

APPENDIX A

Bicycle Parking at Metrorail and MARC Stations

<i>Bicycle Parking Facilities at Metrorail Stations</i>				
Station	Lockers	Racks 1,2	Bicycle Access Conditions/Usage	Remarks
Bethesda	44	60	Excellent access via Capital Crescent Trail; bicycle parking facility usage near capacity	Demand expected to increase with completion of Georgetown Branch Trail; no additional space available on WMATA property for more bicycle facilities; additional bike parking could be added to County garage # X
Forest Glen	16	42	Fairly good access; Sligo Creek Trail nearby; very well-used bike parking facilities	Demand expected to increase when Forest Glen Pedestrian Bridge is completed and shared use path is added to Forest Glen Road.
Friendship Heights	22	32	Good access via wide sidewalks; bike parking facility usage near capacity	Demand expected to remain steady, but not increase dramatically
Glenmont	48	36	Good access via Layhill Road bike lanes; current usage fair	Demand expected to increase as development plan for station area is implemented and shared use path is added to Georgia Avenue extending north to Aspen Hill, Leisure World and Olney.
Grosvenor	30	40	Both racks and lockers used moderately.	Usage expected to remain fairly steady; current facilities should meet future demand.
Medical Center	38	88	Perhaps one of the most heavily used stations. Good access via Rock Creek Trail/Cedar Lane and other bike routes; bike parking facilities very well used.	Demand expected to remain steady. Access to station being reduced due to new NIH perimeter security fence and loss of through-campus access. Access will be improved with completion of North Bethesda Trail. No space available for additional

Rockville	40	70	Bike racks heavily used, lockers at less than 50% capacity	Demand expected to increase as Town Center is redeveloped, access to station improved
Shady Grove	60	32	Only moderately used, about 1/3 capacity for both lockers and racks	Demand expected to increase with redevelopment of Shady Grove station area, and access to station is improved via bike lanes on Shady Grove Road and Redland Road as well as shared use path along Corridor Cities Transitway and Crabbs Branch Way.
Silver Spring	30	40	Racks are moderately used, lockers only 50% capacity	Demand expected to increase dramatically with completion of Silver Spring Transit Center (which may include a bike station), Georgetown Branch Trail, Metropolitan Branch Trail, and Wayne Avenue Green Trail.
Takoma Park	60	44	Moderately used	Demand expected to increase with completion of Metropolitan Branch Trail, and on-road access to station is improved
Twinbrook	26	68	Fair access; racks are moderately used, lockers only 20% capacity	Demand expected to increase as area around station is redeveloped, access to station improved
Wheaton	20	40	Fair access; racks are lightly used, lockers are 50% capacity	Demand expected to increase as area around station is redeveloped, access to station improved
White Flint	20	32	Good access. Wide sidewalks in vicinity; not well used. 50% capacity or less for both lockers and racks.	Demand expected to increase as area around station is redeveloped, access to station improved

1. Refers to maximum number of available bike parking spaces.
2. Bike racks installed by WMATA are usually locking-arm type (class II)
3. Based on comments from WMATA officials and random site visits

Bicycle Parking Facilities at MARC Stations			
Station	Racks	Bicycle Access Conditions/Usage	Remarks
Silver Spring	40*	Fair access, heavy usage of facilities on WMATA property	Land owned and operated by WMATA
Garrett Park	2	Good access from Rock Creek Trail/Beach Drive (via Garrett Park Road) and from surrounding neighborhoods via local streets.	Land around station owned by CSX
Kensington	2	Fair access from Beach Drive/Rock Creek Trail via Kensington Parkway.	Land around station owned by CSX. Access will be enhanced by proposed bike lanes along Kensington Parkway
Rockville	70*	Good access, moderate usage of facilities on WMATA property	Land around station owned and operated by WMATA
Washington Grove	2	Fair access along mostly residential roads	Land around station owned by CSX
Gaithersburg	yes	Excellent access. Located in downtown Gaithersburg; usage unknown	Land around station owned by City of Gaithersburg
Metropolitan Grove	yes	Good access via Clopper Road and Long Draft Road bike paths; usage unknown	Land around stations owned by MTA.
Germantown	1	Fair access; usage unknown. Access will be improved with proposed shared use path along MD118.	Located on land owned by County on top of hill near motor vehicle parking
Boyds	0	Fair access; usage unknown	Land around station owned by CSX
Barnesville	2	Fair access along Beallsville Road; usage unknown	Land around station owned by CSX
Dickerson	2	Fair access along MD28 and Mount Ephraim Road; usage unknown	Station and land owned by CSX

* Bike racks are provided by WMATA

APPENDIX B

Technical Advisory Group

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APPENDIX C

Local Bikeway Plan Guidance

The updated Master Plan of Bikeways focuses on improvements to bikeways of countywide significance (hereafter referred to as "countywide bikeways"). Pull-out map #1 shows the locations and types of all countywide bikeways as identified or proposed by this plan.

Countywide bikeways are defined as existing or proposed shared use paths along roads (Class I bikeways, sometimes called "sidepaths"), bike lanes (Class II bikeways) and key signed shared roadways (Class III bikeways), that provide direct or indirect connections to municipalities, transit centers, activity centers, employment centers and central business districts. These bikeways also provide connections between major activity centers and regional recreational park destinations, and connect satellite communities like Damascus, Laytonsville and Poolesville to the countywide bikeway network.

Despite this focus on the countywide network, the plan recognizes that bicycling is inherently a local activity. Most bicycle trips are less than a few miles in length, and most trips begin and end in a residential area. Therefore, designating bikeways and making bicycle improvements at the neighborhood level are vital to the success of the county's bicycle transportation system.

Over the past 25 years, community master plans, sector plans and functional master plans have amended the 1978 Master Plan of Bikeways numerous times by designating local or neighborhood bikeways. Community planners understand local conditions better than transportation planners, who typically examine transportation issues and develop transportation policy from a countywide perspective. Furthermore, local bikeways are not only considered part of the local transportation system, they also are considered community facilities and amenities.

This plan recommends that community planners continue to develop local bikeway networks, with guidance from transportation planners. Local bikeway networks should not only connect to local destinations defined below, but

also provide connections to the countywide bikeways. While circumstances and conditions will vary from one community to another, and from one planning area to another, the guidelines below will help community planners better understand the basic issues that should be addressed when designating local bikeways.

ACCESS TO COMMUNITY DESTINATION

Neighborhood or local bikeways must provide an important connection to a local destination. Local bicycling destinations or local bicycle trip generators are defined as:

- Schools (public and private)
- Local parks and playgrounds
- Local or countywide hard surface trails
- Libraries
- Community centers
- Post offices
- Retail centers and strip malls
- Grocery and convenience stores
- Central business district or crossroads retail areas (e.g., MD97 and MD108 or MD27 and MD 108)
- Transit station
- Business parks or employment areas

OTHER ISSUES TO CONSIDER

- Most neighborhood bikeways will be signed shared roadways along neighborhood streets.
- Community plans must include a program to implement and/or sign these bikeways.
- Community plans should identify countywide bikeways within the plan boundaries and determine whether these bikeways are existing or proposed at the time of plan adoption.

APPENDIX D

SHA Guidelines for Accommodating Bicycles and Pedestrians on State Highways

POLICY

The State Highway Administration (SHA) shall make accommodations for bicycling and walking a routine and integral element of planning, design, construction, operations and maintenance activities as appropriate.

DESIGN GUIDELINES

The SHA has developed design guidelines for the preferred accommodations to benefit bicycling and walking. It is SHA's goal to provide the preferred accommodations as part of all roadway projects where reasonable and feasible. Providing bicycle and pedestrian accommodations is especially important where the existing or proposed land use supports cycling and walking. This includes trip generators and destinations such as employment, education, residential, commercial, recreation and transit centers.

DESIGN WAIVERS

While it is SHA's intent to provide the preferred accommodations on all projects, it is understood that projects will be reviewed on a case-by-case basis. If it is determined that the preferred bicycle and pedestrian accommodations as described in this document cannot be provided, a design waiver must be requested and approved. A project can only proceed to advertisement and/or construction if the project provides SHA's preferred accommodations or has been granted a design waiver.

A design waiver may be considered for such things as impacts to right of way, utilities, structures (such as bridges and drainage structures), cost and environmentally or historically sensitive areas. The need to provide safety or capacity improvements to the roadway may also be considered. A waiver should not be requested until all reasonable alternatives to provide SHA's preferred bicycle and pedestrian accommodations have been exhausted. The documentation of these alternatives will be required to support the design waiver request.

Design waivers are not intended to exclude the implementation of bicycle and pedestrian facilities as part of a project. Even with a design waiver, a project should be designed as close as practical to the preferred design accommodations.

Design waivers are not intended to waive the requirements for American Disabilities Act (ADA) facilities as described in the latest SHA and/or ADA guidelines.

DEFINITIONS

Shared-Use Lane: A travel lane where motor vehicles and bicycles must compete for the same space.

Wide Curb Lane: Any lane greater than 12 feet in width benefits bicycle access by reducing the conflict between motorists and cyclists. A curb lane that is 14 feet or greater (measured to the face of the curb) is typically striped as an 11 foot wide travel lane for motor vehicles and the remaining space as a shoulder available to cyclists. While a striped or not striped wide curb lane may be the same width, providing the stripe helps to keep both motorists and cyclists in their space and thereby reducing conflicts between the two users. Unless it is designated as a bicycle lane, the space to the right of the travel lane edge stripe will simply be referred to as a shoulder and provide the same benefits such as accommodating stopped vehicles, emergency use and pedestrians.

Bicycle Lane: A bicycle lane is any portion of the roadway or shoulder that has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicycles. See MUTCD 2000, Part 9.

Bikeway: A generic term for any road, street, shoulder, path or way where bicycles are permitted to operate.

Bicycle Route: A bikeway or system of bikeways that have been designated with directional and informational route markers to provide guidance, connectivity and continuity.

Bike Path or Shared Use Path: A bikeway physically separated from motorized traffic by an open space or barrier and either within the highway right of way or within an independent right of way. Shared-use paths might also be used by pedestrians, skaters, joggers, wheel chair users and other non-motorized users.

Pocket Lane: A portion of the roadway intended for the exclusive use by bicyclists located on the approach leg of an intersection immediately between the mandatory right turn lane and the adjacent through travel lane. Pocket lanes are intended to reduce the conflicts between bicyclists who wish to proceed through the intersection and right turning motor vehicles. Pocket lanes 4 feet wide or wider should be designated with a bicycle marking to reduce any confusion by motorized vehicle drivers that the space might be a narrow travel lane. Pocket lanes less than 4 feet wide will not be designated.

Shoulder: The portion of the roadway contiguous with the travel way for accommodating stopped vehicles, emergency use, bicycles and pedestrians.

Sidewalk: The portion of a street or highway right of way designed for preferential or exclusive use by pedestrians.

PREFERRED BICYCLE AND PEDESTRIAN ACCOMMODATIONS

BICYCLES

Closed Sections

A minimum 15 foot wide outside lane (measured to the face of the curb) is preferred on all roadways with outside closed sections. The roadway should be striped as an 11 foot travel lane and a 4 foot shoulder available to bicycles.

A 16 foot wide outside lane (measured to the face of the curb) is preferred on all roadways with outside closed sections when the existing or proposed posted speed limit exceeds 40 mph or the existing or proposed land use will support bicycling. The 16 foot wide outside lane should

be striped as an 11 foot travel lane and a 5 foot shoulder available to bicycles.

Open Sections

A minimum 4 foot wide outside shoulder is preferred on all roadways with open sections.

Bicycle Lanes

Designated bicycle lanes should be considered if the existing or proposed land use will support bicycling, bicycle lanes are included in the local Master Plan, or a bicycle lane would serve to connect other bicycle facilities.

The preferred width of a bicycle lane in a closed section is 5 feet (measured to the face of the curb.) Designating a 4 foot wide shoulder in a closed section as a bicycle lane may be considered where the posted speed limit is 40 mph or less. Typically a bicycle lane should be a minimum length of 1 mile unless it serves as a connection to other bicycle facilities or serves as a connection to destinations or generators such as transit, employment, commercial, recreational or residential centers.

Pavement marking symbols and/or word messages should be used to designate a bicycle lane. Bicycle lane signs shall be used to supplement the markings (see MUTCD 2000, Part 9).

Designating a bicycle lane should only be implemented after consultation and approval by SHA's Bicycle and Pedestrian Coordinator and the Assistant District Engineer - Traffic.

Bicycle Routes

A bicycle route is a bikeway or system of bikeways that is designated with appropriate directional and informational route markers. Bicycle routes can serve recreational, commuting and neighborhood trips. The reason for designating a bicycle route is to provide guidance, connectivity and continuity.

Typically a bicycle route should be a minimum of 1 mile unless it serves as a connection to other bicycle facilities or serves as a connection to trip generators or destinations such as transit, employment, commercial, recreational or residential centers.

Designating a bicycle route should only be implemented after consultation and approval by SHA's Bicycle and

Pedestrian Coordinator and the Assistant District Engineer – Traffic.

Bike Path or Shared-Use Pathway

Shared-use pathways that parallel the roadway shall be considered part of a roadway project if they are included in the local Master Plan, requested by the local jurisdiction or supported by the local community. Shared-use pathways can provide alternate access for some bicyclists but should not ordinarily be considered in lieu of on-road improvements to benefit bicycle use. On road bicycle facilities are typically preferred. The preferred width of a shared-use pathway is 10 feet, 8 feet minimum.

Fund 76 and Fund 77 Projects

All roadway projects should provide for bicycle accommodations, i.e. 15-16 foot wide outside lanes on closed sections and minimum 4 foot wide shoulders on all open sections. For existing roadways where these widths do not exist, the typical sections shall be reviewed during SHA's regularly scheduled resurfacing program selection process to determine if the existing travel and turning lanes widths can be reduced to provide SHA's preferred widths for wide curb lanes and/or shoulders. Existing lane widths shall only be reduced with the approval of the Assistant District Engineer – Traffic and typically not below 10 feet for turning lanes and 11 feet for travel lanes.

Fund 76 and 77 projects will not be required to follow the waiver process if the preferred bicycle accommodations can not be provided. It is understood that the scope of these projects typically does not include roadway improvements or reconstruction that would result in adding or improving bicycle accommodations if none exist. However it is imperative that the Assistant District Engineer – Traffic takes responsibility to make sure that any change to the existing striping does not result in a negative impact on existing bicycle access. Any changes to the existing striping that would result in a negative impact to bicycle access should be discussed with SHA's Bicycle and Pedestrian Coordinator.

Negative Impact

Negative impact to bicycling is described as the permanent reduction, elimination or severing of existing bicycle accommodations.

- Existing roadway conditions that exceed SHA's preferred widths should not be reduced to widths below the preferred widths. (Ex. An existing 10 foot wide shoulder may be reduced but not below the preferred 4 foot width.)
- Existing roadway conditions that are less than SHA's preferred widths should not be reduced. (Ex. A 3 foot wide shoulder is below the preferred 4 foot width and therefore should not be reduced.)
- No project shall eliminate a shoulder on any roadway where bicycles are permitted to operate and where the maximum posted speed limit is more than 50 miles per hour. By Maryland state law bicyclists are prohibited from operating on any roadway (travel lane) where the posted maximum speed limit is over 50 mph. Cycling is permitted however on shoulders. Eliminating the shoulder would technically sever bicycle access.
- No project shall permanently sever existing bicycle access unless a reasonable alternate route exists or reasonable alternate access will be included in the proposed project. Reasonable alternate routes will be determined by the Bicycle and Pedestrian Coordinator.

PEDESTRIANS

Continuous 5 foot wide sidewalk, free of obstructions, is preferred on both sides of all closed section roadways as part of new construction or reconstruction when the existing or proposed land use will support walking, sidewalks are included in the local Master Plan, sidewalks are requested by the local jurisdiction, or sidewalks would serve to connect other facilities. Minimum 4 foot wide shoulders are preferred on all rural roadways or open section roadways to support walking.

The inclusion of sidewalk or existence of sidewalk in new construction or reconstruction should prompt the inclusion of other pedestrian amenities and benefits to promote walking as appropriate. Pedestrian benefits and

amenities can include such items as wheelchair ramps, pedestrian crosswalks, pedestrian signals and pedestrian lighting.

Sidewalk and sidewalk amenities typically would not be included in resurfacing projects but should be considered on a case by case basis.

American Disabilities Act (ADA)

All roadway projects shall meet the minimum guidelines as directed by the latest SHA and/or American Disabilities Act (ADA) guidelines.

Negative Impact

Negative impact to walking is described as the permanent reduction, elimination or severing of existing pedestrian accommodations.

- Existing sidewalk that exceeds SHA's preferred widths should not be reduced to widths below the preferred widths. (Ex. An existing 10 foot wide sidewalk should not be reduced below the preferred 5 foot width.)
- Existing sidewalk that is less than SHA's preferred widths should not be reduced. (Ex. A 4 foot wide sidewalk is below the preferred 5 foot width and should not be reduced.)
- No sidewalk should be removed and thereby eliminate pedestrian access.
- No shoulder in an open section roadway (where sidewalk does not exist) should be removed or reduced below 4 foot in width and thereby eliminate pedestrian access.
- No project shall permanently sever existing pedestrian access unless a reasonable alternate route exists or a reasonable alternate route will be included in the proposed project. Reasonable alternate route will be determined by the Bicycle and Pedestrian Coordinator.

DESIGN WAIVERS FOR BICYCLE AND PEDESTRIAN ACCOMMODATIONS

While it is SHA's intent to provide the preferred bicycle and pedestrian accommodations on all roadway projects, it is understood that projects will be reviewed on a case by case basis. If it is determined that the preferred bicycle and pedestrian accommodations cannot be provided, a design waiver must be requested and approved. A project can only proceed to advertisement or construction if the project provides SHA's preferred accommodations or has been granted a design waiver.

A design waiver will be considered for such things as impacts to right of way, utilities, structures (such as bridges and drainage structures), cost and environmentally or historically sensitive areas. The need to provide safety or capacity improvements to the roadway may also be considered. A waiver should not be requested until all reasonable alternatives to provide SHA's preferred bicycle and pedestrian accommodations have been exhausted. The documentation of these alternatives will be required to support the design waiver request.

Design waivers are not intended to exclude the implementation of bicycle and pedestrian facilities as part of a project. Even with the design waiver, a project should still be designed as close as practical to the preferred design accommodations.

Design waivers are not intended to waive the requirements for ADA facilities as described in the latest SHA and/or ADA guidelines.

Fund 76 and Fund 77 Projects

Fund 76 and 77 Projects will not be required to follow the waiver process.

PROCESS FOR REQUESTING A WAIVER

1. The Project Manager determines that SHA's preferred bicycle and pedestrian accommodations cannot be provided within the scope of the project.

2. The Project Manager reviews the project with SHA's Bicycle and Pedestrian Coordinator.

3. If SHA's Bicycle and Pedestrian Coordinator agrees the preferred accommodations can not be provided, the Project Manager will then make a formal request in writing to the Director of the Office of Highway Development for consideration and approval. The formal waiver request should include at minimum the following information:

- Project description;
- Length/Scope of the project;
- Preferred typical section to accommodate bicycles and pedestrians;
- Requested waiver typical section;
- Reason(s) for the reduction in typical section and waiver request:
 - ex. lack of right of way;
 - ex. delay to project schedule due to right of way negotiations;
 - ex. additional utility relocations;
 - ex. impacts to existing structures;
 - ex. impacts to environmental or historical sensitive areas;
 - ex. additional cost;
 - ex. community opposition.
- Accident data for the project area including accident data involving bicyclists and walkers;
- Existing and proposed posted speed limit;
- Percentage of truck traffic;
- Does lighting exist or will it be included in the project;
- Are there existing or proposed major destinations or generators;
- Is there evidence of existing bicycle or pedestrian traffic in the general area;
- Describe how the proposed waiver typical section will accommodate bicyclists and pedestrians.

- The existing land use supports bicycle lanes but the existing width of the roadway in downtown Westminster will only permit two 12-foot lanes. Widening the existing roadway to accommodate wide curb lanes or bicycle lanes will result in serious impacts to sidewalk, trees and right of way. Therefore bicycles will be accommodated with shared-use lanes throughout the length of the project.

4. If the Director agrees that the preferred bicycle and/or pedestrian accommodations can not be included in the project, a waiver will be granted. If the Director does not agree, the Project Manager will modify the project to include the accommodations or the Director may recommend a presentation to FRAT.

5. Upon the recommendation of the Director of Highway Development, a presentation will be made to FRAT. The decision by FRAT will be final.

APPENDIX E

M-NCPPC Pedestrian Impact Statement for Land Development Projects

As authorized under Article 28, Section 7-116(a) of the Annotated Code of Maryland, to provide adequate transportation and for the health, comfort and safety of our present and future population, the Montgomery County Planning Board of the Maryland-National Capital Park and Planning Commission requires that a Pedestrian Impact Statement be a part of every subdivision, special exception, zoning and mandatory referral application. The statement should address but not be limited to the following topics related to pedestrian safety, operations and access, as agreed upon with staff:

1. Pedestrian and/or bicycle counts at intersections.
2. Existing and/or proposed sidewalks and/or bikeways adjacent to the site and/or off-site of sufficient width, offset from the curb per county standards.
3. Lead-in sidewalks to the site and connectivity to the local area.
4. Existing and/or proposed bus stops, shelters and benches, including real time transit information.
5. Pedestrian accommodations at nearby intersections, e.g. crosswalks, pedestrian signals, push buttons, median refuges, ADA-compatible ramps.
6. Sufficient bicycle racks and/or lockers on-site.