



# **METROBUS PRIORITY CORRIDOR NETWORK POLICIES AND STANDARDS**

*Presented to the Riders' Advisory Council*

April 01, 2009





# Purpose

Follow up on Metrobus Priority Corridor Network Plan list of corridors and near-term planning schedule accepted by Board on October 16, 2008:

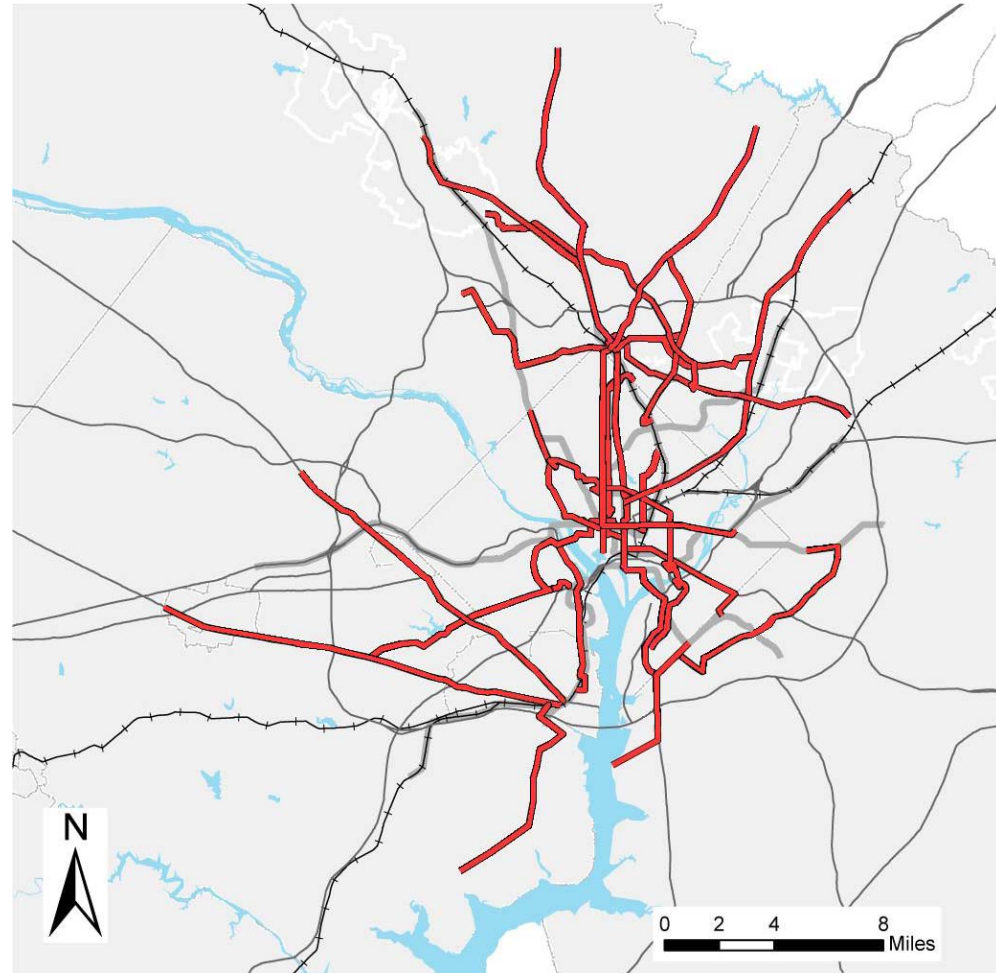
- Describe the component features of Priority Corridors
- Review service and performance standards for Priority Corridors
- Adopt the proposed Metrobus Priority Corridor Network Plan Service Thresholds, Design Factors, and Service Elements to guide near-term project planning and implementation.





# Metrobus Priority Corridor Network Plan

1. Columbia Pike (Pike Ride)
2. Richmond Highway Express (REX)
3. Georgia Ave./7<sup>th</sup> St.
4. Crystal City–Potomac Yard
5. Southern Ave. Metro – National Harbor
6. Wisconsin Ave./Pennsylvania Ave.
7. University Blvd./East-West Highway
8. Sixteenth St. (DC)
9. Leesburg Pike
10. Veirs Mill Rd.
11. New Hampshire Ave.
12. H St./Benning Rd.
13. Georgia Ave. (MD)
14. Greenbelt-Twinbrook
15. East-West Highway (Prince George's)
16. Anacostia-Congress Heights
17. Little River Tpke./Duke St.
18. Rhode Island Ave. Metro to Laurel
19. Mass Ave./U St./Florida Ave./8<sup>th</sup> St./MLK Ave.
20. Rhode Island Ave.
21. Eastover-Addison Road Metro
22. Colesville Rd./Columbia Pike - MD US 29
23. Fourteenth St. (DC)
24. North Capitol St.





## Purpose/Benefits of a Priority Corridor

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The Priority Corridor Network (along with the Metrorail system) provides the framework for regional transit mobility and represents the core of the Regional Metrobus system.

A Priority Corridor increases/retains ridership (15%+) by improving all bus service in a corridor to:

1. Be more reliable
2. Reduce travel time
3. Improve customer convenience

A comprehensive planning/partnering/implementing process results in strategies to improve key service performance measures:

- Travel time - 25%
- Customer Satisfaction +15%
- Incidents - 12%
- On-Time Performance +15%



# Guidelines for Priority Corridor Service Thresholds

Service	Weekday	Saturday	Sunday
<b>Service Type/Days (minimum)</b>			
Local (arterial, all-stops)	X	X	X
Express (premium, arterial, limited-stop)	X	--	--
Community circulator (neighborhood, all-stops)	X		--
<b>Span of Service (minimum)</b>			
Local-First AM arrival not later than	6:00	6:00	7:00
Local-Last PM departure not earlier than	24:00	24:00	24:00
Express	Rush Period	--	--
Community circulator	Rush Period	--	--
<b>Combined Frequency of Service (Line trunk at peak load point)</b>			
Peak (maximum minutes between buses)	10	15	20
Off-peak (maximum minutes between buses)	15	30	30
<b>Productivity (minimum whole corridor) #</b>			
Boardings per vehicle revenue hour - Peak	40		
Boardings per vehicle revenue hour - Off-Peak	25		
Boardings per vehicle revenue hour - All Day	30	25	20
<b>Service Design</b>			
Route patterns	Consistent and understandable		
One-way travel times	60 minutes each direction; 15-minute lay-by separation		
Schedules and transfers	Coordinate with major bus and rail lines		
Transit centers	Utilize for transfers, layovers, supervision		

# - Source Regional Bus Study





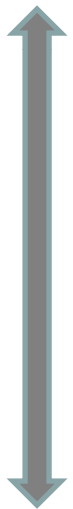
# Guidelines for Priority Corridor Design Factors

Corridor Features	Priority Corridor Network		Long Distance Express	<i>Metrobus BRT (Future)</i>
	Local	Express		
<b><i>Stops</i></b>	<ul style="list-style-type: none"> <li>• All Stops</li> <li>• Basic features</li> </ul>	<ul style="list-style-type: none"> <li>• Limited-stop</li> <li>• Full featured</li> </ul>	<ul style="list-style-type: none"> <li>• Designated</li> <li>• Basic features</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Limited-stop</i></li> <li>• <i>Full feature +</i></li> <li>• <i>Designed</i></li> </ul>
<b><i>Spacing</i></b>	<= 5 per mile	<= 3 per mile	>2 miles closed-door	<i>2 per mile</i>
<b><i>Paint Scheme</i></b>	Red bus	Blue bus	Blue bus	<i>TBD</i>
<b><i>ROW</i></b>	Shared	Shared/ Prioritized	Shared/ Exclusive	<i>50% &lt; Exclusive</i>
<b><i>Fare</i></b>	Base (\$1.25)	Base (\$1.25)	Express (\$3.00)	<i>TBD</i>
<b><i>Frequency</i></b>	Load-based	Policy-based	Demand-based	<i>Policy-based</i>
<b><i>Time between buses</i></b>	3 to 20 minutes	6 to 20 minutes	6 to 30 minutes	<i>4 to 15 minutes</i>
<b><i>Load Factor (Peak/Base)</i></b>	1.2/1.0	1.0/1.0	1.0	<i>TBD</i>
<b><i>On-Time Performance</i></b>	+15% of actual	+10% of local	System Average	<i>TBD</i>
<b><i>Travel Time</i></b>	<= pre-existing	-25% of local	> -25% of local	<i>TBD</i>



# Guidelines for Priority Corridor Service Elements

Metro  
Roles



Local  
Roles

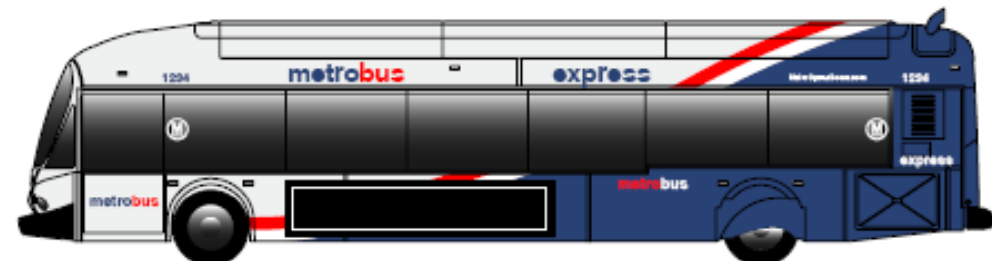
Element	Required	Near-Term (1 - 2 Years)	Long-Term (2+ Years)
<b>Service Type, Frequency, Span and Coverage</b>	Provide Metrobus local and express services per recommended service plan.	Improve services and add features and routes per coordinated phased implementation plan.	Continue to implement, plan and provide for necessary adjustments to maintain thresholds.
<b>Service Personnel and Operational Strategies</b>	Provide dedicated supervision and staff training to ensure proactive management services.	Provide additional equipment and productivity enhancements to sustain good performance.	Improve on ability for service managers to communicate with passengers.
<b>Customer Information Systems/Strategies</b>	Promote new services and enhance customer information.	Sustain promotions, enhance customer information and expand cooperative advertising.	Provide and sustain dynamic service information
<b>Vehicle Design, Features and Amenities</b>	Provide and maintain quality, branded buses.	Phase in new Metrobus livery	Sustain quality of fleet used to provide services
<b>Fare Payment Strategies</b>	Promote the use of SmarTrip and encourage time-efficient boarding practices	Expand the network of off-board SmarTrip fare-loading opportunities	Enhance fare collection technology and information
<b>Safety, Security and Incident Response</b>	Design for service, passenger and operator safety through engagement of police, safety offices and DOTs.	Develop formal plans for enhancing safety and encourage passengers to follow safe behaviors	Monitor, respond and sustain service safety
<b>Bus Stops and Customer Facilities</b>	Replace bus stop furniture and provide additional features to improve customer information, comfort and convenience	Plan and implement physical improvements and enhancements to bus stops and transit centers with a focus on improving accessible pathways	Complete construction of customer facilities identified in implementation plan.
<b>Traffic Operations and Management Strategies</b>	Provide for improved movement of buses and reliability of street operations	Implement minor capital improvements to rights of way used by bus services	Complete major capital running-way improvements.
<b>Local Commitment</b>	Document local commitments to service plan	Institutionalize commitments and begin capital project planning	Implement capital projects



# What is Special About **metrobus** **express**?

**metrobus** **express** service is distinguished by characteristics intended to provide a superior customer experience:

- Enhanced service/brand image
- Frequent and reliable service
- Faster travel with limited stops
- Runningway and signal priority
- Comprehensive customer information
- Improved stops and shelters
- Dedicated supervision and incident strategies

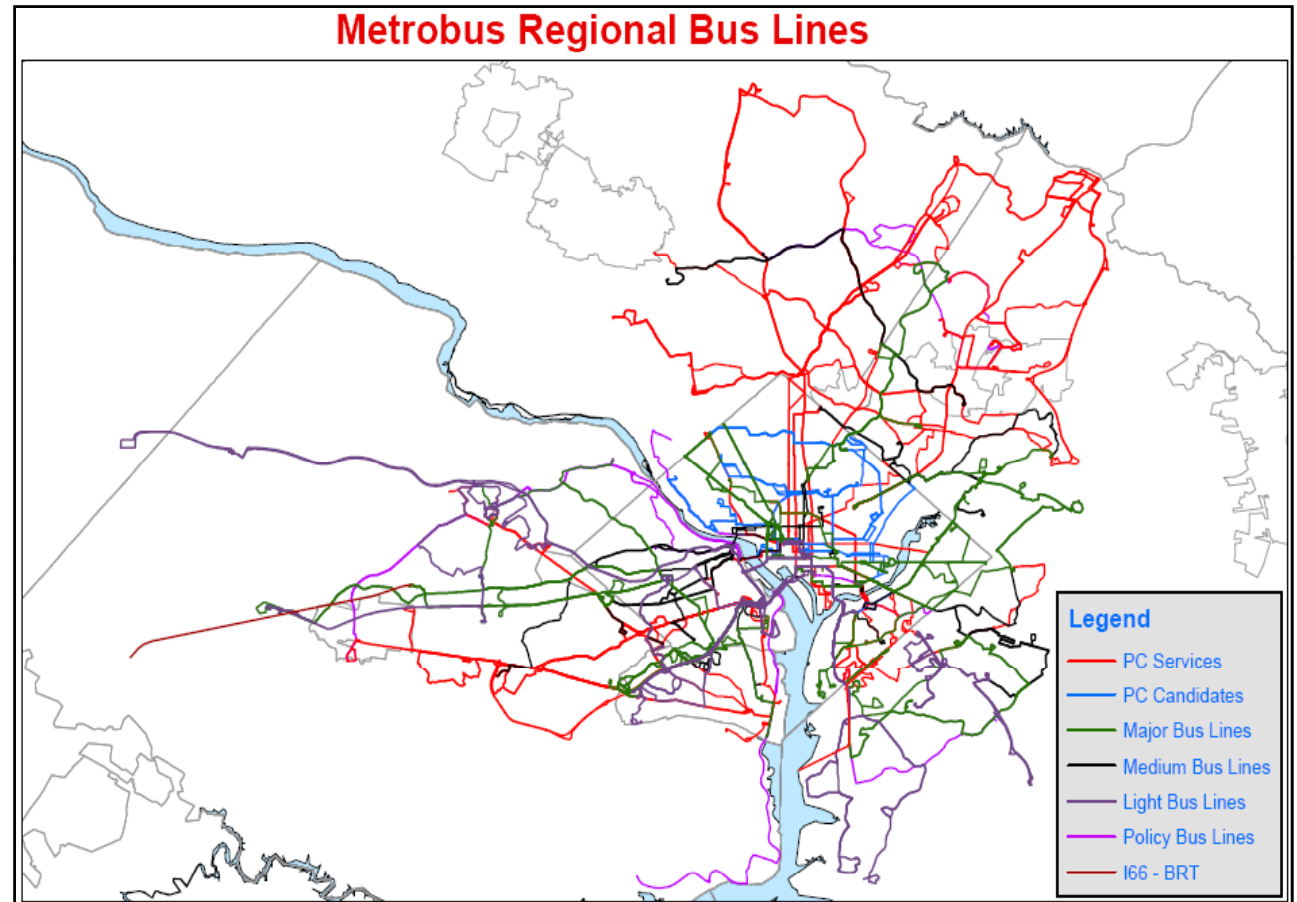






# Next Steps

- Complete ongoing corridor studies
- Deploy new Metrobus **local** and **extra** buses
- Complete PCN Report
- Evaluate and optimize Regional bus network for report to Board





## Recommendation

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Adopt the proposed guidelines for Metrobus Priority Corridor Network Plan Design Factors, Service Thresholds and Service Elements to guide near-term project planning and implementation.

1. Guidelines for Service Design Strategies
  - Priority Corridor Service Thresholds
  - Priority Corridor Design Factors
2. Guidelines for Service Implementation Strategies
  - Priority Corridor Service Elements

*Note: Adoption of Metrobus Priority Corridor Network guidelines are for planning purposes only and do not obligate the Authority or Board to satisfy the plan's projected requirements; therefore, there is no funding impact in this action which will guide future expenditures related to service implementation.*



# Appendix

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- Regional/Non-Regional Designation
- Priority Corridor Network Plan
- Elements of Priority Corridors (detail)
- Requested Emerging Corridors
- Near-Term Sequence of Corridors
- Implemented Corridors



# Regional/Non-Regional Designation

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## A route is **REGIONAL** if:

1. The nature of a route is **Interjurisdictional** because it:
  - Crosses a jurisdictional boundary; and
  - Penetrates by more than one-half mile in each; and
  - Operates open door in two or more jurisdictions; or,
2. Meets at least two of three criteria :
  - **Arterial Streets:** Operates on an arterial street with a substantial portion of riders using stops on the arterial street.
  - **Regional Activity Center(s):** Serves a regional activity center(s).
  - **Cost Effectiveness:** Annual boardings per platform hour greater than 30 in all jurisdictions.

## A route is **NON-REGIONAL** if:

1. It is a grandfathered locally-operated/initiated route
2. A Metrobus route not meeting definition of Regional



# Priority Corridor Network Plan

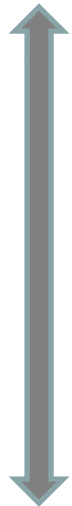
## October 16, 2008

			Study	Impl.	Ridership	Current	Future (2015)	Annual
			Year	Year	Prior to	Avg. Weekday	Avg. Weekday	Platform
Line/Route Description	Status	Juris.	(FY)	(FY)	Implementation	Ridership	Ridership	Hours
16ABDEFJ 16GHKW 16L 16Y	I	VA	2002	2003	8,600	12,500	14,000	99,500
REX	I	VA	2003	2004	2,400	3,300	3,800	33,800
9A 9E 9S	I	VA	2005	2006	800	2,700	3,200	33,400
70 71 79	I	DC	2006	2007	14,200	15,400	17,500	99,500
NH-1	I	MD	2007	2008	New service	1,000	5,000	New
J1 J2 J3 J4	P	MD	2007	2009		7,700	8,900	68,000
31 32 34 36 37 39	I	DC	2008	2009	18,700	18,700	21,800	162,000
S1 S2 S4 S9	P/I	DC	2008	2009		14,600	16,600	111,900
28AB 28FG 28T	P/I	VA	2009	2009		6,200	7,400	52,500
Q2	P	MD	2009	2010		10,900	12,600	75,400
K6	P	MD	2010	2011		6,600	7,700	40,500
X2	P	DC	2010	2011		15,000	17,000	65,300
Y5 Y7 Y8 Y9	P	MD	2010	2011		7,600	9,100	57,600
C2 C4	P	MD	2011	2012		13,600	15,900	99,700
F4 F6	P	MD	2011	2012		7,800	9,200	52,000
A2 6 7 8 42 46 48	P	DC	2011	2012		11,200	12,700	77,500
29KN 29CEGHX	P	VA	2011	2012		3,200	3,900	40,800
81 82 83 86 87 88 89 89M	P	MD	2012	2013		5,400	6,300	57,500
90 92 93	P	DC	2012	2013		15,600	17,800	106,400
G8	P	DC	2012	2013		3,900	5,000	34,200
P12	P	MD	2013	2014		5,600	6,600	44,600
Z2 Z6 Z8 Z9 Z11 13	P	MD	2013	2014		9,800	11,700	97,100
52 53 54	P	DC	2013	2014		14,100	15,900	98,200
80	P	DC	2014	2015		8,500	9,800	60,800
PCN TOTALS						220,900	259,400	1,668,200



# Priority Corridor Service Elements

Metro  
Roles



Local  
Roles

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 policed 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 On-board 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
Local Commitment	Letter of commitment from jurisdiction(s) regarding local obligations for near-term improvements	Inclusion of improvements in jurisdictional and Metro budget requests	Inclusion of capital improvements in jurisdictional and Metro CIPs

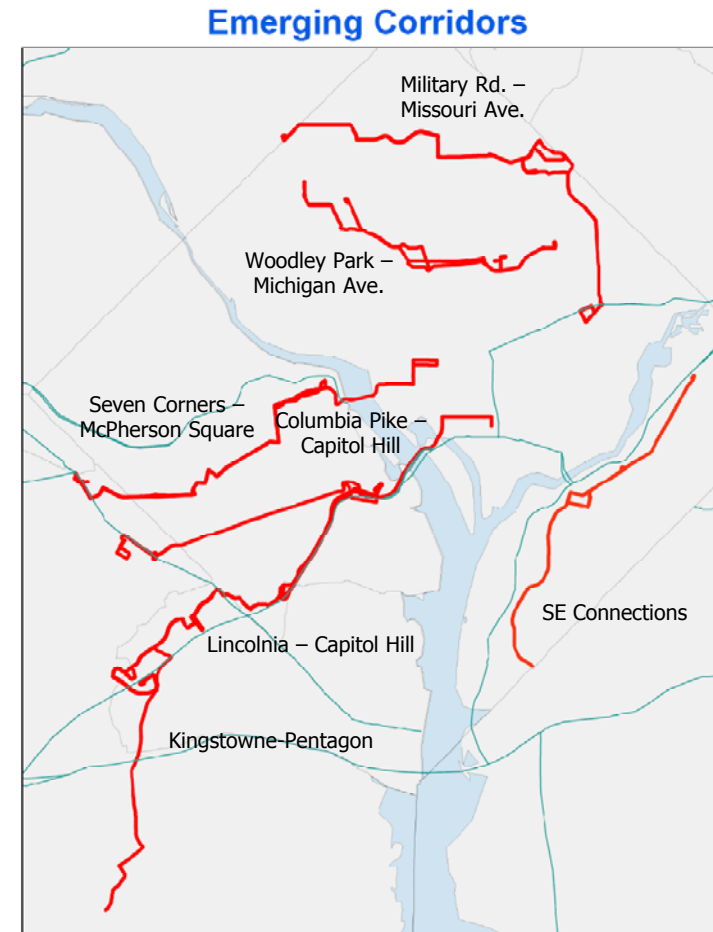




# Requested Emerging Corridors

- Corridors for future consideration as Priority Corridor Network candidates.
- Local concept development studies are to be conducted to refine proposals for future consideration before implementation as part of WMATA plan.

Emerging Corridors	Juris.	Study Year (FY)
Mn. Ave./Congress Heights/MLK Ave./Southern Ave.	DC	2009
Woodley Park/Irving St./Michigan Ave.	DC	2010
Military Rd./Missouri Ave.	DC	2012
Kingstowne-Pentagon	VA	2009
Lincolnia/Shirlington/Capitol Hill	VA	2010
Seven Corners - McPherson Square	VA	2011
Columbia Pike/Capitol Hill	VA	2012





# Implemented Corridors

## Columbia Pike (Pike Ride)

Implementation 2003

Local and Limited-stop; 2.5-minute trunk headways  
Transit Signal Prioritization at key intersections  
Enhanced bus stops and improved amenities

13,300 weekday ridership

Year 1 (9/03 - 9/04): 17% ridership increase  
To-date (9/03 - present): 38% ridership increase

5-minute (10%) average time savings per trip

## Richmond Highway Express (REX)

Implementation 2004

Limited-stop service; 12-minute headways  
Transit Signal Prioritization at key intersections  
Branded bus stops and improved amenities

3,700 weekday ridership

Year 1 (10/04 - 10/05): 3% ridership increase  
To-date (10/04 - present): 41% ridership increase

10-minute (21%) average time savings per trip

## Georgia Avenue / 7th Street

Implementation 2007

Limited-stop; 10-minute headways  
Transit Signal Prioritization and bus lanes  
Branded bus stops and improved amenities

18,400 weekday ridership

Year 1 (3/07 - 3/08): 6% ridership increase  
To-date (3/07 - present): 12% ridership increase

10.5-minute (20%) average time savings per trip  
over runtime of complimentary local service

## Wisconsin Avenue / Pennsylvania Avenue

Implementation 2009

Local and Limited-stop; 5-minute trunk headways  
Signal adjustments and peak hour traffic control  
Branded bus stops and improved amenities (spring '09)

20,700 weekday ridership

Year 1 (6/08 - 10/08): 2% ridership increase  
To-date (6/08 - present): *Data not yet available*

24% savings projected for Wisconsin Av NW  
19% savings projected for Pennsylvania Av SE