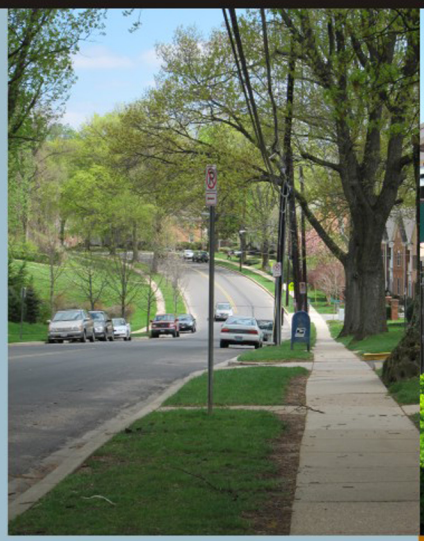
July 2012

Chevy Chase Lake Sector Plan

Appendix



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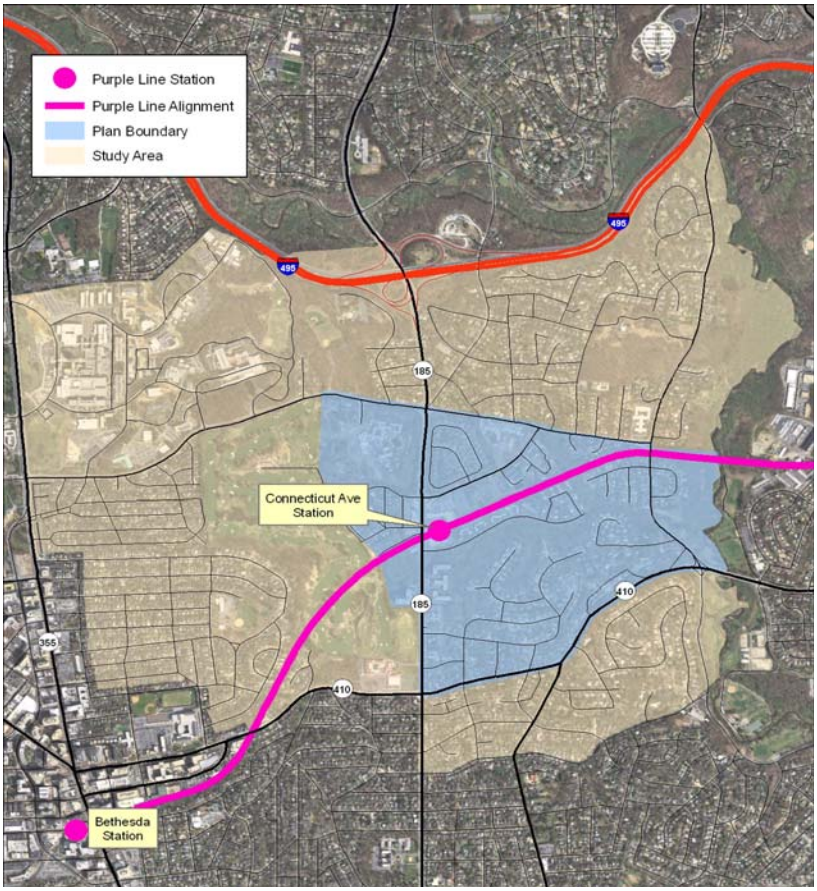
Chevy Chase Lake Sector Plan
Appendix 7 Transportation

Sector Plan Study Area and Plan Boundary

The transportation analysis for the Chevy Chase Sector Plan takes into account a larger study area and a smaller Plan boundary (see Figure 1).

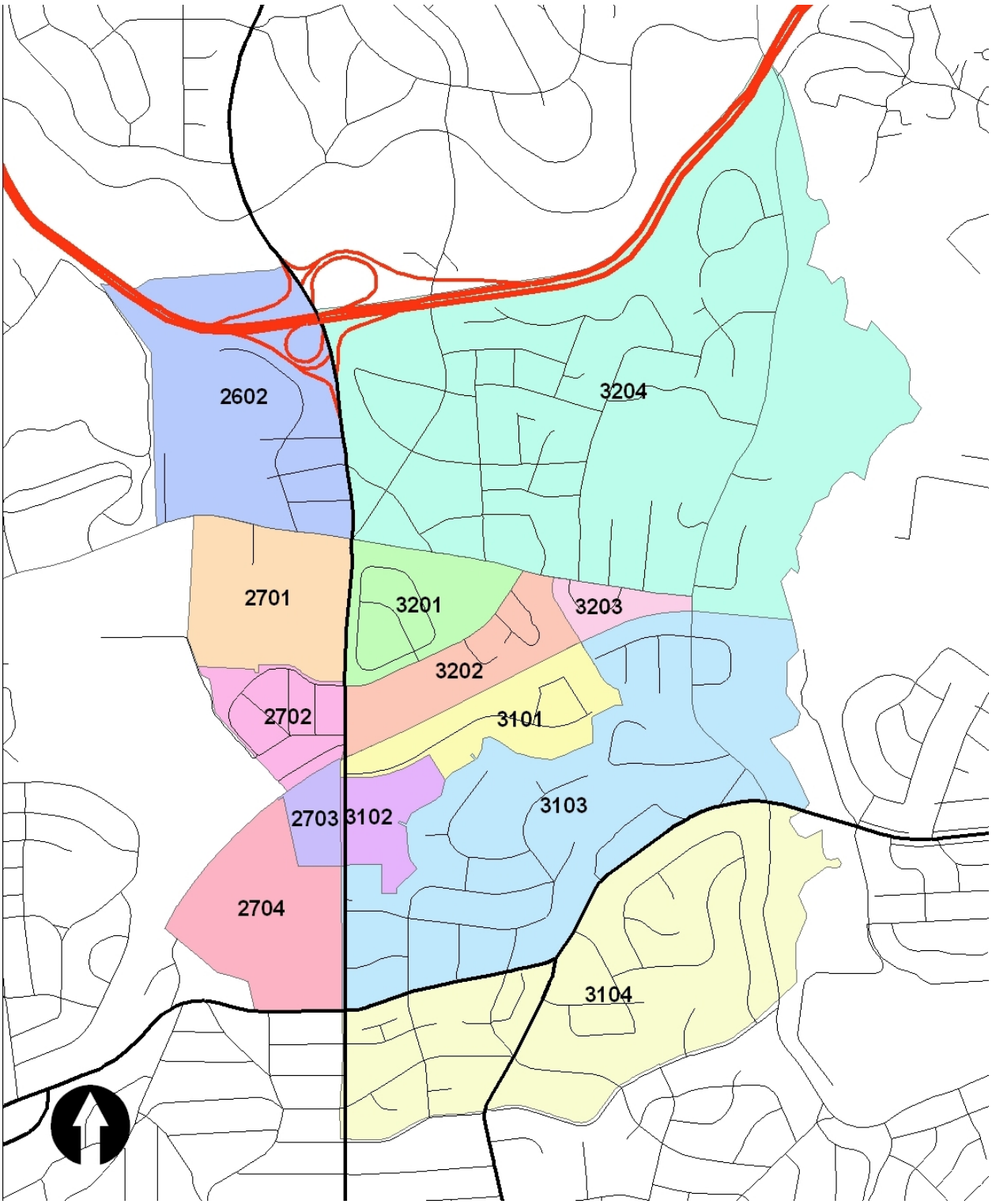
The study area comprises the traffic analysis zones (TAZs) within and contiguous to the Plan boundary. The definition of the study area is important as the first step in establishing the interface between the regional transportation model (Travel/3) and the Plan-specific local area model (LAM). The Plan boundary is formally established by the Planning Board during its deliberations on the Plan's Scope of Work. The more detailed transportation analysis (using the LAM and other analysis tools) is conducted on the area within the Plan boundary.

Figure 1 Sector Plan Study Area and Plan Boundary



The smaller Plan area is further divided into sub-zones (see Figure 2). During consideration of the scope of work for the *Chevy Chase Lake Sector Plan*, the Planning Board agreed that two intersections (Connecticut Avenue/Beach Drive and Connecticut Avenue/Bradley Lane) would be included in the LAM analysis even though they were outside the Plan boundary.

Figure 2 Plan Area Sub-zones



Major Transportation Facilities

Connecticut Avenue (MD 185) is the major roadway serving the Plan area. Table 1 summarizes the Plan area's master-planned streets and highways. In addition to the roadways, the master-planned Purple Line Transitway and adjacent Capital Crescent Trail are located within the Georgetown Branch right of way and extend across the sector plan area. A Purple Line station is planned just east of Connecticut Avenue (see Figure 1 above).

Table 1 Existing Master Planned Streets and Highways Classification Table

Roadway Facility	Master Plan of Highways No.	Limits	Minimum R.O.W.[1] (feet)	No. of Lanes	Speed[2]	Design Standard[3]
Connecticut Ave (MD 185)	M-7	Jones Bridge Road to East-West Highway	120	6	40	2008.01
East West Hwy (MD 410)	M-20	Connecticut Avenue to Jones Mill Road	120	4	40	2008.01 Modified
Jones Bridge Rd	P-7	Hawkins Lane to Jones Mill Road	55	2	35	2003.10
Jones Mill Rd	P-8	Jones Bridge Road to East-West Highway	90	2	35	2003.10
Manor Rd	P-14	Jones Bridge Road to Connecticut Avenue	80*	2	35	2003.10

[1] Reflects minimum right of way as contained in the applicable (existing) adopted plan. The recommended number of lanes refers to the number of planned through travel lanes for each segment not including lanes for turning, parking, acceleration, deceleration, or other purposes auxiliary to through travel. Rights-of-way are considered to be measured symmetrically based upon roadway centerline unless noted with an asterisk*.

[2] Existing posted speed limit

[3] Intended to reflect existing section and standard in new road code thought to be most representative of existing section.

Existing Conditions

Intersection Capacity and Roadway Traffic Volumes

There are a number of ways to measure the quality of service provided by a transportation network. In Montgomery County, the method of measuring network performance is established by County policy—specifically the Subdivision Staging Policy (formerly called the Growth Policy).

This policy requires consideration of the critical lane volume (CLV) at major intersections as the major component of measuring the quality of service provided by the network. Critical lane volumes are essentially the sum of the vehicle conflicts passing through an intersection at a single point. The amount of vehicles considered acceptable varies by Policy Area within the County.

Plan intersections included in this analysis are located within the Bethesda/Chevy Chase Policy Area, which has a congestion standard of 1,600 CLV. Intersections at or above 1,600 CLV are considered to be "failing" or not within the acceptable standard for the Policy Area.

The Planning Department analysis of the existing CLVs for the major intersections within the Plan area indicates that there are two intersections above the 1,600 CLV in both the morning and afternoon peak hour of travel:

- Connecticut Avenue (MD 185)/Jones Bridge Road/Kensington Parkway
- Connecticut Avenue (MD 185)/East West Highway (MD 410)[4]

Existing conditions at all of the major intersections within the Plan area are summarized in Table 2 and Figure 3.

[4] The Planning Department of the "existing" CLV is based upon counts provided and/or collected over multiple years. More recent count data provided as part of the Department's PAMR/TPAR/LATR process review indicates that the Connecticut Avenue and Jones Bridge Road / Kensington Parkway intersection is the only intersection performing above the standard. More information and results related to the "old counts" and the "2011 counts" is provided later in this Appendix.

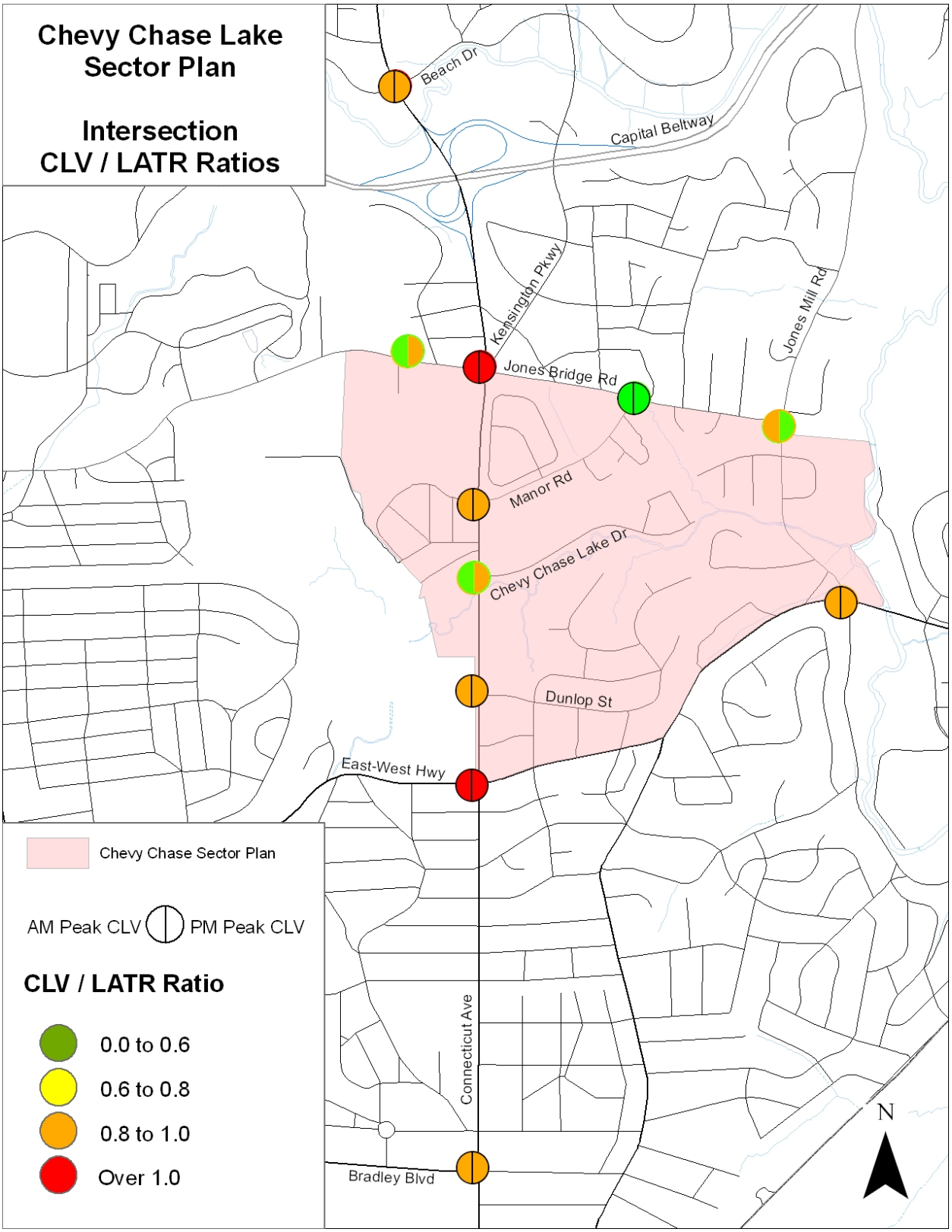
Table 2 Existing Conditions—Critical Lane Volumes (CLV)

Int #	Intersection	AM		PM	
		CLV	V/C Ratio	CLV	V/C Ratio
179	Connecticut Ave/ Jones Bridge Rd / Kensington Pkwy	1832	1.15	1655	1.03
180	Connecticut Ave and Manor Rd	1343	0.84	1134	0.71
181	Connecticut Ave and Chevy Chase Lake Dr	946	0.59	1090	0.68
183	Connecticut Ave and East West Hwy	1693	1.06	1644	1.03
186	Connecticut Ave and Bradley Ln	1408	0.88	1466	0.92
187	Manor Rd and Jones Bridge Rd	679	0.42	906	0.57
188	Jones Bridge Rd and Jones Mill Rd	1245	0.78	854	0.53
189	East West Hwy/Beach Dr/Jones Mill Rd	1087	0.68	1574	0.98
613	Jones Bridge Rd/Platt Ridge Rd	773	0.48	963	0.60
681	Connecticut Ave and Dunlop St	1025	0.64	999	0.62
950	Connecticut Ave and Beach Dr	1332	0.83	1060	0.66

In addition to the two intersections noted above as failing, the Table 2 reflects that two additional intersections are approaching the 1,600 CLV standard during the PM peak hour:

- Connecticut Avenue and Bradley Lane
- East West Highway/Beach Drive/Jones Mill Road.

Figure 3 Intersection CLV/LATR Ratios



More information about the performance of the Plan area's road network comes from the State and from roadway improvement projects.

Maryland State Highway Administration (SHA)
The SHA website includes traffic count data and Level of Service (LOS) information on major intersections within the Plan area. A July 2011 review of that data (extending along Connecticut Avenue (MD 185) from Bradley Lane (MD 191) to University Boulevard (MD 192) in Kensington indicates the following intersections are operating at LOS F—the lowest performance rating using the SHA's CLV methodology (which is slightly different than the County methodology):

- Connecticut Avenue/East West Highway (LOS F in both morning and afternoon peak hour of travel)

- Connecticut Avenue/Bradley Lane (LOS F in afternoon peak period only).

The SHA data does not include LOS information for the intersection of Connecticut Avenue /Jones Bridge Road/Kensington Parkway.

Connecticut Avenue is a six-lane roadway. An additional lane for left turns is also present at major intersections from Kensington south to East West Highway (MD 410). There are no separate left turn lanes south of East West Highway to Chevy Chase Circle. For the most part, the adjacent land use between Knowles Avenue in Kensington and Chevy Chase Circle is residential. Access to the residential parcels is mostly via local residential streets as opposed to direct access from Connecticut Avenue.

The segment south of East West Highway does provide direct access to some residential parcels and is characterized by narrow travel lanes (ten feet or less). There are segments along Connecticut Avenue where the adjacent land use is commercial or institutional; Connecticut Avenue within the Plan area between Jones Bridge Road and Brookville Road is one of those segments.

The previously mentioned SHA website also contains information on traffic volumes along Connecticut Avenue itself—as opposed to intersection CLVs. Table 3 summarizes this information, which helps provide an overview of how the volume varies both along the segments in and near the Plan area and over time (in this case the last three years).

Table 3 Average Annual Weekday Daily Traffic (AAWDT) on Connecticut Avenue

Count Location	2010	2009	2008
0.5 mile north of University Blvd (MD 192) in Kensington	59,950	58,532	59,077
0.5 mile south of Knowles Ave (MD 547) in Kensington	41,610	45,432	46,051
0.10 mile north of I-495	47,990	47,772	48,211
0.10 mile south of I-495	72,480	73,702	74,381
0.10 mile south of East West Hwy (MD 410)	57,340	59,522	60,071
0.10 mile north of D.C. line	40,460	40,582	40,951

The highest AAWDT volumes are for the segment of Connecticut Avenue between I-495 and East West Highway. Given that there is a reasonably consistent roadway section as well as an adjacent land use

and access profile between Kensington and the D.C. line, the congestion along the segment within the Plan area is therefore higher than the segments to the north and south of the plan boundary. 2010 volumes are generally lower than the 2008 volumes—a trend consistent with counts throughout the region and nation and thought to be attributable to the economic recession.

In summary, existing available data for both intersections and roadway segments confirms that the most significant capacity constraints are to a large extent along the segment of Connecticut Avenue within the Plan area—the segment from Jones Bridge Road south to East West Highway.

BRAC-Related Projects

Another source of relevant data related to network performance is that collected as part of the analysis of the relocation of Walter Reed to Bethesda, commonly known as the BRAC (Base Realignment and Closure) process.

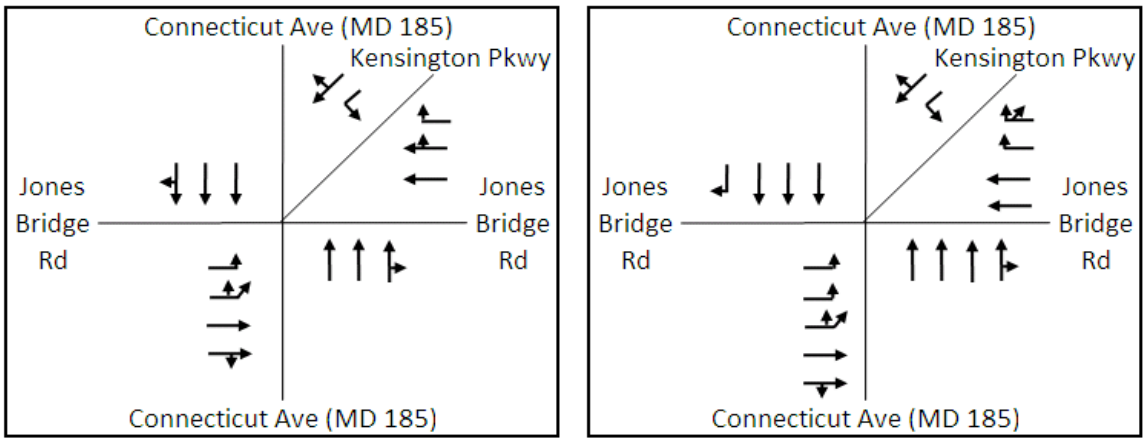
There are a number of improvements underway and planned related to the September 2011 relocation of an estimated 2,500 staff members to the new Walter Reed National Military Medical Center in Bethesda. The improvements most directly related to the Plan are reviewed below.

- Jones Bridge Road/Connecticut Avenue (MD 185)/Kensington Parkway Intersection

This project would make several changes to the intersection in three phases, extending along Connecticut Avenue (MD185) from just north of Manor Road to just south of the Capital Beltway (I-495). Improvements include:

- constructing a continuous southbound right turn lane on MD 185 from the ramp from the Inner Loop to Jones Bridge Road
- removing the free-right turn island in the northwest corner of the MD 185/Jones Bridge Road intersection
- constructing an additional northbound through lane on MD 185 from 300 feet north of Manor Road to the Capital Beltway
- constructing a new sidewalk along the east side of MD 185 from Montrose Drive to Inverness Drive at the northbound ramp to the Inner Loop
- reconstructing a majority of the sidewalks within the limits of work to be offset from the curb
- making the intersections within the limits of work ADA-compliant
- constructing a stormwater management facility at the end of the Inner Loop ramp to southbound MD185
- constructing an additional eastbound left turn lane (Phase 3)
- replacing the existing westbound right-through lane with a separate through lane and right-turn lane (Phase 3).

Existing Configuration **Proposed Configuration**



Phase 3 includes significant construction on Jones Bridge Road, impacting the boundary walls of both the Chevy Chase Park community in the southeast quadrant of the intersection and Howard Hughes Medical Institute (HHMI) in the southwest quadrant.

In summary, the proposed roadway widening of Connecticut Avenue will accommodate the addition of two lanes, the first being a continuous southbound right turn lane from the Beltway Inner Loop ramp to Jones Bridge Road and the second an additional northbound through lane from just north of Manor Road to the Inner Loop. The impacts of the proposed improvements on traffic operations at the intersection are summarized below:

Timeframe	**AM**	**PM**
Existing or Pre-BRAC	1832	1655
Post-BRAC	1474	1297

The proposed improvements (with construction scheduled to begin in 2012) are expected to bring the intersection within the current CLV standard for the policy area.

- Chevy Chase Valley Access

While not technically in the plan area, the Chevy Chase Valley neighborhood access issue is related to the planned improvements at the Jones Bridge Road/Connecticut Avenue/ Kensington Parkway intersection. The planned construction of a continuous southbound right turn lane on Connecticut Avenue from the Beltway ramp to Jones Bridge Road (along with the associated high volume of traffic using the new lane) will require that neighborhood access to and from Jones Bridge Road be enhanced—temporarily with a new traffic signal at Spring Valley Road and potentially with a more permanent solution involving a (as yet undetermined) new road connection.

- Jones Bridge Road Shared Use Path

Another BRAC-related improvement is the recent construction of a shared use path on the north side of Jones Bridge Road from Rockville Pike (MD 355) to the signalized intersection at Platt Ridge Drive. The State will construct the shared use path on the south side of Jones Bridge Road between Platt Ridge Drive and Connecticut Avenue.

Purple Line Traffic Analysis

The Purple Line Alternative Analysis/Draft Environmental Impact Statement (September 2008) included a traffic analysis relevant to certain roadways and intersections within the Plan area. Specific findings included the following:

- Average Annual Daily Traffic (AADT) in 2005 on Jones Bridge Road at Connecticut Avenue (MD 185) was 22,300.

- AADT in 2005 on East West Highway (MD 410) at Connecticut Avenue (MD 185) was 29,375.

- Between 1994 and 2005, the average annual growth rate for traffic on East West Highway (MD 410) west of Connecticut Avenue (MD 185) was 0.7 percent.

- Between 1994 and 2005, the average annual growth rate for traffic on Connecticut Avenue (MD 185) south of I-495 was 1.0 percent.

The BRAC consolidation at Bethesda will result in up to 2,500 additional employees and 1,860 new visitors per day. The percentage increase in peak hour traffic attributable to the increase in employment and visitors scheduled for 2011 ranged from five percent at Jones Bridge Road/Rockville Pike (MD 355) to 10 percent at Jones Bridge Road/Jones Mill Road and Jones Bridge Road/Connecticut Avenue (MD 185). The Purple Line traffic analysis assumes a 25 percent increase in traffic from 2005 to 2030 (one percent annually).

Table 4 compares the forecasted Intersection Level of Service (based upon travel time delay and not the Policy Area CLV standard) for key intersections included in the Purple Line analysis and within or near the Plan area.

Table 4 Intersection Level of Service from Purple Line AA/DEIS Traffic Analysis

Intersection	Existing (2005)LOS – am peak hour	Future (2030)LOS – am peak hour	Existing (2005)LOS – pm peak hour	Future (2030)LOS – pm peak hour
Jones Bridge Rd at Platt Ridge Rd	A	A	A	A
Jones Bridge Rd at Connecticut Ave	F	F	F	F
Jones Bridge Rd at Manor Rd	A	A	B	B
Jones Bridge Rd at Jones Mill Rd	E	F	F	E
Connecticut Ave at Chevy Chase Lake Dr	A	A	A	B

Summary – Intersection Capacity and Roadway Traffic Volumes

A review of the available traffic count and intersection analysis results indicates the following with respect to existing conditions.

- Along Connecticut Avenue, the intersections with Jones Mill Road, Kensington Parkway, and East West Highway are failing, that is, they are operating below acceptable standards as established by existing County policy. The intersection at Bradley Lane is not failing by County standards but is close to the 1,600 CLV standard. The intersection is operating at LOS F in the pm peak hour according to the latest available SHA data.

- Roadway improvements for the Connecticut Avenue/Jones Bridge Road/Kensington Parkway intersection related to the BRAC consolidation are expected to bring that intersection into compliance with existing County standards (1,600 CLV). Construction on those improvements is expected to begin in 2012 – after the BRAC consolidation. It is estimated the intersection would remain within the 1,600 CLV standard for the pm peak period (the more congested of the peak periods) for about ten years.

- The intersection of Jones Bridge Road and Jones Mill Road in the pm peak period is shown as operating at LOS F based upon the analysis conducted as part of the Purple Line AA/DEIS.

- The intersection of Jones Mill Road/Beach Drive/East West Highway (MD 410) is close to exceeding the County CLV standard of 1,600 for this area in the pm peak period.

A review of the latest intersection and AAWDT data for Connecticut Avenue indicates that volumes on the segment between I-495 and East West Highway in particular are sufficient to cause significant delays during a typical peak period for this six-lane primary arterial. This segment is largely within the Plan boundary. The data review also reflects significant reductions in traffic volumes on Connecticut Avenue north of I-495 and south of East West Highway. This suggests that a significant amount of the traffic on Connecticut Avenue within the Plan boundary is traffic traveling through the Plan area to I-495, Jones

Bridge Road, and East West Highway. There is a relatively small percentage of the traffic on Connecticut Avenue that is destined to—or originating from—locations within the Plan boundary. This would suggest that one approach to addressing existing and future congestion is to focus enhancing east-west travel without encouraging north-south trips through the Plan area to go east or west. The Purple Line is one important element in that approach. Other approaches to consider might include:

- focusing on giving priority to bus, pedestrian, and bike circulation within the Plan boundary by providing additional (or complementary) pedestrian and bike connections to the Purple Line, Capital Crescent Trail, Rock Creek Trail, and other infrastructure within and near the Plan boundary

- avoiding approaches that call for additional right-of-way for moving more vehicles (auto or bus) through the Plan area. The acquisition of additional right-of-way should be limited to intersection improvements and for enhancements to the pedestrian and bike facility infrastructure

- considering intersection improvements on the perimeter or outside of the Plan area that facilitate east-west travel and thereby help reduce the amount of through traffic within the Plan area.

Existing Metrobus and Ride-On Service

Metrobus Service

Chevy Chase Lake is served by the Metrobus Bethesda-Silver Spring Line (Routes J1, J2, and J3), Bethesda-College Park Line (Route J4), and the Connecticut Avenue Line (Route L8) (see Figure 4).

Route J1 operates between the Medical Center Metrorail Station and the Silver Spring Metrorail Station via Jones Bridge Road and East West Highway. The route does not serve the Bethesda Metrorail Station. Route J1 operates during weekday peak periods only.

Route J2 operates between Montgomery Mall and Silver Spring via Old Georgetown Road, Rockville Pike/Wisconsin Avenue and East West Highway. This route operates every day and serves three Metrorail stations—Medical Center, Bethesda, and Silver Spring.

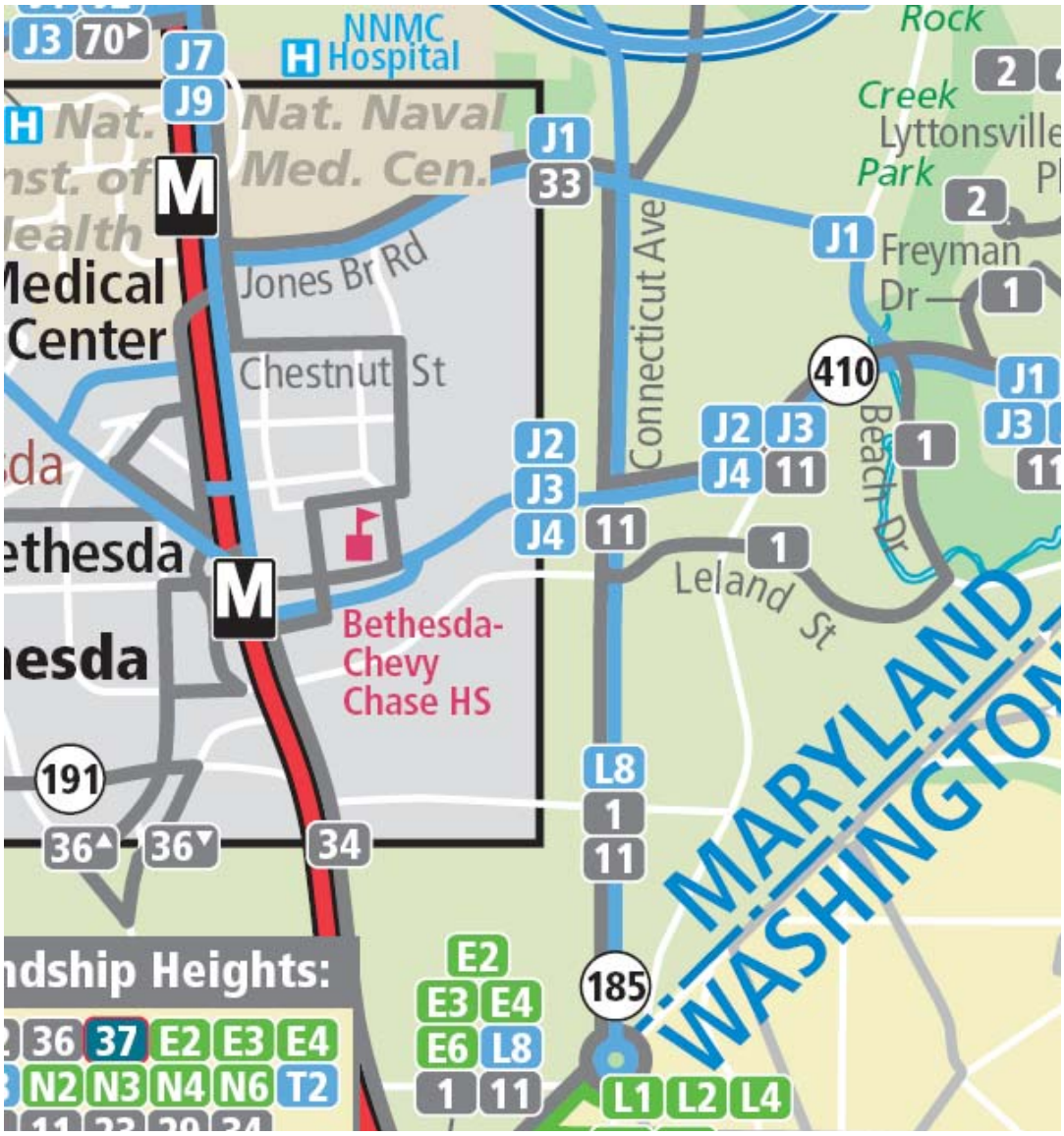
Route J3 operates over the same alignment as Route J2. Route J3 is designed to provide supplementary service in the peak direction during the peak period on weekdays only. The peak direction is westbound in the morning and eastbound in the afternoon/early evening.

Route J4 operates between the Bethesda Metrorail Station and the College Park Metrorail Station via East West Highway and University Boulevard. This route operates during weekday peak periods only. While it serves all bus stops on the University of Maryland campus, the route serves a limited number of stops between the University and Bethesda in each direction.

Route L8 operates along Connecticut Avenue between Aspen Hill and the Friendship Heights Metrorail Station. A short segment on the route near the Metrorail station operates along Western Avenue.

Chevy Chase Lake is also served by Ride On routes 1, 11, and 33. Routes 1 and 11 provide service between the Friendship Heights Metrorail Station and the Silver Spring Metrorail Station via Western Avenue, Connecticut Avenue, and East West Highway. Route 11 operates only during peak periods on weekdays. Route 33 provides service between the Metrorail Medical Center Station and the Glenmont Metrorail Station via Jones Bridge Road, Kensington Parkway, Newport Mill Road, and Georgia Avenue. Route 33 operates only during peak periods on weekdays.

Figure 4 Bus Routes in Chevy Chase Lake Vicinity



Source: WMATA Website

In summary, a total of eight bus routes serve the area—five Metrobus routes and three Ride On routes. The majority of the service is along East West Highway. Service frequency is summarized in Table 5.

Table 5 Existing Bus Service for Chevy Chase Lake Sector Plan Area

		Headway (minutes)				
Route	Operator	Peak	Off-Peak	Weekend	Terminal Stations	Estimated Average Weekday Ridership
1	Ride On	25	30	30	Friendship Heights to Silver Spring	1,600
11	Ride On	10	n/a	n/a	Friendship Heights to Silver Spring	900
33	Ride On	25	n/a	n/a	Medical Center to Glenmont	300
J1	WMATA	20	n/a	n/a	Medical Center to Silver Spring	Included in J2
J2	WMATA	20	20	20-25	Medical Center via Bethesda Station to Silver Spring	6,400
J3	WMATA	20	n/a	n/a	Medical Center via Bethesda to Silver Spring	Included in J2
J4	WMATA	20	n/a	n/a	Bethesda via Silver Spring to College Park UMD	1,000
L8	WMATA	15-20	30	30	Aspen Hill to Friendship Heights	2,900

Metrorail Service
Two Metrorail stations are relatively close to the Plan area. The Medical Center and Bethesda stations are about 1.5 miles from the point where the Georgetown Branch right-of-way intersects Connecticut Avenue. The Silver Spring station is about three miles east via East West Highway. It is located on the eastern leg of the Red Line while Medical Center and Bethesda are on the western leg of the Red Line. One of the key attributes of the planned Purple Line through the Plan area is that it will connect the western leg of the Red Line (at Bethesda) with the eastern leg of the Red Line (at Silver Spring).

Red Line trains over the segments that serve these stations operate every three minutes during peak periods and every six minutes midday. The service north of Silver Spring is less frequent during both the peak period and midday. The Bethesda and Silver Spring stations have parking nearby. The Medical Center station has kiss-and-ride space but there is no facility for the general public to park and then ride Metrorail.

Boardings at Medical Center, Bethesda, and Silver Spring are summarized below.

Station	Ridership Growth Since Station Opening	Estimated Average Weekday Boardings FY 2008	Estimated Average AM Peak Period Boardings	AM Peak Period Boardings as Percent of Weekday Boardings	Estimated Average PM Peak Period Boardings	PM Peak Period Boardings as Percent of Weekday Boardings
Bethesda	114%	10,500	3,300	31%	3,700	35%
Medical Center	94%	5,100	1,016	20%	2,800	55%
Silver Spring	62%	14,500	6,700	46%	3,500	24%

As expected, the boardings reflect Medical Center as a destination while the Bethesda station is more balanced with respect to rail trip origins and destinations.

For comparison purposes, the Purple Line AA/DEIS estimates average weekday boardings for selected Purple Line stations in 2040 as follows:

- Bethesda South – 11,500
- Connecticut Avenue (Chevy Chase Lake) – 1,550
- Lyttonsville – 1,150
- Woodside/16th Street – 1,350
- Silver Spring Transit Center – 13,000

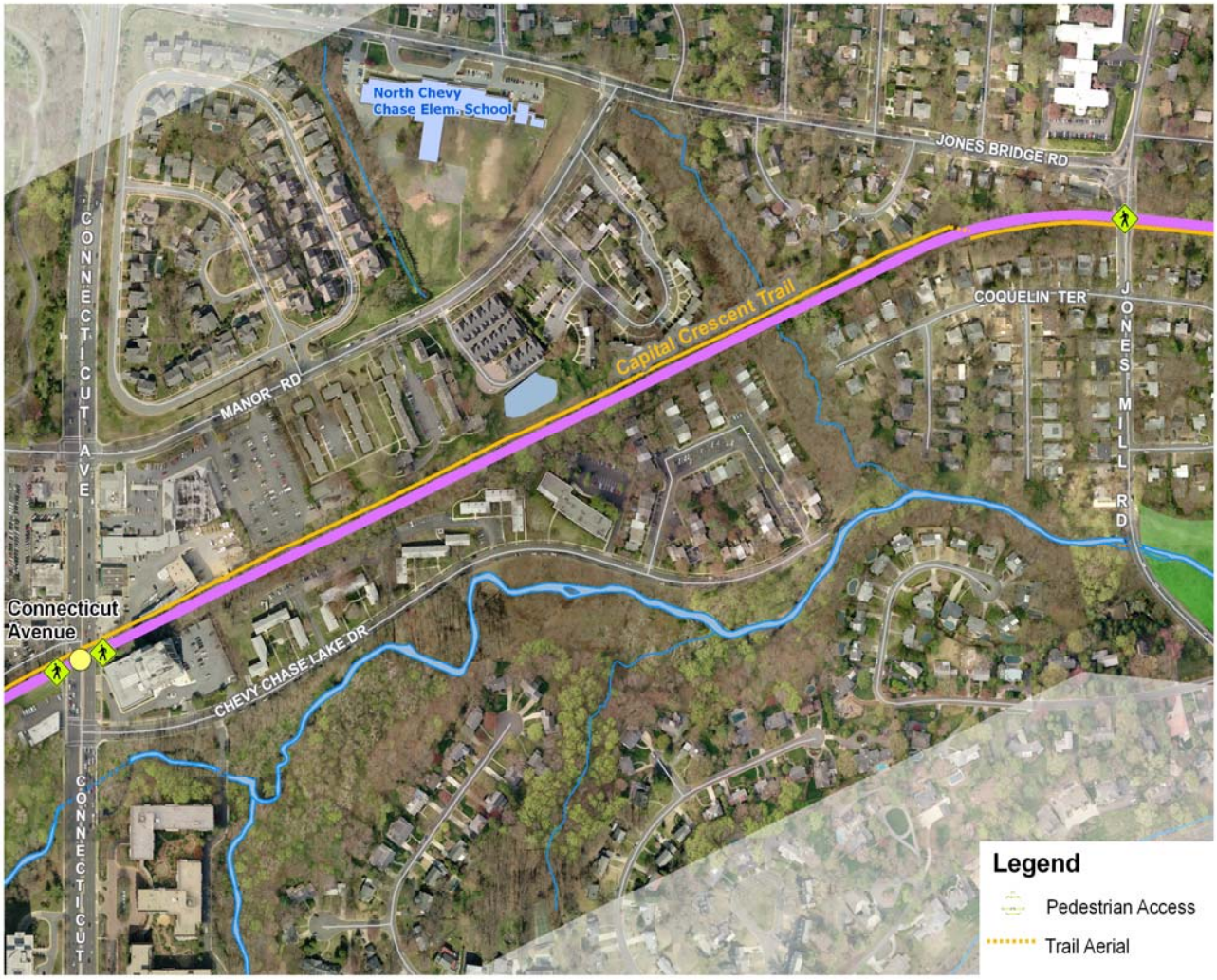
Purple Line Planning
As previously noted, the Purple Line is a planned light rail transit facility that will extend from Bethesda to New Carrollton and will include a station (Connecticut Avenue) within the Chevy Chase Lake Plan area.

The Purple Line is expected to operate on six minute frequencies during a typical weekday peak period. There are 1,550 projected daily boardings (in 2040) at the Connecticut Avenue station. As of this writing,

the earliest date for the beginning of construction is 2015. Completion of the entire Purple Line could be five years later.

The *Purple Line Functional Plan* was approved and adopted in September 2010. Figure 5 shows the The Purple Line's alignment through the Plan area as depicted in the Functional Plan.

Figure 5 Purple Line Alignment at Chevy Chase Lake



Key features of the Purple Line and the Capital Crescent Trail at or near the Connecticut Avenue (Chevy Chase Lake) Station as documented in the Purple Line Functional Master Plan include:

Chevy Chase Lake Station Concept Plan

- station platforms immediately east of Connecticut Avenue on an aerial structure extending over Connecticut Avenue

- station access via a pedestrian ramp on the west side of Connecticut Avenue

- direct above grade connection east of Connecticut Avenue between trail and station platform.

Capital Crescent Trail Concept Plan from Bethesda to Chevy Chase Lake

- access to and from the trail elevated above the light rail vehicles within the Apex tunnel
- a width of at least ten feet within the tunnel
- a minimum width of ten feet with two-foot soft or natural shoulders in the remaining segments[5]
- trail routed on the north side of the Georgetown Branch right-of-way[6]
- trail access to and from the south side of the Georgetown Branch right-of-way via a pedestrian ramp within the tunnel adjacent to Elm Street Park
- trail access via a pedestrian ramp at or just east of Pearl Street on the north side of the Georgetown Branch right-of-way
- trail access via a pedestrian ramp on the north side of the right-of-way near the Riviera Apartments with an at-grade track crossing to an existing trail connection to Lynn Drive
- trail access via pedestrian ramps on the north and south sides of the Georgetown Branch right-of-way located largely within the Sleaford Road Extended right-of-way
- access to the trail via a pedestrian ramp on the north side of the Georgetown Branch right of way at Kentbury Way Extended
- trail and Connecticut Avenue bridge access via a pedestrian ramp on the north side of the Georgetown Branch right-of-way and west of Connecticut Avenue largely within the Georgetown Branch right-of-way but also within the Newdale Road right-of-way.

Capital Crescent Trail Concept Plan from Chevy Chase Lake to Lyttonsville includes:

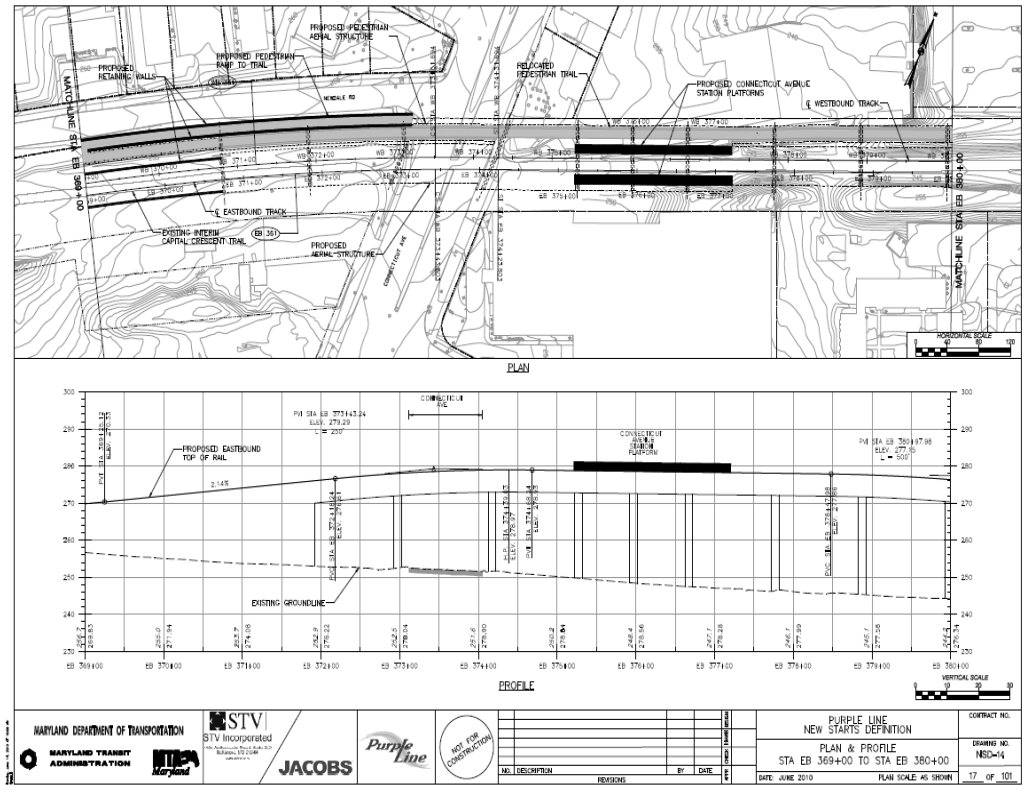
- a pedestrian bridge west of Jones Mill Road that moves the trail from north side to the south side of the Georgetown Branch right-of-way
- a trail passing underneath Jones Mill Road
- a pedestrian ramp east of Jones Mill Road providing trail access as it descends west to east
- a separate bridge over Rock Creek below the bridge for the Purple Line
- a pedestrian ramp connecting the Capital Crescent Trail with the Rock Creek Trail

[5] The Trail's typical at-grade section is a ten-foot paved path with two-foot soft shoulders on both sides of the paved path. The Trail's typical elevated section is a ten-foot wide paved path. These sections apply to the entirety of the trail from Bethesda to the Silver Spring Transit Center. Wider sections could be constructed in response to stated County policy objectives if they are determined to be feasible by a subsequent engineering analysis.

[6] This is a change from the 1990 - *Georgetown Branch Master Plan Amendment*.

Figure 6 illustrates The MTA's concept plan and profile view of the station area.

Figure 6 Plan and Profile Drawing—Purple Line Connecticut Avenue Station



Source: MTA

The Planning Department's further examination of circulation and station issues follows.

Concept Station Area Circulation Plan

Vehicle circulation at the Purple Line station is important from a number of aspects. Concept level circulation plans envision a new north – south roadway east of Connecticut Avenue and the Purple Line platform that would connect Chevy Chase Lake Drive with Manor Road. The Purple Line would be elevated in this area with the new roadway under the elevated Purple Line. Figure 7 depicts one potential approach to providing this important connection that would be used for vehicle circulation.

Figure 7 Conceptual Circulation

Other Station Area Design Elements

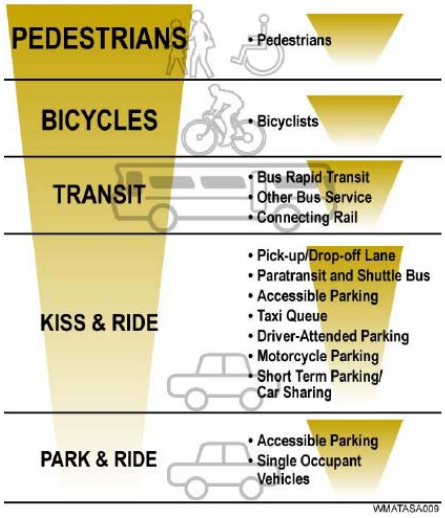
Other important design elements to take into consideration at the concept level with respect to station access and other issues are reviewed below.

Bus Bays and Kiss-and-Ride/Taxi Stands Directly on Connecticut Avenue

On high traffic volume roadways like Connecticut Avenue, it is preferable to have the bus boardings and alighting off the main roadway and internal to the station area. Bus operators pulling out of bays and users of kiss and ride areas located directly on Connecticut Avenue could find it difficult to re-enter the through traffic lanes because of the high traffic volumes on Connecticut Avenue.

Access Hierarchy

WMATA's *Station Access and Planning Manual* calls for the following access hierarchy in settings like Chevy Chase Lake where the objective is to compliment joint development and a mix of uses:



Source: WMATA

In general (and especially where right-of-way is limited) pedestrians and bicycles should receive priority when it comes to station access. Safe and direct pedestrian and bike connections to the station area are an important element of transit-oriented development and a key component of encouraging a shift from auto to transit.

It is not usual in established suburbs to find right-of-way constraints that require choices among competing design objectives. In Chevy Chase Lake, there is a strong argument for providing additional capacity for pedestrians and bike facilities in lieu of additional space for buses and autos—all other things being equal. Reasons for this approach include the following.

- There is significant existing traffic congestion characterized by a high percentage of through trips. Adding roadway capacity in the form of additional through lanes for the short segment of Connecticut Avenue within the Plan area will not relieve the congestion. The problem is with the intersection capacity at Jones Mill Road and East West Highway. In addition, there is no room for additional right-of-way south of East West Highway.

- Taking a lane and converting it to accommodate BRT and/or high occupancy vehicles in this short segment presents a number of operational issues with enforcement, weaving, and turn movements.

- Removing the median to introduce a reversible lane for BRT and/or HOV is also problematic because of operational issues (enforcement, control, and turning movements) over this short segment. In addition, the directional split of traffic is estimated to be about 60/40 percent. Ideally, the split should be at least 65/35 percent in order to consider reversible lanes as an alternative.

- There are right-of-way constraints on Connecticut Avenue immediately south of Jones Bridge Road as well. There will be a larger conservation easement of the west side of Connecticut Avenue adjacent to the Howard Hughes Medical Institute once the BRAC related improvements are made at the intersection. There are also residences on the east side with a large bordering wall and steep slope.

Number and Location of Bus Bays

Bus routes at the Purple Line station at Chevy Chase Lake will likely include a combination of through routes and routes that terminate (and therefore require layover time and space) at the station. This should be taken into consideration when determining the ultimate number of bus bays. Consideration should also be given to the fact the feeder bus service will be increased—potentially to a frequency during peak periods on the more popular bus routes that is similar to that on the Purple Line itself. These aspects of the overall scope of the bus service, both BRT and local service, should be taken into consideration when determining the ultimate number of bus bays.

Pedestrian Network – Existing Conditions

A current sidewalk inventory completed for the Plan area is presented in Figure 7.
General observations related to the current sidewalk network (see Figure 7) include the following.

- There is an established sidewalk network in and around North Chevy Chase Elementary School.

- There are gaps in the commercial core and along East West Highway and Jones Mill Road in particular.

- The majority of the areas where single-family residences are located do not have sidewalks.

A more detailed examination or inventory of the existing network is provided in Table 6. The gaps or deficiencies are noted in red text in the table.

Figure 7 Sidewalk Inventory

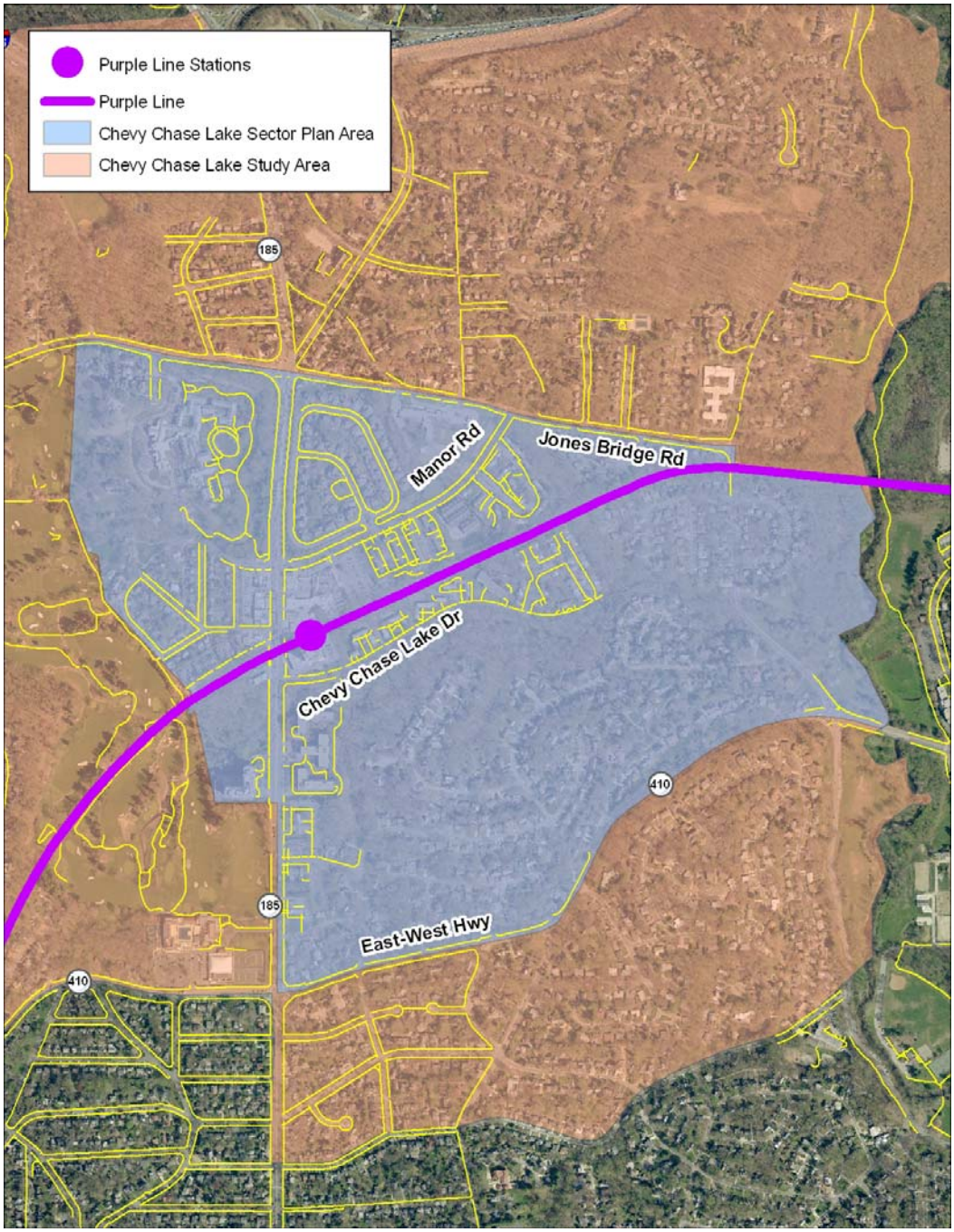


Table 6 Sidewalk Gaps and Deficiencies

		Sidewalk Gaps / Deficiencies - Existing						
Activity Center / Access Focus	Connecticut Avenue	Jones Bridge Road	Manor Road	Chevy Chase Lake Drive	Jones Mill Road	East West Highway	Dunlop Street	Notes
Walter Reed National Medical Center / NIH	Sidewalk with no or limited buffer on east or west side south of Jones Bridge Road to Chevy Chase Lake Drive.	Sidewalk with limited buffer north side between Connecticut Ave. and Brierly Road. Sidewalk with grass buffer on north side from Brierly Road to Jones Mill Road. Sidewalk with grass buffer on south side from Connecticut Ave. to Jones Mill Road.	Sidewalk with grass buffer on both sides from Connecticut Avenue east to Jones Bridge Road	Sidewalk with grass buffer on north side from Connecticut Avenue east to Hamlet Place and right of way - conservation area on south side				Connecticut Avenue & Jones Bridge Road deficiencies at or near that intersection to be addressed as part of SHA BRAC intersection improvements.
Howard Hughes Medical Institute	Sidewalk with no or limited buffer on east or west side south of Jones Bridge Road to Chevy Chase Lake Drive	Sidewalk with limited buffer north side between Connecticut Ave. and Brierly Road. Sidewalk with grass buffer on north side from Brierly Road to Jones Mill Road. Sidewalk with grass buffer on south side from Connecticut Ave. to Jones Mill Road.	Sidewalk with grass buffer on both sides from Connecticut Avenue east to Jones Bridge Road	Sidewalk with grass buffer on north side from Connecticut Avenue east to Hamlet Place and right of way - conservation area on south side				Connecticut Avenue & Jones Bridge Road deficiencies at or near that intersection to be addressed as part of SHA BRAC intersection improvements.
North Chevy Chase Elementary School	Sidewalk with limited buffer on east side south of Jones Bridge Road to Chevy Chase Lake Drive	Sidewalk with limited buffer north side between Connecticut Ave. and Brierly Road. Sidewalk with grass buffer on north side from Brierly Road to Jones Mill Road. Sidewalk with grass buffer on south side from Connecticut Ave. to Jones Mill Road.	Sidewalk with grass buffer on both sides from Connecticut Avenue east to Jones Bridge Road	Sidewalk with grass buffer on north side from Connecticut Avenue east to Hamlet Place and right of way - conservation area on south side	No sidewalk on west side from Coquelin Terrace south to East West Highway. Sidewalk with limited grass buffer on east side from Jones Bridge Road to Coquelin Terrace. No sidewalk on east side from southern leg of Coquelin Terrace south until park border just north of East West Highway.			Connecticut Avenue & Jones Bridge Road deficiencies at or near that intersection to be addressed as part of SHA BRAC intersection improvements.
	\							

		Sidewalk Gaps / Deficiencies - Existing						
Activity Center / Access Focus	Connecticut Avenue	Jones Bridge Road	Manor Road	Chevy Chase Lake Drive	Jones Mill Road	East West Highway	Dunlop Street	Notes
Planned Purple Line Connecticut Ave Station	Sidewalk with no or limited buffer on east or west side south of Jones Bridge Road to Chevy Chase Lake Drive. Sidewalk with buffer on west side from Chevy Chase Lake Drive south to East West Highway. Sidewalk with limited or varying buffer on east side from Chevy Chase Lake Drive south to Dunlop Street. Sidewalk with buffer on east side from Dunlop Street south to East West Highway.	Sidewalk with limited buffer north side between Connecticut Ave. and Brierly Road. Sidewalk with grass buffer on north side from Brierly Road to Jones Mill Road. Sidewalk with grass buffer on south side from Connecticut Ave. to Jones Mill Road.	Sidewalk with grass buffer on both sides from Connecticut Avenue east to Jones Bridge Road	Sidewalk with grass buffer on north side from Connecticut Avenue east to Hamlet Place and right of way - conservation area on south side	No sidewalk on west side from Coquelin Terrace south to East West Highway. Sidewalk with limited grass buffer on east side from Jones Bridge Road to Coquelin Terrace. No sidewalk on east side from southern leg of Coquelin Terrace south until park border just north of East West Highway.	Sidewalk with no or limited buffer on both sides from Connecticut Avenue east to Curtis Street. Sidewalk with no or limited buffer on north side from Curtis Street east to Glengalen Lane. No sidewalk on south side from Curtis Avenue east to Jones Mill Road.	Sidewalk with varying buffer width on north side from Connecticut Avenue east to Glendale Road. No sidewalk on north side from Glendale Road east to Kerry Lane. Sidewalk with buffer on south side from Connecticut Ave east for one block. No sidewalk on south side east from that point to Kerry Lane.	Direct access to and from station from east and west via interim Capital Crescent Trail. Connecticut Avenue & Jones Bridge Road deficiencies at or near that intersection to be addressed as part of SHA BRAC intersection improvements.
Capital Crescent Trail - East of Connecticut Avenue	Sidewalk with no or limited buffer on east or west side south of Jones Bridge Road to Chevy Chase Lake Drive. Sidewalk with buffer on west side from Chevy Chase Lake Drive south to East West Highway. Sidewalk with limited or varying buffer on east side from Chevy Chase Lake Drive south to Dunlop Street. Sidewalk with buffer on east side from Dunlop Street south to East West Highway.	Sidewalk with limited buffer north side between Connecticut Ave. and Brierly Road. Sidewalk with grass buffer on north side from Brierly Road to Jones Mill Road. Sidewalk with grass buffer on south side from Connecticut Ave. to Jones Mill Road. Access to trail at Jones Mill Road.	Sidewalk with grass buffer on both sides from Connecticut Avenue east to Jones Bridge Road. Access to trail via Connecticut Avenue or Jones Bridge Road.	Sidewalk with grass buffer on north side from Connecticut Avenue east to Hamlet Place and right of way - conservation area on south side. Access to trail via Connecticut Avenue only. No access to trail from eastern terminus of Chevy Chase Lake Drive.	Sidewalk with buffer on west side from Jones Bridge Road south to Coquelin Terrace and trail access. No sidewalk on west side from Coquelin Terrace south to East West Highway. Sidewalk with limited grass buffer on east side from Jones Bridge Road to Coquelin Terrace. No sidewalk on east side from southern leg of Coquelin Terrace south until Rock Creek park border just north of East West Highway. Trail access via Jones Mill Road between Jones Bridge Road and Coquelin Terrace.			Connecticut Avenue & Jones Bridge Road deficiencies at or near that intersection to be addressed as part of SHA BRAC intersection improvements.

		Sidewalk Gaps / Deficiencies - Existing						
Activity Center / Access Focus	Connecticut Avenue	Jones Bridge Road	Manor Road	Chevy Chase Lake Drive	Jones Mill Road	East West Highway	Dunlop Street	Notes
Capital Crescent Trail - West of Connecticut Ave	Sidewalk with no or limited buffer on east or west side south of Jones Bridge Road to Chevy Chase Lake Drive. Sidewalk with buffer on west side from Chevy Chase Lake Drive south to East West Highway. Sidewalk with limited or varying buffer on east side from Chevy Chase Lake Drive south to Dunlop Street. Sidewalk with buffer on east side from Dunlop Street south to East West Highway.	Sidewalk with limited buffer north side between Connecticut Ave. and Brierly Road. Sidewalk with grass buffer on north side from Brierly Road to Jones Mill Road. Sidewalk with grass buffer on south side from Connecticut Ave. to Jones Mill Road. Direct access to trail on east side of Connecticut Avenue at Jones Mill Road.	Sidewalk with grass buffer on both sides from Connecticut Avenue east to Jones Bridge Road. Access to trail via Connecticut Avenue or Jones Bridge Road.	Sidewalk with grass buffer on north side from Connecticut Avenue east to Hamlet Place and right of way - conservation area on south side. Access to trail via Connecticut Avenue only. No access to trail from eastern terminus of Chevy Chase Lake Drive.				Connecticut Avenue & Jones Bridge Road deficiencies at or near that intersection to be addressed as part of SHA BRAC intersection improvements.
Rock Creek Trail / Park	Sidewalk with no or limited buffer on east or west side south of Jones Bridge Road to Chevy Chase Lake Drive. Sidewalk with buffer on west side from Chevy Chase Lake Drive south to East West Highway. Sidewalk with limited or varying buffer on east side from Chevy Chase Lake Drive south to Dunlop Street. Sidewalk with buffer on east side from Dunlop Street south to East West Highway. Access to Rock Creek Trail / Park is via East West Highway.	Sidewalk with limited buffer north side between Connecticut Ave. and Brierly Road. Sidewalk with grass buffer on north side from Brierly Road to Jones Mill Road. Sidewalk with grass buffer on south side from Connecticut Ave. to Jones Mill Road. Direct access to CCT trail on east side of Connecticut Avenue at Jones Mill Road. Access to Rock Creek Trail / Park via Jones Mill Road to East West Highway / Meadowbrook Lane (outside of plan area).	Sidewalk with grass buffer on both sides from Connecticut Avenue east to Jones Bridge Road. Access to CCT trail via Connecticut Avenue or Jones Bridge Road. Access to Rock Creek Trail / Park via Jones Mill Road to East West Highway / Meadowbrook Lane (outside of plan area).	Sidewalk with grass buffer on north side from Connecticut Avenue east to Hamlet Place and right of way - conservation area on south side. Access to CCT trail via Connecticut Avenue only. No access to CCT trail from eastern terminus of Chevy Chase Lake Drive. Access to Rock Creek Trail / Park via Connecticut Avenue to East West Highway / Meadowbrook Lane (outside of plan area).	Sidewalk with buffer on west side from Jones Bridge Road south to Coquelin Terrace and CCT trail access. No sidewalk on west side from Coquelin Terrace south to East West Highway. Sidewalk with limited grass buffer on east side from Jones Bridge Road to Coquelin Terrace. No sidewalk on east side from southern leg of Coquelin Terrace south until Rock Creek park border just north of East West Highway. CCT Trail access via Jones Mill Road between Jones Bridge Road and Coquelin Terrace. Access to Rock Creek Trail / Park at intersection with Beach Drive.	Sidewalk with no or limited buffer on both sides from Connecticut Avenue east to Curtis Street. Sidewalk with no or limited buffer on north side from Curtis Street east to Glengalen Lane. No sidewalk on south side from Curtis Avenue east to Jones Mill Road. Access to Rock Creek Trail / Park at intersection with Beach Drive.	Sidewalk with varying buffer width on north side from Connecticut Avenue east to Glendale Road. No sidewalk on north side from Glendale Road east to Kerry Lane. Sidewalk with buffer on south side from Connecticut Ave east for one block. No sidewalk on south side east from that point to Kerry Lane. Access to Rock Creek Trail / Park via East West Highway to Meadowbrook Lane (outside of plan area).	Connecticut Avenue & Jones Bridge Road deficiencies at o rnear that intersection to be addressed as part of SHA BRAC intersection improvements.

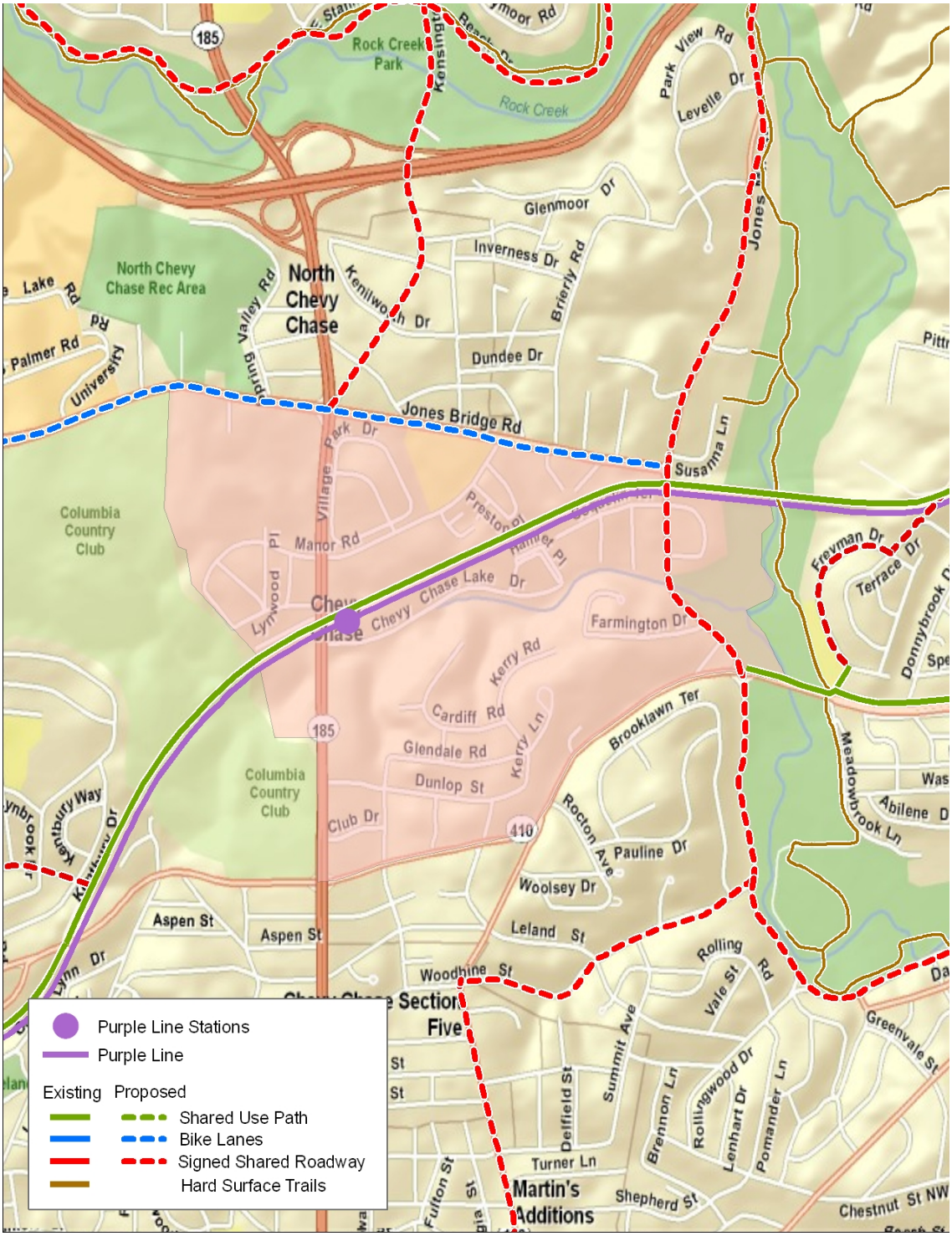
		Sidewalk Gaps / Deficiencies - Existing						
Activity Center / Access Focus	Connecticut Avenue	Jones Bridge Road	Manor Road	Chevy Chase Lake Drive	Jones Mill Road	East West Highway	Dunlop Street	Notes
Columbia Country Club	Sidewalk with no or limited buffer on east or west side south of Jones Bridge Road to Chevy Chase Lake Drive. Sidewalk with buffer on west side from Chevy Chase Lake Drive south to East West Highway. Sidewalk with limited or varying buffer on east side from Chevy Chase Lake Drive south to Dunlop Street. Sidewalk with buffer on east side from Dunlop Street south to East West Highway. Pedestrian access at Connecticut Avenue and Club Drive.	Sidewalk with limited buffer north side between Connecticut Ave. and Brierly Road. Sidewalk with grass buffer on north side from Brierly Road to Jones Mill Road. Sidewalk with grass buffer on south side from Connecticut Ave. to Jones Mill Road. Pedestrian access at Connecticut Avenue and Club Drive.	Sidewalk with grass buffer on both sides from Connecticut Avenue east to Jones Bridge Road	Sidewalk with grass buffer on north side from Connecticut Avenue east to Hamlet Place and right of way - conservation area on south side		Sidewalk with no or limited buffer on both sides from Connecticut Avenue east to Curtis Street. Sidewalk with no or limited buffer on north side from Curtis Street east to Glengalen Lane. No sidewalk on south side from Curtis Avenue east to Jones Mill Road. Pedestrian access to Country Club at Connecticut Avenue and Club Drive or on East West Highway just west of Connecticut Avenue.	Sidewalk with varying buffer width on north side from Connecticut Avenue east to Glendale Road. No sidewalk on north side from Glendale Road east to Kerry Lane. Sidewalk with buffer on south side from Connecticut Ave east for one block. No sidewalk on south side east from that point to Kerry Lane. Pedestrian access to Country Club at Connecticut Avenue and Club Drive or on East West Highway just west of Connecticut Avenue.	Connecticut Avenue & Jones Bridge Road deficiencies at or near that intersection to be addressed as part of SHA BRAC intersection improvements.

		Sidewalk Gaps / Deficiencies - Existing						
Activity Center / Access Focus	Connecticut Avenue	Jones Bridge Road	Manor Road	Chevy Chase Lake Drive	Jones Mill Road	East West Highway	Dunlop Street	Notes
Commercial Core on Connecticut Avenue	Sidewalk with no or limited buffer on east or west side south of Jones Bridge Road to Chevy Chase Lake Drive. Sidewalk with buffer on west side from Chevy Chase Lake Drive south to East West Highway. Sidewalk with limited or varying buffer on east side from Chevy Chase Lake Drive south to Dunlop Street. Sidewalk with buffer on east side from Dunlop Street south to East West Highway.		Sidewalk with grass buffer on both sides from Connecticut Avenue east to Jones Bridge Road	Sidewalk with grass buffer on north side from Connecticut Avenue east to Hamlet Place and right of way - conservation area on south side. Access to commercial core is via Connecticut Avenue.	Sidewalk with buffer on west side from Jones Bridge Road south to Coquelin Terrace and trail access. No sidewalk on west side from Coquelin Terrace south to East West Highway. Sidewalk with limited grass buffer on east side from Jones Bridge Road to Coquelin Terrace. No sidewalk on east side from southern leg of Coquelin Terrace south until Rock Creek park border just north of East West Highway. Trail access - and access to commercial core via Trail - is via Jones Mill Road between Jones Bridge Road and Coquelin Terrace.	Sidewalk with no or limited buffer on both sides from Connecticut Avenue east to Curtis Street. Sidewalk with no or limited buffer on north side from Curtis Street east to Glengalen Lane. No sidewalk on south side from Curtis Avenue east to Jones Mill Road. Access to commercial core is via Connecticut Avenue.	Sidewalk with varying buffer width on north side from Connecticut Avenue east to Glendale Road. No sidewalk on north side from Glendale Road east to Kerry Lane. Sidewalk with buffer on south side from Connecticut Ave east for one block. No sidewalk on south side east from that point to Kerry Lane. Access to commercial core is via Connecticut Avenue.	Connecticut Avenue & Jones Bridge Road deficiencies at or near that intersection to be addressed as part of SHA BRAC intersection improvements.

Bike Facilities

The only existing shared use facility within the plan boundary is the Georgetown Branch Interim Trail / Future Capital Crescent Trail.

Figure 8 Chevy Chase Lake Recommended Countywide Bikeways



Pedestrian and Bicycle Recommendations

The Chevy Chase Lake community currently has a moderate level of pedestrian and bicycle activity that is expected to grow substantially with the construction of the Connecticut Avenue Purple Line station. Improving mobility and providing safety measures for both of these modes is an important goal of this Plan.

The Plan recommends rehabilitating existing connections and adding new connections that will close gaps in the existing sidewalk network (Table 6) and supplement pedestrian connectivity within the Plan area.

Currently, bikeway recommendations in Chevy Chase Lake are focused on connecting people to places outside of the Plan area, including employment and residential centers in Bethesda, Silver Spring, and Washington, D.C., and large federal employment centers at the National Institutes of Health and the National Naval Medical Center. As such, they focus on travel through the Plan area and largely avoid the commercial core. With the construction of the Purple Line station expected during the life of this plan, it is appropriate to rethink these recommendations.

Four objectives were used to develop the bicycle recommendations:

- Accommodate bicyclists with different levels of ability

While some bicyclists are comfortable riding on the road, either sharing the lane with traffic or in separated bike lanes, other bicyclists are more comfortable riding on off-road shared use paths that are physically separated from the roadway. The Plan includes recommendations for both shared use paths and signed shared roadways. Bicycle lanes are not recommended in this Plan because roads are either low volume/low speed, or do not have sufficient right-of-way.

- Enhance connections to the Purple Line station

A robust bikeway network with direct connections to the Connecticut Avenue Purple Line station can attract people that live beyond the station walking area, typically considered to be a distance of 0.5 to 1.0 miles. The Capital Crescent Trail and the recommended Connecticut Avenue, Jones Bridge Road, and Manor Road shared use paths will serve as the primary bikeways to the Purple Line station.

- Facilitate east-west connectivity

Chevy Chase Lake is located between activity centers in Bethesda, Silver Spring, and NIH/NNMC and the Plan's bikeways recommendations are a vital component of creating an east-west bikeway network. The Capital Crescent Trail is the primary east-west bikeway connecting Bethesda and Silver Spring. The Jones Bridge Road and Manor Road bikeways will also provide east-west connectivity between Silver Spring, NIH/NNMC and the Chevy Chase Lake core.

- Facilitate north-south connectivity

The Plan area is also located between Kensington and the District of Columbia. The Connecticut Avenue shared use path and the signed-shared roadways along Jones Mill Road, Beach Drive, East West Highway, and Brookeville Road will provide connectivity between these areas.

Specific recommendations for the pedestrian and bike network within the Plan area include the following.

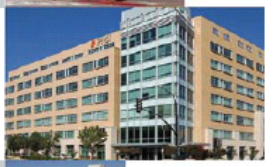
- Designate, subsequent to the implementation of the Purple Line LPA and its Chevy Chase Lake station, in coordination with SHA, the area immediate to the station along Connecticut Avenue as a Bicycle-Pedestrian Priority Area (BPPA).
- Support implementing the Capital Crescent Trail along the Purple Line LPA as recommended in the September 2010 *Purple Line Functional Plan*.
- Construct a shared-use path along the east side of Connecticut Avenue between Blackthorn Street and Jones Bridge Road.
- Construct a dual bikeway on Jones Bridge Road between the western Plan area boundary and Manor Road, with a signed shared roadway and a shared-use path on the south side of Jones Bridge Road.
- Implement a signed shared roadway on Jones Bridge Road between Manor Road and Jones Mill Road.
- Construct a shared-use path along or adjacent to Coquelin Run between Jones Bridge Road/Manor Road intersection and Chevy Chase Lake Drive, with a connection to the Capital Crescent Trail and Coquelin Terrace.
- Implement a signed shared roadway bikeway along Jones Mill Road between Jones Bridge Road and East West Highway.
- Implement a signed shared roadway bikeway along Kensington Parkway between Connecticut Avenue/Jones Bridge Road and Beach Drive.
- Implement a shared-use path along Manor Road between Connecticut Avenue and Jones Bridge Road.
- Implement a signed shared roadway bikeway along Montgomery Avenue between Inverness Drive and Jones Bridge Road.
- Implement a signed shared roadway bikeway along Inverness Drive between Kensington Parkway and Montgomery Avenue.
- Implement a signed shared roadway bikeway along Chevy Chase Lake Drive.
- Implement a signed shared roadway bikeway between Connecticut Avenue and Brookeville Road as follows:
    - along Blackthorn Street between Connecticut Avenue and Glendale Road
    - along Glendale Road between Blackthorn Street and Woodbine Street
    - along Woodbine Street between Glendale Road and Brookville Road.
- Construct a sidewalk along East West Highway between Glengalen Lane and Jones Mill Road/Beach Drive.
- Explore potential pedestrian bridge/trail connections between Chevy Chase Lake Drive and the Chevy Chase, Section 10 residential subdivision to the south, over Coquelin Run.

Transit-Oriented Development and Density

There is a considerable amount of existing and evolving research on station area densities, pedestrian accessibility and connectivity, transit mode share, and other issues related to transit-oriented development (TOD). The Planning Department has reviewed available current material on this issue. One good representation is from advocacy groups, Reconnecting America and the Center for Transit Oriented Development. Their data (see Figure 9) depicts how transit-oriented development can vary in size, scale, and context.

For Chevy Chase Lake, the transportation analysis assumed a range of densities. The results (described later in this appendix) indicated that a balance of land use and transportation—with the Purple Line—could be achieved at a point where the net density for the commercial sites adjacent to Connecticut Avenue the major roadways would range between 1 and 2 FAR.

Figure 9 Characteristics of Mixed-Use Transit-Oriented Development

		Net Density	Characteristics	Construction Type	Parking Configuration	
Mid-Rise Residential Over Commercial	MIXED USE TYPES	40-90 du/acre	3-6 stories with apartments, single- or double-loaded corridors with lobby entrance, off-street parking in structure or below grade	Type I/III (max 6 stories with building code modification/65 feet)	Groundfloor podium/ subgrade or elevated structure	
High-Rise Residential Over Commercial	MIXED USE TYPES	60+ du/acre	7+ stories, usually with base and point tower, single- or double-loaded corridors with lobby entrance, off-street parking in structure or below grade	Type I/II (max 12 stories/120 feet/no limits on Type 1)	Off-street parking in structure or below grade	
Low-Rise Office/Commercial	EMPLOYMENT TYPES	0.5-2.5 FAR	1-3 stories with lobby entrance to upper floors; retail, office or mixed-use with mix of tenant types, including limited large-footprint retail uses; parking in surface lots or structures	Type III/IV/V (max 4 stories/65 feet)	Off-street parking in groundfloor podium or surface	
Mid-Rise Office/Commercial	EMPLOYMENT TYPES	2.0-5.0 FAR	3-7 stories, with lobby entrance to upper floors, office with potential groundfloor retail, parking in structure or below grade	Type I/II (max 12 stories/160 feet)	Off-street parking in structure or below grade	
High-Rise Office/Commercial	EMPLOYMENT TYPES	4.0+ FAR	6+ stories with lobby entrance to upper floors sometimes with point tower over base, office with potential groundfloor retail, parking in structure or below grade	Type 1 (no limits)	Off-street parking in structure or below grade	
Institutional/Other Employment	EMPLOYMENT TYPES	varies	schools, civic uses, stadiums, hospitals, other entertainment uses; range of densities and sizes; parking often in structures or below grade	Varies	Parking often in structures or below grade	

Source: Station Area Planning, Reconnecting America and the Center for Transit-Oriented Development, February 2008, page 13.

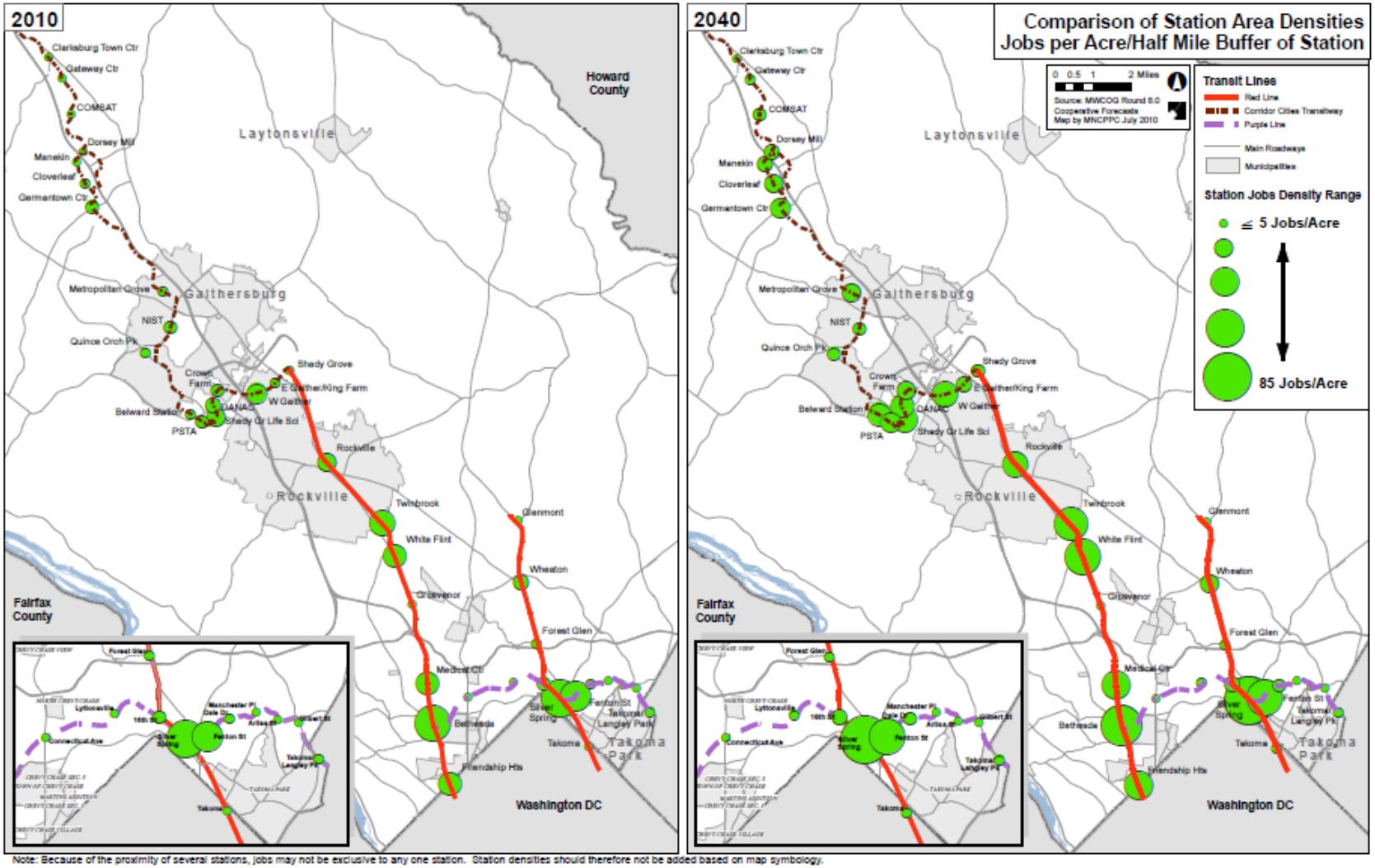
It is important to support higher densities with improvements to pedestrian connectivity and access as well as enhancements to the street grid where possible.

Another way of analyzing density around transit stations is to examine the station context and how it relates to other stations—both existing and planned—around the County's three fixed transitways (the existing Metrorail Red Line, and the planned Purple Line and Corridor Cities Transitway).

Figures 10 and 11 present estimates of job and housing densities within ½ mile of the stations. The densities are gross densities, that is, they are an estimate that considers the total area (including land devoted to streets, parks, etc.) in the traffic zones within the half-mile radius of the station location. [7]

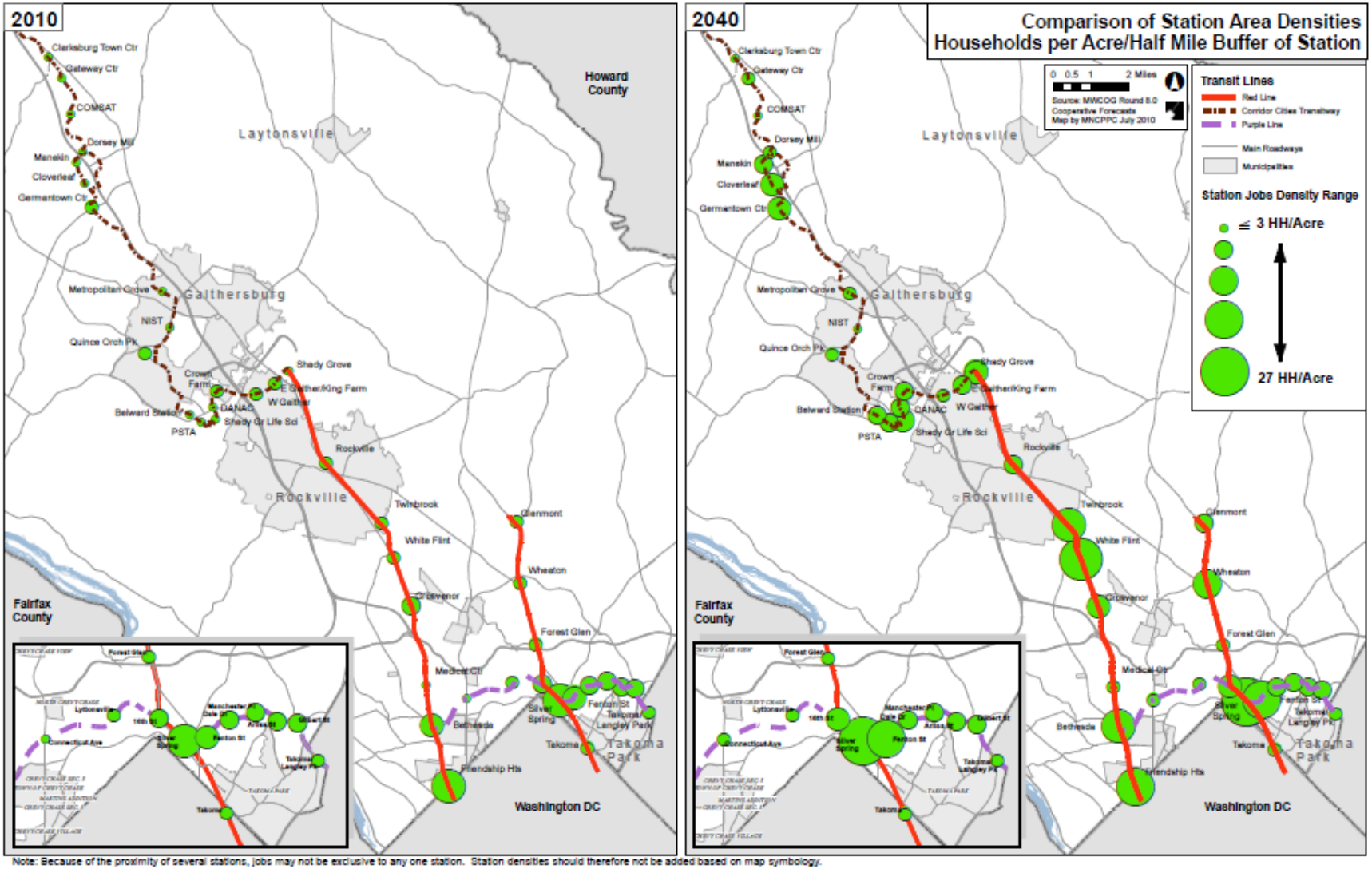
[7] The densities are arrived at by creating a ½ mile GIS buffer around each station and dividing the jobs and households in the applicable Traffic Analysis Zone(s) by the area of the TAZ(s) that falls within the ½ mile buffer. The total jobs and households forecast for the applicable TAZs are adjusted (reduced) by a percentage equal to the amount of the area of the TAZ that is outside of the ½ mile buffer. As a result, the chart is more accurately characterized as an estimate of the gross densities within ½ mile of the transit stations. One general rule of thumb is that minimum gross densities of around 7-10 households per acre and 25-50 jobs per acre are needed to support frequent high quality transit service—e.g. LRT or BRT.

Figure 10 Station Area Densities – Jobs /Acre within ½ Mile



Note: Because of the proximity of several stations, jobs may not be exclusive to any one station. Station densities should therefore not be added based on map symbology.

Figure 11 Station Area Densities – Households /Acre within ½ Mile



Note: Because of the proximity of several stations, jobs may not be exclusive to any one station. Station densities should therefore not be added based on map symbology.

The following observations can be made regarding the densities along the corridors.

- As would be expected, there is an increase in the station area densities from 2010 to 2040. This is especially the case at some of the stations north of the Beltway.

- Densities at stations in 2040 continue to vary along each transitway.

- Chevy Chase Lake is located between two (Bethesda and Silver Spring) of the most dense station areas.

Still another way of examining station area density is to look at jobs and household density together to see the extent to which stations begin to fall into different groups or types. The scatter plots in Figures 12 and 13 represent job and household density for each station. Figure 12 depicts all of the stations and Figure 13 includes those stations that are lower in density—including the Connecticut Avenue (or Chevy Chase Lake) station.

As noted in Figure 9, TOD comes in different sizes. All three transit lines (Red Line, Purple Line, and Corridor Cities Transitway) comprise station settings that vary both in density and the mix of uses. A transit line can be viable without all of the stations meeting what are generally accepted minimum density thresholds needed to support transit. The key is to have enough stations that exceed the minimum thresholds to make up the difference—balancing transit supporting density with the station area context and community vision.

The scatter plots are based upon traffic zones and are rough estimates of the density within a half mile of the respective stations. Nevertheless, it is clear that about half of the neighborhood stations fall below five households per gross acre and all of the neighborhood stations are below the 25-50 jobs per gross acre minimum threshold. The Connecticut Avenue station is one that falls below the minimums on both counts (based upon the COG Round 8 2040 forecast). This lower density is consistent with prior master plan visions for the area but not necessarily consistent with a vision that would recognize and take greater advantage of the planned Purple Line station.

In general, the community has expressed support for some increase in residential density and local serving retail. The extent of that increase is open to interpretation but it is clear that there is opposition to a level of density that is comparable to other stations that are located closer to the fringe of a CBD, such as the 16th Street and Dale Drive stations in Silver Spring.

Figure 12 Station Area Densities Group by Station Type—All Stations

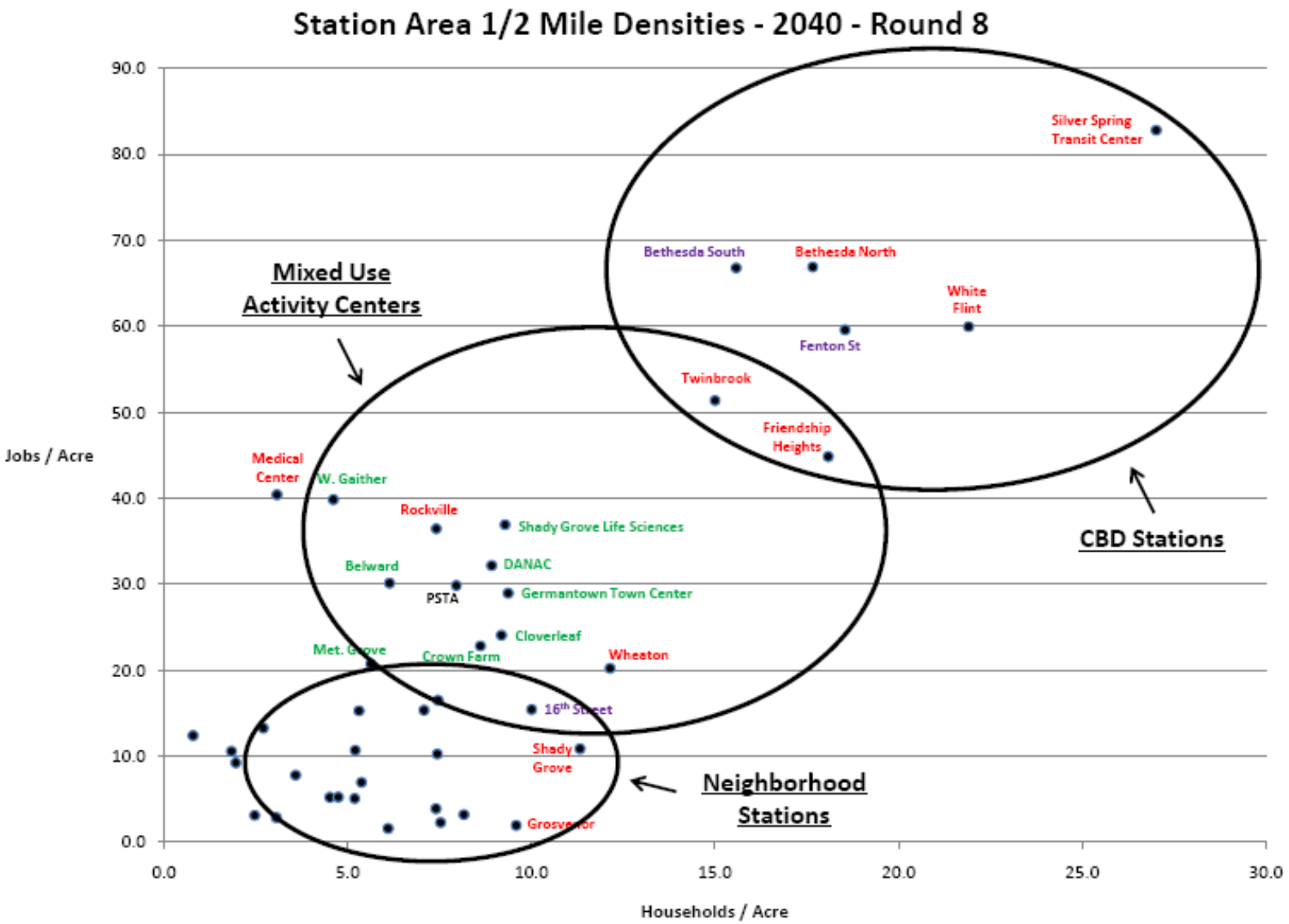
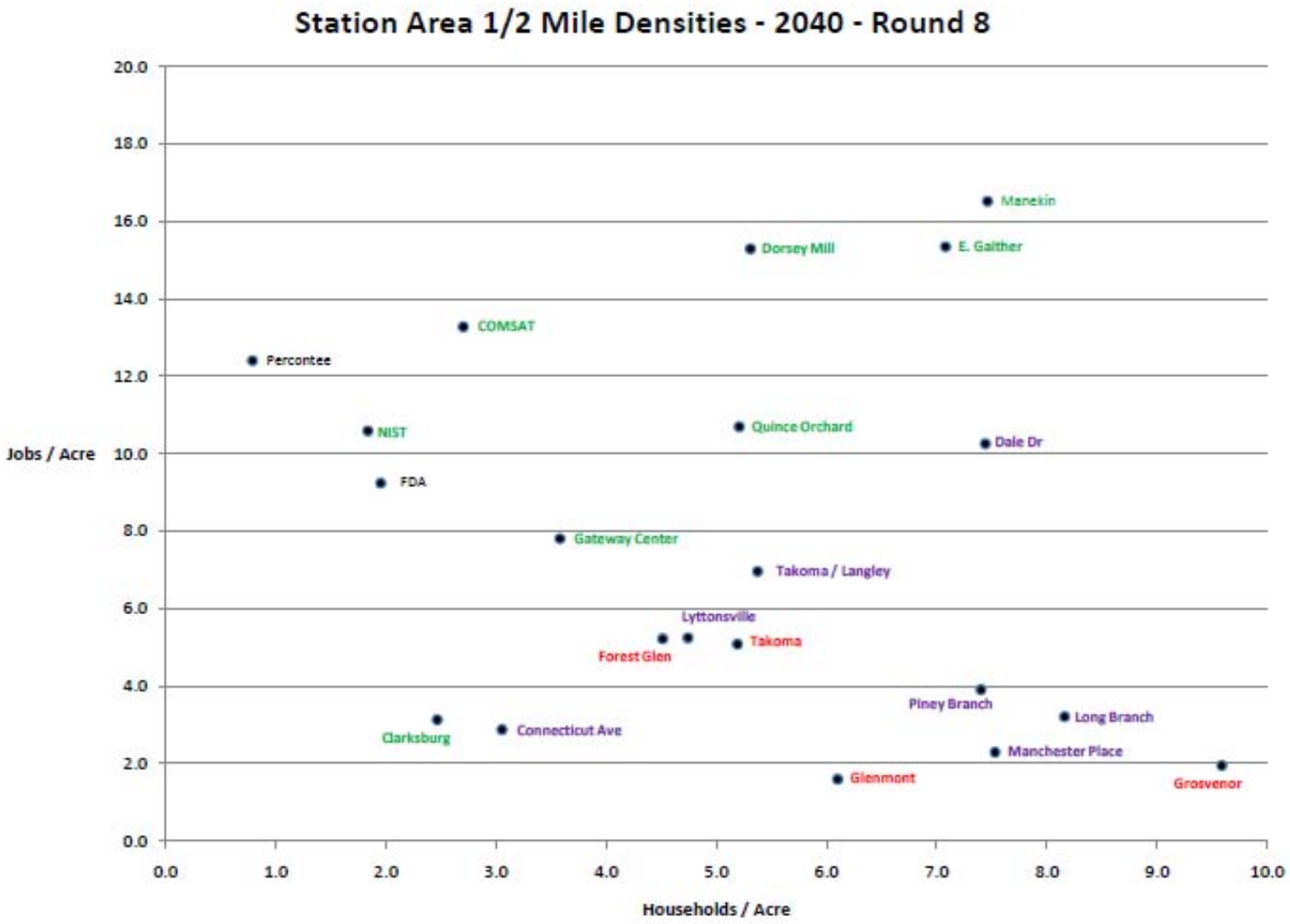


Figure 13 Station Area Densities Group by Station Type—Neighborhood Stations



Tested Land Use Scenarios

Various land use scenarios were tested during plan development (see Table 7).

Each scenario includes the following key attributes.

- Existing: the estimated amount of existing development in the plan area
- Future: the estimated amount of total development that would likely occur under the currently adopted plan
- Enhance: the estimated amount of total development under the first stage of zoning
- Create: the estimated amount of total development under the second stage of zoning
- 2.5 million gsf: a theoretical level of development beyond Create that includes a total of 2.5 million gross square feet of total commercial and new residential development
- 3.5 million gsf: a second and higher theoretical level of development beyond Create that includes a total of 3.5 million gross square feet of total commercial and new residential development.

Table 7 Summary of Land Use Scenarios

Variable	Existing	Future – Plan Yield[8] (Current Zoning)	Enhance	Create	2.5 million gsf	3.5 million gsf
Commercial square footage[9]	619,551	809,486	709,024	972,310	1,421,537	1,621,537
Jobs[10]	1,599	2,198	1,793	2,436	4,011	4,711
Dwelling Units (DUs)	1,319	2,342	1,449	2,365	3,018	3,818
Jobs-Housing Ratio	1.21	0.94	1.24	1.03	1.33	1.23

Non-Auto Driver Mode Share Assumptions

One important question related to the Plan's transportation network is the extent to which work trips in particular will be made by means other than single-occupant auto. Trip reduction factors can be applied to the number of total work trips destined for locations within the Plan boundary based upon the non-auto driver mode share (NADMS). Similar reduction factors are applied to home based work trips originating within the Plan area. The reductions can be included in established trip generation rates for a

[8] Current Plan Yield (or "Holding Capacity")is an estimate of the ultimate amount of development under the zoning in the current adopted applicable master plan. There is no time horizon (10, 20, 30 years) associated with this estimate. The estimate of the plan yield does not include approximately 260,000 SF of existing commercial space attributable to the Howard Hughes Medical Institute.

[9] Commercial square feet (SF) only – does not include square footage of dwelling units.

[10] Based upon 250 sq feet per employee for office space, 400 sq. feet for retail, and 500 square feet for other.

specific area or they can be applied later in the travel forecasting process. In the case of Chevy Chase Lake, the trip reduction factors are applied later and reflect non-auto driver mode share assumptions consistent with TOD locations similar to that envisioned at Chevy Chase.

There is a considerable amount of recent research supporting the fact that well designed TOD generates fewer auto trips and higher trip rates by transit, walking, and biking. This is especially so in TOD settings with a mix of land uses, high quality transit within walking distance, well connected and pleasant pedestrian and bike facilities, a strong regional transit system, and a vibrant CBD core. All of these factors apply to Chevy Chase Lake after the Purple Line station is constructed.

Examples of more recent research findings related to mode share in TOD settings is presented below.

From the Transit Cooperative Research Program, Report 128:

- TOD transit mode share for commuter trips can vary from five to almost 50 percent.
- Findings are similar for non-work trips.
- The wide range of mode share percentages is heavily influenced by relative auto travel times and extent of transit service, which varies by region.
- Transit share of journey to work trips in 16 selected TOD locations in the DC region averaged a 30 percent mode share in 2000. The walk/bike share accounted for an additional 14 percent, a total non-auto driver mode share for work trip by TOD residents of 44 percent.

From the WMATA 2005 Development Related Ridership Survey:

- Transit mode share for all trips by residents of highrise apartment or condo residents inside the Beltway, not within the D.C. CBD, and within ½ mile of a Metrorail station was 49 percent. The walk/ bike share accounted for an additional 14 percent of all trips made on a typical weekday.
- Transit mode share for work trips by employees whose work location was inside the Beltway, not within the D.C. CBD, and within ½ mile of a Metrorail station was 30 percent. The walk/bike share accounted for an additional six percent of the total work trips.

In addition to the research findings noted above, the 2005 Census Update includes the following information related to County residents.

- 34 percent of Bethesda Chevy Chase Planning Area residents commute to work in some way other than as a driver of an auto. The percentage is about the same for residents of the White Flint and Wheaton Planning Areas while Silver Spring and Takoma Park Planning Areas are higher at 43 percent.

For employees within Transportation Management Districts (TMD), the most recent (2010) surveys indicate the following.

- The non auto driver mode share for employees in the Bethesda TMD is 35 percent. This is similar to North Bethesda (39 percent) and Friendship Heights (37 percent) but less than Silver Spring (42 percent). TMDs with significantly lower non-auto driver mode shares include Wheaton (16 percent) and Rockville (17 percent).

As noted above, the percentage of trips made by some mode other than auto driver can vary even in a TOD setting. Planning staff reviewed the relevant research and determined it would be reasonable to assume that a fairly high percentage of trips within the area near the Purple Line station would be made by transit or by walking/biking. As a result, the following (auto) trip reduction factors were used in the local area model (LAM).

- Non-Auto Driver Mode Share (NADMS) for peak hour work trips from anywhere outside the Plan boundary to work locations within the Plan boundary—3 6 percent. This is largely based on the TMD survey results for the Bethesda Chevy Chase TMD and the WMATA 2005 Development Related Ridership Survey.

- Auto Driver Mode Share for peak hour work trips originating within the Plan boundary (near the Purple Line station) and destined for locations inside or outside the Plan boundary—51 percent. The corresponding (inverse) percentage for NADMS for these trips is therefore 49 percent. This is largely based upon the WMATA 2005 Development Related Ridership Study and most recent national research findings.

Programmed Transportation Improvements[11]

The programmed (either underway or programmed) transportation improvements within the Plan boundary consist of those related to the BRAC process and were discussed earlier in some detail in this Appendix. These improvements include:

- intersection improvements at Connecticut Avenue/Jones Bridge Road/Kensington Parkway
- shared use path on south side of Jones Bridge Road between Connecticut Avenue and Manor Road.

Other BRAC related improvements either underway or programmed for locations outside of the plan boundary include:

- enhanced access control for Chevy Chase Valley
- shared use path on Jones Bridge Road between Rockville Pike and Connecticut Avenue
- intersection improvements at Old Georgetown Road / Cedar Lane / Oakmont Avenue
- intersection improvements at Rockville Pike / West Cedar Lane / Cedar Lane
- intersection improvements at Rockville Pike and Jones Mill Road
- Cedar Lane Bridge replacement
- Rockville Pike pedestrian crossing enhancements—Walter Reed National Medical Center/NIH entrance
- shared use path on south side of West Cedar Lane between Old Georgetown Road and Rockville Pike.

As of this writing, there are no other programmed transportation improvements identified for the area within the plan boundary.

Transportation/Land Use Balance

The *Chevy Chase Lake Sector Plan* transportation analyses reflect the procedural guidance established by the County Council's Subdivision Staging Policy.

[11] Programmed transportation improvements are projects for which construction funds have been identified and included in the applicable capital funding program (e.g., MDOT's Consolidated Transportation Program or the County's Capital Improvement Program). In the case of some of the BRAC improvements listed, the status of the federal funding authorization and apportionment may vary by project.

Measures of Effectiveness
The analysis of plan development and potential impact upon the transportation network considers three levels of transportation analysis:

- an area wide mobility analysis that indicates the degree to which any particular local land use and transportation scenario provides an appropriate balance between land use and transportation per current County policies.
- an intersection congestion analysis that indicates the degree to which the Plan land use and transportation network affects congestion hot-spots within the Chevy Chase Lake plan boundary and the extent to which the intersection performance falls within the Policy Area standard.
- a cordon line analysis demonstrating the relative amount of through traffic vs. local traffic.

The first two measures are elements of the County's Subdivision Staging Policy—Policy Area Mobility Review (PAMR) and Local Area Transportation Review (LATR)—and are summarized below. Detailed background information on the methodology and process of these two reviews as applied under current policy is available on the Department's website, www.montgomeryplanning.org

Policy Area Mobility Review
Since the early 1980s, every master plan has considered the balance between land use and transportation using an assessment of area wide conditions forecast for the plan's estimated end-state conditions. PAMR is the current measure of area wide transportation adequacy, introduced into the County Growth Policy in 2007. It is similar in nature to the Policy Area Transportation Review measure that was an element of the Growth Policy from 1982 to 2003.

PAMR is used to implement the Adequate Public Facilities Ordinance (APFO) to forecast network travel conditions by considering the County's pipeline of approved development and near-term transportation system improvements for which funding is committed during the next four years.

PAMR continues the County's long-standing policy that higher levels of roadway congestion are appropriate in areas with higher quality transit service. This provides multi-modal equity across the County and promotes the development of pedestrian-oriented, rather than auto-oriented, improvements in Metro Station Policy Areas.

Through PAMR, the County Council has established transit and arterial level of service (LOS) standards for each policy area by considering area wide adequacy on two scales—relative transit mobility and relative arterial mobility.

Relative transit mobility is based on the Transit/Auto Travel Time level of service concept in the Transportation Research Board's 2003 *Transit Capacity and Quality of Service Manual* published by the Transportation Research Board. It is defined as the relative speed by which journey to work trips can be made by transit, as opposed to by auto. This concept assigns letter grades to various levels of transit service, so that LOS A conditions for transit exist when a trip can be made more quickly by transit (including walk-access/drive-access and wait times) than by single-occupant auto. This LOS A condition exists in the Washington region for certain rail transit trips with short walk times at both ends of the trip and some bus trips in HOV corridors. LOS F conditions exist when a trip takes more than an hour longer to make by transit than by single-occupant auto.

Relative arterial mobility measures congestion on the County's arterial roadway network based on the urban street delay level of service in the Transportation Research Board's 2000 *Highway Capacity Manual*. It measures congestion by comparing modeled congested speeds to free-flow speeds on arterial roadways. It then assigns letter grades to the various levels of roadway congestion. For a trip along an urban street that has a free-flow speed (generally akin to posted speed) of 40 miles per hour, LOS A conditions exist when the actual travel speed is at least 34 miles per hour, including delays experienced at traffic signals. At the other end of the spectrum, LOS F conditions exist when the actual travel speed is below 10 miles per hour.

The *Chevy Chase Lake Sector Plan* area is located within the Bethesda/Chevy Chase Policy Area. Figure 14 shows the forecast Policy Area Mobility Review conditions for all Policy Areas in the County for 2040 assuming the Round 8.0 Cooperative Forecast land use.

For the Chevy Chase Lake area, this land use forecast is roughly equivalent to the Plan's Enhance or Create scenarios. It should be noted that given the relatively low marginal difference in development density between the Plan's Enhance and Create scenarios from an area-wide perspective, the results derived from the PAMR analysis of these two scenarios would be generally equivalent.

Table 8 summarizes the supporting travel data, including vehicle miles of travel (VMT) and vehicle hours of travel (VHT) for both free-flow and congested conditions. Given the assumptions of the "2040 Round 8.0 forecast, the Bethesda / Chevy Chase Policy Area is forecast to operate at:

- Relative Transit Mobility of 86 percent (LOS B – between 75 and 100 percent)
- Relative Arterial Mobility of 40 percent (LOS D – between 40 and 55 percent).

The current Subdivision Staging Policy requires that all Policy Areas have a relative arterial mobility of at least 40 percent, or LOS D conditions, regardless of the level of transit service provided. The PAMR results meet this threshold and from a policy perspective, the Plan can be considered to be in balance.

Figure 14 Forecast (2040) PAMR for Chevy Chase Lake Sector Plan

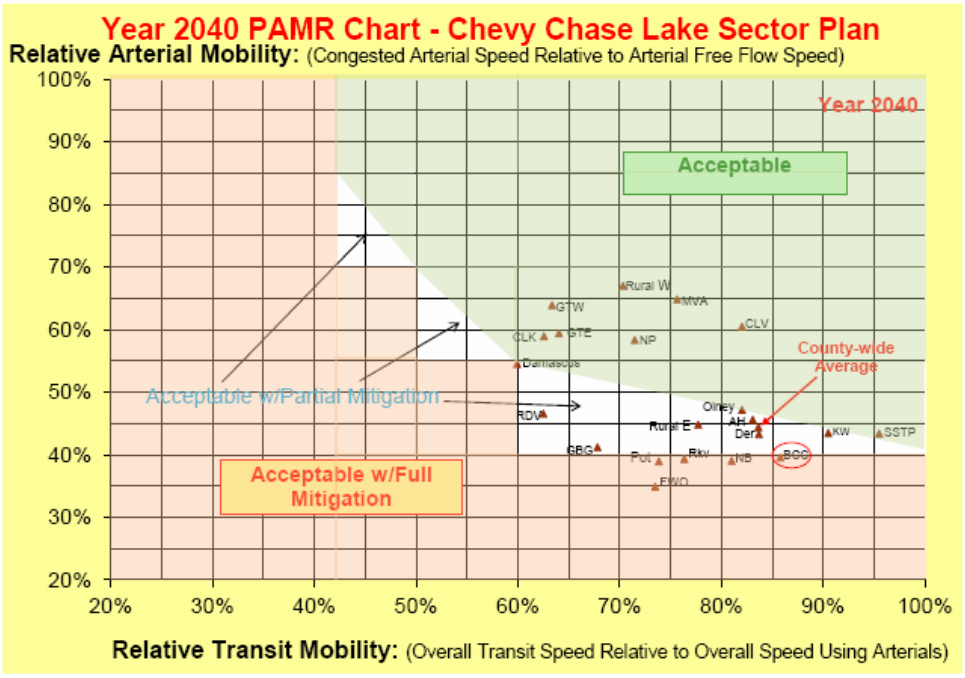


Table 8 Policy Area Mobility Review Table, Chevy Chase Lake Sector Plan, 2040

Derivation of Year 2040 PAMR Results by Policy Area - Chevy Chase Lake Sector Plan

				Relative Arterial Mobility			Relative Transit Mobility		
Policy Area	VMT	VHT (free-flow)	VHT (congested)	Free-Flow Speeds	Congested Speeds	Relative Arterial Mobility	Average Arterial Travel Time	Average Transit Travel Time	Relative Transit Mobility
Aspen Hill	192,056	5,862	12,866	32.8	14.9	46%	43.2	52.0	83%
Bethesda/Chevy Chase	401,935	15,799	39,962	25.4	10.1	40%	33.3	38.8	86%
Clarksburg	115,781	3,804	6,456	30.4	17.9	59%	39.8	63.6	63%
Cloverly	101,526	2,512	4,155	40.4	24.4	60%	46.2	56.3	82%
Damascus	93,962	2,338	4,290	40.2	21.9	54%	51.1	85.3	60%
Derwood	149,087	5,143	11,882	29.0	12.5	43%	38.9	46.5	84%
Fairland/White Oak	402,348	10,811	30,994	37.2	13.0	35%	42.4	57.7	73%
Gaithersburg City	248,615	9,210	22,366	27.0	11.1	41%	35.1	51.7	68%
Germantown East	112,574	3,829	6,449	29.4	17.5	59%	37.8	58.2	65%
Germantown West	177,848	5,726	8,964	31.1	19.8	64%	37.0	58.4	63%
Kensington/Wheaton	469,434	14,801	34,063	31.7	13.8	43%	39.6	43.8	90%
Montgomery Village/Airpark	153,705	5,121	7,902	30.0	19.5	65%	42.4	56.1	76%
North Bethesda	242,873	10,243	26,258	23.7	9.2	39%	32.1	39.6	81%
North Potomac	72,109	2,523	4,325	28.6	16.7	58%	41.6	58.3	71%
Olney	177,625	4,867	10,322	36.5	17.2	47%	49.7	60.6	82%
Potomac	201,686	6,061	15,571	33.3	13.0	39%	40.2	54.5	74%
R & D Village	78,574	3,462	7,435	22.7	10.6	47%	31.3	50.1	62%
Rockville City	288,966	11,783	29,997	24.5	9.6	39%	33.9	44.3	77%
Silver Spring/Takoma Park	272,727	10,535	24,302	25.9	11.2	43%	36.5	38.2	96%
Rural East	629,987	16,125	35,990	39.1	17.5	45%	49.0	63.1	78%
Rural West	252,588	6,880	10,243	36.8	24.7	67%	49.2	70.0	70%
Montgomery County Total	4,836,027	157,415	354,792	30.7	13.6	44%	39.5	47.2	84%

Relative Arterial Mobility measures total PM Peak Period vehicular travel on arterial roadways within each policy area
Relative Transit Mobility measures AM Peak Period travel times for journey-to-work trips originating within each policy area
VMT = Vehicle Miles of Travel
VHT = Vehicle Hours of Travel

The assessment of Policy Area conditions in Figure 14 and Table 8 reasonably reflect the two demographic scenarios tested for Chevy Chase Lake in combination with the year 2040 Round 8 demographic forecasts for all other areas in the Washington metropolitan region. Therefore, while the exhibits are appropriately labeled with a horizon year of 2040, staff does not expect that the full plan yield for any of the Policy Areas will be achieved by the year 2040.

The Plan also recognizes Chevy Chase Lake's proximity to the Bethesda CBD, Kensington, NIH, and the expanded Bethesda Naval Medical Center (now Walter Reed National Medical Center under the BRAC process). The development density and transportation improvements associated with these areas that are anticipated to be in place by the year 2040 are assumed in the area-wide transportation analysis of the Plan.

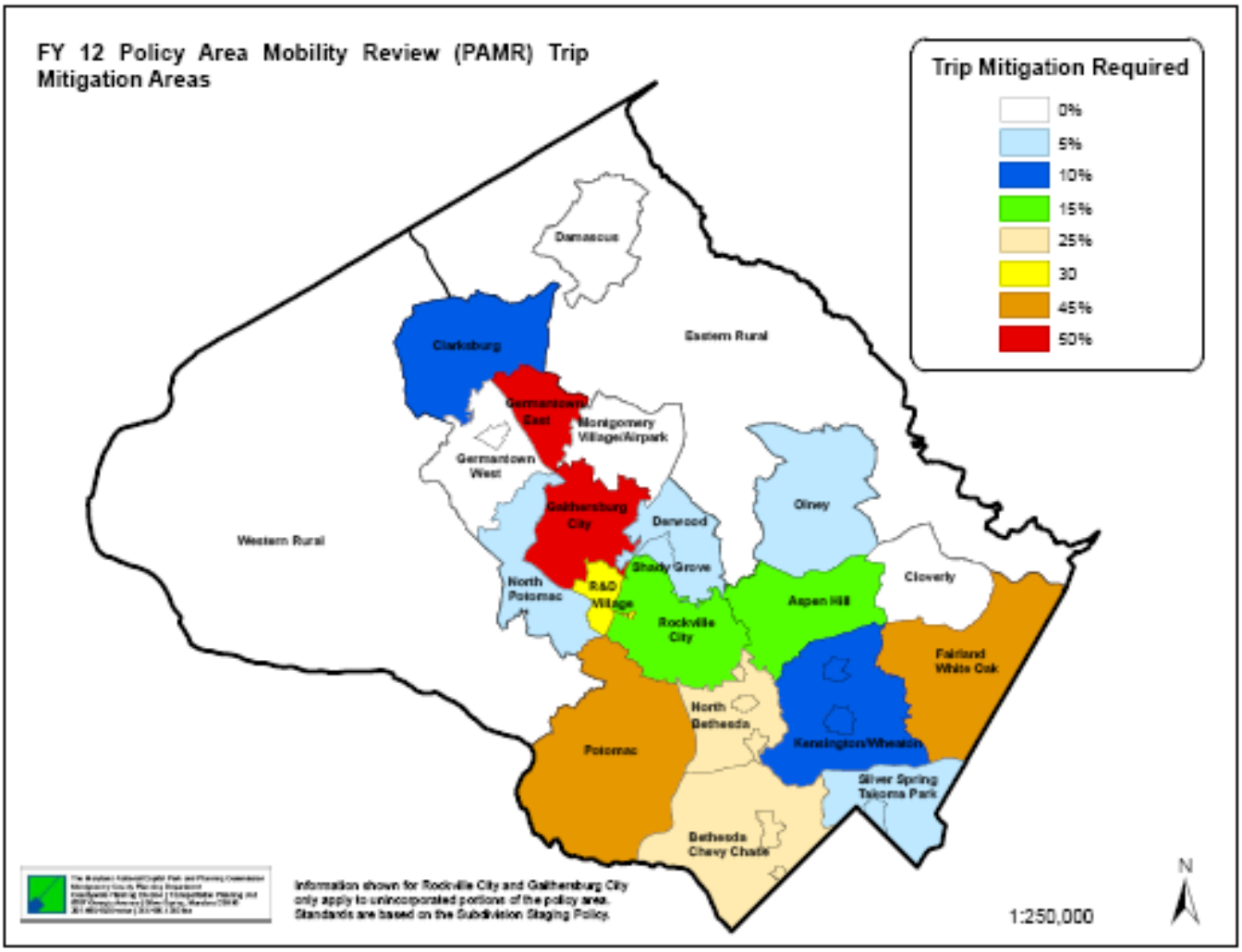
Local Area Transportation Review

As previously noted, the intersection analysis conducted as part of the Chevy Chase Lake Plan applies the Critical Lane Volume (CLV) methodology from the Department's LATR guidelines. The CLV values are converted to a volume-to-capacity measurement, or V/C ratio, by dividing the current or forecasted CLV values by the applicable congestion standard.

As shown in Figure 15, the County's Subdivision Staging Policy establishes acceptable levels of congestion for different policy areas based on the degree to which alternative modes of transportation are available. In Rural Policy Areas, where few alternatives to auto transport exist, the congestion standard is 1,350 CLV (which equates to the middle range of LOS D). In Metro Station Policy Areas, where multiple alternatives to auto transport are provided, the congestion standard is 1,800. Currently,

intersections in the Chevy Chase Lake area, as part of the Bethesda Chevy Chase Policy Area, have a congestion standard of 1,600 CLV.[12]

Figure 15 Intersection Congestion Standards by Policy Area



As noted previously, traffic volumes have generally decreased since 2004. This may reflect both a general shift to fewer and shorter trips among the younger population that began around 2000 and more recently the higher unemployment rate resulting from the recession that began in 2007-2008. While changing travel patterns may reflect a long term shift, the high unemployment rate will likely rebound in the long term. Therefore, two sets of traffic counts were used to evaluate the traffic for this Plan:

[12] The existing Metrorail Red Line Medical Center station and the planned Purple Line stations at Connecticut Avenue (Chevy Chase Lake), Lyttonsville (Brookville Road), 16th Street, Dale Drive (potential), Manchester Place, Long Branch (Arliss Street), and Piney Branch Road (on University Boulevard) are not located within designated Metro Station Policy Areas (MSPA).

- an older set of counts recorded between 2002 and 2009 that when used as a base to reflect current conditions would result in a more conservative estimate (i.e., higher volumes) of long term traffic conditions
- a newer set of counts recorded largely in 2011 (though using some of the older counts) that results in a less conservative estimate (i.e., lower volumes) of long term traffic conditions.

Tables 9 and 10 show the CLVs for the two sets of traffic counts. Tables 11 and 12 show the corresponding V/C ratios for both sets of traffic counts. Each table evaluates traffic conditions for the seven scenarios previously described:

- Existing: land use as it exists today
- Future: a future scenario based on existing zoning
- Enhance: a future scenario with the first stage of rezoning
- Create: a future scenario with the second stage of rezoning
- Create with TDM: a future scenario with the second stage of rezoning and achieving TDM goals associated with the Purple Line
- 2.5 million gsf: a future scenario with 2.5 million gross square feet of land use
- 3.5 million gsf: a future scenario with 3.5 million gross square feet of land use

Highlighted traffic volumes indicate intersections that are failing the standard during the morning or evening peak hour.

Table 9 Intersection Critical Lane Volumes (old counts)

ID	Intersection	Existing		Future		Enhance		Create		Create with TDM Goals		2.5 million so		3.5 million so	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
179	Connecticut Ave & Jones Bridge Rd / Kens Pkwy	1832	1655	1697	1591	1689	1483	1731	1616	1665	1501	1827	1675	1878	1734
180	Connecticut Ave & Manor Rd	1343	1134	1627	1558	1513	1332	1612	1576	1632	1346	1740	1721	1881	1827
181	Connecticut Ave & Chevy Chase Lake Dr.	946	1090	1060	1347	1022	1219	1119	1504	1061	1304	1179	1623	1229	1666
183	Connecticut Ave & East-West Hwy	1693	1644	1999	2075	1954	1890	2002	1952	1989	1836	2037	2034	2064	2192
186	Connecticut Ave & Bradley Ln	1408	1466	1551	1525	1527	1481	1550	1519	1536	1488	1574	1534	1592	1555
187	Manor Rd & Jones Bridge Rd	679	906	810	1067	781	990	825	1113	845	1006	967	1085	1076	1111
188	Jones Bridge Rd & Jones Mill Rd	1245	854	1468	1136	1459	1089	1520	1094	1356	1079	1722	1160	1918	1217
189	East-West Hwy & Beach Dr / Jones Mill Rd	1087	1574	1360	1726	1339	1650	1354	1708	1318	1689	1428	1756	1534	1784
613	Jones Bridge Rd / Platt Ridge Rd	773	963	873	1010	865	1002	871	1012	866	999	875	1015	880	1020
681	Connecticut Ave & Dunlop St	1025	999	1136	1206	1099	1107	1147	1200	1125	1108	1179	1191	1214	1266
950	Connecticut Ave & Beach Dr	1332	1060	1773	1506	1776	1479	1796	1521	1769	1480	1840	1547	1862	1567
999	Jones Bridge Rd & Spring Valley Rd	813	974	808	975	874	1008	880	1018	852	993	884	1022	888	1026

Table 10 Intersection Critical Lane Volumes (2011 counts)

ID	Intersection	Existing		Future		Enhance		Create		Create with TDM Goals		2.5 million sf		3.5 million sf	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
179	Connecticut Ave & Jones Bridge Rd / Kens Pkwy	1621	1596	1595	1559	1608	1474	1650	1596	1583	1487	1759	1664	1811	1724
180	Connecticut Ave & Manor Rd	1120	1242	1379	1690	1267	1508	1494	1815	1378	1509	1779	1837	1969	1991
181	Connecticut Ave & Chevy Chase Lake Dr	901	1052	1012	1322	985	1201	1045	1462	1016	1316	1101	1564	1138	1652
183	Connecticut Ave & East-West Hwy	1553	1519	1870	1962	1839	1710	1894	1817	1846	1711	1921	1859	1949	2048
186	Connecticut Ave & Bradley Ln	1496	1353	1629	1435	1599	1398	1628	1435	1611	1404	1652	1464	1674	1486
187	Manor Rd & Jones Bridge Rd	594	880	803	1129	775	1114	828	1079	859	1027	864	1133	960	1135
188	Jones Bridge Rd & Jones Mill Rd	1000	765	1199	1132	1132	1053	1121	1090	1151	1062	1348	1127	1485	1200
189	East-West Hwy & Beach Dr / Jones Mill Rd	1037	1537	1327	1661	1287	1607	1293	1663	1265	1639	1430	1698	1525	1809
613	Jones Bridge Rd / Platt Ridge Rd	674	878	762	910	758	909	763	916	759	905	766	919	770	922
681	Connecticut Ave & Dunlop St	949	1050	1028	1251	999	1157	1045	1223	1024	1166	1077	1243	1108	1326
950	Connecticut Ave & Beach Dr	1332	1060	1747	1416	1750	1390	1771	1433	1743	1389	1816	1459	1840	1480
999	Jones Bridge Rd & Spring Valley Rd	813	974	799	964	872	1002	877	1011	847	985	880	1014	883	1017

Table 11 Intersection Volume to Capacity Ratio (old counts)

ID	Intersection	Existing		Future		Enhance		Create		Create with TDM Goals		2.5 million sf		3.5 million sf	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
179	Connecticut Ave & Jones Bridge Rd / Kens Pkwy	1.15	1.03	1.06	0.99	1.06	0.93	1.08	1.01	1.04	0.94	1.14	1.05	1.17	1.08
180	Connecticut Ave & Manor Rd	0.84	0.71	1.02	0.97	0.95	0.83	1.01	0.99	1.02	0.84	1.09	1.08	1.18	1.14
181	Connecticut Ave & Chevy Chase Lake Dr	0.59	0.68	0.66	0.84	0.64	0.76	0.70	0.94	0.66	0.82	0.74	1.01	0.77	1.04
183	Connecticut Ave & East-West Hwy	1.06	1.03	1.25	1.30	1.22	1.18	1.25	1.22	1.24	1.15	1.27	1.27	1.29	1.37
186	Connecticut Ave & Bradley Ln	0.88	0.92	0.97	0.95	0.95	0.93	0.97	0.95	0.96	0.93	0.98	0.96	1.00	0.97
187	Manor Rd & Jones Bridge Rd	0.42	0.57	0.51	0.67	0.49	0.62	0.52	0.70	0.53	0.63	0.60	0.68	0.67	0.69
188	Jones Bridge Rd & Jones Mill Rd	0.78	0.53	0.92	0.71	0.91	0.68	0.95	0.68	0.85	0.67	1.08	0.73	1.20	0.76
189	East-West Hwy & Beach Dr / Jones Mill Rd	0.68	0.98	0.85	1.08	0.84	1.03	0.85	1.07	0.82	1.06	0.89	1.10	0.96	1.12
613	Jones Bridge Rd / Platt Ridge Rd	0.48	0.60	0.55	0.63	0.54	0.63	0.54	0.63	0.54	0.62	0.55	0.63	0.55	0.64
681	Connecticut Ave & Dunlop St	0.64	0.62	0.71	0.75	0.69	0.69	0.72	0.75	0.70	0.69	0.74	0.74	0.76	0.79
950	Connecticut Ave & Beach Dr	0.83	0.66	1.11	0.94	1.11	0.92	1.12	0.95	1.11	0.93	1.15	0.97	1.16	0.98
999	Jones Bridge Rd & Spring Valley Rd	0.51	0.61	0.51	0.61	0.55	0.63	0.55	0.64	0.53	0.62	0.55	0.64	0.56	0.64

Table 12 Intersection Volume to Capacity Ratio (2011 counts)

ID	Intersection	Existing		Future		Enhance		Create		Create with TDM Goals		2.5 million sf		3.5 million sf	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
179	Connecticut Ave & Jones Bridge Rd / Kens Pkwy	1.01	1.00	1.00	0.97	1.01	0.92	1.03	1.00	0.99	0.93	1.10	1.04	1.13	1.08
180	Connecticut Ave & Manor Rd	0.70	0.78	0.86	1.06	0.79	0.94	0.93	1.13	0.86	0.94	1.11	1.15	1.23	1.24
181	Connecticut Ave & Chevy Chase Lake Dr	0.56	0.66	0.63	0.83	0.62	0.75	0.65	0.91	0.64	0.82	0.69	0.98	0.71	1.03
183	Connecticut Ave & East-West Hwy	0.97	0.95	1.17	1.23	1.15	1.07	1.18	1.14	1.15	1.07	1.20	1.16	1.22	1.28
186	Connecticut Ave & Bradley Ln	0.94	0.85	1.02	0.90	1.00	0.87	1.02	0.90	1.01	0.88	1.03	0.92	1.05	0.93
187	Manor Rd & Jones Bridge Rd	0.37	0.55	0.50	0.71	0.48	0.70	0.52	0.67	0.54	0.64	0.54	0.71	0.60	0.71
188	Jones Bridge Rd & Jones Mill Rd	0.63	0.48	0.75	0.71	0.71	0.66	0.70	0.68	0.72	0.66	0.84	0.70	0.93	0.75
189	East-West Hwy & Beach Dr / Jones Mill Rd	0.65	0.96	0.83	1.04	0.80	1.00	0.81	1.04	0.79	1.02	0.89	1.06	0.95	1.13
613	Jones Bridge Rd / Platt Ridge Rd	0.42	0.55	0.48	0.57	0.47	0.57	0.48	0.57	0.47	0.57	0.48	0.57	0.48	0.58
681	Connecticut Ave & Dunlop St	0.59	0.66	0.64	0.78	0.62	0.72	0.65	0.76	0.64	0.73	0.67	0.78	0.69	0.83
950	Connecticut Ave & Beach Dr	0.83	0.66	1.09	0.89	1.09	0.87	1.11	0.90	1.09	0.87	1.14	0.91	1.15	0.93
999	Jones Bridge Rd & Spring Valley Rd	0.51	0.61	0.50	0.60	0.55	0.63	0.55	0.63	0.53	0.62	0.55	0.63	0.55	0.64

Findings include:

- In general, the CLVs for the Create scenario are not substantially different from the existing zoning scenario in 2040.
- The introduction of the Purple Line and TDM goals in the Create with TDM Goals scenario reduces CLVs at the intersections of Connecticut Avenue and Manor Drive and Connecticut Avenue and Chevy Chase Lake Drive from the Create scenario. There are limited improvements at the other intersections.
- The Create with TDM Goals scenario also has the following impacts:
  - the intersection of Connecticut Avenue and East West Highway exceeds the 1600 CLV in the morning and evening using both sets of traffic counts
  - the intersection of Connecticut Avenue and Beach Drive exceeds the 1600 CLV in the morning using both sets of traffic counts
  - the intersection of Connecticut Avenue and Jones Bridge Road exceeds the 1600 CLV in the morning using the older traffic counts.
- Both the 2.5 and 3.5 million square feet scenarios exceed 1600 CLVs at multiple intersections.

It should be noted that increasing the CLV standard to 1,800 (the standard for Metro Policy Station Areas) would represent an increase of 12.5 percent. This would not bring the intersection of East West Highway/Jones Mill Road/Beach Drive within the standard for any scenario, including the existing zoning.

Cordon Line Analysis
The cordon line analysis measures total traffic volumes entering or leaving an area.

Vehicular Traffic Volumes
Tables 13 and 14 compare existing and forecast traffic volumes at the studied cordon line. Table 13 reflects model results using the older traffic counts and Table 14 reflects model results using more recent traffic counts. In general, the cordon line serves as the boundary between the Chevy Chase Lake Plan area, where land uses are proposed to change as a result of this Plan, and elsewhere in the County, which is subject to other plans and/or is otherwise not forecast to change development densities from this Plan.

At the cordon line, the total traffic volume will increase by about 7.5 percent, from 623,400 vehicles per day to 668,500 vehicles per day using the old traffic counts and from 616,100 vehicles per day to 662,400 vehicles per day using the 2011 traffic counts. The heaviest volumes will occur on the Beltway, with nearly 200,000 vehicles per day.

Table 13 Sector Plan Cordon Line Traffic Volumes (Old Counts)

2010 Conditions - Observed Peak Hour Totals

	Location	ADT	AM Peak Hour Inbound	AM Peak Hour Outbound	AM Peak Hour Total	PM Peak Hour Inbound	PM Peak Hour Outbound	PM Peak Hour Total
101	Conn Ave north of Beach Dr	45,800	2,610	690	3,300	1,040	2,070	3,110
102	Beach Dr east of Conn Ave	5,300	200	150	350	200	350	550
103	I-495 east of Conn Ave	197,400	8,900	8,650	17,550	8,050	7,950	16,000
104	Kensington Pkwy ne of Conn Ave	1,500	150	0	150	100	0	100
105	Jones Mill Rd north of Jones Bridge Rd	9,400	650	100	750	200	650	850
106	East-West Hwy east of Jones Mill Rd	32,000	1,760	780	2,540	980	1,920	2,900
107	Jones Mill Rd south of East-West Hwy	8,800	250	550	800	450	250	700
108	Brookville Rd south of East-West Hwy	6,200	50	550	600	350	100	450
109	Bradley Ln east of Conn Ave	2,900	250	50	300	100	100	200
110	Conn Ave south of Bradley Ln	49,300	1,300	2,000	3,300	2,300	1,300	3,600
111	Bradley Ln west of Conn Ave	10,400	270	570	840	500	430	930
112	East-West Hwy west of Conn Ave	29,100	720	1,640	2,360	1,640	950	2,590
113	Jones Bridge Rd west of Platt Ridge Dr	25,800	660	1,450	2,110	1,780	490	2,270
114	I-495 west of Conn Ave	193,300	8,690	9,170	17,860	6,820	8,180	15,000
115	Beach Dr west of Conn Ave	6,200	200	250	450	300	300	600
	TOTAL	623,400	26,660	26,600	53,260	24,810	25,040	49,850

2040 Conditions - Scenario 2 - Peak Hour Totals

	Location	ADT	AM Peak Hour Inbound	AM Peak Hour Outbound	AM Peak Hour Total	PM Peak Hour Inbound	PM Peak Hour Outbound	PM Peak Hour Total
101	Conn Ave north of Beach Dr	49,100	2,680	890	3,570	1,220	2,080	3,300
102	Beach Dr east of Conn Ave	12,600	550	550	1,100	500	550	1,050
103	I-495 east of Conn Ave	196,200	8,700	8,600	17,300	8,100	7,950	16,050
104	Kensington Pkwy ne of Conn Ave	4,700	400	50	450	200	150	350
105	Jones Mill Rd north of Jones Bridge Rd	12,900	850	250	1,100	300	800	1,100
106	East-West Hwy east of Jones Mill Rd	34,500	1,850	870	2,720	1,120	2,020	3,140
107	Jones Mill Rd south of East-West Hwy	10,300	300	550	850	600	300	900
108	Brookville Rd south of East-West Hwy	10,300	250	700	950	600	200	800
109	Bradley Ln east of Conn Ave	3,200	250	50	300	100	150	250
110	Conn Ave south of Bradley Ln	51,800	1,350	2,150	3,500	2,350	1,400	3,750
111	Bradley Ln west of Conn Ave	10,600	340	580	920	490	390	880
112	East-West Hwy west of Conn Ave	34,600	960	2,000	2,960	1,930	990	2,920
113	Jones Bridge Rd west of Platt Ridge Dr	30,500	890	1,640	2,530	1,850	800	2,650
114	I-495 west of Conn Ave	197,200	8,480	9,350	17,830	7,250	8,450	15,700
115	Beach Dr west of Conn Ave	10,000	350	450	800	550	350	900
	TOTAL	668,500	28,200	28,680	56,880	27,160	26,580	53,740

Table 14 Sector Plan Cordon Line Traffic Volumes (2011 Counts)

2010 Conditions - Observed Peak Hour Totals

	Location	ADT	AM Peak Hour Inbound	AM Peak Hour Outbound	AM Peak Hour Total	PM Peak Hour Inbound	PM Peak Hour Outbound	PM Peak Hour Total
101	Conn Ave north of Beach Dr	45,800	2,610	690	3,300	1,040	2,070	3,110
102	Beach Dr east of Conn Ave	5,300	200	150	350	200	350	550
103	I-495 east of Conn Ave	197,400	8,900	8,650	17,550	8,050	7,950	16,000
104	Kensington Pkwy ne of Conn Ave	2,100	300	0	300	50	0	50
105	Jones Mill Rd north of Jones Bridge Rd	9,700	550	150	700	300	650	950
106	East-West Hwy east of Jones Mill Rd	31,300	1,670	800	2,470	1,030	1,820	2,850
107	Jones Mill Rd south of East-West Hwy	7,900	200	400	600	400	350	750
108	Brookville Rd south of East-West Hwy	6,200	50	550	600	350	100	450
109	Bradley Ln east of Conn Ave	2,600	200	50	250	100	100	200
110	Conn Ave south of Bradley Ln	47,900	1,200	2,250	3,450	1,950	1,300	3,250
111	Bradley Ln west of Conn Ave	11,400	270	610	880	510	550	1,060
112	East-West Hwy west of Conn Ave	26,900	760	1,410	2,170	1,700	700	2,400
113	Jones Bridge Rd west of Platt Ridge Dr	22,100	430	1,270	1,700	1,620	440	2,060
114	I-495 west of Conn Ave	193,300	8,690	9,170	17,860	6,820	8,180	15,000
115	Beach Dr west of Conn Ave	6,200	200	250	450	300	300	600
	TOTAL	616,100	26,230	26,400	52,630	24,420	24,860	49,280

2040 Conditions - Create with TDM - Peak Hour Totals

	Location	ADT	AM Peak Hour Inbound	AM Peak Hour Outbound	AM Peak Hour Total	PM Peak Hour Inbound	PM Peak Hour Outbound	PM Peak Hour Total
101	Conn Ave north of Beach Dr	49,300	2,690	900	3,590	1,230	2,080	3,310
102	Beach Dr east of Conn Ave	11,500	500	500	1,000	450	500	950
103	I-495 east of Conn Ave	196,200	8,700	8,600	17,300	8,100	7,950	16,050
104	Kensington Pkwy ne of Conn Ave	7,400	500	200	700	300	250	550
105	Jones Mill Rd north of Jones Bridge Rd	12,900	850	250	1,100	300	800	1,100
106	East-West Hwy east of Jones Mill Rd	33,600	1,800	850	2,650	1,090	1,970	3,060
107	Jones Mill Rd south of East-West Hwy	9,400	300	500	800	550	250	800
108	Brookville Rd south of East-West Hwy	10,300	250	700	950	600	200	800
109	Bradley Ln east of Conn Ave	3,200	250	50	300	100	150	250
110	Conn Ave south of Bradley Ln	50,400	1,300	2,100	3,400	2,300	1,350	3,650
111	Bradley Ln west of Conn Ave	11,900	380	650	1,030	550	450	1,000
112	East-West Hwy west of Conn Ave	31,900	850	1,880	2,730	1,810	890	2,700
113	Jones Bridge Rd west of Platt Ridge Dr	26,400	730	1,440	2,170	1,670	640	2,310
114	I-495 west of Conn Ave	197,700	8,480	9,380	17,860	7,280	8,470	15,750
115	Beach Dr west of Conn Ave	10,300	350	450	800	600	350	950
	TOTAL	662,400	27,930	28,450	56,380	26,930	26,300	53,230

Traffic volumes are highest during the morning peak hour when the total traffic entering or leaving Chevy Chase Lake is about 57,000 of which about 10 percent is going to or from Chevy Chase Lake and about 90 percent is through traffic. Under the Plan's recommended development scenario, the locally generated (only) traffic would increase by about 54 percent and the through traffic would increase by about seven percent.

It is this high overall percentage (and continued growth in volume) of through traffic (relative to local traffic), even with the Purple Line, that causes the intersections to fall below the existing standard for the area. Trips internal to the Plan area (either coming from, going to, or staying within the Plan boundary) represent a relatively small percentage of the total number of trips so the relatively high transit mode split has little overall affect on the total traffic volume that continues to grow outside of the Plan boundary. Figures 16 and 17 represent the number of through trips and local trips.

Figure 16 Comparison of Outbound Vehicle Trips during PM Peak Hour Trips (2040) Using Older Counts

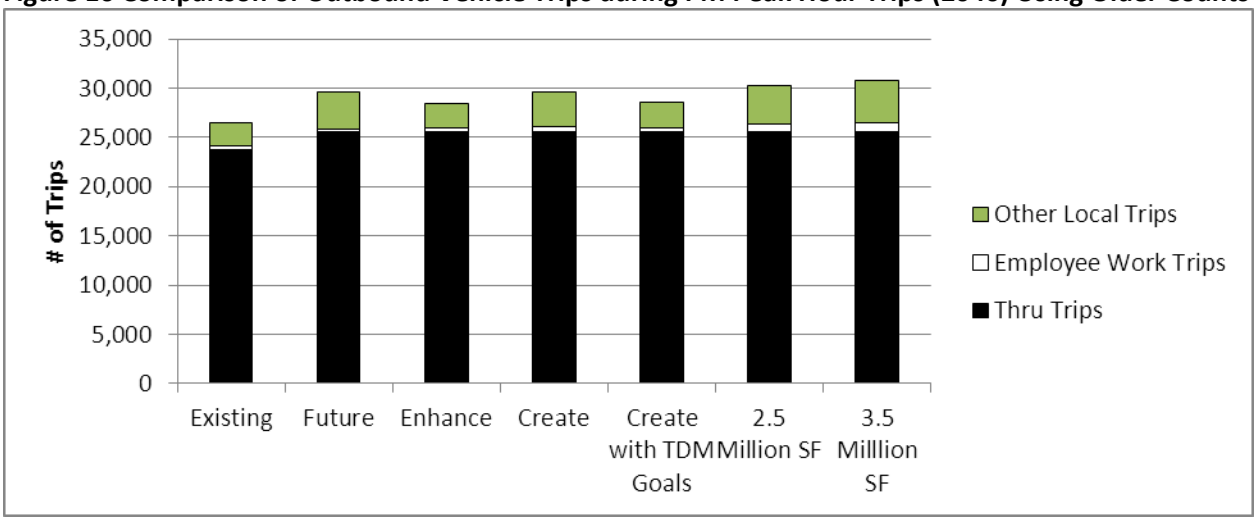
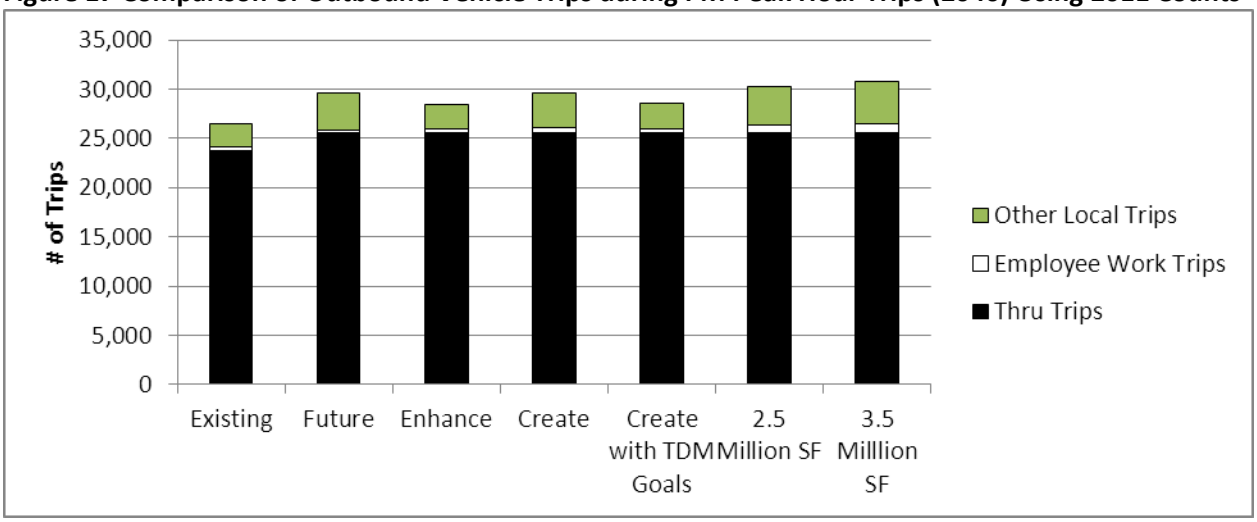


Figure 17 Comparison of Outbound Vehicle Trips during PM Peak Hour Trips (2040) Using 2011 Counts



Travel Demand Forecasting Process and Assumptions

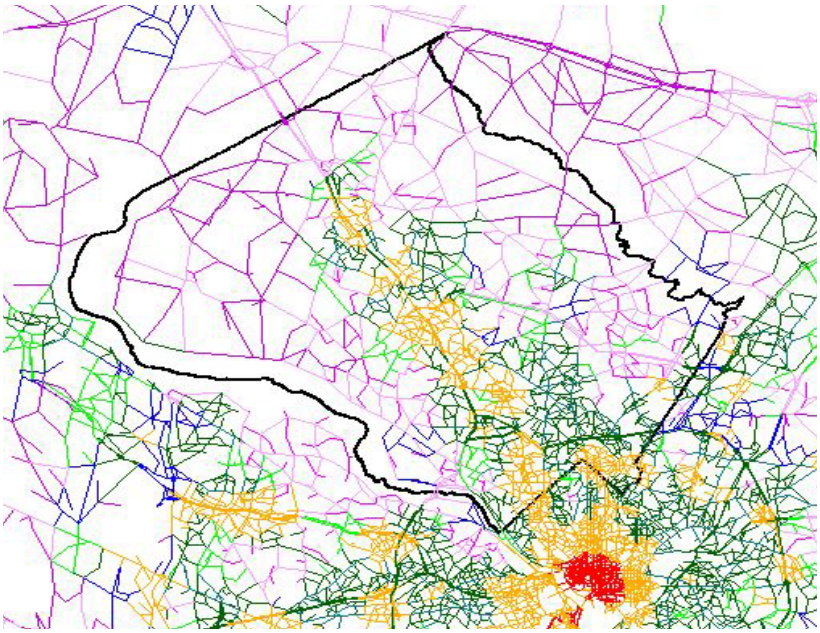
The travel demand forecasting process uses three levels of analysis. The Department's regional travel demand forecasting model, TRAVEL/3, is used to develop forecast travel demand results for weekday travel and evening peak periods.

TRAVEL/3 is a four-step model, consisting of:

- trip generation: the number of person trips that are generated by given types and densities of land uses within each TAZ
- trip distribution: how many person trips generated by each TAZ will travel to each of the other TAZs within the metropolitan area
- mode split: which mode of travel the person trips will use, including single-occupant auto, multiple-occupant auto, transit, or a non-motorized mode such as walking or bicycling
- traffic assignment: the roadways that will be used for vehicular travel between TAZs.

The TRAVEL/3 model incorporates land use and transportation assumptions for the metropolitan Washington region, using the same algorithms as applied by the Metropolitan Washington Council of Governments (MWCOG) for air quality conformity analysis. Figure 18 shows the relationship of Montgomery County in the regional travel demand network, featuring the coding of street network characteristics to reflect the general level of adjacent development density.

Figure 18 Travel Forecasting Network



TRAVEL/3 provides system-level results that are used directly to obtain PAMR forecasts for the County's Policy Area Transportation Review. The system-level results are also used as inputs to the finer grain analytic tools described below.

The second level of analysis consists of post processing techniques applied to the TRAVEL/3 forecasts, as described in NCHRP Report 255. These techniques include refining the morning and evening peak hour forecasts to reflect a finer grain of land use and network assumptions than included in the regional model, such as the location of local streets and localized travel demand management assumptions. The NCHRP 255 analyses are used to produce the cordon line analyses.

The third level of analysis includes intersection congestion, using the Critical Lane Volume (CLV) methodology described in the Department's *Policy Area Mobility Review / Local Area Transportation Review Guidelines* (PAMR / LATR).

Travel/3 Forecasting Assumptions
The *Chevy Chase Lake Sector Plan* forecasts assumed the following parameters:

- A 2040 horizon year. This is currently the most distant horizon year for which forecast land use and transportation system development is available.

- Regional growth per the MWCOG Cooperative Forecasting Process, using the most current round of Cooperative Forecasts.
  - For the Washington region, the Round 8 forecasts include an increase from 3.0 million jobs and 1.9 million households in 2005 to 4.5 million jobs and 2.6 million households in 2040.
  - For Montgomery County, the Round 8 forecasts include an increase from 500,000 employees and 347,000 households in 2005 to 720,000 employees and 465,000 households in 2040.

- Transportation improvements in the region's Constrained Long Range Plan (CLRP), a fiscally constrained transportation network. Notable projects assumed to be in place for the build-out of the *Chevy Chase Lake Sector Plan* include:
  - elimination of the WMATA turnback at Grosvenor
  - the Purple Line between Bethesda and New Carrollton
  - the new Montrose Parkway, including an interchange at Rockville Pike
  - the new Intercounty Connector
  - express toll lanes on I-270 from I-370 to the city of Frederick.

Local Area Modeling Process and Assumptions

The Department's Local Area Modeling (LAM) process uses NCHRP Report 255 techniques to convert the TRAVEL/3 system level forecasts to intersection-level forecasts. The LAM process is then used as a pivot-point technique to reflect changes to the localized land use or transportation network, providing both cordon line and network analysis results.

The TRAVEL/3 model represents the Plan area and surrounding area as four transportation analysis zones (TAZs). The Chevy Chase Lake LAM disaggregates the area within the Plan overlapping these four TAZs into 13 subzones based on block groupings separated by major roads within the Plan area boundary.

The LAM process uses trip generation rates that are customized to reflect both existing conditions and future changes, considering both the land use types and changes in travel behavior. Table 15 shows the trip generation rates used in the LAM.

Table 15 Local Area Model Peak Hour Trip Generation

Land Use	Units	AM	PM
Office	1000 Square Feet	1.30	1.20
Retail	1000 Square Feet	1.00	3.00
Industrial	1000 Square Feet	1.00	1.00
Other Commercial	1000 Square Feet	1.00	1.00
Single Family residential	Dwelling unit	0.48	0.83
Multi-family residential (Garden apartment)	Dwelling unit	0.44	0.48

These trip generation rates reflect a combination of Local Area Transportation Review rates for development similar to that envisioned for Chevy Chase Lake and were calibrated to match the observed traffic counts, considering the amount of through traffic in the roadway network so that the LAM volumes at the network cordon line are within eight percent of observed count data for both morning and evening peak hours.

The trip generation rates in Table 15 are generally lower than those found in the Institute of Transportation Engineers (ITE) trip generation report, particularly for commercial land uses. The rates reflect the fact that ITE rates for most commercial locations do not have the transit availability and usage to be found in Chevy Chase Lake once the Purple Line station is constructed and the line is operational.

The difference for residential uses is not quite as high because ITE multifamily trip generation rates do reflect the fact that most multifamily housing units have, almost by definition, sufficient density to support transit service. Finally, the retail trip generation rates in the Chevy Chase Lake zones also incorporate a discount for pass-by and diverted-link trips.

In addition to the lower trip generation rates, an additional trip reduction factor was applied to reflect a total Non-Auto Driver Mode Share of approximately 36 percent for work trips entering and leaving the plan boundary. A similar trip reduction factor was applied for work trips made by residents within the plan boundary in those sub-zones identified for redevelopment. The trip reduction factor was applied to reflect that an estimated 49 percent of those home-based work trips would be made by transit, walking, or biking.

Recommendations

Overall Context

The transportation analysis for the *Chevy Chase Lake Sector Plan* indicates the following with respect to network performance and the land use scenarios under consideration.

- Three intersections in the Plan area exceed the standard to varying degrees in the future under any scenario—Connecticut Avenue and East West Highway, Connecticut Avenue and Jones Bridge Road/Kensington Parkway, and Jones Mill Road and East West Highway/Beach Drive. The intersection of Connecticut Avenue and Beach Drive also exceeds the 1,600 CLV standard. This intersection is not within the Plan area but is within a Plan area (Kensington/Wheaton) with the same standard. Connecticut Avenue and Bradley Lane, also just outside of the Plan area, is at the standard.

- Intersection improvements programmed as part of the BRAC process are expected to address the capacity problem at Connecticut Avenue/Jones Bridge Road/Kensington Parkway for about the next decade. There are no programmed improvements for the other intersections.

- Raising the CLV standard from 1,600 to 1,800 to make the area consistent with the policy for the County's Metro Station Policy Areas would bring all but one intersection within the standard for five of the seven scenarios that were examined. The intersection that is the exception is Connecticut Avenue and East West Highway, which would be right at the new standard.

- The existing and future traffic flow constraints on Connecticut Avenue will remain through the life of the Plan due in large part to growth in the surrounding area and region and the resulting high percentage of through trips within the Plan boundary. The presence of the Purple Line or any other transit improvements (BRT in either a dedicated lane or mixed traffic, increased local bus service, or circulator service) cannot be expected to materially reduce the level of congestion because the captured trips are not a large percentage of the trips that are on Connecticut Avenue (in particular).

The Purple Line can be expected to reduce the volumes on East West Highway but likely not to the extent that the intersection with Connecticut Avenue would be within the Policy Area Standard.

- There is limited right-of-way within the Plan boundary to accommodate roadway or intersection improvements. This is especially so along Connecticut Avenue south of the Plan boundary. Acquiring additional right-of-way to accommodate additional travel lanes, for instance, is not supported by the community. The existing adopted plan does not support road widening.

- The community is generally supportive of redevelopment at Chevy Chase Lake associated with the Purple Line but believes the scale and uses should continue to reflect more of neighborhood transit-oriented context than a scale of transit-oriented development on the fringe of a CBD.

Given the above, the recommendations for enhancing the Plan area in the short term and creating a place at a neighborhood scale in the future with the Purple Line focus on:

- network connectivity for pedestrian and bike facilities with other internal and regional facilities
- station access for buses, pedestrians, and bikes
- crossing Connecticut Avenue
- generally preserving the neighborhood's role as the beginning of the residential and neighborhood serving uses that continues to the south along Connecticut Avenue.

Stage One Recommendations

The following recommendations would be implemented or considered in association with Stage One development:

- Support BRAC-related intersection improvements at Connecticut Avenue/Jones Bridge Road/ Kensington Parkway.
- Consolidate curb cuts along Connecticut Avenue to the extent feasible, especially between Manor Road and Chevy Chase Lake Drive.
- Consider introduction of off-peak, on-street parking on Connecticut Avenue between Manor Road and Chevy Chase Lake Drive.
- Concurrent with the consolidation of curb cuts between Manor Road and Chevy Chase Lake Drive, explore the feasibility of removing the Connecticut Avenue and Laird Avenue signal and making this intersection right-in/right-out.
- Explore the feasibility of a traffic signal at the intersection of Brookville Road and East West Highway to facilitate pedestrian and bike crossing.
- Construct a shared use path on south side of Jones Bridge Road between Connecticut Avenue and Manor Road.
- Construct a shared use path along the east side of Connecticut Avenue between Blackthorn Street and Jones Bridge Road.
- Implement a signed shared roadway on Jones Bridge Road between Manor Road and Jones Mill Road.
- Implement a signed shared roadway bikeway along Jones Mill Road between Jones Bridge Road and East West Highway
- Implement a signed shared roadway bikeway along Montgomery Avenue between Inverness Drive and Jones Bridge Road.

- Implement a signed shared roadway bikeway along Inverness Drive between Kensington Parkway and Montgomery Avenue.
- Implement a signed shared roadway bikeway along Chevy Chase Lake Drive.
- Implement a signed shared roadway bikeway between Connecticut Avenue and Brookeville Road as follows:
  - along Blackthorn Street between Connecticut Avenue and Glendale Road
  - along Glendale Road between Blackthorn Street and Woodbine Street
  - along Woodbine Street between Glendale Road and Brookville Road.
- Construct a sidewalk along East West Highway between Glengalen Lane and Jones Mill Road/Beach Drive.
- Construct a sidewalk along the east side of Jones Mill Road from Coquelin Terrace south to East West Highway.
- Explore potential pedestrian bridge/trail connections between Chevy Chase Lake Drive and the Chevy Chase, Section 10 residential subdivision to the south, over Coquelin Run.
- Designate, subsequent to the implementation of the Purple Line LPA and its Chevy Chase Lake station, in coordination with SHA, the area immediate to the station along Connecticut Avenue as a Bicycle-Pedestrian Priority Area (BPPA).
- Support implementing the Capital Crescent Trail along the Purple Line LPA as recommended in the September *2010 Purple Line Functional Plan*.
- Support the extension of BRT along Connecticut Avenue south of Jones Bridge Road to Chevy Chase Lake.
- Support locating internal, off-street bus bays and accommodation of BRT buses on the east side of Connecticut Avenue.

Stage Two Recommendations

The following recommendations would be considered as part of the Stage Two development:

- Support construction of the Purple Line, Purple Line Station at Connecticut Avenue, and the Capital Crescent Trail as included in the September 2010 *Purple Line Functional Plan*.
- Support additional local feeder bus service both to and from nearby major employment locations and transit stations and circulator service within the plan boundary itself.
- Construct a shared-use path along or adjacent to Coquelin Run between Jones Bridge Road/Manor Road intersection and Chevy Chase Lake Drive, with a connection to the Capital Crescent Trail and Coquelin Terrace.
- Designate, subsequent to the implementation of the Purple Line LPA and its Chevy Chase Lake station, in coordination with SHA, the area immediate to the station along Connecticut Avenue as a Bicycle-Pedestrian Priority Area (BPPA).
- Construct a dual bikeway on Jones Bridge Road between the western plan boundary and Manor Road, with a signed shared roadway and a shared-use path on the south side of Jones Bridge Road
- Implement a shared-use path along Manor Road between Connecticut Avenue and Jones Bridge Road.

Chevy Chase Lake Sector Plan

Appendix

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