CHAPTER 6: RECOMMENDATIONS FOR THE REGIONAL ROUTE NETWORK

The Recommended Regional Network Plan is shown on Map 1 (see fold-out map in this section). This identifies existing trails and bikeways as well as the future, long-range regional network, for a total of 2,214 miles of bikeways and trails. A subset of proposed routes are shown in red – these are high priority projects that were identified through the analytical prioritization process and public input process. This chapter explains how the regional network plan was developed and what actions should be undertaken to complete it.

ACTIONS TO IMPLEMENT THE REGIONAL NETWORK

1. **Recommendations for the Long-Term Route Network (shown in orange on the map)**
   The Regional Route Network shown on the map identifies an extensive network of future bicycle-friendly streets and roadways throughout the Baltimore region (shown in orange on the map). Achieving good bicycling conditions throughout this network will take many years of improvements and systematic changes to the way that roadways are designed and maintained. It is anticipated that it will take a minimum of 30 years to implement the long-term network plan.

   Each time a roadway identified on the long-term network is improved, the implementing agency should take the opportunity to include bicycle facilities (as well as pedestrian facilities in urban areas) as an *incidental* feature of the project. In other words, capacity improvements, widenings, and intersection redesign projects on this network should *always* incorporate context sensitive design and include a bicycle and pedestrian component.

Decisions regarding the type and width of bicycle facility on any given roadway should be based on a Bicycle LOS analysis of the proposed roadway cross section (see the appendix for examples). Many jurisdictions around the country – including San Antonio, TX; Buffalo NY; the Vero Beach, FL MPO; and Gainesville, FL – have found it helpful to set a target Bicycle LOS to be used when they undertake roadway projects. Other jurisdictions, including Chicago, IL and Orlando, FL are expected to adopt standards soon. As described in Chapter 5, the target performance goals for the Baltimore region are:

Land Use*	Target Bicycle LOS
Urban areas	B
Transitioning zones	B
Rural areas	C

* as defined by the U.S. Census

As noted in the examples in the appendix, it will not always be possible to meet the performance goal for a particular roadway, due to excessive costs, environmental impacts and other considerations. However, rather than make no improvements in these cases, any reasonable improvements to enhance bicycling conditions should be made, even if they do not result in the facility achieving the target BLOS. In situations where bicycle related improvements to a road included in the plan are not possible, other routes within the same corridor should be examined. This is especially true for Baltimore city, where the grid layout of the roadway network creates many travel options to reach the same destination.

2. **Recommendations for High Priority Pedestrian and Bicycle Projects.** Each jurisdiction should develop specific plans to address the pedestrian improvement zones and bicycle improvement projects shown in red on the map. Since a number of these roadways are state-owned, it will be necessary to in some cases to work closely with Maryland SHA which will be the agency primarily responsible for implementing improvements. Examples of strategies to implement these projects have been provided in the Corridor Profiles in the Appendix. In some cases there are low cost improvements that can be made during roadway resurfacing projects that can greatly benefit bicyclists, for example. In other cases, funding sources will need to be pursued for special improvement projects, intersection re-design, and other types of facilities.

   In addition to the high priority bikeways (on-road) shown on the map, the following pedestrian improvement zones are recommended for immediate action:

Pedestrian Improvement Zones

Jurisdiction	Pedestrian Improvement Zones
Anne Arundel County	• Jennifer Road from West Street (MD 450) to Medical Blvd.
City of Annapolis	• Forest Drive from Riva Road to Chinquapin Round Road
Baltimore County	• York Road between Padonia Road and Bosley Avenue • Lyons Mill Road • Campbell Boulevard
Baltimore City	• Cold Spring Lane between Falls Road and Greenspring Avenue • Boston Street • Union Avenue (vicinity of Falls Road, Clipper Mill Road and Clipper Park Road) • Russell Street • Charles Street
Carroll County	• Center Street: (Downtown Westminster to Westminster Town Center) • Frederick Street, Taneytown
Harford County	• Intersection of Business US 1 and MD 24 • MD 24 at Singer Road and Belair South Parkway • Joppa Farm Road
Howard County	• Intersection of Waterloo Road/MD 108 and Old Montgomery Road • Snowden River Parkway (near industrial and business park locations) • Broken Land Parkway (near Little Patuxent Parkway) • Old Mill Trail (US 1 near Laurel) • US 1 Study Corridor • Roxbury Mill Road at Union Chapel Hill Road

3. Recommendations for Trails and Greenways

As described in Strategy 2 of Chapter 5, actions should be taken now to implement key trail and greenway projects throughout the region. During the Latent Demand assessment, a number of trails were found to have a high transportation potential – these trails have been identified on the Regional Network Map in dark green. Several of these trails are already well on their way to implementation through the efforts of local and state agencies, while others are still in the conceptual stage. The following steps should be taken by each jurisdiction to move these projects forward:

1. Acquire needed land and/or obtain necessary easements.
2. Conduct a trail/greenway master plan, if necessary, to identify routing alternatives and needed connections, inventory existing cultural and natural resources in the corridor, solicit public involvement and generate grass roots support, identify needed amenities including parking, signage, and to develop an implementation action plan.

3. Pursue funding sources for design and construction (a variety of sources are identified in Chapter 10). Trails and greenways are rarely funded at 100% through outside (state and federal) sources – local funding commitments will be necessary to make these projects happen. A variety of local funding sources are identified in Chapter 10.
4. Develop a maintenance and management plan, identifying who will be responsible for long-term maintenance, emergency repairs, security patrol, and emergency response. These issues become more complicated on projects that cross jurisdictional boundaries, as a number of the recommended trails do. Special attention must be paid to these critical long-term issues.
5. Prepare design and construction documents, following national facility design guidelines in the *AASHTO Guide for the Development of Bicycle Facilities*.
6. Opposition to trail facilities should be expected. Residents living near proposed trails and greenways often fear that these facilities will have a negative impact on their properties. To address these issues the Trails and Greenways Clearinghouse has a developed wide variety of resources, and publications addressing issues frequently raised by opponents of proposed trails. Most of these resources and publications are available at no charge on the clearinghouse website, www.trailsandgreenways.org.

A number of other trails and greenways were also identified on the map as part of the long-term trail network. These are recommended for implementation after the initial high priority projects have been completed. In the mean time, land development activities in these areas should provide for trail access (land should be reserved for future trail use).

Note: Implementation of off-road trails identified in this Plan should not preclude the development of on-road bikeways in adjacent corridors. These on-road corridors provide important connections to key destinations that have direct access to the street: shopping centers, entrances to office complexes, access to the transit network, etc. A system of both on-road bikeways and sidewalks and off-road trails is needed.

METHODOLOGY FOR CHOOSING THE REGIONAL ROUTE NETWORK

The development of the Recommended Regional Network Plan involved a mix of analytical methods, public involvement and agency input. This section provides an overview of the methodology used in the development of this plan. More detail on the analytical tools used to evaluate existing conditions and latent

demand for bicycling and walking are available through the Baltimore Metropolitan Council.

The Regional Network Plan (Map 1) was the result of the steps listed below:

Step 1: Determine the study network

BMC and jurisdiction staff worked together to define a subset of roadways and trails in the region that would be studied for this project. Routes were chosen based on their ability to serve regional travel purposes. While some county roads are not part of this regional study network, this does not preclude the jurisdictions from making improvements to these roadways – in fact, they are encouraged to develop their own plans to address local bicycle and pedestrian travel. For the purpose of this study, however, a regional network was chosen totaling 1,640 miles of roads and trails that extend throughout the 5 counties, Baltimore City and Annapolis.

Note regarding the selection of trails for this map:
Trails shown on this map were chosen because they make key long distance connections and could potentially serve a transportation purpose. Short residential trails and recreational loop trails are not shown on this map unless they serve a regional travel function.

Step 2: Analyze existing bicycle and pedestrian conditions

As described in detail in the Task 2 Report for this project, existing conditions for bicycling and walking were analyzed using the Bicycle Level of Service model and field surveys in each jurisdiction. The Bicycle LOS model is a measure of bicyclists' comfort level in the roadway environment, with Bicycle LOS "A" being the highest potential ranking, and Bicycle LOS "F" being the lowest.

Step 3: Measure latent demand for bicycling

A very important factor in the network planning and corridor ranking process was to determine *where people want to ride*. The study team used a bicycle travel demand assessment method to identify corridors with high latent travel demand. This method measures demand for four transportation trip types: work trips, school/university trips, shopping trips and trips to recreational destinations. The analysis was conducted not only for roadways in the study network, but also for the trail system, so that latent travel demand could be compared on all types of routes. The results of this analysis were provided to BMC and member jurisdictions in maps and spreadsheets.

Step 4: Establish analytical priority ranking

By combining the results of the Bicycle LOS and the Latent Demand Analysis, a final analytical score was produced for each segment in the 1640-mile network.

Route segments with poor Bicycle LOS scores (due to hazardous conditions) but that exhibited high levels of latent demand rank the highest in overall priority, since these routes demonstrate the most need for improvement. The rankings were done separately for each jurisdiction.

Step 5: Solicit public input

Public input received during public meetings and via survey responses was also a consideration in the ranking of corridors identified for improvements. Meeting attendees marked up maps showing locations they felt are most in need of improvements. They also indicated locations needing pedestrian improvements – titled "Pedestrian Improvement Zones" on the Regional Network Map (Map 1). For the most part, public input confirmed the results of both the Bicycle LOS analysis and the latent demand analysis.

Step 6: Establish final route network

Based on the analytical rankings, the public input, and the input from the jurisdictions who were partners in this project (as represented on the BRTB's Bicycle and Pedestrian Advisory Group), the route network was developed (Map 1). The long-term network provides a long-term vision of a regional network of trails and bikeways that will support regional bicycle travel. The initial action projects identified on the map are recommended for immediate improvements in the short term.