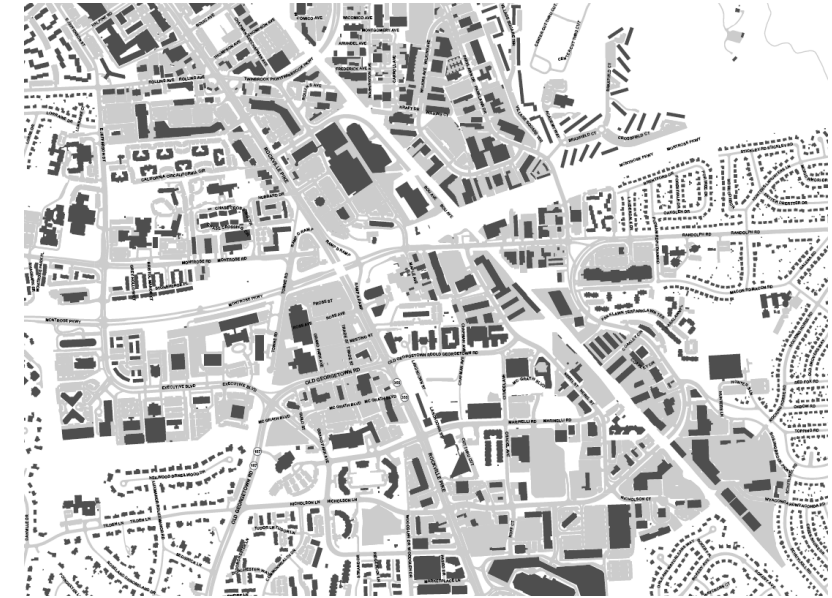
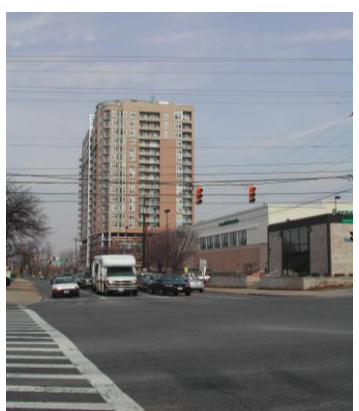
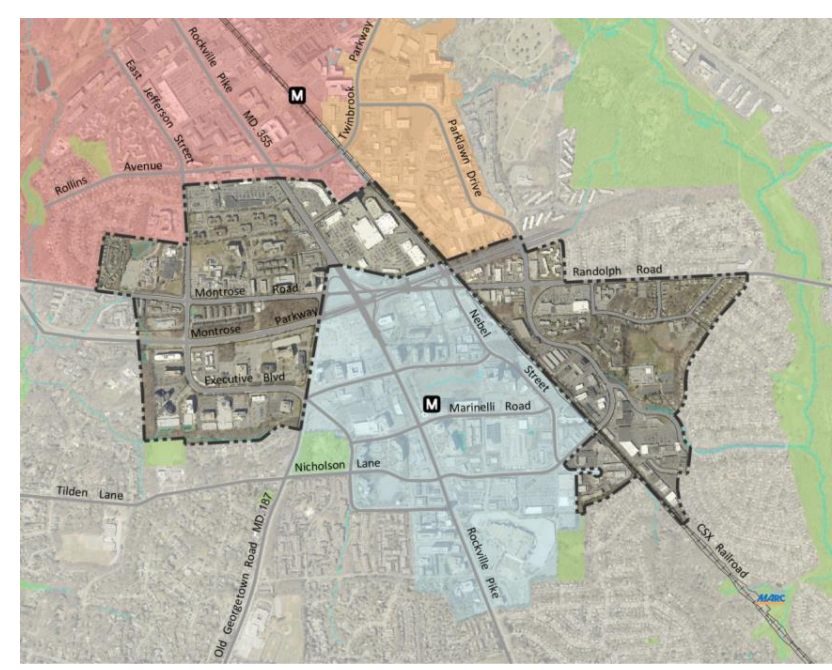
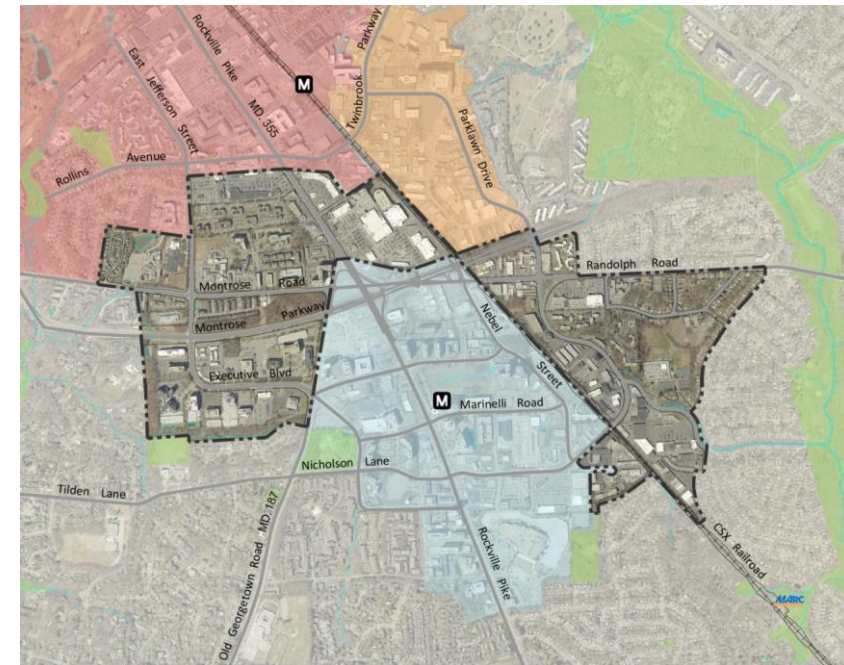


Planning Board Worksession No.1-Transportation and Staging

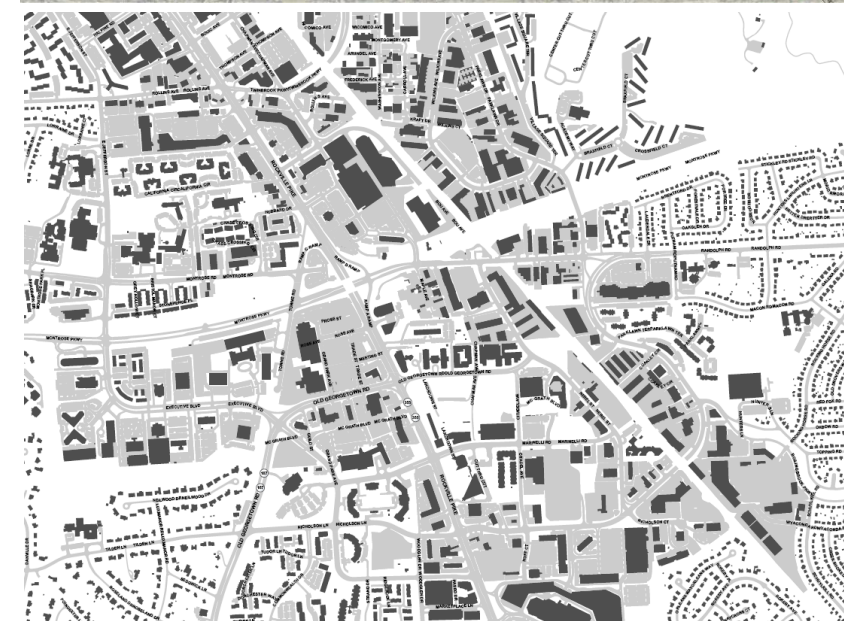


Planning Board Worksession No.1: Transportation and Staging

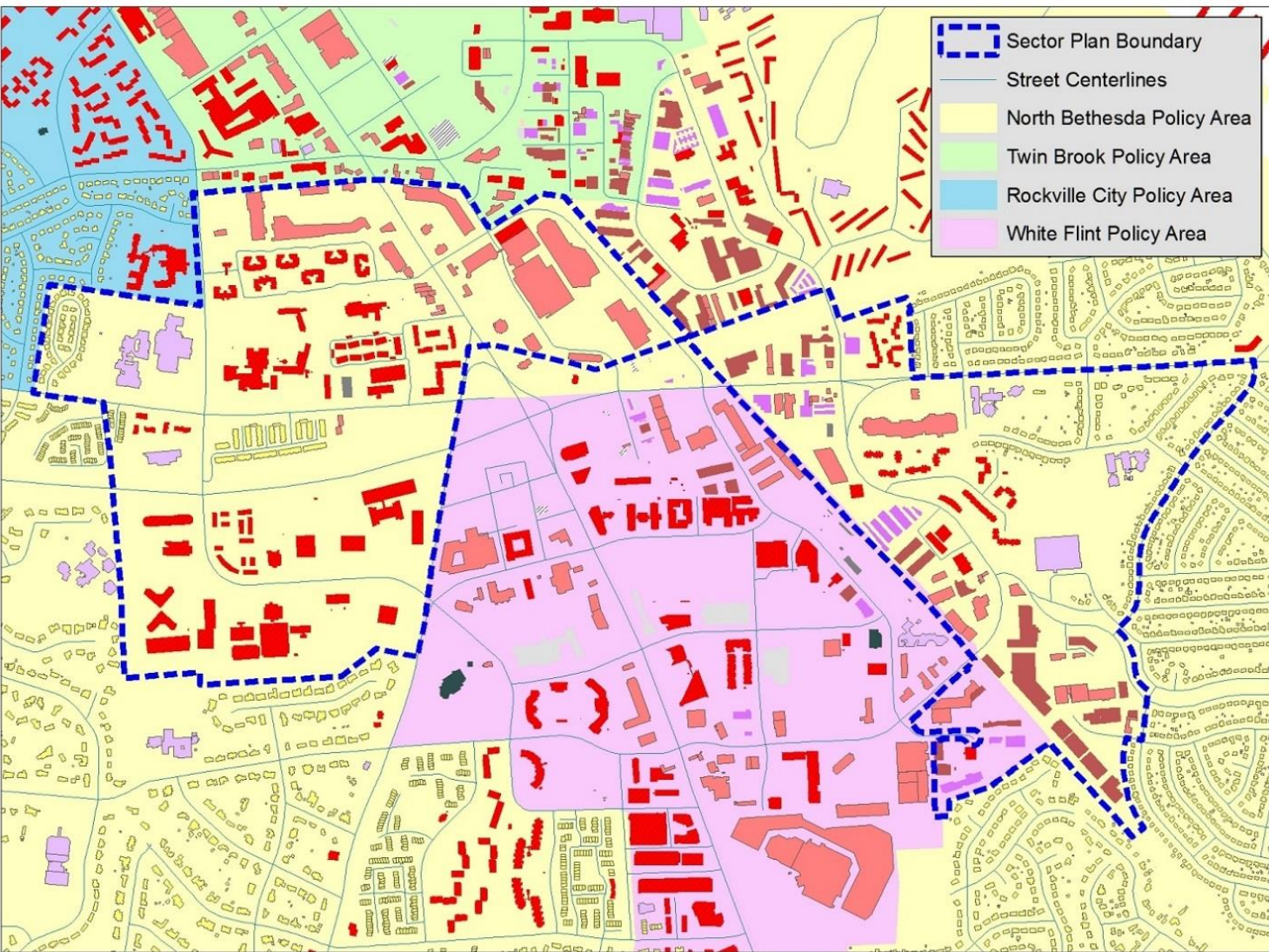


Public Hearing: January 12, 2017

Public Record Closes: January 26, 2017



Sector Plan Area and Policy Areas



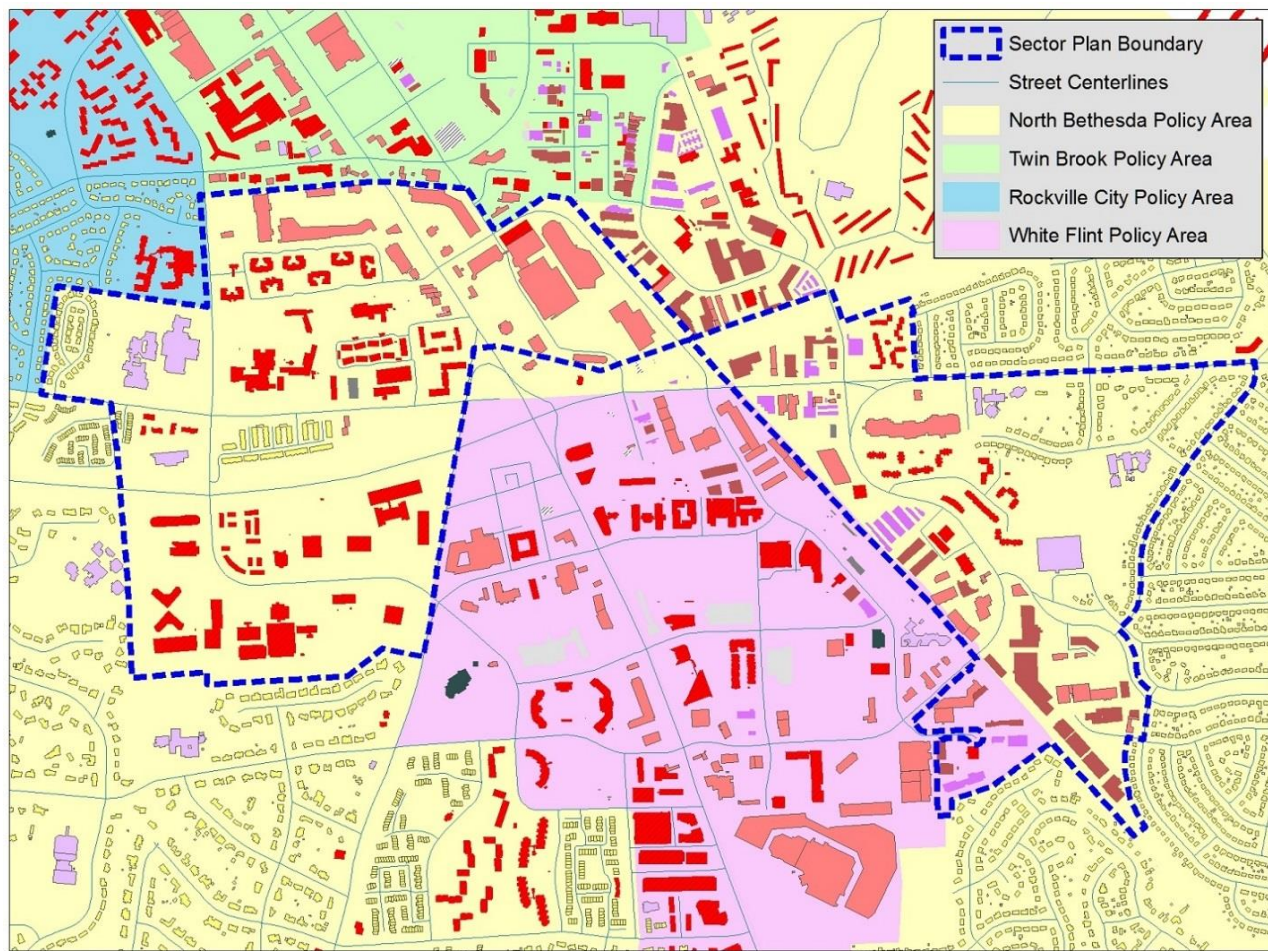
North Bethesda Policy Area

Twinbrook Policy Area

City of Rockville

White Flint Sector Plan

Adequacy Standards



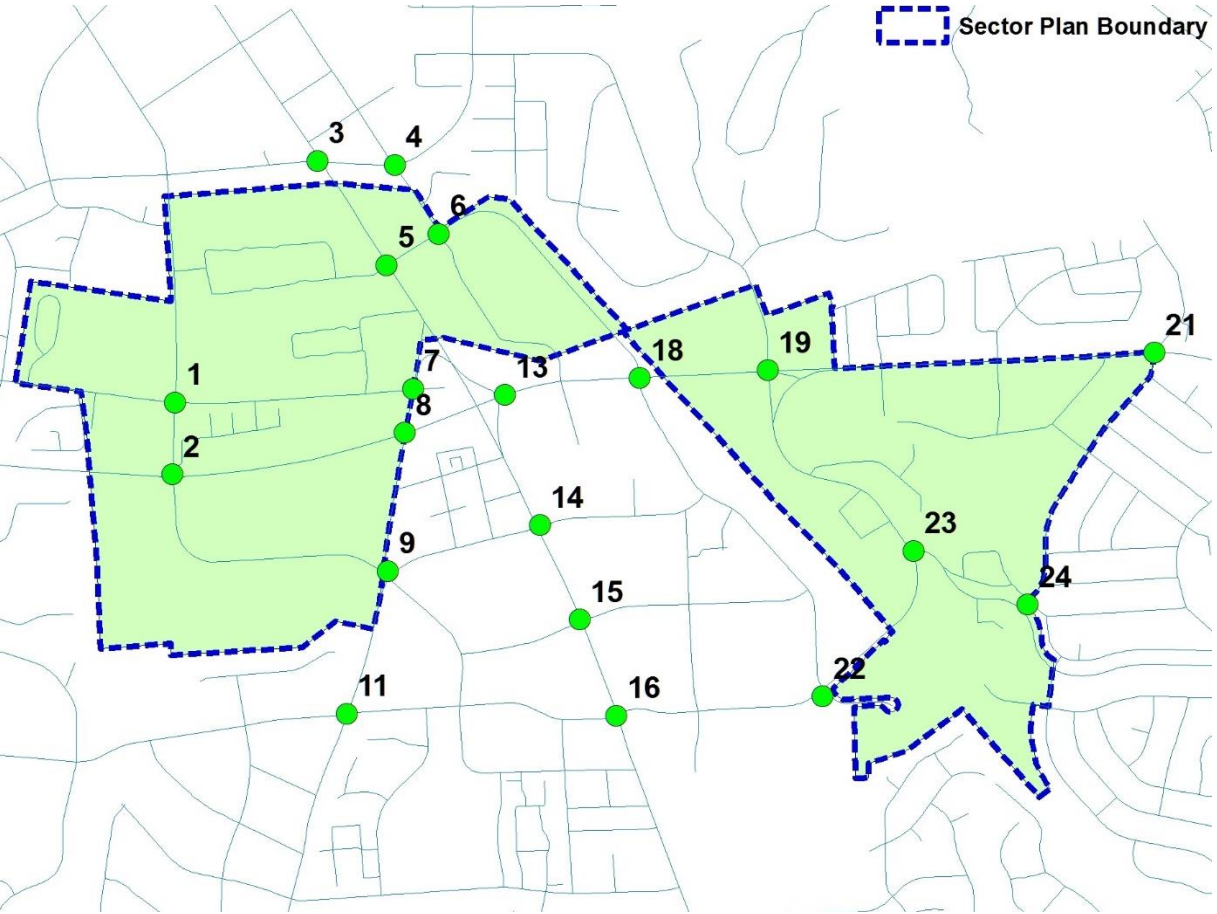
Critical Lane Volume (CLV)

Highway Capacity Manual (HCM) Delay

2016 - 2020 Subdivision Staging Policy Intersection Congestion Standards

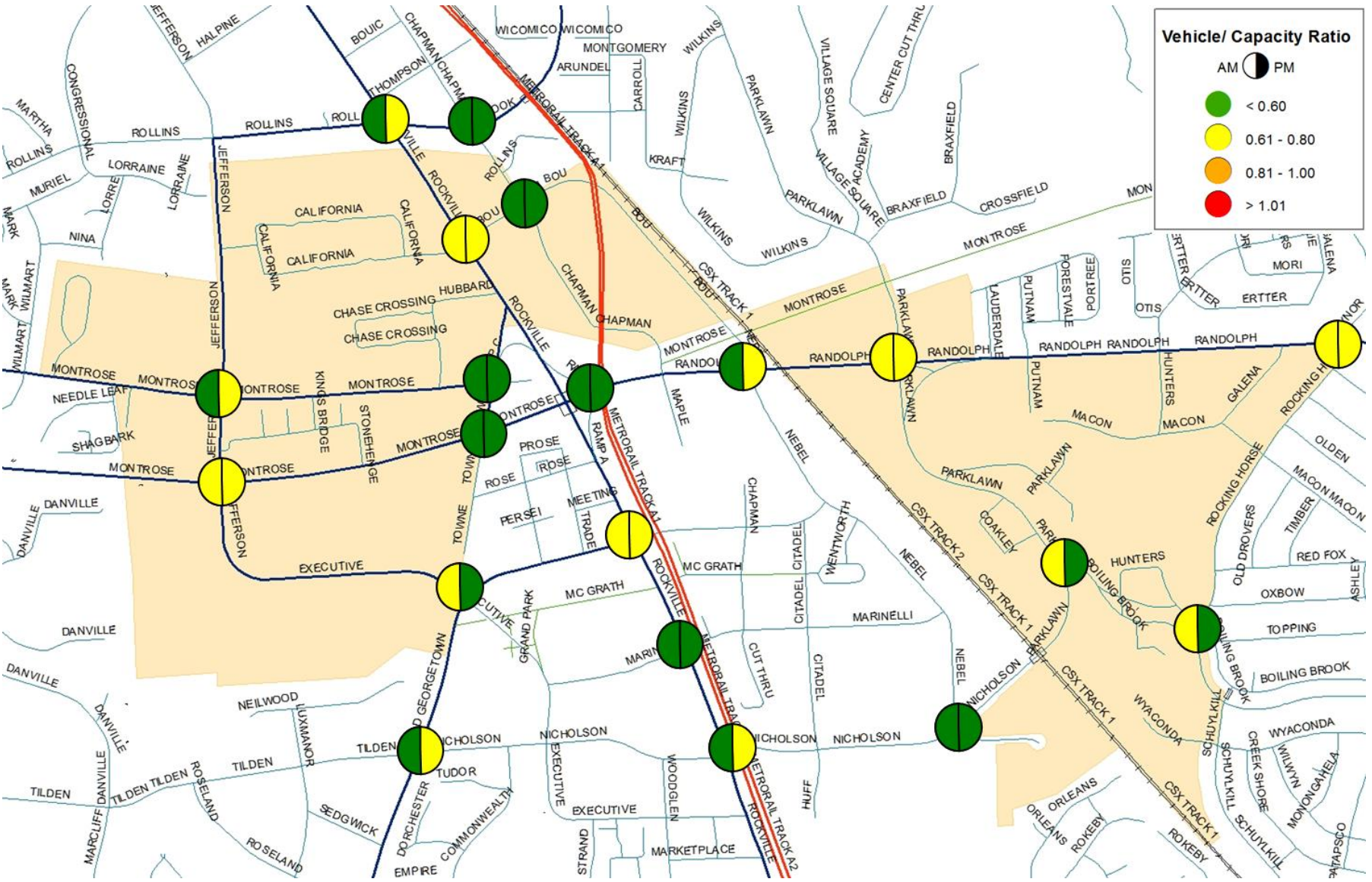
HCM Volume-to-Capacity Equivalent	Policy Area	HCM Vehicle Standard (secs/vehicle)	Avg Delay	CLV Congestion Standard
0.97	North Bethesda	71		N/A
1.13	White Flint	120		N/A
1.13	Twin brook	120		N/A

Plan Area Intersections and Existing CLV



ID	CLV Standard	E-W Road	N-S Road	2015 Existing CLV	
				AM	PM
1	1,550	Montrose Road	East Jefferson Street	710	962
2	1,550	Montrose Parkway	East Jefferson Street	1,058	1,221
3	1,800	Rollins Avenue	MD 355	972	1,138
4	1,800	Twinbrook Parkway	Chapman Avenue	840	1,035
5	1,550	Bou Avenue	MD 355	971	1,170
6	1,800	Bou Avenue	Chapman Avenue	575	766
7	1,800	Montrose Road	Hoya Street	561	578
8	1,800	Montrose Parkway	Hoya Street	548	685
9	1,800	Executive Boulevard	Old Georgetown Road	1,224	1,019
11	1,800	Nicholson Lane	Old Georgetown Road	1,067	1,121
13	1,800	Montrose Parkway	MD 355	672	640
14	1,800	Old Georgetown Road	MD 355	1,206	1,347
15	1,800	Marinelli Road	MD 355	887	933
16	1,800	Nicholson Lane	MD 355	1,072	1,310
18	1,800	Randolph Road	Nebel Street	854	1,145
19	1,550	Randolph Road	Parklawn Drive	1,144	1,174
21	1,550	Randolph Road	Gaynor Road	1,120	1,192
22	1,800	Nicholson Lane	Nebel Street	830	906
23	1,550	Boiling Brook Parkway	Parklawn Drive	1,124	858
24	1,550	Boiling Brook Parkway	Rocking Horse Road	1,021	882

Existing Conditions Vehicle/Capacity Ratio



Local Area Transportation Review Modeling

- 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.
- No geometric/operational local intersection improvements
- No Bus Rapid Transit (BRT)
- No Non-Auto Driver Mode Share (NADMS) goal/target applied
- White Flint II and Rock Spring Sector Plan scenarios evaluated concurrently

Local Area Transportation Review Modeling

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

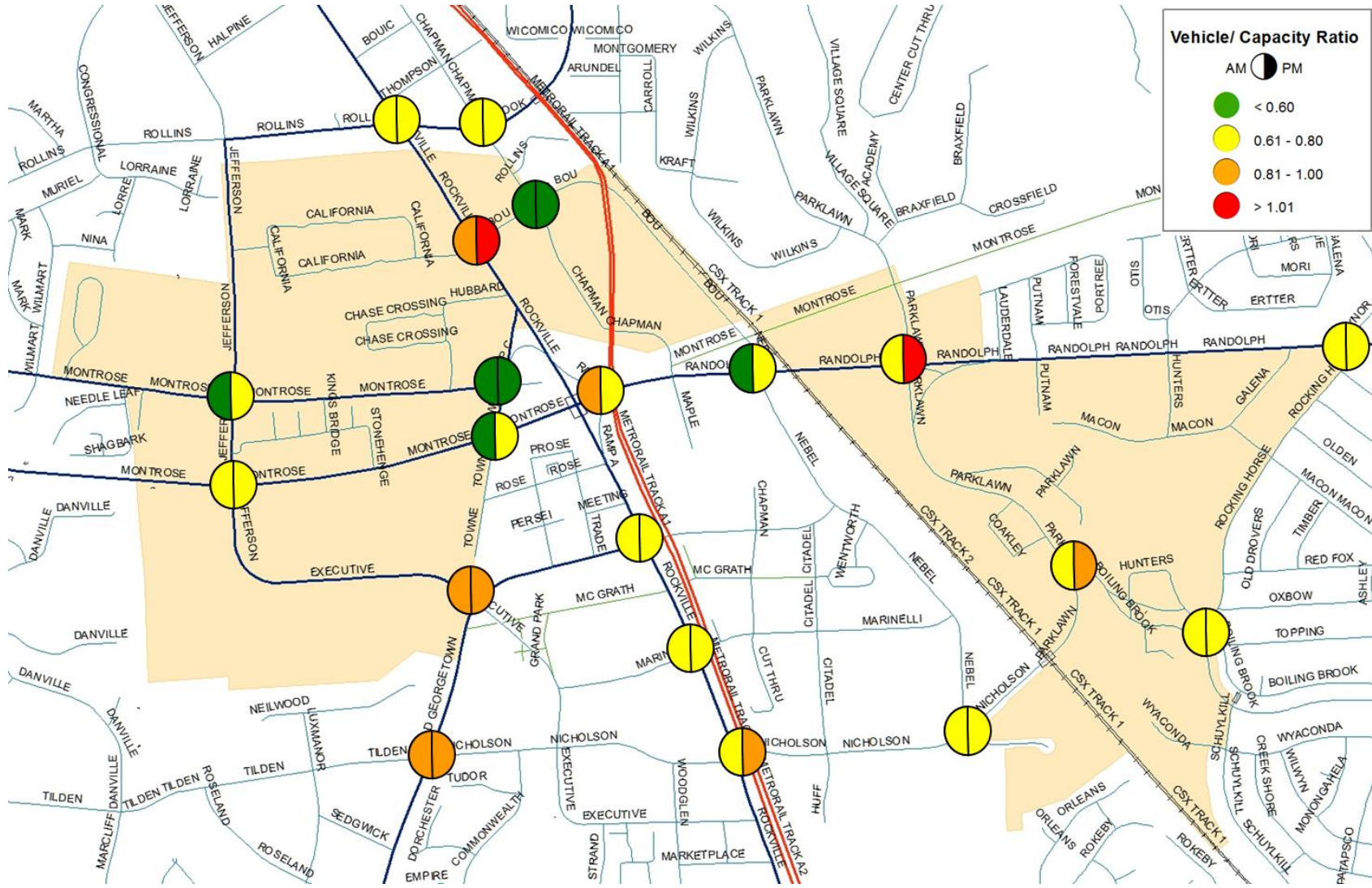
- Outside the Plan study areas, regional growth reflecting the MWCOG Cooperative Forecast (Round 8.3)
- White Flint Transportation Projects
 - White Flint District West Workaround (No.501506)
 - White Flint West: Transportation (No.501116)
 - White Flint District East: Transportation (No.501204)
 - White Flint Traffic Analysis and Mitigation (No.501202)
- Land use data consistent with that assumed in support of the White Flint Traffic Operations Analysis Report released by Stantec (2014)
- New 300 household 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.

Local Area Transportation Review Modeling

ID	CLV Standard	E-W Road	N-S Road	2040 Alternative 1		2040 Alternative 2		2040 Alternative 3	
				AM	PM	AM	PM	AM	PM
1	1,550	Montrose Road	East Jefferson Street	732	1,118	773	1,170	784	1,185
2	1,550	Montrose Parkway	East Jefferson Street	1,068	1,149	1,096	1,178	1,098	1,189
3	1,800	Rollins Avenue	MD 355	1,171	1,297	1,175	1,302	1,175	1,305
4	1,800	Twinbrook Parkway	Chapman Avenue	1,159	1,322	1,136	1,323	1,142	1,328
5	1,550	Bou Avenue	MD 355	1,289	1,573	1,301	1,588	1,303	1,587
6	1,800	Bou Avenue	Chapman Avenue	826	921	814	973	804	924
7	1,800	Montrose Road	Hoya Street	911	941	960	963	968	984
8	1,800	Montrose Parkway	Hoya Street	976	1,161	999	1,167	1,008	1,170
9	1,800	Executive Boulevard	Old Georgetown Road	1,629	1,632	1,637	1,633	1,632	1,634
11	1,800	Nicholson Lane	Old Georgetown Road	1,621	1,660	1,624	1,678	1,624	1,666
13	1,800	Montrose Parkway	MD 355	1,424	1,206	1,437	1,207	1,446	1,214
14	1,800	Old Georgetown Road	MD 355	1,395	1,412	1,395	1,411	1,400	1,415
15	1,800	Marinelli Road	MD 355	1,151	1,329	1,163	1,330	1,201	1,307
16	1,800	Nicholson Lane	MD 355	1,221	1,581	1,226	1,583	1,231	1,608
18	1,800	Randolph Road	Nebel Street	998	1,251	984	1,262	997	1,278
19	1,550	Randolph Road	Parklawn Drive	1,195	1,586	1,209	1,616	1,217	1,670
21	1,550	Randolph Road	Gaynor Road	1,080	1,202	1,085	1,207	1,090	1,212
22	1,800	Nicholson Lane	Nebel Street	1,133	1,356	1,151	1,355	1,199	1,427
23	1,550	Boiling Brook Parkway	Parklawn Drive	1,155	1,454	1,164	1,470	1,188	1,507
24	1,550	Boiling Brook Parkway	Rocking Horse Road	1,135	990	1,154	1,000	1,150	996

Intersection CLVs within the Study area that exceed the applicable policy area congestion standard are highlighted in red.

Local Area Transportation Review Modeling



Alternative 3

2010 White Flint Sector Plan Staging

Table 6 : Staging Plan

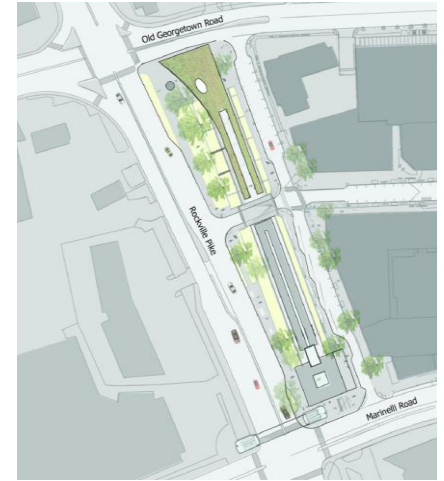
Phase 1 3,000 dwelling units 2 million square feet non-residential	Phase 2 3,000 dwelling units 2 million square feet non-residential	Phase 3 3,800 dwelling units 1.69 million square feet non-residential
<p>Contract for the construction of the realignment of Executive Boulevard and Old Georgetown Road.</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

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

Draft Plan Staging

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:

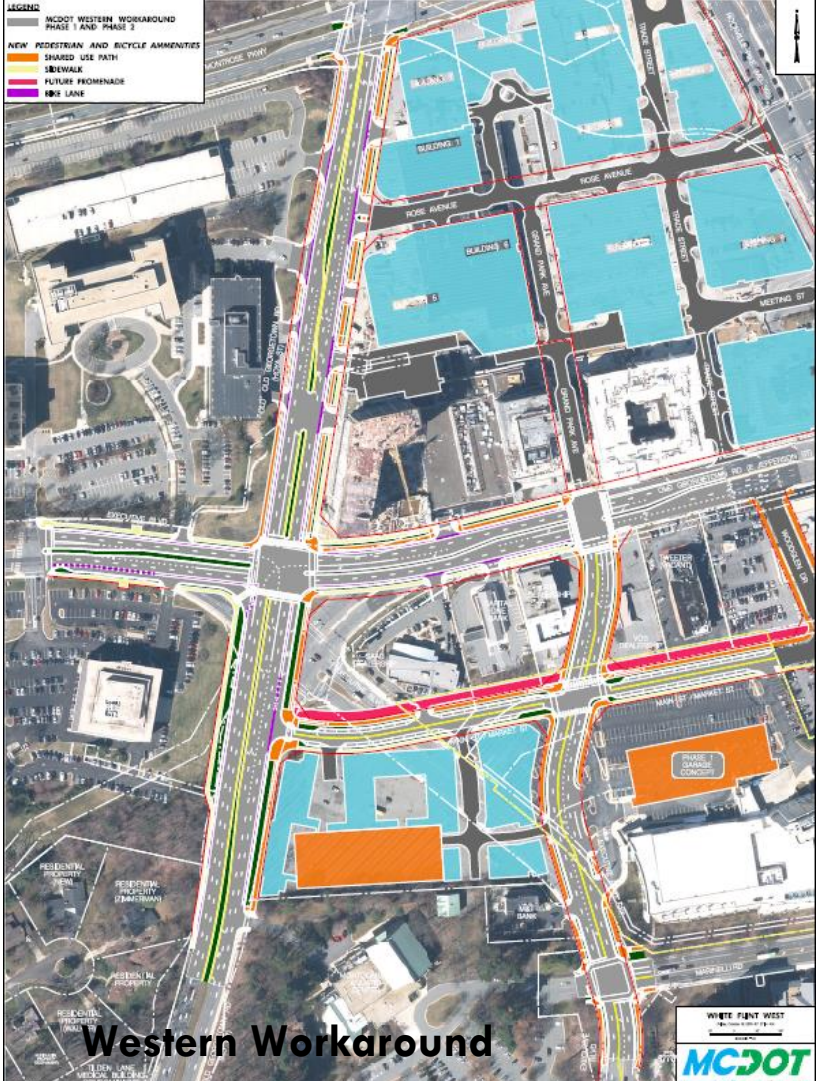
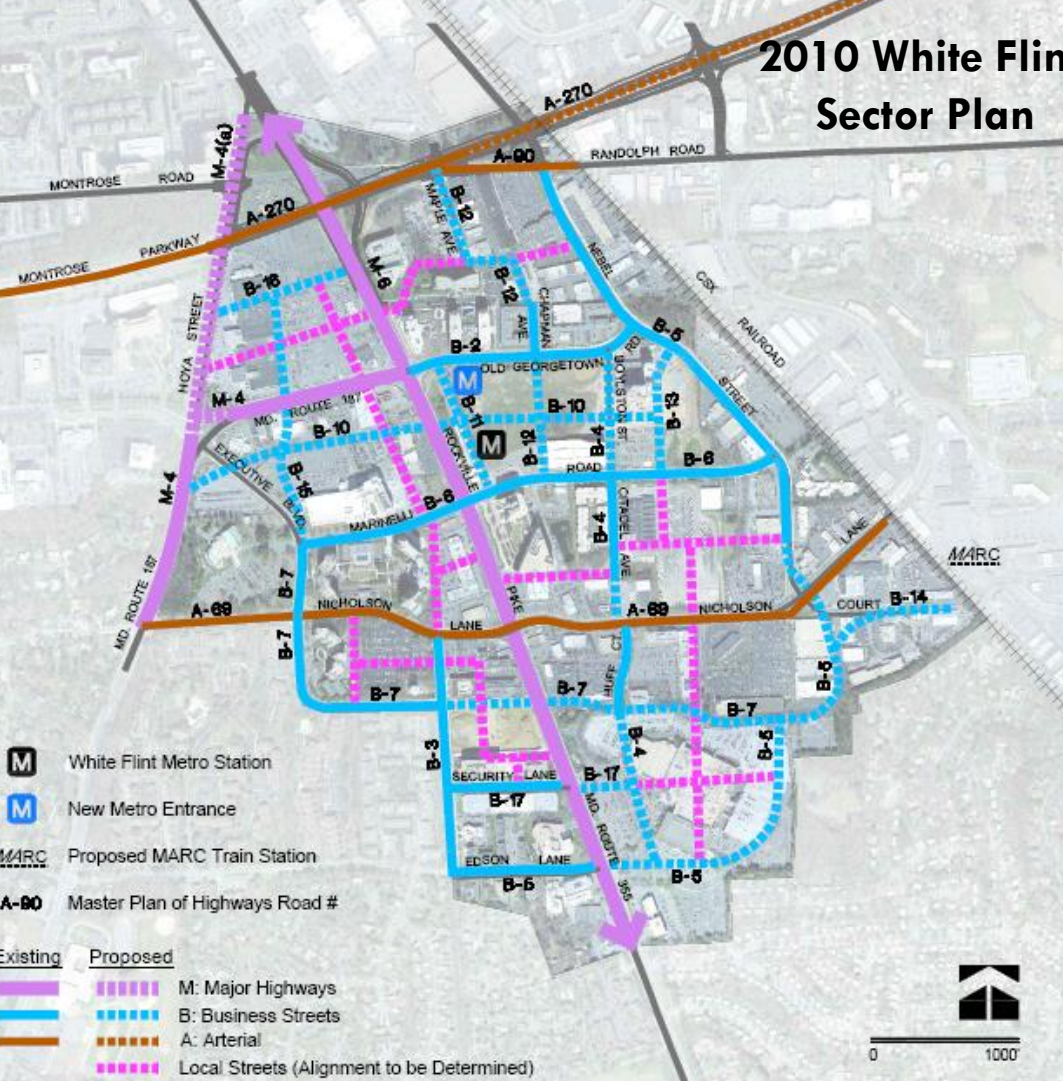
- Amend the North Bethesda Policy Area to create a new Local Area Transportation Review (LATR) Policy Area for the *White Flint 2 Sector Plan* area, within six months of adopting the Sectional Map Amendment (SMA).
- Within 12 months of adopting the Sectional Map Amendment (SMA), determine if a public 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*.

Draft Plan Staging

Phase 1 Residential: 1,800 dwelling units Non-Residential: 900,000 square feet	Phase 2 Residential: 1,800 dwelling units Non-Residential: 900,000 square feet	Phase 3 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>

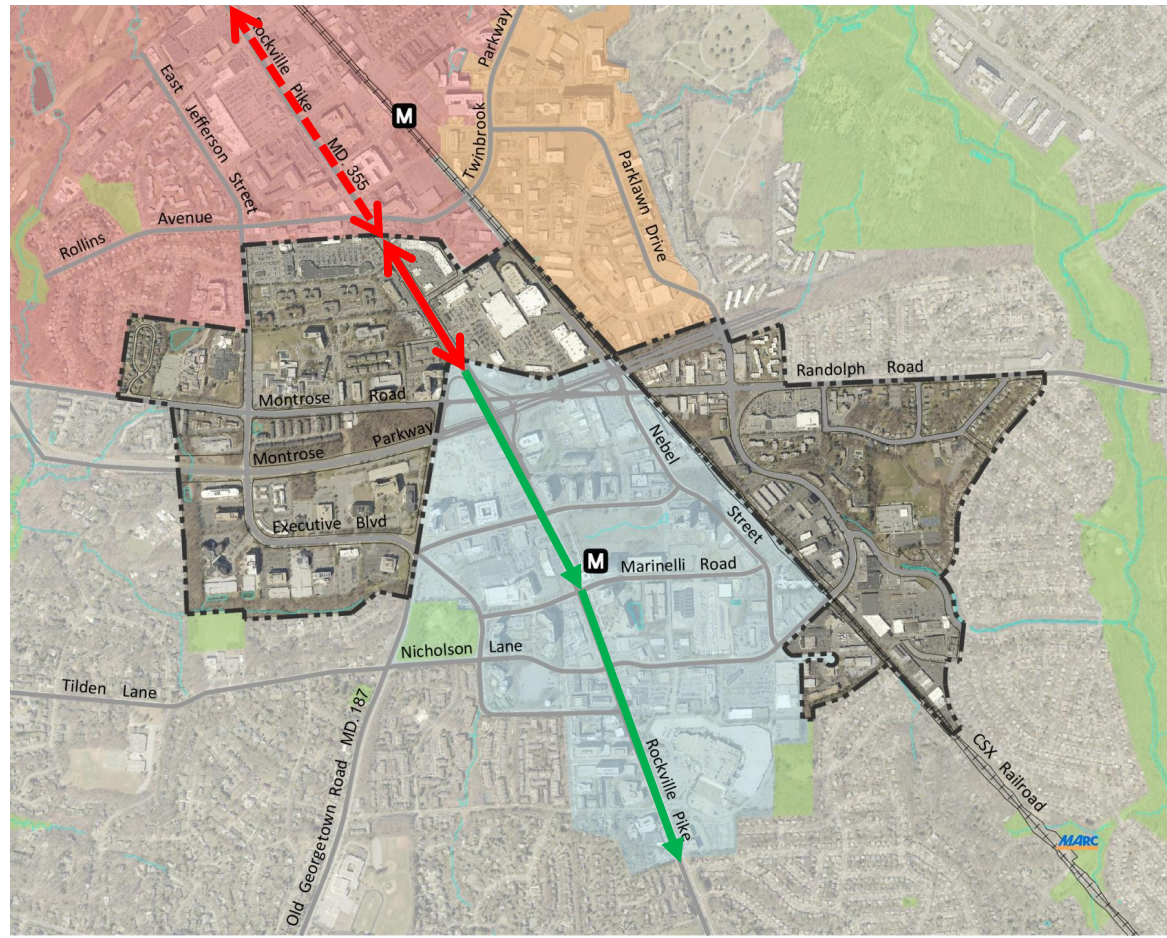
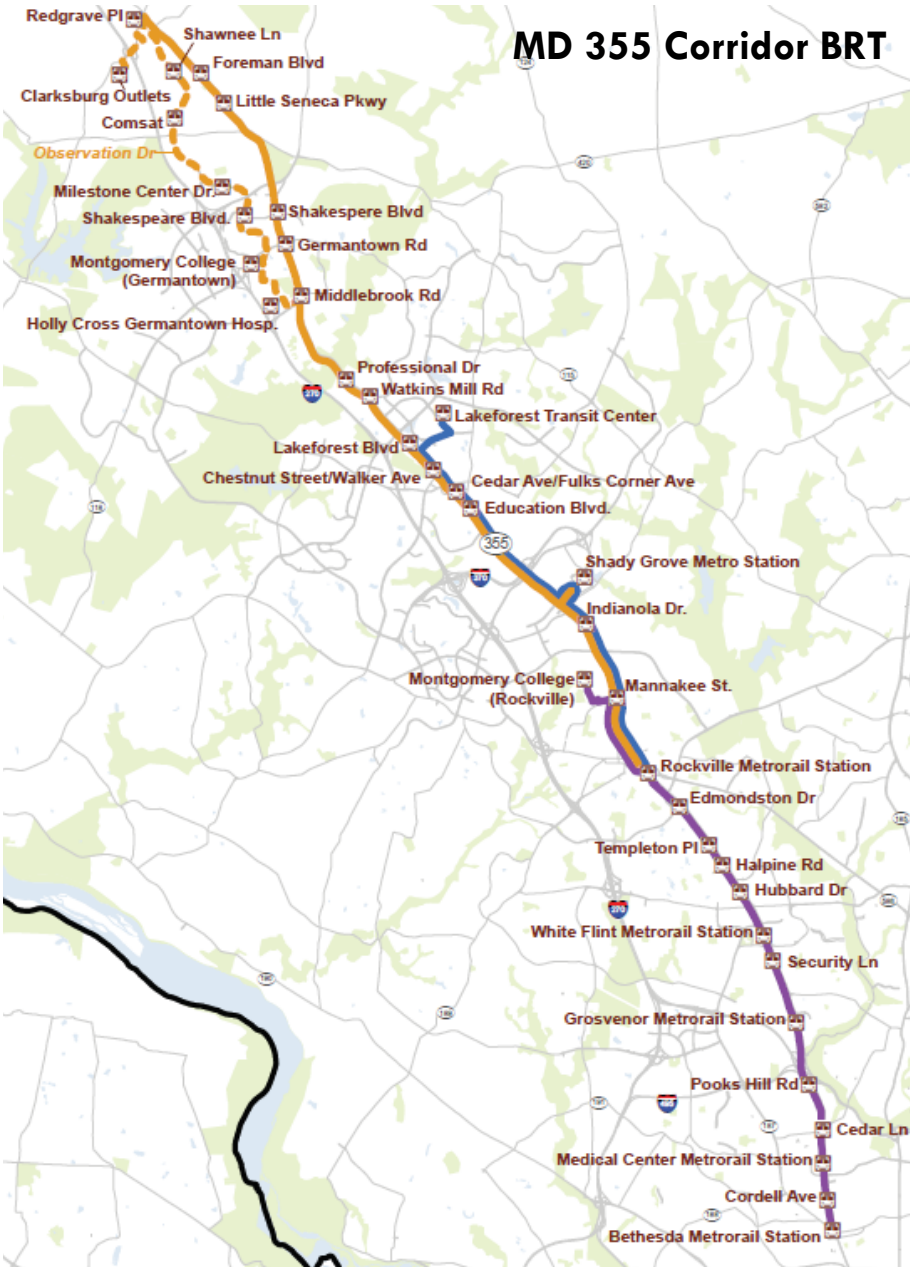
Transportation Infrastructure

Complete the implementation of Western Workaround, including the realignment of Executive Boulevard, Towne Road and Old Georgetown Road (MD 187) for vehicular travel.



Transportation Infrastructure

MD 355 Corridor BRT

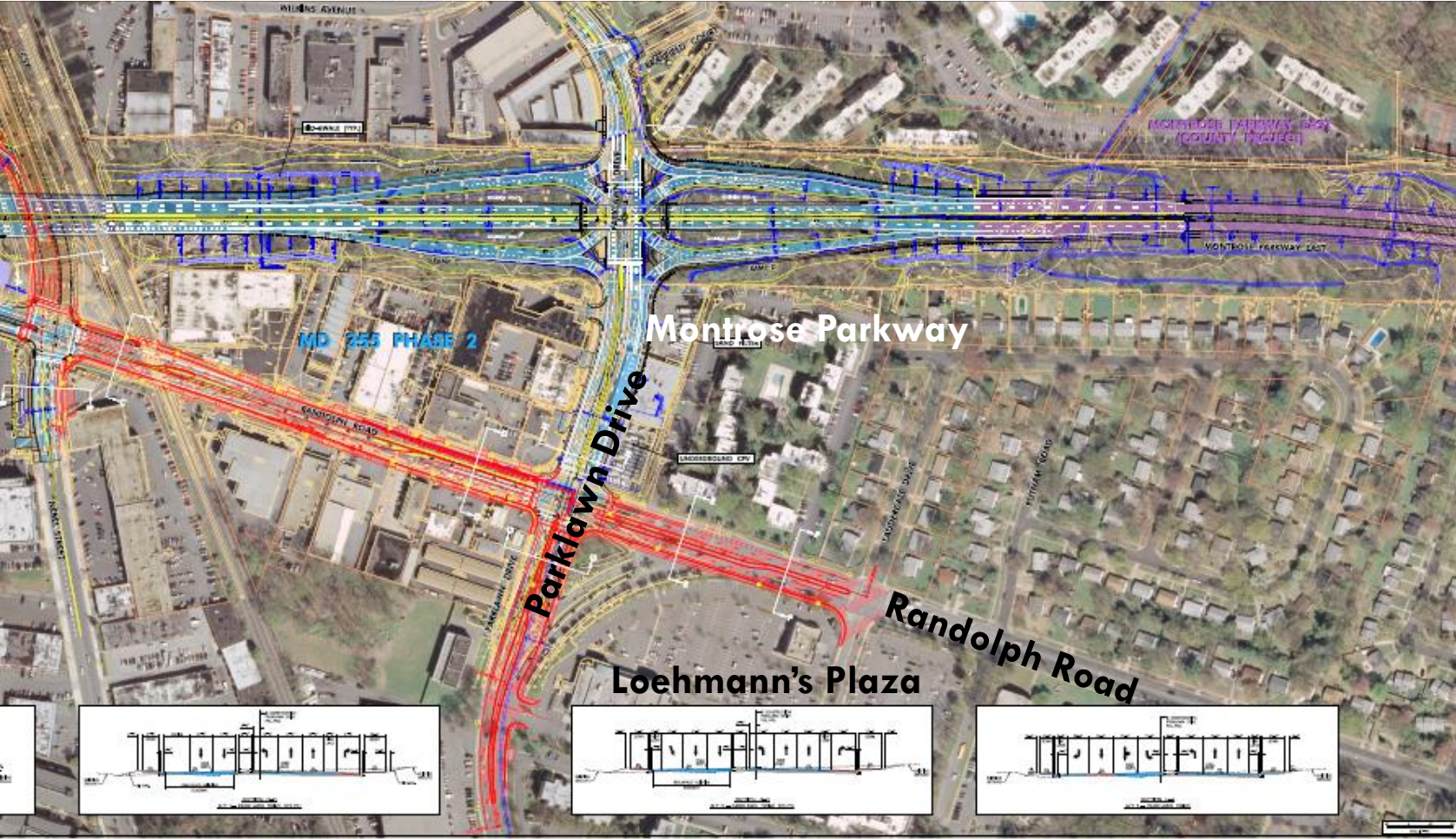


-  White Flint 2 Sector Plan Boundary
-  2010 White Flint Sector Plan
-  City of Rockville
-  2009 Twinbrook Sector Plan
-  Parkland
-  Metro Station
-  Garrett Park MARC Station

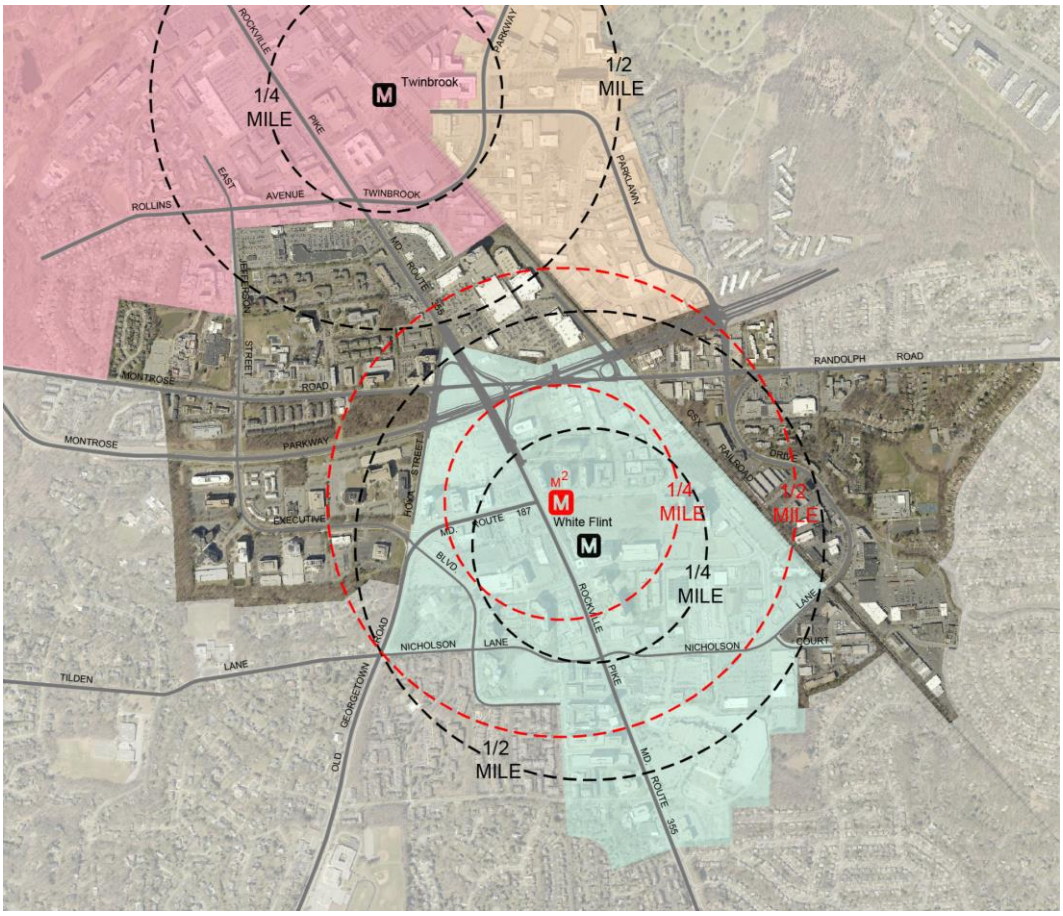


Transportation Infrastructure: Roadway Realignment

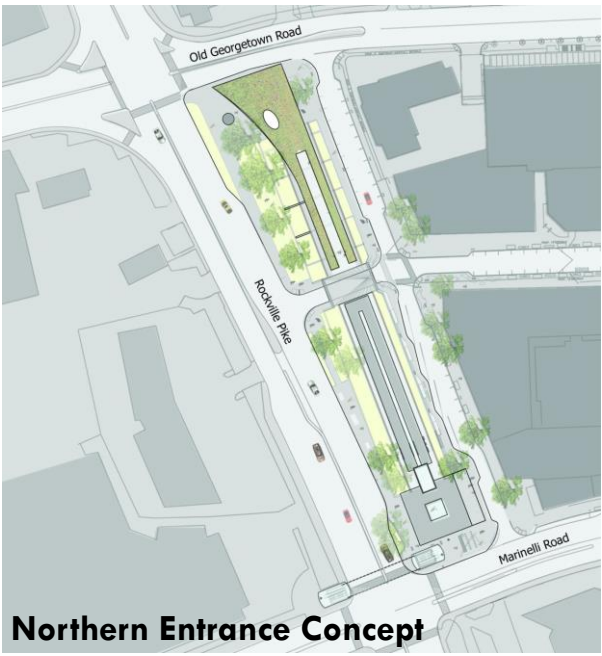
Fund the roadway realignment of Parklawn Drive and Randolph Road.



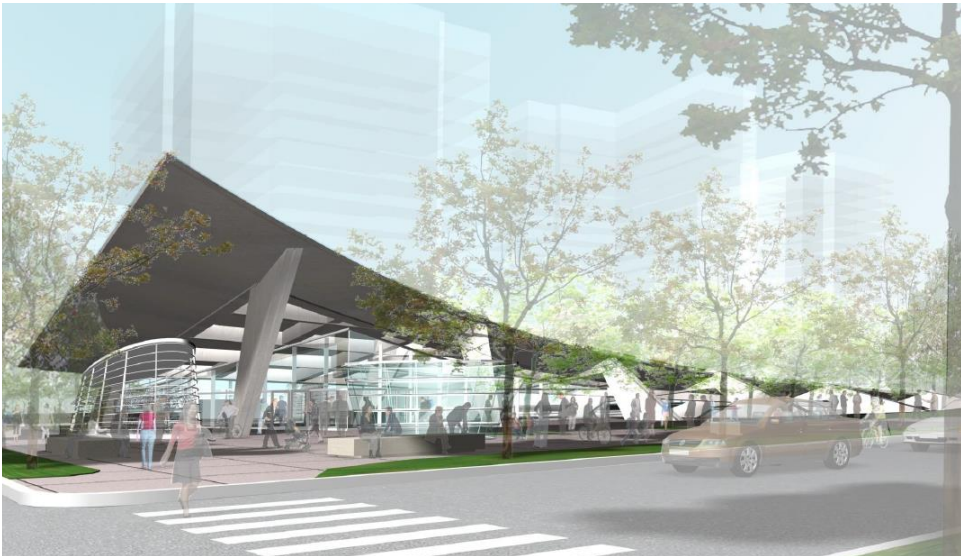
White Flint Metro Station Northern Entrance



Estimated Cost (2011): \$35 million

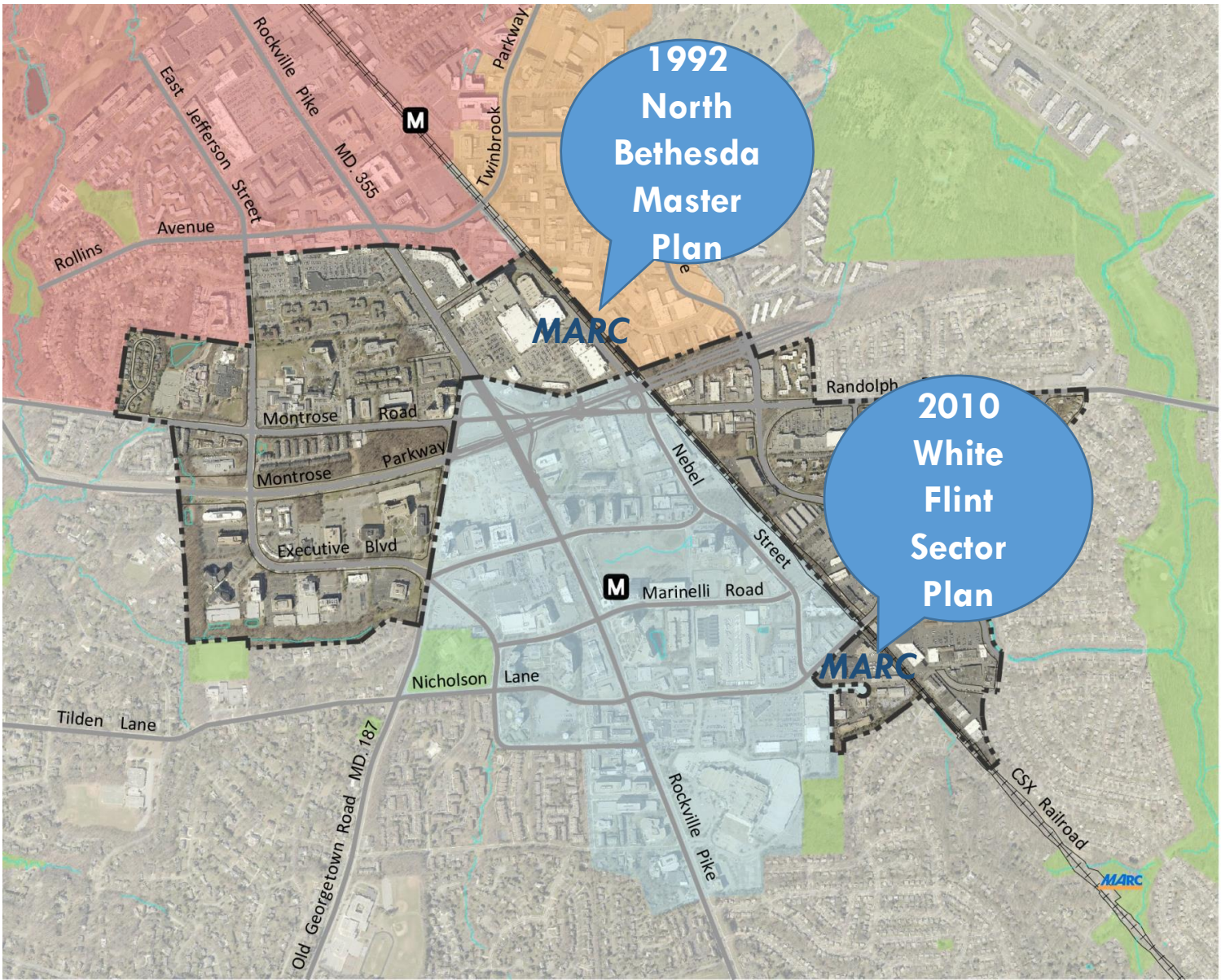


Northern Entrance Concept



Northern entrance images from WMATA 2010 Access Study

MARC



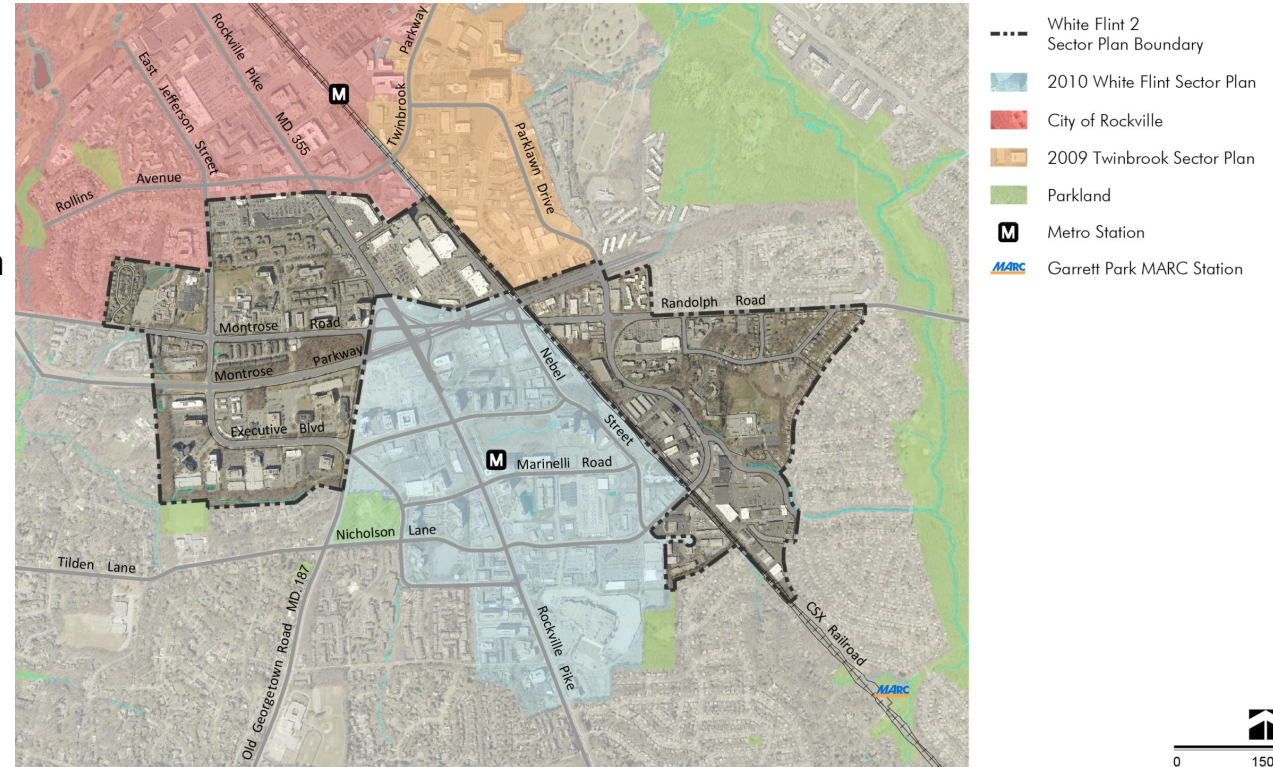
-  White Flint 2 Sector Plan Boundary
-  2010 White Flint Sector Plan
-  City of Rockville
-  2009 Twinbrook Sector Plan
-  Parkland
-  Metro Station
-  Garrett Park MARC Station



MARC

2008 MTA Technical Review for a MARC 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.



MARC

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.

BRUNSWICK LINE					
Stations and Parking	\$ 10	\$ 59	\$ 74	\$ 74	\$ 217
New Stations	\$ -	\$ -	\$ -	\$ -	\$ -
Rail Infrastructure	\$ -	\$ 26	\$ 16	\$ 100	\$ 142
Train Storage & Maintenance Facilities	\$ -	\$ 26	\$ 6	\$ -	\$ 32
Rolling Stock	\$ 53	\$ 26	\$ 48	\$ 13	\$ 140
Line Extensions	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL	\$ 63	\$ 137	\$ 144	\$ 187	\$ 531

MARC Growth and Investment Plan (September 2007)



Brunswick Line: 2020-2029 Long Term Potential (MARC Growth and Investment Plan 2013 to 2050)

- 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

NADMS



Non-Auto Driver Mode Share (NADMS) is the percentage of trips to work by modes other than the single-occupant automobile, including transit, carpool/vanpool, biking/walking and telecommuting. The overall North Bethesda/Garrett Park Master Plan Area NADMS goal is 39 percent.

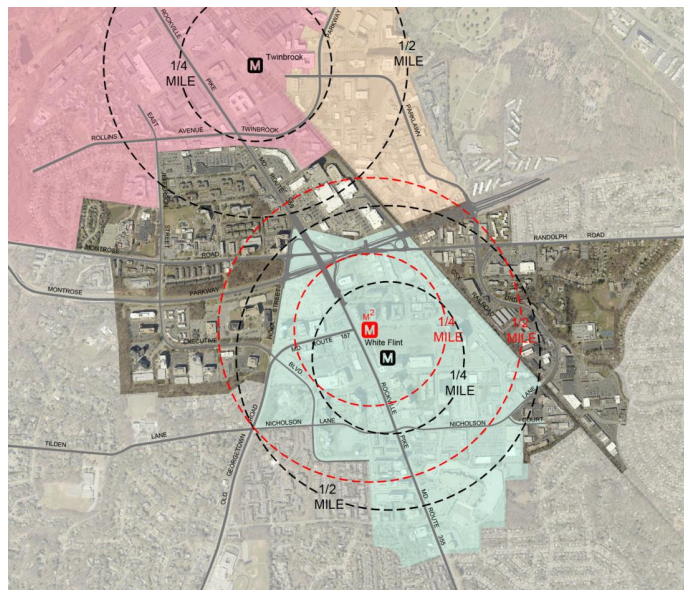
2010 White Flint Sector Plan

2005 Estimate: 26 percent (during the Plan creation)

2014 Estimate: 31.7 percent

Phasing Requirement

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



White Flint 2 Sector Plan Draft Plan

2015 Estimate: 21.3 percent (during the Plan creation)

Phasing Requirement

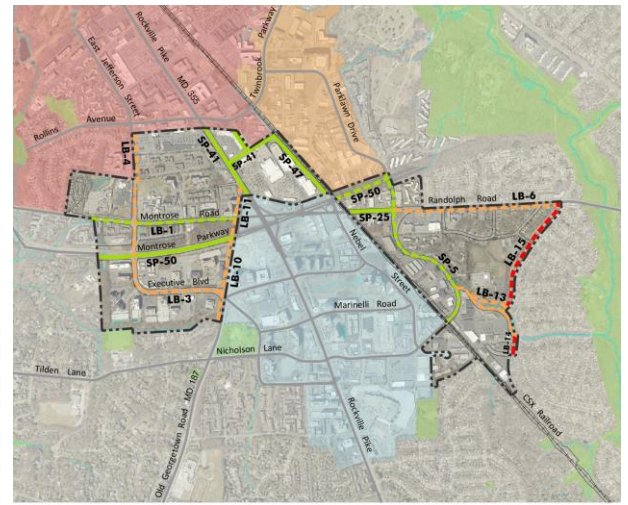
- Phase 1: 27 percent
- Phase 2: 35 percent
- Phase 3: 42 percent

Bethesda CBD: 38 percent (2015)

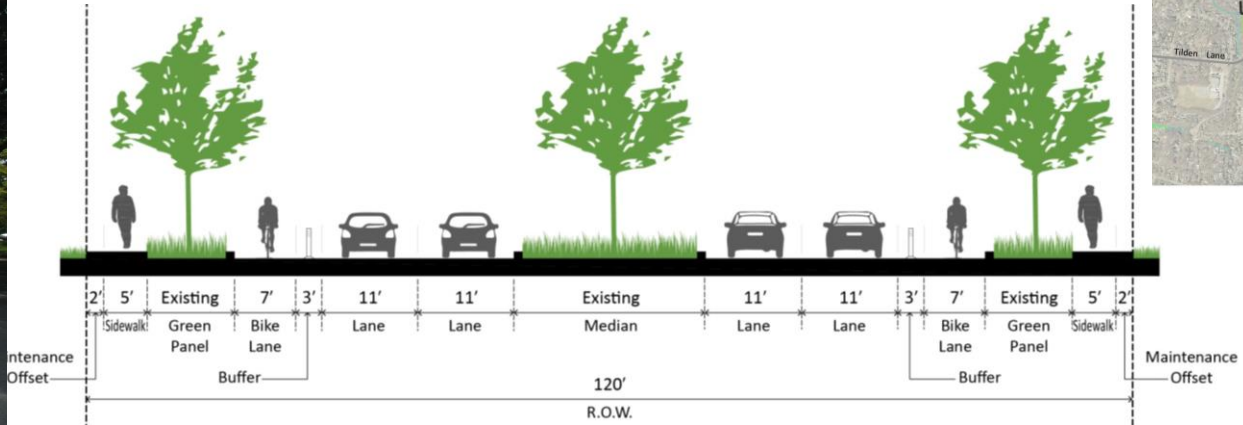
Silver Spring: 53 percent (2015)

Staging: Executive Boulevard and East Jefferson

Fund the Executive Boulevard and East Jefferson protected bikeway.



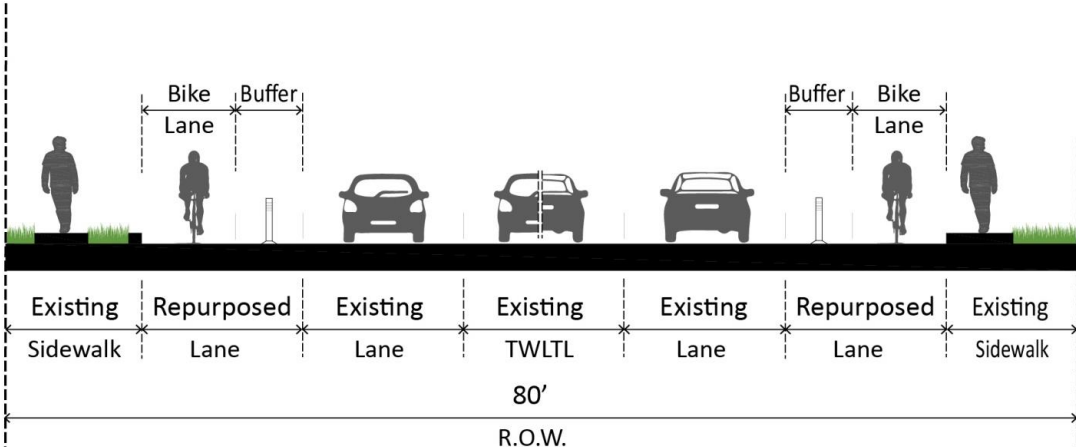
Existing: Executive Boulevard



Recommendation: Executive Boulevard

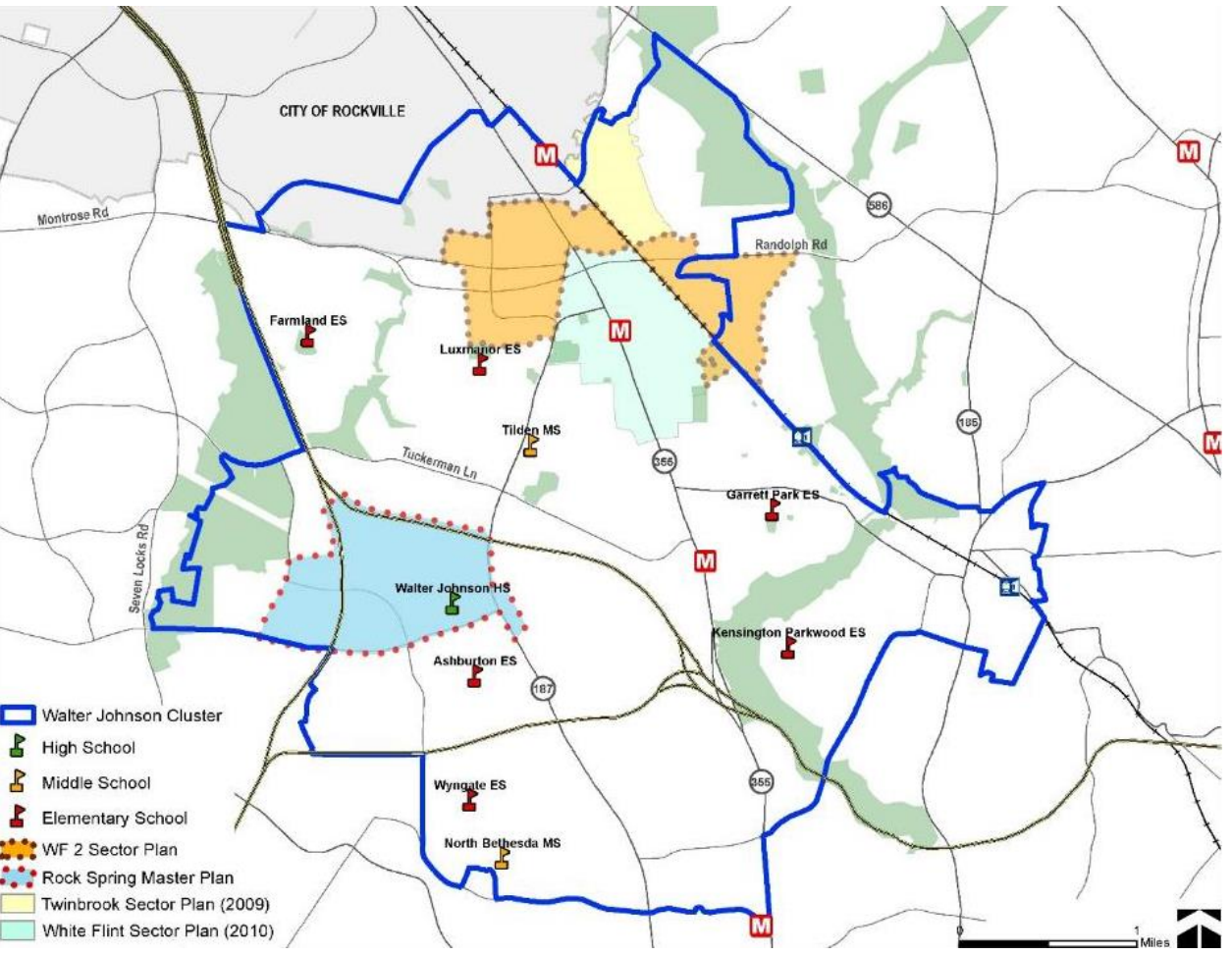


Existing: East Jefferson



Recommendation: East Jefferson

Staging: Public Schools



Walter Johnson School Cluster

Phase 1

- 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.

Phase 3

- 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.

Staging: Public Schools

Walter Johnson Cluster Elementary Schools Projected Enrollment, 2016–2046

	Off. Enr.	Projected Enrollment*										
	2016	2017	2018	2019	2020	2021	2022					2046
	–	–	–	–	–	–	–					**
	2017	2018	2019	2020	2021	2022	2023	2026	2031	2036	2041	
Total Walter Johnson Cluster Elementary Schools												
Program Capacity	3812	3812	3812	4086	4402	4402	4402	4631	4631	4631	4631	4631
Enrollment	4250	4345	4424	4471	4457	4573	4513	4800	4800	5100	5300	5500
<i>Space available</i>	-438	-533	-612	-385	-55	-171	-111	-169	-169	-469	-669	-869

* Projections from 2036 to 2046 assume complete build-out of Kensington and White Flint sector plans and proposed housing not associated with these sector plans. Market conditions and the pace of redevelopment of existing properties could change the number of units built and the timing of full build-out. Most master plans never reach full build-out.

**The projection for 2046 is considered peak enrollment. However, the projection for 2046 does not include Rock Spring Master Plan, Grosvenor Strathmore and White Flint 2 Sector Plan, as housing unit counts are not finalized at this time. The longer the forecast period, the more error is possible. It is considered equally likely for enrollment to come in below the numbers as it is for enrollment to exceed them.

Staging: Public Schools

Walter Johnson Cluster Middle School Projections, 2016–2046

	Off. Enr.	Projected Enrollment										
	2016	2017	2018	2019	2020–	2021	2022					2046
	2017	2018	2019	2020	2021	2022	2023	2026	2031	2036	2041	**
North Bethesda Middle School												
Program Capacity	864	864	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229	1,229
Enrollment	1,102	1,154	1,171	1,185	1,194	1,171	1,162	1,300	1,300	1,300	1,400	1,400
<i>Space available</i>	-238	-290	58	44	35	58	67	-71	-71	-71	-171	-171
Tilden Middle School												
Program Capacity	927	927	927	927	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Enrollment	911	943	953	964	1,021	1,090	1,164	1,300	1,300	1,300	1,400	1,400
<i>Space available</i>	16	-16	-26	-37	179	110	36	-100	-100	-100	-200	-200

* Projections from 2036 to 2046 assume complete build-out of Kensington and White Flint sector plans and proposed housing not associated with these sector plans. Market conditions and the pace of redevelopment of existing properties could change the number of units built and the timing of full build-out. Most master plans never reach full build-out.

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Staging: Public Schools

	Elementary School	Middle School	High School
White Flint 2 Sector Plan in the Walter Johnson Cluster *	295	125	157
White Flint 2 Sector Plan in the Downcounty Consortium *	73	30	39
2010 White Flint Sector Plan in the Walter Johnson Cluster	410	380	321

*Assumes 90 percent of new residential development will be multifamily mid-rise or higher and 10 percent as townhouses.

Upcoming Worksession

February 9, 2017: Land Use and Zoning (Part I)