

# Planning, Development and Real Estate Committee Board Action Item IV-B

May 14, 2009

# **Priority Corridor Network Policies and Standards**

## Washington Metropolitan Area Transit Authority Board Action/Information Summary

MEAD Number:	Resolution:  • Yes • No
100247	• Yes • No

#### TITLE:

Priority Corridor Network Policies and Standards

#### **PURPOSE:**

To follow-up on the Metrobus Priority Corridor Network Plan list of corridors and near-term planning schedule (accepted by Metro Board on October 16, 2008), by describing component features and reviewing service and performance standards, all submitted as support for adoption of the proposed Metrobus Priority Corridor Network Plan Design Factors, Service Thresholds, and Service Elements to guide near-term project planning and implementation.

#### **DESCRIPTION:**

The Metrobus Priority Corridor Network Plan reflects a strategy for improving bus service travel times, reliability, capacity, productivity, and system access; and it is consistent with the Regional Transportation Vision, Regional Bus Study, Core Capacity Study, and APTA Peer Review. The Plan's service improvements and capital projects would be implemented over six years and benefit 24 corridors across the region and half of all bus riders in the Metrobus system.

The comprehensive Corridor Plans provide for integrated service and capital investments, including new Metrobus Express routes and improved performance for all routes in the corridors. Implementation will include investments in bus stops, runningway enhancements, street operations management, and safety and security strategies to reduce travel times and provide more reliable and safe service.

A focus on Priority Corridors will benefit the most riders in the shortest timeframe; improve Metrobus customer service, reliability, quality, and performance; build transit markets; and influence development patterns. A defined plan will also facilitate fleet acquisition and address garage capacity issues by establishing a timeframe for performance of necessary coordination.

The area served by the 24 corridors encompasses nearly 750,000 households with 1.8 million residents and 1.6 million jobs. By 2015, this market is anticipated to grow by 14%. The proposal includes 246 line miles of service and would provide capacity to serve an additional 10 million riders per year.

The Regional Bus Study evaluated corridors throughout the region and identified those with sufficient current or future potential to warrant runningway improvements to support faster and more reliable transit services. Corridors with daily transit ridership over 5,000 per day were considered as candidates. Out of 31 corridors studied, a sub-group of 16 were recommended for Rapid Bus (Metrobus Express) treatment. 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. Changes in jurisdictional priorities and development patterns have also necessitated a revision of the list to the current recommended 24.

#### **FUNDING IMPACT:**

No impact on funding.

#### **RECOMMENDATION:**

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

# Metrobus Priority Corridor Network Policies and Standards



Presented to the Board of Directors:

Planning, Development and Real Estate Committee

May 14, 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:

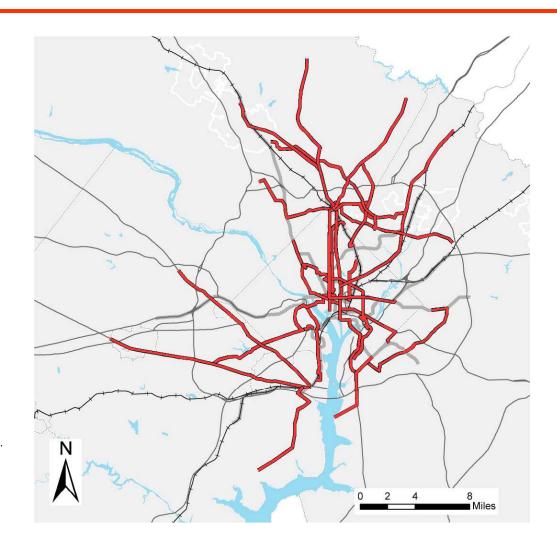
- Describe the component features of Priority Corridors
- Review service and performance standards for Priority Corridors
- Adopt the proposed Metrobus Priority Corridor Network Plan Service Thresholds, Design Factors, and Service Elements to guide near-term project planning and implementation





#### **Metrobus Priority Corridor Network Plan**

- 1. Columbia Pike (Pike Ride)
- 2. Richmond Highway Express (REX)
- 3. Georgia Ave./7th 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./8th 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.





# Developing an Enhanced Regional Bus Network

The Metrobus Priority Corridor Network is a key component of a future enhanced regional bus network consisting of a true family of bus services, including:

- Bus Rapid Transit lines on dedicated right-of-way
- Express bus routes on HOV Lanes and Freeways
- Limited-Stop Express routes on Priority Corridors
- Community/neighborhood shuttles
- Local bus routes
- Commuter bus routes

Staff has been working with regional partners to enhance the speed and reliability of all regional bus services through roadway improvements such as:

- K Street Transitway
- Dedicated bus lanes across the Potomac River
- Traffic system management and signal priority



# **Summary of Guidelines** for Priority Corridors

Together, the proposed Policies and Standards define the parameters and content of Priority Corridor projects and what benefits can be expected. Specific tables are provided in the Appendix.

- The "<u>Corridor Service Thresholds</u>" table presents targets for service types, spans of service, service frequency and route lengths
- The "<u>Design Factors</u>" table presents performance characteristics by service type
  - Productivity objectives are consistent with the Regional Bus Study and Metro practice.
  - Continual progress towards achieving the targets would need to be shown for projects to receive ongoing support as regional service.
- The "Service Elements" table describes what service features need to be in place to initiate priority corridor service and what features are expected to be established in the near- and long-term time-frames.



#### **Recommended Use of Guidelines**

These Metrobus Priority Corridor Network policies and standards provide guidance to staff in preparing recommended action plans, but reserve Board discretion to maintain or implement bus service improvements in each priority corridor for policy reasons beyond those specified in these standards.







#### **Next Steps**

A program of coordinated activities will sustain progress on behalf of Metrobus and the Priority Corridor Network, including:

- Continue priority corridor implementation planning
- Deploy new Metrobus local and express buses
- Collaborate to promote regionally-significant bus prioritization improvements benefitting Metro and other transit service providers.
- Return to Board for endorsement of a Regional Bus Enhancement proposal for funding with Federal American Recovery and Reinvestment Act (ARRA) stimulus funds.
- Return to the Board later this year with options for incentivizing local and state transportation departments to implement bus priority improvements.



#### Recommendation

Adopt the proposed guidelines for Metrobus priority corridor services to direct near-term project planning and implementation:

- 1. Priority Corridor Service Thresholds
- 2. Priority Corridor Design Factors
- 3. Priority Corridor Service Elements

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



#### **Appendix**

- Priority Corridor Service Thresholds
- Priority Corridor Design Factors
- Priority Corridor Service Elements
- Priority Corridor Network Plan
- Requested Emerging Corridors
- Near-Term Sequence of Corridors



#### **Priority Corridor Service Thresholds**

Service	Weekday	Saturday	Sunday	
Service Type/Days (minimum)				
Local (arterial, all-stops)	X	X	Χ	
Express (premium, arterial, limited-stop)	X			
Community circulator (neighborhood, all-stops)	Х			
Span of Service (minimum)				
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			
Combined Frequency of Service				
Peak (maximum minutes between buses)	10	15	20	
Off-peak (maximum minutes between buses)	15	20	30	
Productivity Target (combined local & express) #				
Boardings per vehicle revenue hour - Peak	30			
Boardings per vehicle revenue hour - Off-Peak	18			
Boardings per vehicle revenue hour - All Day	24	24	20	
Service Design				
Route patterns	Consistent and u	ınderstandable		
One-way travel times	60 minutes each direction; 15-minute lay-by			
Schedules and transfers	Coordinate with major bus and rail lines			
Transit centers	Utilize for transfers, layovers, supervision			

<sup>#</sup> Target based on Regional Bus Study COA evaluation standard





### **Priority Corridor Design Factors**

Corridor	Priority Corridor Network		
Features	Local	Express	
Stops	• All Stops	<ul><li>Limited-stop</li></ul>	
	<ul><li>Basic features</li></ul>	<ul><li>Full featured</li></ul>	
Spacing	5 or less per mile	3 or less per mile	
Paint Scheme	Red bus	Blue bus	
ROW	Shared	Shared/ Prioritized	
Fare	Base (\$1.25)	Base (\$1.25)	
Frequency	Load-based	Policy-based	
Time between buses - Range	3 to 20 minutes	6 to 20 minutes	
Load Factor (Peak/Base)	1.2/1.0	1.0/1.0	
On-Time Performance	15% better than pre-existing	10% better than local service	
Travel Time	5% faster than pre-existing	25% faster than local service	



#### **Priority Corridor Service Elements**

#### Metro Roles



Roles

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



#### **Priority Corridor Network Plan**

October 16, 2008

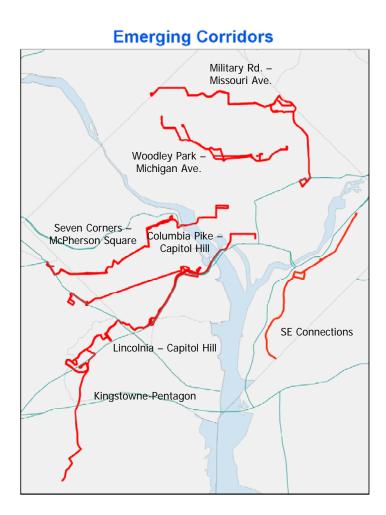
			Study	Impl.	Ridership	Current	Future (2015)	Annual
			Year	Year	Prior to	Avg. Weekday	Avg. Weekday	Platform
Line/Route Description	Status	Juris.	(FY)	(FY)	Implementation	Ridership	Ridership	Hours
16ABDEFJ 16GHKW 16L 16Y	1	VA	2002	2003	8,600	12,500	14,000	99,500
REX	ı	VA	2003	2004	2,400	3,300	3,800	33,800
9A 9E 9S	I	VA	2005	2006	800	2,700	3,200	33,400
70 71 79	ı	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	Р	MD	2007	2009		7,700	8,900	68,000
31 32 34 36 37 39	ı	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	Р	MD	2009	2010		10,900	12,600	75,400
К6	Р	MD	2010	2011		6,600	7,700	40,500
X2	Р	DC	2010	2011		15,000	17,000	65,300
Y5 Y7 Y8 Y9	Р	MD	2010	2011		7,600	9,100	57,600
C2 C4	Р	MD	2011	2012		13,600	15,900	99,700
F4 F6	Р	MD	2011	2012		7,800	9,200	52,000
A2 6 7 8 42 46 48	Р	DC	2011	2012		11,200	12,700	77,500
29KN 29CEGHX	Р	VA	2011	2012		3,200	3,900	40,800
81 82 83 86 87 88 89 89M	Р	MD	2012	2013		5,400	6,300	57,500
90 92 93	Р	DC	2012	2013		15,600	17,800	106,400
G8	Р	DC	2012	2013		3,900	5,000	34,200
P12	Р	MD	2013	2014		5,600	6,600	44,600
Z2 Z6 Z8 Z9 Z11 13	Р	MD	2013	2014		9,800	11,700	97,100
52 53 54	Р	DC	2013	2014		14,100	15,900	98,200
80	Р	DC	2014	2015		8,500	9,800	60,800
PCN TOTALS						220,900	259,400	1,668,200



#### **Requested Emerging Corridors**

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





## **Near-Term Sequence of Corridors**

	Schedule			
Corridor	2009	2010	2011	
Sixteenth St. (DC)	Plan/ Implement			
Veirs Mill Rd.	Plan	Implement		
Leesburg Pike	Plan	Implement		
New Hampshire Ave.		Plan	Implement	
H St./Benning Rd.		Plan	Implement	
Georgia Ave. (MD)		Plan	Implement	
Little River Tpke./Duke St.			Plan	
East-West Highway (Prince George's)			Plan	
Greenbelt-Twinbrook			Plan	
Anacostia-Congress Heights			Plan	

#### SUBJECT: METROBUS PRIORITY CORRIDOR NETWORK POLICIES AND STANDARDS

PROPOSED

RESOLUTION

OF THE

BOARD OF DIRECTORS

OF THE

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

WHEREAS, The Metrobus Priority Corridor Network Plan represents a comprehensive strategy for improving customer experiences, bus service quality, safety, travel times, reliability, capacity, productivity and system access throughout the region, structured around high-ridership corridors throughout the region; and

WHEREAS, The Board of Directors accepted the Metrobus Priority Corridor Network Plan list of corridors and schedule for near-term planning and implementation dated October 16, 2008, for planning purposes only; and

WHEREAS, The Board of Directors directed staff to further specify the associated infrastructure improvements (*e.g.*, distinct color scheme for rolling stock, improvements to surface rights of way and common bus stop elements) to be implemented by both Metro and the jurisdictions in connection with each Priority Corridor; and

WHEREAS, The Metrobus Priority Corridor Network Policies and Standards, dated May 14, 2009, specify guidelines for project performance, design and implementation; now, therefore be it

RESOLVED, That the Board of Directors adopts the proposed guidelines for Metrobus Priority Corridor Network Policies and Standards, dated May 14, 2009, including guidelines for Service Thresholds, Design Factors, and Service Elements, as reflected in Attachment A hereto, to guide near-term project planning and implementation; and be it finally

RESOLVED, That this Resolution shall be effective immediately.

Reviewed as to form and legal sufficiency,

Carol B. O'Keeffe General Counsel



# Priority Corridor Network Policies and Standards May 14, 2009

Service Thresholds
Design Factors
Service Elements



### **Priority Corridor Service Thresholds**

Service	Weekday	Saturday	Sunday	
Service Type/Days (minimum)				
Local (arterial, all-stops)	Χ	Χ	Χ	
Express (premium, arterial, limited-stop)	Χ			
Community circulator (neighborhood, all-stops)	X			
Span of Service (minimum)				
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			
Combined Frequency of Service				
Peak (maximum minutes between buses)	10	15	20	
Off-peak (maximum minutes between buses)	15	20	30	
Productivity Target (combined local & express) #				
Boardings per vehicle revenue hour - Peak	30	700		
Boardings per vehicle revenue hour - Off-Peak	18	N P A		
Boardings per vehicle revenue hour - All Day	24	24	20	
Service Design	1			
Route patterns	Consistent and u	ınderstandable		
One-way travel times	60 minutes each direction; 15-minute lay-by			
Schedules and transfers	Coordinate with major bus and rail lines			
Transit centers	Utilize for transfers, layovers, supervision			

<sup>#</sup> Target based on Regional Bus Study COA evaluation standard



## **Priority Corridor Design Factors**

Corridor	Priority Corridor Network		
Features	Local	Express	
Stops	• All Stops	• Limited-stop	
	Basic features	• Full featured	
Spacing	5 or less per mile	3 or less per mile	
Paint Scheme	Red bus	Blue bus	
ROW	Shared	Shared/ Prioritized	
Fare	Base (\$1.25)	Base (\$1.25)	
Frequency	Load-based	Policy-based	
Time between buses - Range	between buses - Range 3 to 20 minutes		
Load Factor (Peak/Base)	k/Base) 1.2/1.0 1.0/1.0		
On-Time Performance	15% better than pre-existing 10% better than local se		
Travel Time	5% faster than pre-existing 25% faster than local se		



## **Priority Corridor Service Elements**

#### Metro 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 branded buses Multi-colored destination signs (4 sides) Next-stop anunciators/displays Low-floor bus with ramp access High standard for bus condition Consistent dispatch of correct buses	New Metrobus local branded 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 jursidictional and Metro budget requests	Inclusion of capital improvements in jurisdictional and Metro CIPs