

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

<input checked="" type="radio"/> Action <input type="radio"/> Information	MEAD Number: 100962	Resolution: <input checked="" type="radio"/> Yes <input type="radio"/> No
---	------------------------	--

**TITLE:**

Bicycle and Pedestrian Access Improvements Study

**PURPOSE:**

To request Board endorsement of the Metrorail Bicycle and Pedestrian Access Improvements Study and adoption of a Metrorail bicycle access mode share goal.

**DESCRIPTION:**

This study and the resultant bicycle access mode share goal support Metro's goals of creating a safety culture, delivering quality service, using every resource wisely and enhancing Metro's image by creating a framework to accommodate current and future riders by facilitating safe, convenient station access for pedestrians and bicyclists.

In response to such factors as aging infrastructure, customer concerns about bicycle and pedestrian access to Metro, and a need for long-term station access strategies, staff conducted a systemwide study that evaluated the many aspects of bicycle and pedestrian station access.

Study goals included:

- a. Improve safety of the entire trip for all Metro customers.
- b. Increase the mode share percentages of customers walking and bicycling to and from Metrorail stations, thereby helping to accommodate Metro's projected growth in ridership.
- c. Improve customer satisfaction for people who walk and bike to Metrorail Stations.
- d. Identify cost-effective solutions for improving pedestrian and bicycle access and mobility.
- e. Support the integration of the user hierarchy in Metro's Station Site and Access Planning Manual, which places pedestrians, bicyclists, and transit users as top priorities in planning and designing stations, into Metro's institutional culture and station designs.

The resulting plan identifies strategies to enhance pedestrian and bicycle access and connectivity in and around Metrorail stations. It provides recommendations for a range of physical infrastructure improvements, as well as policies and programs to encourage multi-modal trips.

The study included an outreach strategy to engage Metro's customers and staff, the public, and other stakeholders. Metro riders provided feedback through a very well-attended, interactive public meeting and an online questionnaire. This information was supplemented by interviews with Metro staff and representatives from other transit agencies throughout the U.S.

In addition, the project team solicited input from local jurisdiction bicycle and pedestrian planning staff, and worked with these planners on station case studies that would guide future bicycle and pedestrian planning and implementation at and around stations. To be efficient, the study categorized Metro's 86 stations into types based on land use and transportation conditions around each station, with the understanding that stations within the same typology would likely benefit from similar recommendations. The project team then studied one station per typology to classify transferrable recommendations.

### Study Recommendations

The recommendations in this plan are organized into two sections depending on whether they will be led by Metro or through partnerships between Metro and other agencies. The Metro-Led Elements are focused on organizational and operational changes within Metro and primarily address facilities on Metro-owned property. The Partner/Joint-Led Elements focus on projects that Metro may initiate, but that will require coordination with surrounding property owners and local jurisdictions. These primarily relate to connections to/from the station and surrounding neighborhoods.

The recommendations are discussed in more detail in the report; however, this Board action addresses one Metro-Led recommendation in particular: adopt a bicycle mode share goal.

**The plan recommends tripling the bicycle mode share to 2.1% by 2020 and quintupling it to 3.5%, or about 12,000 riders, by 2030.** Currently, the systemwide bicycle mode of access share for the morning peak is only about .7%, which equates to about 1,600 riders. This offers significant room for growth in this mode of station access. Additionally, in a review of station access information collected as part of the 2007 Metrorail Passenger survey, analysis revealed that a good number of patrons access rail stations by auto from less than three miles from the station - generally speaking, a comfortable distance for a bicycle ride. This too offers Metro an opportunity to increase the numbers of those who bike to stations.

### Implementation Plan

The plan includes an implementation framework that stratifies recommendations based on the time required for implementation. This framework includes:

- a. A series of early action recommendations to be implemented within eighteen months (0-18 months) of the completion of this plan. These actions require relatively modest investments of resources.
- b. Short-term recommendations that should be initiated within the first three years (0-3 years) after the completion of this plan. These recommendations may require more time and resources than the early action recommendations; however, they can still be addressed within a short time horizon and are critical to meeting the established goals.
- c. Medium and long-term recommendations to improve pedestrian and bicycle access to Metro. These recommendations are very important to fully achieve the goals set out in this plan; however, by their nature these improvements will likely require an ongoing

commitment. While implementation will take longer, opportunities for implementation may occur sooner. Metro and other stakeholders should take advantage of these opportunities as they arise

Establishing a mode share goal for bicycle access and endorsing the Metrorail Bicycle and Pedestrian Access Improvements Study as a means to guide investments in bicycle and pedestrian facilities would put an increased focus on these cost-effective means of access to stations. Adopting a bicycle mode share goal also will provide a means to measure the effectiveness of implementing the recommendations in the plan.

**FUNDING IMPACT:**

There is no impact on funding for this item; however, this plan will help identify capital projects that will improve access to Metrorail for bicyclists and pedestrians. Funding for bicycle and pedestrian access improvements is included in the FY11-16 CIP.

Project Department/Office: Planning and Joint Development/  
Long Range Planning

Project Manager: Kristin Haldeman

**RECOMMENDATION:**

Endorse the Metrorail Bicycle and Pedestrian Access Improvements Study and adopt a Metrorail bicycle access mode share goal.



**Washington Metropolitan Area Transit Authority**

# **Bicycle & Pedestrian Access Improvements Study & Goals**

Policy, Program Development & Intergovernmental Relations Committee

February 10, 2011



## Purpose

Request Board endorsement of the Metrorail Bicycle and Pedestrian Access Improvements Study

Request Board adoption of Metrorail bicycle access mode share goals of 2.1% by 2020 and 3.5% by 2030.



# Background

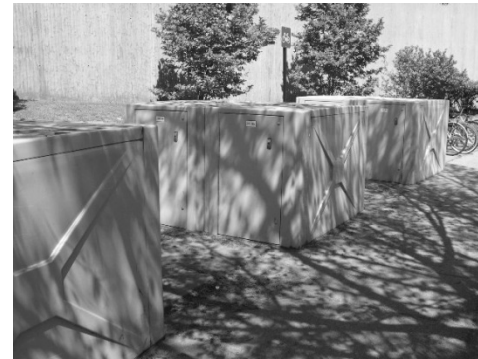
- Aging condition of bicycle facilities
- Pedestrian access concerns
- Stakeholders seeking increased Metro focus on bicycle issues
- Customer complaints
  - ✓ Bike theft
  - ✓ Broken racks
  - ✓ Insufficient signage
  - ✓ Locker program management issues
  - ✓ Bike 'N Ride policies
- Need for long-term station access strategies



# Existing Metro Bike Facilities

## *Rail*

- 1,270 key operated lockers for annual rental (\$200)
- 1,700 free racks - most can park 2 bicycles each



## *Bus*

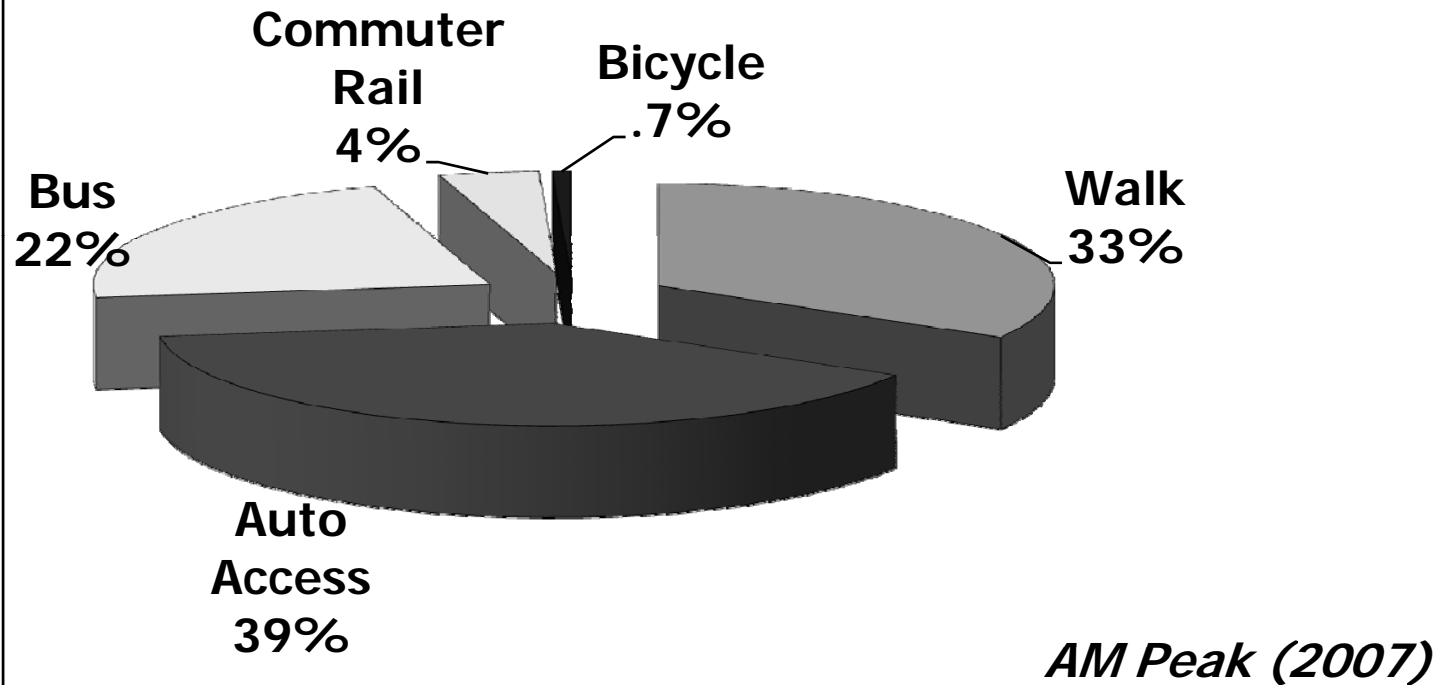
- All buses equipped with rack to hold 2 bikes





# Mode of Access to Metrorail

Source: 2007 Metrorail Passenger Survey



From 2002 to 2007, in absolute numbers, AM Peak walk access mode share increased by 18% and bike access mode share increased by 60%



# Bicycle & Pedestrian Improvements Study Process

- Reviewed relevant policies and plans
- Analyzed available data on mode of access to stations and bicycle facilities
- Developed station typologies for use in study approach
- Engaged stakeholders and solicited input
  - ✓ Public
  - ✓ Jurisdictional staff
  - ✓ Internal staff
- Conducted best practice peer interviews



Figure 15: July 22, 2009 Public Meeting



# Study Recommendations

## Metro-Led Implementation Highlights

- Adopt bicycle mode share goal
- Improve bicycle portion of website
- Provide covered, secure bicycle parking facilities
- Employ tools to evaluate bicycle and pedestrian needs, safety, circulation and level of service at and within stations
- Ensure joint development designs provide safe and convenient access for pedestrians and bicyclists



# Study Recommendations

## **Metro + Partner Joint Implementation Highlights**

- Coordinate with local jurisdictions to ensure safe, direct off-site bicycle and pedestrian connections to stations
- Enhance signage and wayfinding orienting to/from stations and nearby destinations
- Ensure development adjacent to stations is bicycle and pedestrian friendly



## Policy: Bicycle Mode Share Goal

Triple by 2020 and Quintuple by 2030

Use these goals to plan for bicycle parking at stations

	<b>2007</b>	<b>2020</b>	<b>2030</b>
Mode Share	.7%	2.1%	3.5%
Est. No. of Riders (AM peak)	1,600	7,000	12,000



## Goal Feasibility

Typology	No. Cyclists	Strategies
Mixed-Use – dense or in a ‘pod’ <i>(34 stations)</i>	5200	High capacity bike parking; Improve on-street bike connections; Wayfinding; Bikesharing
Residential Centers – urban and suburban <i>(30 stations)</i>	3300	Improved bicycle parking and on-site station access; Off-site wayfinding; Improve trail connections
Urban Employment <i>(12 stations)</i>	300 <i>(higher midday ridership)</i>	Bikesharing; Public/Private Partnerships; Employer outreach
Auto-Collector/Campus <i>(10 stations)</i>	1200	Bike-friendly design in future development; Connections to avoid highways



# Implementation: Possible Bike Parking Improvements



Unstaffed bike station

Covered racks



Bicycle room in garage





# Benefits and Costs

## Benefits

- Helps Metro accommodate projected ridership growth;
- Reduces vehicle miles traveled (VMT) and congestion
- Promotes healthy communities

## Costs

- Extremely low compared with other modes
  - ✓ Secure bike cage average cost = \$1,000/space to construct vs. \$25,000/space to construct structured auto parking
- Funding for implementation included in FY11-16 Capital Improvement Program (CIP)



## Recommendation

Endorse the Metrorail Bicycle and Pedestrian Access Improvements Study

Adopt Metrorail bicycle access mode share goals of 2.1% by 2020 and 3.5% by 2030.



# Appendix



# Change in Mode of Access to Stations

<u>Mode</u>	<u>2002</u>	<u>2007</u>	<u>Change (%)</u>
<i>Walk</i>	<i>66,432</i>	<i>78,460</i>	<i>18</i>
Park & Ride	69,995	68,969	(-1)
Metrobus	28,543	34,952	22
Other bus	13,033	17,620	35
Dropped Off	21,000	21,911	4
Commuter Train	8,675	9,002	4
Ride sharing	2,606	2,463	(-5)
<i>Bicycle</i>	<i>969</i>	<i>1,550</i>	<i>60</i>
Total AM Peak Trips Reported	216,854	240,512	11

Sources: 2002 and 2007 Metrorail Passenger Surveys



# Data Analysis

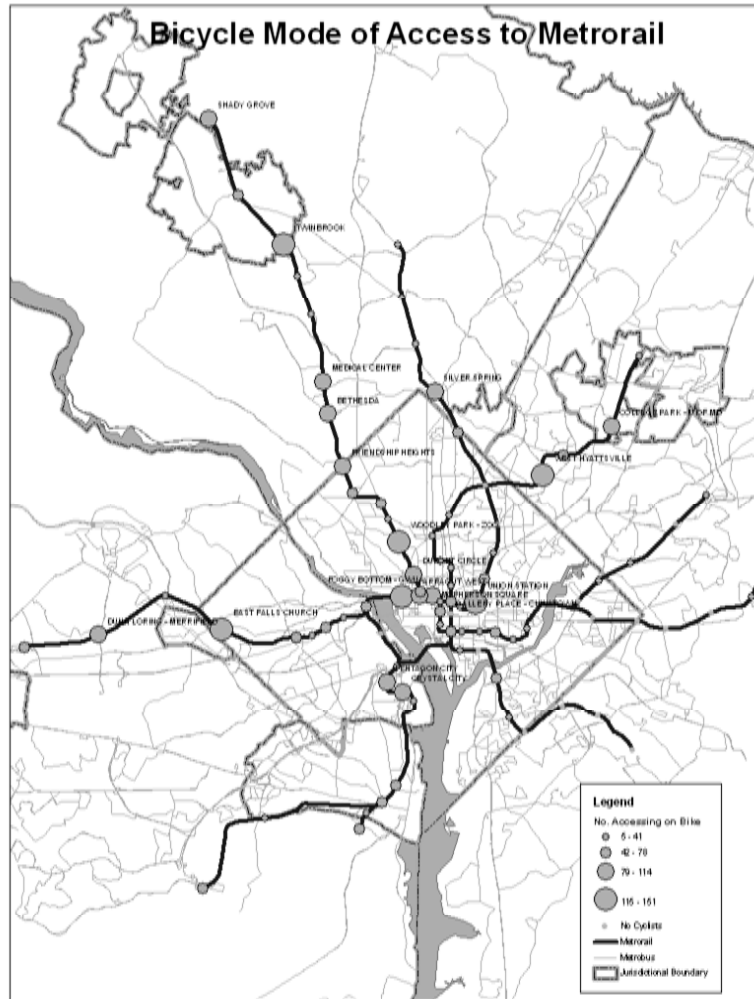
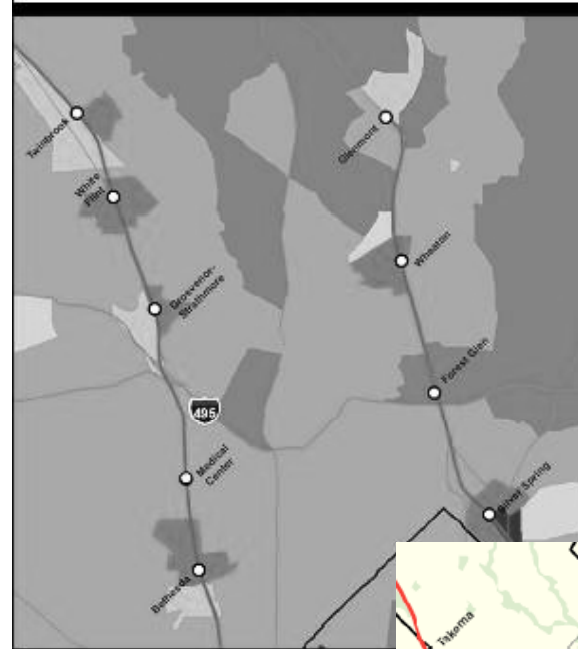


Figure 9: Projected Increases in Density around Stations



Driving Distances to Metrorail:  
Blue/Darkest > 3 miles\*



\*To work with both color and black and white presentations, the longer auto trips are identified in the pie chart map.



# Highest Bicycle Ridership Stations

Station	Number of Cyclists (AM peak)	% of Station Ridership (AM Peak)
East Falls Church	92	3.4%
Medical Center	78	7.1%
Bethesda	78	2.3%
Silver Spring	74	1.1%
Woodley Park Zoo	61	2.1%
Friendship Heights	57	1.8%
West Hyattsville	55	2.4%
Dunn Loring	54	2.0%
Ballston	47	1.0%
Vienna	47	0.5%



# Top 10 Stations with Parking with High Bike Access

Station	Riders Arriving by Bike	Riders Arriving by Car (All-Day)			
		From less than <u>3</u> miles away	%	From less than <u>1</u> mile away	%
East Falls Church	115	767	68%	265	24%
West Hyattsville	111	627	79%	421	53%
Vienna	67	1,874	35%	526	10%
Shady Grove	61	1,392	26%	233	4%
Twinbrook	56	709	66%	205	19%
Franconia-Spring.	54	1,416	33%	287	7%
Huntington	52	1,547	48%	320	10%
Dunn Loring	46	983	54%	208	11%
Rockville	42	680	63%	179	17%
Pr. George's Plaza	39	493	73%	228	34%

Arrive by car = drove, carpoled, or dropped off. Only stations with Metro parking facilities analyzed



# Typologies & Case Study Stations

Typology	Station
High density urban mixed-use in a grid network	Ballston
Urban residential center	Braddock Road
Urban residential area with a Bus/Automobile orientation	Rhode Island Avenue
Campus and institutional	College Park
Mixed-use in a "pod" layout	Vienna-Fairfax
Long-term potential for transit-oriented development (TOD)	West Hyattsville
Suburban residential area	Huntington
Auto collector/suburban freeway	Shady Grove
Employment center/ Downtown/Urban core	Gallery Place



# Stakeholder Engagement

- Internal
  - ✓ Roundtables with all departments impacting bicycle/pedestrian facilities
- Jurisdictional
  - ✓ Engaged TPB Bicycle/Pedestrian Subcommittee
  - ✓ Case study meetings
- Public
  - ✓ Riders Advisory Council
  - ✓ July 2009 workshop (>50 attendees)
  - ✓ Spanish language outreach
  - ✓ Online survey

Figure 16: Responses to the survey question "Would you consider biking to Metro instead of driving if certain changes were made?"

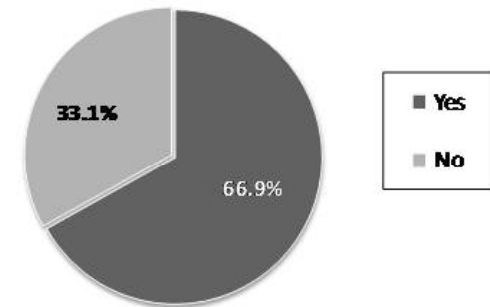
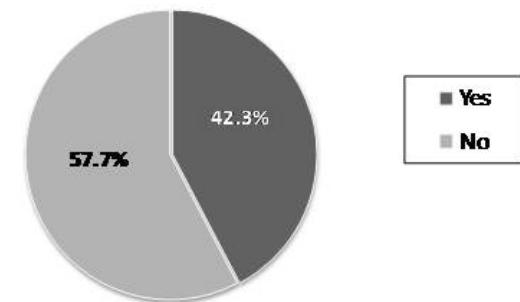


Figure 17: Responses to the survey question "Is parking for your bike adequate at the station at the beginning of your trip?"



SUBJECT: ENDORSE BICYCLE AND PEDESTRIAN STUDY AND ADOPT BICYCLE MODE SHARE GOAL

RESOLUTION  
OF THE  
BOARD OF DIRECTORS  
OF THE  
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

WHEREAS, The Metrorail system was created to provide a safe and efficient mode of transportation in the National Capital Region as a fully acceptable alternative to the private automobile; and

WHEREAS, One of the purposes of public transportation is to reduce the number of vehicles on the road to reduce congestion and improve air quality; and

WHEREAS, The Metrorail system accommodates, on average, more than 750,000 daily trips on an average weekday; and

WHEREAS, Customers access the Metrorail system by a variety of modes, including walk, drive, bus and bike; and

WHEREAS, The 2007 Rail Passenger survey data showed that bicycling to Metrorail mode of access is one of the least utilized modes of access at .7% in the A.M. peak; and

WHEREAS, Bicycling is one of the most cost-effective ways for customers to arrive at stations; and

WHEREAS, Bicycle facilities are not expensive to maintain and can help reduce demand for automobile parking facilities; and

WHEREAS, Bicycling offers additional benefits to health, traffic congestion and greenhouse gas reduction, personal mobility, regional sustainability and livability; and

WHEREAS, The Office of Long Range Planning has completed a long range planning study that recommends actions and improvements at and connections to Metrorail stations to encourage and increase bicycling to Metrorail stations; and

WHEREAS, The plan recommends Metro adopt a bicycling mode share goal that triples the current mode of access share to 2.1% by 2020 and quintuples the share to 3.5% by 2030; now, therefore be it

*RESOLVED*, That the Board of Directors wishes to further encourage and increase bicycling to Metrorail stations; and be it further

*RESOLVED*, That the Board of Directors adopts these bicycle mode share goals; and be it further

*RESOLVED*, That the Board of Directors endorses the long range plan as a guiding document to help Metro achieve these mode share goals; 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

PROPOSED