

Service Evaluation Study

Central Avenue (C21, 22, 26, 29) and Pointer Ridge Lines (C28)

Final Report

September 2012



Study Purpose

- *The primary study purpose is to identify the strategic needs for programs and facilities for the Central Avenue and Pointer Ridge Lines. The study includes a review of capacity, productivity, reliability, and quality of service indicators as well as recommended changes to improve service delivery.*

Project Scope of Work

- *Transit Service Assessment*
 - Developed a detailed assessment and “snapshot” of the Central Avenue and Pointer Ridge Lines
 - Overall service characteristics, ridership and productivity, boardings and alightings, passenger loads, bus stop spacing, on-time performance, driver and planner interviews
- *Traffic Operations Assessment*
 - Identify the full range of traffic issues on the Central Avenue and Pointer Ridge Lines
 - Traffic signals and other traffic control devices
 - Lane widths and right-of-way
 - Turns and adequate turning radius



Project Scope of Work

- *Public Outreach*
 - Rider survey to gauge issues and needs
 - Two public meetings
 - Issues identification
 - Feedback on preliminary recommendations
 - Outreach results were key input into the study process and recommendations



Project Scope of Work

- *Recommendations*
 - Completed in two steps
 - Preliminary recommendations – relied on inputs from all previous steps
 - Final – incorporate project team comments
 - Areas covered by recommendations
 - Additional trips to address crowding
 - Routing adjustments
 - Passenger facilities
 - Traffic and running way improvements
 - Schedule adjustments to reflect actual run times



Line Summary

- Line Description
 - The Central Avenue and Pointer Ridge lines operate completely within Prince George's County. The Central Avenue Line (C21, C22, C26, and C29) runs in an east-west direction along the Central Avenue corridor, with each route pattern serving different terminals. Terminals at the east end of the line include Collington Center, the Pointer Ridge neighborhood, the East Kettering neighborhood, and Bowie State University. Terminals at the western end of the line include the Largo Town Center Metrorail Station and the Addison Road Metrorail Station.



Line Summary

- Line Description
 - The Pointer Ridge line is a companion line to the Central Avenue line and runs between the Pointer Ridge neighborhood and the New Carrollton Metrorail Station.



Line Summary

- *Service Characteristics*
 - Days and hours of service (start of first trip to start of last trip)

	Central Avenue Line Hours of Service	Pointer Ridge Line Hours of Service
Weekday	4:48 AM – 10:22 PM	5:15 AM – 7:20 PM
Saturday	6:41 AM – 7:35 PM	Area covered by C29 Service
Sunday	7:33 AM – 7:36 PM	No Sunday Service

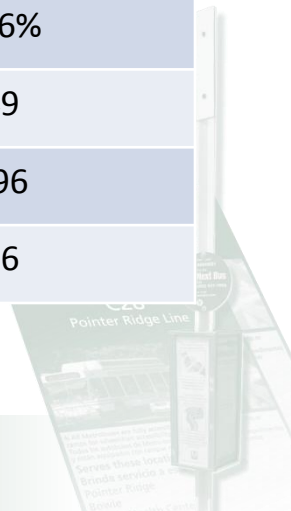


Line Summary

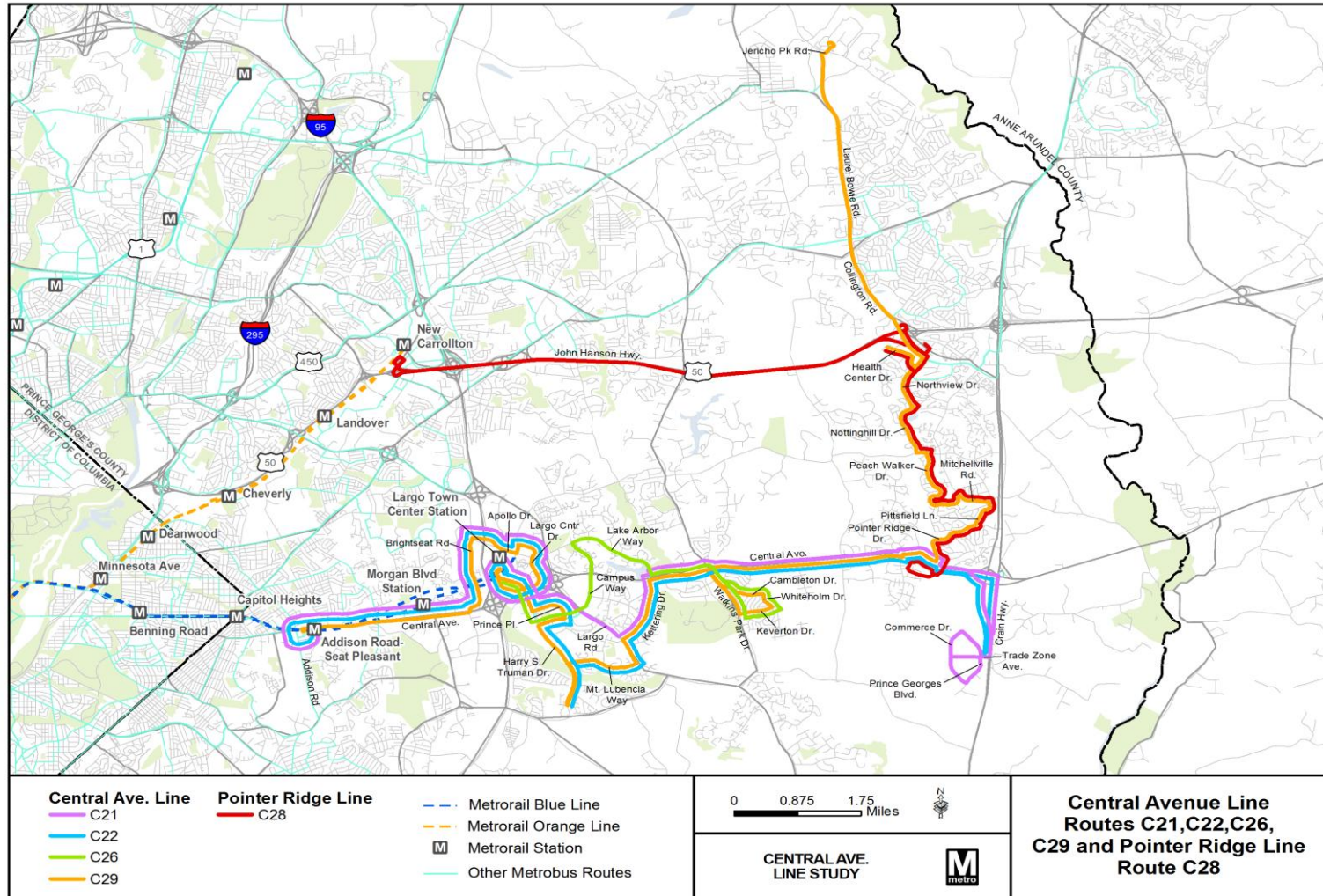
- Weekday Ridership and Productivity*

Line	Productivity Measure	Value	Minimum WMATA Standard
Central Avenue Line (C21, 22, 26, 29)	Daily ridership	2,980	> 358
	Cost recovery from fares	30.83%	>14.96%
	Boardings/trip	28	>9.49
	Subsidy/passenger	\$2.20	<\$5.96
	Boardings/revenue mile	2.31	>1.16
Pointer Ridge Line (C28)	Daily ridership	473	> 358
	Cost recovery from fares	18.76%	>14.96%
	Boardings/trip	15	>9.49
	Subsidy/passenger	\$4.24	<\$5.96
	Boardings/revenue mile	.99	>1.16

Source: WMATA Productivity Report – generated January 2012



Line Map



Central Avenue (C21, 22, 26, 29) and Pointer Ridge (C28) Lines – Service Evaluation Study

Study Findings

- Bus Crowding
 - Seasonal bus crowding occurs during portion of the year when Six Flags is open due to both employees and park users utilizing the Central Avenue Line to access the park
- Insufficient Run Time
 - Review of NextBus data identify incidences of insufficient scheduled run time when compared to actual run times
- Passenger Facilities
 - Bus stop spacing – multiple stops are too close together based on WMATA bus stop spacing guidelines
 - Multiple stops lack basic bus stop amenities as outlined in WMATA Bus Stop Guidelines



Service Recommendations

Recommendation #1

- *Recommendation*
 - Run supplemental trips during period of year when Six Flags is open
 - One additional eastbound weekday trip per hour, starting at 9:30 AM and ending with last additional trip at 1:30 PM – utilize C21 route pattern
 - Five additional eastbound trips
 - One additional eastbound Saturday trip per hour, starting at 9:00 AM and ending with last additional trip at 1:00 PM – utilize modified C29 trip pattern that runs via Largo Road and terminates at Hall Road and Central Avenue
 - Five additional eastbound trips
 - One additional eastbound Sunday trip per hour, starting at 10:30 AM and ending with last additional trip at 11:30 PM – utilize same modified trip pattern as proposed for Saturday
 - Two additional eastbound trips



Service Recommendations

Recommendation #1 (cont)

- Run two supplemental westbound trips at the end of the day, after the park closes
 - First trip would be 30 minutes after park closes and focused on park users and second would be 45 minutes after park closes and focused on park employees
 - Every day of the week between third week of June (after schools close) until day after Labor Day
- *Recommendation Purpose*
 - Excessive crowding occurs during the summer months during the portions of the day when supplemental trips are proposed
- *Estimated Annual Operating Cost Associated with Change*
 - \$50,173



Service Recommendations

Recommendation #2

- *Recommendation*
 - Evaluate potential to convert C21 route patterns into C22 route patterns in order to minimize passenger confusion and provide greater service coverage
- *Recommendation Purpose*
 - Running two different trip patterns during different times of the day and direction can cause passenger confusion. In addition, the C21 provides less service coverage than the C22, thus inconveniencing riders who do not receive coverage during the entire day.
- *Estimated Annual Operating Cost Associated with Change*
 - \$205,918



Service Recommendations

- Recommendation #3

- *Recommendation*

- Adjust Central Avenue Line schedules to reflect actual run times and improve reliability on line

- *Recommendation Purpose*

- Inadequate scheduled run time results in a lack of service reliability, which causes rider inconvenience and hurts the rider experience

- *Estimated Annual Operating Cost Associated with Service Modification*

- \$248,138



Facility Recommendations

Recommendation #4

- *Recommendation*

- Begin bus stop consolidation process following WMATA procedures – potential consolidation candidates have been identified based on distance between stops guidelines

- *Recommendation Purpose*

- Improve passenger convenience
- Improve trip times

- *Estimated Capital Costs Associated with Change*

- Costs cannot be calculated until specific stops to be consolidated are identified



Facility Recommendations

- Recommendation #4 (cont.) – Central Avenue Line Eastbound Consolidation Candidates

BRIGHTSEAT RD + #403	CAMPUS WAY SOUTH + 10155	WATKINS PARK DR + CAMBLETON DR
LARGO CENTER DR + LAKE POINTE CT	CAMPUS WAY NORTH + STOCKPORT CT	CAMBLETON DR + WEYMOUTH ST
LARGO CNTR DR + BUILDING 9816	CAMPUS WAY NORTH + LAKE ARBOR WAY	COMMERCE DR + #476
CAMPUS WAY SOUTH + #10055	KETTERING DR + KETTERING CT	TRADE ZONE AVE + #16155
CAMPUS WAY SOUTH + #10143	KETTERING DR + RED JADE DR	COMMERCE DR + #901
CAMPUS WAY SOUTH + 10147	KETTERING DR + RED JADE DR	



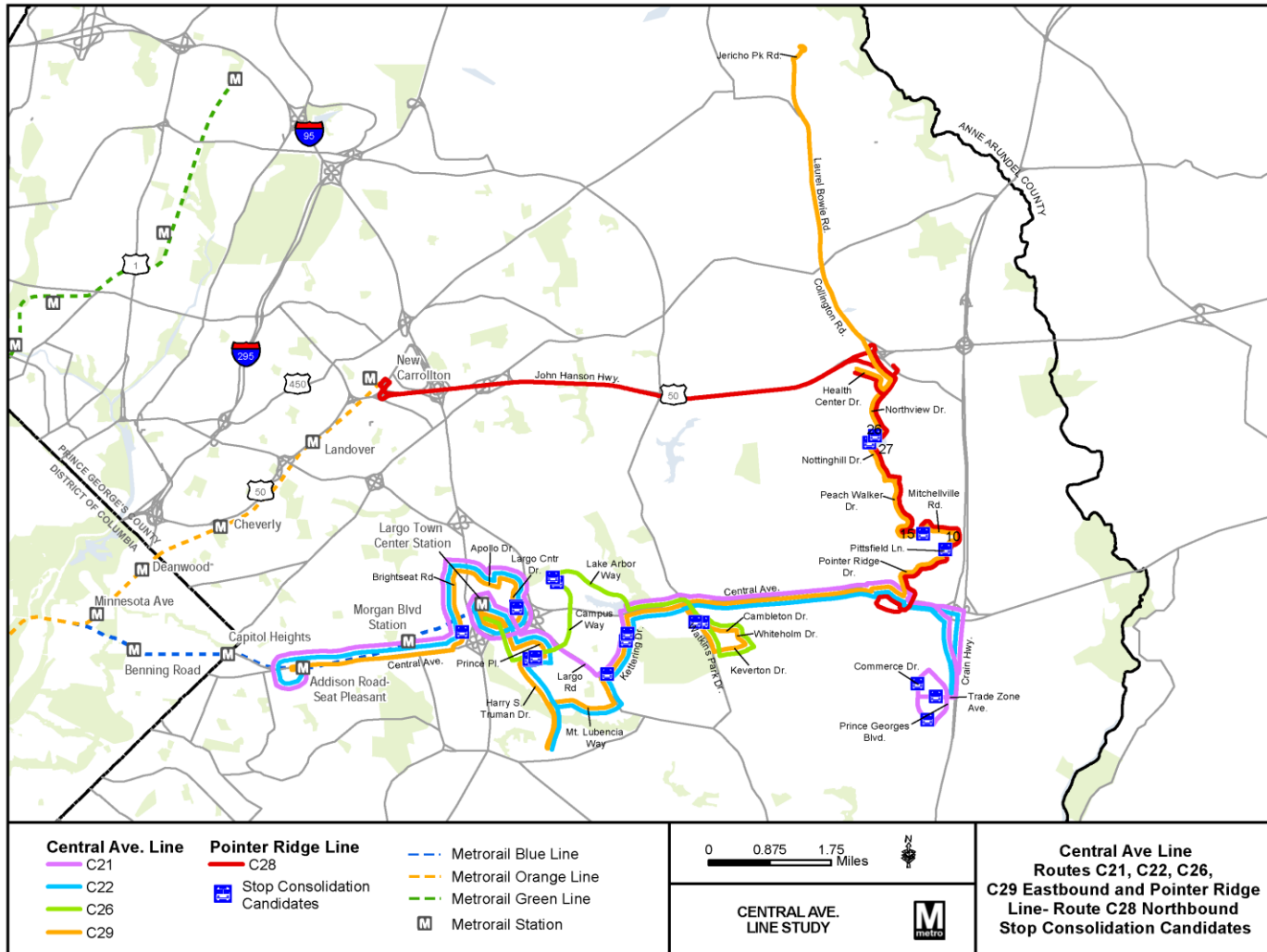
Facility Recommendations

- Recommendation #4 (cont.) – Pointer Ridge Line Northbound Consolidation Candidates (toward New Carrollton)

PITTSFIELD LA + PICKFORD LA	NOTTINGHILL DR + NEWSOME LA
PEACH WALKER DR + PRICE LA	NOTTINGHILL DR + NORTHSHIRE LA



Facility Recommendations



Eastbound Stop
Consolidation Candidates -
Central Avenue Line
(C21, 22, 26,29)

Northbound Stop
Consolidation Candidates –
Pointer Ridge Line (C28) –
(toward New Carrollton)

Facility Recommendations

- Recommendation #4 (cont.) – Central Avenue Line Westbound Consolidation Candidates

TRADE ZONE AVE + #16155	KETTERING DR + KETTERING CT	HARRY S TRUMAN DR + PRINCE PL
COMMERCE DR + #901	CAMPUS WAY SOUTH + #10055	HARRY S TRUMAN DR + PRINCE PL
TRADE ZONE AVE + #16155	CAMPUS WAY SOUTH + #10143	PRINCE PL + PINES
CENTRAL + DEVONWOOD DR	CAMPUS WAY SOUTH + PRINCE PL	HARRY S TRUMAN DR + LARGO RD
WHITEHOLM DR + KEVERTON DR	CAMPUS WAY SOUTH + PRINCE PL	BRIGHTSEAT RD + DHR
CAMPUS WAY NORTH + LAKE ARBOR WAY	CAMPUS WAY SOUTH + 10147	
CAMPUS WAY NORTH + ARBOR PARK PL	CAMPUS WAY SOUTH + 10155	



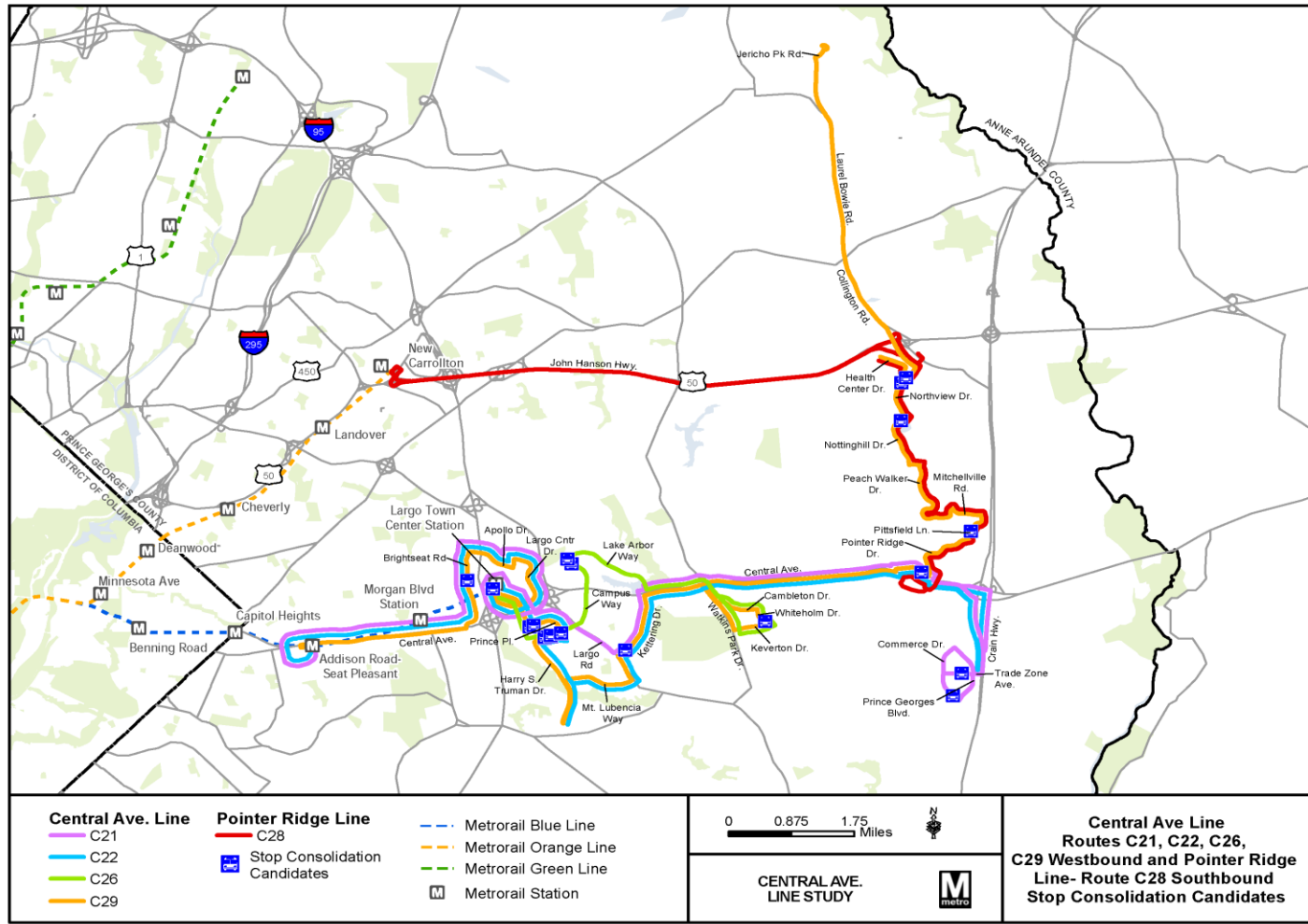
Facility Recommendations

- Recommendation #4 (cont.) – Pointer Ridge Line Southbound Consolidation Candidates (toward Pointer Ridge)

NORTHVIEW DR + HEALTH CENTER DR	NOTTINGHILL DR + NORTHSHIRE LA
NORTHVIEW DR + NEW HAVEN DR	PITTSFIELD LA + PICKFORD LA



Facility Recommendations



Westbound Stop Consolidation Candidates - Central Avenue Line (C21, 22, 26,29)

Southbound Stop Consolidation Candidates – Pointer Ridge Line (C28) – (toward Pointer Ridge)

Facility Recommendations

Recommendation #5

- *Recommendation*

- Improve amenities at bus stops

- Candidates for additional amenities were identified based on WMATA Bus Stop Amenity Hierarchy from the WMATA Bus Stop Guidelines.
- Recommendations include:
 - installation of 158 bus stop pads
 - Immediate installation of information cases at two stops and information case installation at 17 stops when resources become available
 - Installation of nine bus stop flags
 - Installation of nine trash receptacles
 - Installation of four shelters and benches



Facility Recommendations

- Recommendation #5 (cont.)
 - *Recommendation Purpose*
 - Stops are the gateway to the transit system for bus passengers. Improving stop amenities creates a better passenger experience and an overall positive image for the system
 - *Estimated Capital Cost Associated with Change*
 - \$289,700 for full program of improvements



Facility Recommendations

- Recommendation #5 (cont.) – Bus Stop Amenities – Central Avenue Line – Eastbound Stops Having Neither a Bus Stop Pad or Sidewalk at Stop

Stop	Stop Daily Boardings	Stop	Stop Daily Boardings
(Rt 214) Central Ave & Lincoln Tech	11	Brightseat Rd & Prince George's Co DHR	4
(Rt 214) Central Ave & Pepper Mill Dr	7	Campus Way North & Lake Arbor Way	4
(Rt 214) Central Ave & Ritchie Rd	18	Campus Way North & Lazy Day La	5
(Rt 214) Central Ave & Shady Glen Dr	22	Campus Way North & Westlake Dr	1
(Rt 214) Central Ave & Walker Mill Dr	1	Harry Truman Dr & Largo Dr (W)	18
(Rt 214) Central Ave & West Hampton Ave	0	Harry Truman Dr & Lottsford Rd	0
Apollo Dr & Arena Dr	0	Kettering Dr & (Rt 202) Largo Rd	0
Apollo Dr & Lottsford Rd	6	Kettering Dr & Abbotswood Ct	1
Brightseat Rd & #403	9	Kettering Dr & Bennington Dr	0

Facility Recommendations

- Recommendation #5 (cont.) – Bus Stop Amenities – Central Avenue Line – Eastbound Stops Having Neither a Bus Stop Pad or Sidewalk at Stop

Stop	Stop Daily Boardings	Stop	Stop Daily Boardings
Kettering Dr & Honeysuckle Ct	7	Lake Arbor Way & Prem #10506	1
Kettering Dr & Kettering Ct	1	Lake Arbor Way & Winged Foot Dr	0
Kettering Dr & Red Jade Dr (N)	0	Largo Center Dr & Lake Pointe Ct	7
Kettering Dr & Red Jade Dr (S)	1	Lottsford Rd & Arena Dr	0
Lake Arbor Way & (Rt 214) Central Ave	0	Mt Lubentia Way & Bly Ct	2
Lake Arbor Way & Fairlakes Pl	0	Mt Lubentia Way & Darien Pl	0
Lake Arbor Way & Golf Course Dr	1	Mt Lubentia Way & Falcon Dr (E)	0
Lake Arbor Way & Lake Front Dr	0	(Rt 214) Central Ave & #13901	0
Lake Arbor Way & Lake Shore Dr	0	(Rt 214) Central Ave & Cameron Grove Blvd	5



Facility Recommendations

- Recommendation #5 (cont.) – Bus Stop Amenities – Central Avenue Line – Eastbound Stops Having Neither a Bus Stop Pad or Sidewalk at Stop

Stop	Stop Daily Boardings
(Rt 214) Central Ave & Church Rd	0
(Rt 214) Central Ave & Danfield Rd	0
(Rt 214) Central Ave & Kettering Dr	0
(Rt 214) Central Ave & Six Flags Park	9
(Rt 214) Central Ave & St Michael's Dr	1
(Rt 214) Central Ave & Staton Dr	0
(Rt 214) Central Ave & Watkins Park Dr	23
Kettering Dr & West Branch Dr	8



Facility Recommendations

- Recommendation #5 (cont.) – Bus Stop Amenities – Central Avenue Line – Westbound Stops Having Neither a Bus Stop Pad or Sidewalk at Stop

Stop	Stop Daily Boardings	Stop	Stop Daily Boardings
Largo Center Dr & Lake Pointe Ct	0	Brightseat Rd & T G Pullen School	1
Largo Center Dr & Zachary St	24	(Rt 214) Central Ave & Daimler Dr	1
Largo Rd (Rt 202) & Castleton Dr	3	(Rt 214) Central Ave & Gentry La	5
Lottsford Rd & Arena Dr	6	(Rt 214) Central Ave & Jonquil Ave	2
Mt Lubentia Way & Darien Pl	8	(Rt 214) Central Ave & Lincoln Tech	4
Mt Lubentia Way & Dwyer Pl	2	(Rt 214) Central Ave & Pepper Mill Dr	4
Mt Lubentia Way & Falcon Dr (E)	8	(Rt 214) Central Ave & St Michael's Dr	16
Mt Lubentia Way & Mt Lubentia Ct	8	Apollo Dr & Arena Dr	5
Brightseat Rd & Bet #338 & 400 Social Security	6	Apollo Dr & Mercantile La	11



Facility Recommendations

- Recommendation #5 (cont.) – Bus Stop Amenities – Central Avenue Line – Westbound Stops Having Neither a Bus Stop Pad or Sidewalk at Stop

Stop	Stop Daily Boardings	Stop	Stop Daily Boardings
Brightseat Rd & Centre Point Office Park	18	Kettering Dr & Herrington Dr	10
Brightseat Rd & Glen Valley Dr	7	Kettering Dr & Honeysuckle Ct	7
Campus Way North & Arbor Park Pl	12	Kettering Dr & Kettering Crossing	12
Campus Way North & Elders Hollow Dr	22	Kettering Dr & Kettering Ct	2
Campus Way North & Lake Arbor Way	4	Kettering Dr & Kettering La	9
Campus Way North & West Haven Dr	17	Lake Arbor Way & Burning Tree Ct	12
Campus Way South & (Rt 202) Largo Rd	11	Lake Arbor Way & Congressional Ct	8
Kettering Dr & (Rt 202) Largo Rd	16	Lake Arbor Way & Fairlakes Pl	12
Kettering Dr & Bennington Dr	19	Lake Arbor Way & Golf Course Dr	9



Facility Recommendations

- Recommendation #5 (cont.) – Bus Stop Amenities – Central Avenue Line – Westbound Stops Having Neither a Bus Stop Pad or Sidewalk at Stop

Stop	Stop Daily Boardings	Stop	Stop Daily Boardings
Lake Arbor Way & Prem #10506	0	(Rt 214) Central Ave & Pennsbury Dr	24
Lake Arbor Way & Winged Foot Dr	14	(Rt 214) Central Ave & Staton Dr	0
Lake Arbor Way & Woodmont Ct	3	Arena Dr & Shoppers Way	0
Largo Center Dr & Harry S Truman Dr	1	Brightseat Rd & #416 Pg Social Service	5
(Rt 214) Central Ave & #13901	0	(Rt 214) Central Ave & Morgan Blvd	35
(Rt 214) Central Ave & Cameron Grove Blvd	13	Kettering Dr & Kettering Terr	4
(Rt 214) Central Ave & Church Rd	10		
(Rt 214) Central Ave & Danfield Rd	2		
(Rt 214) Central Ave & Devonwood Dr	19		



Facility Recommendations

- Recommendation #5 (cont.) – Bus Stop Amenities – Central Avenue Line – Stops Served in Two Directions Due to Routing - Having Neither a Bus Stop Pad or Sidewalk at Stop

Stop	Stop Daily Boardings	Stop	Stop Daily Boardings
Hall Rd & Pin Oak Pkwy	5	Prince George's Blvd & Branch Ct	0
Commerce Dr & #475	0	Prince George's Blvd & Commerce Dr	2
Commerce Dr & #515	4	Prince George's Blvd & Trade Zone Ave	6
Commerce Dr & #800	1	Trade Zone Ave & #16001	8
Commerce Dr & #901	0	Cambleton Dr & Staton Dr	3
Commerce Dr & Commerce Ct	6	Cambleton Dr & Weymouth St	2
Prince George's Blvd & #300	0	Harry Truman Dr & Mt Lubentia Way N	8
Prince George's Blvd & #400	0	Keverton Dr & Alistair St	3
Prince George's Blvd & #700	0	Watkins Park Dr & Cambleton Dr S	30



- Recommendation #5 (cont.) – Bus Stop Amenities – Central Avenue Line – Stops Served in Two Directions Due to Service Routing - Having Neither a Bus Stop Pad or Sidewalk at Stop

Stop	Stop Daily Boardings
Watkins Park Dr & Cambleton Dr N	5
Watkins Park Dr & Chesterton Dr S	11
Whiteholm Dr & Keverton Dr	9
Trade Zone Ave & #16155	1
Trade Zone Ave & Prince George's Blvd	22
Commerce Dr & #839	0
Keverton Dr & Watkins Park Dr	19
Watkins Park Dr & Chesterton Dr N	54



Facility Recommendations

- Recommendation #5 (cont.) – Bus Stop Amenities – Pointer Ridge Line – Northbound and Westbound Stops (toward New Carrollton) - Having Neither a Bus Stop Pad or Sidewalk at Stop

Stop	Stop Daily Boardings	Stop	Stop Daily Boardings
Mitchellville Rd & Arbor Hill La	7	Nottingham Dr & Needlewood La (N)	9
Nottingham Dr & Northview Dr	6	Nottingham Dr & Needlewood La (S)	14
Peach Walker Dr & Piller La	8	Peach Walker Dr & Mitchellville Rd	3
Pittsfield La & Pond Meadow La (N)	8	Peach Walker Dr & Mt Oak Rd	4
197 Collington Rd & Faith La	0*	Peach Walker Dr & Panther La	5
197 Collington Rd & Lerner Pl	0 *	Peach Walker Dr & Pecan La	1
197 Collington Rd & Tulip Grove Dr	0*	Peach Walker Dr & Perrell La	1
197 Laurel-Bowie Rd & Race Track Rd	3 *	Peach Walker Dr & Plymouth Ct	0
197 Laurel-Bowie Rd & Rustic Hill Dr	0 *	Peach Walker Dr & Powell La (S)	1

* Stop served by C29 on Saturday only – boardings are Saturday boardings



Facility Recommendations

- Recommendation #5 (cont.) – Bus Stop Amenities – Pointer Ridge Line – Northbound and Westbound Stops (toward New Carrollton) - Having Neither a Bus Stop Pad or Sidewalk at Stop

Stop	Stop Daily Boardings
Peach Walker Dr & Price La	3
197 Laurel-Bowie Rd & Whitehall Dr	0*

* Stop served by C29 on Saturday only – boardings are Saturday boardings



Facility Recommendations

- Recommendation #5 (cont.) – Bus Stop Amenities – Pointer Ridge Line – Southbound and Eastbound Stops (toward Pointer Ridge) - Having Neither a Bus Stop Pad or Sidewalk at Stop

Stop	Stop Daily Boardings	Stop	Stop Daily Boardings
197 Collington Rd & Lerner Pl	0*	Pittsfield La & Pond Meadow La (N)	0
197 Collington Rd & Long Ridge La	0*	Pointer Ridge Dr & Penn Manor La	0
197 Collington Rd & Lyle La	0*	Pointer Ridge Dr & Presswick La	0
197 Collington Rd & Tongue Ave	1*	Mitchellville Rd & Arbor Hill La	0
197 Laurel-Bowie Rd & Race Track Rd	5*	Nottingham Dr & Northshire La	0
197 Laurel-Bowie Rd & Rustic Hill Dr	0*		
Pittsfield La & #1610	0		
Pittsfield La & Pickford La	0		
Pittsfield La & Pointer Ridge Dr	0		

* Stop served by C29 on Saturday only – boardings are Saturday boardings



Facility Recommendations

- Recommendation #5 (cont.) – Bus Stop Amenities – Pointer Ridge Line – Stops Served in Two Directions Due to Routing - Having Neither a Bus Stop Pad or Sidewalk at Stop

Stop	Stop Daily Boardings
Health Center Dr & Northview Dr	3*
Health Center Dr & Senior Center	3
Hall Rd & Pointer Ridge Dr	80

* Stop served by C29 on Saturday only – boardings are Saturday boardings



Facility Recommendations

- Recommendation #5 (cont.) – Bus Stop Amenities – Central Avenue and Pointer Ridge Lines Stops Recommended for Immediate Installation of an Information Case (stops with more 50 or more boardings per day that do not currently have an information case)

Stop	Direction	Line	Daily Stop Boardings
Central Avenue & Enterprise Road	Westbound	Central Avenue	78
Central Avenue & Chesteron Drive (N)	EB/WB*	Central Avenue	54

*Stop is served in both directions based on routing

No Pointer Ridge Line Stops that are missing an information case have 50 or more boardings per day



Facility Recommendations

- Recommendation #5 (cont.) – Bus Stop Amenities – Central Avenue and Pointer Ridge Lines Stops Recommended for Installation of an Information Case when Resources become Available (stops with 20 or more boardings per day that do not currently have an information case)

Stop	Direction	Line	Daily Stop Boardings
Central Avenue & Cindy Lane	Eastbound	Central Avenue	26
Central Avenue & Shady Glen Drive	Eastbound	Central Avenue	22
Central Avenue & Watkins Park Drive	Eastbound	Central Avenue	23
Campus Way South & Prince Place	Eastbound	Central Avenue	31
Campus Way South & Largo Road	Eastbound	Central Avenue	25
Central Avenue & Morgan Blvd.	Westbound	Central Avenue	24
Brightseat Road & County Social Service Office (#416)	Westbound	Central Avenue	35
Campus Way North & Elders Hollow Drive	Westbound	Central Avenue	22
Campus Way South & 10147 Treetop Condos	Westbound	Central Avenue	24

Facility Recommendations

- Recommendation #5 (cont.) – Bus Stop Amenities – Central Avenue and Pointer Ridge Lines Stops Recommended for Installation of an Information Case when Resources become Available (stops with 20 or more boardings per day that do not currently have an information case)

Stop	Direction	Line	Daily Stop Boardings
Campus Way South & Joyceton Drive	Westbound	Central Avenue	49
Harry S Truman Drive & Capital Lane	Westbound	Central Avenue	23
Largo Center Drive & Zachary Street	Westbound	Central Avenue	24
Prince Place & the Pines Apartments	Westbound	Central Avenue	31
Harry S Truman Drive & Birdie Lane	EB/WB*	Central Avenue	38
Trade Zone Avenue & Prince George's Blvd.	EB/WB*	Central Avenue	22
Watkins Park Drive & Cambelton Drive (N)	EB/WB*	Central Avenue	30
Northview Drive & Collington Rd South	Northbound	Pointer Ridge	26

*Stop is served in both directions based on routing



Facility Recommendations

- Recommendation #5 (cont.) – Bus Stop Amenities – Both Lines – Stops Missing a Bus Stop Flag

Stop	Direction	Line	Daily Stop Boardings
Commerce Dr & #839	EB/WB*	Central Avenue	0
Keverton Dr & Watkins Park Dr	EB/WB*	Central Avenue	19
Watkins Park Dr & Chesterton Dr N	EB/WB*	Central Avenue	54
Campus Way South & (Rt 202) Largo Rd	EB	Central Avenue	25
(Rt 214) Central Ave & Morgan Blvd	WB	Central Avenue	24
Kettering Dr & Kettering Terr	WB	Central Avenue	4
Largo Rd (Rt 202) & Castleton Dr	WB	Central Avenue	3
197 Laurel-Bowie Rd & Old Chapel Rd (N)	NB	Central Avenue – C29 – Saturday Only	0
197 Laurel-Bowie Rd & Whitehall Dr	NB	Central Avenue – C29 – Saturday Only	0

*Stop is served in both directions based on routing



Facility Recommendations

- Recommendation #5 (cont.) – Bus Stop Amenities – Both Lines – Stops that are Candidates for a Trash Receptacle based on Daily Boardings (25 or more boardings per day)

Stop	Direction	Line	Daily Stop Boardings
(Rt 214) Central Ave & Six Flags Park	WB	Central Avenue	147
(Rt 214) Central Ave & Brightseat Rd	WB	Central Avenue	95
(Rt 214) Central Ave & Enterprise Rd	WB	Central Avenue	78
Brightseat Rd & #416 Pg Social Service	WB	Central Avenue	35
Rt 214) Central Ave & Cindy La	EB	Central Avenue	26
Hall Rd & Pointer Ridge Dr	Both Directions*	Central Avenue & Pointer Ridge	80
Watkins Park Dr & Chesterton Dr N	Both Directions*	Central Avenue	54
Harry Truman Dr & Birdie La	Both Directions*	Central Avenue	38
Watkins Park Dr & Cambleton Dr N	Both Directions*	Central Avenue	35

*Stop is served in both directions based on routing



Facility Recommendations

- Recommendation #5 (cont.) – Bus Stop Amenities – Both Lines – Stops that are Candidates for a Shelter and Bench based on Daily Boardings (50 or more boardings per day)

Stop	Direction	Line	Daily Stop Boardings
(Rt 214) Central Ave & Brightseat Rd*	WB	Central Avenue	95
(Rt 214) Central Ave & Enterprise Rd	WB	Central Avenue	78
Hall Rd & Pointer Ridge Dr	Both Directions*	Central Avenue & Pointer Ridge	80
Watkins Park Dr & Chesterton Dr N	Both Directions*	Central Avenue	54

*Stop is served in both directions based on routing



Traffic Improvement Recommendations

Recommendation #6

- *Recommendation*
 - Implement multiple traffic related recommendations to improve operations and reliability on the Central Avenue and Pointer Ridge Lines
 - Specific Recommendations
 - Conduct turning movement/pedestrian counts at the intersection of Central Avenue and Ritchie Road/Morgan Boulevard and optimize cycle length/splits based on traffic demand on all intersection legs.
 - Conduct turning movement/pedestrian counts at the intersection of Central Avenue and Brightseat Road and optimize cycle length/splits based on traffic demand on all intersection legs.



Traffic Improvement Recommendations

Recommendation #6 (cont.)

- Explore the possibility of providing eastbound vehicles turning left from Central Avenue onto Devonwood Drive with a protected permissive left-turn phase, which would run concurrently with eastbound through traffic.
- Conduct turning movement/pedestrian counts at the intersection of Trade Zone Avenue and Crain Highway and optimize cycle length/splits based on the traffic demand on all legs of the intersection.
- Conduct turning movement/pedestrian counts at the intersection of Central Avenue and Watkins Park Drive/Enterprise Road and optimize cycle length/splits based on the traffic demand on all legs of the intersection.
- Conduct turning movement/pedestrian counts at the intersection of Largo Road and the entrance to Largo High School and optimize cycle length/splits based on the traffic demand on all legs of the intersection.



Traffic Improvement Recommendations

Recommendation #6 (cont.)

- Conduct turning movement/pedestrian counts at the intersection of Largo Road and Campus Way South and optimize cycle length/splits based on demand for all traffic movements.
- Evaluate the possibility, at the intersection of Largo Drive/Largo Center Drive and Harry S Truman Drive, of making the eastbound Largo Drive curb lane, which is currently a shared through and right-turn lane into a dedicated right-turn lane. The eastbound right-turn could run concurrently with northbound Harry S Truman Drive movements. This could reduce the delays for eastbound Largo Drive right-turning vehicles.
- Conduct turning movement/pedestrian counts at the intersection of Central Avenue and Kettering Drive and optimize cycle length/splits based on demand for all traffic movements. Explore the possibility of increasing the green time for the westbound left turn.



Traffic Improvement Recommendations

Recommendation #6 (cont.)

- Conduct turning movement/pedestrian counts at the intersection of Health Center Drive and Northview Drive and optimize cycle length/splits based on demand for all traffic movements.
- Regarding the intersection of Central Avenue and Addison Road, a number of recommendations are made:
 - Change the leading left turn phase to lagging left turn phase on westbound approach so that buses can reach the left turn pocket before the left-turn phase starts.
 - Increase the storage length of the left turn pocket to avoid buses being blocked by through queues.
 - Explore the possibility of buses making the left turn ahead of the intersection of Addison Road and Central Avenue into the Addison Road Metro Station.
- At the intersection of Northview Road and Collington Road, provide a right-turn phase for southbound approach (on Northview Drive) that runs concurrently with eastbound left turn phase (on Collington Rd) to reduce the bus wait time to make the right turn.



Traffic Improvement Recommendations

Recommendation #6 (cont.)

- At the southbound Brightseat Road approach to Central Avenue, examine the curb lane width to ensure it meets roadway design criteria.
- Ensure adequate road widths within the Bowie Health Center are present and widen the turning radii if necessary. If adequate turning movement space is not available, consider moving the Bowie Health Center bus stop to a more accessible location.
- It is recommended that the HOV lane markings along U.S. Route 50, where the C28 runs, are made clearer, with additional signs indicating the enforcement hours. This improvement is beneficial to the bus, especially when there is traffic congestion on Route 50 and also in times of emergency situations.
- Along eastbound Arena Drive, look into the possibility of re-locating the bus stop after the Shoppers Way intersection to limit lane weaving.



Traffic Improvement Recommendations

Recommendation #6 (cont.)

- Re-locate the transit stop along eastbound Apollo Drive further east from the intersection with Lottsford Road or move the bus stop to Lottsford Road south of Apollo Drive.
- Re-locate the transit stop along eastbound Central Avenue further west of Watkins Park Drive to address safety concerns and to still adequately serve the C26 route.
- Re-locate the westbound transit stop at Six Flags west of the signalized Six Flags America entrance. This would address bus safety concerns resulting from the stop located on a right turn only lane and concentrate the Six Flags America eastbound and westbound transit stops west of the intersection, helping to decrease pedestrian crossings between the two stops.
- Re-locate the transit stop along westbound Hall Road at Devonwood Drive further east of Devonwood to address safety concerns and to provide adequate space for the bus to access the left turn lane in mixed traffic.



Traffic Improvement Recommendations

Recommendation # 6 (cont.)

- Add “no parking” signs in front of bus stops along Kettering Drive between Largo Road and Central Avenue to address safety concerns associated with buses blocking traffic.
- Consider adding a dashed turning line across the intersection of Central Avenue and Kettering Drive from southbound Lake Arbor Way to eastbound Central Avenue to guide vehicles across the intersection and address safety concerns. If necessary, conduct turning movement/pedestrian counts at this intersection and optimize cycle length/splits based on demand for all traffic movements. Also consider separating the turning movements into separate movements.
- Conduct turning movement/pedestrian counts at the intersection of Hall Road and Central Avenue and consider signaling the intersection based on the traffic count results.



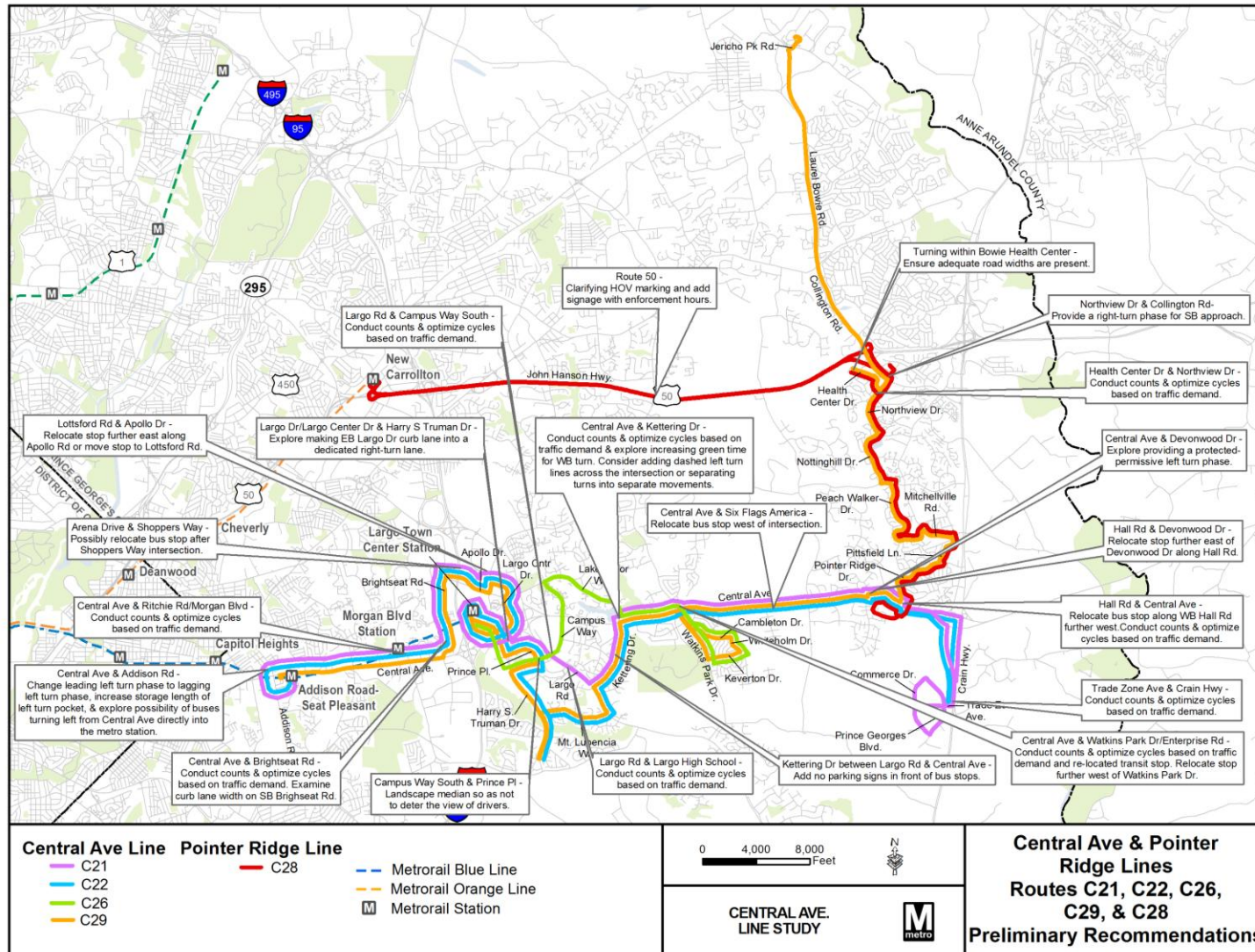
Traffic Improvement Recommendations

Recommendation #6 (cont.)

- Consider landscaping the median of Campus Way South at Prince Place so as not to block the views of drivers making the left turn onto northbound Prince Place from eastbound Campus Way South.



Traffic Improvement Recommendations



Summary of Traffic Improvement Recommendations

Central Avenue (C21, 22, 26, 29) and Pointer Ridge (C28) Lines – Service Evaluation Study