



Washington Metropolitan Area Transit Authority

Priority Corridor Network Plan





Washington Metropolitan Area Transit Authority

THE NEED FOR IMPROVED BUS SERVICES

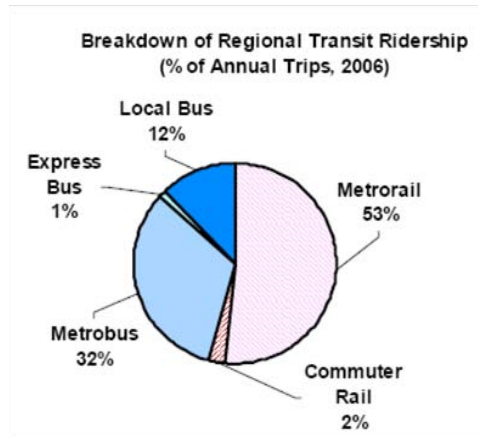
The Washington metropolitan area has been growing steadily for the past 30 years and is expected to continue to grow. According to Metropolitan Washington Council of Governments (MWCOC) estimates, jobs are expected to increase by 31 percent between 2008 and 2030, and population is expected to grow 26 percent over the same period. However, the region is not growing uniformly. The outer suburbs are expected to grow much faster than the regional core, with dramatic increases in population and employment. The regional core and inner suburbs will still have the highest concentrations of jobs in 2030, but the inner and outer suburbs will have the majority of the population.

The growth in population and employment and the pattern of growth both are contributing to increased vehicle travel. More people are traveling longer distances to reach their places of employment and other destinations. This increased travel means that there will be a need for more roadway and transit capacity. Because the demand for roadway space will increase faster than new roads can be built, greatly increased regional congestion on the roadways is expected by 2030. Growth estimates for the system show that Metrorail will not have the capacity to accommodate all of the projected ridership.

Bus services (including Metrobus, Express Bus, and Local Bus) provide around 45 percent of the annual transit trips in the region. Bus is the primary mode in many areas of the region (see Figures 1 and 2).

Bus travel in the region has been increasing steadily since 1997 at about two percent

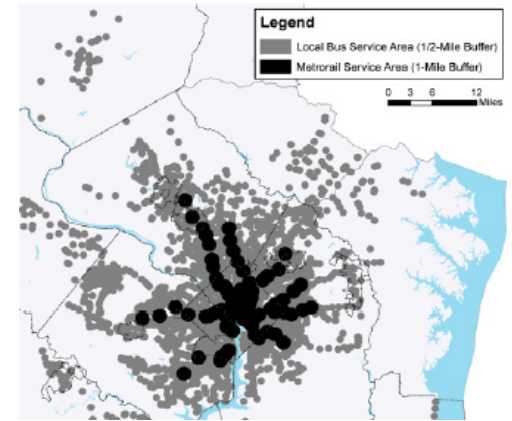
Figure 1: Transit Modes Used



per year, and is expected to continue to grow as population and employment increase. This growth has led to challenges for the Metrobus service. Not only has demand been increasing, but the added traffic congestion stemming from regional growth has been increasing bus trip travel time. The result has been an increase in crowding and more difficulty in adhering to schedules. With higher gasoline prices, more customers are trying transit so that Metrobus has an opportunity to win new customers. However, excess demand and service reliability problems limit Metro's ability to provide the quality experience that new customers expect.

The Regional Bus Study found that the improvement that existing riders want most is better schedule adherence. Nearly half selected on-time arrival compared to 31 percent wanting more frequent service and 25 percent wanting longer hours. So improvements in reliability of the service could go a long way to improved quality of service.

Figure 2: Metrorail, Metrobus, and Local Service Areas



Between 2000 and 2008, travel time by Metrobus has increased due to growing congestion. For example, Route 52 on Fourteenth Street in Washington DC experienced nearly a 14 percent increase in travel time, Route 29K on Little River Turnpike/Duke Street in Virginia experienced a 24 percent increase in travel time and Route Y8 on Georgia Avenue in Maryland experienced a 32 percent increase in travel time.

Longer travel time means Metrobus must spend more money to provide the same frequency of service. Moreover, customers are discouraged because it takes longer to reach their destinations. Thus while regional growth, gas prices and other concerns are adding to the demand for bus transportation, increased congestion is making bus transportation slower and more expensive. Part of the solution for improving bus service is the Metrobus Priority Corridor Network.



THE METROBUS PRIORITY CORRIDOR NETWORK

The Metrobus Priority Corridor Network is a strategy for improving bus service in the Washington region quickly and efficiently. It will provide a flexible plan that can be implemented in stages, with immediate payoff. The Metrobus Priority Corridor Network will improve bus service travel times, reliability, capacity, productivity and system access. The plan includes 24 corridors across the region and will impact half of all bus riders in the current Metrobus system.

The proposed Priority Corridor Network will provide an improved bus riding experience for new and existing customers alike. All bus services along these corridors will be made faster and more comfortable through the implementation of :

- Running way treatments such as removing on-street parking during peak service hours; providing signal priority to transit vehicles; providing left-hand turn lanes; and providing bus-only lanes or queue jumpers.
- Passenger facility amenities to provide passengers with a seamless transit system; increased mobility; improved access and circulation; and reliable service and good information.
- ITS technology to enhance communications; provide better scheduling; real-time traveler information; and transit signal priority.
- New buses with low floors and hybrid technology.

- Special branding to indicate faster service on selected bus routes.
- Bus maintenance and storage garages to house and maintain the increased fleet of buses.

The Metrobus Priority Corridor Network studies will be conducted with a comprehensive look at service elements designed to increase effectiveness while maximizing resources in eight key areas of service. These Eight Elements will guide each study toward the most workable recommendations available (see Table 1).

Planning Background

The plan for a Metrobus Priority Corridor Network is the culmination of extensive planning efforts on the part of Metro staff, jurisdictional representatives, and members of the public. The background of the plan comes from the following studies:

Regional Bus Study - The Regional Bus Study was conducted between 2000 and 2003. It developed a recommendation of a family of bus services to provide the capacity for Metro to be able to double overall system ridership by the year 2025. Part of that family of services was a recommendation for the establishment of a network of premium bus services.

These premium bus services would speed bus travel by eliminating stops, including bus priority traffic treatments, and speeding

boarding with low floor buses among other improvements. In addition, this service would be easy to understand due to well marked stops with special branding, improved schedule information, and real-time customer information as well. Additionally, the priority corridors will provide faster service for all routes in the corridor including local buses and community circulators.

Metro Matters - The Metro Matters funding agreement in 2004 included an action plan for a five-year replacement of 500 Metrobuses and fleet expansion by 185 buses. The Metro Matters funding program also required that the increase in fleet size be validated through a process of detailed examination of the action plan.

Metrobus Revenue Vehicle Fleet Management Plan - The Metrobus Revenue Vehicle Fleet Management Plan was completed in 2010 and includes plans for vehicle replacement and expansion, as well as plans for future facility expansion to house and maintain the Metrobus system.

Bus Network Evaluation - The Bus Network Evaluation was conducted between 2005 and 2007 to fulfill the Metro Matters requirement for a detailed study of bus improvements. It also had the purpose of refining and updating the original Regional Bus Study recommendations as well as reviewing, updating and re-evaluating the implementation of recommendations from the Regional Bus Study. The Bus Network Evaluation confirmed that



Table 1: Priority Corridor Service Elements

Element	Required	Near-Term (1 - 2 Years)	Long-Term (2+ Years)
Service Type, Frequency, Span and Coverage	Metrobus local Metrobus express Apply corridor design factors Service threshold compliance	Neighborhood circulator service Service change evaluation	Phased service improvements Funding to maintain service thresholds
Service Personnel and Operational Strategies	Dedicated service operations managers Service management playbook Driver training module Sustained driver familiarity training Monthly report Seats and aisles cleaned at end of each trip	Scout cars Lap-top computers for monitoring Line specialist at Bus Operations Control Standardized detours and notification	Service notification system
Customer Information Systems/Strategies	Sustained promotion plan/materials Service time-table brochures Metro website information Customer service agent information Customer comment monitoring Programmed telephone information Bus service disruption notices	Cooperative advertising Bus stop notices Automated audio announcements	Dynamic service information On-board video displays
Vehicle Design, Features and Amenities	Metrobus express livery buses Multi-colored destination signs (4 sides) Next-stop annunciators/displays Low-floor bus with ramp access High standard for bus condition Consistent dispatch of correct buses	New Metrobus local livery buses phase-in	
Fare Payment Strategies	Promote use of SmarTrip and Passes Promote passenger quick-boarding behaviors	Provide off-board SmarTrip stations	
Safety, Security and Incident Response	Conduct a service safety audit Enforce no-parking at bus stops Plan for routine MTPD patrols Implement “nuisance” passenger strategies Facilitate routine MTPD-Operator dialogue	Develop a Service Safety Program Plan Prepare incident response plans Engage local police in service dialogue Prepare EMA strategies Include rider safety messages in promotions	Monitor safety compliance
Bus Stops and Customer Facilities	New posts, flags, info cases Shelters at all express stops System maps at all shelters Legible schedule, fare & rider info Front door landing pad-all stops Trash cans at all express stops Daily stop monitoring and servicing	Key-stop accessible pathways Standard lighting Service notice cases Trash cans at key stops Vendor box controls Low-use stop consolidation Trail blazer signs	Next-arrival display signs at express stops Rear door landing pads at all stops Development of transit centers Bus stop access safety enhancement Lay-by construction (as needed) Bus bulb construction Development-related enhancements
Traffic Operations and Management Strategies	Parking enforcement Traffic hazard mitigation Terminal stands and stop relocations Problem resolution contacts Bus stop siting/safety	HOV/signal warrant studies Traffic signal adjustments Traffic control officers Standardized detours Pavement maintenance/repair	Dedicated ROW Transit signal priority

the additional buses were justified. The final report made recommendations regarding the regional service plan, vehicle and fleet requirements and new service branding strategies.

Priority Corridor Network Evaluation

The Priority Corridor Network Evaluation study was completed in November, 2009, as a means to provide a framework for further PCN evaluation, to identify corridor segments where runningway improvements will have the greatest benefits, and to establish the regional benefits and impact of the PCN to provide recommendations for regional capital improvements. The study concluded that not only would the PCN provide significant ridership benefits and attract over 100,000 new riders, but it would also provide significant system capacity increases, regional-level evaluation of the PCN system, and corridor-level evaluations on guideway configurations, traffic and environmental impacts, cost estimates, and travel-time savings.

In addition to these system-wide studies there have been individual corridor studies to provide detailed evaluation and public input for eight of the 24 corridors.

Policy Board and Public Outreach

The Metro Board of Directors and various stakeholder groups have been involved in discussions and decisions leading up to the

current priority corridor network plan. These include:

Actions of the Metro Board of Directors Related to the Priority Corridor Network

- Approved the Metrobus Revenue Vehicle Fleet Management Plan in 2007.
- Accepted Bus Network Evaluation findings documenting need for 135 Metro Matters expansion buses at June 2008 Board meeting
- Approved Priority Corridor Network Report and Implementation Strategy in October 2008.
- Approved implementation of recommendations for each completed corridor study in accordance with staff recommendation and within budget constraints.

Jurisdictional Coordinating Committee Reviews

Metro staff worked with the Jurisdictional Coordinating Committee (JCC) to review Plan details at the July, August and October 2008 meetings. The JCC provided comments regarding timing of corridors, funding concerns and identification of additional and emerging corridors.

Other Outreach

Metro staff made presentations to and sought input from the Transportation Planning Board, the Board of Trade, interest groups, and local boards and commissions.

Selection and Characteristics of the Priority Corridors

The Regional Bus Study evaluated corridors throughout the region and identified those with sufficient current or future potential to warrant running way improvements to support faster and more reliable bus services. Corridors with daily transit ridership over 5,000 per day were considered as candidates. Other candidates were those in fast developing corridors, where greater than average transit growth was expected. Since the Regional Bus Study was completed, some of the corridors on the final list have been consolidated while others have been separated to facilitate implementation. In 2008, the final 24 corridors were selected by considering:

- Corridors with high ridership, productivity, frequency, mode share and bus use
- Corridors with ridership sufficient to support a family of service choices such as Metrobus Local, Metrobus Express, and Neighborhood Shuttles
- Corridors with existing high priority Metrobus routes
- Corridors with long spans of service provided seven days per week
- Major Arterial TOD corridors with mixed-use development where continuing growth is anticipated

The recommended 24 corridors and their status and ridership statistics are shown in Table 2. Figure 3 shows how extensively the



Table 2: Definition of the Priority Corridors

Corridor Description	Line/Route Description	Status	State	Study Year	Implem. Year	Average Week-day Ridership ¹	Total Annual Ridership ²
Columbia Pike (Pike Ride)	16ABDEFGHJKLPWY	Implemented	VA	2002	2003	12,200	3,647,000
Richmond Highway Express (REX)	REX, 9A, FC 171, FC 151/152	Implemented	VA	2003	2004	3,600	1,063,000
Crystal City / Potomac Yard	9AE, 9S	Studied	VA	2005	2012	3,000	840,000
Georgia Avenue / 7th Street (DC)	70, 71, 79	Implemented	DC	2006	2007	17,500	5,417,000
National Harbor	NH1	Implemented	MD	2007	2008	800	209,000
University Boulevard / East-West Highway	J1, J2, J3, J4	Implemented	MD	2007	2010	6,600	1,918,000
Wisconsin Avenue / Pennsylvania Avenue	31, 32, 34, 36, 37, 39	Implemented	DC	2007	2008	18,600	5,584,000
Sixteenth Street	S1, S2, S4, S9	Implemented	DC	2008	2009	17,300	4,428,000
Leesburg Pike	28AX, 28 FG, 28T	Implemented	VA	2009	2010	5,223	1,083,000
Veirs Mill Road	Q1, Q2, Q4, Q5, Q6, Q9	Implemented	MD	2009	2010	8,500	2,746,000
H Street / Benning Road	X1, X2, X3, X9	Implemented	DC	2009	2010	12,500	3,873,000
New Hampshire Avenue	K6, K9	Studied	MD	2010	2011	5,400	1,848,000
U Street / Garfield	90, 92, 93, 99	Studied	DC	2010	2011	12,800	4,174,000
Georgia Avenue (MD)	Y5, Y7, Y8, Y9	Studied	MD	2011	2012	6,900	2,235,000
Anacostia / Congress Heights	A2, A4, A5, A6, A7, A8, A9, A42, A46, A48	Studied	DC	2011	2012	13,500	4,404,000
Greenbelt / Twinbrook	C2, C4	Planned	MD	2011	2012	11,000	3,519,000
East-West Highway (Prince George's County)	F4, F6	Planned	MD	2011	2012	6,800	2,083,000
Little River Turnpike / Duke Street	29CEGHX, 29KN	Planned	VA	2011	2012	3,100	876,000
Rhode Island Avenue Metro to Laurel	81, 82, 83, 86, 87, 88, 89, 89M	Planned	MD	2012	2013	7,800	1,657,000
Rhode Island Avenue (DC)	G8	Planned	DC	2012	2013	3,200	984,000
Eastover / Addison	P12	Planned	MD	2013	2014	5,600	1,711,000
Colesville Road / Columbia Pike - MD US 29	Z2, Z6, Z8, Z9, Z11, Z13, Z29	Planned	MD	2013	2014	8,200	2,461,000
Fourteenth Street	52, 53, 54	Planned	DC	2013	2014	13,000	4,046,000
North Capitol Street	80	Planned	DC	2014	2015	7,400	2,119,000
Total						210,523	62,925,000
Average						8,772	2,621,875

(1) WMATA August 2010 Bus Ridership and Revenue by Jurisdiction and Line

(2) WMATA FY 2010 Bus Planning Performance Analysis Report



Figure 3: Recommended Priority Corridor Network



Priority Corridors serve the region.

In addition to the recommended corridors, there are a number of other corridors in the region that have the potential to become future priority corridors. These emerging corridors are shown in Table 3. Local concept development studies will be conducted to fully evaluate these corridors and refine service and improvement proposals. These will then be considered for inclusion in the Metro Priority Corridor Network Plan.

Table 3: Emerging Corridors

Emerging Corridors	Status	Jurisdiction	Study Year (FY)	Implementation Year (FY)
K Street Busway	Plan	DC	2008	TBD
Minn. Ave./Congress Heights/MLK Ave./Southern Ave.	Plan	DC	2009	2010
Kingstowne-Pentagon	Plan	VA	2009	2010
Woodley Park/Irving St./Michigan Ave.	Plan	DC	2010	2011
Military Rd./Missouri Ave	Plan	DC	2012	2013

Measures of Effectiveness

The impacts of the Priority Corridor Network Plan are expected to be significant, including ridership increases, savings in passenger time, savings in carbon dioxide produced, savings in fuel and so forth. The following are

the measures of effectiveness computed for the PCN:

1. Ridership
2. Average speed of service
3. Carbon dioxide emissions avoided
4. Gallons of fuel saved
5. Job density per square mile
6. Population density per square mile
7. Travel time savings per passenger
8. Total travel time saved
9. Households within ½ mile of corridor

Table 4: Transit Measures of Effectiveness

	Base Condition (Current/2008)	Projected Net Change	PCN Impact (at full implementation)	Percent Change
Transportation				
Ridership (millions of boardings per year)	69.1	10.7	79.8	15%
Average speed of service (mph)	12.1	0.6	12.7	5%
Energy				
Fuel saved (millions of gallons per year)	6.5	0.8	7.3	12%
Passenger miles per bus fuel gallon	47	4.3	51.3	9%
Environment				
Carbon dioxide emissions avoided (metric tons per year)	58,000	7,000	65,000	12%
Land Use and Economic Development				
Job density (per square mile)	4,800	700	5,500	15%
Population density (per square mile)	5,300	600	5,900	11%
Congestion				
Bus passenger miles (millions per year)	220.3	34.2	254.5	16%
Peak hour arterial lanes avoided	28	4	32	14%
Access and mobility				
Jobs within one-half mile of routes (millions)	1.6	0.2	1.8	13%
Households within one-half mile of routes (thousands)	730	110	840	15%
Average travel time per passenger (minutes)	42	-2.1	39.9	-5%
Travel time saved (millions of hours per years)	2.42	0.37	2.79	15%
Cost Effectiveness				
Net operating cost per rider	\$1.88	\$0.07	\$1.95	4%



- 10. Jobs within ½ mile of corridor
- 11. Peak travel lanes avoided
- 12. Net operating cost per new rider

Currently, the Priority Corridors are located within ½ mile of 1.6 million jobs and within ½ mile of 730,000 households. Development is already dense—there are 4,800 jobs per square mile and 5,300 residents per square mile along the corridors. Due to increasing development, these service areas are expected to continue to grow and increase in density.

Another 200,000 jobs and 110,000 residents are expected to be added within ½ mile of the Priority Corridors by 2015. This growth will result in densities of 5,500 jobs per square mile and 5,900 residents per square mile. The improvements to the Priority Corridor Network will help to provide the transit capacity to accommodate that growth.

The Priority Corridor Network serves over 69 million riders annually in the District, Maryland and Virginia. With the implementation of

the Priority Corridor Network Plan, that ridership is expected to increase by 15 percent to 79.8 million. The speed of service overall is expected to improve by 5 percent, and save 370,000 hours of travel time per year for passengers. Table 4 provides estimates of the measures of effectiveness for the Priority Corridor Network when completely implemented. The cost per new rider to the system is expected to be \$3.17, which compares very well with more capital-intensive solutions such as rail or fully grade-separated busways.

Table 5: Annual Operating Costs for the PCN Plan (millions of 2008 Dollars)

Priority Corridor	Base Service Cost	Service Cost with PCN Improvements	Net Change
Columbia Pike (Pike Ride)	\$10.9	\$12.7	\$1.8
Richmond Highway Express (REX)	\$3.7	\$4.3	\$0.6
Crystal City / Potomac Yard	\$3.7	\$4.7	\$1.0
Georgia Avenue / 7th Street (DC)	\$10.9	\$12.7	\$1.8
National Harbor	\$1.7	\$2.1	\$0.4
University Boulevard / East-West Highway	\$7.5	\$8.7	\$1.2
Wisconsin Avenue / Pennsylvania Avenue	\$17.8	\$20.7	\$2.9
Sixteenth Street	\$12.3	\$14.3	\$2.0
Leesburg Pike	\$5.8	\$7.4	\$1.6
Veirs Mill Road	\$8.3	\$9.6	\$1.3
H Street / Benning Road	\$7.2	\$8.3	\$1.1
New Hampshire Avenue	\$4.5	\$5.7	\$1.2
U Street / Garfield	\$11.7	\$13.6	\$1.9
Georgia Avenue (MD)	\$6.3	\$7.3	\$1.0
Anacostia / Congress Heights	\$8.5	\$9.9	\$1.4
Greenbelt / Twinbrook	\$11.0	\$12.7	\$1.7
East-West Highway (Prince George's)	\$5.7	\$7.3	\$1.6
Little River Turnpike / Duke Street	\$4.5	\$5.7	\$1.3
Rhode Island Avenue (DC)	\$3.8	\$4.8	\$1.0
Eastover / Addison Road	\$4.9	\$6.3	\$1.4
Colesville Road / Columbia Pike (MD)	\$10.7	\$12.4	\$1.7
Fourteenth Street	\$10.8	\$12.5	\$1.7
North Capitol Street	\$6.7	\$7.8	\$1.1
System Total	\$185.2	\$219.1	\$33.9

Summary of Costs

The Priority Corridor Network Plan holds the promise of providing vastly improved transit service to the Metro region in the relatively short term and is the only option that Metro has for effectively responding to increasing demand in the short-run. The Priority Corridor Network Plan will require additional operating and capital costs.

Operating cost increases will be needed to provide additional service and to maintain functions such as marketing and program support. The total increase in operating cost is expected to be \$33.9 million. Table 5 shows how the operating cost increases break down by corridor.

Operational improvements can be made without significant capital expenditure, but achieving the full benefit of the plan's productivity improvements requires timesaving enhancements such as running way improvements and signal priority. It also requires the quality and information improvements such as transit centers, increased park and ride, and real-time customer information. Table 6 shows the estimated capital cost for each corridor broken down by type of improvement. The total estimated capital cost of the Priority Corridor Network Plan as fully implemented is \$516 million. The cost for each corridor depends upon the number and type of improvements.

Table 6: Capital Cost for the Priority Corridor Network Program (millions of 2008 Dollars)

Corridor	Cost of Capital Improvements							Total Corridor Cost
	Transit Centers	Structured Parking	Running way	Exclusive Busway	ITS	Bus Garage	Fleet	
Columbia Pike (Pike Ride)	\$4.8	\$11.7	\$2.3	\$0	\$2.8	\$2.8	\$2.8	\$27.2
Richmond Highway Express (REX)	\$4.4	\$15.8	\$2.0	\$0	\$5.8	\$0.6	\$0.6	\$29.1
Crystal City-Potomac Yard	\$0.7	\$0	\$0.6	\$89.1	\$2.1	\$1.1	\$1.1	\$94.7
Georgia Avenue / 7th Street	\$0.3	\$0	\$1.1	\$0	\$3.8	\$2.8	\$4.0	\$12.1
National Harbor	\$2.2	\$4.7	\$1.1	\$0	\$3.5	\$0.6	\$0.6	\$12.6
University Boulevard /East-West Highway	\$5.4	\$0	\$3.4	\$0	\$4.3	\$1.7	\$1.7	\$16.4
Wisconsin Avenue / Pennsylvania Avenue	\$2.5	\$0	\$2.0	\$0	\$5.4	\$5.0	\$5.0	\$19.9
Sixteenth Street	\$0	\$0	\$1.0	\$0	\$3.4	\$3.9	\$3.9	\$12.1
Leesburg Pike	\$6.7	\$5.9	\$1.6	\$0	\$5.2	\$1.1	\$1.1	\$21.5
Veirs Mill Road	\$4.4	\$0	\$1.8	\$0	\$5.8	\$1.7	\$2.4	\$16.1
H Street / Benning Road	\$0.6	\$0	\$1.2	\$0	\$2.2	\$1.1	\$1.6	\$6.7
New Hampshire Avenue	\$1.9	\$11.7	\$1.1	\$0	\$3.6	\$1.7	\$1.1	\$21.1
U Street / Garfield	\$1.3	\$0	\$2.0	\$0	\$3.5	\$2.8	\$2.8	\$12.3
Georgia Avenue (MD)	\$1.6	\$14.0	\$2.8	\$35.6	\$5.8	\$1.1	\$1.1	\$62.0
Anacostia / Congress Heights	\$1.3	\$0	\$0	\$0	\$2.2	\$1.7	\$1.7	\$6.8
Greenbelt / Twinbrook	\$4.4	\$0	\$1.5	\$0	\$6.1	\$1.7	\$1.7	\$15.4
East West Highway (Prince George's)	\$1.6	\$0	\$2.2	\$0	\$5.5	\$1.7	\$1.7	\$12.6
Little River Turnpike / Duke Street	\$4.4	\$0	\$3.0	\$0	\$5.5	\$1.7	\$1.7	\$16.2
Rhode Island Avenue Metro to Laurel	\$5.4	\$4.7	\$2.8	\$0	\$5.5	\$2.2	\$2.2	\$22.7
Rhode Island Avenue (DC)	\$1.0	\$0	\$1.0	\$0	\$3.1	\$1.1	\$1.1	\$7.3
Eastover / Addison Road	\$4.3	\$2.3	\$2.0	\$0	\$6.5	\$1.1	\$1.1	\$17.3
Colesville Road / Columbia Pike (MD)	\$2.2	\$0	\$1.0	\$20.4	\$5.1	\$3.3	\$3.3	\$35.4
Fourteenth Street	\$0.6	\$0	\$1.0	\$0	\$2.8	\$2.8	\$2.8	\$10.0
North Capitol Street	\$1.2	\$0	\$1.2	\$0	\$3.9	\$1.1	\$1.1	\$8.5
Total	\$63.4	\$70.9	\$40.0	\$145.1	\$103.3	\$46.1	\$47.6	\$516.0



The cost estimates include an allocation for new or improved maintenance facilities to house the additional buses to be used in the program. Overall, the capital cost of the plan is expected to be sponsored 42 percent by the DC (\$219 million), 32 percent by Maryland (\$163 million) and 26 percent by Virginia (\$134 million).

Implementation Requirements

The PCN program has been developed with an ambitious schedule so that the entire

network can be implemented by 2015. Table 2 shows the study year for the recommended routes, indicating that twelve planning studies have been done so far with twelve others to be completed by 2014. Table 7 shows the study and implementation year by jurisdiction for the corridors scheduled for near-term implementation. Each jurisdiction will have one or two studies each year.

The 30s Line Study, completed in 2008, has provided Metro with sufficient data to

estimate the consulting costs for subsequent studies. The planning study cost \$350,000 plus \$100,000 for implementation assistance. Thus sixteen additional studies will cost Metro \$5,600,000 for planning and \$1,600,000 for implementation assistance from consultants.

In addition, staff time from Metro, and the jurisdictions, will be required. Staff time can be estimated as one equivalent full time person for four months during the study period and additional staff time to attend meetings and help with overseeing implementation during two months of implementation for service related changes. Altogether, each corridor project will require around 18 weeks of staff time from the jurisdictions to insure that the programs are properly planned and implemented.

Implementation of the transit operational changes can be done in six months once a study is underway. However, implementation of some of the corridor improvements will take longer. Table 7 shows the start of implementation. Full deployment will take an extended period depending upon the capital improvements and capital budgets.

Table 7: Schedule for Near Term Sequence of Corridors

Corridor	Jurisdiction	Schedule		
		2011	2012	2013
New Hampshire Avenue	MD	Implement		
U Street / Garfield	DC	Implement		
Crystal City / Potomac Yard	VA		Implement	
Georgia Avenue (MD)	MD	Study	Implement	
Greenbelt / Twinbrook	MD	Study	Implement	
East-West Highway (Prince George's County)	MD	Study	Implement	
Anacostia / Congress Heights	DC	Study	Implement	
Little River Turnpike/Duke Street	VA	Study	Implement	
Rhode Island Avenue Metro to Laurel	MD		Study	Implement
Rhode Island Avenue (DC)	DC		Study	Implement
Eastover / Addison Road	MD			Study
Colesville Road / Columbia Pike (MD)	MD			Study
Fourteenth Street	DC			Study



PCN Corridor Profiles

District of Columbia

• Anacostia / Congress Heights	40
• Fourteenth Street	56
• Georgia Avenue / 7th Street	18
• H Street / Benning Road	32
• North Capitol Street	58
• Rhode Island Avenue	50
• Sixteenth Street	26
• U Street / Garfield	36
• Wisconsin Avenue / Pennsylvania Avenue	24

Maryland

• Colesville Road / Columbia Pike	54
• East-West Highway	44
• Eastover / Addison	52
• Georgia Avenue	38
• Greenbelt / Twinbrook	42
• National Harbor	20
• New Hampshire Avenue	34
• Rhode Island Avenue Metro to Laurel	48
• University Boulevard / East-West Highway	22
• Veirs Mill Road	30

Virginia

• Columbia Pike	12
• Crystal City / Potomac Yard	16
• Leesburg Pike	28
• Little River Turnpike / Duke Street	46
• Richmond Highway Express	14

SERVICE AREA

Fairfax County, Arlington County, and District of Columbia from Annandale to Downtown, including Bailey's Crossroads, Crystal City, Pentagon City, Pentagon, Farragut Square, and McPherson Square.

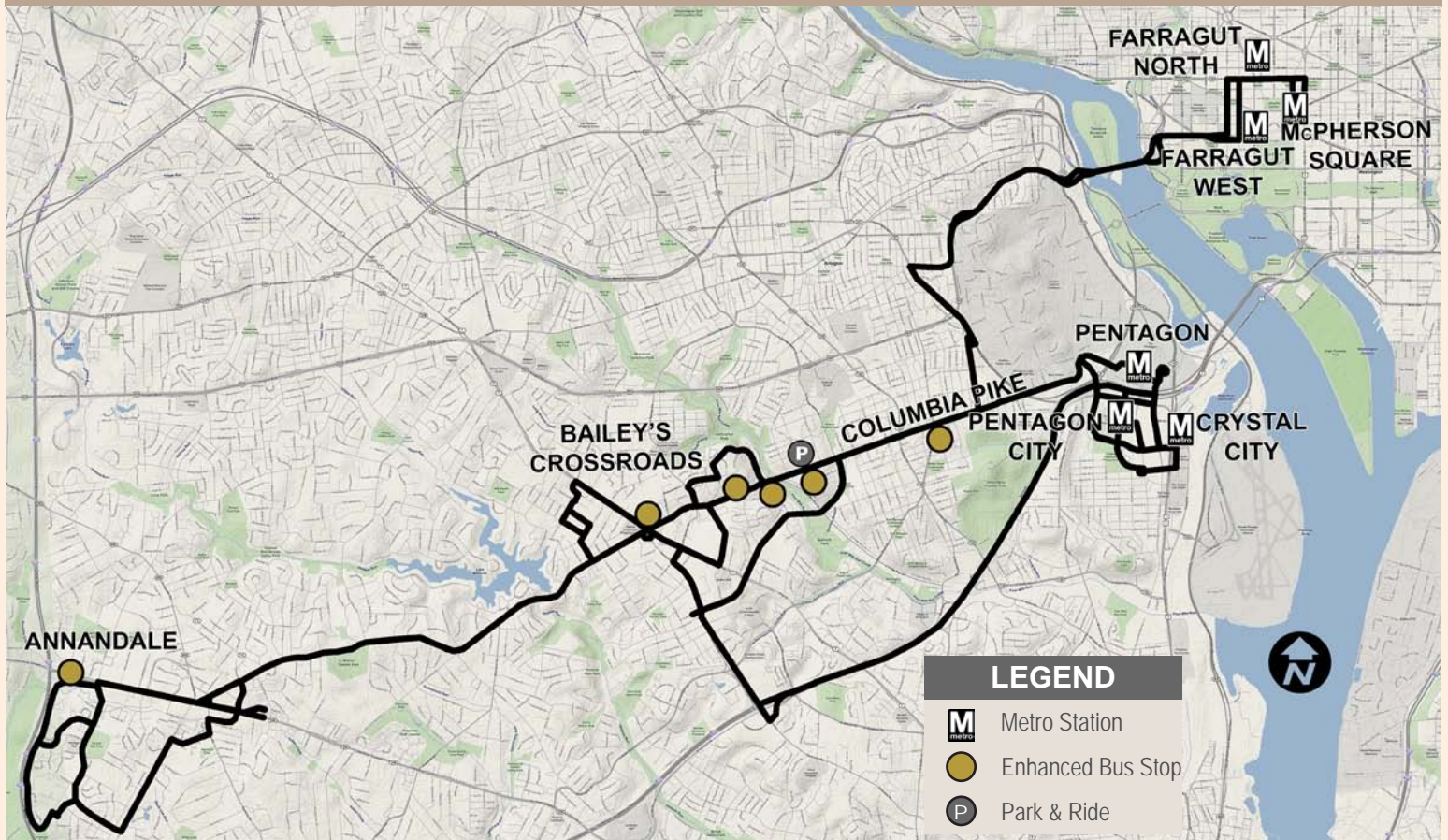
CORRIDOR DESCRIPTION

In partnership with Arlington County, the Columbia Pike or "Pike Ride" services with their unique brand identity were introduced in September 2003. The Metrobus Line 16 along with several Arlington Transit (ART) routes were improved by nearly 50 percent at the time. Service reliability, passenger information and timeliness were greatly enhanced, and the 16GHKW route was instituted to increase opportunities for transfer to Metrorail service at Pentagon City station. Future improvements include traffic signal coordination enhancements and protected left turns along the corridor. A new transit center is proposed for Annandale terminal and additional bus bays are proposed for Bailey's Crossroads and Pentagon City to accommodate the increased service.

ROUTE PATTERNS

16AD	Fairfax-Pentagon	all day	seven days
16BJ	Culmore-Pentagon	all day	seven days
16F	Ltd. Stop Culmore-Pentagon	rush only	M-F
16GHKW	W. Arlington-Pentagon City	all day	seven days
16L Line	Fairfax-Pentagon via Shirley	rush only	M-F
16Y Line	Barcroft-McPherson Sq	rush only	M-F
ART 41	Columbia Hts-Courthouse	all day	seven days
ART 45	West Arlington-Rosslyn	all day	M-F
ART 74	Arlington Vill-Pentagon City	rush only	M-F
ART 84	Douglas Pike-Pentagon City	rush only	M-F

CORRIDOR MAP





PROJECT STATUS

A restructured service plan was implemented in 2003 on this corridor and branded as “Pike Ride.” The service plan coordinated arterial Metrobus with neighborhood Arlington Transit service to match service to market segments including inaugurating regular service to Pentagon City with a rush-period extension to Crystal City. Initial plans include bus stop enhancements and customer information, sustainable promotion, and transit signal priority.

SERVICE DATA

Line / Route Description	16ABDEFGH JKLPWY
State / Jurisdiction	VA
Study Year	2002
Implementation Year	2003
Average Weekday Boardings (FY2010)	12,200
Annual Boardings (FY2010)	3,647,000
<i>Change in Boardings (%)</i>	12%
<i>Capital Cost of Improvements (2008\$)</i>	\$24,421,168
<i>Base Operating Cost (2008\$)</i>	\$10,942,067
<i>Change in Operating Cost (%)</i>	14%
Average operating speed (mph)	13.5
<i>Reduction in CO2 emissions (metric tons/yr)</i>	271
<i>Reduction in fuel use (gals/yr)</i>	30,399
<i>Reduction in travel time (passenger hours/yr)</i>	151,964
<i>Net subsidy (\$ per passenger)</i>	\$2.12

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays

Traffic Operations & Management

- Parking enforcement
- Traffic hazard mitigation
- Enhanced street supervision
- Terminal stands and stop relocations
- HOV/signal warrant studies
- Traffic signal adjustments
- Traffic control officers
- Pavement maintenance/repair
- Dedicated ROW
- Transit signal priority
- Enhanced street supervision

Service Concepts

- Match service to demand on Fairfax and DC based services
- Restore timed-transfer of 16G Line services with Metrorail
- Expand 16F limited stop services to all day as MetroExtra
- Local and limited-stop service with 2.5-minute trunk headways

- Create new route to serve Annandale circulation needs.
- Continue coordination with local services
- Enhance reliability through monitoring and real-time management

Investment Proposals

- Complete construction of 18 Super Stops in Arlington
- Enhance Metrobus station at Pentagon City
- Expand Transit Signal Priority to all buses and Fairfax County
- Implement WiFi mesh network to support consumer information
- Implement real-time customer information services
- Upgrade all bus stops to system standard
- Develop Bailey's Crossroads Transit Center link to 28 Line
- Develop Annandale Transit Center Line to 29 Line
- Coordinate bus services with Columbia Pike Streetcar Project
- Enhanced bus stops and improved amenities
- Bus bays at Bailey's Crossroads, Annandale, and Pentagon City Station
- Parking spaces at Bailey's Crossroads and Annandale

SERVICE AREA

Fairfax County and Alexandria City from Fort Belvoir to King Street Metro Station, including Richmond Highway, Beacon Center, Huntington, and Eisenhower Avenue

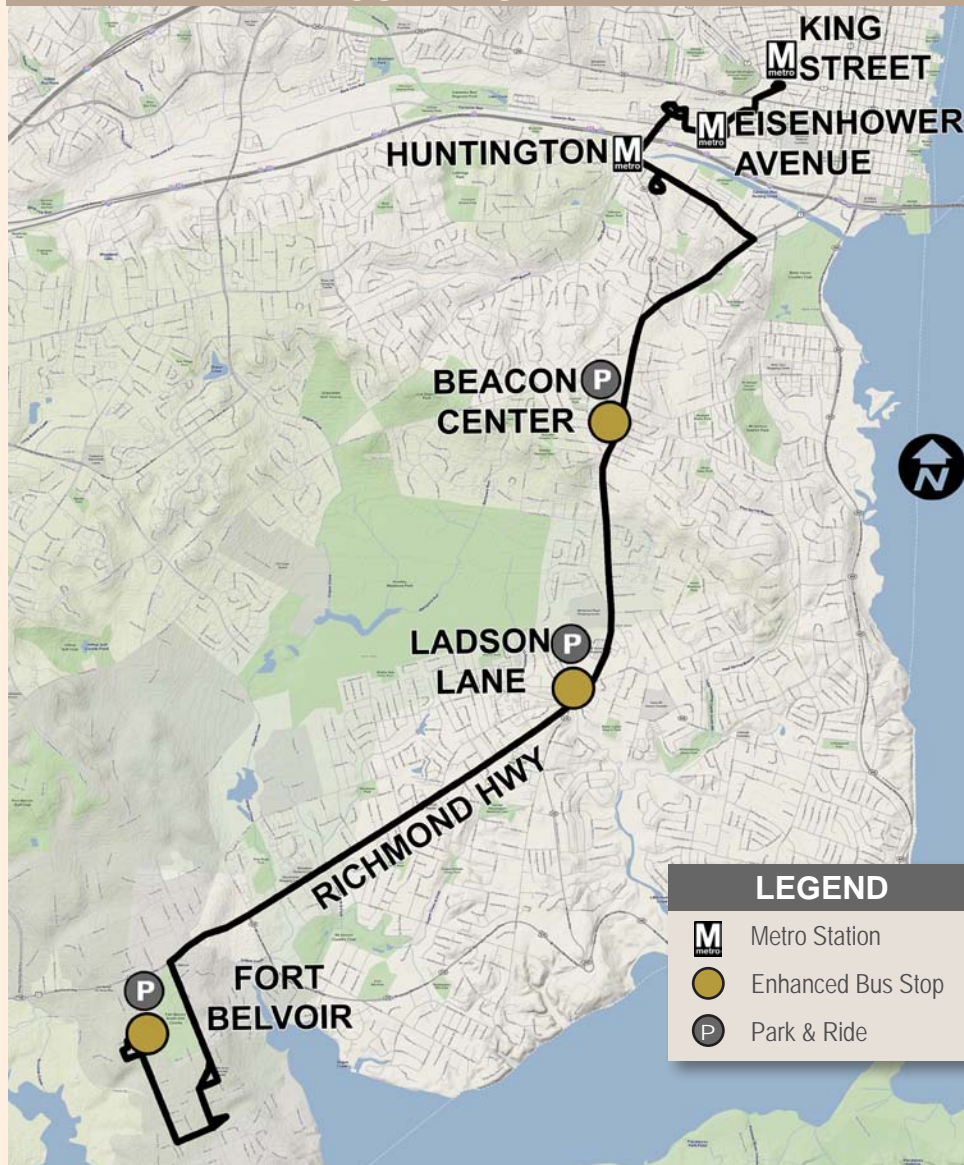
CORRIDOR DESCRIPTION

Transit service along Richmond Highway has been provided by the REX operation since September 2004, with limited stop express service between Fort Belvoir and the King Street Metro. This highly visible service with its distinctive branding has benefited from bus priority traffic signals and enhanced passenger amenities. Future transit centers with expanded commuter parking and bus bays have been identified for Ladson Lane, Beacon Mall, and Fort Belvoir. Other anticipated improvements include running way upgrades such as queue jumpers, transit priority signals, turnouts and dedicated turn lanes. In addition to REX, the corridor is served significantly by the Fairfax Connector.

ROUTE PATTERNS

- REX Richmond Highway Express, limited-stop service between Fort Belvoir and King Street, all day, seven days a week
- 171 Fairfax Connector Richmond Highway Line. Franconia Springfield Station and Lorton to Huntington Station, all day, seven days a week
- 151/152 Richmond Highway Circulator between Engleside and Huntington Station, all day, seven days a week
- 9A Huntington-Pentagon Line, Huntington Station to Pentagon via Old Town, all day, seven days a week

CORRIDOR MAP



EXPRESS (REX)



PROJECT STATUS

A restructured service plan was implemented in 2004 including arterial REX and local Fairfax Connector services. The REX-branded buses make use of a small transit signal priority pilot program and are supported by an extensive Fairfax promotion program. Several bus stops have been enhanced and pedestrian areas were improved. Major planning for Richmond Highway improvements includes public transit requirements.

SERVICE DATA

Line / Route Description	REX, 9A, FC 171, FC 151/152
State / Jurisdiction	VA
Study Year	2003
Implementation Year	2004
Average Weekday Boardings (FY2010)	3,600
Annual Boardings (FY2010)	1,063,000
<i>Change in Boardings (%)</i>	15%
<i>Capital Cost of Improvements (2008\$)</i>	\$28,528,854
Base Operating Cost (2008\$)	\$3,716,182
<i>Change in Operating Cost (%)</i>	14%
Average operating speed (mph)	18.1
<i>Reduction in CO2 emissions (metric tons/yr)</i>	91
<i>Reduction in fuel use (gals/yr)</i>	10,219
<i>Reduction in travel time (passenger hours/yr)</i>	41,492
<i>Net subsidy (\$ per passenger)</i>	\$2.83

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays

Traffic Operations & Management

- Parking enforcement
- Traffic hazard mitigation
- Enhanced street supervision
- Terminal stands and stop relocations
- HOV/signal warrant studies
- Traffic signal adjustments
- Traffic control officers
- Pavement maintenance/repair
- Dedicated ROW
- Transit signal priority at key intersections

Service Concepts

- Limited-stop service at 12-minute headways
- Branded buses
- Examine layering service--some buses would short turn at Huntington
- Achieve Metrorail Yellow Line policy frequency with timed transfers

- Match service to demand
- Continue coordination with local services
- Enhance reliability through monitoring and real-time service management

Investment Proposals

- Expand TSP to entire corridor, including Alexandria
- Increase the number of buses in service to meet demand
- Complete pedestrian safety improvements
- Implement real-time customer information
- Upgrade all bus stops to system standard
- Develop Transit Centers with commuter parking at Ladson Lane, Beacon Mall, and Fort Belvoir
- Dedicated bus lanes, queue jumpers, turn outs and dedicated turn lanes on US Route 1.
- Fort Belvoir bus bays
- Fort Belvoir parking spaces
- Beacon Mall bus bays
- Beacon Mall parking spaces
- Ladson Lane bus bays
- Huntington Station bus bays
- Huntington Station joint development
- King Street Station bus bays



CRYSTAL CITY

CORRIDOR MAP



SERVICE AREA

Alexandria City and Arlington County from Braddock Road Metro Station to Pentagon metro Station, including Potomac Yard, Crystal City, and Pentagon City.

CORRIDOR DESCRIPTION

It is currently anticipated that a high-capacity, high amenity, branded transit line will be operated along this corridor by WMATA. In mid-2006, Metrobus initiated Line 9S Crystal City – Potomac Yard Shuttle as an early action. This service provides bus connections to the Crystal City Metro and VRE commuter rail stations for federal employees and visitors commuting to the Potomac Yard’s first building. The 9S Line requires three peak buses to provide six-minute peak headways and runs along a small segment of the proposed final alignment. Expansion of the 9S is expected as new buildings in Potomac Yard open for occupancy. The first busway segment is expected to open between the Arlington/Alexandria border at Four Mile Run and 26th Street South. North of 26th Street South, transit services will continue to operate in mixed traffic until development of future transitway segments occurs.

ROUTE PATTERNS

- 9AE Huntington to Pentagon, with some reverse peak trips between Braddock Metro and Pentagon (9E), all day seven days a week
- 9S Crystal City- Potomac Yard Shuttle, 5:45 AM to 7:30 PM, weekdays only

POTOMAC YARD



PROJECT STATUS

Improvements in the corridor began in 2006. The full Operations Plan began in December 2010, working toward phased implementation in 2012 and 2014.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Metro website information
- Customer service agent information
- Customer comment monitoring
- Programmed telephone information
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays

Investment Proposals

- Crystal City bus bays
- Crystal City / Potomac Yard dedicated transitway

Traffic Operations & Management

- Parking enforcement
- Enhance service supervision
- Traffic hazard mitigation
- Terminal stands and stop relocations
- Problem resolution contacts
- Bus stop siting/safety
- Traffic signal adjustments
- Traffic control officers
- Standardized detours
- Pavement maintenance/repair

Service Concepts

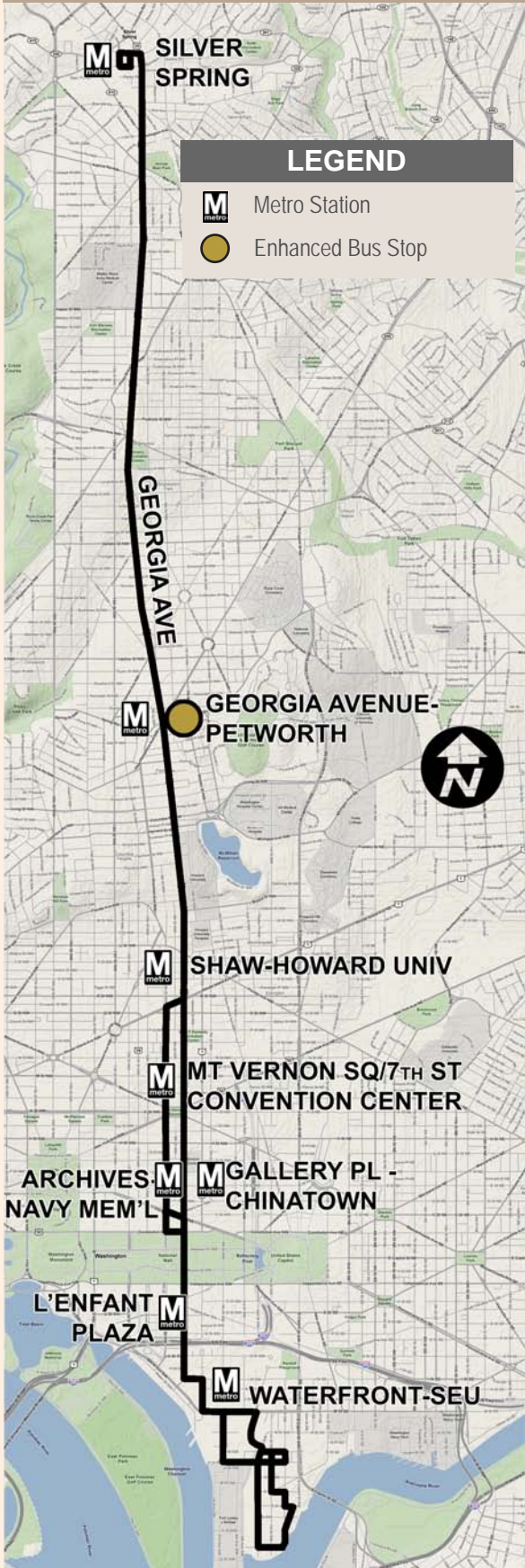
- Apply corridor design factors
- Service threshold compliance
- Neighborhood circulator service
- Service change evaluation
- Phased service improvements
- Funding to maintain service thresholds

SERVICE DATA

Line / Route Description	9AE, 9S
State / Jurisdiction	VA
Study Year	2005
Implementation Year	2012
Average Weekday Boardings (FY2010)	3,000
Annual Boardings (FY2010)	840,000
<i>Change in Boardings (%)</i>	19%
<i>Capital Cost of Improvements (2008\$)</i>	\$15,670,326
Base Operating Cost (2008\$)	\$3,670,028
<i>Change in Operating Cost (%)</i>	22%
Average operating speed (mph)	11.6
<i>Reduction in CO2 emissions (metric tons/yr)</i>	34
<i>Reduction in fuel use (gals/yr)</i>	3,843
<i>Reduction in travel time (passenger hours/yr)</i>	51,992
<i>Net subsidy (\$ per passenger)</i>	\$4.28

Items in italics represent projections for 2015.

CORRIDOR MAP



SERVICE AREA

7th Street NW and Georgia Avenue from Buzzards Point/Waterfront SEU to Silver Spring including: L'Enfant, Archives, Gallery Place, Convention Center, Shaw-Howard, Georgia Ave-Petworth Metrorail stations.

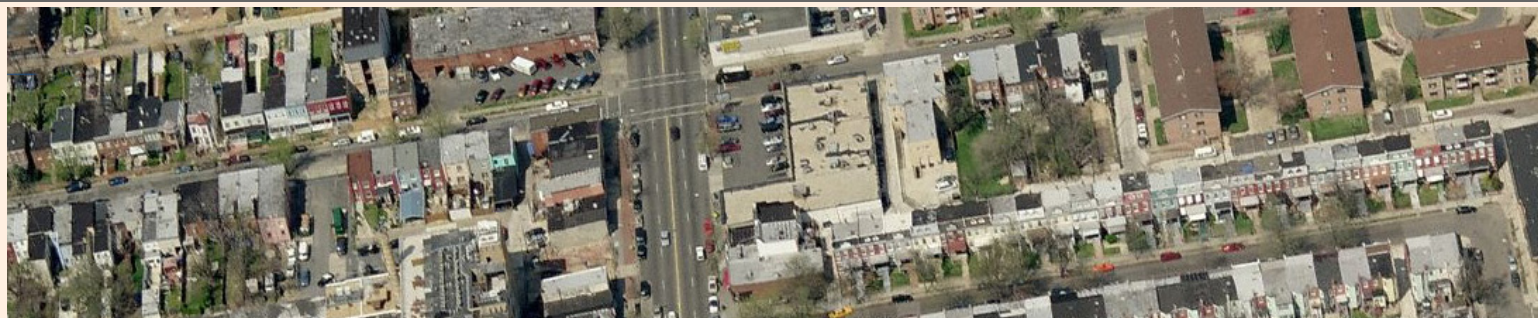
CORRIDOR DESCRIPTION

MetroExtra service began in this corridor in March 2007 between Silver Spring and M Street. New limited-stop service on Route 79, operated with specially branded buses, is a significant step toward bus rapid transit. Future incremental enhancements include possible bus lanes on 7th and 9th streets, signal priority for transit, strengthened enforcement of parking restrictions, enhanced bus stops, real time rider information, street markings, unique vehicles and signage.

ROUTE PATTERNS

- 70, 71 Georgia Avenue-7th Street Line: between Silver Spring Station and Half & O Streets SW/ Archives (70) or Buzzard Point (71), combined service runs all day, seven days a week
- 79 Georgia Avenue Metro Extra, limited-stop service between Silver Spring Station and Archives, 6 AM to 7 PM weekdays only

7TH STREET (DC)



PROJECT STATUS

The MetroExtra service brand Route 79 was implemented in March of 2007 during rush hours to provide reliable service and travel time savings to riders in the corridor. MetroExtra 79 was routed to take advantage of existing bus lanes on 9th St and 7th St. NW. Headways on the 70 and 71 have subsequently been adjusted to reflect a shift in usage to MetroExtra 79. Start-up included a pilot program of transit signal priority on several intersections, new DDOT shelters, bus stop information, service maps and service promotion. Two supervisors were initially dedicated to support service start-up. Midday Metro Extra 79 service was implemented in June 2008.

SERVICE DATA

Line / Route Description	70, 71, 79
State / Jurisdiction	DC
Study Year	2006
Implementation Year	2007
Average Weekday Boardings (FY2010)	17,500
Annual Boardings (FY2010)	5,417,000
<i>Change in Boardings (%)</i>	14%
<i>Capital Cost of Improvements (2008\$)</i>	\$9,019,450
Base Operating Cost (2008\$)	\$10,945,944
<i>Change in Operating Cost (%)</i>	14%
Average operating speed (mph)	9.0
<i>Reduction in CO2 emissions (metric tons/yr)</i>	554
<i>Reduction in fuel use (gals/yr)</i>	62,265
<i>Reduction in travel time (passenger hours/yr)</i>	260,927
<i>Net subsidy (\$ per passenger)</i>	\$1.41

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays

Traffic Operations & Management

- Parking enforcement
- Enhance service supervision
- Traffic hazard mitigation
- Terminal stands and stop relocations
- Traffic signal adjustments
- Traffic control officers
- Standardized detours
- Pavement maintenance/repair
- Dedicated bus lanes
- Transit signal priority

Service Concepts

- Match service to demand exceeding policy headways
- Enhance reliability through monitoring and real-time service management
- Enhance transit operator training
- Examine Route 71 for turn-back opportunities
- Sustain service promotion and customer information efforts
- Evaluate bus stop spacing
- Develop routine emergency

and special event detours and communication protocols

- Achieve system safety certification
- Better enforce parking regulations and improve street operations

Investment Proposals

- Expand TSP to all buses on entire corridor
- Implement real-time customer information
- Develop enhanced bus stop stanchions and information displays for MetroExtra stops
- Expand MetroExtra fleet to meet demand
- Replace articulated buses on 70 and 71 routes with new BRT-style, low-floor, hybrid-powered vehicles
- Upgrade all bus stops to system standard
- Enhance transfer locations and customer facilities
- Extend bus lanes to additional sections of corridor
- Coordinate bus services with proposed Streetcar Project(s)
- Silver Spring Station transit center and joint development
- Georgia Avenue / Petworth Station bus bays and joint development
- Shaw-Howard Univ Station joint development and air rights development



ROUTE PATTERNS

NH1 National Harbor Line, between Branch Avenue Station and National Harbor, all day, seven days a week

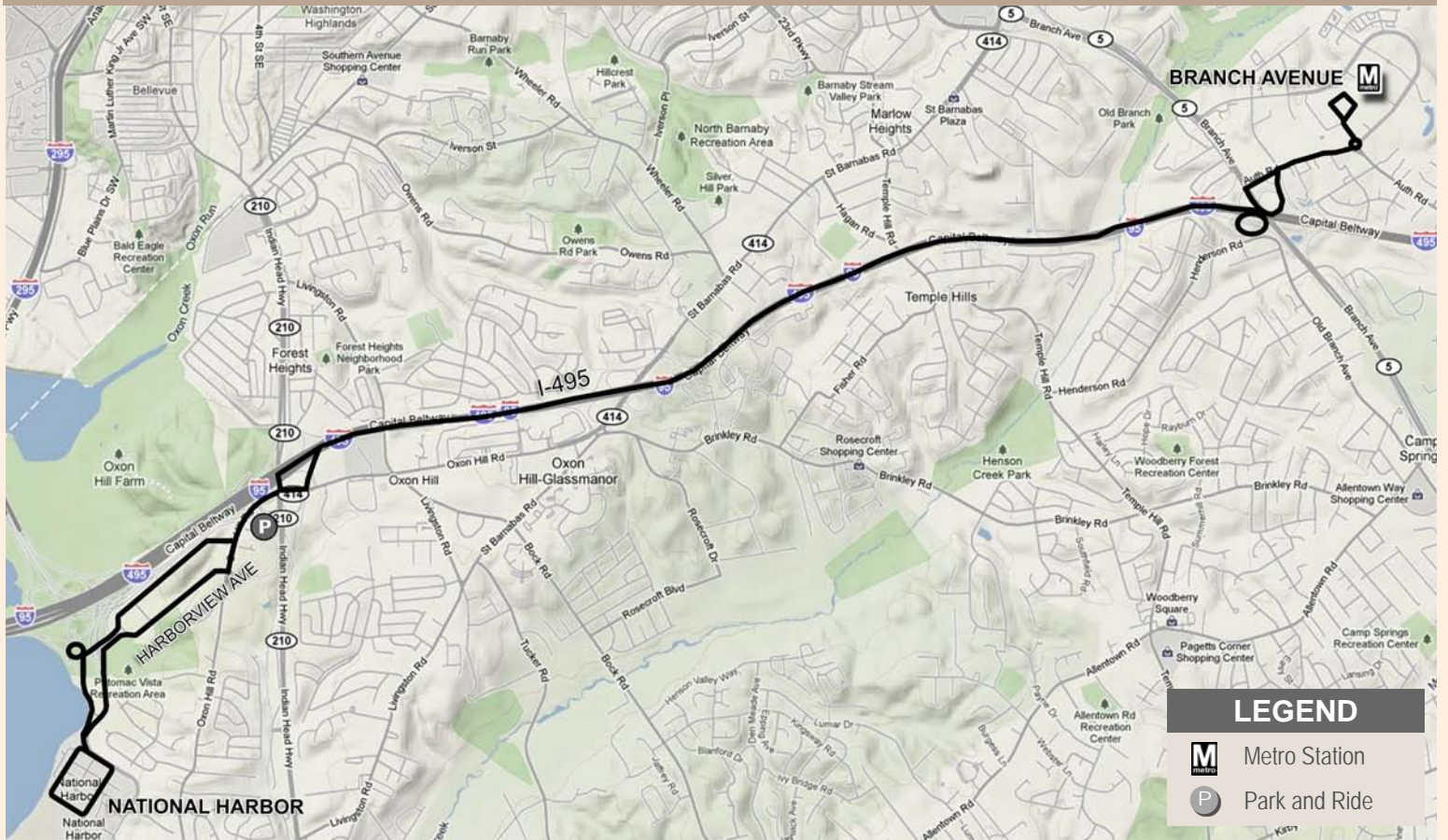
SERVICE AREA

Prince George's County from National Harbor to Branch Avenue Metro Station.

CORRIDOR DESCRIPTION

National Harbor at full build-out will be a major mixed-use activity center. The initial development there is served by a limited-stop route (NH1) connecting to the Branch Avenue Metrorail Station via I-495. The service level on this route is projected to double within the next five years to accommodate anticipated growth. This route could benefit from running way improvements and bus-only lanes on Indian Head Highway. Facility improvements are planned for the Oxon Hill Park-and-Ride. An extension of service to Virginia over the second span of the Woodrow Wilson Bridge is possible.

CORRIDOR MAP



LEGEND

- Metro Station
- Park and Ride



PROJECT STATUS

A study of the corridor took place in the second half of 2007, followed by a brief implementation period during which Metro determined the best ways to put the recommendations into effect. The restructured line went into service in June 2008. An evaluation of the changes, conducted between August 2009 and January 2010, resulted in recommendations for further improvements to the corridor.

SERVICE DATA

Line / Route Description	NH1
State / Jurisdiction	MD
Study Year	2007
Implementation Year	2008
Average Weekday Boardings (FY2010)	800
Annual Boardings (FY2010)	209,000
<i>Change in Boardings (%)</i>	20%
<i>Capital Cost of Improvements (2008\$)</i>	\$6,268,256
Base Operating Cost (2008\$)	\$1,671,120
<i>Change in Operating Cost (%)</i>	22%
Average operating speed (mph)	15.5
<i>Reduction in CO2 emissions (metric tons/yr)</i>	7
<i>Reduction in fuel use (gals/yr)</i>	750
<i>Reduction in travel time (passenger hours/yr)</i>	14,757
<i>Net subsidy (\$ per passenger)</i>	\$4.29

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Metro website information
- Customer service agent information
- Customer comment monitoring
- Programmed telephone information
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays

Investment Proposals

- Branch Avenue Station Bus Study Improvements

Service Concepts

- Apply corridor design factors
- Service threshold compliance
- Service change evaluation
- Phased service improvements
- Funding to maintain service thresholds

Traffic Operations & Management

- Parking enforcement
- Enhance service supervision
- Traffic hazard mitigation
- Terminal stands and stop relocations
- Problem resolution contacts
- Bus stop siting/safety
- Traffic signal adjustments
- Traffic control officers
- Standardized detours
- Pavement maintenance/repair
- Dedicated ROW
- Transit signal priority



UNIVERSITY BOULEVARD

SERVICE AREA

Montgomery County and Prince George's County from Montgomery Mall to College Park - U of MD Metro Station, including Medical Center, Bethesda, Silver Spring, East-West Highway, Langley Park, and Campus Drive.

CORRIDOR DESCRIPTION

As a step toward the proposed Purple Line circumferential rail line, bus service and facility improvements are planned for this corridor spanning Montgomery and northern Prince George's County. The core of this service stretches from Bethesda to College Park, but significant service and demand continues beyond Bethesda to the Medical Center and Montgomery Mall. Running way improvements would consist of transit signal priority and queue jumpers. Branding to create a unique transit identity is proposed. Improved passenger and bus facilities would occur at Langley Park, Silver Spring, College Park, and Medical Center.

ROUTE PATTERNS

- J1,J2,J3 Bethesda Silver Spring Line between Montgomery Mall Transit Center and Silver Spring Station. J1 operates via Medical Center Station, peak periods only. J2 and J3 operate via Bethesda Station. J2 operates all day, seven days a week; J3 operates peak periods only
- J4 College Park Bethesda Line, via Silver Spring Metro Station, peak periods only

CORRIDOR MAP



EAST-WEST HIGHWAY



PROJECT STATUS

A study of the corridor was completed in 2007 with improvements beginning in 2010.

SERVICE DATA

Line / Route Description	J1, J2, J3, J4
State / Jurisdiction	MD
Study Year	2007
Implementation Year	2010
Average Weekday Boardings (FY2010)	6,600
Annual Boardings (FY2010)	1,918,000
<i>Change in Boardings (%)</i>	15%
<i>Capital Cost of Improvements (2008\$)</i>	\$9,686,582
Base Operating Cost (2008\$)	\$7,476,401
<i>Change in Operating Cost (%)</i>	14%
Average operating speed (mph)	13.5
<i>Reduction in CO2 emissions (metric tons/yr)</i>	253
<i>Reduction in fuel use (gals/yr)</i>	28,430
<i>Reduction in travel time (passenger hours/yr)</i>	122,706
<i>Net subsidy (\$ per passenger)</i>	\$2.41

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Metro website information
- Customer service agent information
- Customer comment monitoring
- Programmed telephone information
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays

Service Concepts

- Metrobus local
- Metrobus express
- Apply corridor design factors
- Service threshold compliance
- Neighborhood circulator service
- Service change evaluation
- Phased service improvements
- Funding to maintain service thresholds

Investment Proposals

- Silver Spring Station transit center
- Silver Spring Station joint development
- Medical Center bus bays
- Bethesda Station joint development
- Langley Park bus bays
- College Park - U of MD Station bus bays
- College Park - U of MD joint development

Traffic Operations & Management

- Parking enforcement
- Enhance service supervision
- Traffic hazard mitigation
- Terminal stands and stop relocations
- Problem resolution contacts
- Bus stop siting/safety
- HOV/signal warrant studies
- Traffic signal adjustments
- Traffic control officers
- Standardized detours
- Pavement maintenance/repair
- Dedicated ROW
- Transit signal priority



WISCONSIN AVENUE

SERVICE AREA

District of Columbia and Prince George's County from Friendship Heights Metro Station to Naylor Road Metro Station, including McLean Gardens, Georgetown, Foggy Bottom, Downtown, Federal Triangle, Archives, Eastern Market, Potomac Avenue, and Southern Avenue.

CORRIDOR DESCRIPTION

The bus corridor with the highest ridership in the region, the Pennsylvania Avenue Line has undergone a restructuring and streamlining ahead of planned future corridor improvements. Recommendations for transit facility and stop improvements include better shelters, pedestrian-friendly features, better passenger information, and landscaping to build enhanced corridor identity. Transit centers have been recommended for Friendship Heights, Naylor Road and McLean Gardens. Recommended incremental improvements include signal priority and parking restrictions.

CORRIDOR MAP



ROUTE PATTERNS

- 31, 37 Wisconsin Avenue Line, between Friendship Heights Station and Potomac Park/State Department, all day, seven days a week. Express Route 37 offers limited-stop service between Friendship Heights and National Archives, peak periods only
- 32, 36 Pennsylvania Avenue Line, Friendship Heights Station to Southern Avenue Station (32) or Naylor Road Station (36), all day, seven days a week
- 34 Naylor Road Line, Naylor Road Station to National Archives, all day, seven days a week
- 39 Pennsylvania Avenue Express, limited-stop service between Naylor Road and Potomac Park, peak periods only

PENNSYLVANIA AVENUE



PROJECT STATUS

A study of the corridor took place in the second half of 2007, followed by a brief implementation period during which Metro determined the best ways to put the recommendations into effect. The restructured line went into service in June 2008. An evaluation of the changes, conducted between August 2009 and January 2010, resulted in recommendations for further improvements to the corridor.

SERVICE DATA

Line / Route Description	31, 32, 34, 36, 37, 39
State / Jurisdiction	DC
Study Year	2007
Implementation Year	2008
Average Weekday Boardings (FY2010)	18,600
Annual Boardings (FY2010)	5,584,000
<i>Change in Boardings (%)</i>	17%
<i>Capital Cost of Improvements (2008\$)</i>	\$14,945,718
Base Operating Cost (2008\$)	\$17,823,468
<i>Change in Operating Cost (%)</i>	14%
Average operating speed (mph)	9.7
<i>Reduction in CO2 emissions (metric tons/yr)</i>	760
<i>Reduction in fuel use (gals/yr)</i>	85,445
<i>Reduction in travel time (passenger hours/yr)</i>	300,849
<i>Net subsidy (\$ per passenger)</i>	\$2.32

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Update schedules at stops
- Replace damaged or missing information cases
- Better use of public address stop announcements
- Implement major marketing campaign on 37 and 39 service
- Next-bus arrival information and displays at shelters
- Improved vehicles with better information systems

Investment Proposals

- Friendship Heights bus bays
- Western Bus Garage relocation
- Naylor Road Station passenger access improvements
- Naylor Road Station joint development
- Improved shelters, benches, and lighting as part of the DC shelter replacement program
- Branded bus stops and improved amenities
- Coordinate improvements with the Great Streets Initiative and other area-specific transportation studies
- Upgraded vehicles with remotely updatable automated announcements, on-board video screens, and transit signal priority emitters

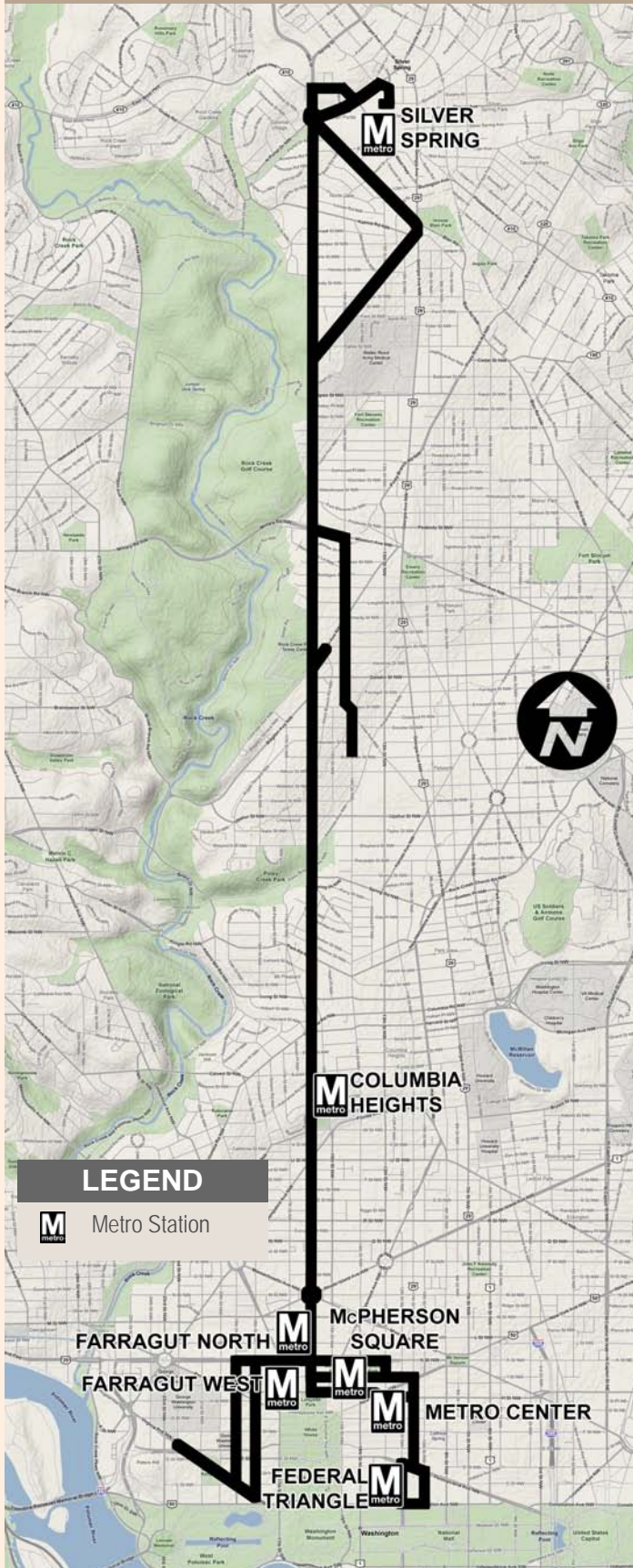
Service Concepts

- Limited-stop service every 15 minutes during peak periods (routes 37 and 39)
- Neighborhood connectors, all-day local service (routes 31 and 34)
- Maintain local service along routes 32 and 36
- Make fare collection more efficient

Traffic Operations & Management

- Enhance reliability through real-time management
- Enhance service supervision
- 30s Line-specific training for drivers
- Modify Supervisor Handbook
- Establish detour routes
- Implement Transit or HOV-only lanes
- Improve intersection operations through traffic control officers, adjustments to signal phasing and timing
- Queue jump lanes at key intersections
- Enhanced police presence at stops
- Signal adjustments and peak hour traffic control
- Better enforcement of parking restrictions
- Implement 30s Line Operations Center

CORRIDOR MAP



SERVICE AREA

Montgomery County and District of Columbia from Silver Sprint Metro Station to Downtown, including 16th Street, Federal Triangle, McPherson Square, Farragut Square, and Metro Center.

CORRIDOR DESCRIPTION

This high-ridership corridor served by the S1, S2, and S4 lines is parallel to some of the other north-south Priority Corridors in the District of Columbia including Fourteenth Street. Possible roadway improvements include left turn lanes using the existing cross section, transit signal priority, and parking restrictions. A WMATA and DDOT study considered limited-stop service, articulated buses, short-turn service, an upgrade of the S1 route, real-time passenger information, and other ITS technology.

ROUTE PATTERNS

- S1 Sixteenth Street –Potomac Park Line, between 14th Street and Potomac Park, peak periods only
- S2,S4 Sixteenth Street Line between Silver Spring and Federal Triangle, all day, seven days a week
- S9 Sixteenth Street Express Line, limited-stop service between Silver Spring Station and McPherson Square Station, peak periods only.

STREET



PROJECT STATUS

A study of the corridor was completed in October 2008. Phase 1 improvements took place in March 2009. Phases 2 and 3 will be implemented pending Metro Board approval.

SERVICE DATA

Line / Route Description	S1, S2, S4, S9
State / Jurisdiction	DC
Study Year	2008
Implementation Year	2009
Average Weekday Boardings (FY2010)	17,300
Annual Boardings (FY2010)	4,428,000
<i>Change in Boardings (%)</i>	14%
<i>Capital Cost of Improvements (2008\$)</i>	\$8,265,049
Base Operating Cost (2008\$)	\$12,304,253
<i>Change in Operating Cost (%)</i>	14%
Average operating speed (mph)	10.5
<i>Reduction in CO2 emissions (metric tons/yr)</i>	454
<i>Reduction in fuel use (gals/yr)</i>	51,037
<i>Reduction in travel time (passenger hours/yr)</i>	240,124
<i>Net subsidy (\$ per passenger)</i>	\$1.90

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Updated schedules
- Real-time information at stops, via telephone and internet
- Replace damaged or missing information cases
- Provide system maps that highlight 16th Street Line and connecting routes at new shelters
- Marketing campaign

Service Concepts

- New S9 limited-stop route using branded vehicles, initially peak only but eventually also midday and late evening
- Expanded hours of Route S1 service
- Maintain local routes S2 and S4
- Articulated buses
- Tripper service in late evening periods
- High-frequency short-turn service from Federal Triangle to the mid-point of the corridor
- Improve safety and security of riders
- Better service supervision and improved traffic operations
- More efficient fare collection

Investment Proposals

- Silver Spring Station transit center
- Silver Spring Station joint development
- Greater use of articulated buses
- Special branded vehicles for limited-stop service
- New improved shelters with benches and lighting, with installation and activation of next-bus arrival displays
- Enhanced multimodal transit center at Silver Spring
- Coordination with potential changes to the Sixteenth Street roadway design

Traffic Operations & Management

- Enhanced service supervision
- Enhanced Sixteenth Street Line specific training for drivers
- Transit-only lanes
- Traffic control officers and adjustments to signal phasing and timing
- Queue jump lanes and traffic flow management techniques
- Better enforcement of parking restrictions

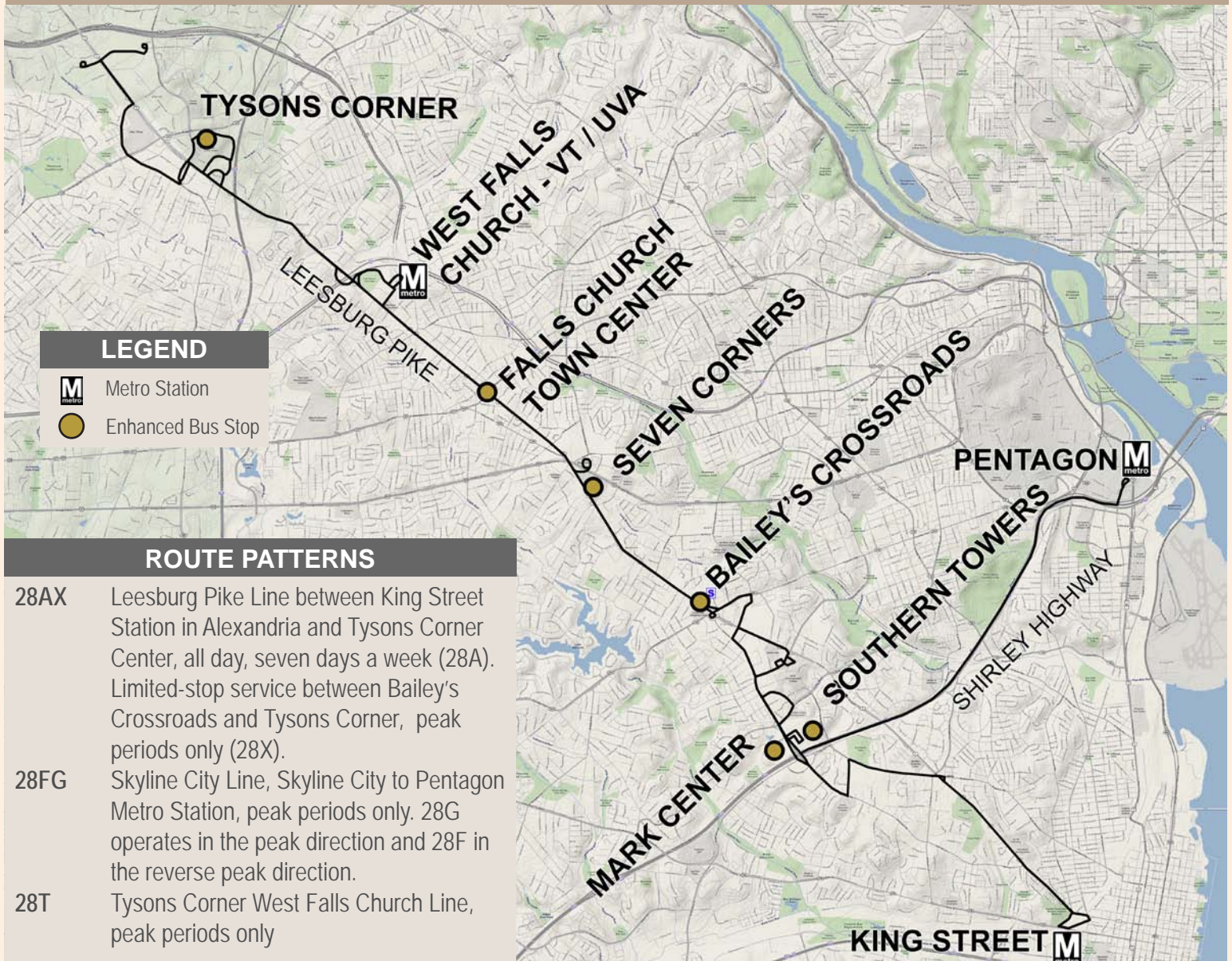
SERVICE AREA

Fairfax County, Arlington County, and Alexandria City from Tyson's Corner to King Street Metro Station, including Falls Church, Seven Corners, Bailey's Crossroads, Southern Towers, Mark Center, and Pentagon.

CORRIDOR DESCRIPTION

Metrobus service (28T and 28AX) on the Leesburg Pike runs from Tyson's Corner as Highway Route 7 through Falls Church and Bailey's Crossroads where it crosses the Columbia Pike. 28A service continues along Seminary Road and King Street to the Kings Street Metro Station in Alexandria. The 28FG connects Leesburg Pike in Skyline City to the Pentagon Metro Station via the Shirley Highway (I-395). The service along Leesburg Pike is expected to be upgraded to a rapid-bus service similar to the MetroExtra service, taking advantage of improvements such as transit signal priority and other roadway improvements to increase the average bus operating speed along the corridor.

CORRIDOR MAP



LEGEND

- Metro Station
- Enhanced Bus Stop

ROUTE PATTERNS

- 28AX** Leesburg Pike Line between King Street Station in Alexandria and Tyson's Corner Center, all day, seven days a week (28A). Limited-stop service between Bailey's Crossroads and Tyson's Corner, peak periods only (28X).
- 28FG** Skyline City Line, Skyline City to Pentagon Metro Station, peak periods only. 28G operates in the peak direction and 28F in the reverse peak direction.
- 28T** Tyson's Corner West Falls Church Line, peak periods only



PROJECT STATUS

A study of the corridor was completed in September 2009. Implementation of Phase 1 improvements took place in December 2009. Future phases will be implemented pending Metro Board approval.

SERVICE DATA

Line / Route Description	28AX, 28 FG, 28T
State / Jurisdiction	VA
Study Year	2009
Implementation Year	2010
Average Weekday Boardings (FY2010)	5,223
Annual Boardings (FY2010)	1,083,000
<i>Change in Boardings (%)</i>	19%
<i>Capital Cost of Improvements (2008\$)</i>	\$9,594,767
Base Operating Cost (2008\$)	\$5,773,477
<i>Change in Operating Cost (%)</i>	22%
Average operating speed (mph)	13.9
<i>Reduction in CO2 emissions (metric tons/yr)</i>	131
<i>Reduction in fuel use (gals/yr)</i>	14,684
<i>Reduction in travel time (passenger hours/yr)</i>	105,217
<i>Net subsidy (\$ per passenger)</i>	\$2.41

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Updated schedules
- Information cards in bus with service changes explained
- Next-bus information at stops

Service Concepts

- New limited-stop route 28X, serving 13 stops between Tysons Corner and Baileys Crossroads
- Turnaround loop at Tysons Corner shortened to reduce travel time
- Routes 28A and 28B combined in Alexandria
- One early morning and two late evening trips added on weekdays and six added on Saturday evenings
- Implement signal priority at selected intersections
- Five minutes of recovery time added at Seven Corners to improve reliability

Investment Proposals

- King Street Station bus bays
- Bailey's Crossroads bus bays
- Bailey's Crossroads parking spaces
- Seven Corners bus bays

Traffic Operations & Management

- Enhanced service supervision
- Enhanced line specific training for drivers



SERVICE AREA

Montgomery County from Shady Grove Metro Station to Silver Spring Metro Station, including Montgomery College, Rockville, Wheaton, and Forest Glen.

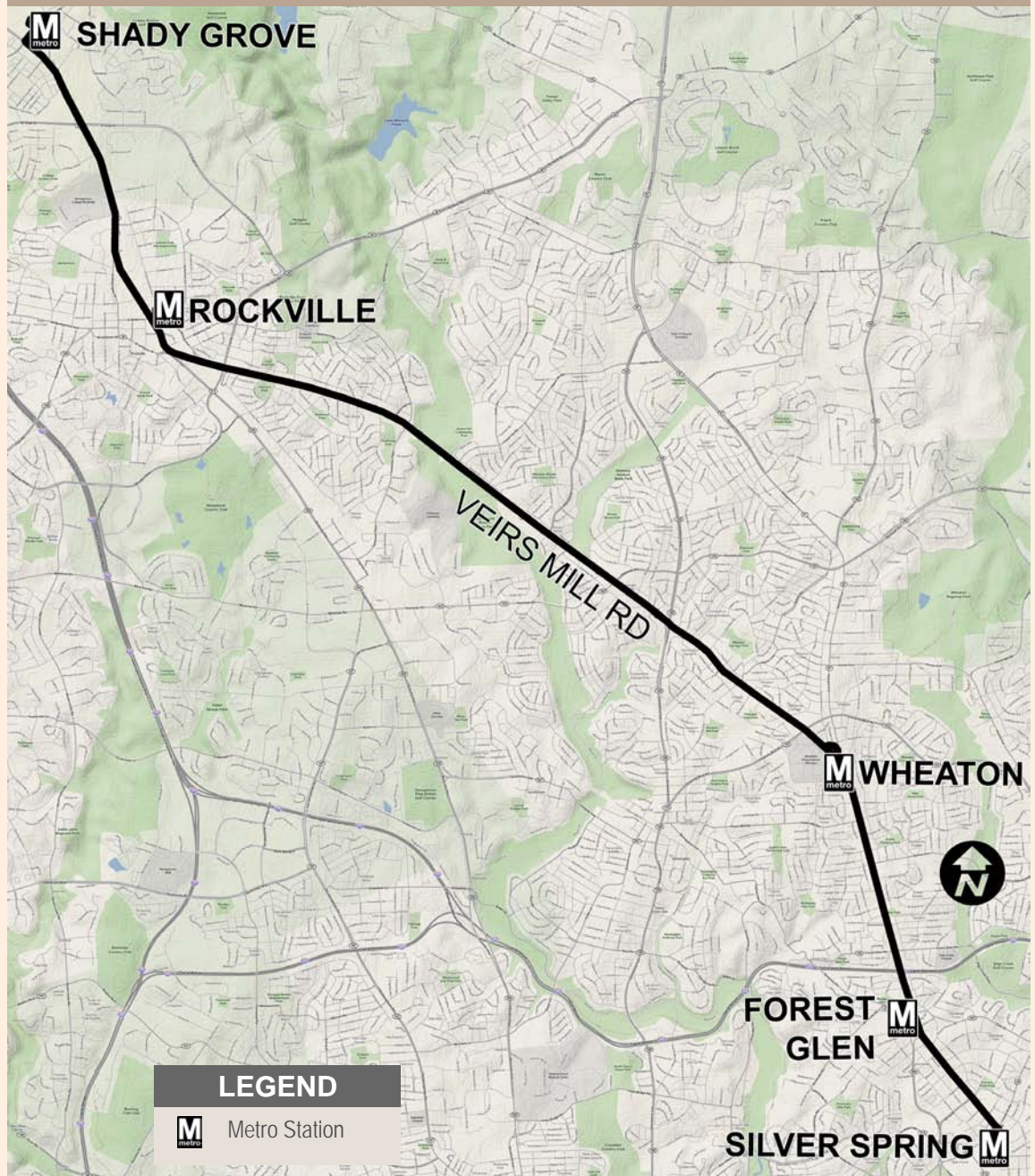
CORRIDOR DESCRIPTION

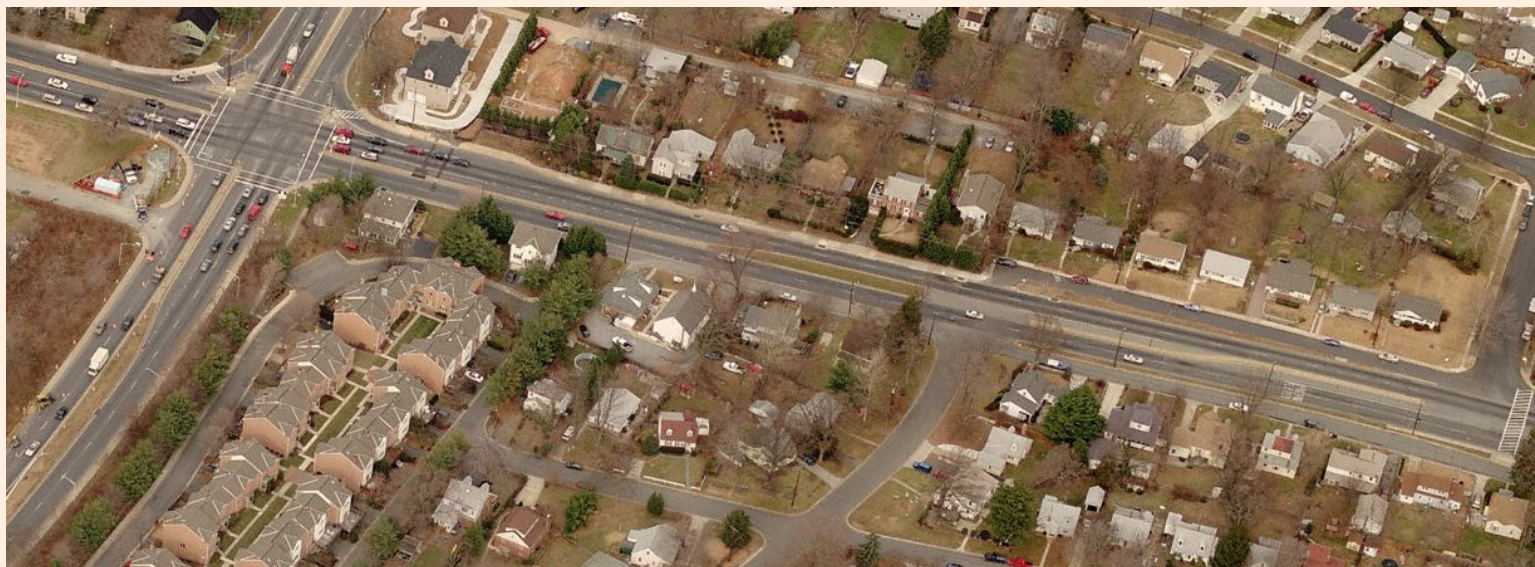
Veirs Mill Road is the largest bus transit market in Montgomery County, serving as a critical cross-county connection that links the two ends of the Metrorail Red Line. A range of running way improvements are planned including queue jumpers and transit signal priority, working within a severely constrained amount of roadway space. Enhanced passenger facilities are planned for Silver Spring, Wheaton, and Rockville. Bus rapid transit has been studied for this corridor and would maximize the value of the investments in running ways and facilities.

ROUTE PATTERNS

- Q1 and Q2 Shady Grove Metro Station to Silver Spring, morning, evening and late evening, seven days a week
- Q4 Rockville to Silver Spring, all day, seven days a week
- Q5 and Q6 Shady Grove to Wheaton, all day, seven days a week
- Q9 Future limited-stop service between Shady Grove and Wheaton, peak periods only

CORRIDOR MAP





PROJECT STATUS

A study of the corridor was completed in September 2009. Implementation of Phase 1 improvements took place in December 2009. Future phases will be implemented pending Metro Board approval.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Real time information at stops and via telephone and Internet

Investment Proposals

- Wheaton Station, Rockville Station, Montgomery College and Shady Grove bus bays
- Wheaton Station joint development
- Wheaton Sector Plan improvements
- Silver Spring Station transit center
- Silver Spring Station joint development
- Shady Grove sector plan access improvements
- Glenmont Station Study improvements
- Enhanced multimodal transit center at Silver Spring
- Traffic and intersection improvements as part of the Rockville Town Center Study
- Interface with the Purple Line at Silver Spring Station
- Interface with the Corridor Cities Transitway at Shady Grove
- High capacity BRT or LRT

Service Concepts

- Increase capacity as needed
- Shorter overlapping routes created on Viers Mill Road (Q4 and Q6)
- More direct routing to reduce travel time (Q1 and Q5 bypass Montgomery College)
- Limited-stop service between Shady Grove and Wheaton stations
- Extend route and increase service
- Alignment changed near Shady Grove Station to serve King Farm
- Increase stop spacing to meet minimum separation policy
- Promote SmarTrip cards

Traffic Operations & Management

- Metrobus supervisors focusing only on managing this route
- Better enforcement of parking restrictions
- Enhanced training for drivers
- Transit signal priority
- Queue jump lanes
- Bus lane on Georgia Avenue
- Study impact of Rockville and Wheaton station modifications
- Enhance reliability through monitoring

SERVICE DATA

Line / Route Description	Q1, Q2, Q4, Q5, Q6, Q9
State / Jurisdiction	MD
Study Year	2009
Implementation Year	2010
Average Weekday Boardings (FY2010)	8,500
Annual Boardings (FY2010)	2,746,000
<i>Change in Boardings (%)</i>	16%
<i>Capital Cost of Improvements (2008\$)</i>	\$13,690,410
<i>Base Operating Cost (2008\$)</i>	\$8,296,709
<i>Change in Operating Cost (%)</i>	14%
Average operating speed (mph)	14.4
<i>Reduction in CO2 emissions (metric tons/yr)</i>	485
<i>Reduction in fuel use (gals/yr)</i>	54,441
<i>Reduction in travel time (passenger hours/yr)</i>	198,259
<i>Net subsidy (\$ per passenger)</i>	\$1.41

Items in italics represent projections for 2015.

ROUTE PATTERNS

- X1 Benning Road Line, service between Minnesota Avenue Station and Potomac Park, peak periods only
- X2 Benning Road H Street Line, service between Minnesota Avenue Station and Lafayette Square, all day, seven days a week
- X3 Benning Road Line, service between Minnesota Avenue Station and McLean Gardens, peak periods only
- X9 Benning Road H Street Line, limited-stop service between Capitol Heights and Metro Center, peak periods only

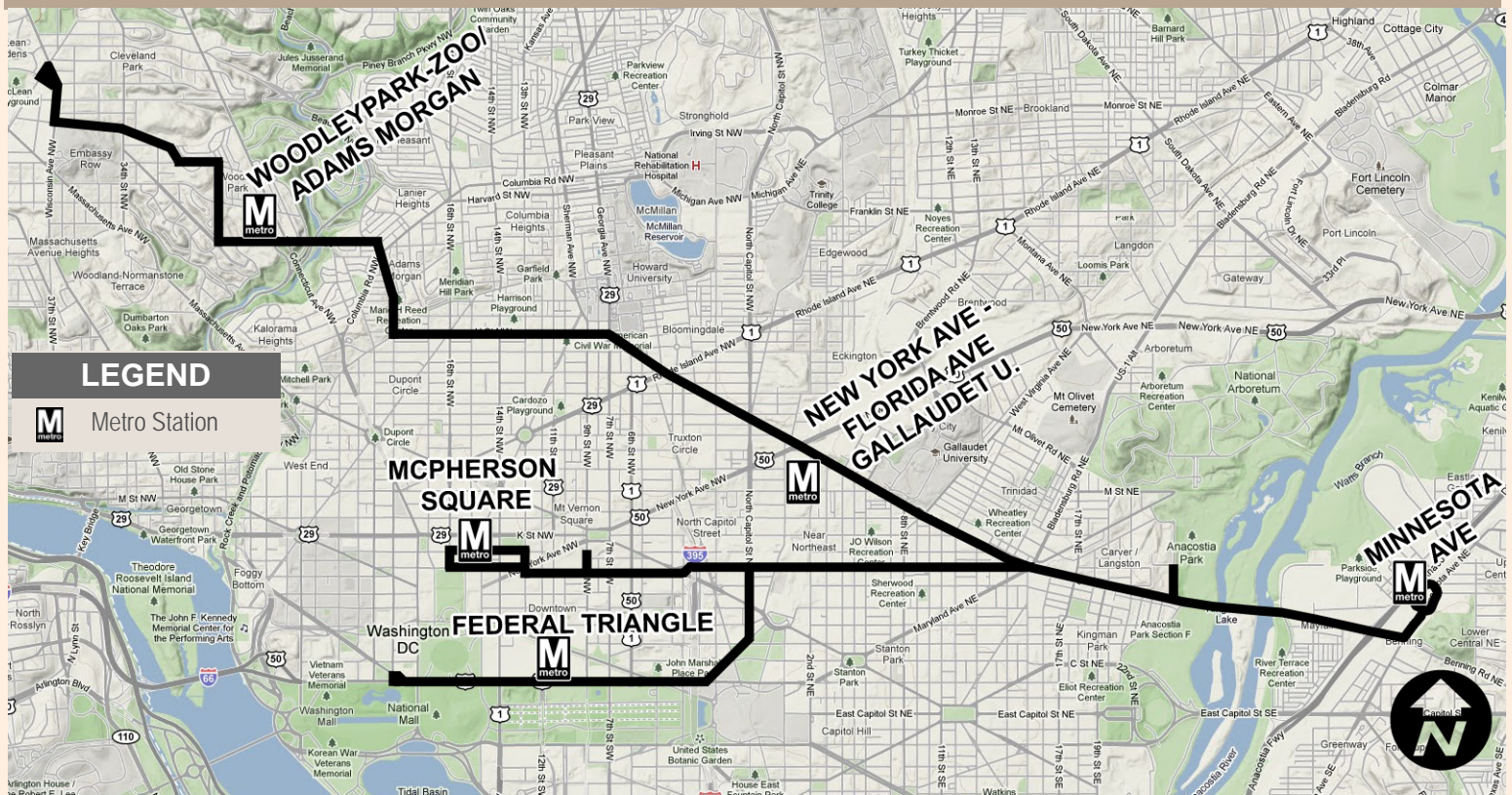
SERVICE AREA

District of Columbia from Minnesota Avenue Metro Station to Downtown, including Heckinger Mall, Union Station, Chinatown, and Lafayette Park.

CORRIDOR DESCRIPTION

The H Street/Benning Road corridor serves heavy east-west travel demand including H and I streets downtown. The trunk service, X2, is among the shortest of the routes in the designated priority corridors, thereby limiting the amount of bus travel time that can be saved. Possible improvements include left hand turn lanes using the existing cross-section, traffic signal priority, parking restrictions and bus stop improvements.

CORRIDOR MAP



BENNING ROAD



PROJECT STATUS

A study of the corridor was completed in October 2009. Implementation of Phase 1 improvements took place in December 2009 with implementation of Phase 2 improvements occurring in December 2010.

SERVICE DATA

Line / Route Description	X1, X2, X3, X9
State / Jurisdiction	DC
Study Year	2009
Implementation Year	2010
Average Weekday Boardings (FY2010)	12,500
Annual Boardings (FY2010)	3,873,000
<i>Change in Boardings (%)</i>	13%
<i>Capital Cost of Improvements (2008\$)</i>	\$5,063,397
<i>Base Operating Cost (2008\$)</i>	\$7,183,469
<i>Change in Operating Cost (%)</i>	14%
Average operating speed (mph)	8.8
<i>Reduction in CO2 emissions (metric tons/yr)</i>	425
<i>Reduction in fuel use (gals/yr)</i>	47,771
<i>Reduction in travel time (passenger hours/yr)</i>	235,521
<i>Net subsidy (\$ per passenger)</i>	\$0.81

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Next-bus arrival displays
- Improve bus stop signs
- Fix or replace missing or damaged stop elements
- Update schedule and maps
- Enhance customer information on-board
- Customer information via telephone and internet, including real time information
- Marketing new services

Investment Proposals

- Minnesota Avenue Station parking garage and joint development
- Minnesota Avenue bus bays
- New shelters with benches and lighting as part of the DC Shelter Replacement Program
- Pedestrian infrastructure improvements as part of ongoing construction in the corridor
- New articulated buses on X2
- Branded buses for proposed X9 route
- Coordination with improvements identified in H Street NE Corridor Study, Minnesota Avenue Extension Environmental Assessment, and proposed DC Streetcar service

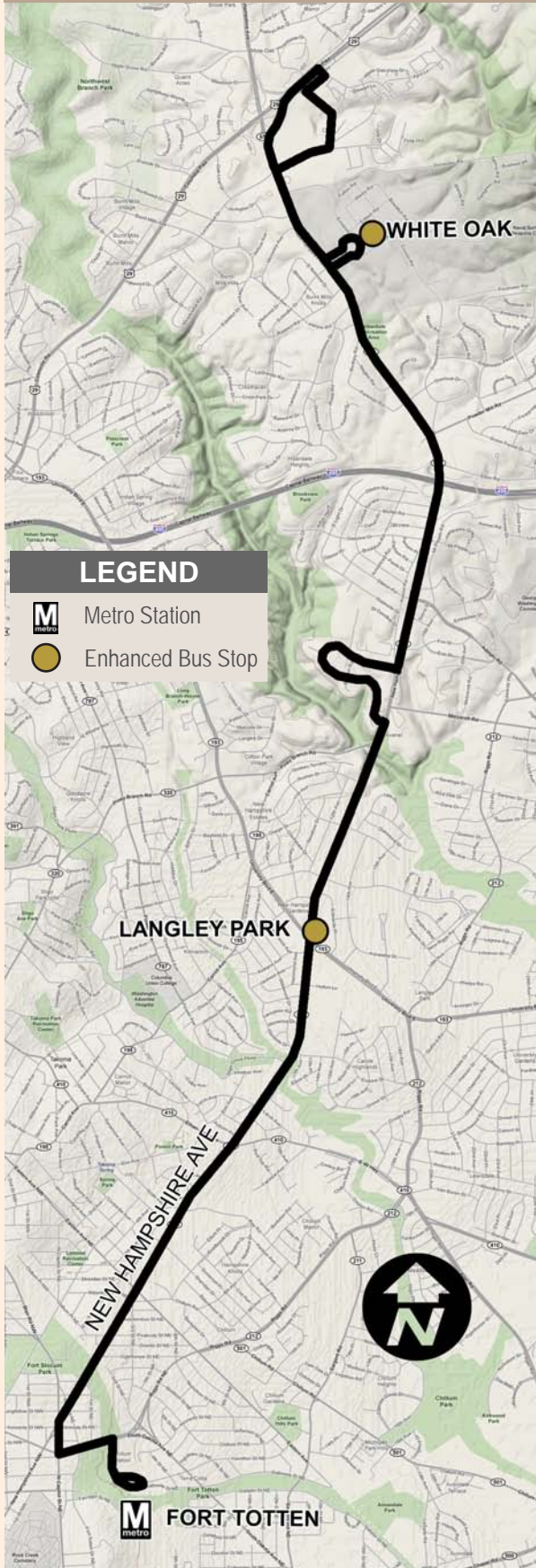
Service Concepts

- Increase frequency of service on X2 route (complete)
- New peak-period Metro Express X9 service between H Street NW at 13th Street NW and Capitol Heights Metro Station.
- Phased increase in peak service and mid-day service on X9, eventually expanding to all-day service
- Reducing X2 peak-hour service and redeploy resources for new X9 express service
- Improve safety and security along the Benning Road-H Street Line

Traffic Operations & Management

- Full time line supervisor
- Supervisor manual and training to address operational issues
- Line specific bus operator training
- Queue jump lanes
- Modify signal timing to provide additional green time for specific bus movements
- Transit signal priority
- Transit-only lanes
- Better parking policies and enforcement

CORRIDOR MAP



SERVICE AREA

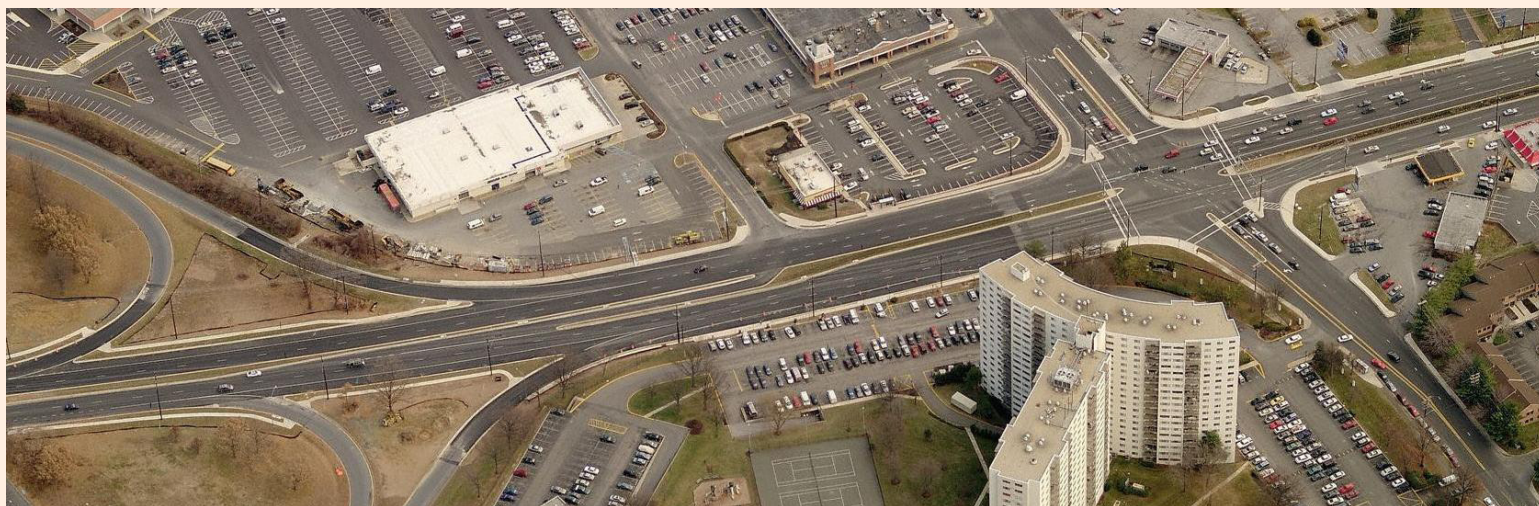
District of Columbia, Montgomery County, Prince George's County from White Oak Shopping Center to Fort Totten Metro Station, including Langley Park and Takoma Park.

CORRIDOR DESCRIPTION

White Oak, at the intersection of New Hampshire Avenue and US 29, is a major employment center and serves as one anchor of this priority corridor. A transit center at White Oak is planned. This corridor also will be served by the proposed transit center at Langley Park. The corridor has a dense mix of residential and commercial uses and runs through the heart of the Takoma Park neighborhood and into the District.

ROUTE PATTERNS

- K6 New Hampshire Avenue- Maryland Line, White Oak to Fort Totten Station, all day, seven days a week
- K9 Limited-stop service



PROJECT STATUS

A study of the corridor was completed in November 2010. Metro and partner agencies expect to develop the recommendations into an implementation strategy in late 2011.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Metro website information
- Customer service agent information
- Customer comment monitoring
- Programmed telephone information
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays
- Enhanced service supervision
- Traffic management techniques

Service Concepts

- Metrobus local
- Metrobus express
- Apply corridor design factors
- Service threshold compliance
- Service change evaluation
- Phased service improvements
- Funding to maintain service thresholds
- Short turn and limited-stop service

Traffic Operations & Management

- Parking enforcement
- Enhance service supervision
- Traffic hazard mitigation
- Terminal stands and stop relocations
- Problem resolution contacts
- Bus stop siting/safety
- HOV/signal warrant studies
- Traffic signal adjustments
- Standardized detours
- Pavement maintenance/repair
- Dedicated ROW
- Transit signal priority

Investment Proposals

- Langley Park transit center
- White Oak transit center
- White Oak parking spaces
- White oak FDA campus expansion
- Fort Totten Station joint development
- New types of vehicles

SERVICE DATA

Line / Route Description	K6, K9
State / Jurisdiction	MD
Study Year	2010
Implementation Year	2011
Average Weekday Boardings (FY2010)	5,400
Annual Boardings (FY2010)	1,848,000
<i>Change in Boardings (%)</i>	16%
<i>Capital Cost of Improvements (2008\$)</i>	\$6,383,930
<i>Base Operating Cost (2008\$)</i>	\$4,458,916
<i>Change in Operating Cost (%)</i>	22%
Average operating speed (mph)	13.4
<i>Reduction in CO2 emissions (metric tons/yr)</i>	188
<i>Reduction in fuel use (gals/yr)</i>	21,105
<i>Reduction in travel time (passenger hours/yr)</i>	117,926
<i>Net subsidy (\$ per passenger)</i>	\$1.41

Items in italics represent projections for 2015.

SERVICE AREA

District of Columbia from Capitol Heights Metro Station and Congress Heights Metro Station to McLean Gardens, including Anacostia, RFK Stadium, Eastern Market, Union Station, Gallaudet University, U Street, and Woodley Park.

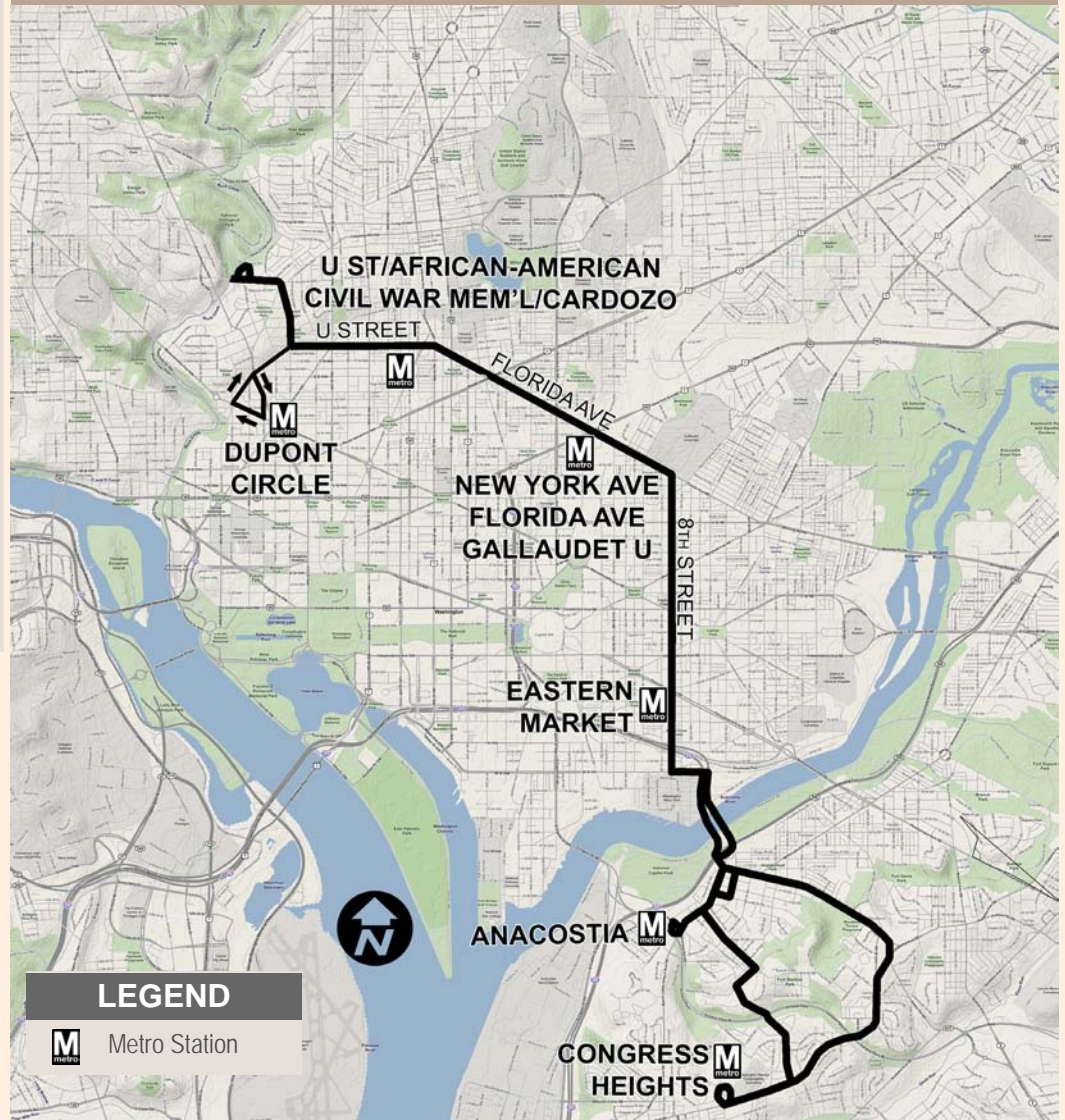
CORRIDOR DESCRIPTION

This crosstown line takes riders from Duke Ellington Bridge, through Adams Morgan, and then continues along U Street, Florida Avenue and 8th Street for its route to the Anacostia neighborhood. Anticipated running way improvements include parking restrictions, signal system improvements, and left turn enhancements. Bus stop improvements will include expanded passenger amenities, high-quality travel information, improved shelter design, landscaping and a more pedestrian-friendly environment.

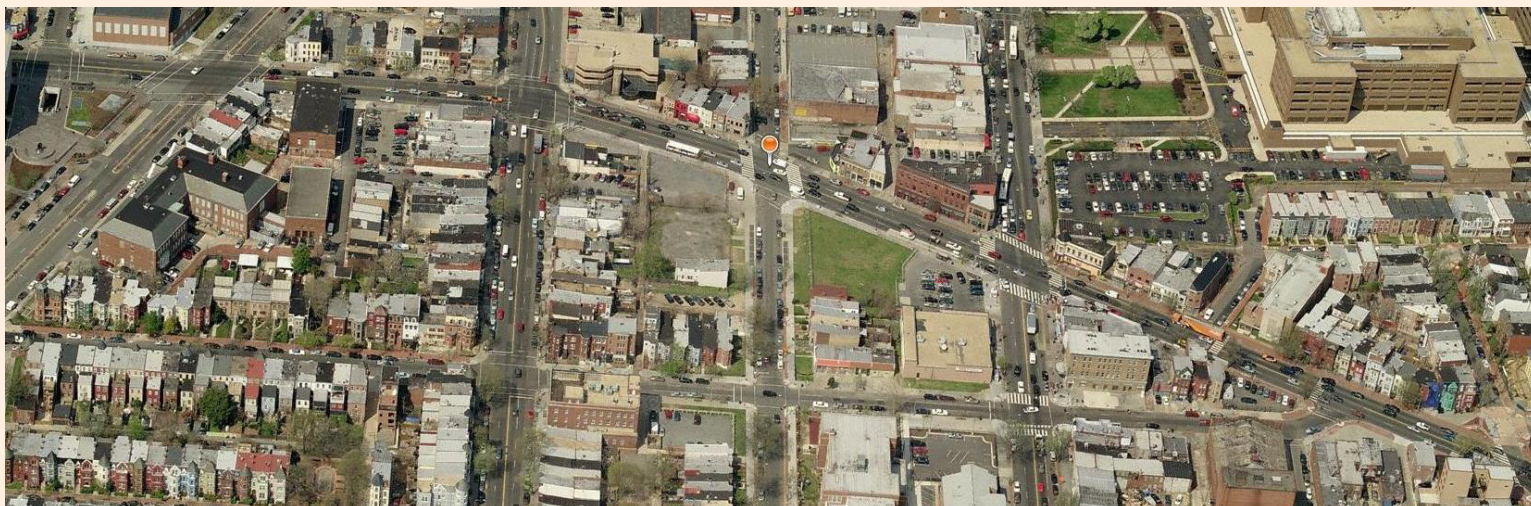
ROUTE PATTERNS

- 90,92,93 U Street- Garfield Line, Anacostia Station to Eastern Market Station and Duke Ellington Bridge, all day, seven days a week (91) via Naylor Rd and Good Hope Rd, all day, seven days a week (92); via Stanton Rd and Morris Rd, early AM and late PM trips, seven days a week (93).
- 99 Metro Express 99, limited-stop service between Anacostia and Dupont Circle, peak periods only

CORRIDOR MAP



GARFIELD



PROJECT STATUS

A study of the corridor was completed in October 2010. Metro and DDOT expect to develop the recommendations into an implementation strategy in late 2011.

SERVICE DATA

Line / Route Description	90, 92, 93, 99
State / Jurisdiction	DC
Study Year	2010
Implementation Year	2011
Average Weekday Boardings (FY2010)	12,800
Annual Boardings (FY2010)	4,174,000
<i>Change in Boardings (%)</i>	14%
<i>Capital Cost of Improvements (2008\$)</i>	\$9,529,919
Base Operating Cost (2008\$)	\$11,704,148
<i>Change in Operating Cost (%)</i>	14%
Average operating speed (mph)	9.3
<i>Reduction in CO2 emissions (metric tons/yr)</i>	515
<i>Reduction in fuel use (gals/yr)</i>	57,858
<i>Reduction in travel time (passenger hours/yr)</i>	253,050
<i>Net subsidy (\$ per passenger)</i>	\$1.64

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Updated schedules and maps
- Schedule information on buses
- Real-time information displays
- Branding of new services
- Replace missing or damaged bus stop elements

Service Concepts

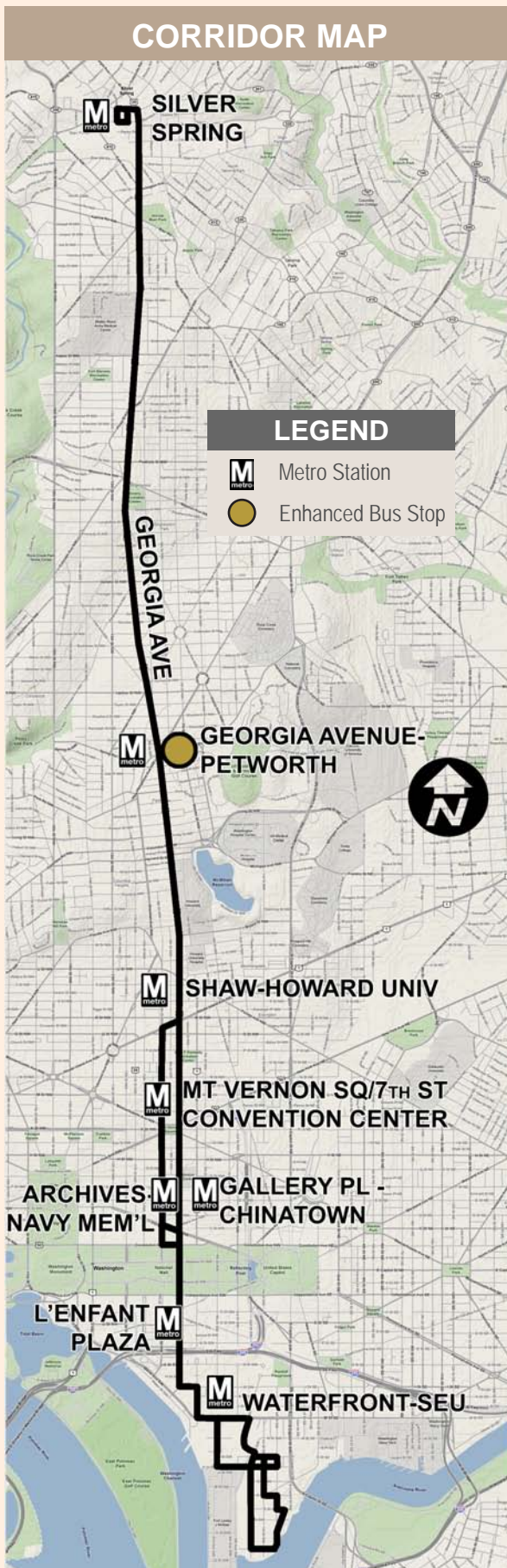
- New alignments to Dupont Circle Metro Station
- Limited-stop service via 8th Street or other alternative alignments
- Enhance Routes 90 and 92
- Short-turn or tripper service
- Improved safety and security

Investment Proposals

- McLean Gardens bus bays
- Union Station joint development
- Union Station passenger access improvements
- Union Station bus bays
- 14th & U infrastructure enhancements & joint development
- New vehicles
- Continue DC shelter replacement program

Traffic Operations & Management

- Enhance service supervision
- Route-specific training for bus drivers
- Dedicated transit lanes
- Signal priority
- Intersection improvements
- Increased enforcement of parking restrictions
- Signal re-timing, MLK Jr. Avenue and Good Hope Road SE
- Consolidate and relocate bus stops



SERVICE AREA

Montgomery County from Montgomery General Hospital and Silver Spring Metro Station, including Leisure World, Glenmont, Wheaton, and Forest Glen.

CORRIDOR DESCRIPTION

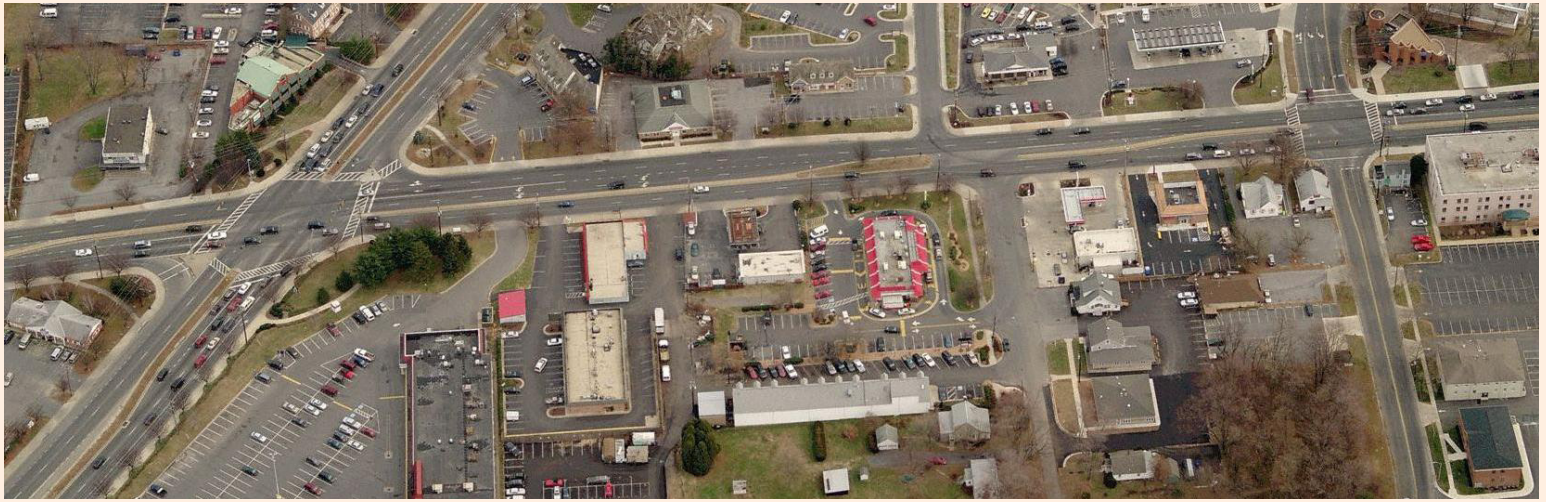
Georgia Avenue, between Montgomery General Hospital and the Glenmont Metro Station, is one of few the corridors recommended that has a median wide enough to accommodate an exclusive busway. Bus lanes are also possible in the southern part of the corridor under the Beltway to improve access to Forest Glen Metro Station. A new transit center at Olney with a 425-space parking lot and an upgraded Norbeck Road Park and Ride lot with an additional 175 spaces are proposed to support a future bus rapid transit route on Georgia Avenue.

ROUTE PATTERNS

Y5, Y7 Georgia Avenue-Maryland Line, between Montgomery General Hospital and Silver Spring Station, all day, seven days a week.

Y8, Y9 Y5 and Y7 serve Norbeck Park and Ride, peak hours, peak direction only; Y5 and Y8 serve Leisure World, 6 AM to 9 PM only.

AVENUE (MD)



PROJECT STATUS

The corridor study began in February 2011.

SERVICE DATA

Line / Route Description	Y5, Y7, Y8, Y9
State / Jurisdiction	MD
Study Year	2011
Implementation Year	2012
Average Weekday Boardings (FY2010)	6,900
Annual Boardings (FY2010)	2,235,000
<i>Change in Boardings (%)</i>	19%
<i>Capital Cost of Improvements (2008\$)</i>	\$60,905,020
Base Operating Cost (2008\$)	\$6,339,597
<i>Change in Operating Cost (%)</i>	14%
Average operating speed (mph)	15.3
<i>Reduction in CO2 emissions (metric tons/yr)</i>	412
<i>Reduction in fuel use (gals/yr)</i>	46,290
<i>Reduction in travel time (passenger hours/yr)</i>	170,251
<i>Net subsidy (\$ per passenger)</i>	\$1.62

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Metro website information
- Customer service agent information
- Customer comment monitoring
- Programmed telephone information
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays

Service Concepts

- Metrobus local
- Metrobus express
- Apply corridor design factors
- Service threshold compliance
- Neighborhood circulator service
- Service change evaluation
- Phased service improvements
- Funding to maintain service thresholds

Investment Proposals

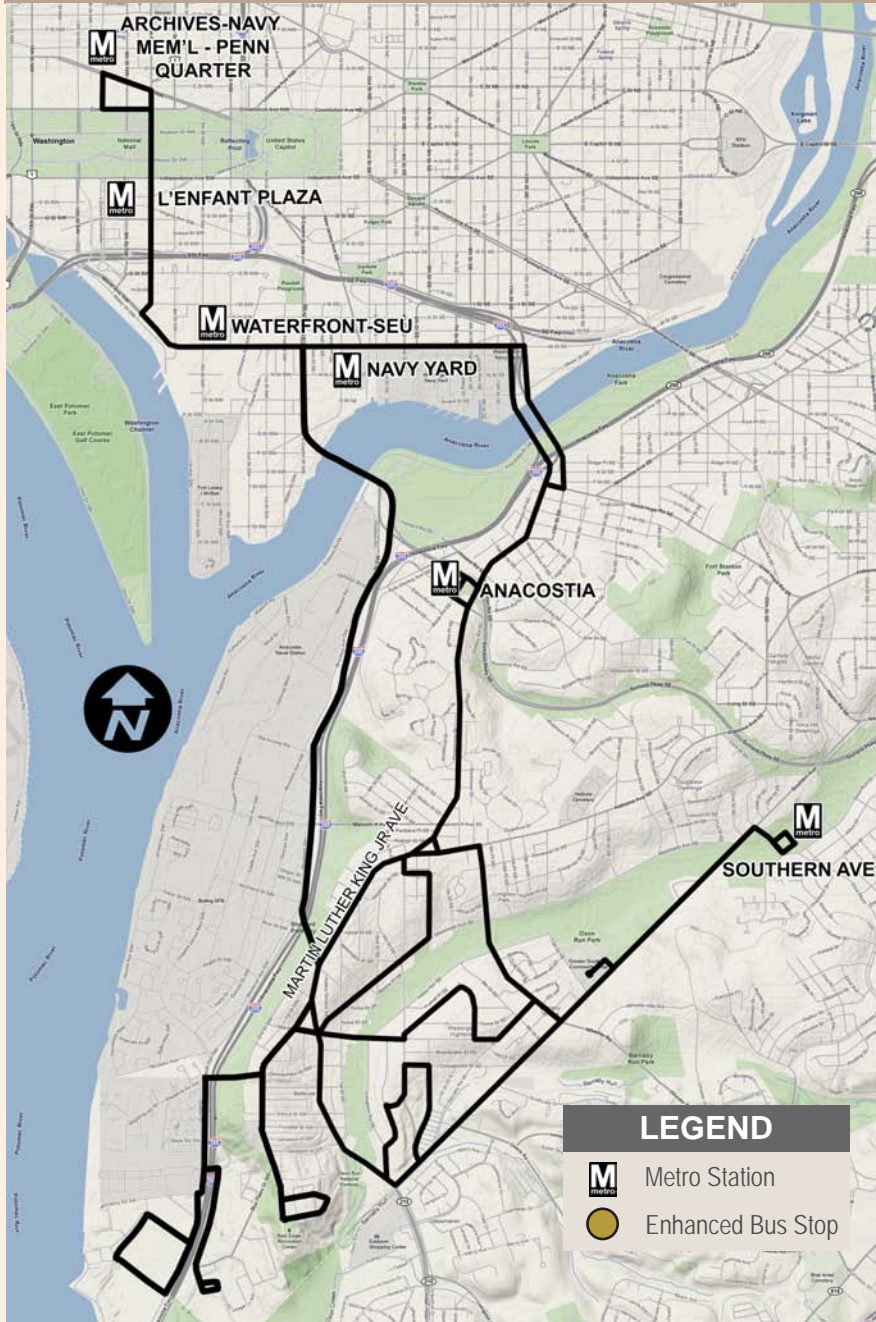
- Wheaton Station, Olney Town Center and Norbeck Road bus bays
- Wheaton Station joint development and Wheaton Sector Plan improvements
- Silver Spring Station transit center
- Silver Spring Station joint development
- Olney parking spaces
- Glenmont Station study improvements

Traffic Operations & Management

- Parking enforcement
- Enhance service supervision
- Traffic hazard mitigation
- Terminal stands and stop relocations
- Problem resolution contacts
- Bus stop siting/safety
- HOV/signal warrant studies
- Traffic signal adjustments
- Traffic control officers
- Standardized detours
- Pavement maintenance/repair
- Dedicated ROW
- Transit signal priority



CORRIDOR MAP



SERVICE AREA

District of Columbia from Southern Avenue Metro Station to Archives-Navy Mameorial/Penn Quarter Metro Station, including Anacostia, Navy Yard, Waterfront, and L'Enfant Plaza.

CORRIDOR DESCRIPTION

Martin Luther King, Jr. Avenue serves as the main trunk for this complex bus line which operates through much of DC's Southeast district. Recommended improvements for MLK Jr. Avenue include changes to parking regulations, left turn changes, and signal system improvements. Similar to other densely developed corridors, transit center improvements are proposed at several locations to incorporate more comfortable shelters, pedestrian safety, passenger amenities, and high-quality passenger information.

ROUTE PATTERNS

- A2 Southern Avenue to Anacostia Station via Atlantic Street and Mississippi Avenue all day, seven days a week
- A4,5 Fort Drum and D.C. Village to Anacostia Station via Martin Luther King, Jr. Ave, all day, seven days a week.
- A6 Livingston to Anacostia Station all day, seven days a week
- A8 Southern Avenue and South Capitol Street to Anacostia Station, all day, seven days a week
- A7 Southern Avenue and South Capitol Street to Anacostia Station via Southern Avenue and Wheeler Road, peak periods only
- A9 Livingston to L'Enfant Plaza Station via South Capitol Street, AM peak northbound and PM peak southbound only.

Routes A42, A46, and A48 provide late night and early morning service extended to Archives Station.

CONGRESS HEIGHTS



PROJECT STATUS

The corridor study began in February 2011.

SERVICE DATA

Line / Route Description	A2, A4, A5, A6, A7, A8, A9, A42, A46, A48
State / Jurisdiction	DC
Study Year	2011
Implementation Year	2012
Average Weekday Boardings (FY2010)	13,500
Annual Boardings (FY2010)	4,404,000
<i>Change in Boardings (%)</i>	13%
<i>Capital Cost of Improvements (2008\$)</i>	\$5,128,649
Base Operating Cost (2008\$)	\$8,528,343
<i>Change in Operating Cost (%)</i>	14%
Average operating speed (mph)	12.4
<i>Reduction in CO2 emissions (metric tons/yr)</i>	273
<i>Reduction in fuel use (gals/yr)</i>	30,723
<i>Reduction in travel time (passenger hours/yr)</i>	177,353
<i>Net subsidy (\$ per passenger)</i>	\$1.74

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Metro website information
- Customer service agent information
- Customer comment monitoring
- Programmed telephone information
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays

Investment Proposals

- South Capitol/ Southern Avenue bus bays
- Navy Yard Station joint development

Service Concepts

- Metrobus local
- Metrobus express
- Apply corridor design factors
- Service threshold compliance
- Neighborhood circulator service
- Service change evaluation
- Phased service improvements
- Funding to maintain service thresholds

Traffic Operations & Management

- Parking enforcement
- Enhance service supervision
- Traffic hazard mitigation
- Terminal stands and stop relocations
- Problem resolution contacts
- Bus stop siting/safety
- HOV/signal warrant studies
- Traffic signal adjustments
- Traffic control officers
- Standardized detours
- Pavement maintenance/repair
- Dedicated ROW
- Transit signal priority

ROUTE PATTERNS

C2, C4 Greenbelt Twinbrook Line, between Wheaton Station and Greenbelt Center, all day, Monday through Saturday (C2) or between Twinbrook Station and Prince George's Plaza Station, all day, seven days a week (C4).

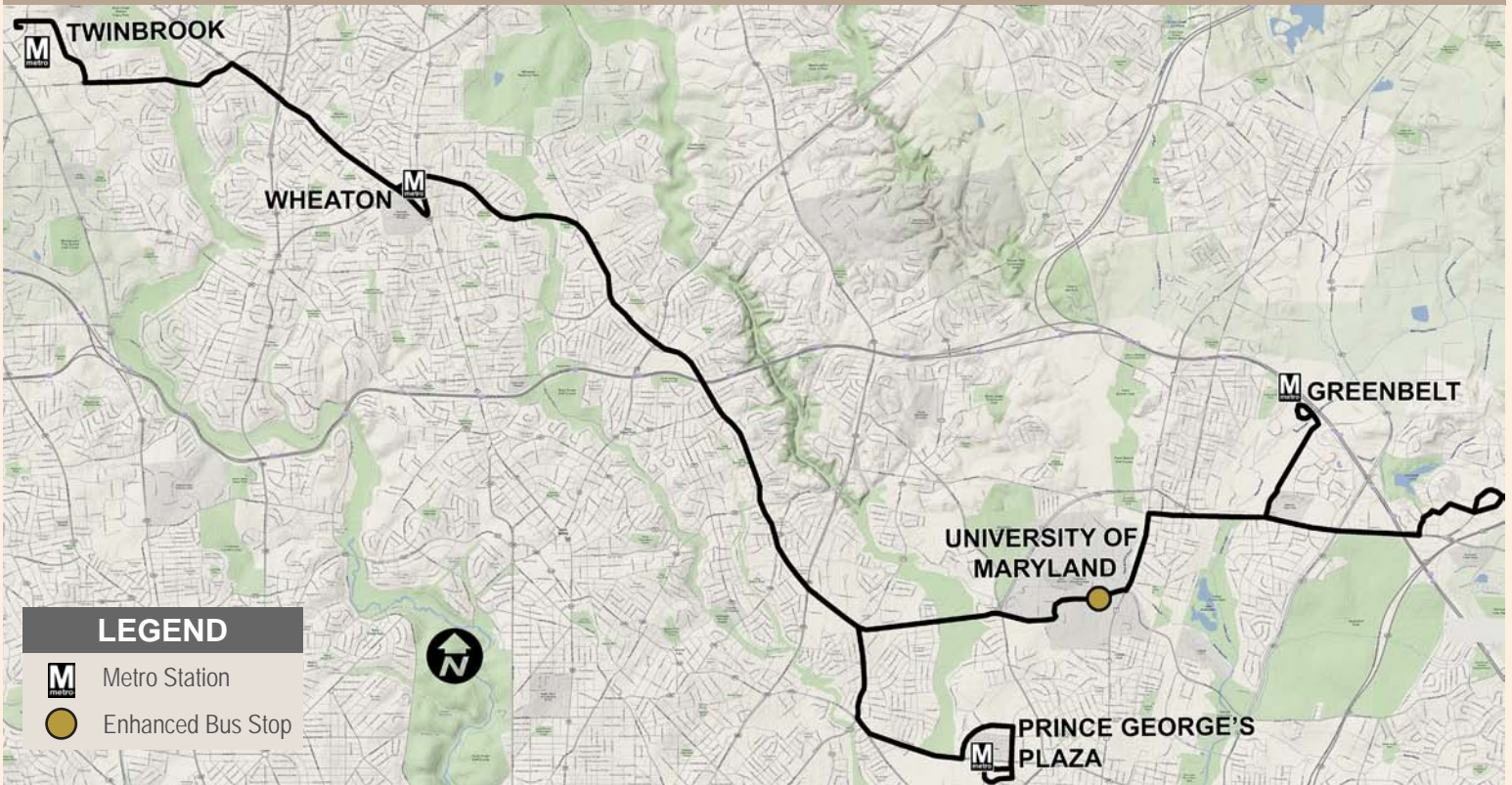
SERVICE AREA

Montgomery County and Prince George's County from Twinbrook Metro Station to Greenbelt Metro Station, including Wheaton, Prince George's Plaza, and University of Maryland.

CORRIDOR DESCRIPTION

The University Boulevard corridor, currently served by Metrobus routes C2 and C4, is another important cross-county service. At the eastern end, a Town Center development is planned at Greenbelt Metro Station. Enhanced transit facilities will be built on the University of Maryland campus. At the opposite end of the corridor, Twinbrook Station will also be enhanced through a public-private partnership. Running way improvements include transit signal priority, queue jumpers and a unique transit identity.

CORRIDOR MAP



TWINBROOK



PROJECT STATUS

The project is scheduled to begin in 2011.

SERVICE DATA

Line / Route Description	C2, C4
State / Jurisdiction	MD
Study Year	2011
Implementation Year	2012
Average Weekday Boardings (FY2010)	11,000
Annual Boardings (FY2010)	3,519,000
<i>Change in Boardings (%)</i>	17%
<i>Capital Cost of Improvements (2008\$)</i>	\$12,457,920
Base Operating Cost (2008\$)	\$10,965,890
<i>Change in Operating Cost (%)</i>	14%
Average operating speed (mph)	13.7
<i>Reduction in CO2 emissions (metric tons/yr)</i>	621
<i>Reduction in fuel use (gals/yr)</i>	69,772
<i>Reduction in travel time (passenger hours/yr)</i>	238,901
<i>Net subsidy (\$ per passenger)</i>	\$1.62

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Metro website information
- Customer service agent information
- Customer comment monitoring
- Programmed telephone information
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays

Service Concepts

- Metrobus local
- Metrobus express
- Apply corridor design factors
- Service threshold compliance
- Neighborhood circulator service
- Service change evaluation
- Phased service improvements
- Funding to maintain service thresholds
- Limited-stop service between Prince George's Plaza and Wheaton

Investment Proposals

- Wheaton Station, College Park-U of MD Station and Langley Park bus bays
- Wheaton Station joint development and Wheaton Sector Plan improvements
- College Park- U of MD joint development
- Greenbelt station joint development and parking spaces
- Prince George's Plaza Station joint development
- Twinbrook Station joint development

Traffic Operations & Management

- Parking enforcement
- Enhance service supervision
- Traffic hazard mitigation
- Terminal stands and stop relocations
- Problem resolution contacts
- Bus stop siting/safety
- HOV/signal warrant studies
- Traffic signal adjustments
- Traffic control officers
- Standardized detours
- Pavement maintenance/repair
- Dedicated ROW
- Transit signal priority



EAST - WEST HIGHWAY

Washington Metropolitan Area Transit Authority

ROUTE PATTERNS

F4, F6 New Carrollton- Silver Spring Line, between Silver Spring and New Carrollton via Prince George's Station, all day, seven days a week (F4) or via West Hyattsville station, Prince George's Station, College Park-University of Maryland Station, all day, weekdays only (F6)

SERVICE AREA

Montgomery County and Prince George's County from Silver Spring Metro Station to New Carrollton Metro Station, including West Hyattsville, Prince George's Plaza, and University of Maryland.

CORRIDOR DESCRIPTION

The innermost cross-county corridor in Prince George's County is currently served by the F4/F6 line. Incrementally implemented running way improvements, mostly identity improvements and traffic signal changes, are proposed for this densely developed corridor. Passenger facility improvements are planned for New Carrollton Station, Prince George's Plaza Station, West Hyattsville Station (including a new Town Center development), and Silver Spring Station at the northwestern end of the line.

CORRIDOR MAP



(PRINCE GEORGE'S COUNTY)



PROJECT STATUS

The project is scheduled to begin in 2011.

SERVICE DATA

Line / Route Description	F4, F6
State / Jurisdiction	MD
Study Year	2011
Implementation Year	2012
Average Weekday Boardings (FY2010)	6,800
Annual Boardings (FY2010)	2,083,000
<i>Change in Boardings (%)</i>	17%
<i>Capital Cost of Improvements (2008\$)</i>	\$11,629,939
Base Operating Cost (2008\$)	\$5,724,367
<i>Change in Operating Cost (%)</i>	22%
Average operating speed (mph)	13.3
<i>Reduction in CO2 emissions (metric tons/yr)</i>	150
<i>Reduction in fuel use (gals/yr)</i>	16,800
<i>Reduction in travel time (passenger hours/yr)</i>	94,789
<i>Net subsidy (\$ per passenger)</i>	\$1.91

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Metro website information
- Customer service agent information
- Customer comment monitoring
- Programmed telephone information
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays

Investment Proposals

- New Carrollton Station and College Park - U of MD Station bus bays
- New Carrollton passenger access improvements and joint development
- College Park- U of MD joint development
- Silver Spring Station transit center and joint development
- Prince George's Plaza Station joint development

Service Concepts

- Metrobus local
- Metrobus express
- Apply corridor design factors
- Service threshold compliance
- Neighborhood circulator service
- Service change evaluation
- Phased service improvements
- Funding to maintain service thresholds

Traffic Operations & Management

- Parking enforcement
- Enhance service supervision
- Traffic hazard mitigation
- Terminal stands and stop relocations
- Problem resolution contacts
- Bus stop siting/safety
- HOV/signal warrant studies
- Traffic signal adjustments
- Traffic control officers
- Standardized detours
- Pavement maintenance/repair
- Dedicated ROW
- Transit signal priority



LITTLE RIVER TURNPIKE

Washington Metropolitan Area Transit Authority

ROUTE PATTERNS

- 29C** Annandale Line, between NVCC An-
nandale Campus and Pentagon via Little
River Turnpike, reverse peak service
only
- 29EX** Annandale Line express, between
NVCC and Pentagon via Braeburn Drive
and Little River Turnpike (29G) or via
I-495 (29X), peak periods only
- 29GH** Annandale Line express, Heritage Mall
to Pentagon (29H also serves Raven-
sworth Road); peak periods only
- 29KN** Alexandria Fairfax Line, George Mason
University (29K) or Fairfax Circle (29N)
to Downtown Alexandria; all day, week-
days; all day, Saturdays (29N only)

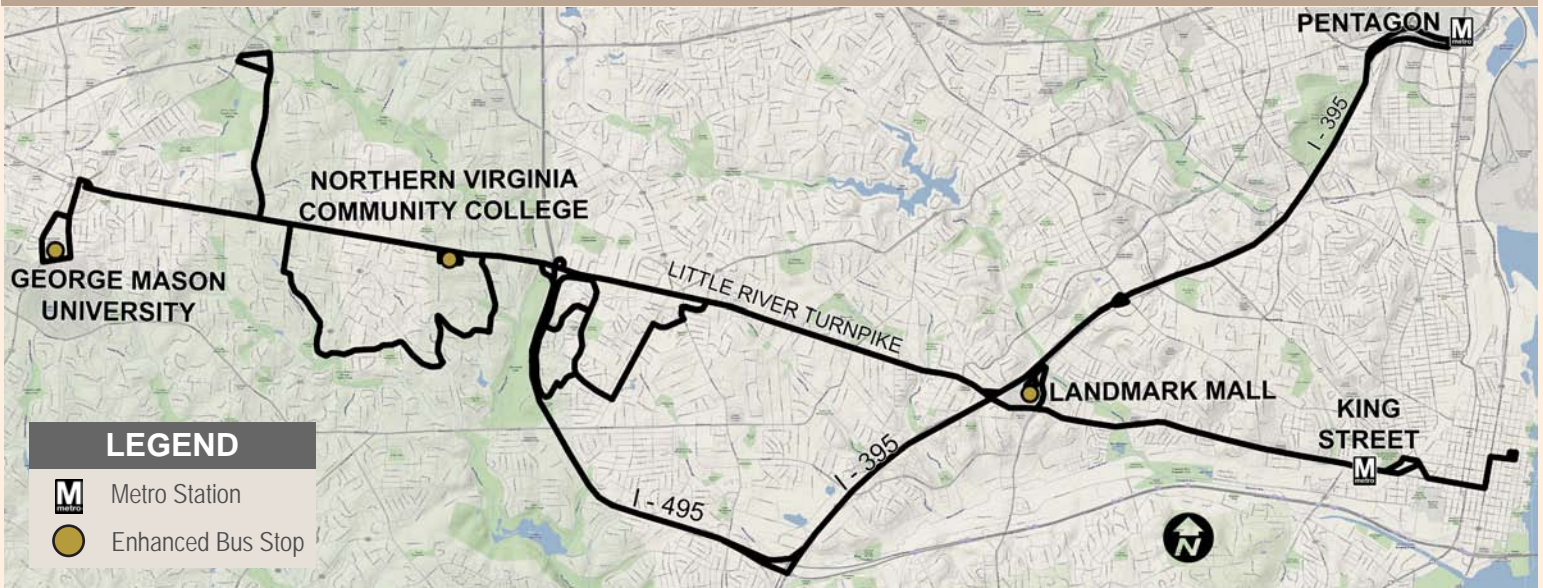
SERVICE AREA

Fairfax County, Alexandria City, and Arlington County from George Ma-
son University to Pentagon Metro Station, including Northern Virginia
Community College, Landmark, and King Street.

CORRIDOR DESCRIPTION

This corridor runs from the George Mason University main campus in
Fairfax along the Highway 236 corridor (which encompasses Main St,
Little River Turnpike and Duke Street) between Fairfax and Alexandria
which carries the Metrobus 29KN service into the King Street Metro. The
29CEGHX service originates in the Northern Virginia Community College
area along the Little River Turnpike and continues on I-395 to the Penta-
gon Metro Station. A transit center has been proposed for the community
college. The corridor is proposed for upgrading to RapidBus service. To
support the enhanced bus service, running way improvements such as
bus-only shoulder operation, queue jumpers, and transit signal priority
will be considered. In addition to the 29 Line, the corridor is benefitted
significantly by Alexandria’s DASH service.

CORRIDOR MAP



DUKE STREET



PROJECT STATUS

The project is scheduled to begin in 2011.

SERVICE DATA

Line / Route Description	29CEGHX, 29KN
State / Jurisdiction	VA
Study Year	2011
Implementation Year	2012
Average Weekday Boardings (FY2010)	3,100
Annual Boardings (FY2010)	876,000
<i>Change in Boardings (%)</i>	19%
<i>Capital Cost of Improvements (2008\$)</i>	\$13,287,849
Base Operating Cost (2008\$)	\$4,487,121
<i>Change in Operating Cost (%)</i>	22%
Average operating speed (mph)	17.7
<i>Reduction in CO2 emissions (metric tons/yr)</i>	-40
<i>Reduction in fuel use (gals/yr)</i>	-4,513
<i>Reduction in travel time (passenger hours/yr)</i>	37,193
<i>Net subsidy (\$ per passenger)</i>	\$4.62

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Metro website information
- Customer service agent information
- Customer comment monitoring
- Programmed telephone information
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays

Investment Proposals

- King Street Station bus bays
- Landmark Mall bus bays
- Annandale bus bays
- Annandale parking spaces

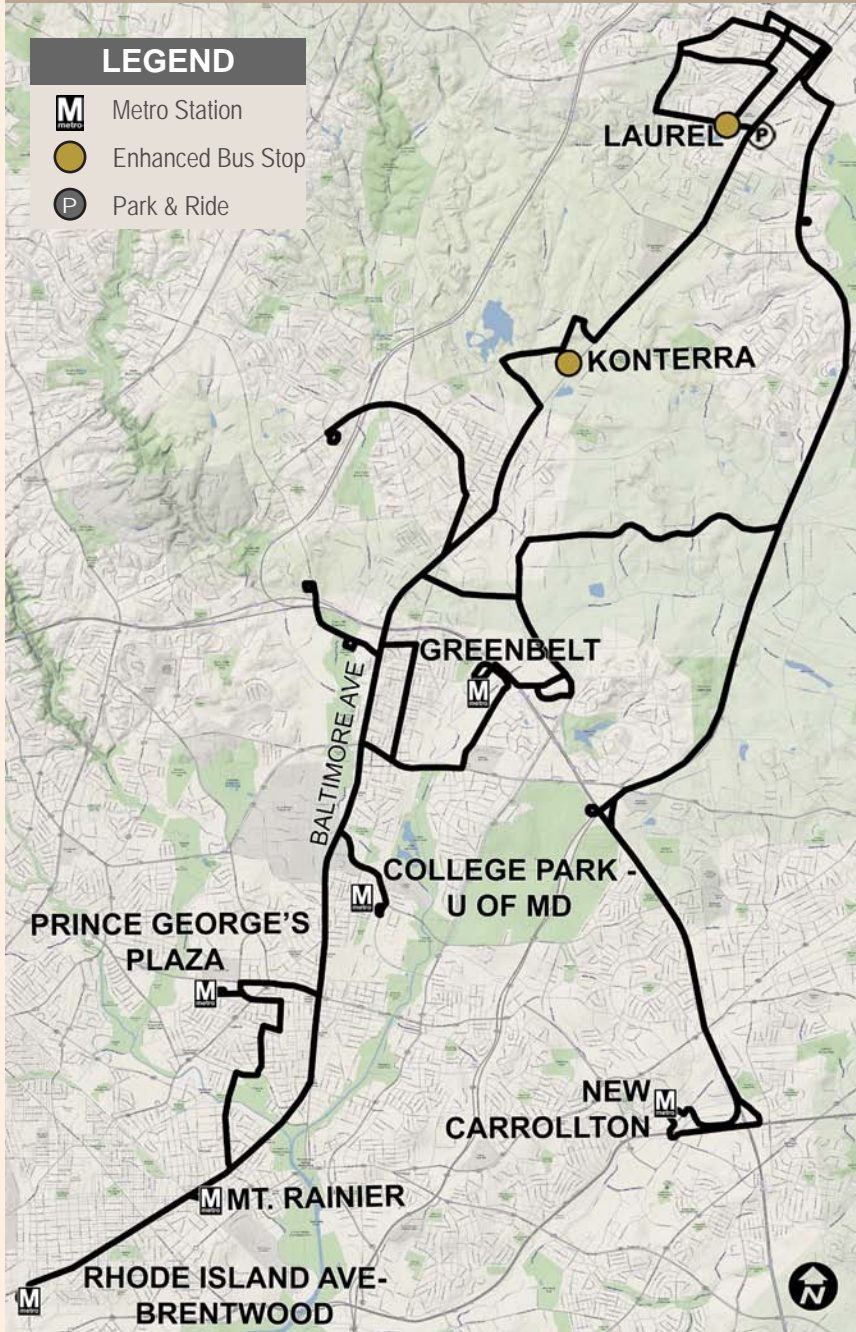
Service Concepts

- Metrobus local
- Metrobus express
- Apply corridor design factors
- Service threshold compliance
- Neighborhood circulator service
- Service change evaluation
- Phased service improvements
- Funding to maintain service thresholds
- Integration with Alexandria BRT study

Traffic Operations & Management

- Parking enforcement
- Enhance service supervision
- Traffic hazard mitigation
- Terminal stands and stop relocations
- Problem resolution contacts
- Bus stop siting/safety
- HOV/signal warrant studies
- Traffic signal adjustments
- Traffic control officers
- Standardized detours
- Pavement maintenance/repair
- Dedicated ROW
- Transit signal priority

CORRIDOR MAP



SERVICE AREA

Prince George's County and District of Columbia from Laurel to Rhode Island Avenue-Brentwood Metro Station, including Greenbelt, New Carrollton, University of Maryland, and Mount Rainier.

CORRIDOR DESCRIPTION

This corridor is currently served by many different bus routes targeted to different travel markets and diverse environments. Running way improvements could enhance more direct corridor service, connecting new transit centers in Laurel, the Konterra business campus, Greenbelt, College Park, Prince George's Plaza, Mount Rainier, and Rhode Island Avenue Station.

ROUTE PATTERNS

- 81, 83 College Park Line, between Cherry Hill Park Campground and Rhode Island Avenue- Brentwood Station. Route 83 serves College Park- UMD Station all day on weekdays and Saturdays; route 81 serves Greenbelt Station instead of College Park-UMD, Sundays only.
- 82 College Park Line, Mt Rainier to Rhode Island Avenue Station, select AM, PM, and late PM trips, seven days a week
- 86 College Park Line, Calverton, College Park-UMD Station, Prince George's Plaza Station and Rhode Island Avenue Station, all day weekdays, midday and evening trips on weekends
- 87 Laurel Express Line, Laurel to Greenbelt Station, peak periods only
- 88 Laurel Express Line, Laurel to New Carrollton Station, limited peak hour, peak-direction trips
- 89,89M Laurel Line, Laurel to Greenbelt Station, peak periods only (89); route 89M serves South Laurel Park and Ride Lot and Town Center Shopping Center midday only, weekdays

METRO TO LAUREL



PROJECT STATUS

The project is scheduled to begin in 2012.

SERVICE DATA

Line / Route Description	81, 82, 83, 86, 87, 88, 89, 89M
State / Jurisdiction	MD
Study Year	2012
Implementation Year	2013
Average Weekday Boardings (FY2010)	7,800
Annual Boardings (FY2010)	1,657,000
<i>Change in Boardings (%)</i>	17%
<i>Capital Cost of Improvements (2008\$)</i>	\$13,323,027
Base Operating Cost (2008\$)	\$6,325,991
<i>Change in Operating Cost (%)</i>	14%
Average operating speed (mph)	16.0
<i>Reduction in CO2 emissions (metric tons/yr)</i>	178
<i>Reduction in fuel use (gals/yr)</i>	20,046
<i>Reduction in travel time (passenger hours/yr)</i>	83,861
<i>Net subsidy (\$ per passenger)</i>	\$3.18

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Metro website information
- Customer service agent information
- Customer comment monitoring
- Programmed telephone information
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays

Service Concepts

- Metrobus local
- Metrobus express
- Apply corridor design factors
- Service threshold compliance
- Neighborhood circulator service
- Service change evaluation
- Phased service improvements
- Funding to maintain service thresholds

Investment Proposals

- New Carrollton Station, College Park- U of MD Station and Laurel bus bays
- New Carrollton Station passenger access improvements and joint development
- College Park- U of MD joint development
- Greenbelt Station parking spaces and joint development
- Prince Georges Plaza Station joint development
- Rhode Island- Brentwood Station joint development

Traffic Operations & Management

- Parking enforcement
- Enhance service supervision
- Traffic hazard mitigation
- Terminal stands and stop relocations
- Problem resolution contacts
- Bus stop siting/safety
- HOV/signal warrant studies
- Traffic signal adjustments
- Traffic control officers
- Standardized detours
- Pavement maintenance/repair
- Dedicated ROW
- Transit signal priority



ROUTE PATTERNS

G8 Rhode Island Avenue Line, Avondale to Farragut North Station, all day, seven days a week

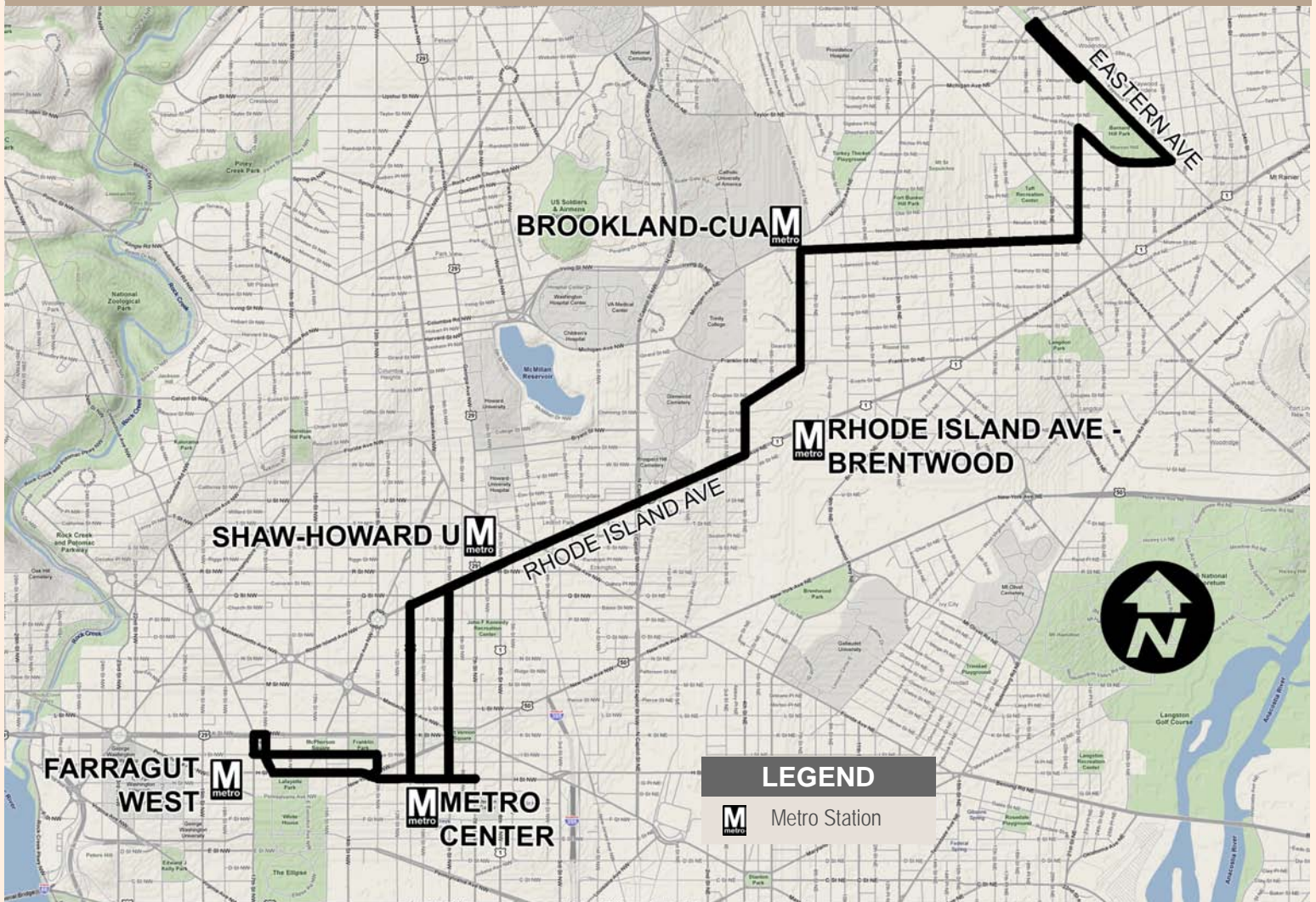
SERVICE AREA

District of Columbia from Eastern Avenue to Downtown, including Brookland, Catholic University, Shaw, Convention Center, Metro Center, and Farragut Square.

CORRIDOR DESCRIPTION

The Rhode Island Avenue section of route G8 is a portion of a heavily developed corridor and like similar corridors is a candidate for running way improvements as well as passenger amenity and travel information upgrades. Brookland CUA is a major station on this corridor and serves as an important bus transfer center. Improvements are planned for the transit center located at the Rhode Island Ave-Brentwood Metro Station located along the extended section of Rhode Island Avenue where several other local routes including the D8, H8, H9, and T18 connect to Metrorail services and interface with future rapid bus services on Rhode Island Avenue.

CORRIDOR MAP



LEGEND

Metro Station



PROJECT STATUS

The project is scheduled to begin in 2012.

SERVICE DATA

Line / Route Description	G8
State / Jurisdiction	DC
Study Year	2012
Implementation Year	2013
Average Weekday Boardings (FY2010)	3,200
Annual Boardings (FY2010)	984,000
<i>Change in Boardings (%)</i>	15%
<i>Capital Cost of Improvements (2008\$)</i>	\$6,223,086
Base Operating Cost (2008\$)	\$3,760,012
<i>Change in Operating Cost (%)</i>	22%
Average operating speed (mph)	10.4
<i>Reduction in CO2 emissions (metric tons/yr)</i>	39
<i>Reduction in fuel use (gals/yr)</i>	4,437
<i>Reduction in travel time (passenger hours/yr)</i>	46,770
<i>Net subsidy (\$ per passenger)</i>	\$2.81

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Metro website information
- Customer service agent information
- Customer comment monitoring
- Programmed telephone information
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays

Investment Proposals

- Brookland Small Area Plan enhancements
- Brookland CUA Station bus bays
- Shaw Howard Univ Station joint development and air rights development
- Rhode Island- Brentwood Station joint development

Service Concepts

- Metrobus local
- Metrobus express
- Apply corridor design factors
- Service threshold compliance
- Neighborhood circulator service
- Service change evaluation
- Phased service improvements
- Funding to maintain service thresholds

Traffic Operations & Management

- Parking enforcement
- Enhance service supervision
- Traffic hazard mitigation
- Terminal stands and stop relocations
- Problem resolution contacts
- Bus stop siting/safety
- HOV/signal warrant studies
- Traffic signal adjustments
- Traffic control officers
- Standardized detours
- Pavement maintenance/repair
- Dedicated ROW
- Transit signal priority

ROUTE PATTERNS

P12 Eastover -Addison Road Line, Addison Road- Seat Pleasant Station to Eastover Shopping Center via Southern Avenue Station, all day, seven days a week

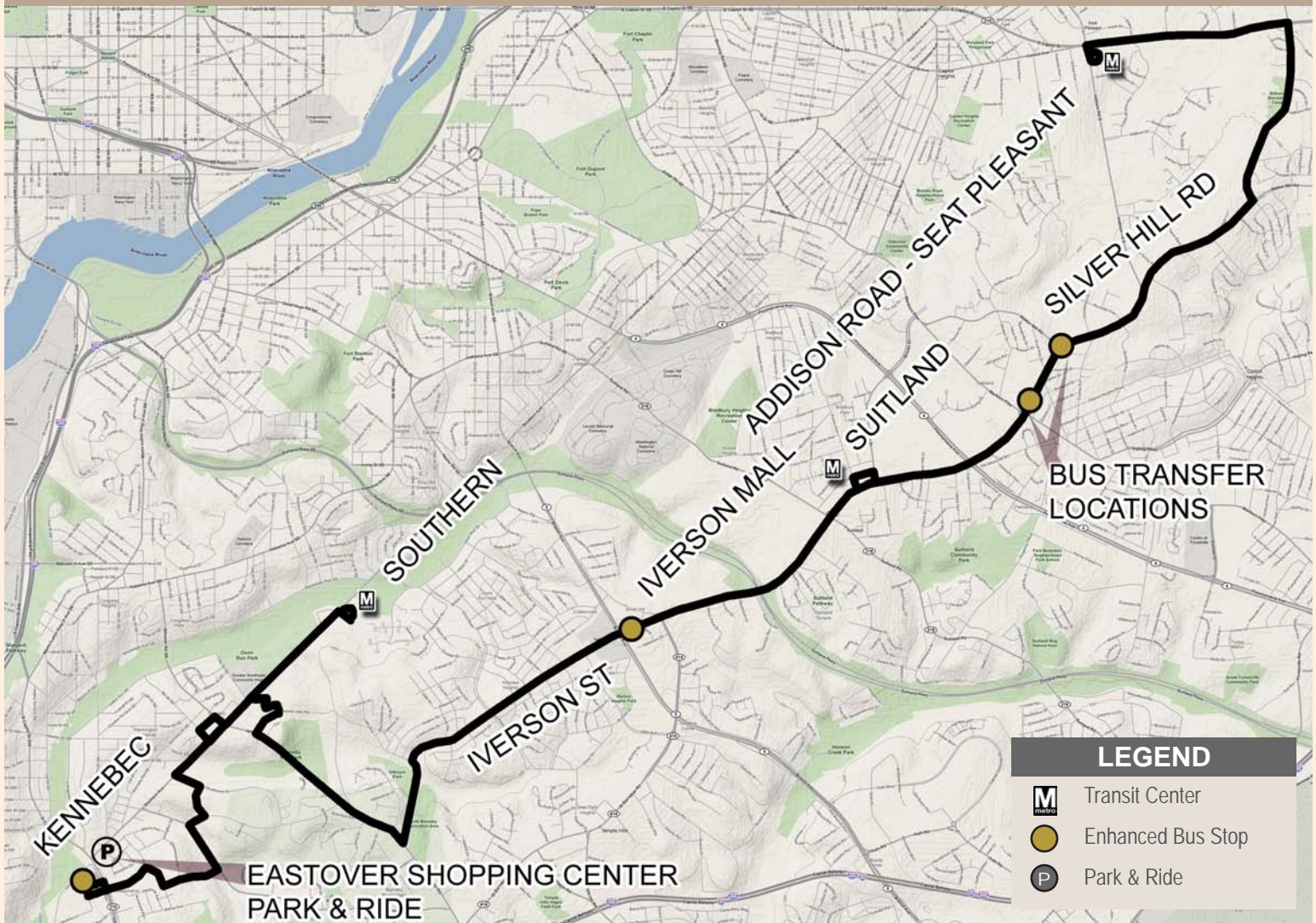
SERVICE AREA

Prince George's County from Addison Road-Seat Pleasant Metro Station to Eastover, including Silver Hill, Suitland, Iverson Mall, and Southern Avenue.

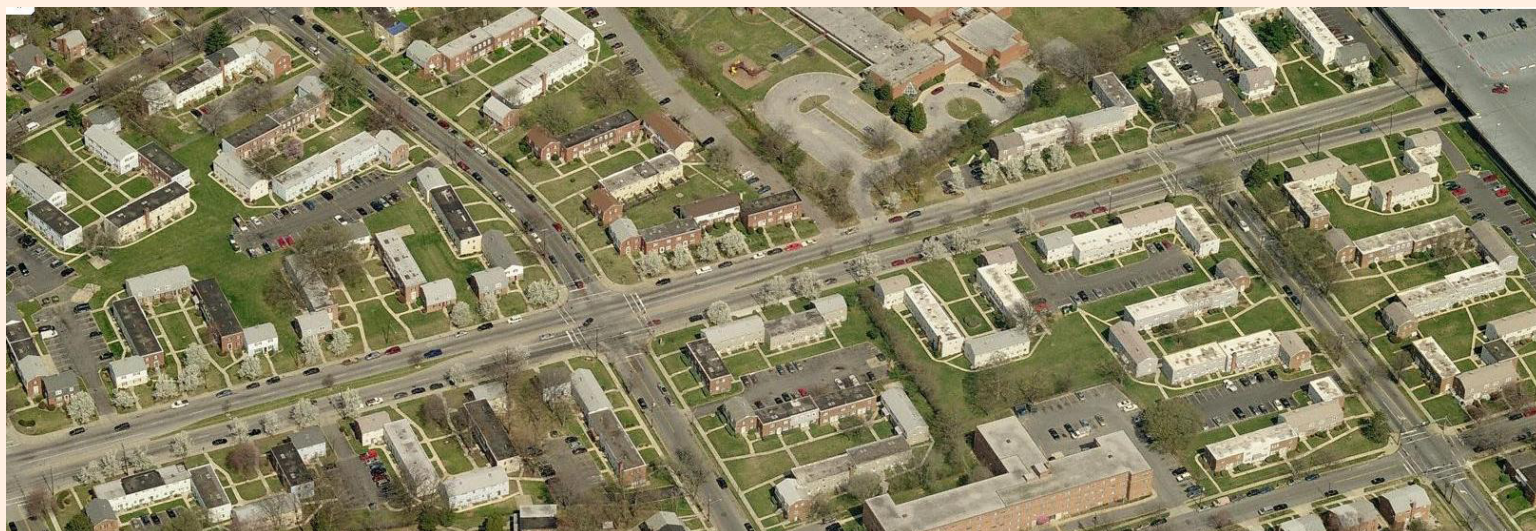
CORRIDOR DESCRIPTION

This corridor serves a cross-town function in the southwest corner of Prince George's County inside the Beltway. Space constraints allow for a few relatively minor running way improvements such as improved left turn lanes, an upgraded traffic signal system, and enhanced facilities to provide corridor identity. Possible transit centers include Iverson Mall and Eastover shopping center, as well as transfer facilities at important intersections.

CORRIDOR MAP



ADDISON ROAD



PROJECT STATUS

The project is scheduled to begin in 2013.

SERVICE DATA

Line / Route Description	P12
State / Jurisdiction	MD
Study Year	2013
Implementation Year	2014
Average Weekday Boardings (FY2010)	5,600
Annual Boardings (FY2010)	1,711,000
<i>Change in Boardings (%)</i>	18%
<i>Capital Cost of Improvements (2008\$)</i>	\$11,637,852
<i>Base Operating Cost (2008\$)</i>	\$4,910,977
<i>Change in Operating Cost (%)</i>	22%
Average operating speed (mph)	13.6
<i>Reduction in CO2 emissions (metric tons/yr)</i>	112
<i>Reduction in fuel use (gals/yr)</i>	12,594
<i>Reduction in travel time (passenger hours/yr)</i>	71,931
<i>Net subsidy (\$ per passenger)</i>	\$2.27

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Metro website information
- Customer service agent information
- Customer comment monitoring
- Programmed telephone information
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays

Investment Proposals

- Iverson Mall bus bays
- South Capitol/ Southern Ave bus bays

Service Concepts

- Metrobus local
- Metrobus express
- Apply corridor design factors
- Service threshold compliance
- Neighborhood circulator service
- Service change evaluation
- Phased service improvements
- Funding to maintain service thresholds

Traffic Operations & Management

- Parking enforcement
- Enhance service supervision
- Traffic hazard mitigation
- Terminal stands and stop relocations
- Problem resolution contacts
- Bus stop siting/safety
- HOV/signal warrant studies
- Traffic signal adjustments
- Traffic control officers
- Standardized detours
- Pavement maintenance/repair
- Dedicated ROW
- Transit signal priority

ROUTE PATTERNS

- Z2 Colesville-Ashton Line, Olney to Silver Spring Metro Station, 5:30 AM to 8:00 PM, Monday through Saturday
- Z6 Calverton-Westfarm Line, Burtonsville Crossing Park and Ride to Silver Spring Station, all day, weekdays only
- Z8 Fairland Line, Greencastle Park and Ride to Silver Spring Station, all day, seven days a week
- Z9, Z29 Laurel Burtonsville Express Line, South Laurel Park and Ride to Silver Spring Station; via Old Columbia Pike (Z9) or Columbia Pike (Z29), peak periods only
- Z11, Z13 Greencastle- Briggs Chaney Express Line, Greencastle Park and Ride to Silver Spring Metro Station, peak period, peak direction only (Z11) or peak period only (Z13)

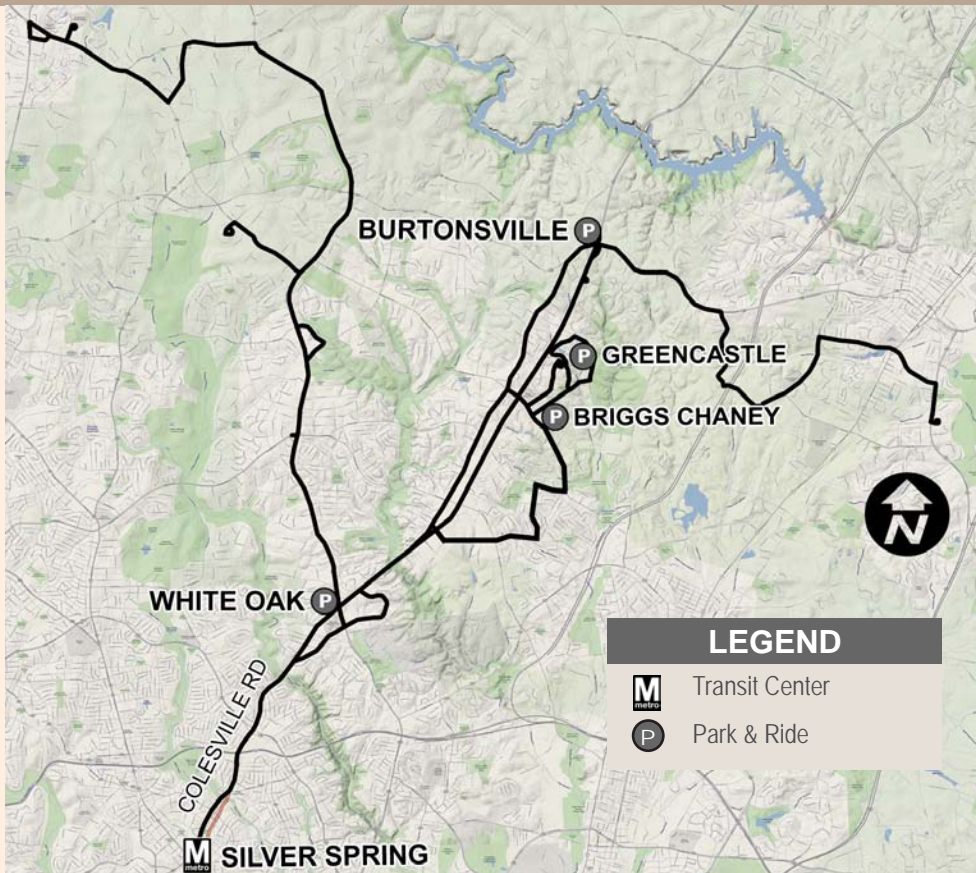
SERVICE AREA

Montgomery County and Prince George's County from Burtonsville to Silver Spring Metro Station, including Greencastle, Briggs Chaney, and White Oak.

CORRIDOR DESCRIPTION

The US 29 corridor in Maryland is served with a complex combination of local and express routes, which serve the corridor itself and areas to the east and west. Running way improvements, such as converting the reversible lane south of Sligo Creek Parkway to a bus-only lane, would help all of these services. New transit centers would be built at several locations in the corridor to complement the existing group of park-and-ride lots.

CORRIDOR MAP



COLUMBIA PIKE - MD US 29



PROJECT STATUS

Project is scheduled to begin in 2013.

SERVICE DATA

Line / Route Description	Z2, Z6, Z8, Z9, Z11, Z13, Z29
State / Jurisdiction	MD
Study Year	2013
Implementation Year	2014
Average Weekday Boardings (FY2010)	8,200
Annual Boardings (FY2010)	2,461,000
<i>Change in Boardings (%)</i>	19%
<i>Capital Cost of Improvements (2008\$)</i>	\$45,708,038
Base Operating Cost (2008\$)	\$10,676,819
<i>Change in Operating Cost (%)</i>	14%
Average operating speed (mph)	17.6
<i>Reduction in CO2 emissions (metric tons/yr)</i>	432
<i>Reduction in fuel use (gals/yr)</i>	48,548
<i>Reduction in travel time (passenger hours/yr)</i>	191,269
<i>Net subsidy (\$ per passenger)</i>	\$2.82

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Metro website information
- Customer service agent information
- Customer comment monitoring
- Programmed telephone information
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays

Investment Proposals

- Silver Spring Station transit center
- Silver Spring Station joint development
- Olney Town Center, Old Columbia Pike and White Oak bus bays
- Olney and White Oak parking spaces

Service Concepts

- Metrobus local
- Metrobus express
- Apply corridor design factors
- Service threshold compliance
- Neighborhood circulator service
- Service change evaluation
- Phased service improvements
- Funding to maintain service thresholds

Traffic Operations & Management

- Parking enforcement
- Enhance service supervision
- Traffic hazard mitigation
- Terminal stands and stop relocations
- Problem resolution contacts
- Bus stop siting/safety
- HOV/signal warrant studies
- Traffic signal adjustments
- Traffic control officers
- Standardized detours
- Pavement maintenance/repair
- Dedicated ROW
- Transit signal priority

CORRIDOR MAP



SERVICE AREA

District of Columbia from Takoma Metro Station to L'Enfant Plaza Metro Station, including Columbia Heights, McPherson Square, Metro Center, Smithsonian, and Archives.

CORRIDOR DESCRIPTION

The 14th Street Line carries the 52, 53 and 54 routes from the Takoma Metro station located near the Maryland border and serves the Walter Reed Medical Center. Incremental running way improvements could include left hand turn lanes, signal priority for buses, parking restrictions and stop improvements. Proposed stop improvements include better shelters, real time traveler information and other passenger amenities which enhance corridor and service identity.

ROUTE PATTERNS

- 52, 54 Fourteenth Street Line, Fourteenth Street and Colorado Avenue NW to L'Enfant Plaza Station, via Fourteenth and D Streets (52) or via Archives Station (54), all day, seven days a week
- 53 Fourteenth Street Line, Takoma Station to McPherson Square Station, peak periods only



PROJECT STATUS

Project is scheduled to begin in 2013.

SERVICE DATA

Line / Route Description	52, 53, 54
State / Jurisdiction	DC
Study Year	2013
Implementation Year	2014
Average Weekday Boardings (FY2010)	13,000
Annual Boardings (FY2010)	4,046,000
<i>Change in Boardings (%)</i>	13%
<i>Capital Cost of Improvements (2008\$)</i>	\$6,582,711
Base Operating Cost (2008\$)	\$10,798,792
<i>Change in Operating Cost (%)</i>	14%
Average operating speed (mph)	8.7
<i>Reduction in CO2 emissions (metric tons/yr)</i>	416
<i>Reduction in fuel use (gals/yr)</i>	46,772
<i>Reduction in travel time (passenger hours/yr)</i>	227,434
<i>Net subsidy (\$ per passenger)</i>	\$1.70

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Metro website information
- Customer service agent information
- Customer comment monitoring
- Programmed telephone information
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays

Investment Proposals

- Takoma Station Bus Bays and joint development
- 14th and U infrastructure enhancements and joint development

Service Concepts

- Metrobus local
- Metrobus express
- Apply corridor design factors
- Service threshold compliance
- Neighborhood circulator service
- Service change evaluation
- Phased service improvements
- Funding to maintain service thresholds

Traffic Operations & Management

- Parking enforcement
- Enhance service supervision
- Traffic hazard mitigation
- Terminal stands and stop relocations
- Problem resolution contacts
- Bus stop siting/safety
- HOV/signal warrant studies
- Traffic signal adjustments
- Traffic control officers
- Standardized detours
- Pavement maintenance/repair
- Dedicated ROW
- Transit signal priority

SERVICE AREA

District of Columbia from Fort Totten Metro Station to Potomac Park, including Catholic University, North Capitol Street, Union Station, Chinatown, Downtown, and Farragut Square.

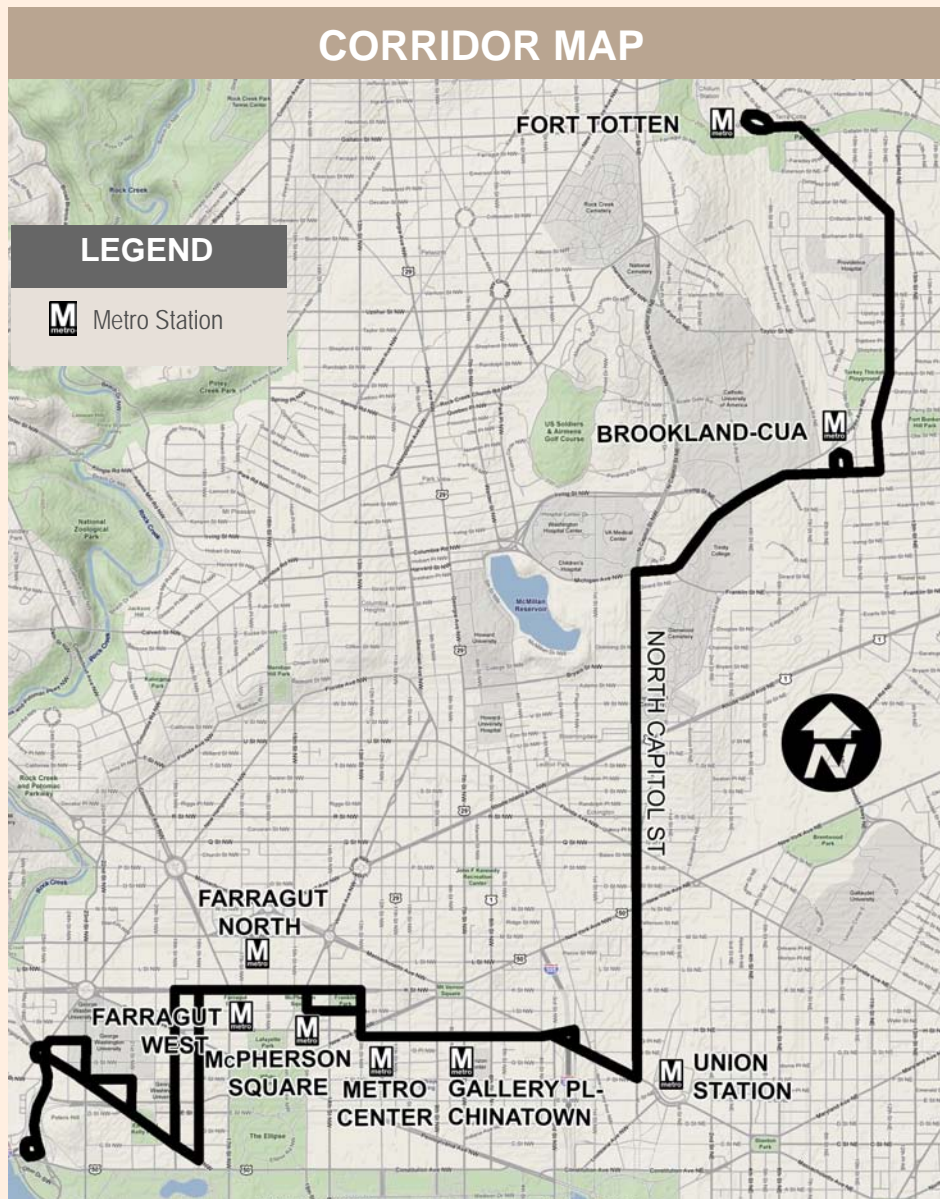
ROUTE PATTERNS

80 North Capitol Street Line, Fort Totten Station to Kennedy Center, all day, seven days a week

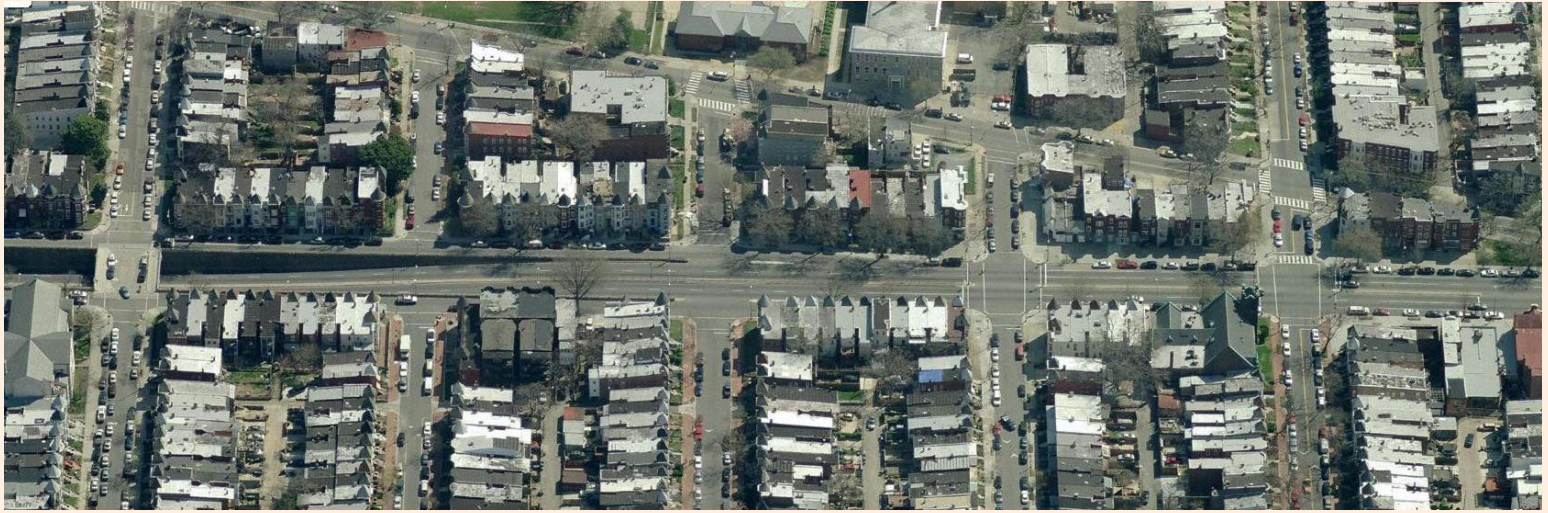
CORRIDOR DESCRIPTION

The North Capitol Street Line runs from Fort Totten Station to Potomac Park serving the Catholic University near the Brookland-CUA metro station before turning onto North Capitol Street. The North Capitol Street section of this line is identified among other densely developed corridors in the District as a candidate for transit improvements that include better shelters, real time information, pedestrian comfort, and passenger amenities.

CORRIDOR MAP



STREET



PROJECT STATUS

Project is scheduled to begin in 2014.

SERVICE DATA

Line / Route Description	80
State / Jurisdiction	DC
Study Year	2014
Implementation Year	2015
Average Weekday Boardings (FY2010)	7,400
Annual Boardings (FY2010)	2,119,000
<i>Change in Boardings (%)</i>	15%
<i>Capital Cost of Improvements (2008\$)</i>	\$7,439,903
Base Operating Cost (2008\$)	\$6,688,929
<i>Change in Operating Cost (%)</i>	14%
Average operating speed (mph)	8.6
<i>Reduction in CO2 emissions (metric tons/yr)</i>	289
<i>Reduction in fuel use (gals/yr)</i>	32,513
<i>Reduction in travel time (passenger hours/yr)</i>	129,455
<i>Net subsidy (\$ per passenger)</i>	\$1.92

Items in italics represent projections for 2015.

IMPROVEMENT CONCEPTS

Customer Information Strategies

- Sustained promotion plan/materials
- Service time-table brochures
- Metro website information
- Customer service agent information
- Customer comment monitoring
- Programmed telephone information
- Bus service disruption notices
- Cooperative advertising
- Bus stop notices
- On-board audio announcements
- Dynamic service information
- On-board video displays

Service Concepts

- Metrobus local
- Metrobus express
- Apply corridor design factors
- Service threshold compliance
- Neighborhood circulator service
- Service change evaluation
- Phased service improvements
- Funding to maintain service thresholds

Investment Proposals

- Union Station joint development
- Union Station passenger access improvements
- Union Station bus bays
- Brookland Small Area Plan enhancements
- Brookland-CUA Station bus bays
- Fort Totten Station joint development

Traffic Operations & Management

- Parking enforcement
- Enhance service supervision
- Traffic hazard mitigation
- Terminal stands and stop relocations
- Problem resolution contacts
- Bus stop siting/safety
- HOV/signal warrant studies
- Traffic signal adjustments
- Traffic control officers
- Standardized detours
- Pavement maintenance/repair
- Dedicated ROW
- Transit signal priority



For more information, visit www.wmata.com
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