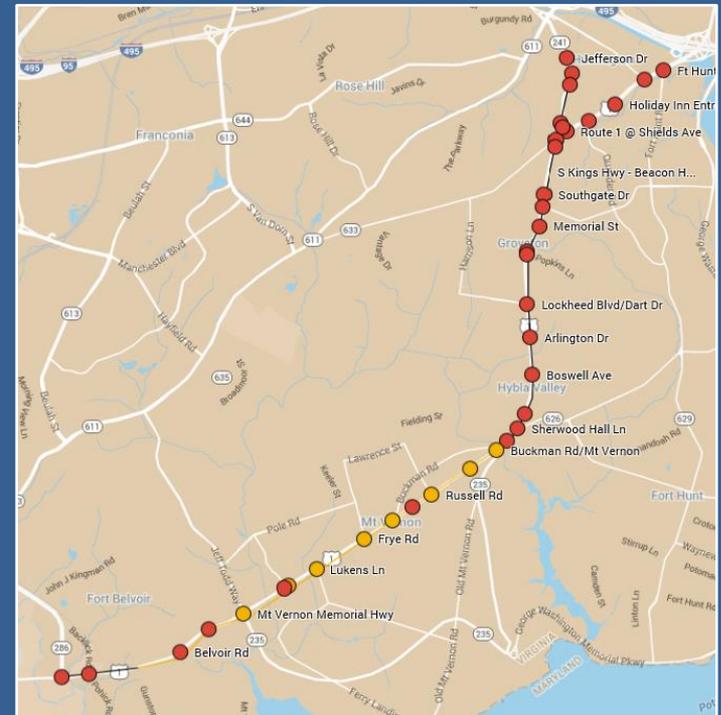
Embark Richmond Highway Transportation Analysis

- Multi-step modeling approach
 - Travel demand model used to predict changes in travel patterns based on expected future land use changes and BRT implementation
 - Traffic operations model used to analyze intersections and improve signal timing
 - Traffic simulation model used to analyze overall corridor level performance, including bus and automobile speed and travel time

Embark Richmond Highway Transportation Analysis

Near term work (Summer 2016): Prepare travel demand and traffic simulation models

- Data collection
 - Traffic counts
 - Demographics
 - Transit data
- Develop street network for testing
- Existing Conditions Analysis
- Regional and county transportation model calibration



Traffic count locations

Embark Richmond Highway Transportation Analysis

Mid term work (Summer/Fall 2016):

- 2040 Modeling
 - Estimate transit ridership and BRT performance
 - Analyze and identify mitigation of traffic impacts of future land use
- Richmond Highway cross section refinement
- Initial evaluation of conceptual grid of streets
- BRT station location refinement

Goals, Objectives and Draft Measures of Effectiveness (MOEs)

Balance livability with traffic and transit performance

Goal 1	Objective	MOEs*
Mitigate traffic impacts of multimodal improvements (BRT, bike/ped) and land use changes	<ul style="list-style-type: none">• Evaluate north/south road capacity• Evaluate proposed grid of streets	<ul style="list-style-type: none">• Intersection level-of-service• Queue lengths• Intersection delay• Travel speed• Travel time reliability (auto)

* Based on modeling

Goals, Objectives and Draft Measures of Effectiveness (MOEs)

Balance livability with traffic and transit performance

Goal 2	Objective	MOEs*
Provide high-quality, high performance BRT	<ul style="list-style-type: none">• Estimate transit ridership• Assess BRT performance• Evaluate BRT station locations	<ul style="list-style-type: none">• BRT frequency• Travel time reliability (transit)• Travel speed• Ridership

* Based on modeling

Goals, Objectives and Draft Measures of Effectiveness (MOEs)

Balance livability with traffic and transit performance

Goal 3	Objective	MOEs*
Improve bicycle and pedestrian connectivity and access	<ul style="list-style-type: none">• Evaluate proposed grid of streets• Increase bicycle facilities• Increase pedestrian network connectivity	<ul style="list-style-type: none">• Pedestrian crossing times• Corridor crossing opportunities• Miles of pedestrian/bicycle facilities• Network completeness

*Based on modeling

III. REVISED AREAWIDE GUIDANCE, PLANNING OBJECTIVES, BRT DEFINITION

Summary of Revisions

- Draft revisions based on community and AG input shown in highlighted text (June 2016)
- Matrix lists proposed changes to the draft mark-up (June 21, 2016)
- Preliminary staff recommendations:
 - Suggestion accepted: Text or idea is proposed to be incorporated.
 - Suggestion modified: Text or idea is proposed to be modified and incorporated.
 - Suggestion noted: Text or idea not included in the Comprehensive Plan guidance for the reasons stated.
- **Deadline for additional AG comment – July 18**

IV. Street Grids



Benefits of Street Grids

- Congestion Relief and Improved Mobility
 - Redistribute traffic across the entire street network; provide options for local vehicular trips instead of using Richmond Highway
 - Relieve congested Richmond Highway intersections to improve circulation along corridor
 - Promote transportation choices (walking, biking, transit)
 - Reduce the need for widening and construction improvements
 - Provide shorter and more direct routes

Benefits of Street Grids

- Safety
 - Calm traffic with narrow streets, frequent cross streets, which encourage slower vehicle operating speeds
 - Create shorter street crossings to increase safety for pedestrians and bicyclists
 - Improve access to incidents for emergency services
- Multimodal Choices
 - Improve efficiency and effectiveness of transit
 - Create additional walking and bicycling routes

Benefits of Street Grids

- Urban Design
 - Create compact, walkable, mixed-use, transit oriented communities
 - Facilitate placemaking including a network of open spaces
 - Utilize grid as the physical framework for land use, environmental, transportation and social goals
- Economic Development
 - Create desirable locations for investment in the community, including residential, employment and mixed use opportunities
 - Maximize opportunities to efficiently concentrate development and for visible commercial frontages

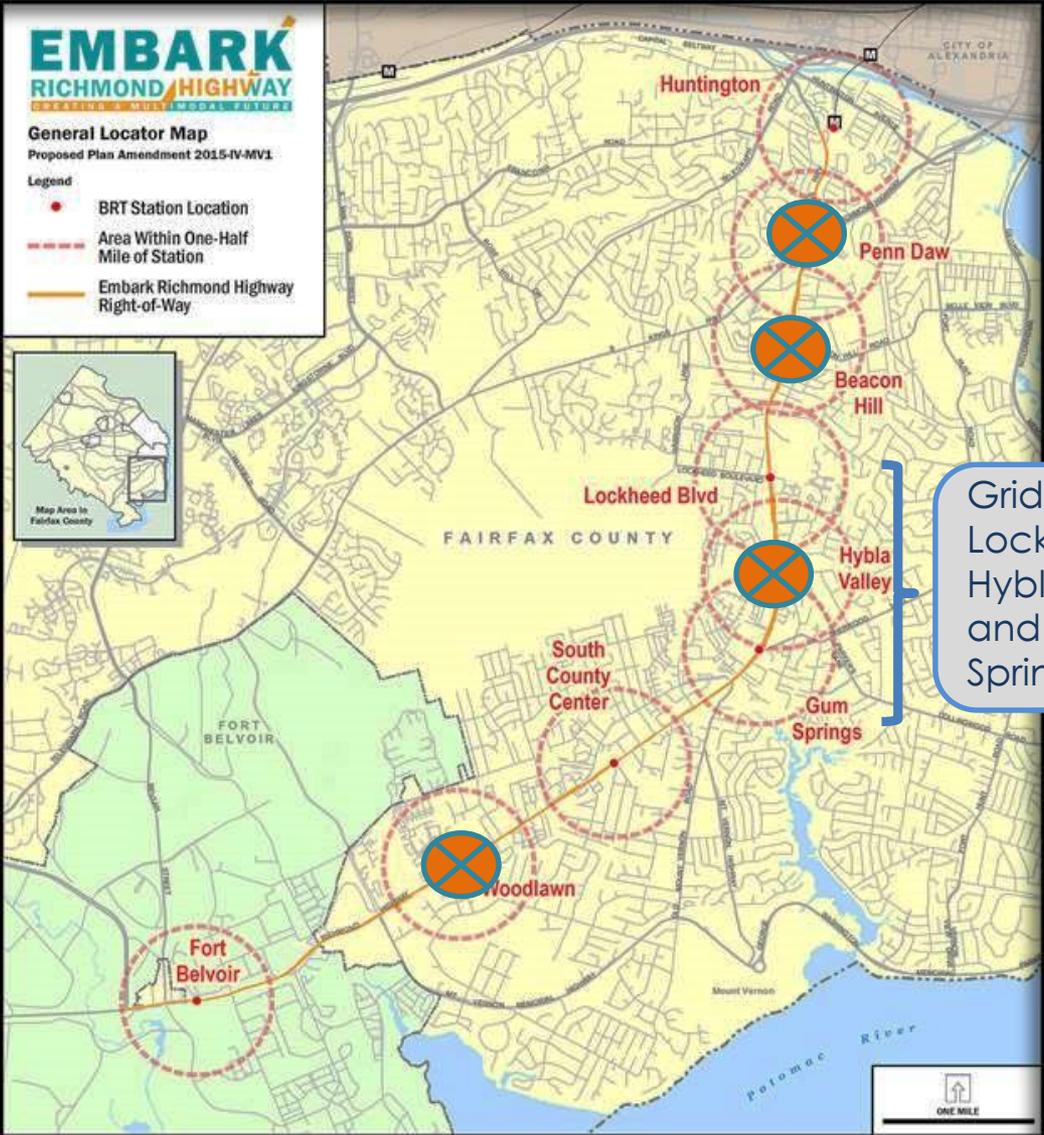
Benefits of Street Grids

- Healthy Communities
 - Reduce automobile dependency
 - Provide opportunities to walk and bike
 - Promote safe and inviting public spaces and gathering areas that encourage social interaction
 - Reduce health issues among the population including obesity, diabetes, and depression

Benefits of Street Grids

- Environmental
 - Access to natural and urban open spaces providing recreational/cultural/leisure activities
 - Increase opportunities for additional tree canopy, stormwater management, and reduced impervious surface
 - Improve air quality by reducing congestion

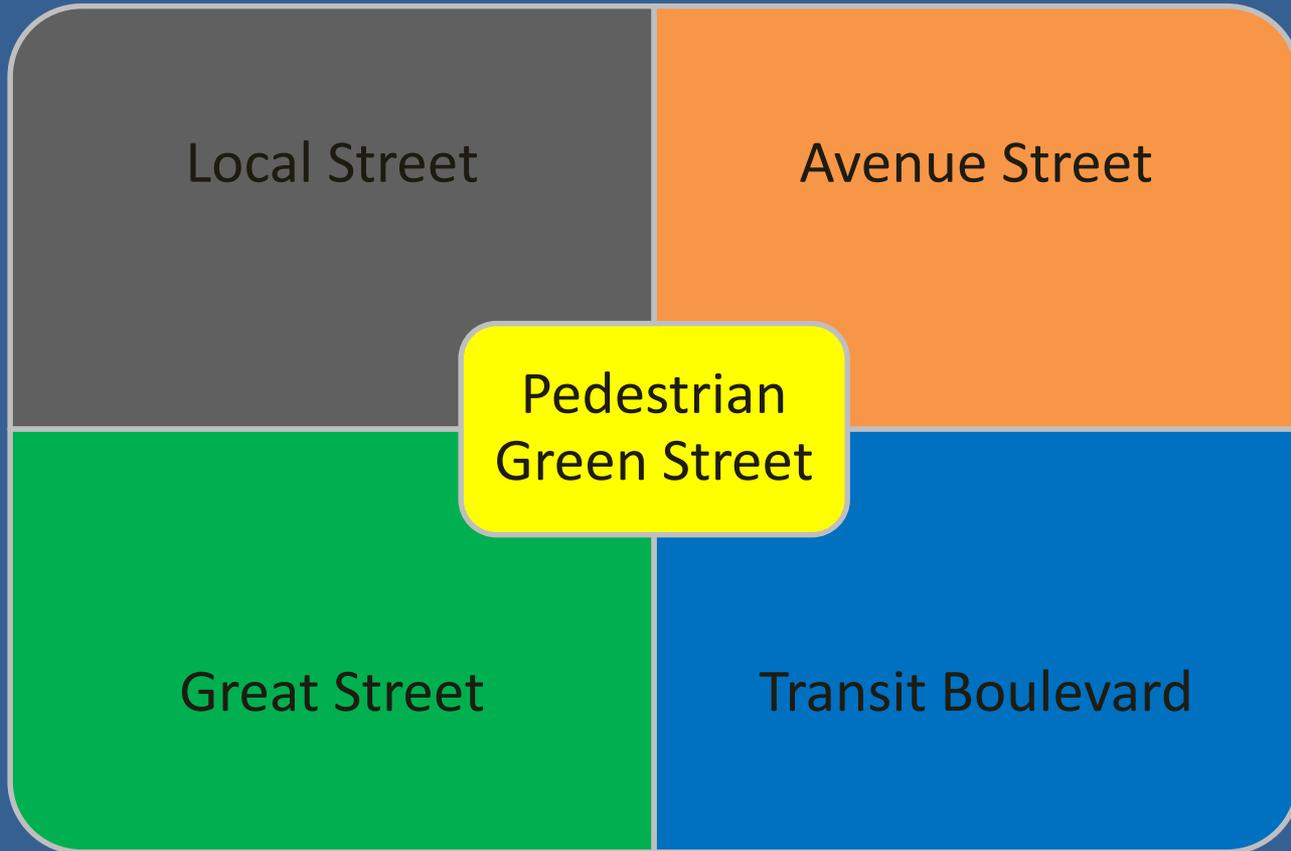
Corridor-wide Concept of Grid Network



Grid includes Lockheed Blvd, Hybla Valley and Gum Springs

 Indicates General Grid Location

Street Typology



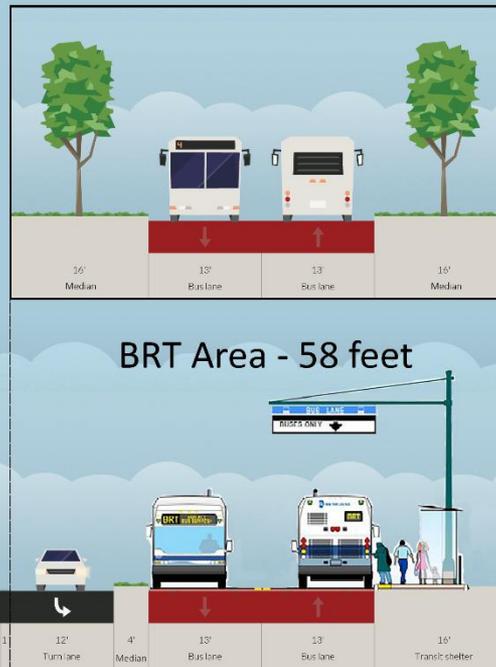
Transit Boulevard

Richmond Highway - 178 feet

DRAFT Proposal

Notes:
This section matches the current Comprehensive P

Notes:
This section matches the current Comprehensive Plan section right-of-way with updated VDOT trail (shared use path) standards.
Right-of-way width could change depending upon location of street lights and utilities.

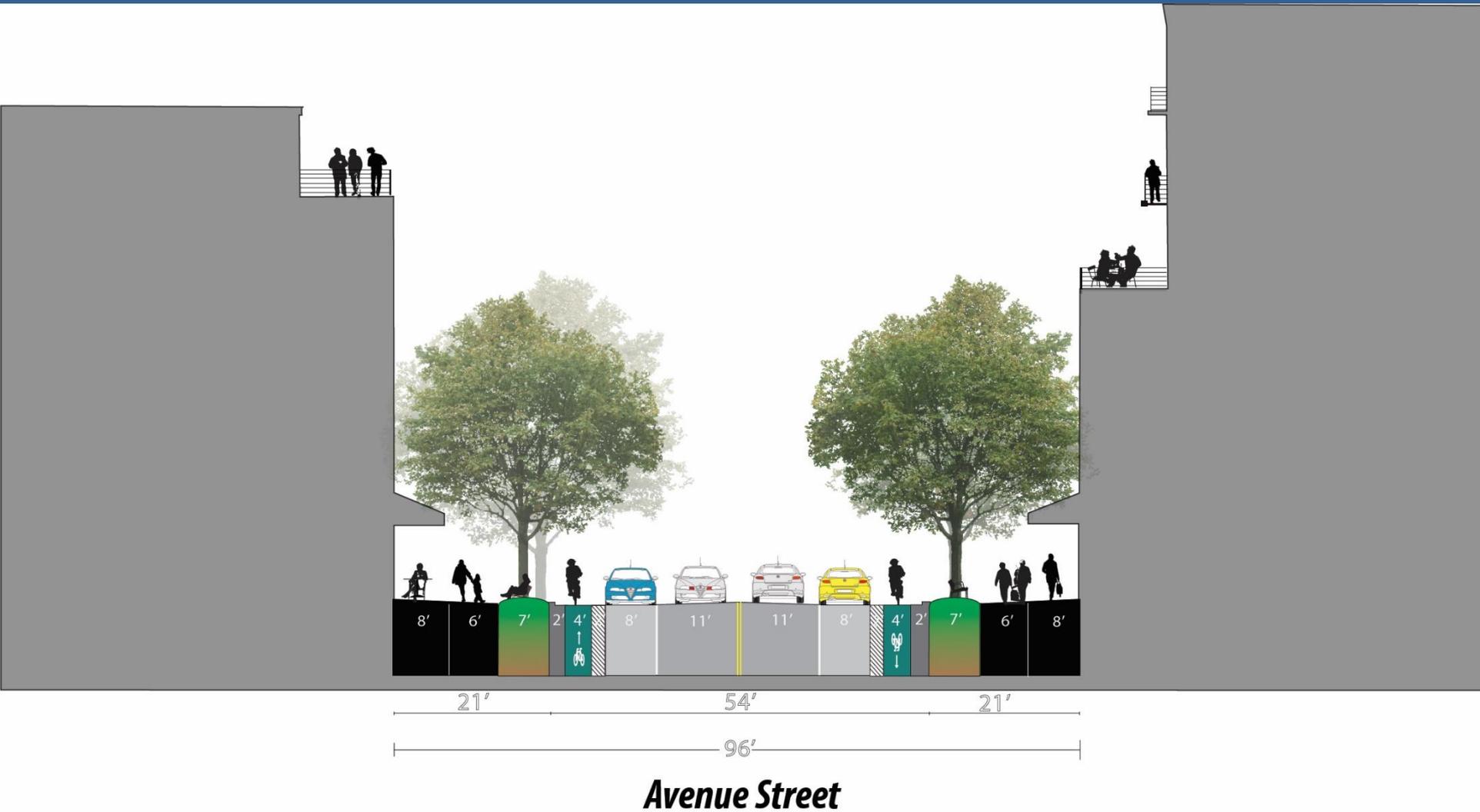


Great Street Section

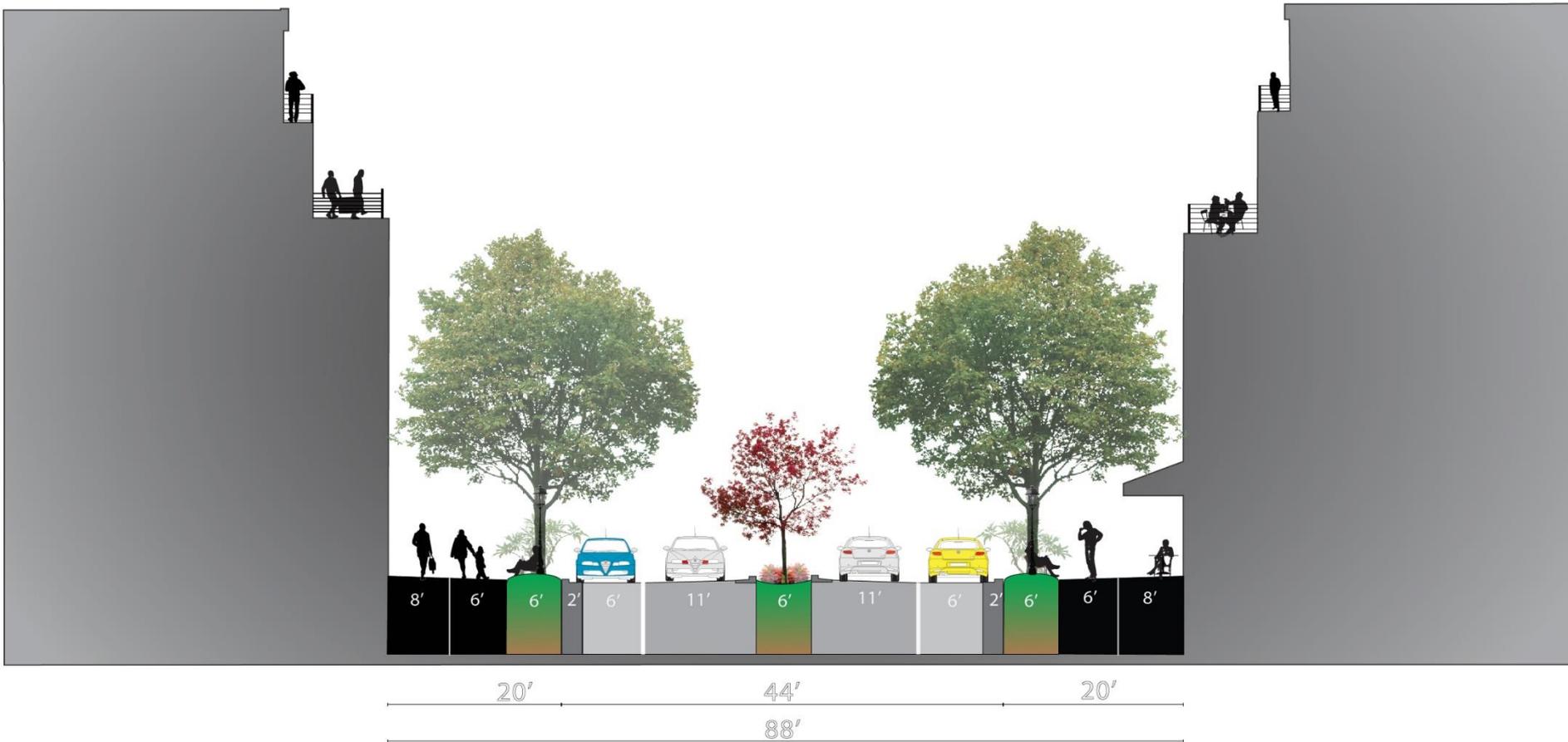


Great Street

Avenue Street with On Street Bike Lane



Local Street Section with Bioswale Median



Local street with Bioswale Median

Pedestrian Green Street - Pedestrian Network of Streets



Considerations for grids

Appropriateness of block sizes

Connections into existing communities, and where

Community assets, features, destinations

Appropriateness of street classifications

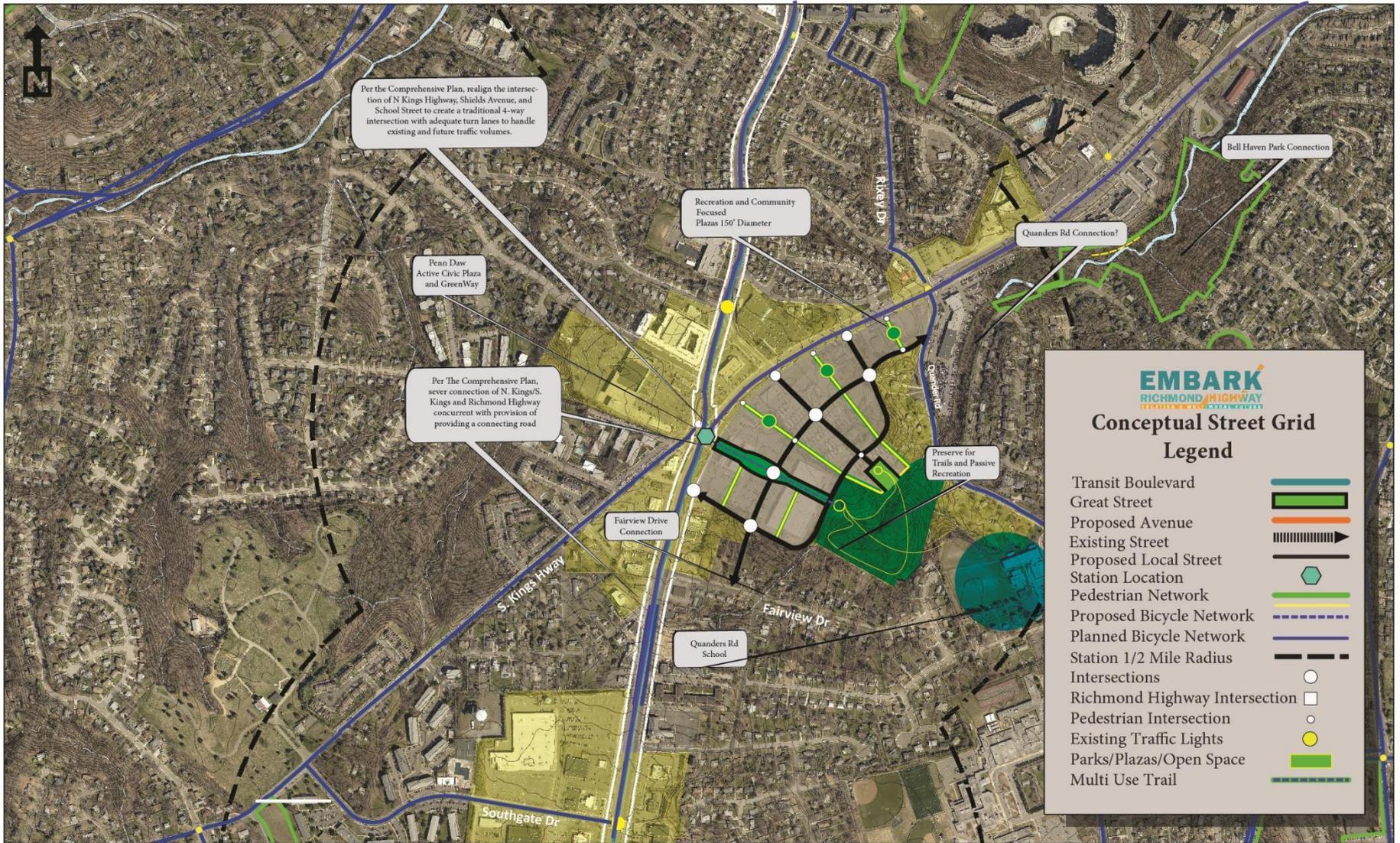
Woodlawn



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0 0.0375 0.075 0.15 0.225 0.3 Miles

Penn Daw

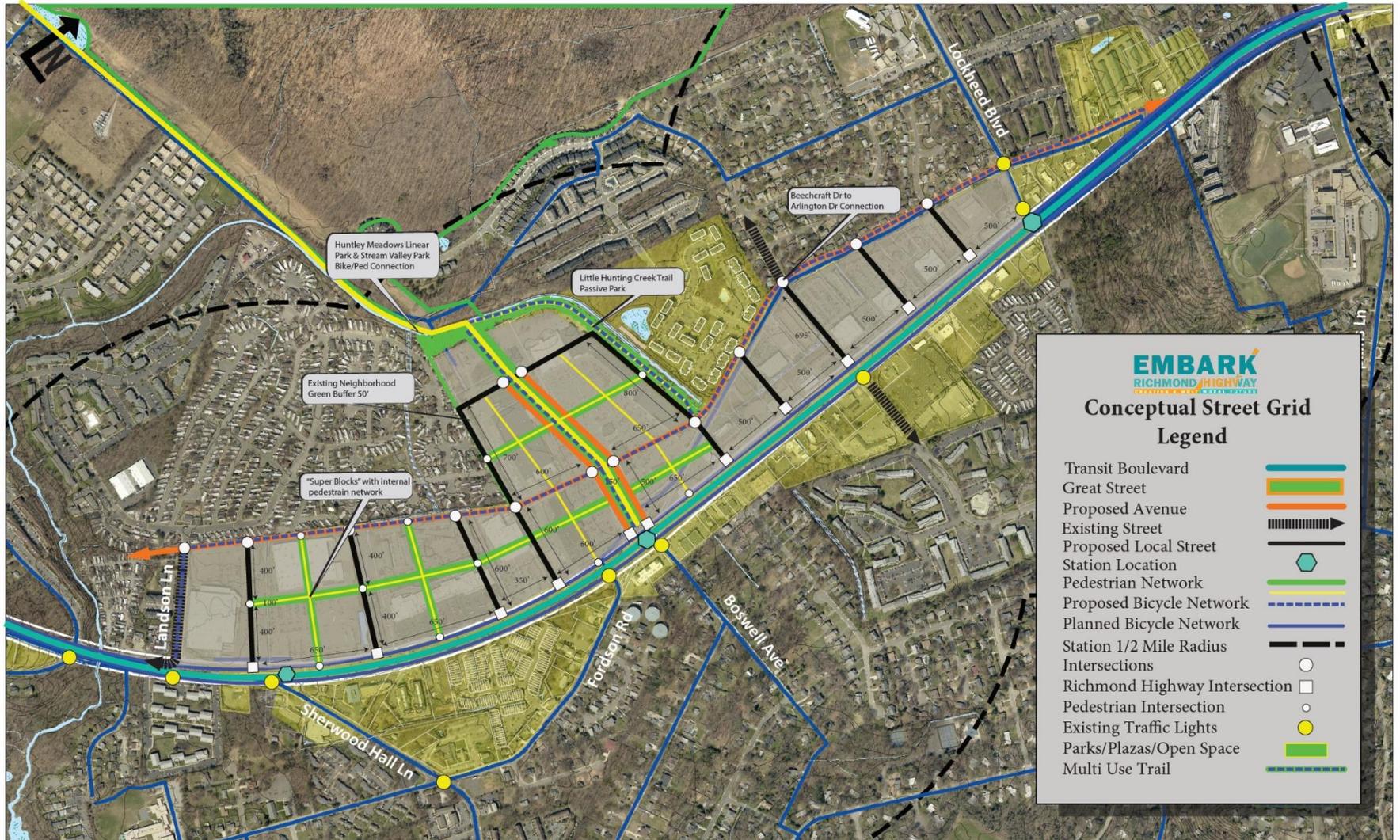


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Lockheed Blvd/Hybla Valley/Gum Spring



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0 0.05 0.1 0.2 0.3 0.4 Miles

IV. COMMUNITY MEETING #2

July 25, 7:00 pm, West Potomac HS

*Tentative agenda includes:

- Draft Richmond Highway cross section
- Overview of transportation analysis
- Neighborhood design principles, including conceptual grids

End of Presentation