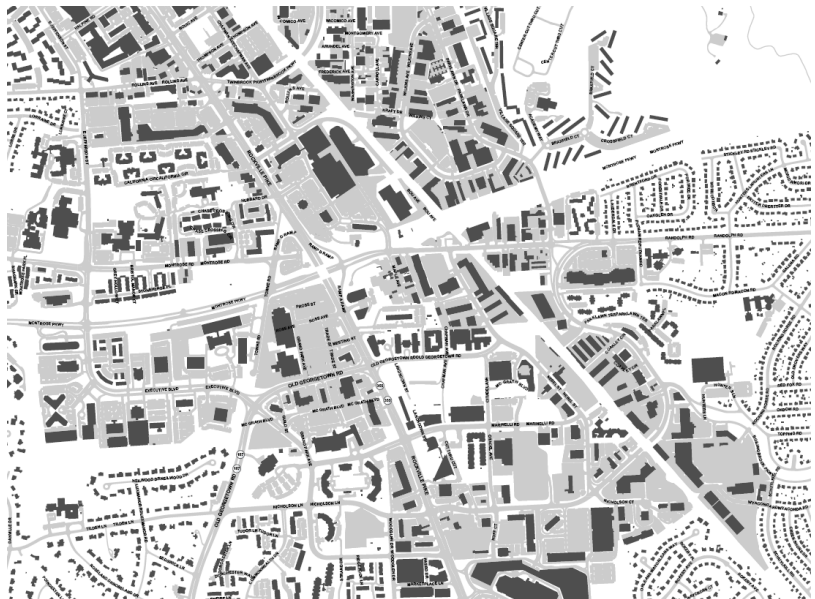
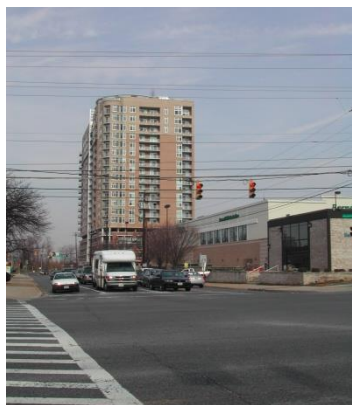
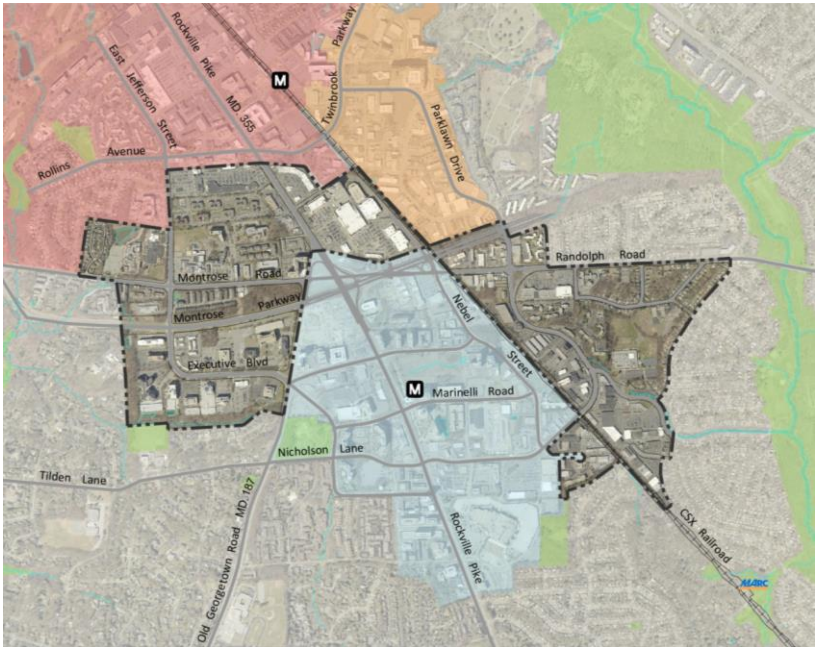
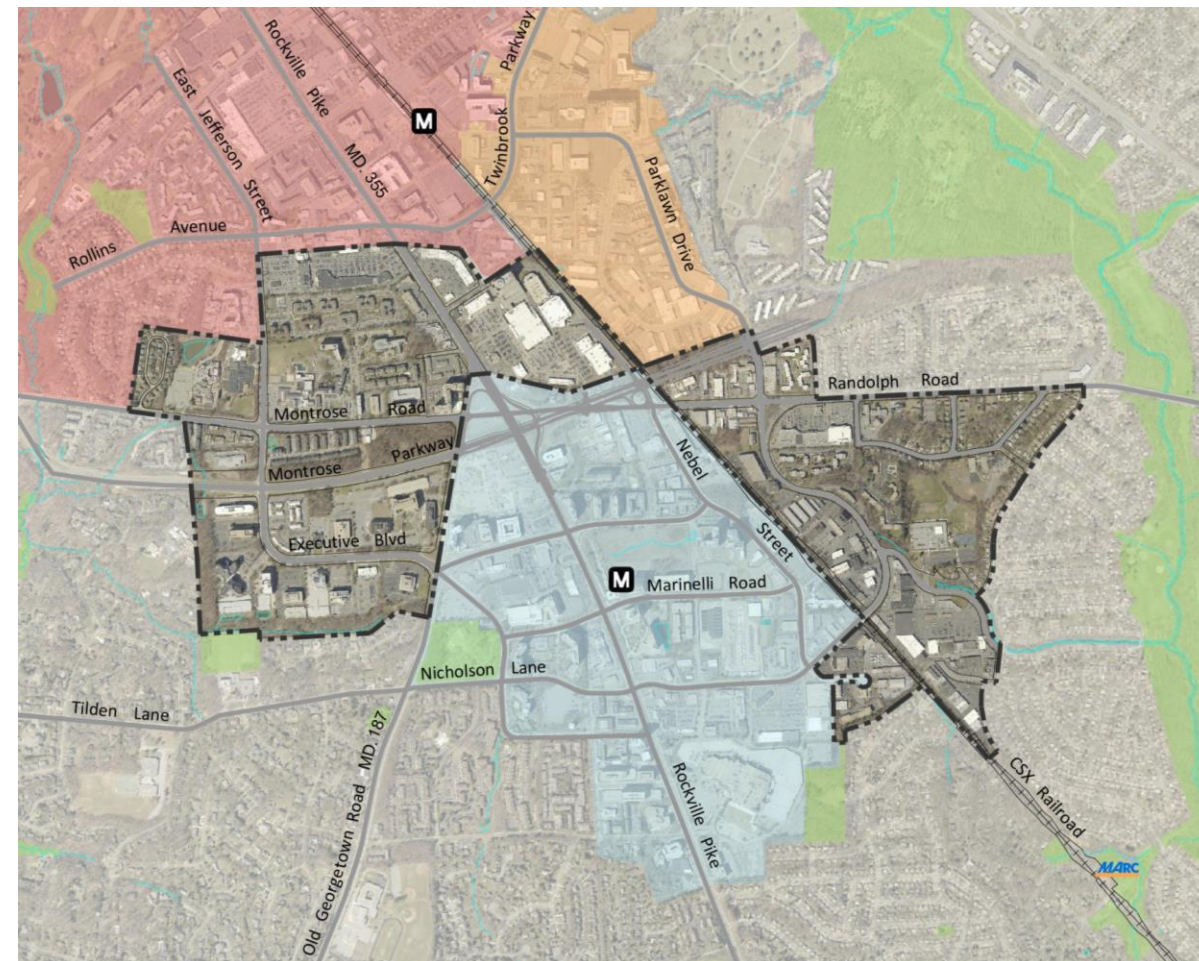


# Planning Board Worksession No.6: Transportation and Staging





## Prior Worksessions



- **January 27:** Focused on transportation analysis and staging recommendations in the Draft Plan.
- **February 9:** Reviewed the Executive Boulevard District and associated economic feasibility analysis for some properties.
- **February 16:** A joint meeting with the Rock Spring Master Plan on school issues within the Walter Johnson Cluster.
- **February 23:** Reviewed the Rockville-Pike Montrose North District and revisited five properties in the Executive Boulevard district.
- **March 9:** Reviewed the Randolph Hills district and Parklawn South district, and addressed industrial issues and multifamily residential issues.
- **March 23:** Reviewed the financing alternatives for the Plan area to support infrastructure improvements, primarily mobility.



Financing Mechanism

White Flint 2 Public Infrastructure

Capital Project Costs (White Flint 2)	
Second Metro Station Entrance (White Flint)	\$13.5M - \$35M (2008 estimate)
MARC Station (near White Flint)	\$20M (2008 estimate)
Shuttle/Circulator	\$1.25M - \$5M
Bikeways	TBD
Pedestrian Bridge over CSX	TBD
Roadway Realignment of Parklawn Drive and Randolph Road	\$10M
Estimated Total	\$45-70M+

Planning Board Recommendation

- Expansion of the existing WF taxing district
- Local Area Transportation Improvement program, similar to White Oak

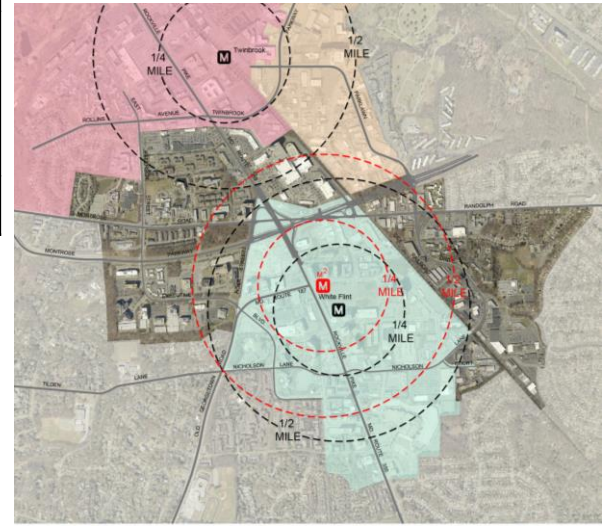


MARC Station Concept (2008)

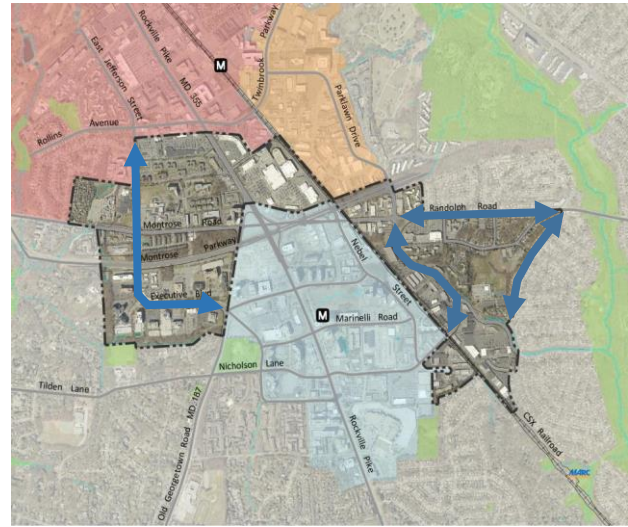
M Metro Station  
M Proposed Metro Station Entrance



Realignment of Parklawn Drive and Randolph Road



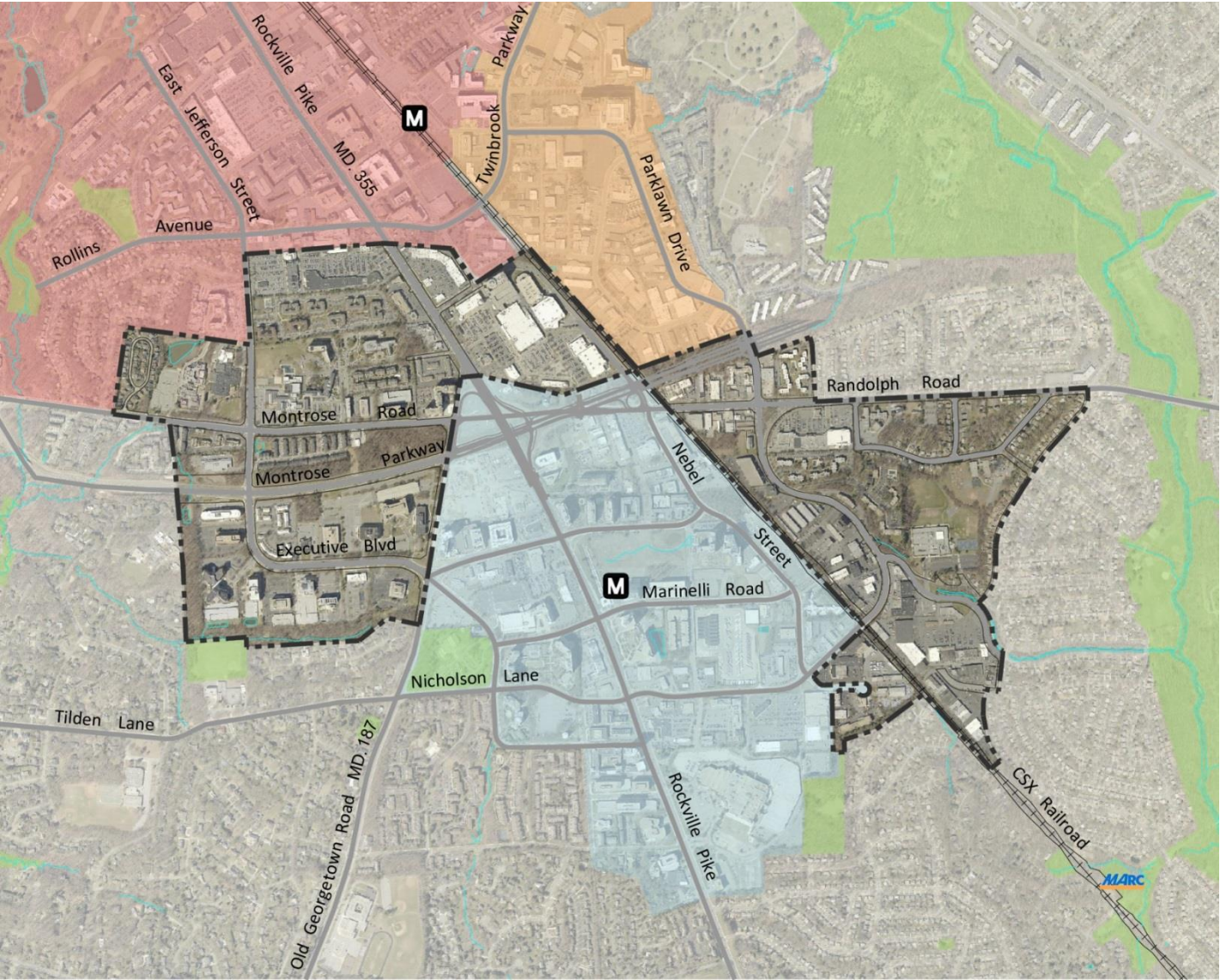
Second Metro Station Entrance



New bikeways



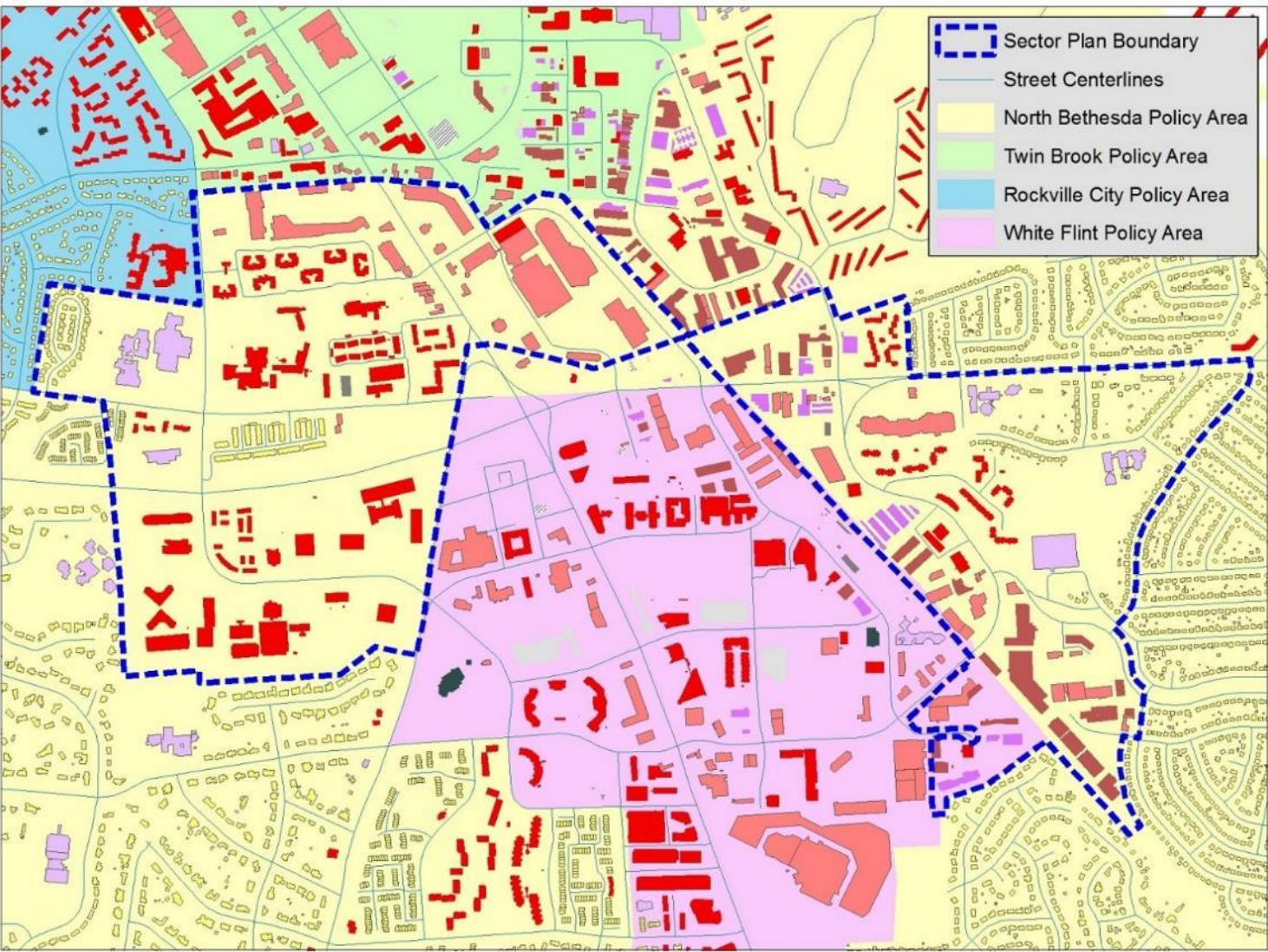
# Worksession Overview



Today’s worksession is focused on updated transportation modeling results using the Highway Capacity Manual (HCM), per the Subdivision Staging Policy (SSP); updated staging recommendations; MARC Station; and pedestrian crossing opportunities.



Sector Plan Area and Policy Areas



North Bethesda Policy Area

Twinbrook Policy Area

City of Rockville

White Flint Sector Plan



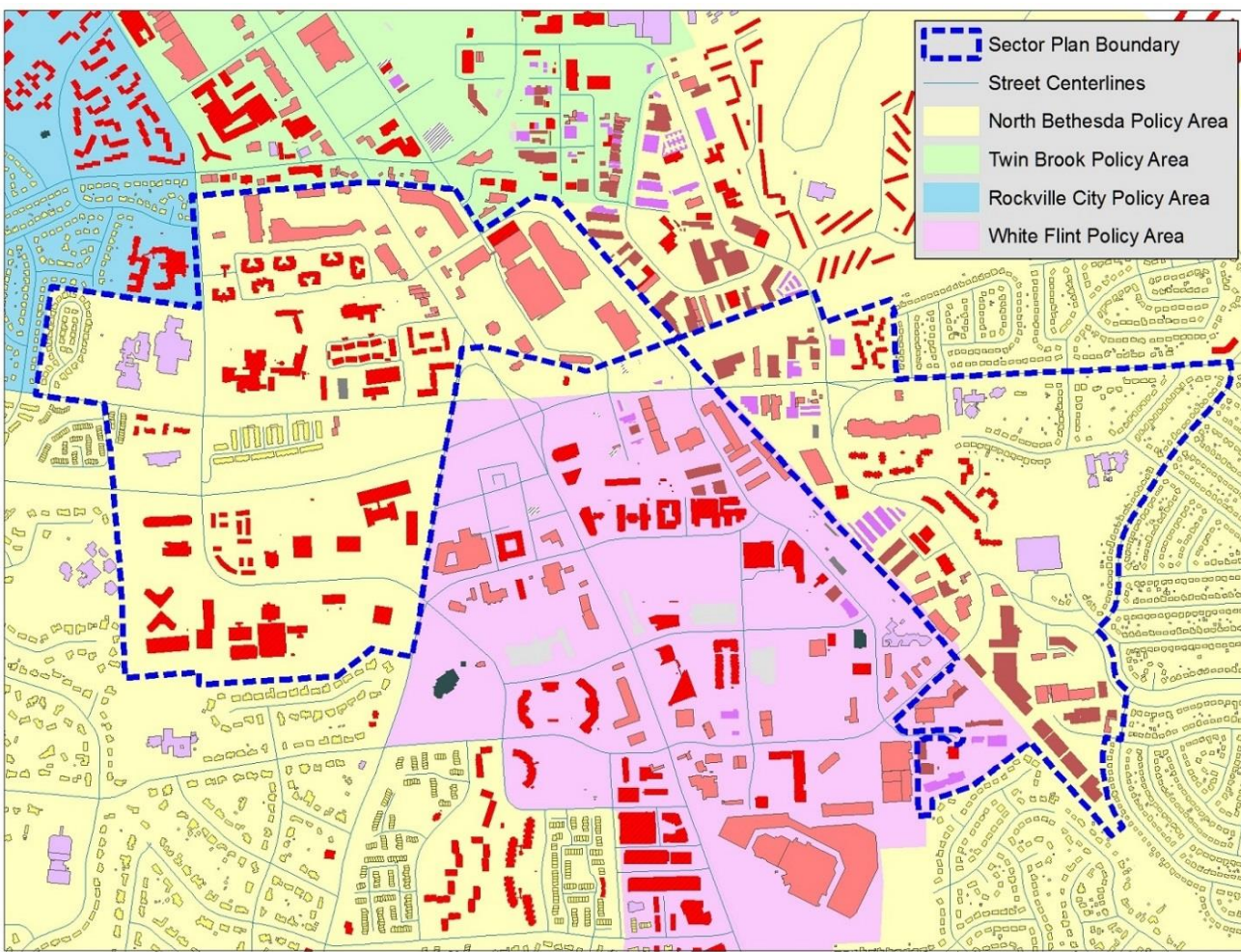
# Transportation Adequacy Standards

Critical Lane Volume (CLV) no longer applicable for regulatory purposes

Delay-based Highway Capacity Manual (HCM) methodology applies

**2016 - 2020 Subdivision Staging Policy**  
**Intersection**  
**Congestion Standards**

HCM Volume-to- Capacity Equivalent	Policy Area	HCM Average Vehicle Delay Standard (secs/vehicle)	CLV Congestion Standard
0.97	North Bethesda	71	N/A
1.13	White Flint	120	N/A
1.13	Twin brook	120	N/A



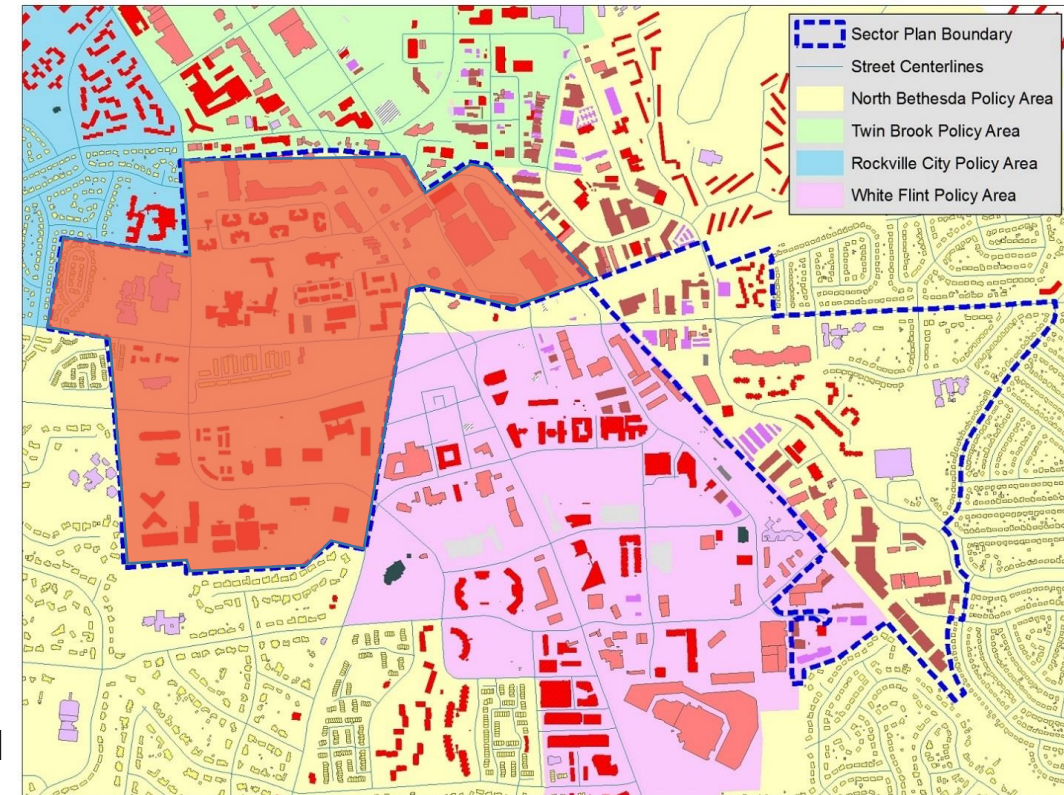
## Key Plan Transportation Recommendation

Extend the policy area boundary of the White Flint Sector Plan area to include the portion of the White Flint 2 Sector Plan Area that is west of Old Georgetown Road and north of Montrose Parkway.

Raise the intersection congestion standard in this portion of the White Flint 2 Sector Plan area from 71 seconds (applicable to the remainder of North Bethesda) to 120 seconds (applicable to White Flint and Twinbrook MSPAs)

### Rationale:

- Proximity to White Flint **and** Twinbrook Metro Stations
- Character of existing and planned development is similar to White Flint 1
- Change requires Subdivision Staging Policy (SSP) amendment



## Local Area Transportation Review Modeling

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- 2010 base year and 2040 horizon year
- Transportation improvements (both highway and transit) reflected in the region's Constrained Long Range Plan (CLRP), a fiscally constrained transportation network.
- **New:** Geometric/operational local intersection improvements
- No Bus Rapid Transit (BRT) explicitly modeled
- **New:** Non-Auto Driver Mode Share (NADMS) goal/target applied  
42% in White Flint 2 ; 50% in White Flint 1 (employees)
- White Flint II and Rock Spring Sector Plan scenarios evaluated concurrently
- Development tested is the Public Hearing Draft recommendations (6,000 dwelling units and 3.0 million sq.ft).
  - Board decisions on Nicholson Court, Randolph Hills, multifamily properties and other areas will be assessed in the near future.



## Local Area Transportation Review Modeling

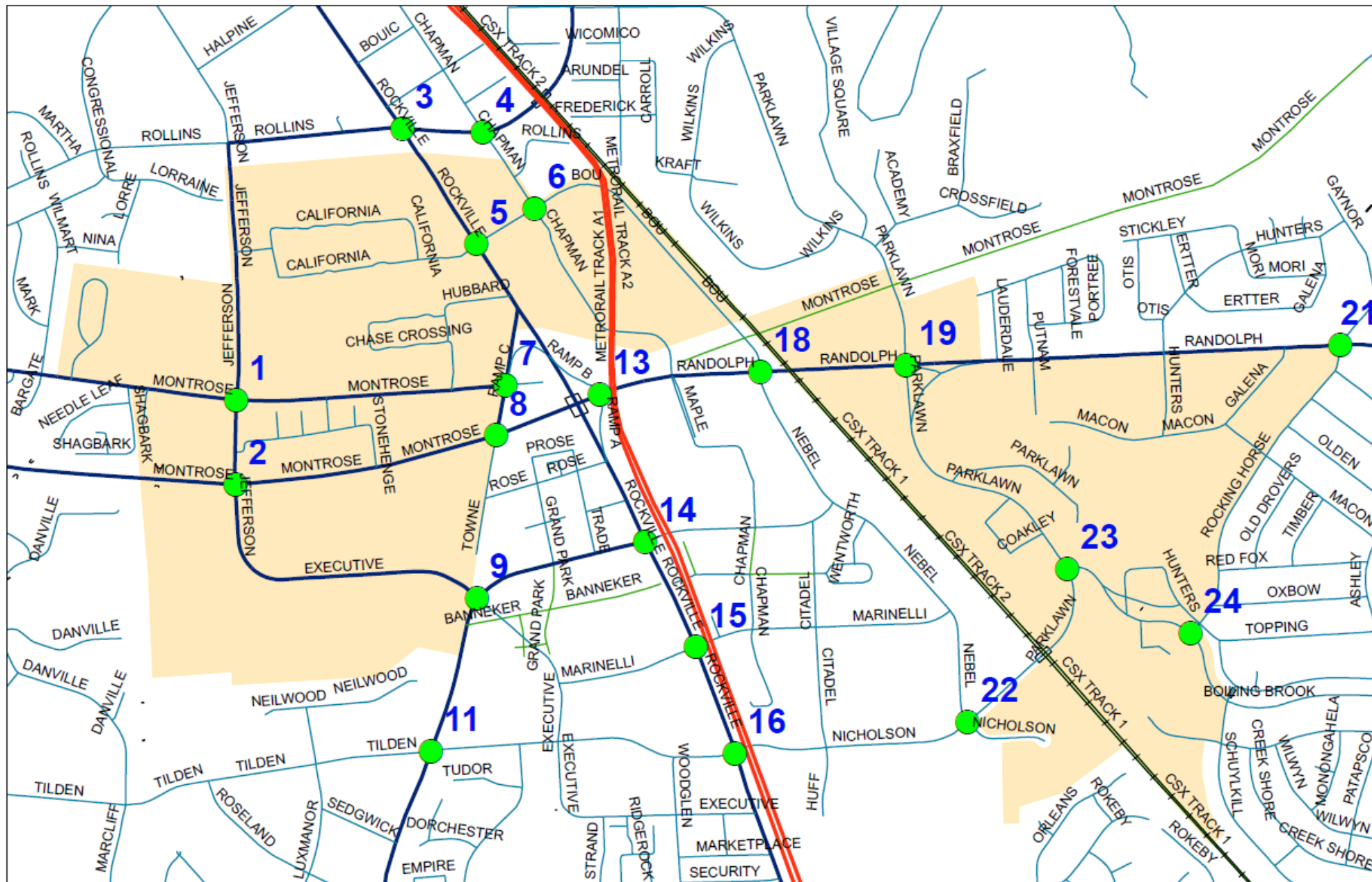
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In support of the transportation analysis for the Plan area, the following assumptions were applied:

- Outside the Plan study areas, regional growth reflecting the MWCOG Cooperative Forecast (Round 8.3)
- White Flint Transportation Projects
  - White Flint District West Workaround (No.501506)
  - White Flint West: Transportation (No.501116)
  - White Flint District East: Transportation (No.501204)
  - White Flint Traffic Analysis and Mitigation (No.501202)
- White Flint 1 land use data consistent with that assumed in support of the White Flint Traffic Operations Analysis Report released by Stantec (2014)
- New 300 households development plan at the WMAL Radio Tower site
  - New 300 households and corresponding population were added to existing land use inputs in TAZ 3748 (WMAL Radio Tower site located between I-270 Spur and I-495 Beltway).
- Montrose Parkway East
- New I-270 Spur HOV ramps on the south side of the Westlake Terrace Bridge in Rock Spring Sector Plan area.

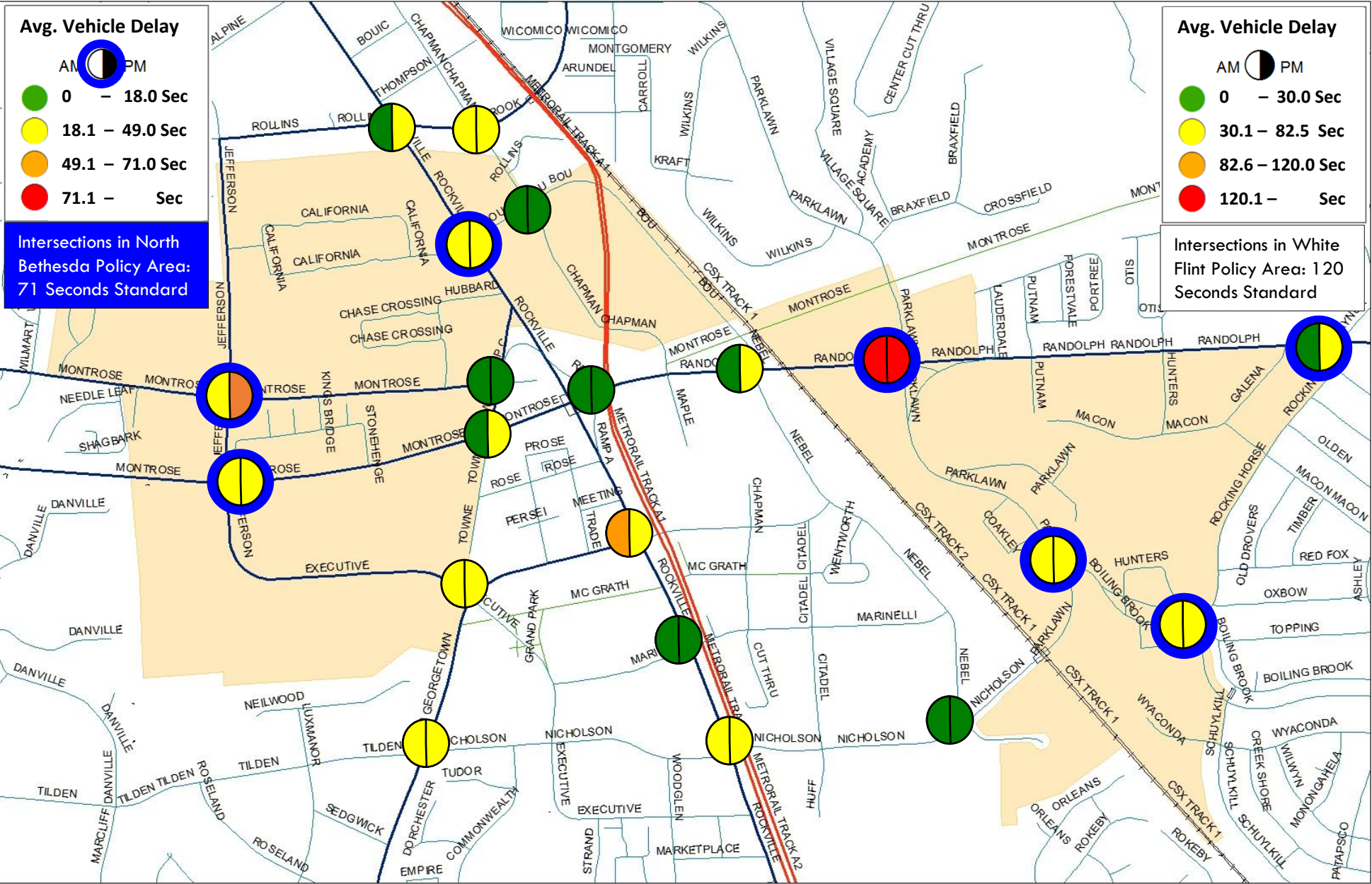


# Roadway System and Intersection IDs



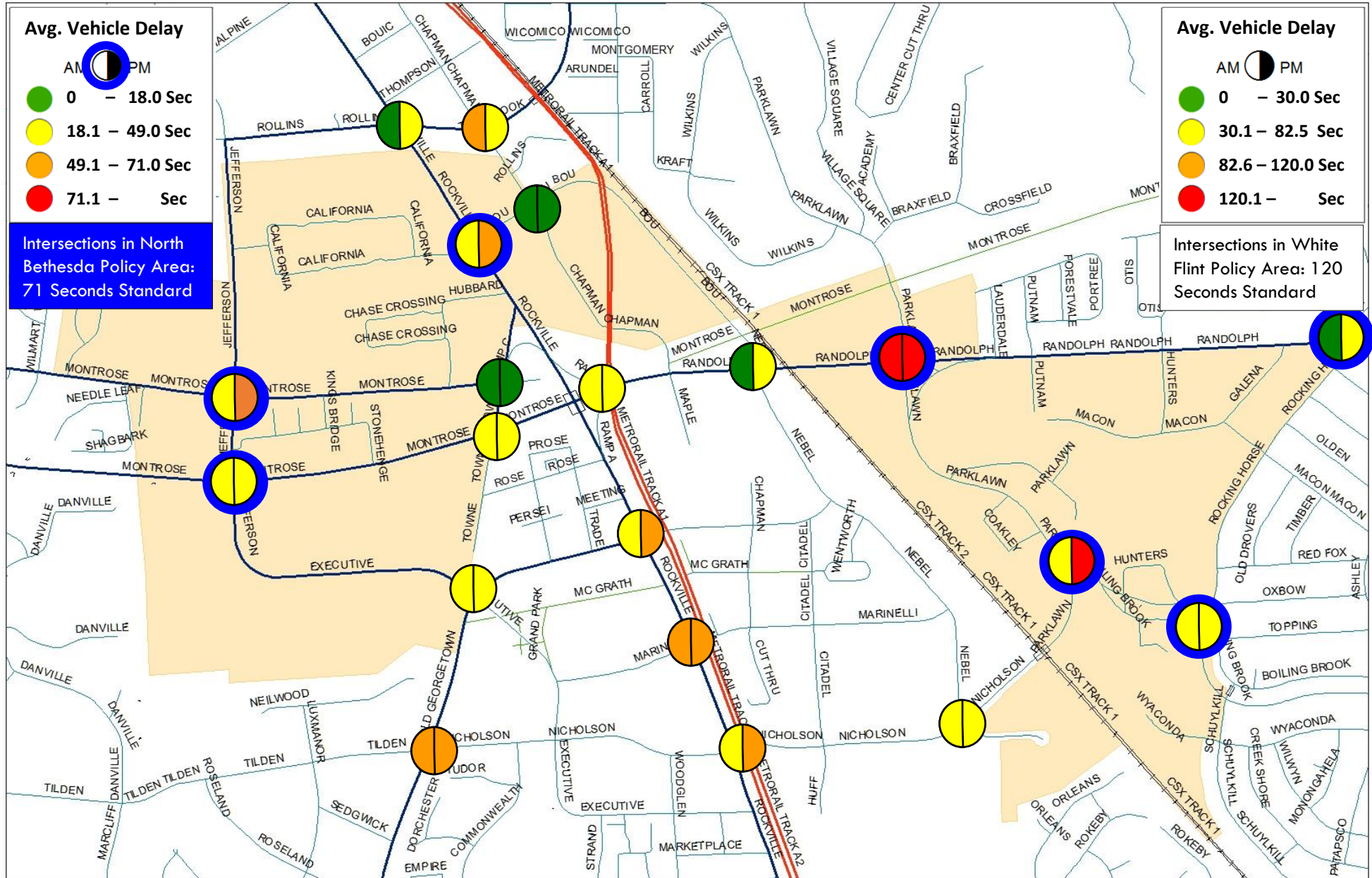


# HCM Analysis: 2015 Existing Conditions Traffic

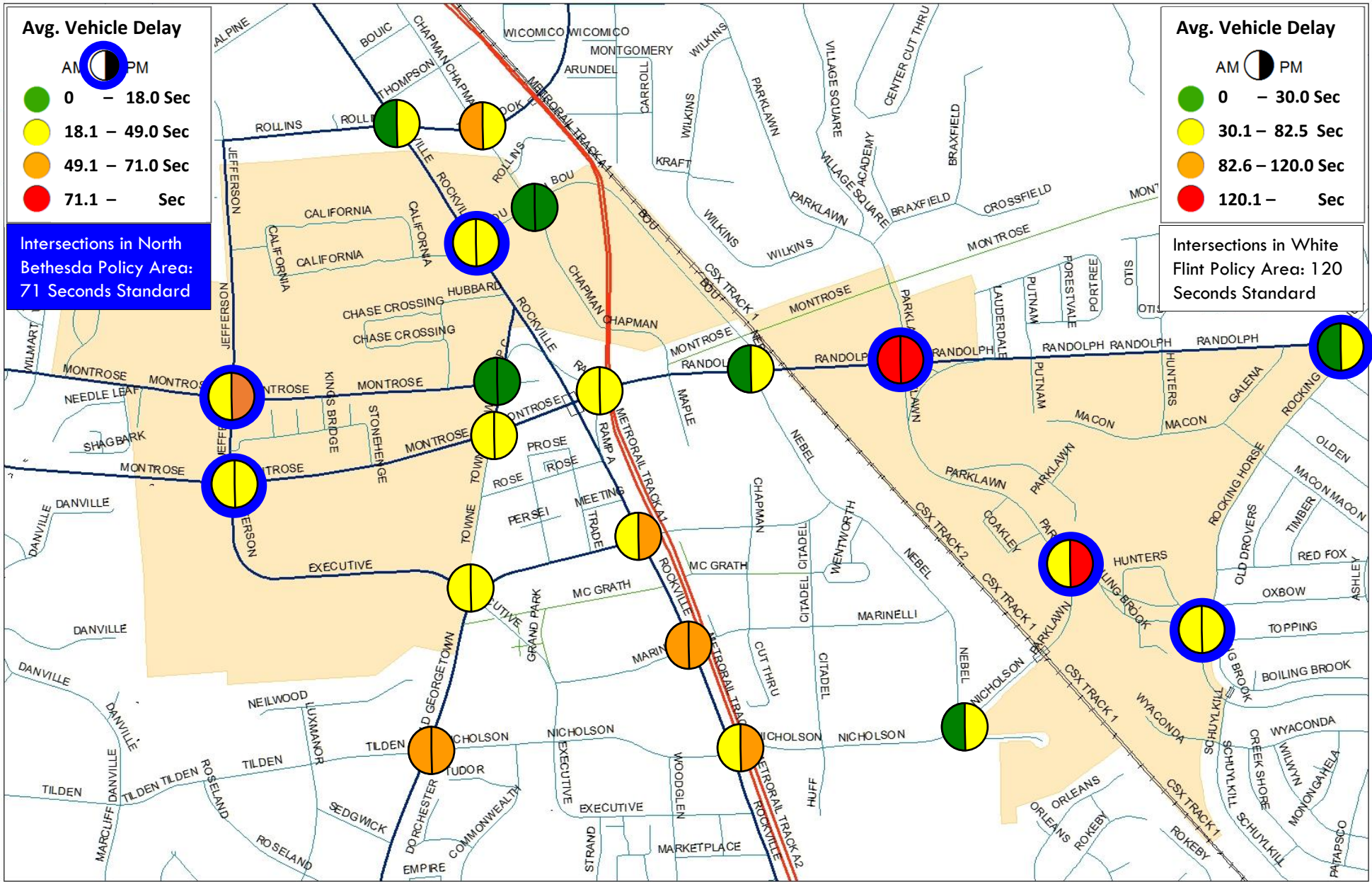




## HCM Analysis: 2040 Land Use-Alternative 3 (Public Hearing Draft Recommendation)

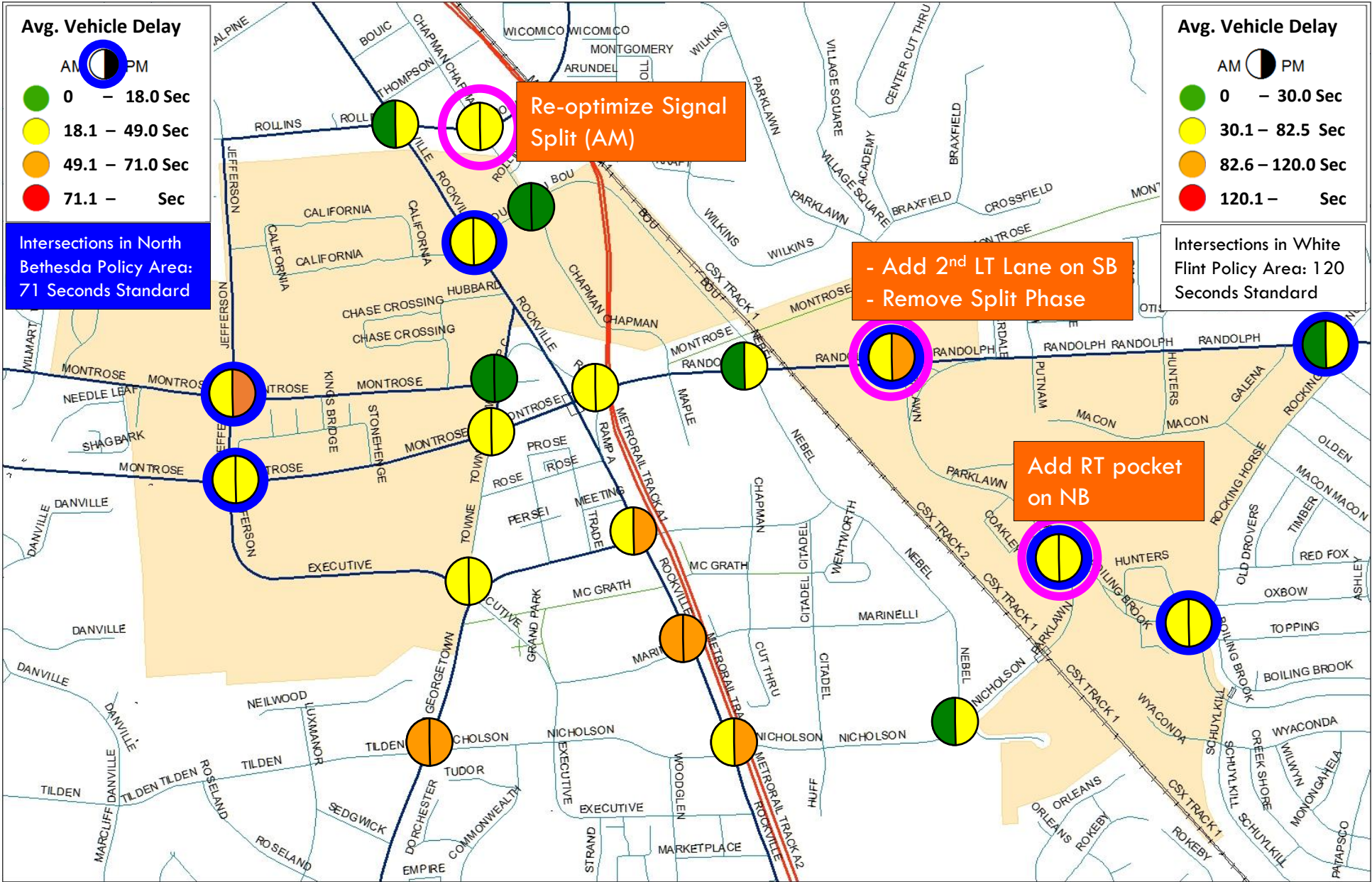


HCM Analysis: 2040 Land Use-Alternative 3 with NADMS Improvement



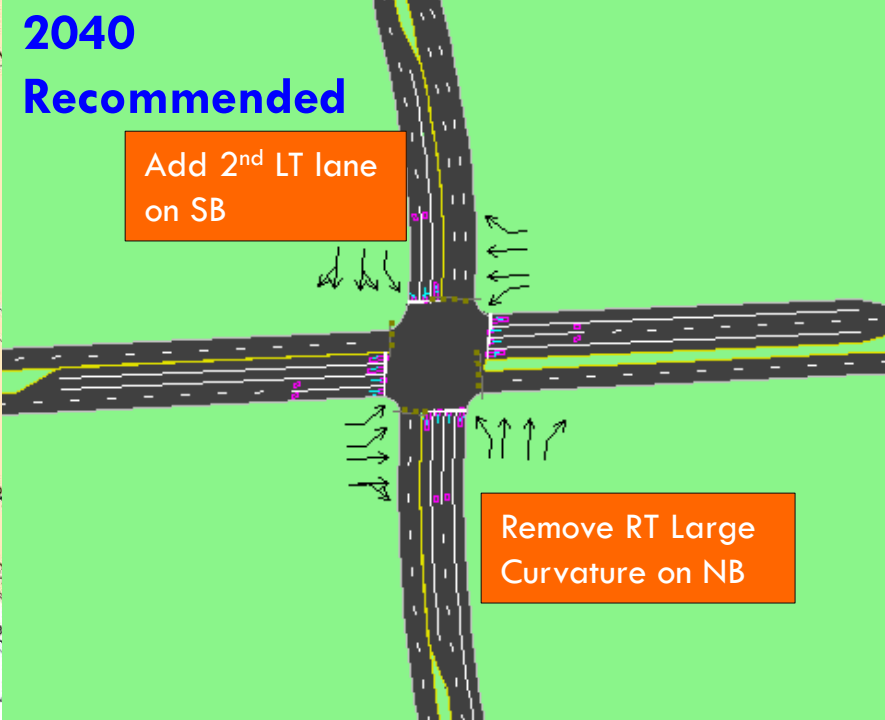
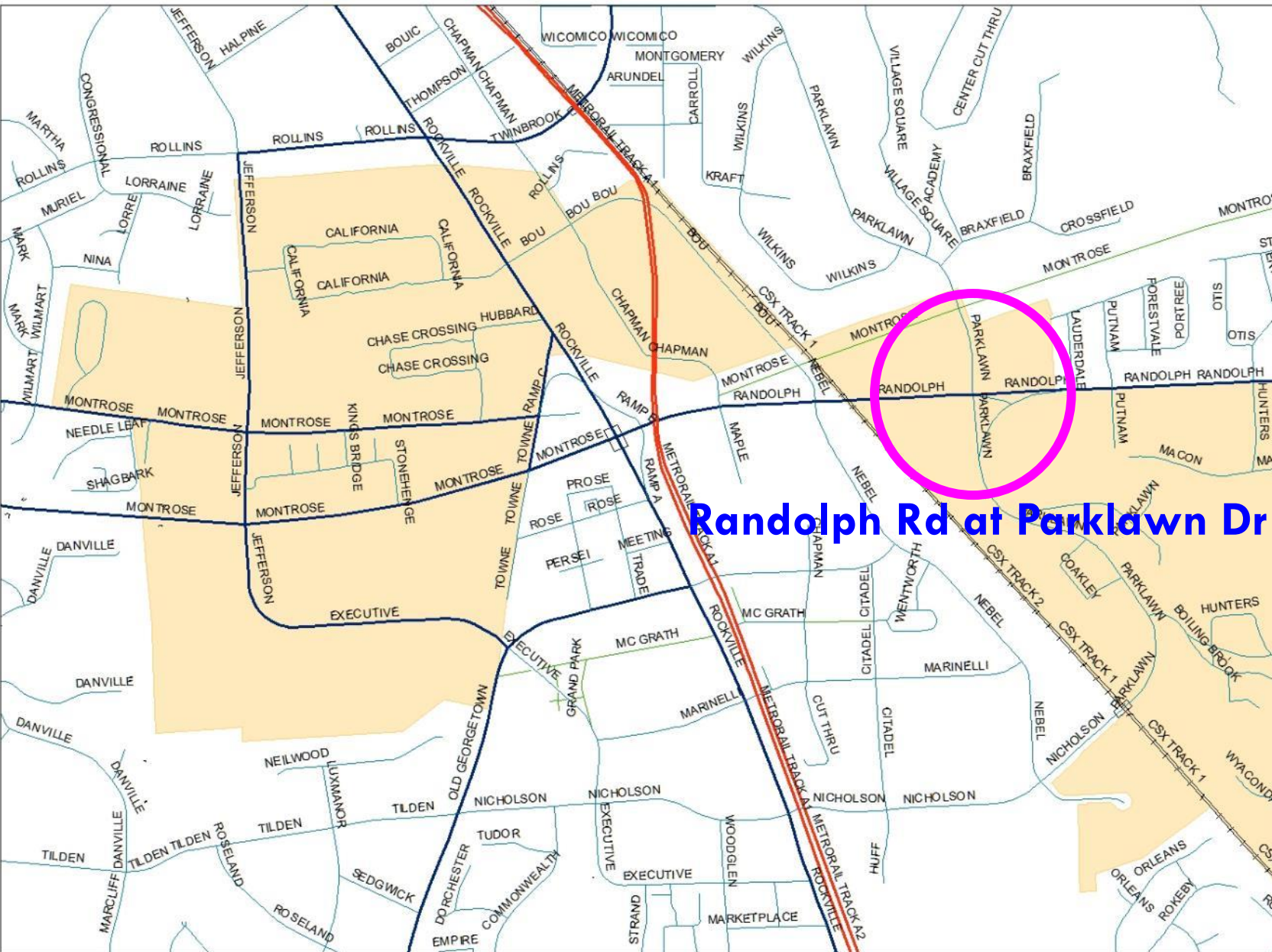


# HCM Analysis: 2040 Land Use-Alternative 3 with NADMS + Mitigation





# HCM Analysis: Intersection Geometry Improvement





# 2010 White Flint Sector Plan Staging

Table 6 : Staging Plan		
Phase 1 3,000 dwelling units 2 million square feet non-residential	Phase 2 3,000 dwelling units 2 million square feet non-residential	Phase 3 3,800 dwelling units 1.69 million square feet non-residential
<p>Contract for the construction of the realignment of Executive Boulevard and Old Georgetown Road.</p> <p>Contract for construction of Market Street (B-10) in the Conference Center block.</p> <p>Fund streetscape improvements, sidewalk improvements, and bikeways for substantially all of the street frontage within one-quarter mile of the Metro station: Old Georgetown Road, Marinelli Road, and Nicholson Lane.</p> <p>Fund and complete the design study for Rockville Pike to be coordinated with SHA, MCDOT and M-NCPPC.</p> <p>Achieve 34 percent non-auto driver mode share for the Plan area.</p> <p>The Planning Board should assess whether the build out of the Sector Plan is achieving the Plan's housing goals.</p>	<p>Construct streetscape improvements, sidewalk improvements, and bikeways for substantially all of the street frontage within one-quarter mile of the Metro station: Old Georgetown Road, Marinelli Road, and Nicholson Lane.</p> <p>Complete realignment of Executive Boulevard and Old Georgetown Road.</p> <p>Construct the portion of Market Street as needed for road capacity.</p> <p>Fund the second entrance to the White Flint Metro Station.</p> <p>Explore the potential for expediting portions of Rockville Pike where sufficient right-of-way exists or has been dedicated. It should be constructed once the "work-around" roads are open to traffic.</p> <p>Increase non-auto driver mode to 42 percent.</p> <p>The Planning Board should assess whether the build out of the Sector Plan is achieving the Plan's housing goals.</p> <p>The Planning Board must develop a plan to determine how to bring the mode share to 51 percent NADMS for residents and 50 percent NADMS for employees during Phase 3.</p>	<p>Complete all streetscape improvements, sidewalks, and bikeways outside one-quarter mile from the Metro.</p> <p>Reconstruct any remaining portion of Rockville Pike not constructed during prior phases.</p> <p>Achieve the ultimate mode share goals of 51 percent NADMS for residents and 50 percent NADMS for employees.</p>

**Draft Plan Staging**

New development can occur anywhere in the Plan area. Infrastructure listed for each phase could be funded either through the Capital Improvements Program (CIP), Consolidated Transportation Program (CTP) for State- related projects, public-private partnership or developer initiative/contribution.



# Draft Plan Staging

The proposed framework for staging in this Plan is established by a critical factor: the Plan area’s adjacency to the 2010 *White Flint Sector Plan* area and its staging plan requirements. The proximity of the *White Flint Sector Plan* and the White Flint 2 Plan areas is demonstrated by the extension of both Rockville Pike (MD 355) and Executive Boulevard through both Plan areas and the proximity of the White Flint Metro Station to both Plan areas.

The staging framework is guided by the following principles:

- Ensure an adequate level of development or tax contributions to help fund new infrastructure.
- Balance the infrastructure needs and requirements between both White Flint plan areas.
- Address the infrastructure needs for White Flint 2, including public facilities to support new development.
- Limiting the free rider effect where properties in White Flint 2 benefit from new infrastructure in the 2010 White Flint Sector Plan area.
- Development in the core of the 2010 *White Flint Sector Plan*, which is near to the Metro Station and along Rockville Pike, should be prioritized before periphery properties are developed.



Second White Flint Metro Entrance



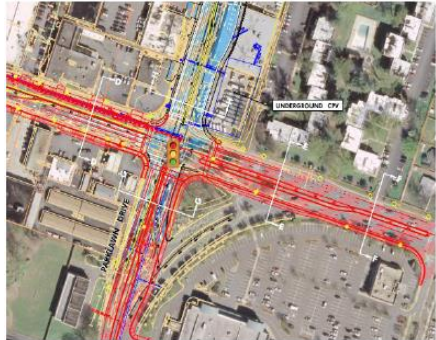
Rockville Pike BRT



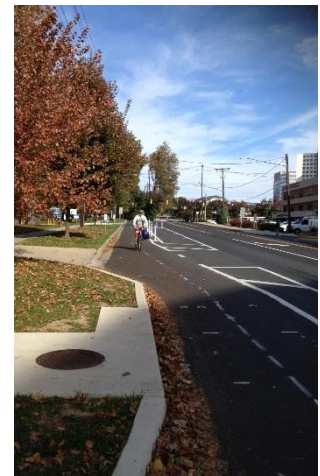
Parks and Open Space



Non-Auto Driver Mode Share



Realignment of Parklawn Drive



Protected Bikeways

## Public Hearing Draft Plan Staging Recommendation

Several important pre-staging items are considered for the draft *White Flint 2 Sector Plan*.

- The Planning Board should expand the existing White Flint Sector Plan Implementation Advisory Committee to include property owners, residents and other stakeholders from the *White Flint 2 Sector Plan* area.
- The Planning Board should expand the White Flint Sector Plan biennial monitoring report to include staging recommendations in this Plan.

Prior to approval of any new development in the Plan area, the following actions must be taken:

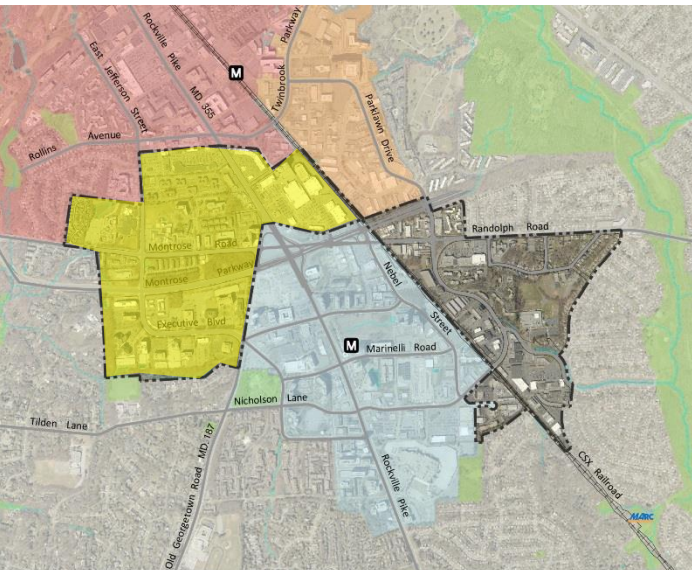
- Amend the North Bethesda Policy Area to create a new Local Area Transportation Review (LATR) Policy Area for the *White Flint 2 Sector Plan* area, within six months of adopting the Sectional Map Amendment (SMA).
- Within 12 months of adopting the Sectional Map Amendment (SMA), determine if a public financing mechanism will be established to fund public infrastructure recommended for the White Flint 2 Sector Plan area.
- The Planning Board must create a staging allocation procedure for new development in the Plan area or modify the existing *White Flint Sector Plan Implementation Guidelines*.



Public Hearing Draft Plan Staging Recommendation

Phase 1	Phase 2	Phase 3
Residential: 1,800 dwelling units Non-Residential: 900,000 square feet	Residential: 1,800 dwelling units Non-Residential: 900,000 square feet	Residential: 2,338 dwelling units Non-Residential: 1,189,857 square feet
<p>Achieve 27% Non-Automotive Driver Mode Share (NADMS) for the Plan area.</p> <p>Fund the Executive Boulevard and East Jefferson protected bikeway.</p> <p>Fund and complete the design study for Rockville Pike Bus Rapid Transit (BRT) that will be coordinated with SHA, MCDOT, M-NCPPC and the City of Rockville.</p> <p>Complete the implementation of Western Workaround, including the realignment of Executive Boulevard, Towne Road and Old Georgetown Road (MD 187) for vehicular travel.</p> <p>Fund the roadway realignment of Parklawn Drive and Randolph Road.</p> <p>Montgomery County Public Schools (MCPS) must evaluate the need for a new elementary school within the Walter Johnson cluster and determine how and when a new elementary school will be programmed.</p> <p>Maryland Department of Transportation (MDOT) must conduct a feasibility study for an infill MARC station along the Brunswick Line and determine if a MARC station should be located in the Plan area.</p> <p>The Planning Board must assess that the Sector Plan is achieving its goals and that all the infrastructure items for this Stage 1 are completed, prior to proceeding to Stage 2.</p>	<p>Achieve 35% Non-Automotive Driver Mode Share (NADMS) for the Plan area.</p> <p>Fund a shuttle or circulator that serves the Plan area, adjacent to residential communities, and Metro station areas.</p> <p>Fund the acquisition or dedication of a new public park for the plan area.</p> <p>Construct streetscape improvements, sidewalk improvements, and bikeways for substantially all of the street frontage within one-quarter mile of the Metro station: Old Georgetown Road, Marinelli Road and Nicholson Lane.</p> <p>Fund the second entrance to the White Flint Metro Station.</p> <p>The Planning Board must assess that the Sector Plan is achieving its goals and that all the infrastructure items for Stage 2 are completed, prior to proceeding to Stage 3.</p>	<p>Achieve 42% Non-Automotive Driver Mode Share (NADMS) for the Plan area.</p> <p>Fund and implement the Parklawn Drive Shared Use Path.</p> <p>Montgomery County Public Schools (MCPS) must construct an elementary school for the Walter Johnson School Cluster or determine how elementary school needs will be addressed for the Cluster.</p> <p>Construct a new MARC station, if MDOT determines that a MARC station will be located within the plan area.</p>

NADMS



The overall North Bethesda/Garrett Park Master Plan Area NADMS goal is 39 percent for employees. In 2015, the estimated Master Plan area NADMS was 28 percent. The 2016-2020 Subdivision Staging Policy (SSP) confirmed the North Bethesda Transportation District NADMS goal at 39% for workers.

White Flint 2 Sector Plan Draft Plan

Public Hearing Draft Recommendation

- Phase 1: 27 percent
- Phase 2: 35 percent
- Phase 3: 42 percent

2010 White Flint Sector Plan

Phasing Requirement

- Phase 1: 34 percent
- Phase 2: 42 percent
- Phase 3: 50 percent (employees)/51 percent (residents)



White Flint Sector Plan

Revised Recommendation

Area: Properties North and West of White Flint 1

- Phase 1: 34 percent for residents and employees
- Phase 2: 42 percent for residents and employees
- Phase 3: 50 percent for employees and 51 percent residents

Area: East of the CSX tracks

- Retain the Public Hearing Draft Recommendation

2011 White Flint

Implementation Guidelines

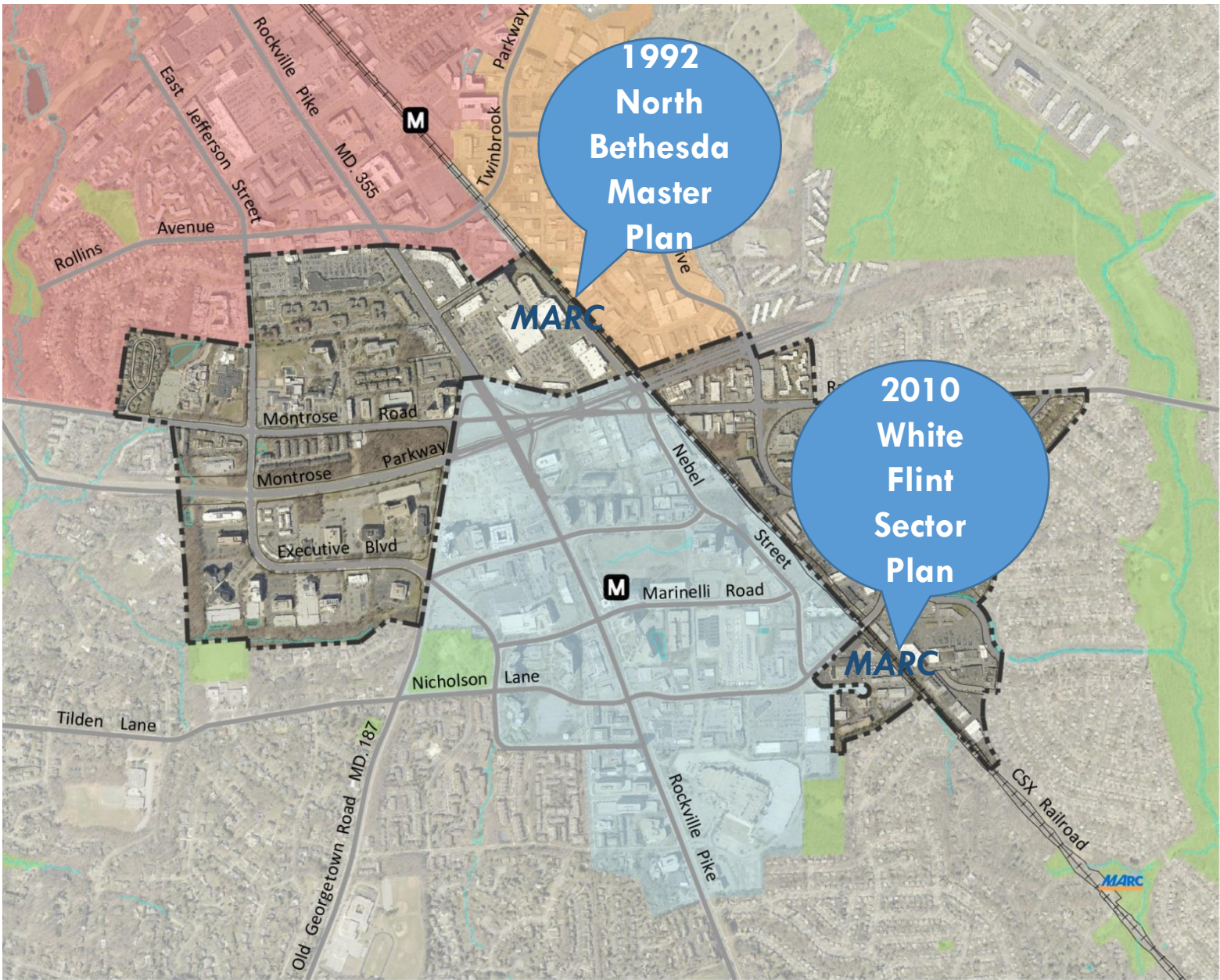
- The overall White Flint Sector Plan Area mode share (NADMS) is the weighted average of NADMS-R (Residential) and NADMS-E (Employees)-p.11



Revised Draft Plan Staging Recommendation

Phase 1	Phase 2	Phase 3
Residential: 1,800 dwelling units Non-Residential: 900,000 square feet	Residential: 1,800 dwelling units Non-Residential: 900,000 square feet	Residential: 2,338 dwelling units Non-Residential: 1,189,857 square feet
<p><del>Achieve 27% Non-Automotive Driver Mode Share (NADMS) for the Plan area.</del></p> <p><b>During Phase one, the Planning Board should assess that properties within the Montrose North and Executive Boulevard Districts have achieved a NADMS goal of 34 percent for employees and residents. For properties in the Parklawn South and Randolph Hills Districts, the Board should assess that a NADMS goal of 27 percent for employees and residents have been achieved.</b></p> <p>Fund the Executive Boulevard and East Jefferson protected bikeway.</p> <p><b>Fund a shuttle or circulator that serves the Plan area, adjacent Metro station areas and residential communities.</b></p> <p>Fund and complete the design study for Rockville Pike Bus Rapid Transit (BRT) that will be coordinated with SHA, MCDOT, M-NCPPC and the City of Rockville.</p> <p>Complete the implementation of Western Workaround, including the realignment of Executive Boulevard, Towne Road and Old Georgetown Road (MD 187) for vehicular travel.</p> <p>Fund the roadway realignment of Parklawn Drive and Randolph Road.</p> <p>Montgomery County Public Schools (MCPS) must evaluate the need for a new elementary school within the Walter Johnson cluster and determine how and when a new elementary school will be programmed.</p> <p>Maryland Department of Transportation (MDOT) must conduct a feasibility study for an infill MARC station along the Brunswick Line and determine if a MARC station should be located in the Plan area.</p> <p>The Planning Board must assess that the Sector Plan is achieving its goals and that all the infrastructure items for this Stage 1 are completed, prior to proceeding to Stage 2.</p>	<p><del>Achieve 35% Non-Automotive Driver Mode Share (NADMS) for the Plan area.</del></p> <p><b>During Phase two, the Planning Board should assess that properties within the Montrose North and Executive Boulevard Districts have achieved a NADMS goal of 42 percent for employees and residents. For properties in the Parklawn South and Randolph Hills Districts, the Board should assess that a NADMS goal of 35 percent for employees and residents have been achieved.</b></p> <p><del>Fund the acquisition or dedication of a new public park for the plan area.</del></p> <p><del>Fund a shuttle or circulator that serves the Plan area, adjacent to residential communities, and Metro station areas.</del></p> <p><del>Construct streetscape improvements, sidewalk improvements, and bikeways for substantially all of the street frontage within one-quarter mile of the Metro station: Old Georgetown Road, Marinelli Road and Nicholson Lane.</del></p> <p>Fund the second entrance to the White Flint Metro Station.</p> <p>The Planning Board must assess that the Sector Plan is achieving its goals and that all the infrastructure items for Stage 2 are completed, prior to proceeding to Stage 3.</p>	<p><del>Achieve 42% Non-Automotive Driver Mode Share (NADMS) for the Plan area.</del></p> <p><b>During Phase three, the Planning Board should assess that properties within the Montrose North and Executive Boulevard Districts have achieved a NADMS goal of 51 percent for employees and 50 percent residents.</b></p> <p>Fund and implement the Parklawn Drive Shared Use Path.</p> <p>Montgomery County Public Schools (MCPS) must construct an elementary school for the Walter Johnson School Cluster or determine how elementary school needs will be addressed for the Cluster.</p> <p>Construct a new MARC station, if MDOT determines that a MARC station will be located within the plan area.</p>

MARC



- White Flint 2 Sector Plan Boundary
- 2010 White Flint Sector Plan
- City of Rockville
- 2009 Twinbrook Sector Plan
- Parkland
- M Metro Station
- MARC Garrett Park MARC Station





# MARC

## MARC Growth and Investment Plan 2013 to 2050

### *Brunswick Line: Long Term Potential*

- 3 main tracks, Barnesville Hill
- Add another new Montgomery County station or expand an existing station
- Point of Rocks platform expansion providing access to Frederick branch and improved facilities
- Parking facility expansions as deemed necessary
  - Germantown Parking Garage
- Brunswick parking lot – additional access point
- Duffields – potential new station at Northport
- Brunswick Maintenance service facility expansion



MARC

2008 MTA Technical Review for a White Flint MARC Station indicated that:

- Either site (Montouri or Nicholson Court) would not provide direct access to the existing Metro stations.
- The spacing of existing MARC stations is already closer than desired.
- The addition of a new station would increase travel time and potentially decrease individual station ridership for other stations along the Brunswick Line.
- It is recommended that if the new White Flint Station is to be added, the Garrett Park MARC Station should be removed to ensure optimum system efficiency.

Estimated cost (2008): \$20M (not including property acquisition).



**Draft Plan Staging Recommendation**

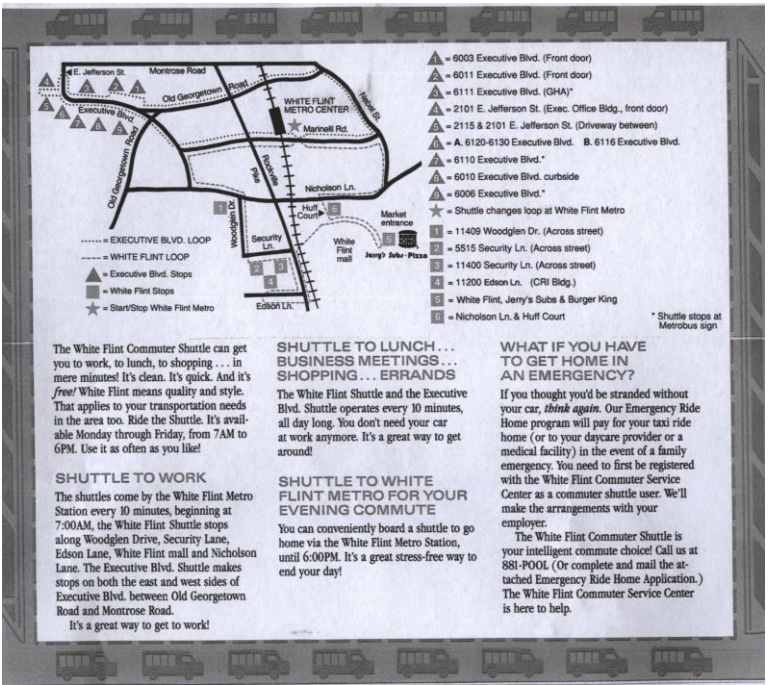
Maryland Department of Transportation (MDOT) must conduct a feasibility study for an infill MARC station along the Brunswick Line and determine if a MARC station should be located in the Plan area.



Circulator/Shuttle



King Farm Circulator



White Flint Circulator (90s-2000s)



New Rock Spring Shuttle (July 2016-Present)

# Conceptual Circulator/Shuttle Route

