National Capital Region
Transportation Planning Board

MEMORANDUM

TO: TPB Technical Committee

FROM: Jane Posey, TPB Transportation Engineer

SUBJECT: Detailed Transit Assumptions from the 2022 Update to Visualize 2045

In order to maintain future-year transit networks with the most up-to-date assumptions, we are requesting that you review the attached document, which lists all future transit projects that were coded into the 2022 Update to Visualize 2045 Long Range Transportation Plan (LRTP) networks, and inform us, in writing, of any changes that should be made. Please only list assumptions for projects currently in the Plan, or for projects that will be included in your 2024 LRTP and FY2025-2028 Transportation Improvement Program inputs. For the purposes of transit network coding, the following information is needed: detailed routes (road to road tracing of bus paths including stop location information), headways, runtimes, and fare assumptions for each bus or train. We need information for both peak and off-peak weekday service. Please submit all changes, in writing, by July 1, 2023.

The attached information does not include parking lot information and does not list studies. If you need more detailed information in order to facilitate your review, please contact me at (202) 962-3331 or at jposey@mwcog.org. Thank you for your assistance.

January 6, 2023

Future Transit Service Coding Assumptions from Visualize 2045:

METRORAIL:

1. Metrorail Service Changes (Mark Phillips email 6/16/2021)

From	To	2019 (8-Min Peaks, Turnback Elimination)		2022 (All-Day Service Plan)		2023 (Post-Pandemic, Silver Phase II, Potomac Yard)		2025 (All-Day Service Plan + More Frequent Peaks)		2040 (6-min)		
		PEAK	**OFF PEAK**	**PEAK**	**OFF PEAK**	**PEAK**	**OFF PEAK**	**PEAK**	**OFF PEAK**	**PEAK**	**OFF-PEAK**	
Shady Grove	Glenmont	4	6	5	6	5	6	4	6	3	6	WMREDA
Grosvenor	Silver Spring	--	--	--	--	--	--	--	--	--	--	WMREDB
Greenbelt	Branch	8	12	10	12	10	12	8	12	6	12	WMGRNA
Mt. Vernon Square	Huntington	--	--	--	--	--	--	--	--	6	--	WMYELA(PK)
Fort Totten	Huntington	--	--	--	--	--	--	--	--	--	--	WMYELA(OP)
Greenbelt	Huntington	8	12	10	12	10	12	8	12	--	12	WMYELC
Franconia-Springfield	Largo	8	12	10	12	10	12	8	12	12	12	WMBLUA
Franconia-Springfield	Greenbelt	--	--	--	--	--	--	--	--	12	--	WMYELB(PK)
Vienna	New Carrollton	8	12	10	12	10	12	8	12	6	12	WMORNA
Wiehle	Largo	8	12	10	12	--	--	--	--	--	--	WMSILV
Ashburn	Largo	--	--	--	--	10	12	8	12	6	12	WMSILV

(scenario: 2019- NOTURNBACK, 2023- POSTCOVID, 2025- MOREPEAK, 2040- 6MINPEAK)

2. Dulles Corridor Metrorail (WMSILV):
   Wiehle-Reston East to Ashburn (2022) (scenario: SILVER2)

   ⇨ Stations (network node):
   Ashburn (8097) parking (11098)
   Loudoun Gateway (8096) parking (11097)
   Dulles Airport (8095) no parking
   Innovation Center (8094) parking (11095)
   Herndon (8093) parking (11094)
   Reston Town Center (8092) no parking
   Wiehle-Reston East (8091) parking (11092)

3. Potomac Yards Metrorail Station (2022) (scenario: POTYDS)

   ⇨ add 2 minutes to runtime
   ⇨ station 8084; affects WMYELA (2030 and beyond), WMYELB (2030 and beyond), WMYELC (2019-2025), WMBLUA (AM & OP)

OTHER RAIL:

1. Purple Line Transitway from Bethesda to New Carrollton (2023) (scenario: PURPLE)
   (assumptions from Rick Kiegel via Lyn Erickson, email 1/16/2014)
   Service frequency: peak 6 minutes, off-peak 12 minutes

   ⇨ Stations (network node):
   Bethesda (10015)
   Chevy Chase Lake /Connecticut Ave. (10016)
   Lyttonsville (10017)
   Woodside/ 16th St. (10073)
   Silver Spring Transit Center (10018)
   Silver Spring Library (10019)
   Dale Dr. (10023)
   Manchester Place (10020)
   Long Branch (10021)
   Piney Branch Rd./University Blvd (10022)
   Takoma/Langley Transit Center (10024)
   Riggs Rd. (10025)
   Adelphi/ West Campus (10028)
   UM Campus Center (10036)
   UM Campus East (10029)
   College Park UMD Metro(10030)
   M-Square (10031)
   Riverdale Park (10032)
   Beacon Heights (10035)
   Annapolis Rd./Glenridge (10034)
   New Carrollton (10037)

2. Potomac Shores (formerly Cherry Hill) VRE station (2022) (scenario: POTSHRS)

    - ⇨ station 9085
    - ⇨ add 2 minutes to runtime (AMTK86I, AMTK94I, AMTK95O, VFRED1I, VFR301)

3. VRE service frequency (2035) (email from Christine Hoeffner, VRE- 4/2/2021) (scenario: VREFREQ)

    ⇨Fredericksburg local (VFRED1I)- increase peak period headway to 20 minutes
    ⇨Manassas local (VMASS1I)- increase peak period headway to 20 minutes

4. MARC service improvements (email from Rick Kiegel 1/15/2014) (2029) (scenario: MARCFREQ)

    ⇨Camden Line: add 1 peak train in reverse direction (MCAMNEW)
    ⇨Brunswick: add 1 peak train in peak direction and 1 peak train in reverse peak direction (MBRNEW1 & MBRNEW2)
    ⇨Penn Line: add 1 peak express train in peak direction (MPENNEW)
    ⇨walk connection between Met. Grove MARC & CCT stations (9008-10505)

OTHER TRANSIT:

1. Crystal City / Potomac Yards Busway (email from Dan Malouff 2/26/16) (scenario: MWAYEXT) (routes: MWAYN MWAYS AM&OP; MWAYN/ MWAYS/ AM) Arlington- dedicated lane extension from Crystal City Metro to Army Navy Dr. Transit Station (2022)

    - ⇨ After 2021 extension to Army Navy Dr. Transit Station, headways will remain 6 minutes at peak north of Reed Ave, and 12 minutes at other times, and south of Reed Ave.
    - ⇨ add 5 minutes to route for extension

2. Crystal City / Potomac Yards Busway (email from Dan Malouff 7/10/2019) (scenario: MWAYROW) (routes: MWAYN MWAYS AM&OP; MWAYN/ MWAYS/ AM) dedicated lane extension from East Glebe Road to Evans Ln. (2030)

    - ⇨ Remove 1 minute from each route's runtime

3. Crystal City / Potomac Yards Busway (email from Dan Malouff 7/10/2019) (scenario: MWAYEXT2) (routes: MWAYN MWAYS AM&OP; MWAYN/ MWAYS/ AM) Southern Extension from South Glebe Road to Alexandria City Line (2025)

    - ⇨ Remove 1 minute from each route's runtime

4. DC Streetcar – Benning Rd.- from Oklahoma Ave. to Benning Rd. Metro (2023) (scenario: DCSTHST2 when combined with Union Station to Oklahoma Ave segment) This route replaces DCSTHST1)

   Service frequency: peak & off-peak headways 10 minutes (from Faisal Hameed email 6/25/14), fares similar to bus, RT=24 mins

   ⇨ Stations (network node):
   H & 1st NE (10821) (existing station)
   H & 5th NE (10820) (existing station)
   H & 8th NE (10819) (existing station)
   H & 13th NE (10818) (existing station)
   H & Maryland Ave (10817) (existing station)
   Benning and 19th NE (10816) (existing station)
   Benning and Oklahoma Ave. (10815) (existing station)
   Kingman Island (10814) (new station)
   Benning and 34th NE (10813) (new station)
   Benning and Minnesota Ave. (10812) (new station)
   Benning and 42nd NE (10811) (new station)
   Benning Rd. METRO (10810) (new station)

5. DC Circulator Expansion: Rosslyn-Dupont extend to U St. / Howard University (2026) DCDGRN & DCDGRS (scenario: UHOWEXT)

6. DC Streetcar – Union Station to Georgetown (2040) (scenario: DCSTGTWN)

   Service frequency: peak & off-peak 10 minutes (from Faisal Hameed email 6/25/14), fares similar to bus

   ⇨ Stations (network node):
   H & 1st NE (10821)
   K St. between 3rd and 4th Streets NW (10822)
   Mount Vernon Square (10823)
   K St. & McPherson Square (10824)
   K St. & Farragut Square (10825)
   K St. & 19th and 20th Streets (10826)
   K St. & 25th and 26th Streets (10827)
   K St. & Wisconsin Ave (10828)

7. K St. Transitway – 9th St. to 21st St. (2025) (scenario: KST) REMOVE WHEN STREETCAR COMES IN 2030

   ⇨ reduce runtimes by 4 minutes for buses that travel at least half the distance of the facility

8. 16th St. Bus Priority Improvements (2022) (scenario: 16THST)

   ⇨ Improved run times by 10 % for all buses serving facility

9. H & I St. Buses Phase 2 (2021) (scenario: HANDI2)

    ⇨ Reduce runtimes by 2 minutes (already have improvement from Phase 1)

10. Corridor Cities BRT (2035) (info from Environmental Assessment August, 2017) (scenario: CCTBRT)

    (scenario: CCTBRTU- university) (service frequency: peak 15 mins, off-peak 30 mins)
    ⇨ Stations (network node):
        Shady Grove (10513) w/parking (13501)
        East Gaither (10512)
        West Gaither (10511)
        Crown Farm (10510) w/parking (13502)
        DANAC (10509)
        LSC Central (10518)
        Universities at Shady Grove (10517)
        Traville Gateway Dr. (10516)
        LSC West (10515) w/parking (14500)
        Kentlands (10507) w/parking (13500)
        NIST (10506)
        Firstfield (10514)
        MetroGrove (10505) w/parking (13504)

    (scenario: CCTBRT - direct) (service frequency: peak 5 mins, off-peak 10 mins)
    ⇨ Stations (network node):
        Shady Grove (10513) w/parking (13501)
        East Gaither (10512)
        West Gaither (10511)
        Crown Farm (10510) w/parking (13502)
        DANAC (10509)
        LSC Central (10518)
        LSC West (10515) w/parking (14500)
        Kentlands (10507) w/parking (13500)
        NIST (10506)
        Firstfield (10514)
        MetroGrove (10505) w/parking (13504)

    (see Attachment A)

11. MD 355 BRT- Clarksburg Outlets to Montgomery College - Rockville (2045)
(scenario: 355BRT1C) (service frequency: peak 10 mins, off-peak 15 mins)
Info from Gary Erenrich email 7/17/19
    - ⇨ Stations (network node):
        Clarksburg Outlets (10660)
        Stringtown Road/Rainbow Arch Drive (10688)
        Snowden Farm Parkway/Newcut Road (10689)
        MD355/Milestone Shopping Center (10690)
        Milestone Park and Ride (10691)
        Seneca Meadows Parkway/ Shakespeare Blvd (10665)
        Montgomery College Germantown (via Goldenrod) (10666)
        Holy Cross Hospital (10667)
        MD355/Gunners Branch Road (10693)
        MD355/Watkins Mill Road (10669)
        Lakeforest Transit Center (10670)
        MD355/Lakeforest Boulevard (10671)
        MD355/Cedar Avenue (10673)
        MD355/Education Boulevard (10674)
        MD355/ S. Westland Drive (10692)
        Shady Grove Metro (10513)
        Montgomery College Rockville (10615)
        ⇨ Improved run times by 10 % for all buses serving facility (see Attachment B)

12. MD 355 BRT- Germantown Transit Center to Montgomery College - Rockville (2045)
(scenario: 355BRT1G) (service frequency: peak 10 mins, off-peak 15 mins)
Info from Gary Erenrich email 7/17/19
    - ⇨ Stations (network node):
        Montgomery College Germantown (via Goldenrod) (10666)
        Holy Cross Hospital (10667)
        MD355/Gunners Branch Road (10693)
        MD355/Watkins Mill Road (10669)
        Lakeforest Transit Center (10670)
        MD355/Lakeforest Boulevard (10671)
        MD355/Cedar Avenue (10673)
        MD355/Education Boulevard (10674)
        MD355/ S. Westland Drive (10692)
        Shady Grove Metro (10513)
        Montgomery College Rockville (10615)
        ⇨ Improved run times by 10 % for all buses serving facility (see Attachment B)

13. MD 355 BRT- Lakeforest Transit Center to Grosvenor Metro (2045)
(scenario: 355BRT2)
(service frequency: peak 10 mins, off-peak 15 mins)
Info from Gary Erenrich email 7/17/19

    - ⇨ Stations (network node):
        Lakeforest Transit Center (10670)
        MD355/Lakeforest Boulevard (10671)

MD355/Cedar Avenue (10673)
MD355/Education Boulevard (10674)
MD355/ S. Westland Drive (10692)
Shady Grove Metro (10513)
Montgomery College Rockville (10615)
MD355/Middle Lane (Rockville Metro) (10616)
MD355/ Mount Vernon Place (10694)
MD355/Edmonston Drive (10677)
MD355/Halpine Avenue (10679)
MD355/Bou Avenue (10695)
MD355/Marinelli Road (White Flint Metro) (10630)
MD355/Security Lane (10681)
MD355/Tuckerman Lane (Grosvenor Metro) (10682)

⇨ Improved run times by 10 % for all buses serving facility
(see Attachment B)

14. MD 355 BRT- Montgomery College (Rockville Campus) to Bethesda Metro (2045)
(scenario: 355BRT3)
(service frequency: peak 10 mins, off-peak 15 mins)
Info from Gary Erenrich email 7/17/19

⇨ Stations (network node):
Montgomery College Rockville (10615)
MD355/Middle Lane (Rockville Metro) (10616) parking (11000) (metrorail 8002)
MD355/ Mount Vernon Place (10694)
MD355/Edmonston Drive (10677)
MD355/Halpine Avenue (10679)
MD355/Bou Avenue (10695)
MD355/Marinelli Road (White Flint Metro) (10630) parking (11004) (metrorail 8004)
MD355/Security Lane (10681)
MD355/Tuckerman Lane (Grosvenor Metro) (10682)
MD355/Medical Center (10685)
MD355/Cordell Avenue (10686)
Bethesda Metro (South Entrance) (10687)

⇨ Improved run times by 10 % for all buses serving facility
(see Attachment B)

15. Randolph Road BRT- White Flint Metro to US 29/Tech Road (2040)
(scenario: RANDBRT)
(service frequency: peak 7 mins, off-peak 15 mins)
Info from Joana Conklin email 1/24/2018

⇨ Stations (network node):
White Flint Metro Station (10630) parking (11004) (metrorail 8004)
Randolph Rd/ Lauderdale Dr. (10631)
Randolph Rd/MD 586 (10622) (also Viers Mill BRT stop)
Randolph Rd/MD 185 (10632)
Randolph Rd/Bluhill Rd (10633)
Randolph Rd/MD 97 (10634)

Glenmont Metro Station (10635) parking (11026) (metrorail 8026)
Randolph Rd/Glenallan Ave (10636)
Randolph Rd/MD 650 (10637)
Randolph Rd/Fairland Rd (10638)
US 29/ Tech Road (10607) (also US 29 BRT stop)

⇨ Improved run times by 10 % for all buses serving facility
(see Attachment C)

16. North Bethesda Transitway- Montgomery Mall Transit Center to White Flint Metro (2035)
(scenario: NBETHBRT)
(service frequency: peak 7 mins, off-peak 15 mins)
Info from Joana Conklin email 1/24/2018
Speed 12 mph as per Corey Pitts email 5/2/2018
Use segment to White Flint Metro as per Gary Erenrich email 12/4/2017

⇨ Stations (network node):

Montgomery Mall Transit Center (10640) parking
Rock Spring Dr/ Fernwood Rd (10641)
Rockledge Dr/ Rock Spring Dr. (10642)
Rock Spring Dr/ MD 187 (10643)
MD 187/ Tuckerman Ln (10644)
MD 187/ Edson Ln/ Poindexter Ln (10645)
MD 187/ Executive Blvd/ Hoya Dr (10646)
White Flint Metro Station (10630) parking (11004) (metrorail 8004) (also Randolph Rd BRT)

⇨ Improved run times by 10 % for all buses serving facility
(see Attachment D)

17. New Hampshire Ave- Colesville PNR to Takoma Metro (2045)
(scenario: NHBRT) (service frequency: peak 7 mins, off-peak 15 mins)
Info from Joana Conklin email 1/24/2018
Speed 19.3 mph as per Corey Pitts email 5/3/2018

⇨ Stations (network node):

Colesville PNR (10650) parking
MD 650/ Randolph Rd (10637) (also Randolph Rd BRT)
MD 650/ Valleybrook Dr (10651)
MD 650/ Jackson Rd (10652)
White Oak Transit Center (10605) (also US 29 BRT)
FDA White Oak Campus (10653)
MD 650 at Hillandale (10654)
MD 650/ Oakview Dr (10655)
MD 650/ Northampton Dr (10656)
Takoma/ Langley Park Transit Center (10657) (also Purple Line 10024)
MD 650/ MD 410 (10658)
MD 650/ Eastern Ave (10659) at Takoma Metro (8022)

⇨ Improved run times by 10 % for all buses serving facility
(see Attachment E)

18. Veirs Mill BRT- Rockville Metrorail to Wheaton Metro Station (2025)
(scenario: VIERSBRT1)
(service frequency: peak 9 mins, off-peak 18 mins)
Info from Joana Conklin email 1/24/2018- Use Alt 3

- ⇨ Stations (network node):
  - Rockville Metrorail (10616) (connect w/Metro 8002 and Marc 9005)
  - MD 28/ First St (10617)
  - Broadwood Dr (10618)
  - Twinbrook Pkwy (10619)
  - Aspen Hill Rd (10620)
  - Parkland Dr (10621)
  - Randolph Rd (10622)
  - MD 185 (10623)
  - Newport Mill Rd (10624)
  - MD 193 (10625)
  - Wheaton Metrorail (10626) parking (11025) (Metrorail 8025)

(see Attachment F)

19. Veirs Mill BRT- Montgomery College to Wheaton Metro Station (2025)
(scenario: VIERSBRT2)
(service frequency: peak 15 mins, off-peak 30 mins)
Info from Joana Conklin email 1/24/2018 – Use Alt 3

- ⇨ Stations (network node):
  - Montgomery College (10615)
  - Rockville Metrorail (10616) (connect w/Metro 8002 and Marc 9005)
  - MD 28/ First St (10617)
  - Broadwood Dr (10618)
  - Twinbrook Pkwy (10619)
  - Aspen Hill Rd (10620)
  - Parkland Dr (10621)
  - Randolph Rd (10622)
  - MD 185 (10623)
  - Newport Mill Rd (10624)
  - MD 193 (10625)
  - Wheaton Metrorail (10626) parking (11025) (Metrorail 8025)

(see Attachment F)

20. Veirs Mill Rd. Bus Improvements (TIGER Grant) (2021) (scenario: TIGERVIER)

⇨ Improved run times by 10 % for all buses serving facility

21. Beltway HOT lanes transit service (2020, 2030) (scenario: BELTHOT)

(See Attachment G)

22. I-66 HOT lane bus service- outside the Beltway (2022, 2030, & 2040) (email from Ciara Williams, DRPT 2/5/2021 (scenario: I66HOTO)

(See Attachment H)

23. I-66 HOT lane bus service- inside the Beltway (2025 & 2040) (scenario: I66HOTI)
email from Valerie Pardo VDOT 2/24/2016

(See Attachment I)

24. US 1 (VA) BRT (2035) (scenario: US1BRT)
Email from Mike Lake (Fairfax DOT) 3/26/2015

Service frequency: peak 6 minutes, off-peak 12 minutes, fares similar to Metrobus
Route: From Huntington Metro, BRT will run south along Kings Highway, then south down US 1 to the Woodbridge VRE station

⇨ Stations (network node):
Huntington (at metro station) (10550)
Penn Daw (10551)
Beacon Hill (10552)
Lockheed Blvd. (10553)
Hybla Valley (10554)
Gum Springs (10555)
South County Center (10556)
Woodlawn (10562)
Ft. Belvoir (Accotink Village) (10557)
Pohick Rd. North (10558)
Lorton Rd. (10559)
Gunston Rd. (10560)
Woodbridge (at VRE station) (10561)

25. US 1 (VA) buses (2035) from VA235 N. to Beltway/Alex. SCL (scenario: US1VABUS)

⇨ Improved run times by 10 % for all buses serving facility

26. West End Transitway (2026) (scenario: VANDBRT1 and VANDBRT2)
email from Pierre Holloman 2/26/16

- ⇨ Alexandria Alternative D
- ⇨ 10 min peak, 15 min off-peak headways
- ⇨ make sure stops at Landmark Mall (node 32315)

(see Attachment J)

27. Alexandria DASH Expansion (2030) (scenario: ALEXBUS)
Email from Pierre Holloman 2/26/2016

- ⇨ Increased Frequency for AT8,(from 30 min to 15 min peak headways in 2020)

28. Duke St. Transitway (2027) (scenario: DUKEBUS)

- ⇨ Improved run times by 10 % for all buses serving facility

NOTE: This list does not include Park-n-Ride lot information.

ATTACHMENT A CCT Assumptions for conformity

Visualize 2045 ~~RT 42 mins~~ ~~BRT 15~~ ~~BP 31~~ 34

Executive Summary

This Environmental Assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) to evaluate the potential natural, cultural, and socioeconomic effects that may result from the proposed Corridor Cities Transitway (CCT) Project. The Maryland Department of Transportation Maryland Transit Administration (MDOT MTA) is the Project sponsor and the Federal Transit Administration (FTA) is the lead federal agency. The Environmental Protection Agency (EPA), the U.S. Army Corp of Engineers (USACE), the National Institute of Standards and Technology (NIST), and National Capital Planning Commission (NCPC) are cooperating agencies (**Appendix A**).

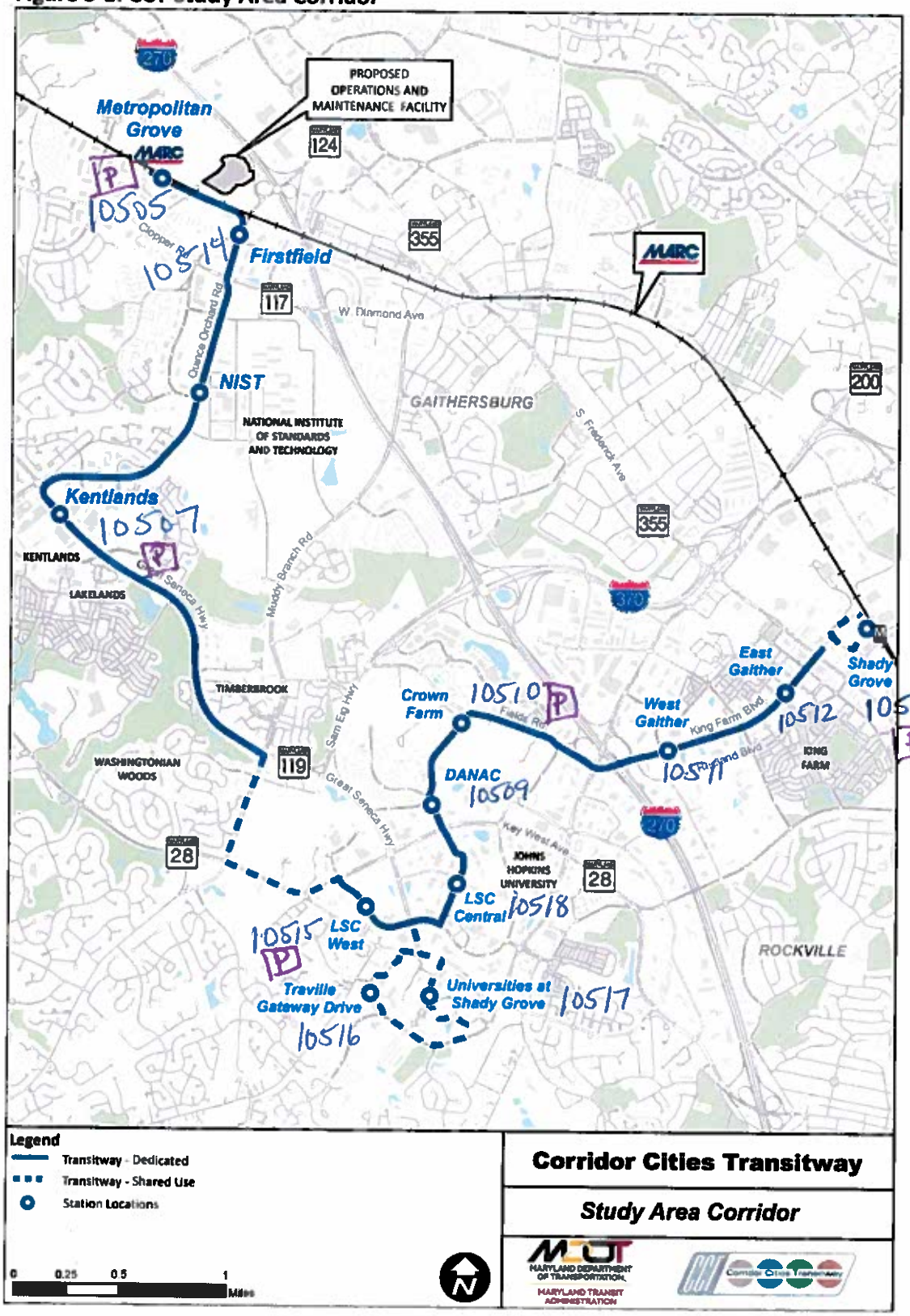
Funding for final design and construction, including right-of-way acquisition for the CCT, has been deferred until fiscal year (FY) 2023. Lower than expected fuel prices and gas tax collection resulted in a shortfall of $746 million in overall Maryland Department of Transportation (MDOT) revenue for state transportation projects. Of the $746 million shortfall, approximately $78 million was deferred, which had previously been allocated to fund CCT final design and right-of-way acquisition. If funding for the CCT becomes available via increased gas tax revenue, private interests, county or city funds, the CCT may move forward on finalizing the EA, updating the design, and entry into FTA's Capital Investment Grant Program, prior to FY 2023.

Description of Project

The CCT Project is a nine-mile bus rapid transit (BRT) line operating between the Metropolitan Grove MARC Station and the Shady Grove Metrorail Station. The transitway would travel adjacent to or in the median of existing and proposed roadways for the majority of the alignment with grade-separated crossings of selected roadways at busy intersections. The term **transitway** is used to describe the horizontal and vertical location of the BRT route proposed in the Build Alternative. The Build Alternative includes the transitway with 13 stations and an Operations and Maintenance (O&M) Facility.

Two CCT routes would operate along the transitway: CCT Direct Service and CCT via Universities and Shady Grove (USG) (**Figure S-1**). The CCT Direct Service route would operate between the Metropolitan Grove and Shady Grove Stations of the CCT, stopping at every station along the transitway. The CCT Service via USG would operate along the transitway, stopping at all stations, but would divert off the transitway to serve two additional stations. For example, buses traveling from the Shady Grove Station on this route would leave the transitway after the Life Sciences Center (LSC) Central Station, stop at the USG and Traville Gateway Drive Stations, return to the transitway, and stop at the LSC West Station and all stations to the Metropolitan Grove Station.

Figure S-1: CCT Study Area Corridor



2 routes

CCTBRT

AM H1 = 5

OP H1 = 10

RT = 42 min

(does not go to USG & Traville)

CCTBRTU

AM H1 = 15

OP H1 = 30

RT = 46 mins

The CCT Direct Service would operate on five-minute headways[1] during peak periods, six minutes during mid-day, and ten-minute headways during off-peak periods. The one-way travel time from Shady Grove Station to Metropolitan Grove Station would be approximately 42 minutes. The CCT via USG would operate on 15-minute headways during peak periods and 30 minute-headways during off-peak periods. The one-way travel time for CCT service via USG would be approximately 46 minutes.

The 13 stations for the CCT would be specially designed with CCT branding for easy recognition by transit users. Stations would include shelters, seating, fare machines, and both fixed and variable signage to provide customers with information on the CCT route and services, as well as current operations. Safe access for pedestrians and parking for bikes would be provided at all CCT stations. The 11 stations along the CCT Direct Service transitway include the following locations:

- Shady Grove
- East Gaither
- West Gaither
- Crown Farm
- DANAC
- LSC Central
- LSC West
- Kentlands
- NIST
- Firstfield
- Metropolitan Grove

On the CCT via USG, there will be two stations at the following locations:

- Universities at Shady Grove
- Traville Gateway Drive

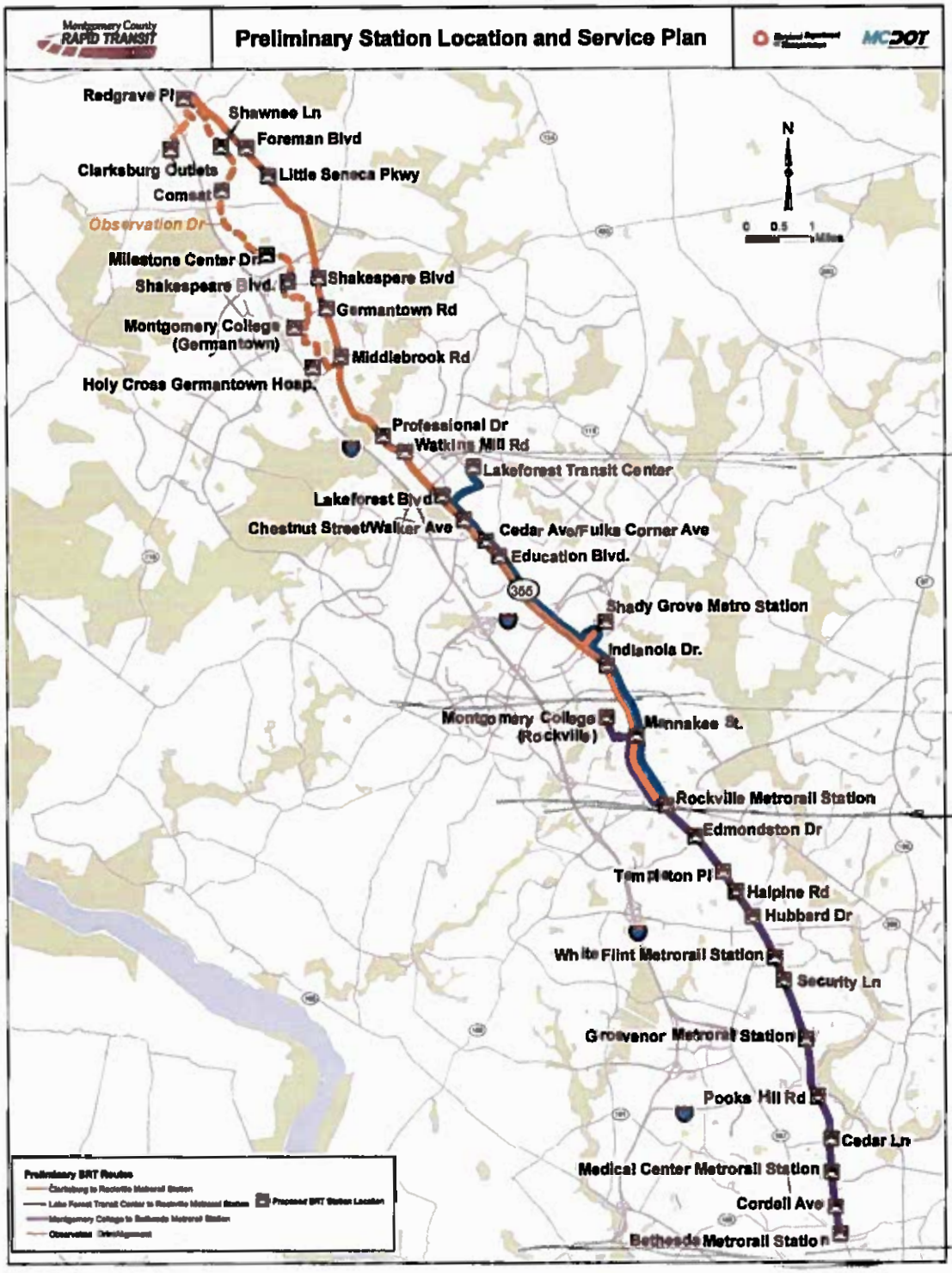
The CCT would include parking at five stations: Shady Grove, Crown Farm, LSC West, Kentlands, and Metropolitan Grove. To maintain the CCT vehicles, an O&M Facility would be located near the Metropolitan Grove MARC Station.

All CCT service would operate seven days per week. The hours of operation would be consistent with the Washington Metropolitan Area Transit Authority's (WMATA) Red Line Metrorail service for weekday and weekend service. Metrorail service begins at 5 AM on weekdays and 7 AM on weekends, and ends at 12 AM on Sunday through Thursday or 3 AM on Friday and Saturday. The projected ridership on the CCT in 2035 is 30,429 trips per day.

Refer to **Chapter 2** for additional information on the proposed Project components of the Build Alternative.

[1] Headway is the time interval or distance between two vehicles, such as automobiles, buses, or railroad or subway cars, traveling in the same direction over the same route

Figure 4-37: Proposed Station Locations and Service Plan



Scenario: MD355BRT year=2045

use these as per Corey Pitts email 1/24/2018

Montgomery County RAPID TRANSIT MD 355

headways:

Jane: OP=15 mins headway

Table 8-1: Station Location by Alternative

		Alternative			Route		
		2	3C	4C	Purple	Blue	Orange
10660	Clarksburg Outlets	●	●	●	355BRT3	355BRT2	355BRT1
10661	Redgrave Place	●	●	●			
10662	Shawnee Lane (Observation Drive)		●	●			
10663	COMSAT (Observation Drive)		●	●			
10664	Milestone Center Drive (Observation Drive)		●	●			
10665	Shakespeare Boulevard (Observation Drive)		●	●			
10666	Montgomery College – Germ. (Observation Drive)		●	●			
10667	Holy Cross Hospital (Observation Drive)		●	●			
	Foreman Boulevard	●					
	Little Seneca Parkway	●					
	Shakespeare Boulevard	●					
	MD 118 (Germantown Rd)	●					
	Middlebrook Road	●					
10668	Professional Drive	●	●	●			
10669	Watkins Mill Road	●	●	●			
10670	Lakeforest Transit Center	●	●	●			
	parking 13071 (22490)						
10671	Lakeforest Boulevard	●	●	●			
10672	Chestnut Street / Walker Avenue	●	●	●			
10673	Cedar Avenue / Fulks Corner Avenue	●	●	●			
10674	Education Boulevard	●	●	●			
10513	Shady Grove Metrorail Station	●	●	●			
	8001 park/1001 10513 22395 22397						
10675	Indianola Drive	●	●	●			

Orange - 355BRT1 - Clarksburg Outlets to Rockville Metro

blue - 355BRT2 - Lakeforest Transit Ctr to Rockville Metro

Purple - 355BRT3 - Mont. College Rockville to Bethesda Metro

Montgomery County RAPID TRANSIT MD 355

	Alternative			Route		
	2	3C	4C	Purple	Blue	Orange
10615 Montgomery College (Rockville Campus) (also Viers Mill BRT)	●	●	●			
10676 Mannakee Street	●	●	●			
10616 Rockville Metrorail Station 8002 parking 11002 9005 10616 22351 22370 (also Viers Mill BRT)	●	●	●			
10677 Edmonston Drive	●	●	●			
10678 Templeton Place	●	●	●			
10679 Halpine Road	●	●	●			
10680 Hubbard Drive	●	●	●			
10630 White Flint Metrorail Station 8004, parking 11004 22332 22670	●	●	●			
10681 Security Lane	●	●	●			
10682 Grosvenor Metrorail Station 8005, parking 11005 22327	●	●	●			
10683 Pooks Hill Road	●	●	●			
10684 Cedar Lane	●	●	●			
10685 Medical Center Metrorail Station 8006, ~~parking~~ 22054	●	●	●			
10686 Cordell Avenue	●	●	●			
10687 Bethesda Metrorail Station 8007, parking 11007 11015 22048	●	●	●			
Total Number of Stations	**31**	**32**	**32**			

distance (miles)	8	6	15
runtime (mins) (assume 15mph)	32	24	60

use as per Joana Conklin email 1/24/2018

Vizualize 2045

ATTACHMENT C

Approved and Adopted

Countywide Transit Corridors Functional Master Plan

Randolph Rd BRT ⇒ pg 54

North Bethesda BRT ⇒ pg 51

Corridor 7: Randolph Road

Randolph Road is a commuter corridor with traffic and congestion in the westbound direction in the morning and the eastbound direction in the evening. Major activity centers include White Flint, Glenmont, and the emerging mixed-use center at White Oak. Residential uses fill in the gaps between these areas.

While ridership forecasts are low for the corridor, it does provide important linkages to other BRT corridors. Therefore, because this corridor is important for the integrity of the BRT network, but the ridership potential is limited and the potential impacts to residential properties are high, this Plan recommends a mixed traffic transitway.

There are two alternative routes in the westernmost portion of the corridor. One alternative is in dedicated right-of-way following the Veirs Mill Road BRT line (Corridor 10) from Randolph Road to its station at Parkland Drive, then proceeding west along Montrose Parkway over Rock Creek, Parklawn Drive (where there would be a station), and the CSX Metropolitan Branch, joining the MD 355 South BRT line (Corridor 4) to the White Flint Metro Station. The other alternative would proceed in mixed traffic west on Randolph Road (and a station at Lauderdale Drive), south on Parklawn Drive, and west on Nicholson Lane to the White Flint Metro Station. A sub-option of this second alternative would use Nebel Street rather than Parklawn Drive if the at-grade Randolph Road crossing of the CSX tracks is retained.

This corridor has greater ridership potential if a higher level of land use is approved as part of the White Oak Science Gateway Master Plan.

Scenario = RANDBRT

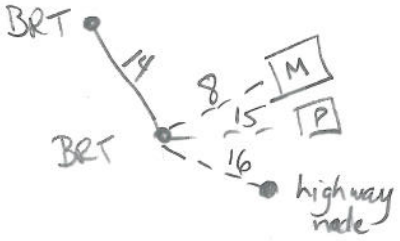
Station Locations

White Flint Metro Station 10630 Metro 8004 parking 11004 22332 22670
Montrose Parkway and Parklawn Drive, and Montrose Parkway and Veirs Mill Road, or Randolph Road and Lauderdale Drive 10631
Randolph Road and MD 586 10622 (also Viers Mill BRT stop)
Randolph Road and MD 185 10632
Randolph Rd and Bluhill Road 10633
Randolph Road and MD 97 10634
Glenmont Metro Station 10635 Metro 8026 parking 11026 22580
Randolph Road and Glenallan Avenue 10636
Randolph Road and MD 650 10637
Randolph Road and Fairland Road 10638
US 29 and Tech Road 10607 (also US 29 BRT Stop)

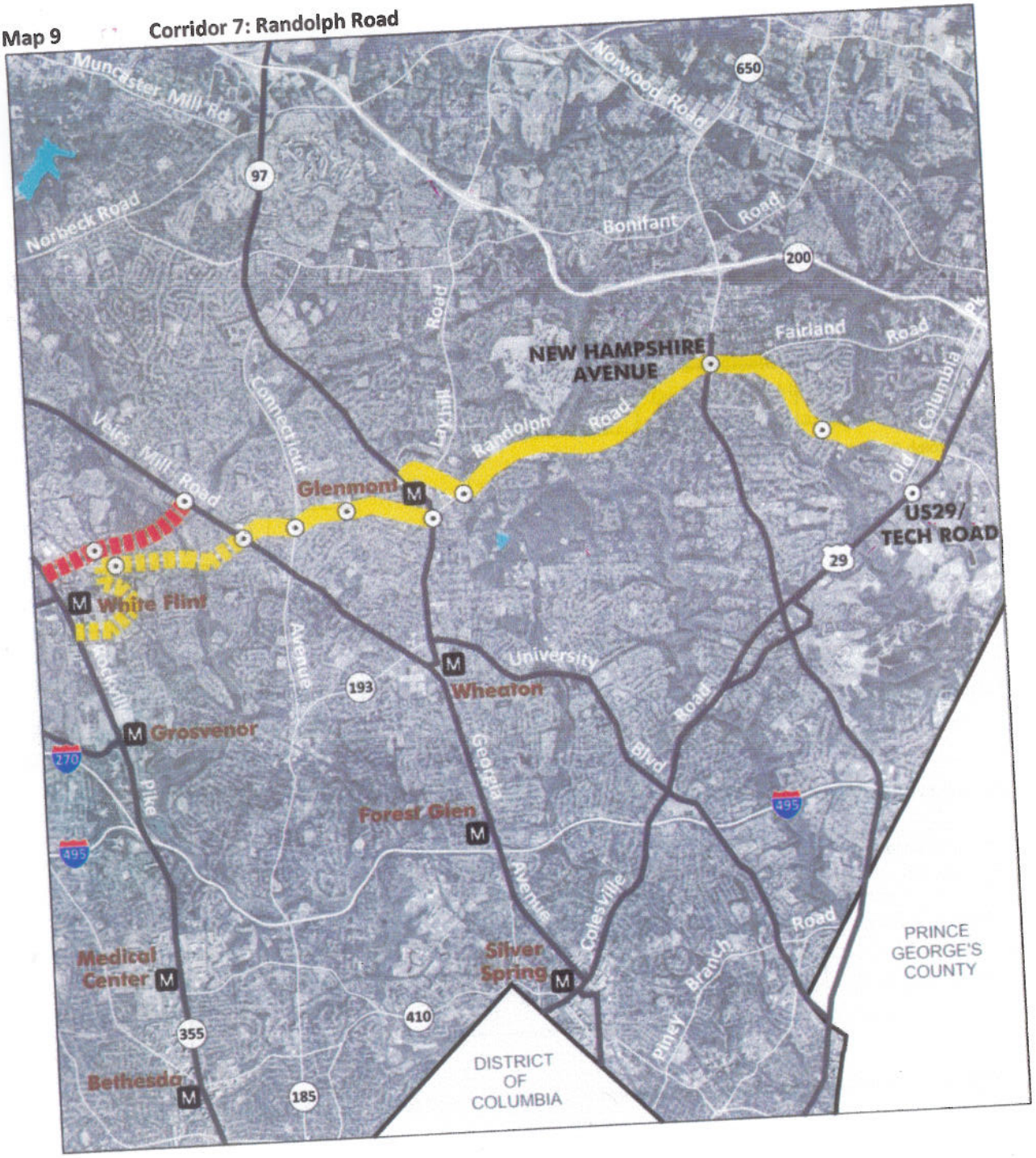
as per Joana Conklin in 1/24/2018 email
H1 AM = 7 mins
H1 OP = 15 mins

distance = 11 miles

speed = 18



Map 9 **Corridor 7: Randolph Road**



use as per Joana Conklin email 1/24/2018

Vizualize 2045

ATTACHMENT D

Approved and Adopted

Countywide Transit Corridors Functional Master Plan

Randolph Rd BRT ⇒ pg 54

North Bethesda BRT ⇒ pg 51

Corridor 6: North Bethesda Transitway

The North Bethesda Transitway was originally conceived as a spur from the Metrorail Red Line to the Rock Spring office park area and to Montgomery Mall in the 1992 North Bethesda/Garrett Park Master Plan. At its eastern end, the transitway terminates at the Grosvenor Metrorail Station. At its western end, it terminates at a planned transit center at Montgomery Mall. Much of the right-of-way along Rock Spring Drive, Fernwood Road, and Tuckerman Lane is currently available through easements and dedications provided through the development review process. Most of the planned route between Rockville Pike and Old Georgetown Road is not suitable as a BRT route, however, and so this portion of the North Bethesda Transitway is deleted from the master plan.

Corridor recommendations, from west to east:

- At the Fernwood Road bridge, high-occupancy-vehicle (HOV) ramps connecting with the HOV lanes on the I-270 West Spur, both to and from the north and south. The ramp to/from the north exists; the ramp to/from the south would become part of continuous pair of master-planned transit lanes connecting Montgomery and Fairfax Counties.
- Along Westlake Terrace, Fernwood Road, and Rock Spring Drive between the I-270 West Spur and Old Georgetown Road, two additional dedicated lanes.
- Along Old Georgetown Road, from Rock Spring Drive to Tuckerman Lane, an additional dedicated lane.

There are two alternative routes in the easternmost portion of the corridor. One alternative is in dedicated lanes following Tuckerman Lane to the Grosvenor Metro Station. The other alternative would proceed north on Old Georgetown Road in a dedicated lane to the western leg of Executive Boulevard, and then east on Old Georgetown Road in mixed traffic to Rockville Pike and the White Flint Metro Station.

Scenario = NBETH BRT as per Joana Conklin in 1/24/2018 email:

H1 AM = 7 mins

H1 OP = 15 mins

Speed = 12 mph as per Corey Pitts 5/2/18 email

Station Locations

Montgomery Mall Transit Center 10640 – parking 13023, 13047
Rock Spring Drive and Fernwood Road 10641
Rockledge Drive and Rock Spring Drive 10642
Rock Spring Drive and MD 187 10643
MD 187 and Tuckerman Lane 10644

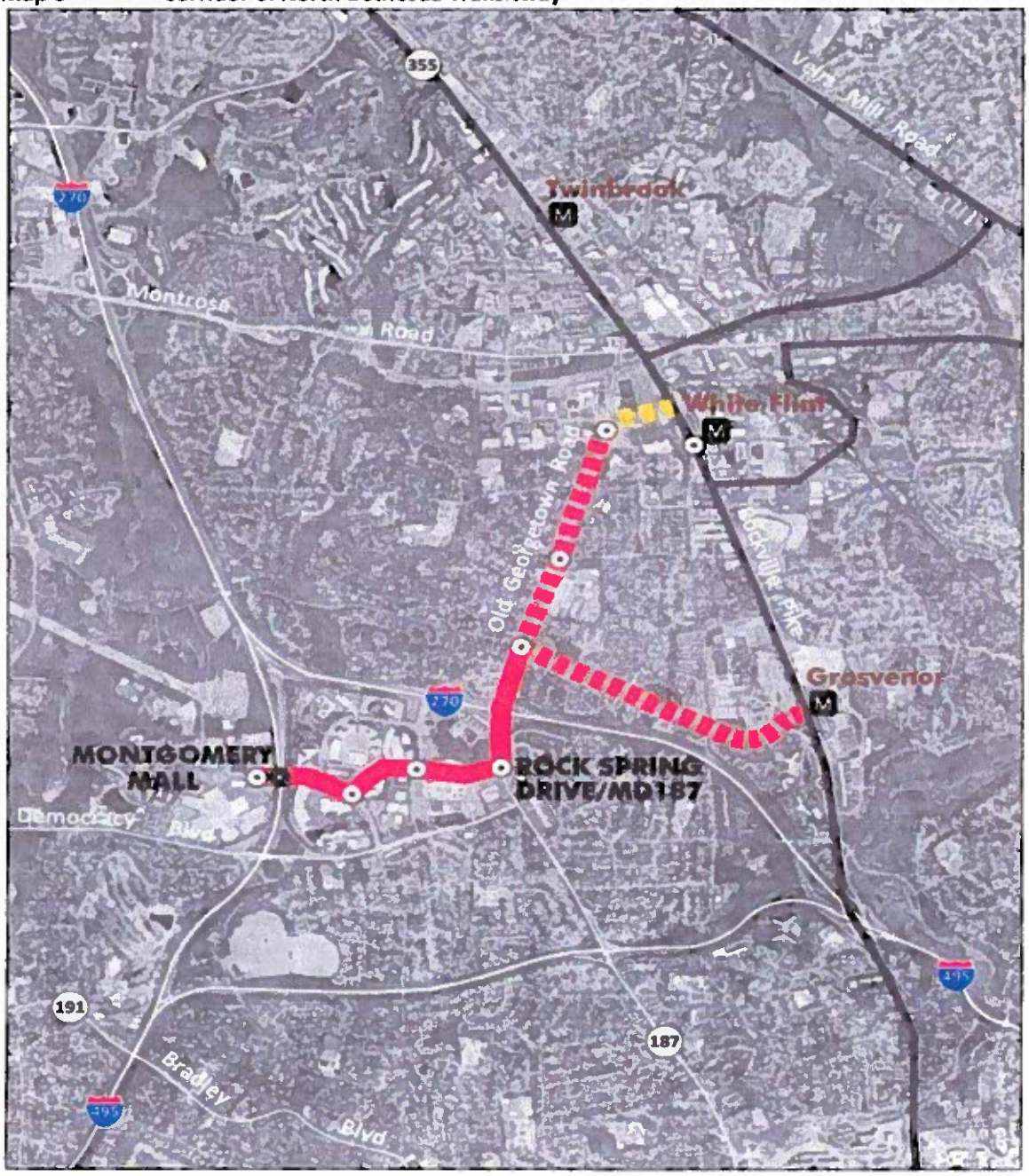
And either:
MD 187 and Edson Lane/Poindexter Lane 10645
MD 187 and Executive Boulevard/Hoya Drive 10646
White Flint Metro Station 10630 (also Randolph Rd BRT stop), Metro 8004, parking 11004, 22332 22670

Or:
Grosvenor Metro Station

3.5 miles ⇒ 17 mins RT

use this, as per Gary Erenrich email 12/4/2017

Map 8 **Corridor 6: North Bethesda Transitway**



use as per Joana Conklin email 1/24/2018

Vizualize 2045

use H1 AM = 7 mins
H1 OP = 15 mins

ATTACHMENT E

Approved and Adopted

Countywide Transit Corridors Functional Master Plan

Randolph Rd BRT ⇒ pg 54

North Bethesda BRT ⇒ pg 51

New Hampshire Ave BRT ⇒ pg 49

Corridor 5: New Hampshire Avenue

New Hampshire Avenue is a commuter corridor, with most traffic flowing southbound in the morning and northbound in the evening. Activity centers are located at Takoma/Langley Crossroads and the emerging mixed-use center at White Oak. The City of Takoma Park has been advancing a concept plan adopted locally in 2008 to convert New Hampshire Avenue, from University Boulevard to Eastern Avenue, into a more pedestrian-friendly, multi-way boulevard that accommodates multiple modes of transportation, while serving as a destination.

Corridor recommendations, from north to south:

- From Colesville park-and-ride to Lockwood Drive, a mixed traffic transitway.
- From Lockwood Drive to the District line, dedicated lane(s). During facility planning, however, curb lanes or mixed traffic treatments should be considered from Sligo Creek Parkway to the District line, as outlined in the City of Takoma Park's *New Hampshire Avenue Corridor Concept Plan.*

2045 Scenario = NHBRT

Joana Conklin 1/24/2018 email

AM headway 7 mins

OP headway 15 mins

Speed 19.3 MPH (5/3/2018 email from Corey Pitts)

Station Locations

Colesville park-and-ride 10650 — Parking 13044 — 22564

MD 650 and Randolph Road 10637 (also Randolph Rd BRT)

MD 650 and Valleybrook Drive 10651

MD 650 and Jackson Road 10652

White Oak Transit Center 10605 (also US 29 BRT)

FDA White Oak Campus 10653

MD 650 at Hillandale 10654

MD 650 and Oakview Drive 10655

MD 650 and Northampton Drive 10656

Takoma/Langley Transit Center 10657

~~MD 650 and MD 410~~ 10658

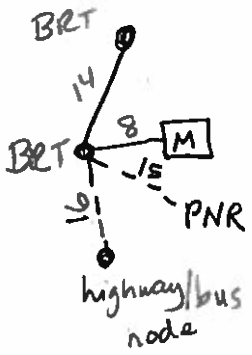
~~MD 650 and Eastern Avenue~~ 10659 (put at Takoma Metro since that is the limit in the conformity table)

keep

purple line 10024 — ~~26029~~ 26017 — Moved Purple Line Station Node

Takoma Metro 8022 20872

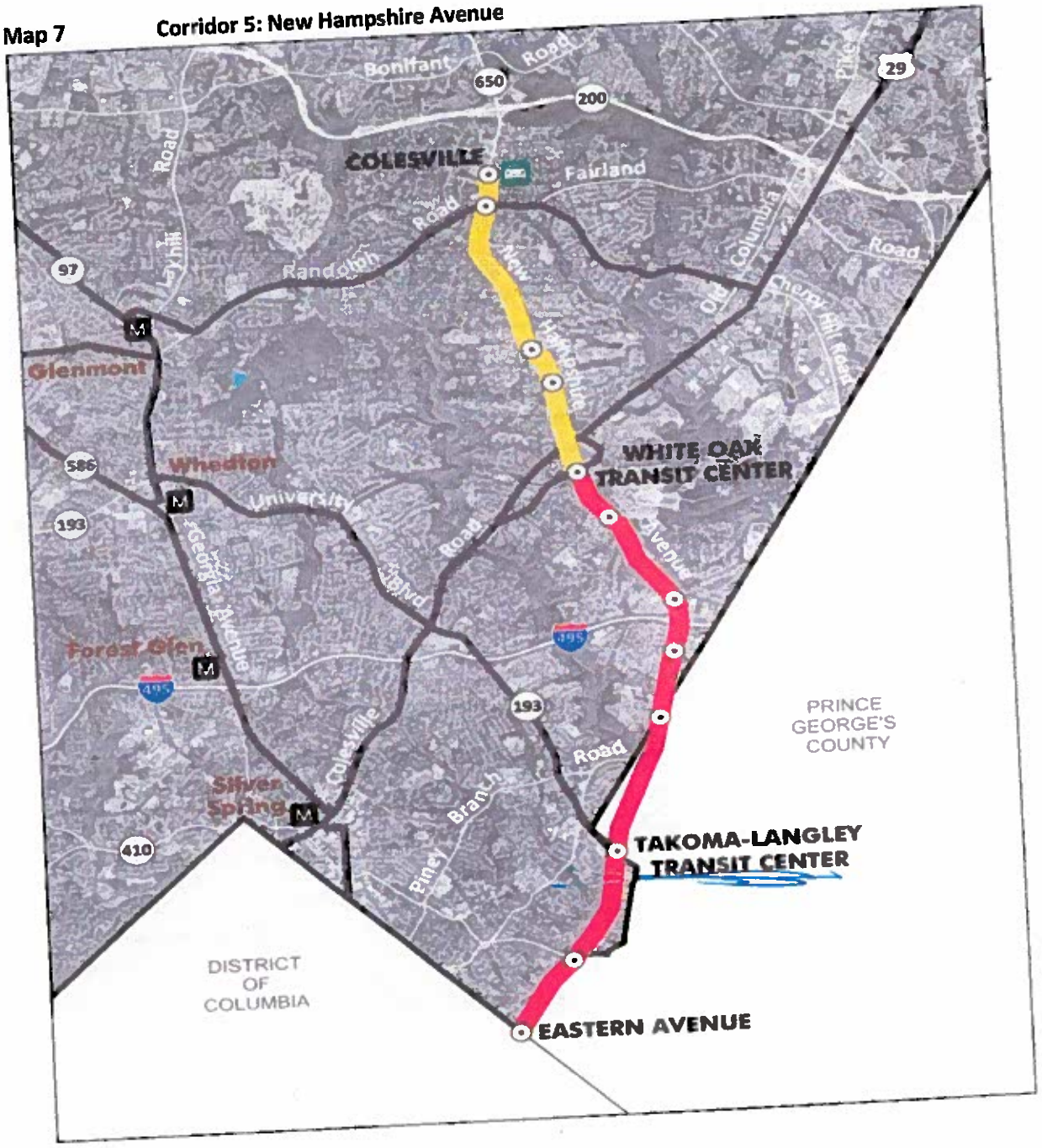
Stations within Prince George's County must be confirmed in that County's master plan.



runtime =

8.3 miles = 26 mins

Map 7 **Corridor 5: New Hampshire Avenue**



ATTACHMENT F

LinRin email from Joana Conklin 1/24/18

as per Joana:
use Alt 3

Montgomery County
RAPID TRANSIT

WELCOME

to the
MD 586
Veirs Mill Road
Bus Rapid Transit Study

PUBLIC MEETING

September 28, 2016

Maryland Department of Transportation

MCDOT

montgomerycountymd.gov/brt

Montgomery County
RAPID TRANSIT
MD 586

Alternative 3

Used for Visualize

TRANSIT SERVICE

- New BRT Service (articulated buses providing a limited-stop express service with higher frequencies than the enhanced bus service)

Combined headways

6 mins = 10 buses/hr
18 mins = 3 buses/hr
9 mins ≈ 7 buses/hr

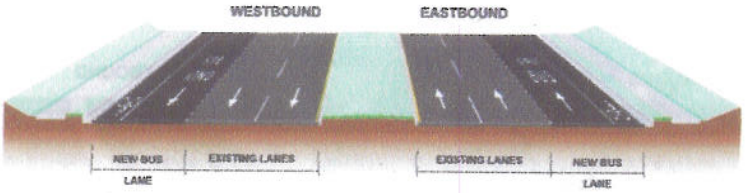
Bus Service	Headways				Span of Service	
	Peak		Off-Peak			
	Wheaton to Rockville	Rockville to Montgomery College	Wheaton to Rockville	Rockville to Montgomery College	Wheaton to Rockville	Rockville to Montgomery College
New BRT Service	6 minutes	18 minutes	10 minutes	30 minutes	6 AM to midnight	8 AM to 10 PM

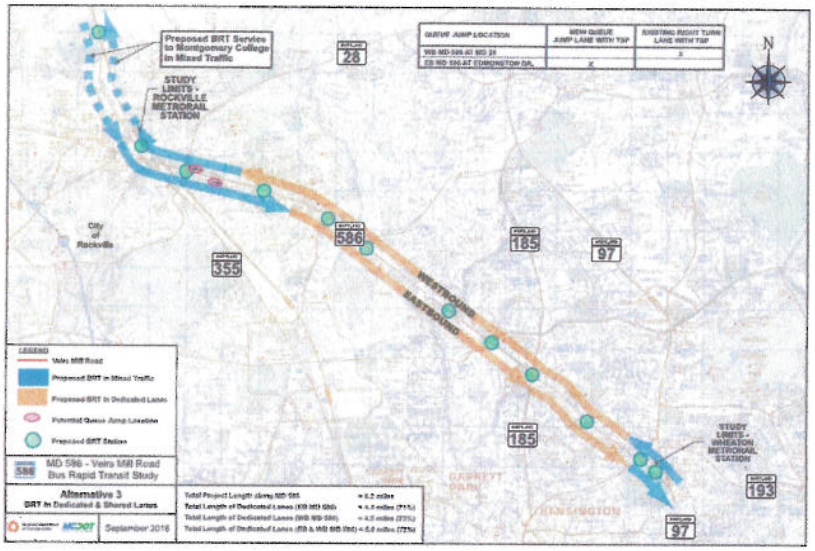
10 mins = 6 buses/hr
30 mins = 2 buses/hr
15 mins = 4 buses/hr

modified to reflect combined headway: 9 → 18 → 15 → 30

RUNNINGWAY

- Curb-running dedicated lanes where feasible, existing lanes in mixed traffic otherwise.
- Green light priority signaling to help reduce delays at signalized intersections.





BRT STATIONS (same 12 locations for all 3 build alternatives)

- New BRT Stations would be added at:
  - Montgomery College 10615
  - Rockville Metrorail Station 10616
  - MD 28 (First Street) 10617
  - Broadwood Drive 10618
  - Twinbrook Parkway 10619
  - Aspen Hill Road 10620
  - Parkland Drive 10621
  - Randolph Road 10622
  - MD 185 (Connecticut Avenue) 10623
  - Newport Mill Road 10624
  - MD 193 (University Boulevard) 10625
  - Wheaton Metrorail Station 10626 – Connection w/metrorail 8025 11025

connection w/ Metro 8002 & MARC 9005

3/17/07 email
from Kanti Srikanth (VD

ATTACHMENT G

Beltway HOT Lanes Bus Service

No.		Origin	Destination	2006	~~2010~~	2020	2030
				Base	~~HOT~~	HOT	HOT
EXISTING ROUTES:				Hdwy	~~Hdwy~~	Hdwy	Hdwy
NEW / MODIFIED ROUTES:*							
* New routes assumed in the CLRP originally assumed for 2030.							
1	14A-D	Bethesda	McLean Bible Church via Tysons	NA	~~NA~~	~~15~~	15
2	14A-D	McLean Bible Church	Bethesda via Tysons	NA	~~NA~~	~~15~~	15
3	14A-D	Lakeforest Mall	McLean Bible Church via Tysons	NA	~~NA~~	~~15~~	15
4	14A-D	McLean Bible Church	Lake Forest Mall via Tysons	NA	~~NA~~	~~15~~	15
5	17FO	Pentagon (not in base, did not add)	Kings Park West	20	~~20~~	~~20~~	~~15~~
6	17GI	George Mason University	Pentagon	30	~~20~~	20	15
7	17HI	Kings Park West	Pentagon	20	~~20~~	20	15
8	17KI	Kings Park West	Pentagon	30	~~20~~	20	15
9	17LI	Kings Park West	Pentagon	30	~~20~~	20	15
10	OmniRide	Dale City PNR (no longer in base, did not add)	Tysons Central	NA	~~30~~	~~15~~	~~10~~
11	Martz	Stafford (US 1 & VA 630) (not in base, did not add)	Tysons Central	NA	~~20~~	~~10~~	~~8~~
12	B2	Franconia Springfield Metro	Tysons Central Fairfax Conn. 494	NA	~~NA~~	~~15~~	15
13	B3	Huntington Metro	Tysons Central	NA	~~NA~~	~~15~~	15
14	B4	Fair Oaks	Landmark Shopping Center	NA	~~NA~~	~~20~~	15
15	B5	Fair Oaks	Franconia Springfield Metro	NA	~~NA~~	~~20~~	15
16	B6	Annandale	Tysons Central	NA	~~NA~~	~~15~~	15
17	B7	Chantilly	Tysons Central	NA	~~NA~~	~~15~~	15
18	M1	Fredericksburg	Tysons Central	NA	~~NA~~	~~15~~	15

ATTACHMENT H

Table 6.3: Bus Recommendations Details and Phasing

ROUTE NAME	Assumed Operator	Route (Origin/Destination)	New Route? (Y/N)	Commuter Choice Funding? (Year)	2022 Recommendations					2030 Recommendations					2045 Recommendations				
					Average Headway	Peak Trips	Peak Hours (# of hours)	Vehicles Needed (Total)	**Annual Ridership**	Headway	Peak Trips	Peak Hours (# of hours)	Vehicles Needed (Total)	**Annual Ridership**	Headway	Peak Trips	Peak Hours (# of hours)	Vehicles Needed (Total)	**Annual Ridership**
PRTCH100	OmniRide	Haymarket-Ballston/Rosslyn	No (H-100)	FY2020	40	8	4.0	4	**60,900**	40	8	4.0	4	**75,000**	40	10	5.3	4	**99,000**
PRTCG200	OmniRide	Gainesville-Pentagon	No (G-200)	FY2017 FY2020	30	12	5.0	4	**90,000**	15	16	3.5	8	**141,000**	15	16	3.5	8	**171,000**
PRTCG100	OmniRide	Gainesville-L'Enfant Plaza (Haymarket-Downtown DC in 2030)	No (Gainesville Express)	FY2020	35	14	8.4	4	**104,600**	15	38	8.7	11	**330,000**	20	26	8.0	8	**259,000**
PRTCLH	OmniRide	Gainesville-Tysons (Haymarket in 2045)	No (LH-61)	FY2018	40	8	4.0	2	**51,200**	20	18	5.3	4	**163,000**	20	24	7.3	6	**237,000**
PRTCM100?	OmniRide	Manassas-L'Enfant Plaza (Downtown DC in 2030)	No (Manassas Express)		30	17	8.7	4	**125,900**	15	42	10.0	8	**373,000**	15	34	8.0	8	**350,000**
PRTCMME?	OmniRide	Manassas-Tysons	No (MT-60)		20	16	4.7	4	**112,400**	13	46	9.2	8	**394,000**	13	36	7.1	8	**367,000**
OR66MRES	OmniRide	Manassas-Reston	Yes		20	20	6.0	8	**142,300**	16	34	8.5	10	**290,000**	16	30	7.5	10	**304,000**
F66STYS	Fairfax Connector	Stringfellow-Tysons	Yes		10	48	7.7	6	**242,600**	6	88	8.6	10	**530,000**	5	106	8.7	12	**741,000**
F698I	Fairfax Connector	Stringfellow-Pentagon	No (FC 698)	FY2018	10	54	9.0	12	**268,500**	5	106	8.7	24	**632,000**	5	116	9.5	24	**810,000**
F66SLEP	Fairfax Connector	Stringfellow-L'Enfant Plaza	Yes	FY2020	16	34	9.1	5	**169,000**	8	60	7.7	10	**353,000**	10	52	8.3	8	**364,000**
F699E	Fairfax Connector	Fairfax Center-Downtown DC	No (FC 699)	FY2017 FY2020	20	25	8.2	4	**122,500**	8	62	8.0	10	**372,000**	10	56	9.0	8	**383,000**
F66FCEFC	Fairfax Connector	Fairfax Center-East Falls Church	Yes		20	16	4.7	4	**78,200**	16	18	4.3	5	**113,000**	20	16	4.7	4	**109,000**
F66SNYD	Fairfax Connector	Stringfellow-Navy Yard	Yes												20	26	8.0	4	**181,000**

OMNIRIDE = MODE 8
FFX CONNECTOR = MODE 6

Transit Service Enhancements for I-66 Inside the Beltway CLRP Submission (placeholder subject to change**)

Route	Change
New Outside the Beltway Services	
Rapid Bus Service from outside the Beltway: Haymarket to Arlington/DC Gainesville to Arlington/DC Manassas to Arlington/DC	Bi-directional, all day + weekend
New Priority Bus Services	
U.S. 29 Priority Bus	Bi-directional, all day service 2025
U.S. 50 Priority Bus – via Ballston	Bi-directional, all day service 2025
U.S. 50 Priority Bus – via U.S. 50	Add route from Fair Lakes to D.C. core along U.S. 50 2040
U.S. 50 Priority Bus – Tysons	Add route from Tysons Corner along U.S. 50 and Wilson Boulevard 2040
Local Routes in Study Area:	
Metrobus 1B	Increase peak-period frequency; improve inbound runtime 2040
~~Metrobus 1C~~	~~Increase peak and off-peak frequencies~~
Metrobus 1E	~~Improve runtime~~
Metrobus 2C	~~Increase peak and off-peak frequencies~~
Metrobus 3A	~~Extend routing to NVCC and East Falls Church and~~ increase frequency
Metrobus 3E	~~Add reverse peak direction service and increase peak direction service frequency; add off-peak service~~
Metrobus 3T	Increase off-peak-period frequency
Metrobus 4A	~~Reroute to end at Seven Corners;~~ increase frequency
Metrobus 4E	~~Increase peak-period frequency; improve runtime~~
Metrobus 4H	~~Improve runtime~~
Metrobus 10B	Increase peak-period frequency
Metrobus 15L	~~Increase peak-period frequency~~
Metrobus 22A	Increase peak-period frequency
Metrobus 23A	~~Increase peak-period frequency~~
Metrobus 23C	~~Increase peak-period frequency~~
Metrobus 25A	~~Increase peak and off-peak frequencies~~
Metrobus 25B	Increase northbound off-peak frequency and peak frequencies in both directions
Metrobus 28A	Increase peak-period frequency, improve runtime
Metrobus 28E	New route between Skyline Plaza and East Falls Church
Metrobus 38B	~~Increase frequency~~
ART	
ART 42 (already in base)	~~Increase the reverse peak direction, peak period frequency~~
ART 45	Increase peak-period frequency, improve run time
ART 52	Increase peak and off-peak frequencies
ART #75	Extend routing to Shirlington and Virginia Square; add off-peak service
ART #77	~~Extend to Rosslyn and~~ increase frequency
New ART1	Add route between Arlington Hall and Crystal City
New ART2	Add route between Court House and Pentagon City

see page I-2 for more details

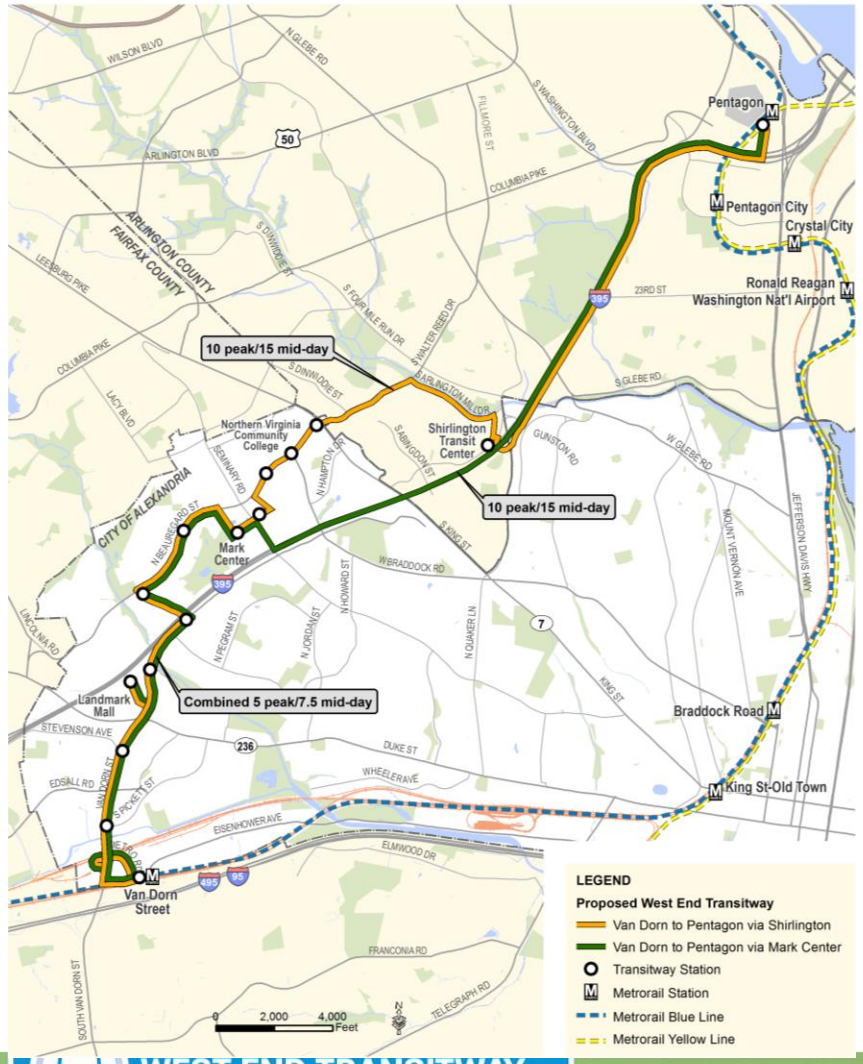
**Services subject to change based on environmental study, public outreach, and stakeholder working group inputs.

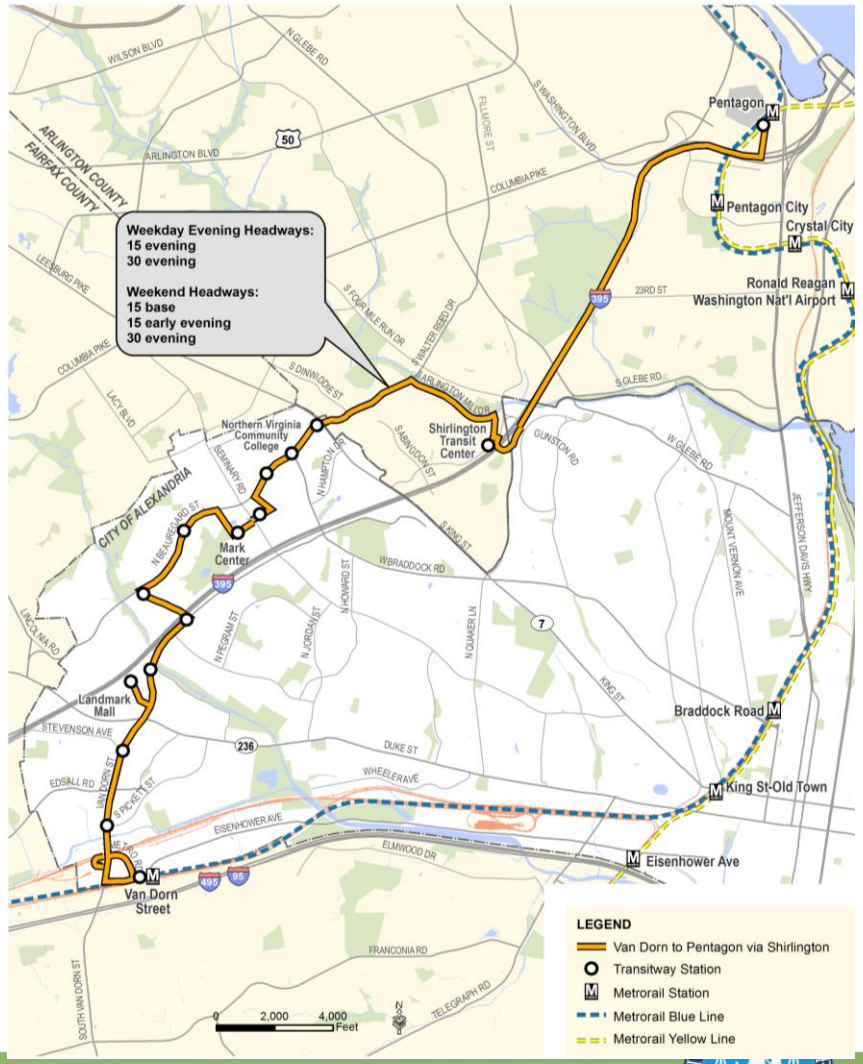
Draft 2/11/15

2/24/2016 VDOT updates

Route	Change	Comment	Peak	Off-pk	Peak	Off-peak	Route Speed	Year	INBOUND	OUTBOUND	Map page
New Outside the Beltway Services											
Rapid Bus service from outside the Beltway:	Bi-directional, all day + weekend		see outside the Beltway submission								
Haymarket to Arlington/DC											
Gainesville to Arlington/DC											
Manassas to Arlington/DC											
New Priority Bus Services											
U.S. 29 Priority Bus	Bi-directional, all day service	note: both di-directional route	new	new	10	10	18	2025	MEX29_CS_EB	MEX29_CS_WB	5
U.S. 50 Priority Bus – via Ballston	Bi-directional, all day service	note: both di-directional route. adjust headways for U.S. 50 trunk?	new	new	10	10	18	2025	MEX50_PB_EB	MEX50_PB_WB	6
U.S. 50 Priority Bus – via U.S. 50	Add route from Fair Lakes to D.C. core along U.S. 50	Assume peak only. Adjust headways for U.S. 50 trunk?	new	new	24	na	18	2040	MEX50_CS_EB	MEX50_CS_WB	n/a
U.S. 50 Priority Bus – Tysons	Add route from Tysons Corner along U.S. 50 and Wilson Boulevard	Assume peak only. Adjust headways for U.S. 50 trunk?	new	new	24	na	18	2040	MEX_TYS_EB	MEX_TYS_WB	n/a
Local Routes in Study Area:											
Metrobus 1B	Increase peak-period frequency; improve inbound runtime	no changes to off-peak headways	30	na	15	na	18	2040			
Metrobus 1C	Increase peak and off-peak frequencies	does not exist									
Metrobus 1E	Improve runtime	runtime only. No Δ headway	30	na	na	na	18	2040			
Metrobus 2C	Increase peak and off-peak frequencies	does not exist									
Metrobus 3A	Extend routing to NVCC and East Falls Church and increase frequency	some 3As already run to NVCC. Assume ALL future 3As to run to NVCC	30	60	15	30	12	2040	WM03AI	WM03AO	13
Metrobus 3E	Add reverse-peak direction service and increase peak-direction service frequency	does not exist									
Metrobus 3T	Increase off-peak-period frequency	no changes to peak headways	na	60	na	30	12	2040			
Metrobus 4A	Reroute to end at Seven Corners; increase frequency in peak only	Exist. route does not go beyond 7 Corners. Assume now combined with other 4s	30	50	15	50	12	2040	WM04AI	WM04A0	16
Metrobus 4E	Increase peak-period frequency, improve runtime	does not exist									
Metrobus 4H	Improve runtime	does not exist									
Metrobus 10B	Increase peak-period frequency	no changes to off-peak headways	30	30	15	30	12	2040			
Metrobus 15L	Increase peak-period frequency	no changes to off-peak headways	30	na	15	na	12	2040			
Metrobus 22A	Increase peak-period frequency	no changes to off-peak headways	30	na	15	na	12	2040			
Metrobus 23A	Increase peak-period frequency	23A is now non-peak only. Assume headway increase applied to 23B	25	30	15	30	12	2040			
Metrobus 23C	Increase peak-period frequency	does not exist									
Metrobus 25A	Increase peak and off-peak frequencies		40	60	15	30	12	2040			
Metrobus 25B	Increase northbound off-peak frequency and	no changes to peak headways	na	60	na	30	12	2040			
	peak frequencies in both directions	no changes to off-peak headways	30	na	15	na	12	2040			
Metrobus 28A	Increase peak-period frequency, improve runtime	no changes to off-peak headways	25	na	15	na	12	2040			
Metrobus 28E	New route between Skyline Plaza and East Falls Church		new	new	15	30	12	2040	WM28EI	WM28EO	12
Metrobus 38B	Increase frequency		15	20	15	30	12	2040			
ART											
ART 42	Increase the reverse-peak direction, peak-period frequency		17	NA	15	60	12	2040			
ART 45	Increase peak-period frequency, improve run time		30	na	15	na	12	2040			
ART 52	Increase peak and off-peak frequencies		30	60	15	30	12	2040			
ART #75	Extend routing to Shirlington and Virginia Square	routing only	na	na	na	na	12	2040	ART75I	ART75O	19
ART #77	Extend to Rosslyn and increase frequency		30	30	15	15	12	2040	ART77I	ART77O	20
New ART1	Add route between Arlington Hall and Crystal City		new	new	15	30	12	2040	ARTNEW1I	ARTNEW1O	17
New ART2	Add route between Court House and Pentagon City		new	new	15	30	12	2040	ARTNEW2I	ARTNEW2O	18

Proposed Operations Plan





WEST END TRANSITWAY