

FINAL REPORT CLEVELAND AREA MPO BICYCLE & PEDESTRIAN PLAN

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Prepared For
Cleveland Area MPO

Prepared By



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ACRONYM LIST

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Bicycle and Pedestrian Advisory Committee (BPAC)

The members of the BPAC provided valuable input and feedback throughout the planning process. Listed below are the names of the committee members.

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1.0 INTRODUCTION

Many cities across the country are becoming aware of the importance of creating a more livable community. In order to reach this goal, communities are developing plans to outline ideas for improving mobility. Also, as the price of gasoline continues to rise and the awareness of the environmental effects of motor vehicle travel increases, people are looking for alternative modes of travel. It is important for cities to provide adequate facilities for non-motorized travel.

The Cleveland Area Metropolitan Planning Organization (MPO) has made a commitment to develop a multi-modal transportation system. This plan is consistent with the requirements of the federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) legislation, the rules, regulations, and policies of the Federal Highway Administration (FHWA), and the Tennessee Department of Transportation (TDOT). The plan encourages and supports safety and security for bicycle and pedestrian travel. Connections will be made across all economic backgrounds, with the transit system, and between the different land uses in the MPO planning area. The plan will preserve and enhance the existing transportation infrastructure.

The benefits to the Cleveland MPO planning area will include greater mobility, lower transportation costs, safer streets, cleaner air, less traffic congestion, lower healthcare costs, and an improved quality of life. The *Bicycle and Pedestrian Plan for the Cleveland Area MPO* will establish a plan for a multi-modal transportation system that

will make the vision of a bicycle and pedestrian friendly community a reality.

1.1 Purpose of the Plan

The purpose of this plan is to create a coordinated system of bicycle and pedestrian facilities that enhance and promote multi-modal travel within the Cleveland MPO area. Specifically, the plan addresses opportunities for expanding and improving bicycle and pedestrian travel within the MPO area. Recommendations of the plan include specific locations for improvements to bicycle and pedestrian travel, ideas to promote walking and bicycling, and how to help improve safety for non-motorized travel.



Shared-Use Path Located Along a Roadway

The structure and activities of the Bicycle and Pedestrian Plan for the MPO include:

- The evaluation of the land use and development patterns of the MPO area to identify locations for bicycle and pedestrian connectivity.
- The identification of existing bicycle and pedestrian facility infrastructure gaps and needs.

- Providing adequate facilities for non-motorized transportation modes and encouraging the use of these facilities.
- Increasing the safety and security of the transportation system for motorized and non-motorized users.
- Maximizing the multi-modal function of the existing streets.
- Determining locations for improving connectivity in the existing bicycle and pedestrian infrastructure while considering the cost.
- Developing budget cost estimates, implementation strategies, and identify funding sources.

1.2 The Planning Process

The planning process began in late 2007 with the collection of existing transportation and community conditions. The next step in the process was to evaluate existing conditions utilizing several planning level tools which assisted in quantifying the relative demand/need for sidewalks and bikeways. Based on the results of the analysis specific bicycle and pedestrian facility recommendations were developed. Strategies were then identified to achieve the stated goals and objectives of the bicycle and pedestrian plan. The following section further describes each of these tasks.

Existing Conditions

The Cleveland MPO provided Geographic Information System (GIS) data for some of the existing conditions.

The GIS data consisted of files that contained information such as locations of parks, schools, rivers, railroads, existing bicycle and pedestrian facilities, and other generators and attractors. In addition, the planning team collected data in the field pertaining to the current transportation system. The data collected included roadway geometries and characteristics important to understanding conditions for walking and biking travel.

Analysis of Existing Conditions

Existing conditions were then compiled into maps and spreadsheets. The analysis tools were then identified and used to evaluate the existing conditions. Based on the analysis, the opportunities and constraints for bicycle and pedestrian facilities within the planning area were identified.

Development of Specific Facility Recommendations

Specific locations of sidewalk and bikeway improvements were identified. Maps were created illustrating recommended improvements for sidewalks and bikeways by facility type. In addition to these improvements, concept plans for the expansion of the greenway system were also mapped. Phasing plan maps along with Vision plan maps for these recommended improvements were also created to illustrate the long and short range plans for bicycle and pedestrian accommodations within the MPO area.

Cost Estimates and Funding Options

Engineering cost estimates were prepared for planning and implementation purposes. In addition, funding sources were identified.

Strategies for Implementing the Plan

Implementation strategies for completing the plan were identified. The implementation strategies include policies and programs that address engineering, education, encouragement, and enforcement.

Documentation

The Bicycle and Pedestrian Plan for the Cleveland Area MPO documents all of the above tasks. This plan serves as a guide for the Cleveland MPO and its member jurisdictions to achieve the goals of the plan. The detailed technical analysis of this plan is included in the Appendix.

1.3 PUBLIC INVOLVEMENT

A Bicycle and Pedestrian Advisory Committee (BPAC) was formed during the project. The committee involved representatives from various community groups along with interested and qualified individuals that could provide local knowledge as well as a level of expertise in bicycling and walking. The committee provided guidance for the project.

Adult obesity rates have doubled over the past three decades, with more than 60 million, or about 30 percent of, adults aged 20 and over now classified as obese. Conservative estimates place the number of adults that are either overweight or obese at 65 percent.

Source: Centers for Disease Control and Prevention, 2005

There were also public meetings held to obtain input into the desires and needs of the community. A public meeting was held at the beginning of the planning process to determine where the public desires to have access to bicycle and pedestrian facilities. Also, during this meeting the policies for bicycle and pedestrian facilities and the strategies about implementation were discussed. At this meeting small groups were formed to layout what they saw as necessary locations for bicycle and pedestrian facilities. Another public meeting was held to present the draft plans for the bicycle and pedestrian facilities. The community was encouraged to provide comments and ask questions after the meeting.

1.4 BENEFITS OF A MULTI-MODAL TRANSPORTATION SYSTEM

There are many benefits to both the community and the individual when a multi-modal transportation system is provided. These include benefits to an individual's health as well as

environmental benefits which help the entire community.

Health

Since World War II communities have been developed in such a way that vehicular trips are encouraged and walking and biking trips have been phased out. It has been documented that the number of Americans that are clinically overweight has dramatically increased. This increase has been linked to an increasingly sedentary lifestyle which includes less physical activity like walking and biking.

Walking or cycling for short trips can improve an individual's overall health. In fact, most health professionals recommend approximately 30 minutes of moderately intense physical activity a day. This can be accomplished by most people by making two short 15-minute walking or cycling trips. This will not only help to control weight but it will also help reduce coronary heart disease, stroke, diabetes, depression, and other health problems. Both walking and bicycling are excellent activities for everyone from children to the elderly.

Sedentariness has risen dramatically over the past 30 years, indicating more and more Americans are failing to engage in adequate amounts of physical activity. Forty percent of American adults report they are completely sedentary. The lack of sidewalks and recreational greenspace has contributed to the rise in physical inactivity. The physical environment can encourage and facilitate physical activity through community design, the presence and maintenance of sidewalks and walking trails.

Source: Weight the Costs of Obesity in Tennessee, Comptroller of the Treasury, 2006

Environmental

As our society has become more environmentally aware, the benefits of walking and biking rather than using a vehicle are becoming increasingly more obvious. Choosing to walk or bike for a trip will save the use of oil which will help reduce the dependence of our society on fossil fuels. It will also help

the air quality by reducing vehicular emissions. By improving air quality, there are many health benefits that will be seen by individuals. Although emissions from newer vehicles are improved, there are more vehicles on the road which has resulted in an increase in emissions. Research has shown that short trips are the most damaging to the environment since vehicles emissions are worse during the first few minutes of operation before the vehicle's pollution control devices begin to be most effective. Therefore, having an alternative mode for a short trip will help reduce the effect of vehicular emissions significantly.

Transportation Benefits

An important benefit seen from providing bicycle and pedestrian facilities as an alternate mode of transportation is the reduction in traffic congestion. Traffic congestion causes stress for drivers, an increase in vehicle emissions which increases pollution, and wastes time and gas. By converting vehicular trips to walking and biking trips, traffic congestion can be reduced.



Bicyclists May Ride to Retail Developments

There is more damage caused by cars to roadway surfaces than that caused by bicycles. Therefore, the need for roadway maintenance is increased

when the number of vehicular trips increases. By converting vehicular trips to walking or biking trips, the amount of roadway maintenance required is reduced.

Providing bicycle and pedestrian facilities gives people more transportation options. These facilities allow children, elderly, and those without vehicles options to a vehicular trip.

Safety Benefits

In order to encourage bicycle and pedestrian trips, it is important to provide safe facilities. If the facilities are safe then it is more likely that pedestrians and cyclists will use them. Providing well-designed bicycle and pedestrian facilities improves safety for all users including motorists. Facilities should be created with a well defined area for bicyclists and pedestrians so the motorist knows what to expect. Also, vehicular speeds often reduce when on-road bicycle facilities are present which improves the safety for all users.

Economic Benefits

Converting vehicular trips to bicycling or walking trips can save the average family a considerable amount of money over the course of a year. The amount of money that is saved on gasoline alone can be significant. Also, the amount of money spent by the average family to maintain a vehicle is much higher than the amount of money needed to maintain a bicycle. Not only are bicycling trips much less expensive than vehicular trips but walking is free.

Bicycling and walking are also forms of exercise. People can improve their health by increasing the amount of

exercise they get. The improved health benefits will in turn decrease health care costs for individuals and families.

Quality of Life

To encourage growth in a community, it is important for cities to provide a good quality of life. Walking and bicycling facilities that are well designed and maintained are typically used often. This provides more opportunities for social interaction which improves the sense of community.



Family Enjoying a Walk on the Greenway

2.0 GOALS OF THE PLAN

As part of the *Bicycle and Pedestrian Plan for the Cleveland Area MPO*, goals were established to aid in the implementation of the plan. The following goals and objectives represent the MPO's commitment to advancing non-motorized accommodations within and through the MPO planning area.

Goal 1: Promote alternatives to vehicular travel by providing realistic transportation options for pedestrians and bicyclists.

- Objective 1a - Incorporate bicycle and pedestrian facilities into major transportation projects of the city, county, and state.
- Objective 1b - Encourage street interconnectivity between developments, neighborhoods, and commercial activities.
- Objective 1c - Educate Cleveland's citizens in "Share the Road" concepts which promote safe streets.

Goal 2: Provide safe and accessible facilities for all of Cleveland's pedestrians and cyclists.

- Objective 2a - Upgrade existing facilities to meet or exceed current state and federal standards for safety and accessibility.
- Objective 2b - Promote uniformity in the designation and operation of bicycle and pedestrian facilities (e.g. consistent pavement markings, signage, pedestrian signals, etc.).
- Objective 2c – Establish a sidewalk management system for inventorying and monitoring sidewalk conditions and develop a method for funding needed ongoing sidewalk

maintenance and replacement needs.

Goal 3: Encourage bicycle and pedestrian facility use for all types of users.

- Objective 3a - Plan for off-street (greenway) facilities to encourage recreational use.
- Objective 3b - Develop bicycle and pedestrian linkages between potential high-use locations (e.g. schools, parks, etc.).

Goal 4: Follow organized, rational, and systematic methods of project implementation.

- Objective 4a - Prioritize needs based on demand/use, safety, funding availability, and other established methods.
- Objective 4b - Structure planning methods to maximize eligibility for state and federal grants for implementation.
- Objective 4c - Incorporate the Cleveland MPO Bicycle and Pedestrian Plan into established planning processes such as TDOT's planning and programming process and the City's and County's development review and budgeting process.

3.0 TYPES OF FACILITIES

3.1 Pedestrian Facilities

Sidewalks and walkways are “pedestrian facilities” that provide people with space to travel within the public right-of-way that is separated from roadway vehicles. To promote walking it is important for safe, attractive pedestrian facilities to be provided. These facilities should be constructed so that a buffer area is provided between the vehicular travel path and the sidewalk. In urbanized areas on-street parking can serve as a buffer. Also, outside of urbanized areas it is common for a grass strip to be provided as a buffer. Safe crossings at intersections should be provided that include handicap ramps, pedestrian signals with pushbuttons, and crosswalks that are clearly marked.



Sidewalk Separated from Vehicular Traffic by On-Street Parking

3.2 Shared-Use Paths (Greenways)

Shared-use paths, or greenways, are non-motorized facilities most often built on exclusive rights-of-way with limited motor vehicle crossings. A shared-use path is a facility that is physically separated from motor vehicle traffic by an open space or barrier, and may be within the roadway right-of-way or within

an open space. Paths are normally two-way facilities.



Shared-Use Paths Provide Recreational Opportunities

Generally, shared-use paths are used to serve corridors not served by streets and highways or where wide utility or former railroad right-of-way exists, permitting such facilities to be constructed away from the influence of parallel streets. Shared use paths offer opportunities not provided by the road system. They can provide a recreational opportunity or, in some instances, can serve as direct commute routes if cross-flow by motor vehicles and pedestrians is minimized. The most common applications are along rivers, canals, limited access freeways, utility rights-of-way, former or active railroad rights-of-way, within college campuses, or within and between parks. Shared-use paths are considered a complementary system of off-road transportation routes for bicyclists and others that serve as a necessary extension to the roadway network.

3.3 Bike Lanes

Bike lanes are provided on the roadway adjacent to the vehicular traffic. Bike lanes are striped and signed to create a designated area so that the bicyclist has a designated path of travel. This improves safety for both the motorist

and the bicyclist by making the movements of the motorist and bicyclists more predictable. Bike lanes are typically considered for higher-volume, roadways, including collector roadways.



Bike Lanes are Provided on the Pavement
Adjacent to Vehicular Traffic

3.4 Shared Roadways

Shared roadways include wide outside lanes, paved shoulders, and signed shared roadways. All of these bicycle facilities are provided on the paved roadway. They share the road with the adjacent vehicular traffic.

Wide outside lanes are provided in the travel lane closest to the curb and provide fourteen to fifteen feet of pavement. Wide outside lanes have three widely accepted advantages. They can accommodate shared bicycle/motor vehicle use without reducing the roadway capacity for motor vehicle traffic. They can minimize both the real and perceived operating conflicts between bicycles and motor vehicles. Finally, wide outside lanes can increase the number of bicyclists capable of being accommodated. Many other benefits are claimed for wide outside lanes ranging from assisting turning vehicles in entering the roadway without encroaching into another lane to better

accommodating buses and other wider vehicles.

A paved shoulder refers to the part of the highway that is adjacent to the regularly traveled portion of the roadway and is on the same grade as the roadway. A well maintained wide paved shoulder allows cyclists to travel outside the main roadway. Wide paved shoulders not only benefit motorists, but reduce road maintenance costs and may improve safety for bicyclists.

Signed shared roadways are a commonly used bike facility. These facilities are established by using signs to designate a travel lane as being shared by vehicles and bicycles. According to the *Guide for the Development of Bicycle Facilities* published by the American Association of State Highway and Transportation Officials (AASHTO), there are several reasons for signing bike routes. One reason is that the route provides a linkage to other bicycle facilities, such as bike lanes and multi-use paths. Another reason is that the road is a common route for bicyclists through a high demand corridor. Signed shared roadways are also preferred for bicycling in rural areas where there are low traffic volumes or there is paved shoulder availability. The final reason to use a signed shared route is when the route extends along lower volume local neighborhood streets and collectors that lead to internal neighborhood destinations, such as a park or school.

4.0 EXISTING CONDITIONS

4.1 Inventory of Existing Bicycle and Pedestrian Facilities

In order to develop a bicycle and pedestrian plan for the Cleveland Area MPO an inventory of existing bicycle facilities and sidewalks was conducted. This ensures the plan will integrate the recommended facilities with the existing facilities.

The existing pedestrian facilities located in the MPO are shown in Figure 1. As shown in this figure, the majority of the pedestrian facilities in the MPO area are located in downtown Cleveland. Outside the downtown area the pedestrian facilities are located in subdivisions.

Also, shown on Figure 1 are the existing greenways in the MPO area. There is an existing greenway that runs from 17th Street to Raider Road through Lee College. This greenway is proposed to be extended to the south from 17th Street to Lee Highway. It is also proposed to be extended to the north from Raider Road to Stuart Road. The other existing greenway is shown at the northeast corner of the intersection of Old Tasso Road and Stuart Road. The existing greenway system consists of approximately 2.5 miles of constructed greenways. Also, approximately 3 miles of greenway are planned to be constructed over time within the MPO area. There are currently no on-road bike facilities in the Cleveland MPO planning area.

4.2 Existing Transportation Network

The existing transportation network has been developed primarily for vehicular traffic. In order to integrate bicycle and

pedestrian facilities into the current transportation system, analysis was conducted of the current conditions of the roads. The type of roadway conditions analyzed included the width of the roadway, the pavement conditions, the traffic volumes, the speed limit of the road, and other roadway characteristics that affect the development of bicycle and pedestrian facilities. This analysis was used to determine if the current roadways could be modified to include bikeways and sidewalks.

The results of the analysis of the current roadway characteristics were used to develop a bicycle plan for the Cleveland MPO. The results helped determine which roadways are suitable for bicycle facilities and how easily the facility can be incorporated. Based on the results, the recommendations were made for the locations and types of bicycle and pedestrian facilities.

4.3 Opportunities and Constraints

The existing conditions in the MPO area were evaluated to determine where opportunities exist for providing bikeways and sidewalks and what obstacles might prevent the construction of bikeways and sidewalks. The opportunities that exist in the Cleveland MPO area include:

- Utility easements
- Streams & creeks
- New developments
- Future road improvements
- End-of-trip facilities
- Available right-of-way on some roads

The obstacles or constraints that exist in the MPO area include:

- High-speed & high-volume roads
- Narrow roads
- Land acquisition
- Land-use patterns
- Active Railways
- Topography

The following further describes each of these opportunities and constraints.

OPPORTUNITIES

Utility Easements

Utility easements present a great opportunity for greenways. The easements are typically used for overhead utilities so the only activity the land sees is providing maintenance. The utility easements provide good connections between destinations. Typically the use of a utility easement will require an agreement with the utility owner.

Streams & Creeks

Natural waterways often provide a great opportunity for bikeways and paths. They create a friendly environment that is inviting to pedestrians and cyclists. Typically the facility is located in a floodplain so the land is clear of development. Mouse Creek in Cleveland provides an opportunity for the greenway to be extended.

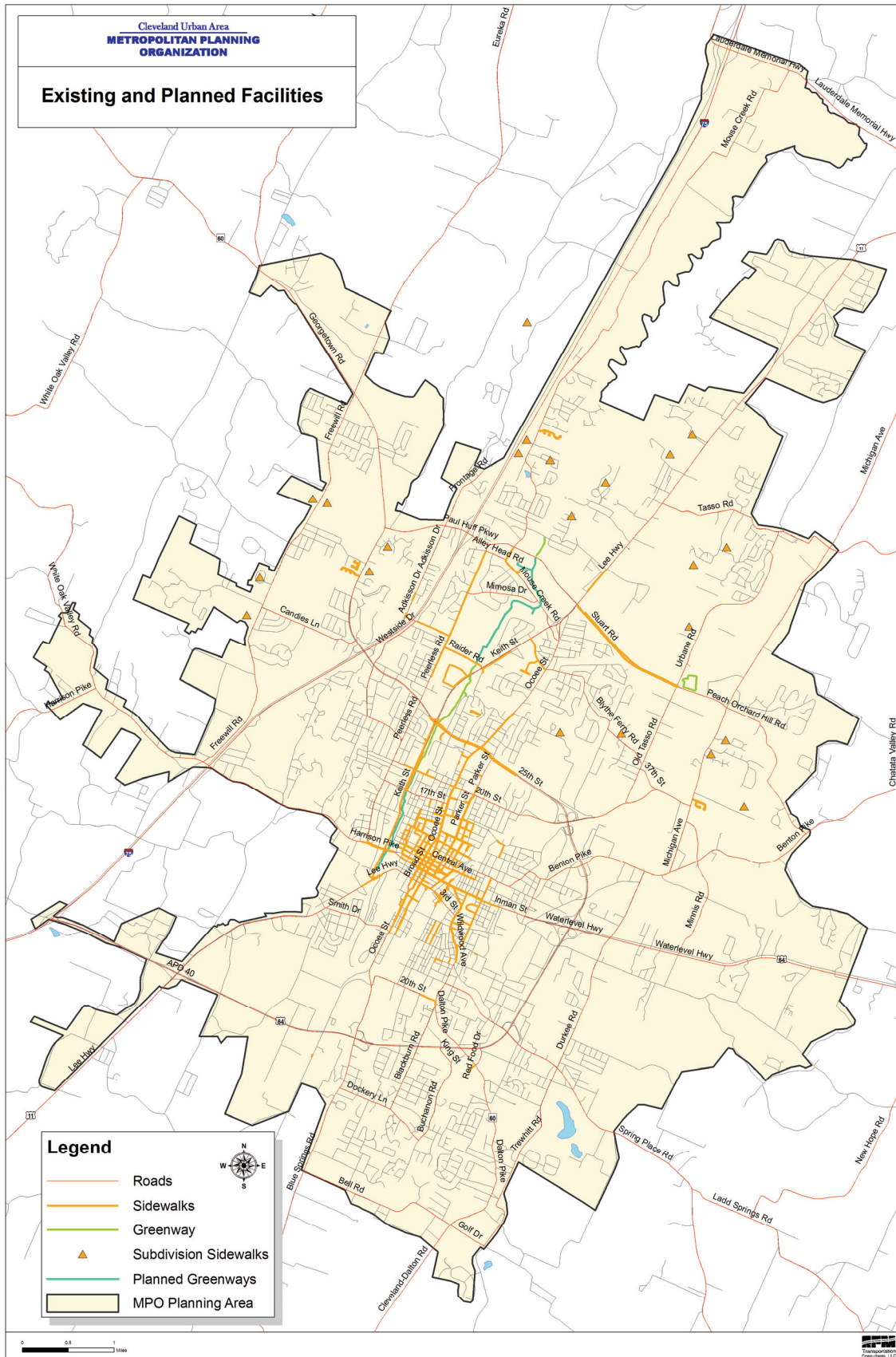
New Development

As new development occurs opportunities arise to improve the bikeway and sidewalk system. Every new development should be evaluated to determine the ability to provide a roadway system that will include

bikeway and sidewalk facilities or a greenway connection to existing or planned greenways. Policies should be established by the City of Cleveland and Bradley County to ensure that bikeways and sidewalks are considered when a new development is proposed and that interconnection between adjacent developments are made for trips that could occur by walking or biking.

Future Road Improvements

Bikeways and sidewalks should be considered as part of all roadway improvement projects. By adding the bicycle facilities and sidewalks at the beginning of a roadway project, the cost for the planning, design, and construction of the facilities will be less than if the bicycle and pedestrian facilities were added at a later time. The projects included in the *2030 Long Range Transportation Plan for the Cleveland Area MPO* present an opportunity for bikeways and sidewalks to be constructed.



End-of-Trip Facilities

Properly constructed end-of-trip facilities create a safe, friendly environment for bicyclists and pedestrians. It is also beneficial to construct the end-of-trip facilities at logical destination points. A few locations in Cleveland that should provide end-of-trip facilities include schools, the museum downtown, Lee University, Cleveland State College, parks, the YMCA, and the new downtown intermodal/bus transfer station.



Lee University is an Example of an
End-of-Trip Facility

CONSTRAINTS

High-Speed & High Volume Roads

One of the biggest obstacles to riding a bike or walking in Cleveland is the busy, high speed roads. Streets such as Georgetown Road, 20th Street, Paul Huff Parkway, and Mouse Creek Road are examples of these types of roads. These roadways provide connections to many destinations in the MPO area and with proper facilities could have high bicycle and pedestrian usage. Wide intersections, which do not provide pedestrian accommodations, are very intimidating with the high number of vehicles and the speed on the roadways.

Land Acquisition

Locations for the bikeways and sidewalks are sometimes restricted by the right-of-way provided. In many situations the cost to acquire the right-of-way may prohibit the ability to construct the bikeway and/or sidewalk. This may result in broken segments of bikeways and sidewalks which is not desirable for a functional multi-modal network.

Land Use Patterns

The Cleveland MPO area has been developed so that land uses are segregated. This presents a challenge in making trips a reasonable length for biking and walking. Most biking and walking trips are less than two miles long. Therefore, it is desirable for development to be mixed so that the average trip from the home or office is less than two miles. Policies can be established to encourage this type of mixed-use development in the MPO area.

Active Railways

The railways in Cleveland, which are active railroads, create a physical barrier to bicycle and pedestrian travel. The barrier created by active railroads is similar to the barrier created by high volume roads. It is very intimidating for pedestrians and bicyclists to cross the tracks. To overcome this barrier, special accommodations must be constructed for bicyclists and pedestrians to safely cross the railroad tracks.

Topography

The topography in the MPO area includes areas with steep grades. This creates problems for both bikeways and sidewalks. The layout of the bicycle and pedestrian facilities should consider the grades so that the facility can be used by all levels of cyclists and walkers.

4.4 Trip Generators and Attractors

In order to develop a successful network of walking and biking facilities, popular origins (generators) and destinations (attractors) in the MPO planning area should be connected by sidewalks, bikeways, and greenways. A direct, convenient connection is more likely to encourage motorized trips between attractors and generators to biking and walking trips.

In order to make the necessary connections with the proposed bicycle and pedestrian network the locations of the major destinations within the MPO area were identified. Some of these destinations included:

- Schools
- Parks
- Colleges/Universities
- Fitness Clubs
- Libraries
- Recreational Facilities
- Hospitals
- Assisted Living Facilities
- Shopping Centers
- Major Employers

These origins and destinations were identified because they have the potential to generate a relatively high number of bicycling and walking trips. Figure 2 shows the location of all the attractors and generators identified in the Cleveland MPO area.



Schools and Parks are Typical Walking and Biking Trip Attractors

4.5 Safety

Bikeways and sidewalks should be created so that they are safe for the cyclist and pedestrians as well as vehicular travel. This requires bikeways and sidewalks to be created so that the movement of those utilizing the facilities is known to all users.

Crash data were collected from the State and evaluated to determine areas in the MPO that need improvements to increase safety for bicyclists and pedestrians. According to the data received there were 30 crashes that involved pedestrians and bicyclists between January 2003 and December 2005. Two of the 30 crashes resulted in fatalities. Most of the crashes occurred in the southeast portion of Cleveland which is where a majority of the pedestrian traffic occurs in the MPO area. Based on the data well marked crossings at intersections should help to alleviate some of the pedestrian and bicycle accidents. The locations of the bicycle and pedestrian crashes are shown on a map in Appendix A.

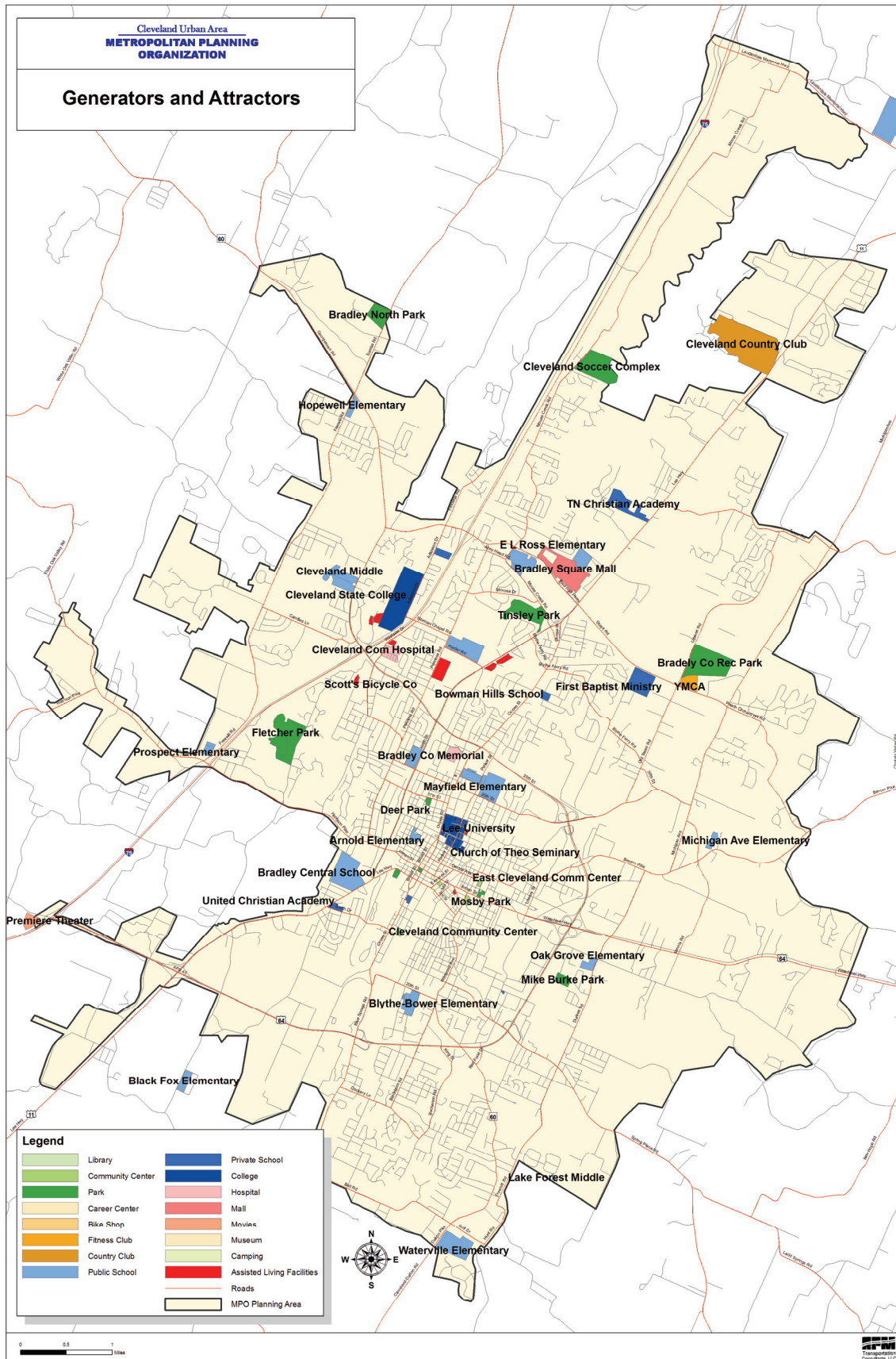


Figure 2. Attractors and Generators Map

4.6 Other Related Plans and Policies

2030 Long-Range Transportation Plan Cleveland Urban Area MPO

As previously mentioned, the MPO is charged with developing a regional long range transportation plan that deals with all modes of surface transportation for the planning area including bicycle and pedestrian facilities. In 2005, the MPO adopted the *2030 Cleveland Urban Area MPO* which is a blueprint for transportation investments for the MPO planning area over a 25-year horizon. The plan cited strong community support for walking and biking improvements and concluded with the need for the MPO to undertake a bicycle and pedestrian plan for the MPO area.

The Bicycle and Pedestrian Plan is an important planning document for the MPO as it documents future bicycle and pedestrian needs within the MPO area and establishes necessary projects, policies, and programs for non-motorized accommodations. Through the MPO's planning process recommendations of the Bicycle and Pedestrian Plan will be adopted by the MPO and incorporated into the overall MPO Long Range Transportation Plan for funding and implementation by the MPO.

Cleveland MPO Transportation Improvement Program

The Transportation Improvement Program (TIP) for the Cleveland MPO is a four year program that addresses the most immediate priorities for the transportation projects and strategies that are present in the MPO's Long Range Transportation Plan. The first TIP for the Cleveland MPO was established in 2006. The TIP is updated

every two years and identifies which transportation projects are to be implemented in the next four years.

The TIP is the vehicle through which transportation priorities within the MPO area are funded. Incorporation of the Bicycle and Pedestrian Plan into the MPO's Long Range Transportation Plan is necessary for recommendations of the Bicycle and Pedestrian Plan to be eligible for funding through the TIP.

Tennessee Long-Range Transportation Plan Bicycle and Pedestrian Element

TDOT in 2005 adopted the Bicycle and Pedestrian component of the Long-Range Transportation Plan. The document serves as an information and policy plan to guide the development and maintenance of a statewide bicycle network on the nearly 14,150 miles of state highways under the jurisdiction of the State over the next 25 years. This plan also addresses support facilities and other programs for pedestrians and bicyclists in Tennessee. These policies address important issues related to Tennessee's bikeways and walkways such as planning, community involvement, utilization of existing resources, facility design, multi-modal integration, safety and education, support facilities, as well as specific programs, implementation, maintenance, and funding.

Tennessee Accommodations Policy

Many of Tennessee's laws and policies originate from Federal laws that require planning for non-motorized transportation. Congress recognized that bicyclists and pedestrians have the same origins and destinations as other transportation system users and that it is important for them to have safe and

convenient access to airports, ports, transit terminals, and other intermodal facilities as well as to jobs, services, recreation facilities, and neighborhoods. The U.S. DOT encourages states, local governments, professional associations, other government agencies, and community organizations to adopt its Policy Statement (*A U.S. DOT Policy Statement: Integrating Bicycling and Walking into Transportation Infrastructure*, 2000) as an indication of their commitment to accommodating bicyclists and pedestrians as an integral element of the transportation system. One of the key principles of the Policy Statement is that “bicycling and walking facilities will be incorporated into all transportation projects unless exceptional circumstances exist.”

TDOT Bicycle and Pedestrian Policy

The policy of TDOT is to routinely integrate bicycling and pedestrian facilities into the transportation system as a means to improve mobility and safety of non-motorized traffic. Below are specific aspects of the policy as it relates to each non-motorized element.

Bicycle

TDOT is committed to the development of a transportation infrastructure that improves conditions for bicycling through the following actions:

- Provisions for bicycles will be integrated into new construction and reconstruction of roadway projects through design features appropriate for the context and function of the transportation facility.
- The design and construction of new facilities should anticipate likely future demand for bicycling facilities and not preclude the provision of future improvements.

Pedestrian

TDOT is committed to the development of a transportation infrastructure that improves conditions for pedestrians through the following actions:

- In urbanized areas, sidewalks or other types of pedestrian travel ways should be incorporated in new construction or reconstruction projects, unless one or more of the conditions for exception are met as described in this policy.
- The design and construction of new facilities should anticipate likely future demand for pedestrian facilities and not preclude the provision of future improvements.
- By addressing the need of pedestrians to cross corridors as well as travel along them and designing intersections and interchanges to accommodate pedestrians in a manner that is accessible and convenient.
- The design of facilities for pedestrians will follow design guidelines and standards as adopted by TDOT.
- Provisions for pedestrians will be integrated into new construction and reconstruction projects through design features appropriate for the context and function of the transportation facility.
- Pedestrian facilities must be designed to accommodate persons with disabilities in accordance with the access standards required by the Americans with Disabilities Act (ADA). All sidewalks, shared use paths, street crossings and other pedestrian facilities must be constructed so that all pedestrians, including people with disabilities, can travel independently.

Exceptions

There are conditions where it is generally inappropriate to provide bicycle and pedestrian facilities. These conditions include:

- Facilities, such as interstates, where bicyclists and pedestrians are prohibited by law from using the roadway. In this instance, a greater effort may be necessary to accommodate bicyclists elsewhere in the same transportation corridor.
- The cost of providing bicycle and pedestrian facilities would be excessively disproportionate to the need or probable use. Excessively disproportionate is defined as exceeding twenty percent of the projects total right-of-way costs.
- Bridge replacement rehabilitation projects funded with federal Highway Bridge Program funds on routes where no pedestrian or bicycle facilities have advanced to the stage of having engineering drawings nor are there any funded state bridge maintenance projects.
- Other prudent factors where there is a demonstrated absence of need. Exceptions for not accommodating bicyclists and pedestrians in accordance with this policy will be documented describing the basis for the exception. For exceptions on federal aid highway projects, concurrence from FHWA must be obtained.
- Facilities for bicyclists and pedestrians which conflict with local municipality plans or as requested by the Commissioner of TDOT.

City of Cleveland Parks and Recreation Master Plan

In early 2008 the City of Cleveland undertook a comprehensive assessment of existing recreational facilities and programs within the City. While from a perspective of recreation, the plan addresses the Cleveland Greenway System and the importance of this facility relative to the City's overall parks system.

As part of the Park Master Plan planning process the City undertook a community survey to assess facility use and citizen preferences relative to the park system. The random survey of 1,880 households in the City and County resulted in the completion of 236 household surveys. The Greenway System ranked as the second highest community use behind Deer Park. Walking was stated as the single highest rated activity and was associated with the Greenway System and Fletcher Park.

The Park Master Plan provides support for the Cleveland Greenway System and the expansion of the Greenway with logical connections to the City's parks as a means of expanding recreational and transportation resources within the community.

Tennessee Greenways and Trails Plan

In March of 2008, the Tennessee Department of Environment and Conservation (TDEC) and the Commissioner's Greenways and Trails Advisory Council completed the development of the Tennessee Greenways and Trails Plan. The document is an action program designed to address current deficiencies, resolutions to critical shortcomings, and new approaches to

achieving a statewide system of greenways and trails.

The Plan's action program, which covers a horizon of 2008-2010, promotes the expansion of trails and greenways statewide as a means of promoting health and fitness, economic and tourism development, resource and energy conservation, and a means of alternative transportation and safe routes to schools. The Plan supports the expansion of greenways at the local level and continued funding for greenway and trail development, education, and technical assistance.

4.7 Current Ordinances and Regulations

The City of Cleveland, Bradley County, and the State of Tennessee have established codes, ordinances, and regulations pertaining to pedestrians and bicyclists. These laws are written to improve safety and regulate travel for pedestrians and bicyclists. A summary of relevant regulations are provided.

City of Cleveland Codes Annotated

When any motor vehicle has stopped at a marked crosswalk or at an intersection to permit a pedestrian to cross the street, no operator of any other vehicle approaching from the rear shall overtake and pass such stopped vehicle. (Cleveland Code 15-121)

Motor vehicles may not be driven on a sidewalk except at a driveway location. (Cleveland Code 15-125)

A bicycle may be parked on a sidewalk if it does not impede the normal and reasonable movement of pedestrian or other traffic. (Cleveland Code 15-605)

It shall be unlawful for any property owner or occupant to allow any limbs of trees on his property to project over any sidewalk at a height of less than eight (8) feet. (Cleveland Code 16-101)

The occupants of property abutting on a sidewalk are required to keep the sidewalk clean. (Cleveland Code 16-106)

Any person owning real estate abutting on any street, avenue or alley may be required to build and keep in repair such sidewalks as the city council shall direct to be built. (Cleveland Code 16-118)

Property owners must obtain permission from the city before constructing or repairing any sidewalk. (Cleveland Code 16-121)

If any sidewalk is blocked by any excavation in any street, alley, sidewalk or public place, a temporary sidewalk shall be constructed and provided which shall be safe for travel and convenient for users, as required in the Uniform Manual for Traffic Control Devices. (Cleveland Code 16-205)

Cleveland Subdivision Regulations

For the safety of pedestrians and of children at play or on approaches to community facilities, the installation of sidewalks shall be required on at least one side of the road to provide a safe route for pedestrians. Where deemed necessary for pedestrian safety, sidewalks may be required on both sides of the road. In single-family residential areas, concrete sidewalks shall be four (4) feet wide and four (4) inches thick; in multi-family housing or nonresidential areas sidewalks shall be five (5) feet wide and four (4) inches thick. If a planned unit development

(PUD) provides for open areas and greenways for common or public use recreational facilities, walkways, and sidewalks, the planning commission may waive the sidewalk requirement. (Section 6.10 A)

Roadway Right-of-Way Requirements – the following right-of-way requirements by street classification are specified in Section 3.43 of the City of Cleveland Subdivision Regulations.

Street Classification	Daily Traffic (Veh. Per Day)	Right-of-Way Width (ft)
Major Arterial	5,000 or more	120'
Minor Arterial	2,000 - 5,000	80'
Major Collector	1,000 - 2,000	70'
Minor Collector	500 - 1,000	60'
Local Roads	250 - 500	50'
Cul-de-sac or Loop	1-250	40'
Alley	less than 250	30' (Commercial)
		20' (Residential)

Cleveland Zoning Ordinance

Proposed developments that require improvements or construction of collector or arterial roadways shall provide provisions for sidewalks within the right-of-way on both sides of the street. Residential projects within 2,000 feet of an activity center comprised of commercial, office, service, recreation activities, or public primary and secondary schools shall provide sidewalks on both sides of the street. Cul-de-sacs with less than 250 ADT (annual daily traffic) or less than 1,000 feet are not required to provide sidewalks. All other residential streets shall have a sidewalk on at least one side of the street. (Section 3.4.1)

Pedestrian-ways or crosswalks, at least 10 feet wide, may be required in the center of the block more than 800 feet long where it provides circulation or access to schools, playgrounds, shopping center, transportation, and other community facilities. (Section 3.4.1)

Sidewalks shall have written approval from the city public works before they are constructed. Adjacent commercial or office properties that are major traffic generators shall provide pedestrian access that allows circulation between sites. (Section 3.4.1)

Adjacent commercial or office properties which are major traffic generators (such as shopping centers and office parks) shall provide a cross access drive and pedestrian access to allow circulation between sites. (Section 3.4.1)

Planned Unit Development (PUD) concept plans must show all internal traffic circulation, including pedestrian, and connections to the existing street and sidewalk systems. (Section 4.1.2.A)

Site Plan requirements apply to all new developments and redevelopments of commercial, industrial, public and institutional and multi-family residential uses with a building area of five thousand (5,000) square feet or larger for all buildings contained within the site or for any use containing a drive-through service window or lane. Site plan minimum requirements include existing and proposed conditions which includes vehicular and pedestrian access and circulation (e.g. ingress, egress, frontage roads, parallel access streets, joint driveways, modifications or improvements to adjacent streets and traffic control devices). (Section 6.2.3)

Bradley County Subdivision Regulations

For the safety of pedestrians and of children at play or on approaches to community facilities, installation of sidewalks on at least one side of the road shall be encouraged by the developer to provide a safe route to a nearby school or recreation facility. When sidewalks are provided, the following specifications shall be met: in single-family residential areas, concrete sidewalks shall be four (4) feet wide and four (4) inches thick; in multi-family or group housing, development sidewalks shall be five (5) feet wide and four (4) inches thick. (Section 6.12)

Roadway Right-of-Way Requirements – the following right-of-way requirements by road type are specified in Section 4.09 of the Bradley County Subdivision Regulations.

Road Type	Daily Traffic (Veh. Per Day)	Right-of- Way Width (ft)	Pavement (ft)
Major Arterial	5,000 or more	120'	2-24' (2 Lane divided hwy) 60' (5 lane)
Minor Arterial	2,000 - 5,000	80'	48' – 60'
Major Collector	1,000 - 2,000	70'	38' (3 lane)
Minor Collector	250 - 1,000	50'	24'
Local Roads	250 (-)	50'	22'
Loop or Crescent Roads (Cul-de-Sacs less than 1,000 ft in length)	250 (-)	40'	20'
Loop or Crescent Roads (Cul-de-Sacs greater than 1,000 ft in length)	250 (-)	50'	22'

State of Tennessee Codes Annotated

Designation of Bicycle Routes - at the State level, the commissioner (TDOT) may designate and appropriately mark

on appropriate state highways, or portions thereof, routes for the use of bicycles. At the City level, the responsible authority in each municipality may designate and appropriately mark on appropriate municipal streets, or portions thereof, routes for the use of bicycles. At the County level, the county legislative body of each county may designate and appropriately mark on appropriate county roads, or portions thereof, routes for the use of bicycles. (TCA 54-5-142, 54-5-211, and 54-10-111)

At intersections where traffic signals are located, pedestrians shall comply with the directions of the signal indications. A green or “go” signal means that the pedestrian can cross the roadway within the marked or unmarked crosswalk. The yellow or “caution” signal indication means the pedestrian does not have enough time to cross the roadway and that the vehicles have the right-of-way at this point. The red or “stop” indication means the pedestrian cannot cross the roadway at this time unless the pedestrian can cross safely and without interfering with vehicular traffic. (TCA 55-8-110 and 55-8-133)

Where pedestrian signals are installed containing the words “walk”, “wait”, or “don’t walk”, the “walk phase of the signal means the pedestrian may proceed across the roadway and shall be given the right-of-way by the driver. The “wait” and “don’t walk” phases mean that pedestrians shall not begin to cross the street, but any pedestrian that has already left the curb can finish crossing to the sidewalk or safety island while the “wait” signal is showing. (TCA 55-8-111)

Pedestrians not crossing in a marked or unmarked crosswalk at an intersection

must yield the right-of-way to the vehicles. If a pedestrian is crossing the roadway where a tunnel or overhead pedestrian crossing is provided, the pedestrian shall yield the right-of-way to the vehicles. Pedestrians shall not cross the roadway between two signalized intersections except in a marked crosswalk. (TCA 55-8-135 a-c)

Vehicular drivers shall exercise extreme care to avoid hitting any pedestrians and shall give warning by using their horn. (TCA 55-8-136)

Pedestrians should use the right half of the crosswalk when possible. (TCA 55-8-137)

If sidewalks are present, it is unlawful to walk on the roadway. When sidewalks are not present, pedestrians cannot stand in a roadway to guard a parked vehicle. (TCA 55-8-138)

Bicyclists riding on a roadway shall follow the same rules and laws as those established for vehicles. (TCA 55-8-172)

Bicyclists must ride upon a permanent seat and only the number of people that the bicycle is designed to carry shall ride the bicycle. (TCA 55-8-173)

It is unlawful for someone to attach to a vehicle if the person is riding on a bicycle, roller skates, sled, or toy vehicle. However, a bicycle trailer can be attached to a vehicle if it is designed for that purpose. (TCA 55-8-174)

Bicyclists riding less than the speed limit shall ride as close as possible to the right-hand curb or edge of the roadway. Exceptions to this rule occur when the bicyclist is passing another vehicle, making a left turn, or when it is

necessary to avoid a collision. (TCA 55-8-175 a)

Bicyclists shall not ride more than two abreast on a roadway. While riding two abreast the cyclist shall not impede the flow of traffic and shall ride within one lane on a marked roadway. (TCA 55-8-175 b)

When a vehicle is passing a bicyclist they must maintain a safe distance of at least three feet between the vehicle and bicycle and this shall be maintained until the vehicle is safely past the overtaken bicyclists. (TCA 55-8-175 c)

Bicyclists shall not carry any package, bundle, or article that prevents them from keeping one hand on the handlebars. (TCA 55-8-176)

Bicycles when used at night must be equipped with a lamp on the front which emits a white light visible from a distance of at least five hundred feet to the front. The bicycle must also have a red reflector on the rear that has been approved by the department of safety which is visible from 50 feet to 300 feet to the rear when in front of a vehicle with standard headlights. A lamp emitting a red light from a distance of 500 hundred feet to the rear can be used in addition to the red reflector. All bicycles shall be equipped with brakes which allow the driver to stop the bicycle within 25 feet from a speed of 10 mph on dry, level, clean pavement. (TCA 55-8-177 a-b)

When a pedestrian is carrying a raised or extended cane or similar stick that is white or white with a red tip or if the pedestrian has a guide dog or dog with a blaze orange leash and begins to cross a public street, motor vehicle drivers shall come to a complete stop

and shall take precautions to avoid injuring the pedestrian. (TCA 55-8-180)

Anyone riding on a bicycle as a passenger or driver that is under 16 years of age must wear a protective helmet that fits and is fastened securely on their head with the helmet straps. For bicycle passengers less than 40 pounds or less than 40 inches, they must be properly seated and secured to a restraining seat. The parent or legal guardian shall not allow their child under 12 years of age to ride a bicycle without a helmet securely fastened. A bicycle cannot be rented by someone under 16 years of age unless they have a protective helmet at the time of the rental or the person rents a helmet that fits and they intend to wear the helmet while they are operating the bicycle. (TCA 55-52-104 1-4)

An electric personal assistive mobility device (or EPAMD) is a two non-tandem wheeled device that transports one person with an electric propulsion system. EPAMD's may be used on public highways, sidewalks, bike trails, and bicycle routes in this state and persons driving them shall obey all speed limits for motor vehicles and yield the right-of-way to pedestrians and human powered devices. (TCA 55-53-101,103,104 a-b)

5.0 PUBLIC INPUT

5.1 Community Concerns & Priorities

An important part of a bicycle and pedestrian plan is to recommend facilities where the community sees a need. A public meeting was held for the Cleveland MPO in late January 2008 to obtain public comments and determine where they want to see bikeways and sidewalks constructed. The information received was compiled onto a map which is shown in Figure 3. This map shows where the community would like to see walkway and bikeways in the future.

The public showed a desire to extend the current greenway system as well as add some on-road bicycle facilities. The desire of the community is to provide a network of greenways and on-road facilities that make logical connections between subdivisions and schools, retail areas, parks, and other points of interest.

The community expressed other ideas to improve the sidewalks and bikeways. These ideas include improving the pedestrian crossings at signalized intersections, requiring subdivisions to construct sidewalks, and connecting the subdivisions with sidewalks. A detailed list of the public comments is included in Appendix B.

The PowerPoint presentation that was used at the January meeting was translated into Spanish and volunteers from the community made presentations throughout Cleveland to those with limited English proficiency. This effort yielded greater

understanding about the MPO's planning effort by those in the community who traditionally are not part of the planning process.

In addition to this outreach, a survey was also conducted in 2006 by the City of Cleveland as part of the City's safe routes to school program initiative. There were 1,814 surveys sent to parents with children in Arnold, Blythe-Bower, Mayfield, Ross, and Stuart Elementary Schools. There were 471 surveys returned which is a 26 percent participation rate. In one open-end question, parents were asked to identify specific roadways which present a safety hazard in terms of impeding their child's ability to safely walk to school. Figure 4 depicts roads which were listed more than four times as being a traffic safety concern for children to walk to school. The results of the survey showed that Georgetown Road, 20th Street, Paul Huff Parkway, Mouse Creek Road, and 25th Street present the largest barriers to walking to school.

Sixty-five percent of parents had concerns about traffic safety along the routes to school while 33 percent did not.

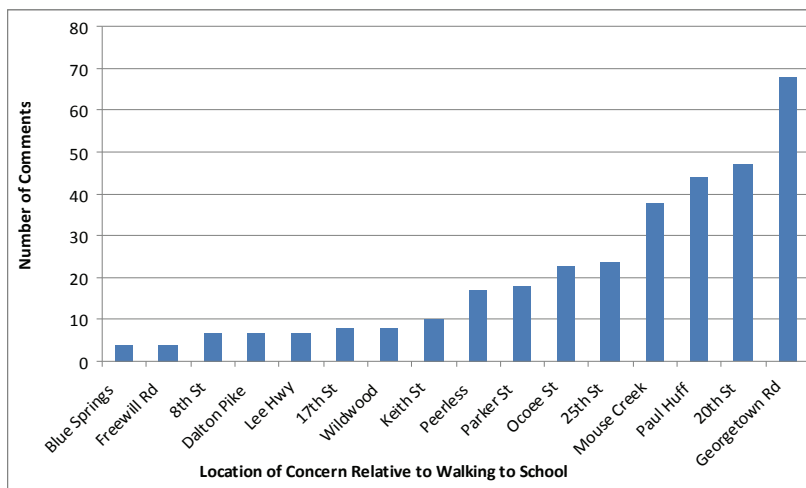


Figure 4. Cleveland Safe Routes to School Survey Results 2006

The parents were also asked if they would allow their children to walk to school if certain circumstances were met. The circumstances included walking or biking with other children, providing the children with a route map, providing safety training for students, slowing down traffic, providing paths that are separated from vehicular traffic, an adult accompanying the child, providing crossing guards and making them effective, improving the sidewalks and bike paths, providing secure bike storage, and other reasons. Twenty-six percent of the parents responded that they would allow their children to walk to school if there were adequate sidewalks and bikeways.



Residents of Cleveland Determined Where They Would Like to See Bicycle and Pedestrian Facilities

The results of the public input and survey findings were utilized as part of the plan development process to assist in the identification and selection of recommended pedestrian and bikeway improvements. The results and findings were also used to refine the goals, objectives, and policies of this document.

A second and final public meeting was held on August 28, 2008 in which recommendations of the draft plan were presented. Many citizens in attendance spoke in support of the proposed plan.



Residents of Cleveland Review Recommendations of the Proposed Bicycle and Pedestrian Plan Presented at August 28, 2008 Public Meeting

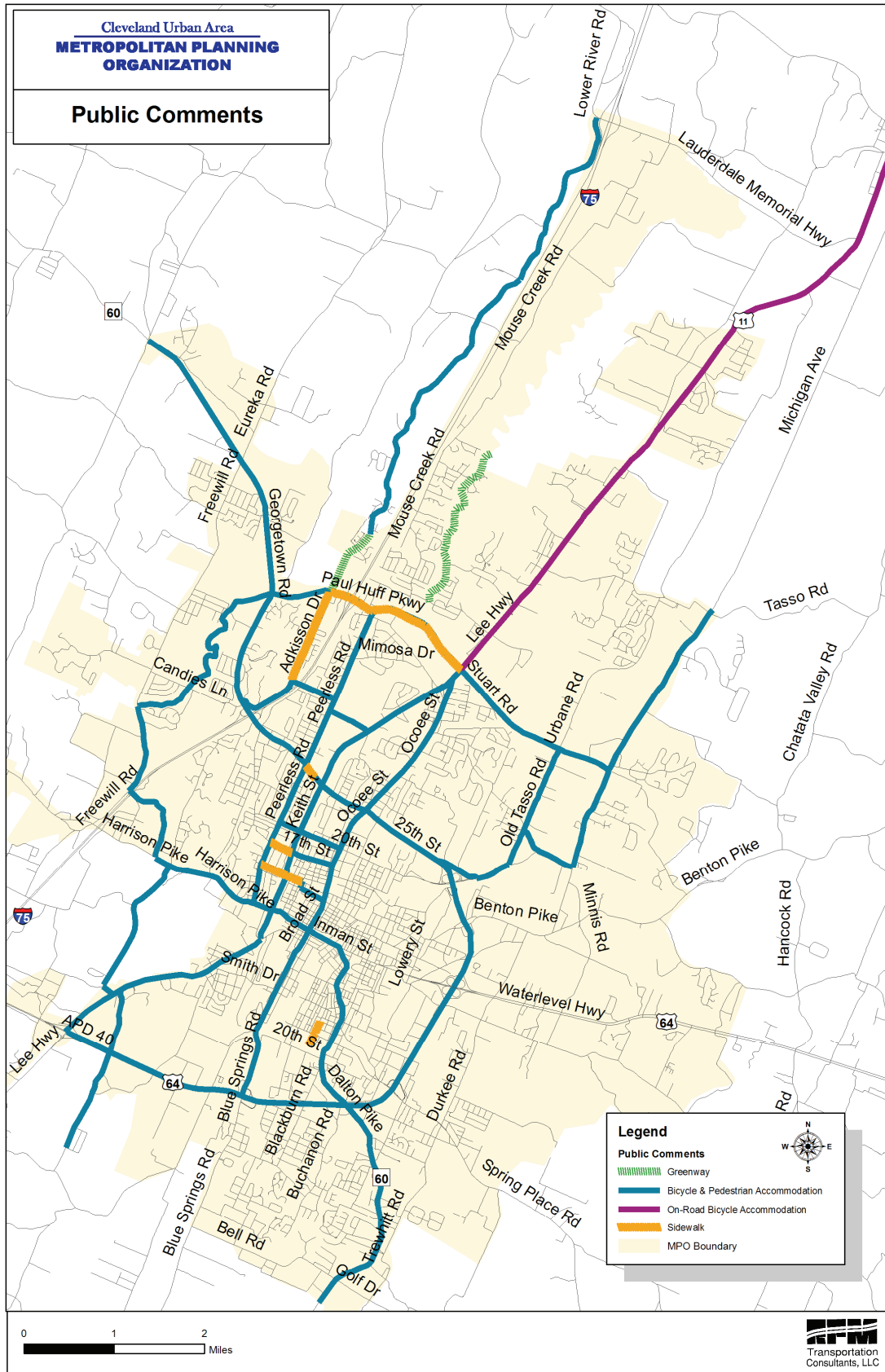


Figure 3. Public Comments Map

6.0 PEDESTRIAN NETWORK PLAN

6.1 Pedestrian Network Methodology

As part of the Bicycle and Pedestrian Plan, pedestrian projects were evaluated to determine a priority for sidewalks and other pedestrian improvements. The priority of sidewalk improvements was based on a tool known as the Sidewalk Priority Index (SPI) that was developed by RPM Transportation Consultants, LLC.



Sidewalks Located in Downtown Cleveland

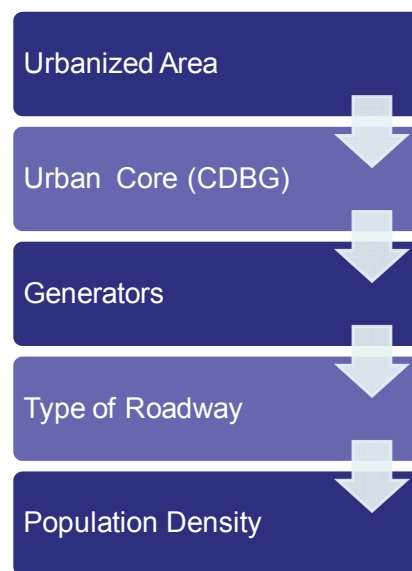
The methodology of the SPI is based on a quantitative overlay system that is often used in regional environmental modeling. By overlapping a series of maps, each representing one of several characteristics, one can easily visualize the concentration of resources in a particular area. If each characteristic is assigned a number value based on its importance or potential for a given condition, then the cumulative intensity of all characteristics at a specific location can be determined.

The characteristics used in the SPI were identified based on the public input. These characteristics were then assigned weighted values based on the potential to generate pedestrian traffic.

The cumulative value of the characteristics is the assigned SPI value for that location.

Appendix C contains the detailed maps for each of the characteristics and it contains the calculation sheet for the SPI.

For the Cleveland model two additional characteristics were added to the SPI, residential density and the Cleveland Community Development Block Grant (CDBG) area. The combination of these two characteristics allowed for greater consideration of existing residential development patterns as well as locations within the MPO area which have already been targeted for needed community gentrification.



General Structure of the SPI Analysis Model

Also, an analysis was conducted of the signalized intersections in the MPO area to determine a priority for providing pedestrian facilities. The analysis determined a Safety Index Value for requiring a marked crosswalk on each leg of an intersection. The value was based on the type of traffic control, the number of through lanes, the speed, the traffic volume, and if the intersection is

in a commercial area. This value was used to prioritize the intersections that need pedestrian crossing facilities due to safety reasons.

6.2 Pedestrian Facility Recommendations

The cumulative SPI value that was determined from overlaying all the characteristics is shown in Figure 5. The streets included in the areas with the highest SPI value are the areas where the presence of sidewalks will provide the greatest public benefit and therefore, should be given the highest priority. To determine the priority of the areas with equal SPI values, the amount of connectivity the sidewalk will provide, the location of the sidewalk to pedestrian destinations, and engineering judgment should be used. Pedestrian facilities should be included in all new roadway projects, new developments, or if special funding becomes available.



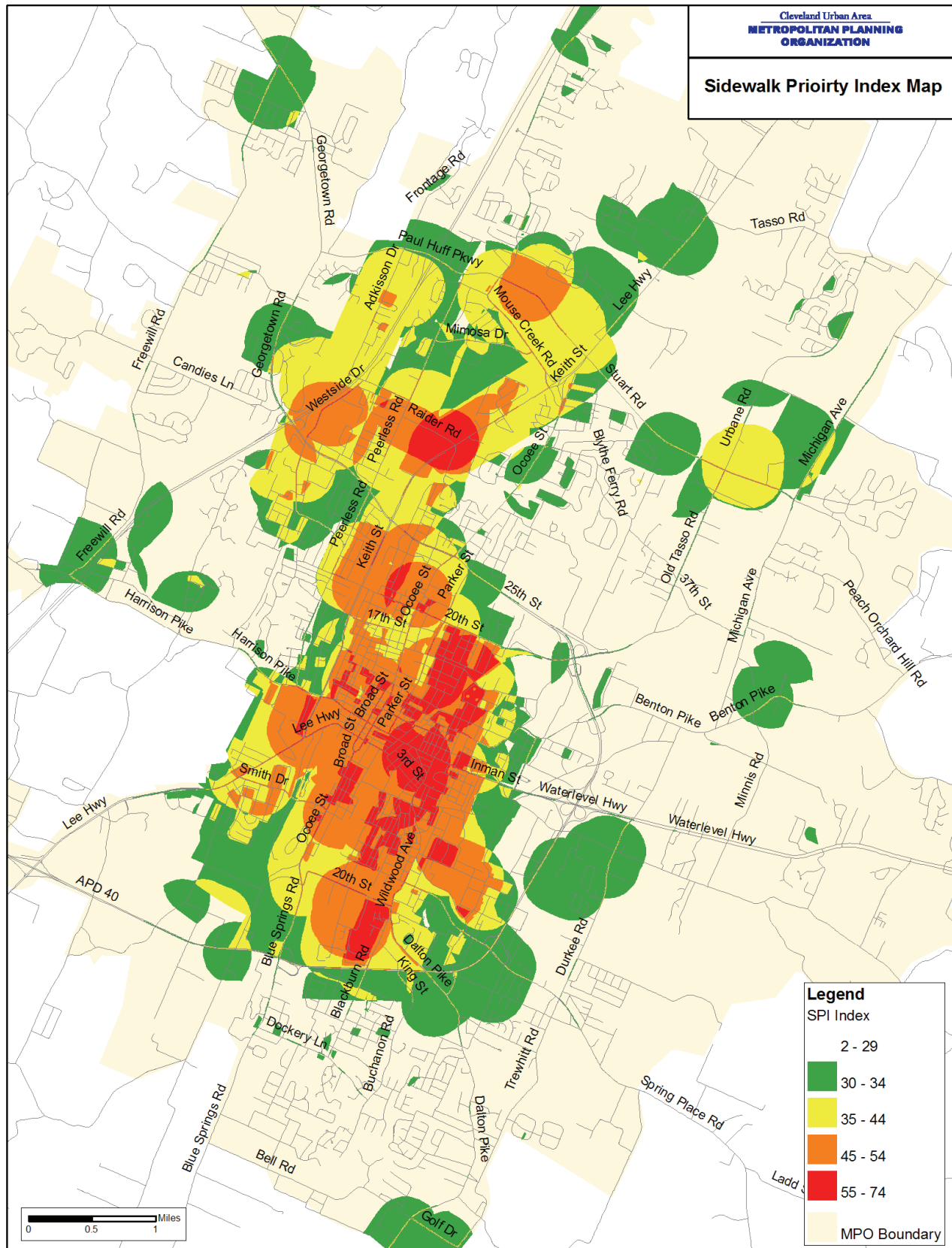
Sidewalks Provide an Important
Linkage to Transit Services

pedestrian projects. The value ranges were from 2-29, 30-34, 35-44, 45-54, and 55-74. The areas with the highest SPI value are the ones that should be given the highest priority. As shown in Figure 6, the highest SPI values are in the downtown Cleveland area which is where the greatest pedestrian traffic occurs.

Also shown on Figure 6, are the intersections that require improvements to increase safety for crossing the street. The highest priority crossings will be located along the streets that have the highest SPI value. It is also important that the pedestrian facilities at all intersections be improved and/or constructed according to ADA requirements as the sidewalks are modified and constructed.

6.3 Pedestrian Network Phasing Plan

All of the recommended sidewalk locations are shown in Figure 6. The locations were determined by the SPI values. The SPI values were broken into five categories to prioritize the



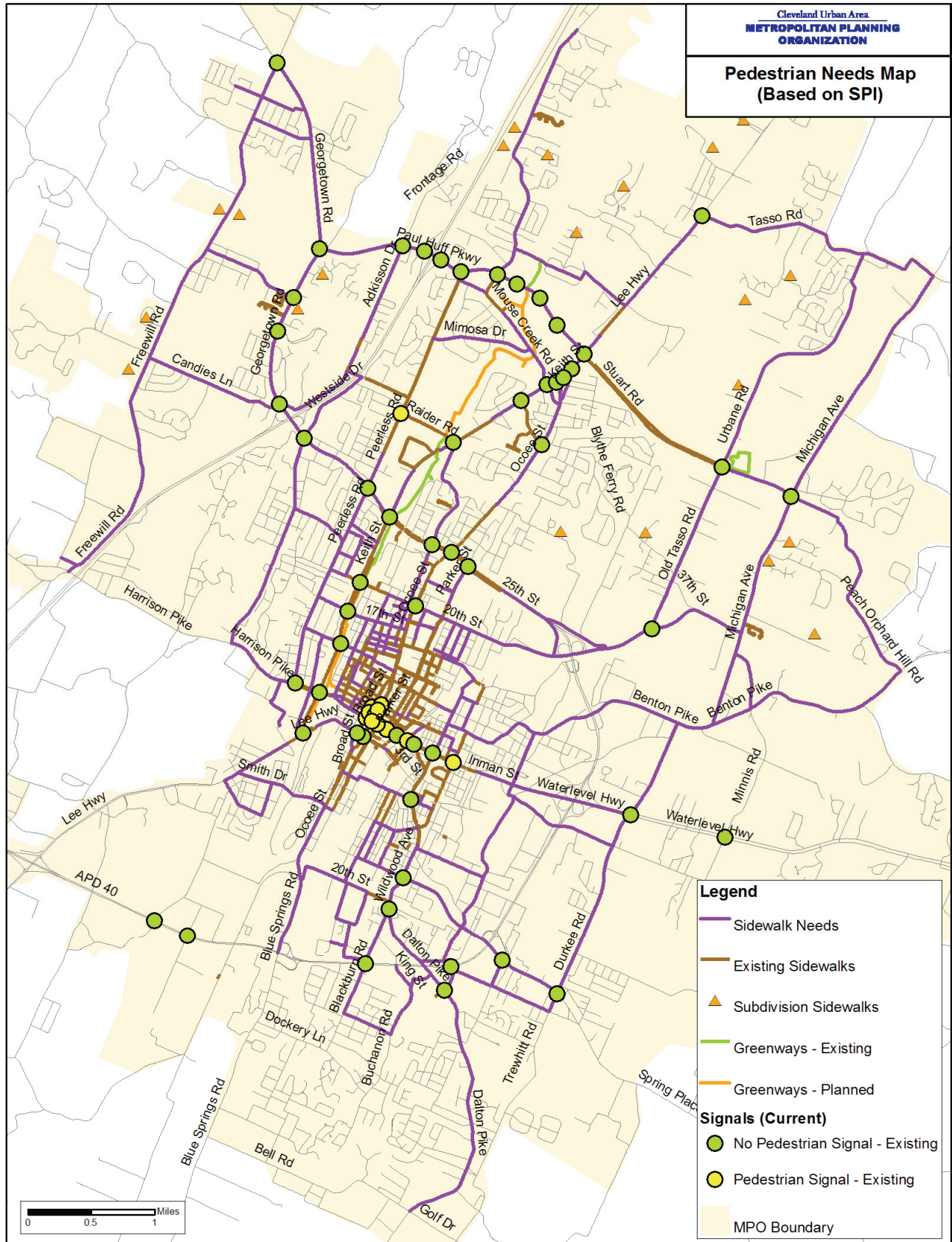


Figure 6. Pedestrian Facilities Map

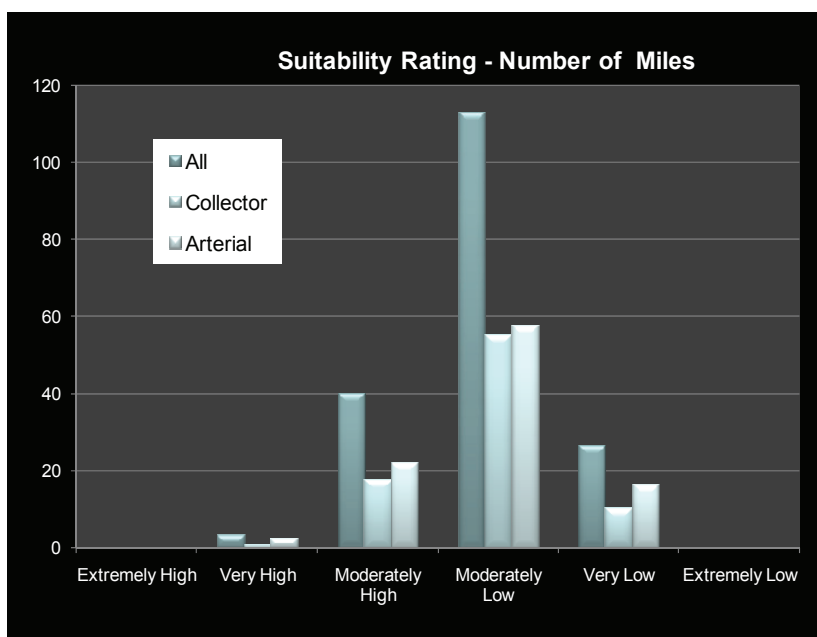
7.0 BICYCLE NETWORK PLAN

7.1 Bicycle Network Methodology

In determining the best locations for bicycle facilities a methodology known as the Bicycle Compatibility Index (BCI) was used. The BCI takes the existing conditions such as the roadway geometry, the presence of on-street parking, the type of roadside development, the ADT of the roadway, the speed limit, and the number of trucks that use the roadway and determines how friendly the roadway segment currently is to bicycle travel. The BCI results in six levels of compatibility which range from extremely high to extremely low. The results of the BCI analysis are shown in Figure 7 and the following chart. As the results show there are not any roads that are classified as having extremely high or extremely low compatibility in the Cleveland MPO area. The BCI analysis was used along with roadway characteristics to develop bicycle recommendations.

An evaluation of bicycle travel priority areas was undertaken using a similar approach to that of the SPI which was used to establish sidewalk priorities. Built off the SPI approach, a Bicycle Priority Index (BPI) model was created to assist in prioritizing bicycle improvements within the MPO. As with the SPI, the BPI is based on a quantitative overlay system. By overlapping a series of maps, each representing one of several characteristics, one can easily visualize the concentration of resources in a particular area. For the BPI greater

emphasis was attributed to trip generators such as parks, schools, college and university, and other generators like the library and mall. The cumulative BPI value that was determined from overlaying all the characteristics is shown in Figure 8. Appendix D contains the detailed maps for each of the characteristics and it contains the calculation sheet for the BPI.



7.2 Bicycle Facility Recommendations

The bicycle network was developed to complement the roadway network and current greenway network in the MPO area so that the shorter vehicular trips can be replaced with bicycling trips. The recommended bikeways were selected based on locations that possess some of the following characteristics:

- High existing bicycle traffic demand

- Provides direct connectivity between trip origins and major destinations
- Identified by the public as a desirable route
- Located near major destinations that generate bicycle activity, such as campuses, greenway trailheads, and employment centers
- BCI suitability

7.3 Vision Bicycle Network

Figure 9 shows the proposed bikeways for the Cleveland MPO area. The purpose of the Vision Plan is to ensure that bicycle facilities are incorporated into the design of future roadway projects. The network is not intended to be constructed all at once but as funding becomes available through special funding, roadway projects, and new development. There are approximately 13 miles of bike lanes and 217 miles of bike routes shown on the Vision map.



Example Bike Route Signing



Example Bike Lanes

7.4 Bicycle Network Phasing Plan

In order to prioritize projects a phasing plan was developed to show the location of the initial bicycle facilities for the MPO area. These bicycle facilities are shown on the Phasing Plan Bicycle Facility Map, presented in Figure 10. These would be the projects that the MPO should attempt to complete in the near future. These routes were chosen because they connect Lee University with Cleveland State College and provide connectivity through the southern part of the City of Cleveland where the majority of the bicycle trips occur. Also, these routes will improve the safety for bicyclists.

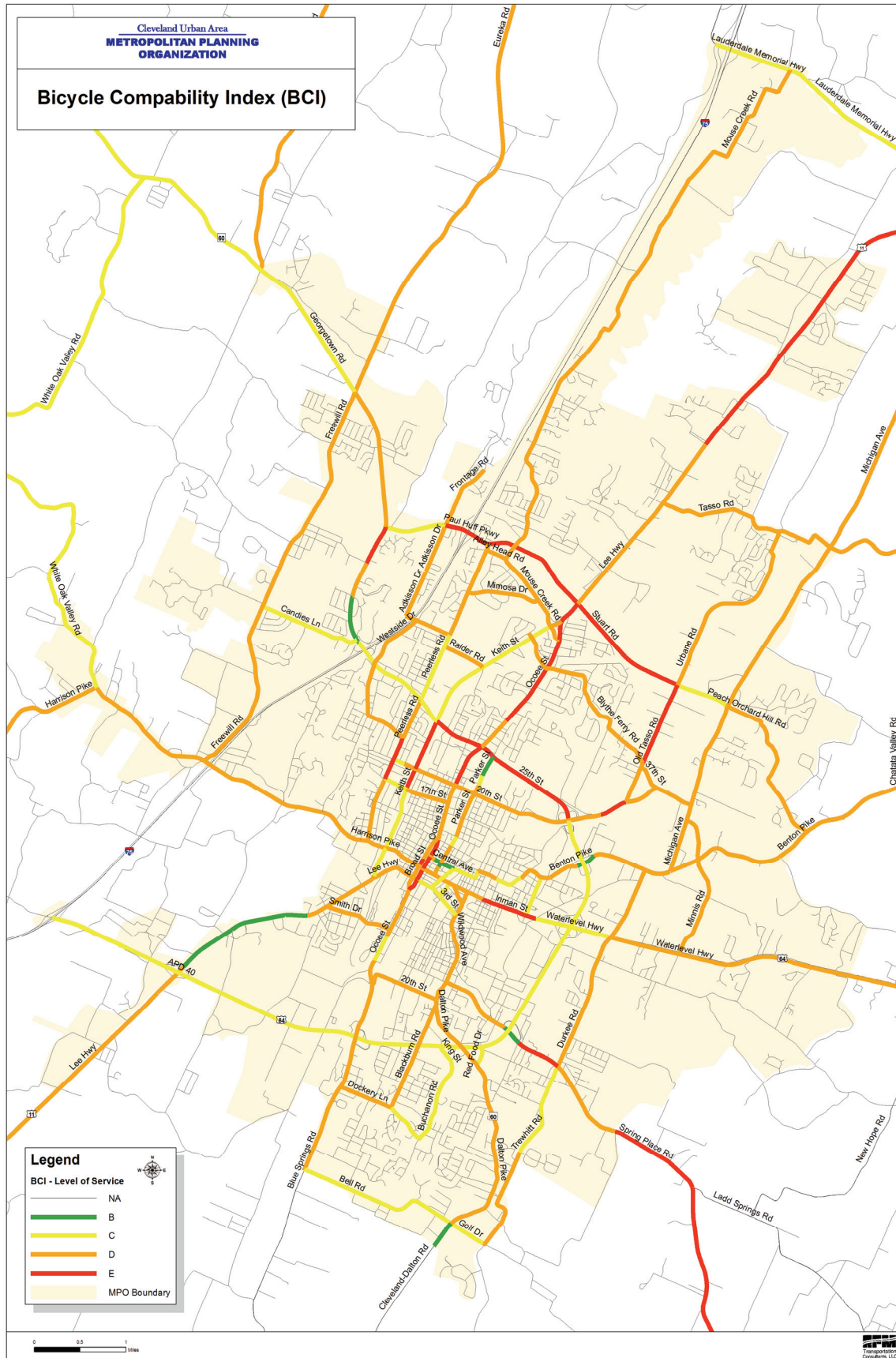


Figure 7. Bicycle Compatibility Index (BCI) Map

Cleveland Urban Area
METROPOLITAN PLANNING ORGANIZATION

Bicycle Priority Index Map

Legend
 BPI Index
 2 - 29
 30 - 34
 35 - 44
 45 - 54
 55 - 74
 MPO Boundary

White Oak Valley Rd
 No Pine Rd
 Eureka Rd
 Georgetown Rd
 Freewill Rd
 Paul Huff Pkwy
 Mouse Creek Rd
 Mouse Creek Rd
 Lower River Rd
 Lauderdale Memorial Hwy
 Michigan Ave
 Tasso Rd
 Chatata Valley Rd
 Benton Pike
 Hancock Rd
 Waterlevel Hwy
 New H
 Ladd Springs Rd
 Spring Place Rd
 Durkee Rd
 Minnis Rd
 Benton Pike
 Old Tasso Rd
 Urbane Rd
 Stuart Rd
 Lee Hwy
 Peerless Rd
 Westside Dr
 Candies Ln
 Harrison Pike
 APD 40
 Lee Hwy
 Blue Springs Rd
 Bell Rd
 Buchanan Rd
 Blackburn Rd
 Wildwood Ave
 Inman St
 Lottin St
 Dayton Pike
 Golf Dr

0 0.5 1 Miles

Figure 8. Bicycle Priority Index (BPI) Map

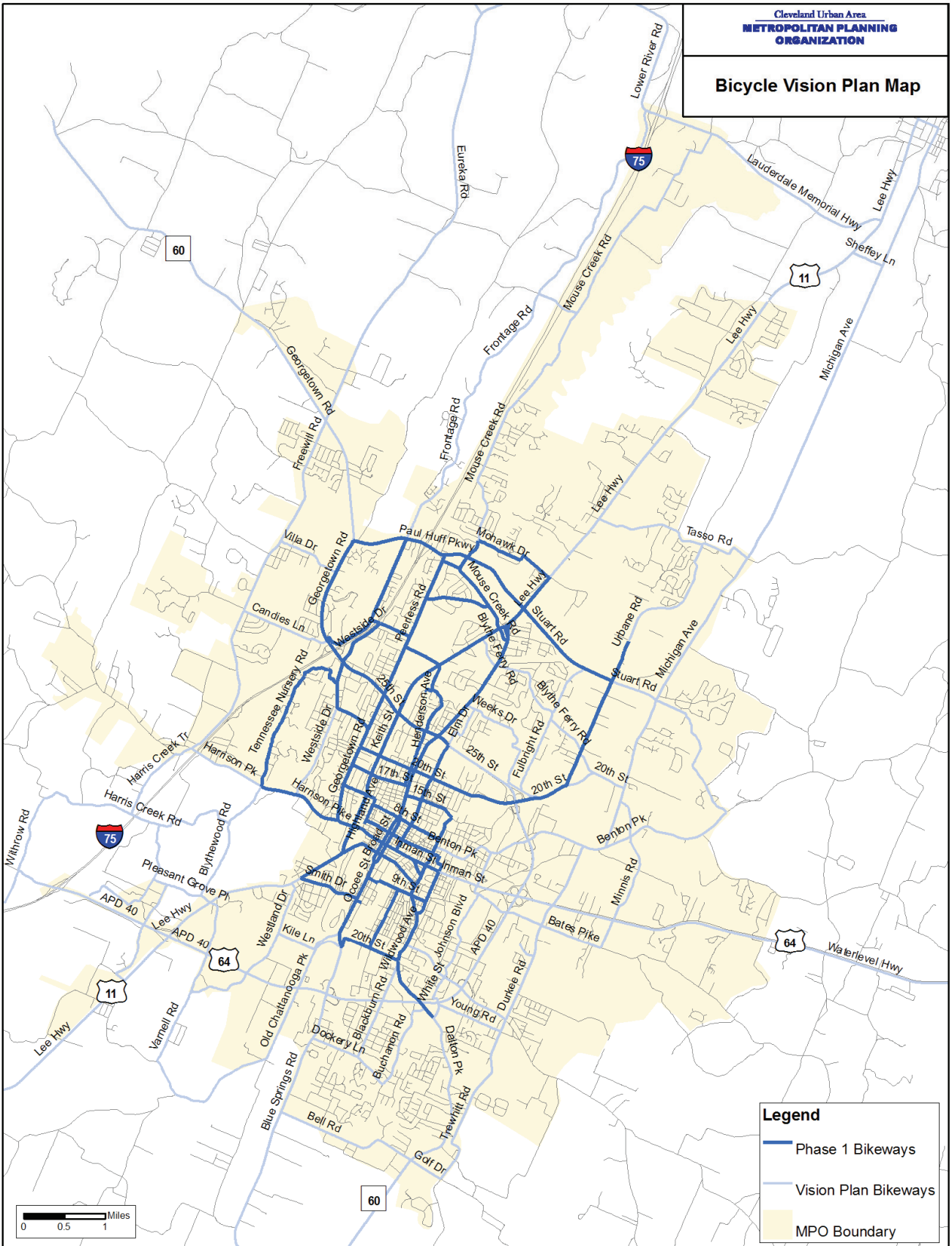
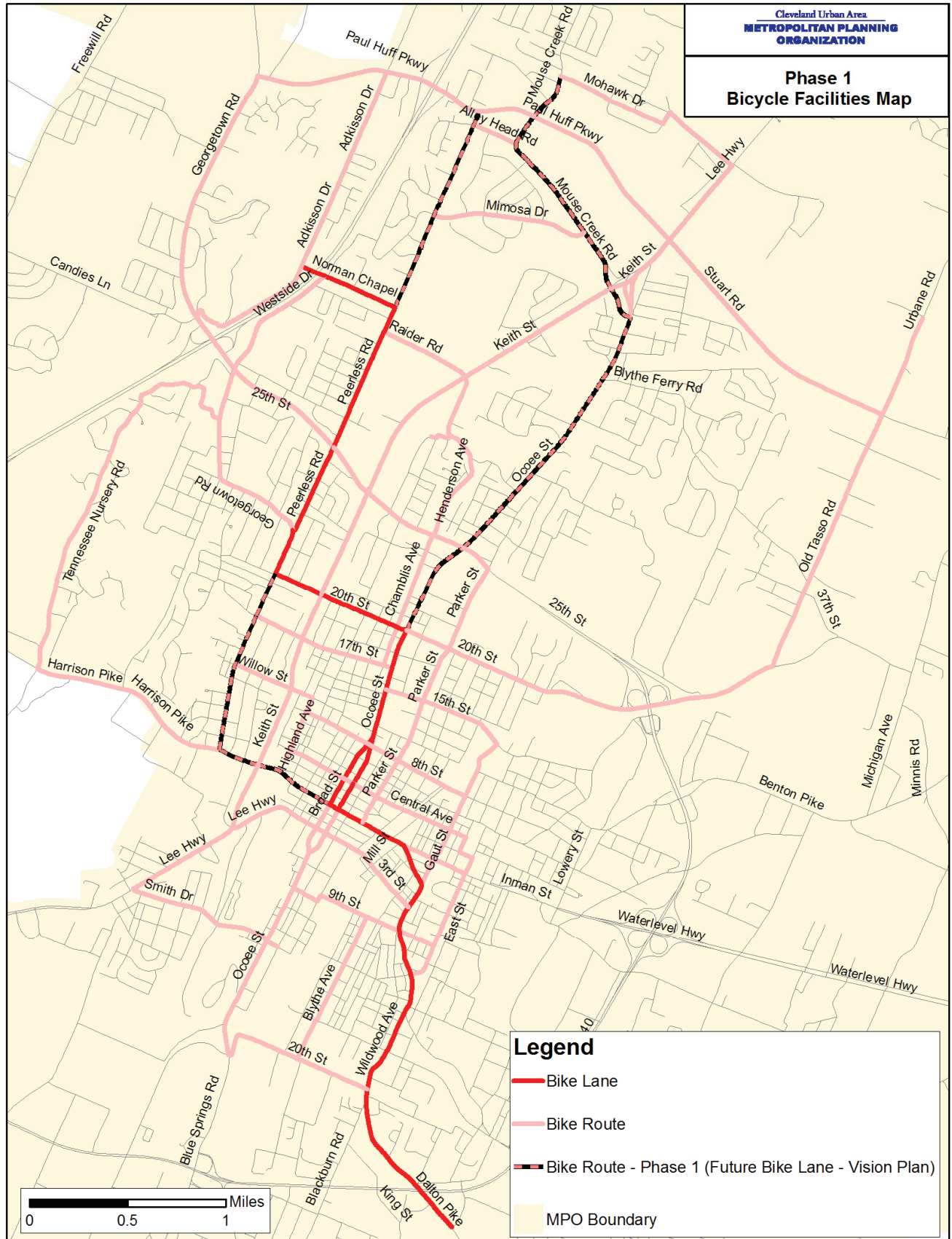


Figure 9. Bicycle Vision Map



8.0 GREENWAYS NETWORK PLAN

8.1 Greenway Network Methodology

As part of the Cleveland MPO Bicycle and Pedestrian Plan, greenway projects were identified from the planning efforts of the Cleveland/Bradley County Greenway Board. Planned greenways were compared to planned bikeway and sidewalk improvements of this plan. Through the evaluation process of bicycle and pedestrian network needs, greenway concepts were identified expanding upon the recommendations of the Cleveland/Bradley County Greenway Board.

To determine the best locations for the greenways, the existing location of the greenway network and the location of popular destinations were evaluated. Also, the locations of waterways and utility easements were considered. Using all this information along with the public input the proposed greenway system was developed.



Existing Greenway in Cleveland

the system is located along the golf cart path in the old Fletcher Golf course.

The greenway network was developed to complement the roadway network and current greenway system in the MPO area so that the shorter vehicular trips can be replaced with bicycling trips.

Figure 11 depicts the location of the existing and planned greenway network along with concepts for further expansion of the planned greenway network.

8.2 Greenway Facility Recommendations

There are approximately 16 miles of proposed greenways. The majority of this greenway system runs along Mouse Creek and utility easements. Some of

9.0 POLICY AND PROGRAM RECOMMENDATIONS

The following section describes policy and program recommendations necessary for furthering the advancement of non-motorized accommodations. The recommendations are based on a review of existing codes and ordinances and successful practices which have been employed throughout many communities in the southeast and United States.

9.1 Regional Accommodation Policies

At the regional level, the MPO should consider adopting the following policies as a means of furthering its efforts to promote and encourage accommodations for non-motorized users through its planning and programming processes:

- *Complete Streets Policy* - Many states, cities, and MPOs across the country are adopting complete streets policies. The purpose of a complete street policy is to ensure that pedestrians, bicyclists, transit riders, and motorists are accommodated by the new transportation facilities. Not only should all these modes of transportation be accommodated but also all levels and types of users. Adopting a complete streets policy ensures that the entire right-of way is designed to include accommodations for all modes of transportation and all levels of users.

There are specific items that a good complete streets policy should include. A complete streets policy should:

- Specify that “all users” includes pedestrians, bicyclists, transit vehicles and riders, and motorists, of all ages and abilities.
- Create a comprehensive, integrated, connected network.
- Recognize that all streets are different and user needs should be balanced.
- Be adoptable by all agencies and should cover all roads.
- Apply to new and retrofit projects, from design, to planning, to maintenance, and operation.
- Be specific regarding any exceptions and set a procedure that requires approval of exceptions.
- Ensure the use of the latest and best design standards.
- Ensure that complete streets solutions fit in with the characteristics of the community.
- Establish measurable performance standards.

Several states, cities, and MPOs across the country already have a complete streets policy in place. Some of these places include Florida, Oregon, South Carolina, Missouri, Ohio, Illinois, San Francisco, Boulder, Charlotte, and Decatur, Georgia. All of these places have successfully implemented a complete street policy that the Cleveland MPO area could use as an example to establish their policy.

- *Routine Accommodations Policy* - Policies supporting the routine accommodation of non-motorized transportation users are found at all levels of government. At the federal level, the Americans with Disabilities Act (ADA), enacted in 1990, provides rights and protections to people with disabilities. It states that:

No qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such entity.

As a result, new construction projects which include pedestrian facilities such as sidewalks are obligated to design and construct facilities so persons with disabilities can successfully use them without restrictions.

The 1998 Transportation Equity Act of the 21st Century (TEA-21) first emphasized accommodations of non-motorized transportation users and in 2005 the accommodation provision was reaffirmed with the passage of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The legislation states that:

Bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities, except where bicycle and pedestrian use are not permitted. (Section 1202)

The first mention in a U.S. federal government policy that explicitly stated the importance of providing for non-motorized transportation facilities in transportation projects was 1998. This federal legislative reference pressed other public agencies to follow suit, especially after the U.S. Department of

Transportation's Federal Highway Administration (FHWA) issued and recommended states follow design guidance based on the language presented in TEA-21. The 2000 U.S. Department of Transportation Policy Statement, *Accommodating Bicycle and Pedestrian Travel: A Recommended Approach* is the design guidance for including bicycle and pedestrian facilities in transportation projects. It states:

Bicycle and pedestrian ways shall be established in all urbanized areas unless one or more of three conditions are met:

- *bicyclists and pedestrians are prohibited by law from using the roadway. In this instance, a greater effort may be necessary to accommodate bicyclists and pedestrians elsewhere within the right of way or within the same transportation corridor.*
- *the cost of establishing bikeways or walkways would be excessively disproportionate to the need or probable use. Excessively disproportionate is defined as exceeding twenty percent of the cost of the larger transportation project.*
- *where scarcity of population or other factors indicate an absence of need.*

As previously mentioned TDOT has a routine accommodation policy which was modeled after U.S. DOT's policy. The Cleveland MPO should consider adopting a routine accommodation policy for all projects seeking MPO approval. By doing so, the MPO can ensure greater consideration of bicycle and pedestrian accommodations through the

development of all of the region's transportation projects early on in the project planning and development process.

9.2 Zoning & Subdivision Regulations

At the local level to allow for greater promotion, consideration, and incorporation of pedestrian and bicyclist needs, the City and County should consider amending their zoning and subdivision regulations to consider the following changes:

- Interconnection and Connectivity Requirements - Incorporate interconnection and connectivity requirements whereby whenever a cul-de-sac street is created, at least one eight-foot-wide pedestrian access/public utility easement is provided, to the maximum extent practicable, between each cul-de-sac head or street turnaround and the sidewalk system of the closest adjacent street or pedestrian sidewalk or pathway. Pedestrian accessways from cul-de-sac heads to the larger pedestrian system help preserve pedestrian connectivity where street connections cannot be made.
- Cross Access Between Adjacent Uses - Encourage cross-access between adjacent commercial properties, nonresidential and mixed-use developments, and parking lots for nonresidential developments that have direct access to a public street.
- Implement Access Management - Managing the number, spacing, access, directional flow, and other aspects of driveway connections protects those traveling along the

corridor from conflicts with those entering or leaving the corridor. Every driveway connection is a potential conflict point among motorists, bicyclists, and pedestrians.

- Roadway Right-of-Way Requirements - Modify Roadway Right-of-Way Requirements to establish the right-of-way width requirement for Minor Collector as 65', Major Collector as 75', Minor Arterial as 84', and Major Arterial as 124' to allow adequate space for sidewalk and bikeway improvements as well as adequate space for a planting stripe between the roadway and sidewalk.
- Bike Parking - Develop bike parking requirements tied to specific uses so that future development has adequate bike parking accommodations.



Acceptable Bicycle Racks for Parking

9.3 Maintenance and Operations

The following practices should be considered by the City, County, and State, as appropriate, to ensure safe, convenient, and reliable accommodations for non-motorized users through maintenance and operations.

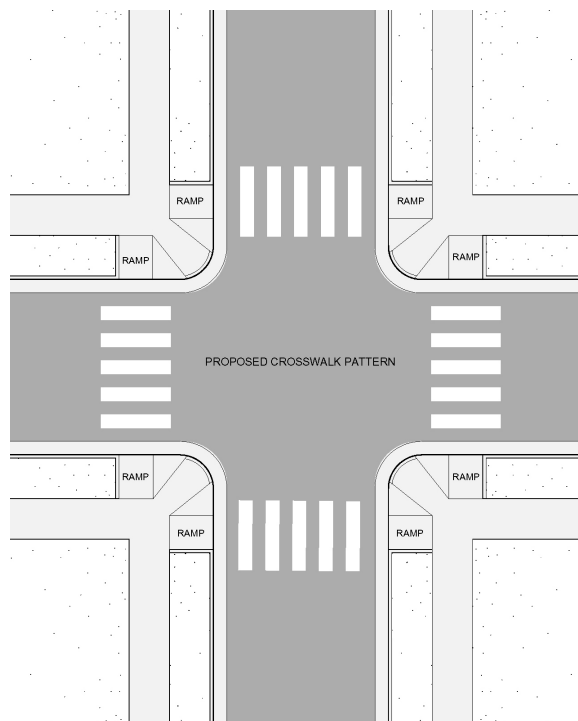
- *Provide Routine Maintenance of Roadways* - Bicycles and bicyclists tend to be particularly sensitive to maintenance problems. Since bicyclists often ride near the right edge of the road, they use areas that are generally less well maintained than the main travel lanes. Regular street sweeping is an effective means of removing various roadway debris (e.g. sand, gravel, glass, etc.).
- *Install/Upgrade Traffic and Pedestrian Signals* - Traffic signals can create gaps in the traffic flow of sufficient size to allow pedestrians to cross the street. Pedestrian signals should ideally be installed at all traffic signals in urban or suburban areas. They are especially important at intersections with (1) multiphase traffic signals, such as left-turn arrows and split phases, (2) school crossings, and (3) double-right or double-left turns. They are also important at high-volume, multi-lane intersections. Marked crosswalks should be used at all signalized intersections and signalized midblock crossings to guide pedestrians to the preferred crossing location. Crosswalks may also discourage motorists from encroaching into the pedestrian crossing area. In order to assist pedestrians with visual impairments and to ensure ADA compliance pedestrian signals should include audible intervals and tactile indications at the ramp edge. A variety of traffic and pedestrian signal enhancements can benefit pedestrians. These include automated pedestrian detectors, larger traffic signals to insure visibility, and countdown signals, as well as signal placement, so that

motorists waiting at a red light cannot see the signals on the cross street and anticipate the green indication. Because many pedestrians will not activate push buttons, automated pedestrian detectors have been installed in some U.S. cities. These use microwave or infrared technology to detect pedestrians and then “call” the WALK signal. Automated detectors can also be used to monitor pedestrians as they cross and extend the clearance interval if needed, up to a preset maximum.



Bicycle Loop Detectors Can be Designed for Traffic Signals

- *Provide Crosswalk Enhancements* - The intent of marked crosswalks is to indicate the optimal or preferred locations for pedestrians to cross. They also help designate right-of-way and may encourage motorists to yield to pedestrians. Marked crosswalks are commonly installed at signalized intersections, as well as other high-volume pedestrian-crossing locations, such as school zones.



Properly Marked Crosswalks Provide Safe Crossings For Pedestrians

- **Construct Pedestrian Refuge Islands and Raised Medians** - Raised pedestrian refuge islands, or medians at crossing locations along roadways, provide another strategy to reduce exposure between pedestrians and motor vehicles. Refuge islands and medians that are raised (i.e., not just painted) provide pedestrians more secure places of refuge during the street crossing.
- **Implement Lighting/Crosswalk Illumination Measures** - Good placement of lighting and adequate lighting levels can enhance an environment for walking and biking, as well as increase pedestrian and cyclist safety and security.
- **Implement Traffic Calming Techniques** – Traffic calming refers to traffic management techniques and engineering measures intended to enhance the safety of road users

and, in many cases, improve the livability of a community. The goals of traffic calming are to reduce motor vehicle speeds, traffic volume, or both. Reducing motor vehicle speeds has the potential to reduce both the frequency and severity of non-motorized/motor vehicle crashes. Reductions in vehicular volumes ultimately decrease pedestrian and bicycle exposure to motor vehicle traffic.

- **Improve Bicycle Signal Detection** – At signalized intersections bicycle traffic should be considered during the design of the traffic signal. To better accommodate bicycle traffic provide sensors that detect the presence of a bicycle and mark the roadway to indicate the optimum location for bicycle detection.
- **Bikes and Buses** - To enhance the use between public transit and bicyclists, it is important for public transit to accommodate bicycles both on the vehicles and at major stops/stations. Where physical conditions prevent a continuous bicycle trip, public transportation can provide a link to previously inaccessible destinations. For buses, the most frequent option is an exterior rack mounted on the front of the bus that can accommodate two bicycles.

9.4 Education, Encouragement, & Enforcement

Education, encouragement, and enforcement are the three “Es” that make up a successful bicycle and pedestrian program. Educational efforts help ensure that roadway users of every mode know how to operate safely. Encouragement and promotional initiatives help to increase the number of pedestrians and



Bike Racks on Buses

bicyclists, along with the acceptance of walking and bicycling as travel modes. Police enforcement is essential to ensure the accountability of all users for sharing public right-of-way responsibly. A combination of well-publicized enforcement campaigns, strategically installed traffic signs and devices, and public education programs can effectively increase driver awareness of the obligation to share the roadway with pedestrians and bicyclists.

While the MPO will likely play a role in such programs (or specific activities), it is more likely that other governmental and non-governmental entities will be responsible for administering the overall program (or key aspects of it). For example, in Chattanooga, Bike Chattanooga serves as the advocacy umbrella for bicycling activities in the Chattanooga area. In Nashville, Walk/Bike Nashville, a non-profit organization, conducts walking and biking educational training and awareness efforts on behalf of the local school system.

The following describes key aspects of an effective bicycle and pedestrian program which the MPO should support and help expand as appropriate.

Education and Encouragement

Programs should be developed in the Cleveland MPO area that teach the importance of bicycling and walking skills to youngsters as well as adults.

- Child Bicyclist – The key messages that child bicyclist should receive are:
 - Wear a helmet
 - Obey all traffic laws
 - Look both ways before crossing a street
 - Always ride with the flow of traffic
 - Be predictable
 - Be visible



Bike Rodeos are an Effective Way to Reach Out to Younger Riders

Age-specific bicycle education curricula are available for children from preschool to high school. A bicycle course that teaches vehicular cycling, with an emphasis on the enjoyable aspects of two-wheeled travel, should be offered as part of the physical education curriculum for schools within the MPO area.

Bicycle rodeos are one-time events for children to practice basic bicycling techniques and can serve as an opportunity to check children's bicycles for fit and functioning and to provide instruction on proper helmet use. Rodeos are often community

sponsored instead of solely conducted by a school. Such events should be encouraged.

- **Child Pedestrians** – Children need to develop safe walking skills. Young children have narrower peripheral vision than adults, they are not familiar with driver behavior, and they have not yet developed skills to gauge speed of approaching cars. Basic walking skills are most effectively modeled and communicated by parents.



Walk to School Day is a National Program

The most successful educational programs are targeted at children who are nine years of age and older. Schools are the best place to ensure that the broadest audience of children is reached. The MPO should continue to support Safe Routes to Schools programs and projects.

- **Adult Bicyclists** – The key messages that adult bicyclist should receive are:
 - Be alert
 - Obey all traffic laws
 - Always ride with the flow of traffic
 - Be visible
 - Wear a helmet
 - Avoid riding on sidewalks.
 - Do not drink and ride.

Education and encouragement efforts for adult bicyclists should focus on teaching the rights and responsibilities of the road. Education and encouragement efforts must recognize that the range of adult bicyclists includes those who frequently ride for transportation on busy city streets, those who may ride just a few times a year for recreation, and everyone in between. Messages should be tailored to each group. The MPO should support efforts to encourage safe riding for all users.

- **Adult Pedestrians** – Because walking is the most fundamental mode of travel, many assume that there is little to learn about “how” to walk. Unlike bicyclists, most pedestrians do not consider walking as part of their identity. These circumstances can make it difficult to reach pedestrians. Promoting good pedestrian skills is an excellent way to encourage walkers to safely assert their rights and responsibilities on public right-of-way.

Older adult pedestrians should be targeted in all educational and encouragement efforts. Many seniors are more reliant than others on walking for transportation and maintaining their independence. Walking may also be the most practical form of exercise available to some older adults. Because seniors can be fragile, crashes involving senior adults are even more likely to have devastating consequences than crashes involving other pedestrians.

- **Motorist** – Almost all motorists are pedestrians at one time or another and many are cyclists. However, once they get behind the wheel, some tend to view these other roadway users as nuisances. From the comfort of a fast,

quiet car, many motorists forget that pedestrians and cyclists are dependent on motorists' behavior for their safety and that bicyclists and pedestrians have an equal right to be on public right-of-way. All roadway users have a responsibility to share the roads in a safe and predictable manner.

Care should be taken so that motorist education and encouragement efforts are not perceived as antagonistic. Perpetuating negative ways of thinking will not incline a motorist to be more tolerant of slower moving bicyclists or pedestrians. Mutual respect should set the tone for all endeavors. Perhaps the most immediate challenge in Cleveland is to ensure that more motorists know that pedestrians and bicyclists have a right to use public right-of-way, and that drivers must accommodate them. The other key messages motorists should receive are:

- Be alert for pedestrians and bicyclists.
- Obey all traffic laws.
- Be predictable.
- Be patient.
- Do not honk unnecessarily.
- Give room when passing.
- Yield to pedestrians.

Most motorists are not motivated to learn about pedestrians and bicyclist. The message must be brought to them. Efforts directed toward motorist education should foster a broad and general public awareness of pedestrians and bicyclists.

A broad promotional campaign should also convey educational



Speed Trailers are Used to Alert Motorists of Their Speed

messages. Simple roadsharing tips can be placed on bus benches, bumper stickers, and at other locations. Public service announcements, utility bill inserts, and other promotional media can convey more detailed information.

Long-term efforts should be made to expand the now-limited information about bicyclists and pedestrians that is presented in the Tennessee Department of Safety Driver Handbook. Furthermore, it is desirable to have pedestrian and bicycle-related questions added to the state drivers licensing exam.

Enforcement

Law enforcement is the third and final “E” that, together with education and encouragement, makes up a successful pedestrian and bicycle program. The other two E’s can be considered preventative enforcement. For example, a motorist who understands that bicyclists have a right to be on the road and must sometimes venture into the middle of a lane to avoid an obstacle, is not likely to honk at or threaten a bicyclist. Likewise, a knowledgeable cyclist will obey traffic signals and will not ride against the flow of traffic. The provision of pedestrian and bicycle

facilities also reduces conflicts by providing each mode with its own space.

For many errant roadway users enforcement is necessary. Users of each travel mode should be held accountable for sharing public right-of-way responsibly, and each should be targeted by different law enforcement endeavors in a balanced strategy. Indeed, just as there are good and bad drivers, there are good and bad bicyclists and pedestrians. However, a low speed pedestrian or bicyclist is no match for a high-speed automobile or truck. While pedestrians and bicyclists can contribute to unsafe conditions, it is motor vehicles that create most of the risk of injury and death on public streets, and it is drivers who carry the greatest liability risk.

Police officers who understand the safety issues that confront pedestrians and bicyclists are key to enforcement efforts. Without these police officers, others may follow the philosophy that if pedestrians and bicycles want to be safe, then they should stop walking or bicycling and should start driving. In order to create an atmosphere in which walking and bicycling are legitimized as travel modes, pedestrians and bicyclists need to know that law enforcement officials consider their safety to be as important as the safety of motorists.

Many police departments throughout the country provide regular training sessions and programs at which pedestrian and bicycle-related enforcement issues are addressed. Such programs raise awareness among officers, ensure that enforcement is part of routine activities, and provide training for special initiatives and operations, such as those



In many Jurisdictions Policemen Use Bicycles
To Travel

described below. It is recommended that such training activities and programs be routinely incorporated into the City of Cleveland Police Department training curriculum, both as part of recruit training and as continuing education.

A combination of well-publicized enforcement campaigns, strategically installed traffic signs and devices, and public education programs can effectively increase driver awareness of the obligation to share the roadway with pedestrians and bicyclists. Police enforcement of the traffic code is also the most potent means of giving credibility to traffic control devices and traffic safety educational programs. Traffic safety educational programs can sensitize and inform the general public of the need and benefits of observing traffic regulations. Enforcement can increase driver compliance at crosswalks, increase driver awareness and/or mindfulness of pedestrians, and give credibility to engineering interventions. Downtown business areas, shopping centers, school zones, college campuses, hospitals, senior centers, parks and recreation facilities, etc. are all locations that may warrant special attention by law enforcement officials to discourage speeding and encourage proper behavior for yielding to pedestrians crossing roadways.

10.0 PLAN IMPLEMENTATION

The following section provides projected cost estimates for each of the project recommendations contained in this plan along with a phasing plan and a list of potential funding sources available for implementing the proposed recommendations. Finally, this section concludes with a list of strategies for furthering the development of bicycle and pedestrian recommendations within the Cleveland MPO area.

10.1 Project Cost Estimates

Planning level cost estimates were prepared for each sidewalk, bikeway, and greenway improvement. The following table is a summary of total costs by facility type. As previously described, a phasing plan was prepared based on the relative score of the sidewalk and bikeway analysis (e.g. SPI and BPI).

signalized intersection accounting for crosswalk costs, handicap ramp costs, and pedestrian signal, sign, and pushbutton costs. Estimated costs for providing pedestrian accommodations for all of the signalized intersections are approximately \$719,000.

Recommended sidewalk and bikeway improvements were compared to planned transportation improvements of the MPO's Long Range Transportation Plan. As can be seen in the following table, there are numerous opportunities for sidewalk and bikeway improvements to be covered as part of planned roadway improvements defraying the cost of these accommodations. Appendix E contains the details of this comparison.

Summary of Project Cost Estimates for Proposed Bicycle & Pedestrian Planned Improvements					
	Sidewalks	Bike Lanes	Bike Routes	Greenways	Total
Existing	47	-	-	2	49
Planned	-	-	-	3	3
Needs/Concepts	178	-	-	16	194
Phase 1	-	7	47	-	54
Phase 2 (Vision)	-	6	169	-	175
Total (Miles)	178	13	216	21	475
Total (New Miles)	178	13	217	19	427
Total - Costs	\$41.81 Mil	\$16.36 Mil	\$0.95 Mil	\$16.73 Mil	\$75.85 Mil

In addition to these costs, there are sixty seven signalized intersections located within the MPO area. Of these intersections, only twelve intersections, which are largely located in the downtown area, have pedestrian signal accommodations. Detailed cost estimates were prepared for each

Comparison of MPO Long Range Plan Project Improvements to Proposed Bicycle & Pedestrian Planned Improvements				
Sidewalk Improvements				
Sidewalks/SPI	Miles	Total Cost	LRTP Miles	LRTP Cost
0-29	92	\$24,107,668	45	\$10,124,662
30-34	24	\$5,854,739	2	\$504,747
35-44	34	\$7,009,120	2	\$509,820
45-74	28	\$4,845,352	-	-
Sub-Total	178	\$41,816,880	49	\$11,139,229
Bike Lane Improvements				
Bike Lanes	Miles	Cost	LRTP Miles	LRTP Cost
Phase 1	7	\$8,582,100	1.5	\$1,826,800
Phase 2 (Vision)	6	\$7,783,800	-	-
Sub-Total	13	\$16,365,900	1.5	\$1,826,800
Bike Route Improvements				
Bike Routes	Miles	Cost	LRTP Miles	LRTP Cost
Phase 1	47	\$243,300	6	\$28,200
Phase 2 (Vision)	169	\$702,700	33	\$135,100
Sub-Total	217	\$946,000	39	\$163,300
Total	408	\$59,128,780	89	\$13,129,329

Note: LRTP Miles based on the Cleveland Area MPO

Appendix F contains detailed costs for each facility improvement by facility type as well as signalized intersection pedestrian accommodation costs.

10.2 Potential Funding Sources for Bicycle & Pedestrian Projects

Bicycle and pedestrian projects are broadly eligible for funding from almost all the major Federal-aid highway, transit, safety, and other programs. In order to be eligible for federal funding bicycle projects must be "principally for transportation, rather than recreation, purposes" and must be designed and located pursuant to the transportation plans required of States and MPOs.

There are a variety of potential funding sources including local, state, regional, and federal funding programs that can be used to construct the proposed bicycle and pedestrian improvements. Most federal, state, and regional programs are competitive, and involve the completion of extensive applications with clear documentation of the project need, costs, and benefits.

The following table lists the numerous federal and state funding sources available for use for bicycle and pedestrian accommodations. The table contains information on the funding source purpose and eligibility, the primary agency responsible for the funding source, and the match requirements for use of the funding.

BICYCLE & PEDESTRIAN PLAN

Potential Funding Sources for Bicycle and Pedestrian Projects					
Funding Program	Source	Agency	Primary Purpose	Eligibility	Match Requirements
Interstate Maintenance (IM)	Federal	TDOT	Funding is targeted at maintaining and improving the Nation's Interstate highway system.	IM funds may be used for resurfacing, restoration, rehabilitation, and reconstruction (4R) projects. The inclusion of pedestrian safety and bicycle facilities that are incorporated in the design of new/reconstructed interchanges and/or overcrossings are eligible.	90% Federal / 10% Non-Federal
National Highway System (NHS)	Federal	TDOT	Improvements to roads that are part of the NHS and NHS Intermodal connectors	Construction of pedestrian and bicycle facilities on land adjacent to any highway on the NHS system.	90% Federal / 10% Non-Federal
Surface Transportation Program (STP)	Federal	MPO/TDOT	Construction, resurfacing, and operational improvements for highways and bridges, including transit and other modes	Construction of pedestrian and bicycle transportation facilities; Non-construction projects for safe bicycle use; Upgrade public sidewalks to comply with the ADA. Projects do not have to be within the right-of-way of a Federal-aid highway.	80% Federal / 20% Non-Federal
Transportation Enhancement Activities (TEAs)	Federal	TDOT	Funds twelve specific activities that include pedestrian and bicycle facility development, and safety/education activities	3 of the 12 categories are pedestrian and bicycle facilities, safety and education for pedestrians and bicyclists, and rail-trails.	80% Federal / 20% Non-Federal
Congestion Mitigation and Air Quality (CMAQ)	Federal	MPO	Funds projects in nonattainment and maintenance areas that reduce transportation related emissions	Construction of pedestrian and bicycle facilities; Non-construction projects for safe bicycle use. Projects do not have to be within the right-of-way of a Federal-aid highway, but must demonstrate an air quality benefit.	* 80% Federal / 20% Non-Federal
Highway Bridge Program (HBP)	Federal	TDOT	Funding for States to improve the condition of their highway bridges through replacement, rehabilitation, and systematic preventive maintenance.	Pedestrian/bicycle facilities on highway-bridges. If a highway bridge deck is replaced or rehabilitated, and bicycles are permitted at each end, then the bridge project must include safe bicycle accommodations.	80% Federal / 20% Non-Federal
Safe Routes to School (SRTS)	Federal	TDOT	Enable and encourage children, including those with disabilities, to walk and bicycle to school; Make bicycling and walking to school a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age; Facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools	Sidewalk improvements; Traffic calming and speed reduction improvements; Pedestrian and bicycle crossing improvements; On-street bicycle facilities; Off-street bicycle and pedestrian facilities; Secure bicycle parking facilities; Traffic diversion improvements in the vicinity of schools; Public awareness campaigns and outreach; Traffic education and enforcement in the vicinity of schools; Student sessions on bicycle and pedestrian safety, health, and environment; Funding for training, volunteers, and managers of safe routes to school programs.	100% Federal
Highway Safety Improvement Program (HSIP)	Federal	TDOT	Reduction in traffic fatalities and serious injuries on public roads.	Improvements for pedestrian/bicyclist safety; Construction of yellow-green signs at pedestrian/bicycle crossings and in school zones. Correction of hazardous locations including roadside obstacles, railway-highway crossing needs, and poorly marked roads that constitute a danger to bicyclists/pedestrians. Highway safety improvement projects on bicycle/pedestrian pathways or trails.	* 90% Federal / 10% Non-Federal
Transportation, Community, and System Preservation (TCSP) Program	Federal	FHWA	To address the relationships among transportation, community, and system preservation plans and practices and identify private sector-based initiatives to improve those relationships.	Sidewalk and bikeway improvements are eligible for funding under this program as are other activities such as traffic calming measures.	80% Federal / 20% Non-Federal

BICYCLE & PEDESTRIAN PLAN

Potential Funding Sources for Bicycle and Pedestrian Projects					
Funding Program	Source	Agency	Primary Purpose	Eligibility	Match Requirements
National Scenic Byways Program	Federal	FHWA	The program recognizes roads having outstanding scenic, historic, cultural, natural, recreational, and archaeological qualities and provides for designation of these roads as National Scenic Byways, All-American Roads or America's Byways.	Development and provision of tourist implementation, construction of bicycle and pedestrian facilities, interpretive facilities, overlooks and other enhancements for byway travelers.	80% Federal / 20% Non-Federal
Recreational Trails Program (RTP)	Federal	TDEC	Develop and maintain recreational trails and trail-related facilities for non-motorized/ motorized recreational trail uses.	Motorized and non-motorized trails. Eligible categories are trail maintenance and rehabilitation, trailside or trailhead facilities, construction and maintenance equipment, trail construction, trail assessments, and trail safety and environmental protection education.	80% Federal / 20% Non-Federal
Federal Lands Highway Program	Federal	FHWA	Provides for transportation planning, research, engineering, and construction of highways, roads, and parkways and transit facilities that provide access to or within public lands, national parks, and Indian reservations.	Sidewalks, greenways, trails, and bicycle facilities that provide access to or within public lands, national parks, and Indian reservations.	80% Federal / 20% Non-Federal
Section 402 State and Community Highway Safety Grants	Federal	TDOT	To assist states and communities in the development and implementation of highway safety programs designed to reduce traffic crashes, deaths, injuries and property damage.	Funds may be used for a wide variety of highway safety activities and programs including those that improve pedestrian and bicycle safety. A minimum of 40% of a state's 402 funds must be expended by local governments or be used for the benefit of local governments.	80% Federal / 20% Non-Federal
Land and Water Conservation Fund (LWCF)	Federal	TDEC/NPS	Build a variety of park and recreation facilities, including trails and greenways.	Greenway and trail facilities	50% Federal / 50% Non-LWCF
Local Parks and Recreation Fund (LPRF)	State	TDEC	To provide grants to all eligible local governmental entities for the purchase of lands for parks, natural areas, greenways, and for the purchase of land for recreation facilities.	The funds may be used for trail development and capital projects in parks, natural areas, and greenways. At least 60 % of the funds allocated go to municipal governments as authorized by the Act.	50% State / 50% Non-LPRF
Natural Resources Trust Fund (NRTF)	State	TDEC	To protect the endowment represented by the land and minerals owned by the State; and to ensure that development of state-owned non-renewable resources will proceed in a manner which is economically sound, and that revenues received from disposal of those resources will be used for the long term public interest.	Grants from the NRTF may be awarded to all eligible local governmental entities and state agencies for outdoor recreation, historical or archaeological sites, the acquisition of lands, waters, or interests in lands and waters.	50% State / 50% Non-NRTF
Urbanized Area Formula Grants (Section 5307)	Federal	MPO/TDOT	Transit capital and planning assistance to urbanized areas with populations over 50,000 and operating assistance to areas with populations of 50,000 - 200,000	Improve bicycle and pedestrian access to transit facilities and vehicles, including bike stations.	* 80% Federal / 20% Non-Federal
Job Access and Reverse Commute Grants	Federal	TDOT	Intended to transport welfare recipients and eligible low-income individuals to and from employment	Can fund pedestrian and bicycle-related services.	50% Federal / 50% Non-Federal
Community Development Block Grant (CDBG)	Federal	City/HUD	Directly provides funds to cities and towns for projects with community-wide benefits. Activities must benefit low to moderate income persons.	Sidewalks, greenways, trails, and bicycle facilities that provide increased safety, access, and transportation options.	100% Federal

Notes: * Funding match levels may vary; Agency refers to lead agency with regards to funding source (MPO – Metropolitan Planning Organization, FHWA – Federal Highway Administration, TDOT – Tennessee Department of Transportation, TDEC – Tennessee Department of Environment and Conservation, NPS – National Park Services, HUD - U.S. Department of Housing and Urban Development)

10.3 Facility Development Strategies

In addition to individual projects being funded through traditional funding means, there are numerous opportunities to increase sidewalk and bikeway accommodations through other ongoing activities in the region. The following are several examples of opportunities to incorporate sidewalk and bikeway improvements under other activities:

- Repaving and Restriping - If a road is being resurfaced, work with the implementation agency to restripe it to include bicycle lanes or wide curb lanes.
- Roadway Construction and Reconstruction - It is more cost effective to include bicycle and pedestrian accommodations into a larger scale transportation project than it is to retrofit. Work with TDOT, the City, and the County to ensure that they are aware of the recommendations of this plan and discuss opportunities for incorporating sidewalk and bikeway improvements into future roadway improvements.
- Bridge Reconstruction and Replacement - If a bridge is being reconstructed, make sure cyclists and pedestrians will have a way to safely and comfortably get across it. Work with TDOT to ensure that they are aware of the recommendations of this plan and discuss opportunities for incorporating sidewalk and bikeway improvements into future bridge improvements.

- Private Development - Having private development provide sidewalk and bikeway improvements as part of their project is an effective way to increase non-motorized accommodations without the use of public funding. Additionally, receiving land dedication for greenway facilities and/or easements is also an effective means of furthering the development of greenway improvements.

10.4 Design Standards

The following publications provide current and best practices relative to the design and construction of sidewalk, bikeway, and trail facilities. Many of these documents are available online and contain a wealth of information and resources on non-motorized accommodations.

- Accessible Rights of Way: A Design Manual (1999), U.S. Access Board - <http://www.access-board.gov/prowac/guide/PROWGuide.htm>
- Bicycle Parking Guidelines (2002), Association of Pedestrian and Bicycle Professionals - http://drusilla.hsrb.unc.edu/cms/downloads/BikePark_Guidelines.pdf
- Building a True Community (2001), Public Rights-of-Way Access Advisory Committee's report to the U.S. Access Board - <http://www.access-board.gov/prowac/commrept/index.htm>

- Designing Sidewalks and Trails for Access Part I of II: Review of Existing Guidelines and Practices (1999), FHWA - <http://www.fhwa.dot.gov/environment/bikeped/Access-1.htm>
- Designing Sidewalks and Trails for Access, Part II of II: Best Practices Design Guide (2001), FHWA - <http://www.fhwa.dot.gov/environment/sidewalk2/index.htm>
- Designing Trail Termini Report, Florida Department of Transportation - http://www.dot.state.fl.us/safety/ped_bike/ped_bike_standards.shtm
- Guidelines for Accessible Pedestrian Signals, NCHRP 3-62, University of North Carolina Highway Safety Research Center - <http://www.walkinginfo.org/aps/home.cfm>
- Guide for the Development of Bicycle Facilities (1999), American Association of State Highway and Transportation Officials - <http://www.communitymobility.org/pdf/aashto.pdf>
- Guide for the Planning, Design, and Operation of Pedestrian Facilities (2004), American Association of State Highway and Transportation Officials - <http://www.walkinginfo.org/library/details.cfm?id=2067>
- Manual on Uniform Traffic Control Devices, FHWA - <http://mutcd.fhwa.dot.gov/>
- Revised Draft Guidelines for Accessible Public Rights-of-Way (2005), U.S. Access Board - <http://www.access-board.gov/prowac/draft.htm>
- Special Report: Accessible Public Rights-of-Way Planning and Design for Alterations (2007), Public Rights-of-Way Access Advisory Committee - <http://www.access-board.gov/prowac/alterations/guide.htm>
- Tennessee Long-Range Transportation Plan Bicycle and Pedestrian Element (2005), Tennessee Department of Transportation - <http://www.tdot.state.tn.us/plango/pdf/s/plan/BicyclePed.pdf>
- The Policy on Geometric Design of Highways and Streets (2004), American Association of State Highway and Transportation Officials - https://bookstore.transportation.org/item_details.aspx?ID=110
- Trail Intersection Design Handbook, Florida Department of Transportation - http://www.dot.state.fl.us/safety/ped_bike/ped_bike_standards.shtm

Acronym List

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act of 1990
ADT	Average Daily Traffic
BCI	Bicycle Compatibility Index
BPAC	Bicycle and Pedestrian Advisory Committee
BPI	Bicycle Priority Index
CDBG	Community Development Block Grant
CMAQ	Congestion Mitigation and Air Quality Program
DOT	Department of Transportation
EPAMD	Electric Personal Assistive Mobility Device
FHWA	Federal Highway Administration
GIS	Geographic Information Systems
HBP	Highway Bridge Program
HSIP	Highway Safety Improvement Program
HUD	U.S. Department of Housing and Urban Development
IM	Interstate Maintenance
LPRF	Local Parks and Recreation Fund
LRTP	Long Range Transportation Plan
LWCF	Land and Water Conservation Fund
MPO	Metropolitan Planning Organization
NHS	National Highway System
NPS	National Park Services
NRTF	Natural Resources Trust Fund
PUD	Planned Unit Development
RTP	Recreational Trails Program
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SPI	Sidewalk Priority Index
SRTS	Safe Routes to Schools
STP	Surface Transportation Program
TCA	Tennessee Code Annotated
TCSP	Transportation, Community, and System Preservation Program
TDEC	Tennessee Department of Environment and Conservation
TDOT	Tennessee Department of Transportation
TEA	Transportation Enhancement Activities
TEA-21	Transportation Equity Act of the 21 st Century
TIP	Transportation Improvement Program
US DOT	United State Department of Transportation

APPENDIX

- A. Bicycle and Pedestrian Crash Data
- B. Summary of Public Comments
- C. Sidewalk Priority Index (SPI) Analysis
- D. Bicycle Compatibility Index (BCI) and Bicycle Priority Index (BPI) Analyses
- E. Comparison of Bicycle & Pedestrian Plan Projects to MPO Long Range Transportation Plan Projects
- F. Detailed Project Cost Estimates

APPENDIX A

Cleveland Area MPO

Bicycle and Pedestrian Crash Assessment

**Bicycle & Pedestrian Non-Fatal Crash Analysis
City of Cleveland and Bradley County, Tennessee (2003-2005 Crash Data)**

Total Pedestrian & Bicycle Crashes (2003-2005)			
	2003	2004	2005
Pedestrian	11	7	3
Bicycle	0	5	4
Total	11	12	7

Pedestrian & Bicycle Crashes: Weather Conditions (2003-2005)			
	No Adverse Conditions	Rain	Rain & Fog
Pedestrian	14	7	0
Bicycle	7	1	1
Total	21	8	1
Percentage - Total	70%	27%	3%
Percentage – Pedestrian	67%	33%	0%
Percentage - Bike	78%	11%	11%

Pedestrian & Bicycle Crashes: Time of Day (2003-2005)				
	Morning (before noon)	Afternoon (noon-4pm)	Evening (after 5pm)	Afternoon Evening
Pedestrian	5	8	8	16
Bicycle	2	4	3	7
Total	7	12	11	23
Percentage - Total	23%	40%	37%	77%
Percentage - Pedestrian	24%	38%	38%	76%
Percentage - Bike	22%	44%	33%	78%

Pedestrian & Bicycle Crashes: Lighting Conditions (2003-2005)				
	Daylight	Dark	Dark (Lighted)	Dark (Not Lighted)
Pedestrian	12	9	6	3
Bicycle	5	4	1	3
Total	17	13	7	6
Percentage - Total	57%	43%	54%	46%
Percentage – Pedestrian	57%	43%	67%	33%
Percentage - Bike	56%	44%	25%	75%

Pedestrian & Bicycle Crashes: Intersection and Non-Intersection Related (2003-2005)					
	Intersection	Non-Intersection	Total	Percent Intersection	Percent Non-Intersection
Pedestrian	8	13	21	38%	62%
Bicycle	6	3	9	67%	33%
Total	14	16	30		

Source: TDOT Tennessee Roadway Information System (TRIMS), 2003-2005

**Bicycle & Pedestrian Fatal Crash Analysis
City of Cleveland and Bradley County, Tennessee
(2000-2006 Crash Data)**

Total Pedestrian & Bicycle Fatalities (2000-2006)							
	2000	2001	2002	2003	2004	2005	2006
Pedestrian	1	0	3	1	0	1	0
Bicycle	0	0	0	0	0	0	0
Total	1	0	3	1	0	1	0

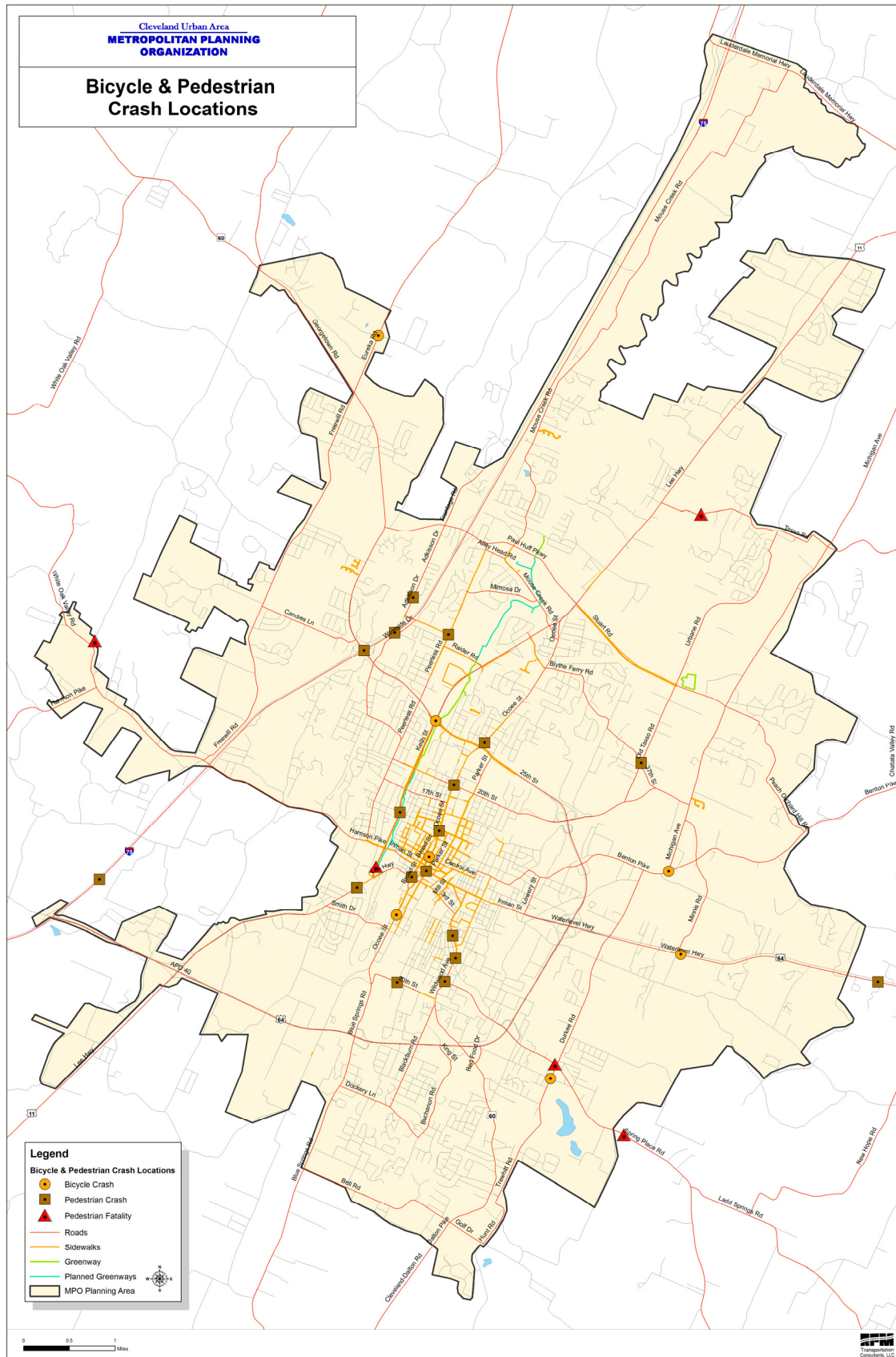
Pedestrian Fatal Crashes: Lighting Conditions (2000-2006)				
	Daylight	Dark	Dark (Lighted)	Dark (Not Lighted)
Pedestrian	2	4	1	3
Total	2	4	1	3
Percentage - Total	33%	67%	25%	75%

Pedestrian Fatal Crashes: Intersection and Non-Intersection Related (2000-2006)					
	Intersection	Non-Intersection	Total	Percent Intersection	Percent Non-Intersection
Pedestrian	0	6	6	0%	100%
Total	0	6	6		

Pedestrian Fatal Crashes: Number of Lanes of Roadway (2000-2006)			
	2 Lane	3 Lane	4/5 Lane
Pedestrian	6	0	0
Total	6	0	0

Pedestrian Fatal Crashes: Age and Gender (2000-2006)					
	Under 16	17-21	22-34	35-64	Over 65
Male	1	0	0	2	0
Female	0	1	0	0	2
Total	1	1	0	2	2

Source: Fatality Analysis Reporting System (FARS), 2000-2006



APPENDIX B

Cleveland Area MPO

Summary of Public Comments

Cleveland MPO Bicycle & Pedestrian Plan
Meeting Notes – Public Meeting #1: January 28, 2008

Meeting Purpose, Time & Location

- Initial Public Meeting for the Plan (Public Meeting #1) – January 28, 2008, 5:30-7:30 PM
Museum Center at Five Points - 200 Inman Street East, Cleveland, TN

In Attendance

- Approximately 48 people were in attendance with 42 persons signing the Sign-in Sheet. The attached Sign-in Sheet reflects the names of those in attendance.

Summary of Meeting

- City of Cleveland Mayor Rowland opened the public meeting, thanked those in attendance, and stated the purpose of the bicycle and pedestrian planning effort. The Mayor read the following project goal statement and the public meeting began. [Project Goal Statement - Establish bicycling and walking as safe, convenient, and desirable transportation options in the Cleveland urbanized area by planning and implementing a comprehensive, regional network of bikeways, sidewalks, and trails that are well designed and well maintained, that connect neighborhoods and activity centers, and that are supported by residents and the community.]
- A formal PowerPoint presentation was presented which covered an overview of the project and project purpose, schedule, and a description of the types of bicycle facilities. Following the presentation participants were asked to break into groups and share their ideas and input on the project. A series of questions were asked relative to sidewalks facilities as well as a series of questions on bikeway facilities. In total there were four breakout groups. Participants discussed each of the provided questions and noted comments on paper and on street maps. Following the group breakouts a representative from the group reported a summary of the discussion from their table.

Summary of Comments Provided

The following is a summary of the public comments presented at the meeting from the breakout groups:

Group #1 Comments

- Clean up and maintain the existing pedestrian path behind Cleveland State Community College.
- Provide sidewalks between the subdivisions on Georgetown Road to Cleveland Middle School.
- Subdivision regulations should require all new subdivisions to construct sidewalks.
- The City of Cleveland should purchase the Old Rolling Hills Golf Course to use the existing golf cart path as a multi-use path. (This area is in the flood plain.)

Group #2 Comments

- Provide pedestrian lights and crosswalks at intersections
- Provide mile markers along trails
- Provide parking areas to access walk/bike trails
- Provide on-street bike facilities on:
 - Keith Street between Lee Highway and Inman Street
 - Inman Street between Keith Street and Ocoee Street
 - Ocoee Street between Keith Street and Inman Street
 - Frontage Road between Paul Huff Parkway and Lauderdale Highway
 - 25th Street between I-75 and Ocoee Street
 - Lee Highway from Keith Street to the Hiwassee River
- Provide walking and biking facilities on:
 - Stuart Road between Michigan Avenue and Keith Street
 - Michigan Avenue between Blythe Ferry Road and Tasso Road
 - Paul Huff Parkway between Lee Highway and Georgetown Pike
 - Through Westwood Baptist Church property to Candies Creek
 - Follow Candies Creek from Westwood Baptist Property to Freewill Road
 - Freewill Road between Candies Creek crossing and I-75
 - Follow Candies Creek from I-75 to Harrison Pike
 - Harrison Pike between Candies Creek and Keith Street

- Georgetown Avenue/Peerless Road between Harrison Pike and Paul Huff Parkway
- Raider Road between Peerless Road and Keith Street
- 20th Street between Georgetown Avenue and Ocoee Street
- 17th Street between Georgetown Avenue and Ocoee Street
- Willow Street between Georgetown Avenue and Harle Avenue
- 8th Street between Harle Avenue and Ocoee Street

Group #3 Comments

- Provide access to Lee University
- Connect densely populated subdivisions
- Connect Bradley Mall to Cleveland State, Lee University, and 5 Points

Group #4 Comments

- Provide connections to YMCA, Equestrian Park, and Mall
- Identify easy to implement bike lanes and wide outside lanes
- Emphasize connectors like bike lanes to greenways

Other Comments Received

The following is a summary of public comments received via public comment form provided at the meeting:

General Comments:

- Education and awareness of bicyclists presence on the roadways for the general public
- Educate the public about “share the road signs” and traffic laws
- Make an effort to support bicycle commuters by providing adequate facilities
- Increase the number of mountain biking trails
- Start a bike race & family ride that occurs annually/semi-annually from the Courthouse to Red Clay Park
- Develop maps for Bradley County and post or link them to the website for the City of Cleveland, Bradley County, and the Chamber of Commerce
- Make a city ordinance that permits shared use of sidewalks (if there is an ordinance against this)
- Create green space with pavilion and restrooms (possibly a fountain) at New First Street Square
- The newly renovated depot should have bike racks for park and ride
- Construct a circular path around the perimeter of the airport outside the fencing
- Busy intersections and the lack of sidewalks & paths are obstacles to pedestrian travel within Cleveland
- Connect bike routes to the mall and shopping centers
- Ditches on sides of the road are dangerous to cyclists
- There is a lack of education about bicycle rights and proper cycling
- Look for bicycle facility opportunities where new subdivisions are constructed
- Local government should obtain easements for bikeways, greenways, paths, or sidewalks
- Allocate more funds to the acquisition of right of ways in fee ownership or an easement
- When significant improvements are made to roadways or developments include the addition of sidewalks, bikeways, or similar amenities (example is the airport expansion)
- Create provisions in the city and county subdivision regulations that encourages developers to include easements for sidewalks and pathways even if they are not constructed when the subdivision is built
- Build paths in the buffer area that is required around streams by TDEC
- Require sidewalks in new subdivisions
- Specific Roadways Listed as Needing Bicycle Facilities:
 - Keith Street could be striped for bicycle facility
 - Dalton Pike would be good for a bike lane (if the road is widened)
 - APD-40
 - Ocoee Street
 - Edwards Street
 - Wilson Avenue from 18th Street to 20th Street
 - Paul Huff Parkway and Stuart Road

- North Lee Highway
- Create a link between the park on Tennessee Nursery Road and downtown
- Frontage Road from Paul Huff Parkway to Lauderdale Highway
- Specific Roadways Listed as Needing Sidewalks:
 - Park Street from Lee Campus to museum
 - Edwards Street (lighting, trees, bike racks)
 - Paul Huff Parkway on the south side from Keith Street to Adkisson Drive
 - Adkisson Drive from College to Paul Huff Parkway
 - 25th Street (south side) from Keith Street to Georgetown Road
 - Willow Street from Brown Avenue to Harle Avenue
 - Willow Street from Georgetown Road to Keith Street
 - 17th Street from Georgetown Road to Keith Street
 - Wilson Avenue from 18th Street to 20th Street (Blythe–Bower School)

Cleveland MPO Bicycle & Pedestrian Plan

Meeting Notes – Public Meeting #2: August 28, 2008

Meeting Purpose, Time & Location

- Second Public Meeting for the Plan (Public Meeting #2) – August 28, 2008, 5:30-7:30 PM
Museum Center at Five Points - 200 Inman Street East, Cleveland, TN

In Attendance

- Approximately 22 people were in attendance with 20 persons signing the Sign-in Sheet. The attached Sign-in Sheet reflects the names of those in attendance.

Summary of Meeting

- City of Cleveland Mayor Rowland opened the public meeting, thanked those in attendance, and stated the purpose of the bicycle and pedestrian planning effort.
- A formal PowerPoint presentation was presented which covered an overview of the project and project recommendations. Following the presentation participants were afforded an opportunity to ask questions (in which responses to questions were answered).

Summary of Comments Provided

The following is a summary of the public comments presented at the meeting:

- Many spoke in favor of the plan in which comments ranged from “recommendations in the plan seem about right for Cleveland” to “when will we see the first signs go up”.
- Numerous comments were made on the success of the current greenway system and how greater access to the greenway from on-street accommodations would allow for further use of the greenway system.

APPENDIX C

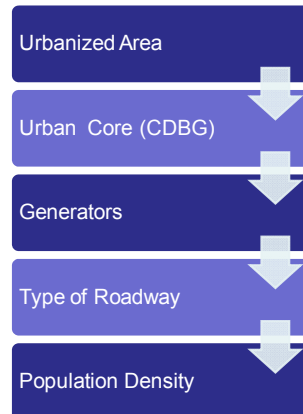
Cleveland Area MPO

Sidewalk Priority Index (SPI) Analysis

Sidewalk Priority Index (SPI) Analysis

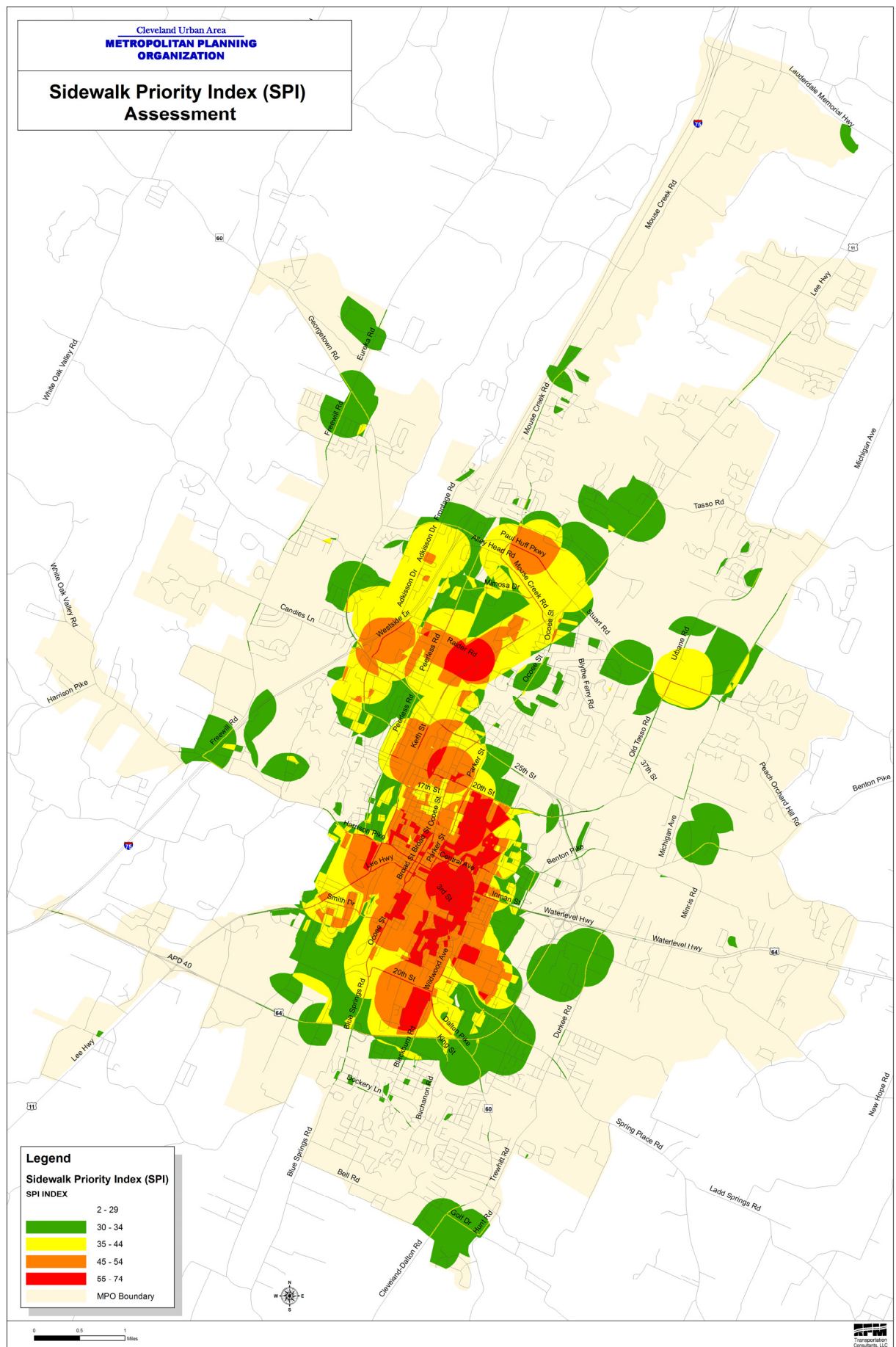
In 2002, RPM developed the Sidewalk Priority Index (SPI) method as part of the Nashville-Davidson County Strategic Plan for Sidewalks and Bikeways to assess the attractiveness of pedestrian conditions for walking in Nashville-Davidson County. The SPI is a system that assigns a numeric value to a roadway segment based on a variety of need-based factors. Factors include zoning, proximity to schools and civic buildings, proximity to transit routes, roadway classification, and other factors. Using this method, roadway segments can be evaluated, and their resulting scores can be compared.

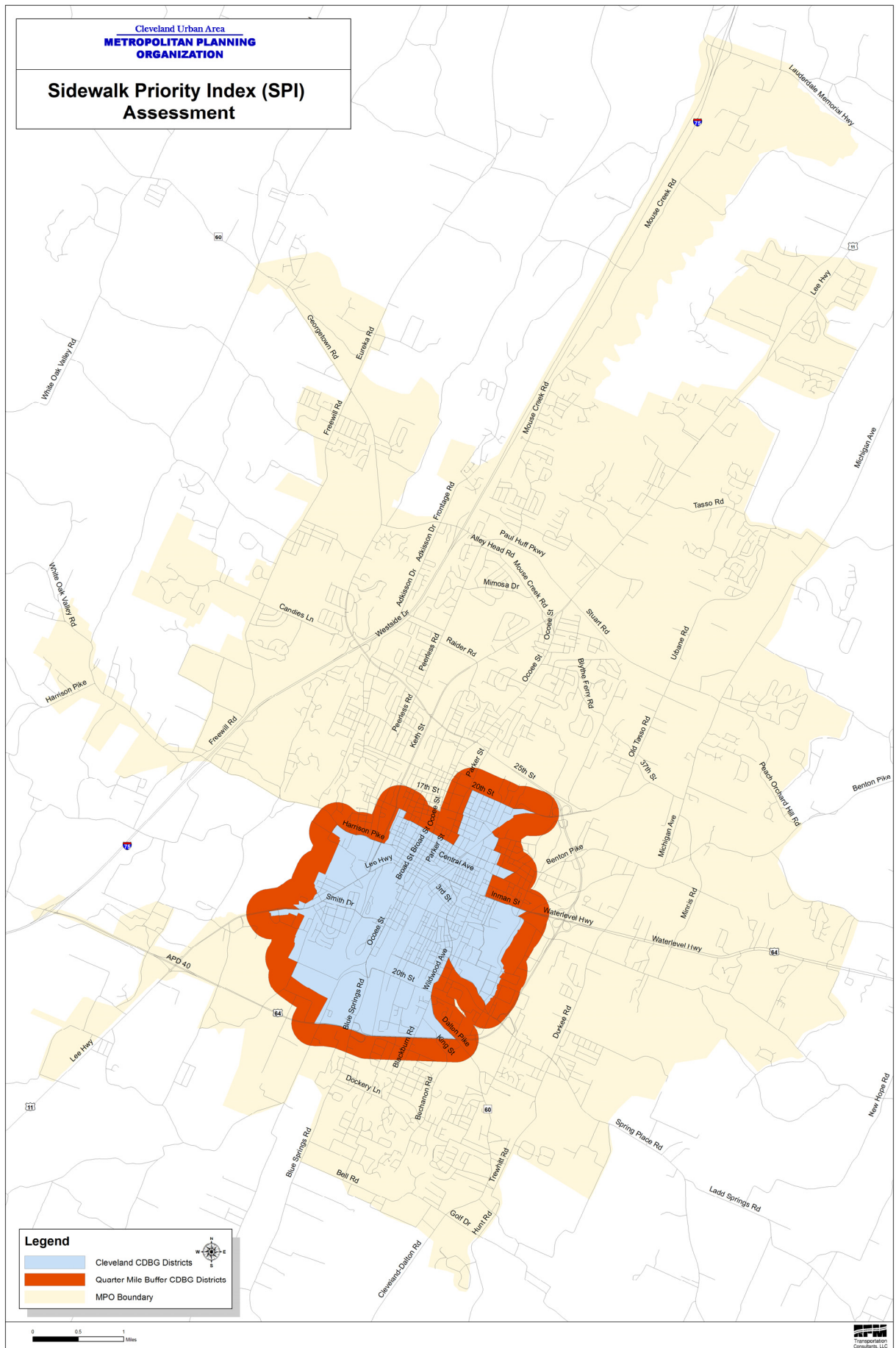
SPI Model Structure



The following information depicts the method and analysis of the SPI model for the Cleveland MPO Area.

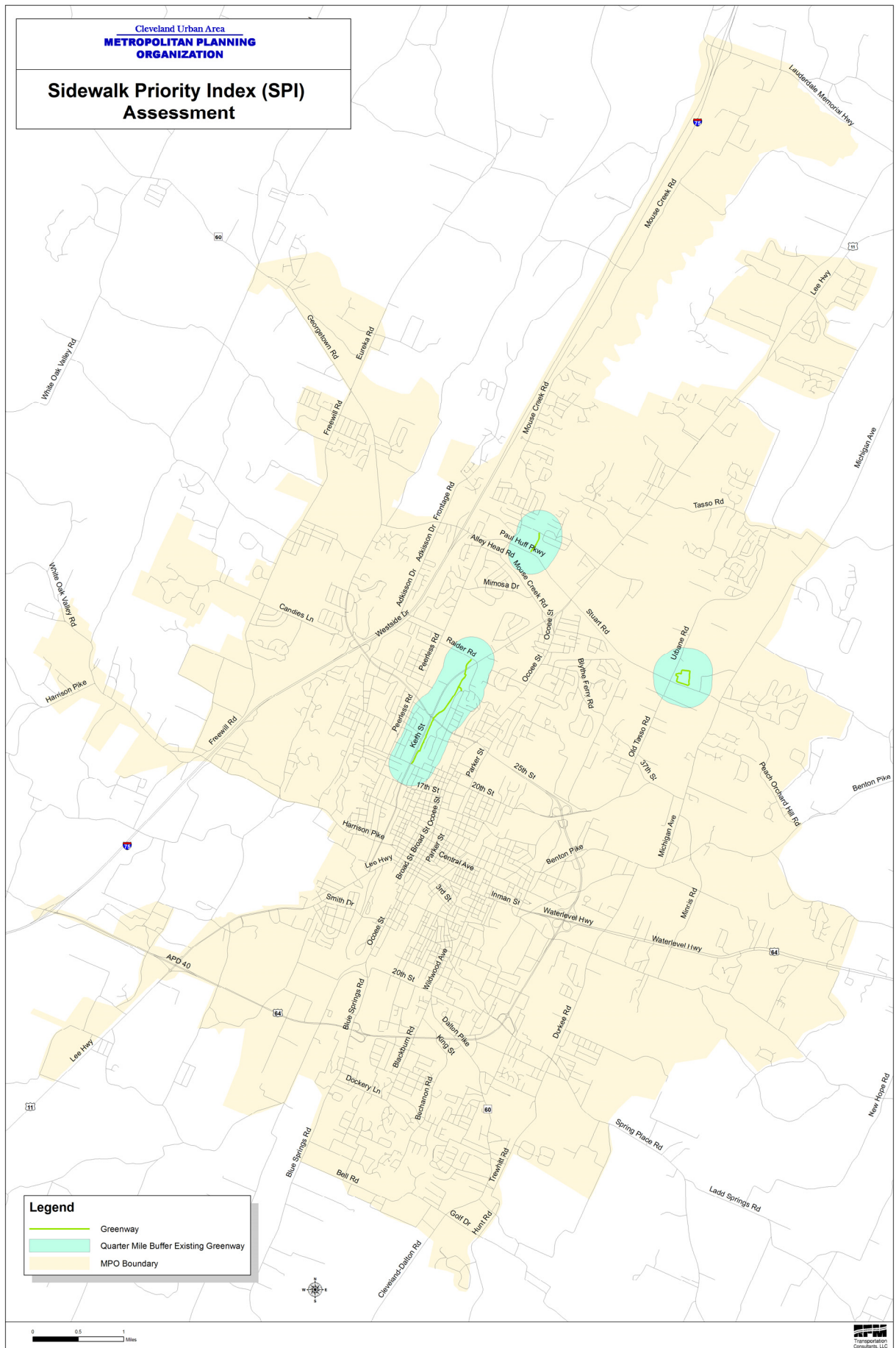
Cleveland Area MPO Sidewalk Priority Index (SPI)	
Criteria	SPI Points
<u>Urbanized Area</u>	
• Within MPO Urbanized Area	12
• Within 1 mile radius of MPO Urbanized Area	8
• Within 2 mile radius of MPO Urbanized Area	2
<u>Urban Core</u>	
• Within CDBG Areas (which includes downtown)	8
• Within ¼ mile of CDBG Areas	4
<u>Generators</u>	
• Within ¼ mile of Public Schools/Private School	8
• Within ¼ mile of College/University	8
• Within ¼ mile of other Generators (e.g. Library, Community Centers, Bike Shops, Fitness & Country Clubs, Career Centers, Hospitals, Assisted Living Facilities, Public Housing, Mall, Movies, Camping)	6
• Within ¼ mile of Transit Routes	8
• Within ¼ mile of Parks and Greenway	8
• Within ¼ mile of Largest Employers	4
• Within ¼ mile of Commercial Lands	2
<u>Type of Roadway</u>	
• Arterial Road	6
• Collector Road	4
<u>Population Density</u>	
• 8 or Greater Persons Per Acre (2000 Census Block Level)	8
• 4 + Persons Per Acre (2000 Census Block Level)	4
Max Points	78



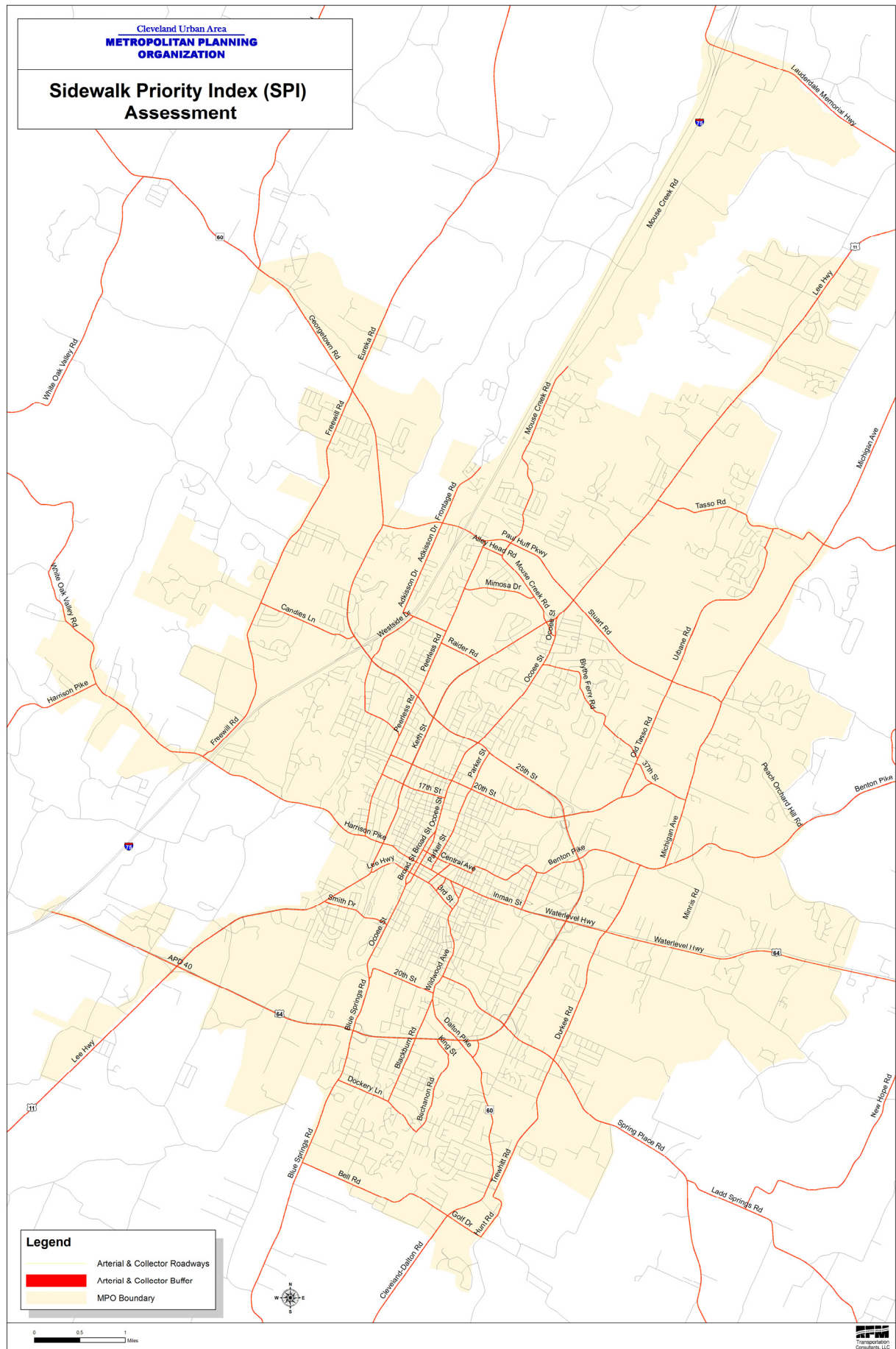


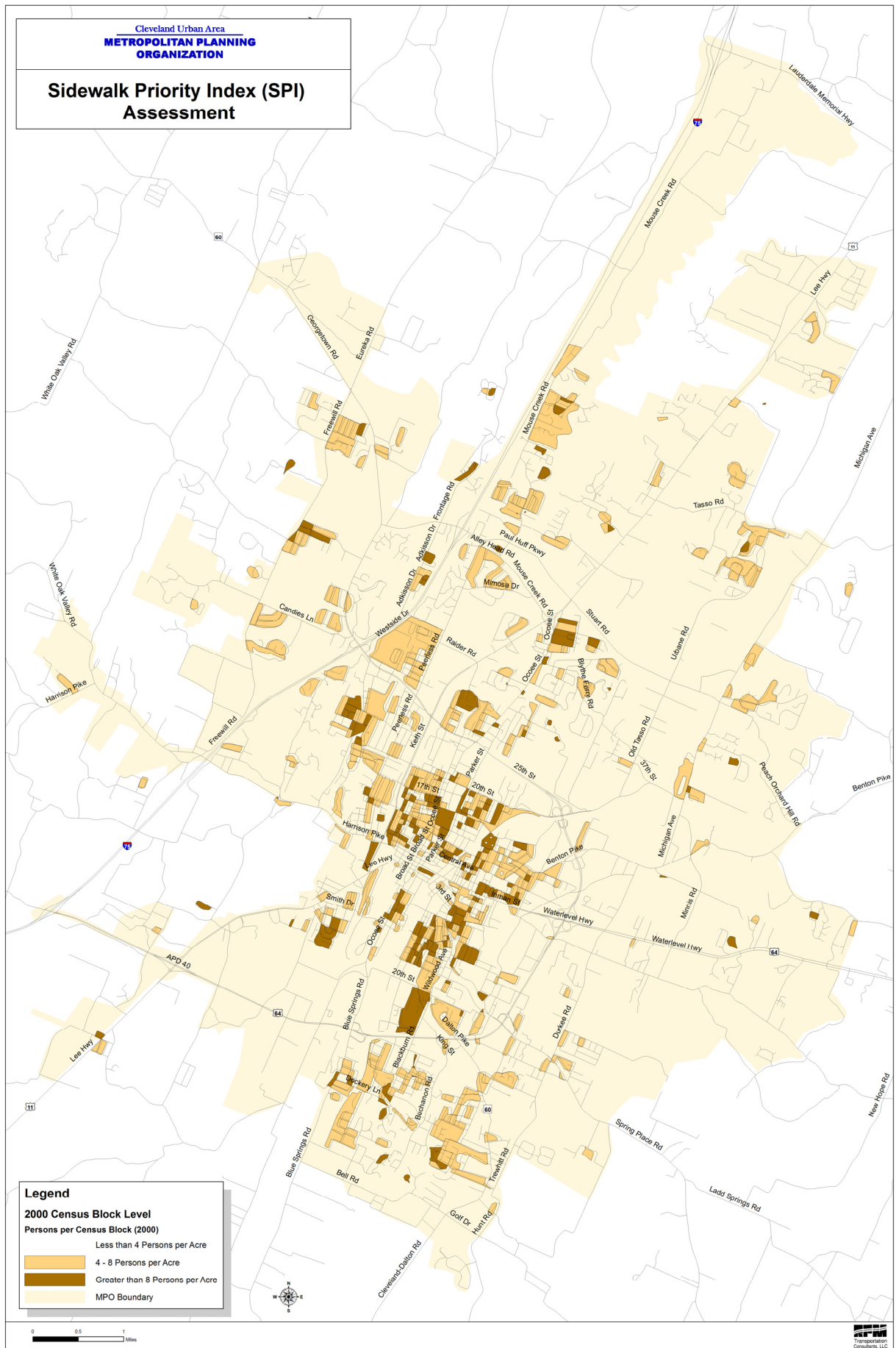












APPENDIX D

Cleveland Area MPO

Bicycle Compatibility Index (BCI) Analysis

&

Bicycle Priority Index (BPI) Analysis

This appendix contains both the Bicycle Compatibility Index (BCI) and the Bicycle Priority Index (BPI) analyses.

Bicycle Compatibility Index (BCI) Analysis

The Bicycle Compatibility Index (BCI), which was developed by the FHWA, is a quantitative process by which the compatibility of a street with bicycle travel can be objectively evaluated. As shown in the table below, the BCI predicts the overall comfort level rating of a bicyclist for a given roadway segment. This compatibility level is based on certain characteristics that are discussed in Chapter 4 of the report. The compatibility levels correspond to the suitability map, Figure 4.1 of report, as follows:

Bicycle Compatibility Index	Bicycle Suitability
Extremely High	Most suitable
Very High	More Suitable
Moderately High	Suitable
Moderately Low	Less Suitable
Very Low	Least Suitable
Extremely Low	

The compatibility levels for the roadway segments inventoried are listed in this table:

Road Name	From	To	Compatibility Level
17th St	Georgetown	Keith	Moderately High
17th St	Keith	Ocoee	Moderately Low
20th St	Georgetown	Kyker-Bonner	Moderately High
20th St	Kyker-Bonner	Keith	Moderately Low
20th St	Keith	Ocoee	Moderately Low
20th St	Ocoee	Blythe	Moderately Low
20th St	Blythe	Foster	Moderately Low
20th St	Foster	Wildwood	Moderately Low
20th St	Ocoee	Parker	Moderately Low
20th St	Parker	APD 40	Moderately Low
20th St	APD 40	Shady	Moderately Low
20th St	Shady	Old Tasso	Very Low
20th St	Old Tasso	37th	Moderately Low
20th St	37th	Michigan	Moderately Low
25th St	Westside	Peerless	Moderately High
25th St	Peerless	Keith	Moderately High
25th St	Keith	Ocoee	Very Low
25th St	Ocoee	20th	Very Low
25th St	20th	Waterlevel	Moderately High
37th St	Old Tasso	20th	Moderately Low
3rd St	Ocoee	Mill	Moderately High
3rd St	Mill	Cincinnati	Moderately High
3rd St	Cincinnati	Linden	Moderately High
Adkisson Dr	Paul Huff	Catherine	Moderately Low

BICYCLE & PEDESTRIAN PLAN

Road Name	From	To	Compatibility Level
Adkisson Dr	Catherine	Norman Chapel	Moderately Low
Alley Head Rd	Peerless	Mouse Creek	Moderately Low
APD 40	Waterlevel	Red Food	Moderately High
APD 40	Red Food	Blackburn	Moderately High
APD 40	Blackburn	I-75	Moderately High
Bell Rd	Dalton	Blue Springs	Moderately High
Benton Pike	MPO Limits	Michigan	Moderately Low
Benton Pike	Michigan	Parker	Moderately Low
Benton Pike	Parker	APD 40	Very High
Benton Pike	APD 40	Strawberry	Moderately Low
Benton Pike	Strawberry	Lowery	Moderately Low
Benton Pike	Lowery	6th	Moderately High
Benton Pike	Lang	Poplar	Moderately Low
Benton Pike	Poplar	Berry	Moderately Low
Benton Pike	Berry	Gaut	Moderately Low
Blackburn Rd	Dockery	APD 40	Moderately Low
Blackburn Rd	APD 40	Dalton	Moderately Low
Blue Springs Rd	20th	APD 40	Moderately Low
Blue Springs Rd	APD 40	MPO Limits	Moderately Low
Blythe Ferry Rd	Wood Crest	Ocoee	Moderately Low
Blythe Ferry Rd	Ocoee	Bow	Moderately Low
Blythe Ferry Rd	Bow	Old Tasso	Moderately Low
Broad St	Ocoee	6th	Moderately Low
Broad St	6th	2nd	Moderately Low
Broad St	2nd	Inman	Very Low
Broad St	Inman	3rd	Moderately Low
Broad St	3rd	Broad/Ocoee Split	Moderately Low
Buchanan Rd	Dockery	Short	Moderately High
Candies Ln	Freewill	Georgetown	Moderately High
Central Ave	Gaut	Edwards	Moderately High
Central Ave	Edwards	Church	Very High
Central Ave	Church	Broad	Moderately Low
Dalton Pike	20th	Baldwin	Moderately Low
Dalton Pike	Baldwin	Red Food	Moderately Low
Dalton Pike	Red Food	Golf	Moderately Low
Dalton Pike	Golf	MPO Limits	Very High
Dockery Ln	Blue Springs	Blackburn	Moderately Low
Dockery Ln	Blackburn	Buchanan	Moderately High
Dooley St	Inman	Wildwood	Moderately Low
Durkee Rd	Benton	Waterlevel	Moderately Low
Durkee Rd	Waterlevel	Spring Place	Moderately Low
Edwards St	3rd	Central	Moderately High
Eureka Rd	Georgetown	MPO Limits	Moderately Low
Freewill Rd	Harrison	22nd	Moderately Low
Freewill Rd	22nd	Candies	Moderately Low
Freewill Rd	Candies	Georgetown	Moderately Low
Frontage Rd	Paul Huff	MPO Limits	Moderately Low
Gaut St	6th	Central	Moderately High
Georgetown Rd	Harrison	17th	Moderately Low

BICYCLE & PEDESTRIAN PLAN

Road Name	From	To	Compatibility Level
Georgetown Rd	17th	Peerless	Very Low
Georgetown Rd	Peerless	25th	Moderately Low
Georgetown Rd	Westside	I-75	Moderately High
Georgetown Rd	I-75	Eveningside	Very High
Georgetown Rd	Eveningside	Villa	Moderately Low
Georgetown Rd	Villa	Paul Huff	Very Low
Georgetown Rd	Paul Huff	Eureka	Moderately Low
Georgetown Rd	Eureka	MPO Limits	Moderately High
Golf Dr	Hunt	Dalton	Moderately High
Harrison Pike	Nevin	Keith	Moderately Low
Harrison Pike	Georgetown	Westside	Moderately Low
Harrison Pike	Westside	Freewill	Moderately Low
Harrison Pike	Freewill	White Oak	Moderately Low
Harrison Pike	White Oak	MPO Limits	Moderately Low
Hunt Rd	New	Golf	Moderately Low
Inman St	Powerlevel	Bates	Very Low
Inman St	Bates	East	Very Low
Inman St	East	Gaut	Moderately Low
Inman St	Gaut	Linden	Moderately Low
Inman St	Linden	Broad	Moderately Low
Inman St	Broad	Worth	Moderately Low
Inman St	Worth	Harrison	Moderately Low
Keith St	Paul Huff	Keith	Very Low
Keith St	25th	Mouse Creek	Moderately High
Keith St	Mouse Creek	Lee/Ocoee	Moderately Low
Keith St	Lee	Inman	Moderately High
Keith St	Inman	17th	Moderately High
Keith St	17th	20th	Very Low
Keith St	20th	25th	Very Low
King St	Buchanan	APD 40	Moderately High
Lauderdale Memorial Hwy	Mouse Creek	Lee Hwy	Moderately High
Lauderdale Memorial Hwy	Frontage	MPO Limits	Moderately High
Lee Hwy	MPO Limits	Lauderdale Memorial	Very Low
Lee Hwy	Lauderdale Memorial	Market	Moderately Low
Lee Hwy	Market	Cass	Moderately Low
Lee Hwy	Cass	County Line	Moderately Low
Lee Hwy	County Line	Old Chattanooga	Moderately Low
Lee Hwy	Old Chattanooga	APD 40	Moderately Low
Lee Hwy	Keith	Ocoee	Moderately Low
Lee Hwy	MPO Limits	Anatole	Very Low
Lee Hwy	Anatole	Sequoia	Moderately Low
Lee Hwy	Sequoia	Paul Huff	Moderately Low
Lee Hwy	Varnell	Forest Ridge	Very High
Lee Hwy	Forest Ridge	Boyd	Very High
Lee Hwy	SW of Smith	Keith	Moderately Low
Lee Hwy	MPO Limits	Automobile	Moderately Low
Lee Hwy	Automobile	Varnell	Very High
Lowery St	Benton	APD 40	Moderately High

BICYCLE & PEDESTRIAN PLAN

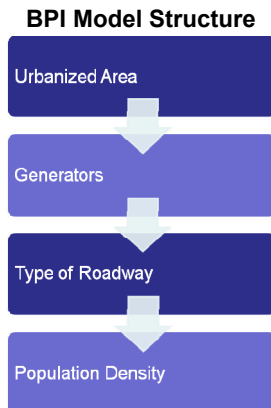
Road Name	From	To	Compatibility Level
Michigan Ave	Peach Orchard	Benton	Moderately Low
Michigan Ave	MPO Limits	S of Royal Oaks	Moderately Low
Michigan Ave	S of Royal Oaks	Keith	Moderately Low
Mill St	Inman	3rd	Moderately High
Mimosa Dr	Mouse Creek	Peerless	Moderately Low
Minnis Rd	Michigan	Waterlevel	Moderately Low
Mouse Creek Rd	Keith	Lee	Moderately Low
Mouse Creek Rd	Lee	Sycamore	Moderately Low
Mouse Creek Rd	Sycamore	Alley Head	Moderately Low
Mouse Creek Rd	Alley Head	Paul Huff	Moderately Low
Mouse Creek Rd	Paul Huff	Saddle Creek	Moderately Low
Mouse Creek Rd	Saddle Creek	Lauderdale Memorial	Moderately Low
No Pone Rd	Georgetown	MPO Limits	Moderately Low
Norman Chapel Rd	Adkisson	Westside	Moderately Low
Norman Chapel Rd	Westside	Peerless	Moderately Low
Ocoee St	Blue Springs	19th	Moderately Low
Ocoee St	19th	18th	Moderately High
Ocoee St	18th	Broad/Ocoee split	Moderately Low
Ocoee St	Broad/Ocoee Split	3rd	Very Low
Ocoee St	3rd	Inman	Very Low
Ocoee St	Inman	Central	Very Low
Ocoee St	Central	8th	Very Low
Ocoee St	8th	18th	Moderately Low
Ocoee St	18th	20th	Moderately Low
Ocoee St	20th	25th	Very Low
Ocoee St	25th	Sunset	Moderately Low
Ocoee St	Sunset	Blythe Ferry	Very Low
Ocoee St	Blythe Ferry	Mouse Creek	Very Low
Ocoee St	Mouse Creek	Lee	Very Low
Ocoee St	8th	Ocoee/Broad split	Moderately Low
Ocoee St	Broad/oocoe Split	6th	Moderately Low
Old Tasso Rd	Tasso	Stuart	Moderately Low
Old Tasso Rd	Stuart	Blythe Ferry	Very Low
Old Tasso Rd	Blythe Ferry	20th	Moderately Low
Parker St	2nd	Central	Very High
Parker St	Inman	Central	Moderately Low
Parker St	Central	8th	Moderately Low
Parker St	8th	11th	Moderately High
Parker St	11th	15th	Moderately Low
Parker St	15th	20th	Moderately Low
Parker St	20th	22nd	Moderately Low
Parker St	22nd	23rd	Moderately High
Parker St	23rd	25th	Very High
Paul Huff Pkwy	Lee	Adkisson	Very Low
Paul Huff Pkwy	Adkisson	Georgetown	Moderately High
Peach Orchard Hill Rd	Michigan	Old Benton	Moderately Low
Peerless Rd	Norman Chapel	25th	Moderately High
Peerless Rd	25th	Westside	Moderately Low
Peerless Rd	Paul Huff	Raider	Moderately Low

BICYCLE & PEDESTRIAN PLAN

Road Name	From	To	Compatibility Level
Raider Rd	Peerless	Keith	Moderately Low
Red Food Dr	Dalton	APD 40	Moderately High
Smith Dr	Lee	Ocoee	Moderately Low
Spring Place Rd	Wildwood	APD 40	Moderately Low
Spring Place Rd	APD 40	APD 40	Very High
Spring Place Rd	APD 40	Durkee	Very Low
Spring Place Rd	Durkee	MPO Limits	Moderately Low
Spring Place Rd	MPO Limits	County Line	Very Low
Stuart Rd	Michigan	Old Tasso	Moderately High
Stuart Rd	Old Tasso	Lee	Very Low
Tasso Rd	Lee	Michigan	Moderately Low
Tasso Rd	Michigan	MPO Limits	Moderately Low
Trewhitt Rd	Spring Place	Robin Hood	Moderately High
Trewhitt Rd	Robin Hood	New	Moderately Low
Waterlevel Hwy	Old Power Line	Durkee	Moderately High
Waterlevel Hwy	Durkee	County Line	Moderately High
Westside Dr	Norman Chapel	Georgetown	Moderately Low
White Oak Valley Rd	Georgetown	Old Freewill	Moderately High
White Oak Valley Rd	Old Freewill	Tanglewood	Moderately High
White Oak Valley Rd	Tanglewood	Rollins Ridge	Moderately High
White Oak Valley Rd	Harrison	MPO Limits	Moderately High
Wildwood Ave	Inman	Dooley	Moderately Low
Wildwood Ave	Dooley	14th	Moderately Low
Wildwood Ave	14th	Spring Place	Moderately Low
Wildwood Ave	Spring Place	20th	Moderately Low

Bicycle Priority Index (BPI) Analysis

Similar to the SPI model, the Bicycle Priority Index (BPI) applies an environmental overlay system to assess the relative concentration of uses and activities that are likely to generate and attract bicycle travel. By overlaying a series of maps, each representing one of several characteristics, one can easily visualize the concentration of resources in a particular area.



The following information depicts the method and analysis of the BPI model for the Cleveland MPO Area. Maps of the BPI assessment are similar to that of the SPI and for that reason are not shown.

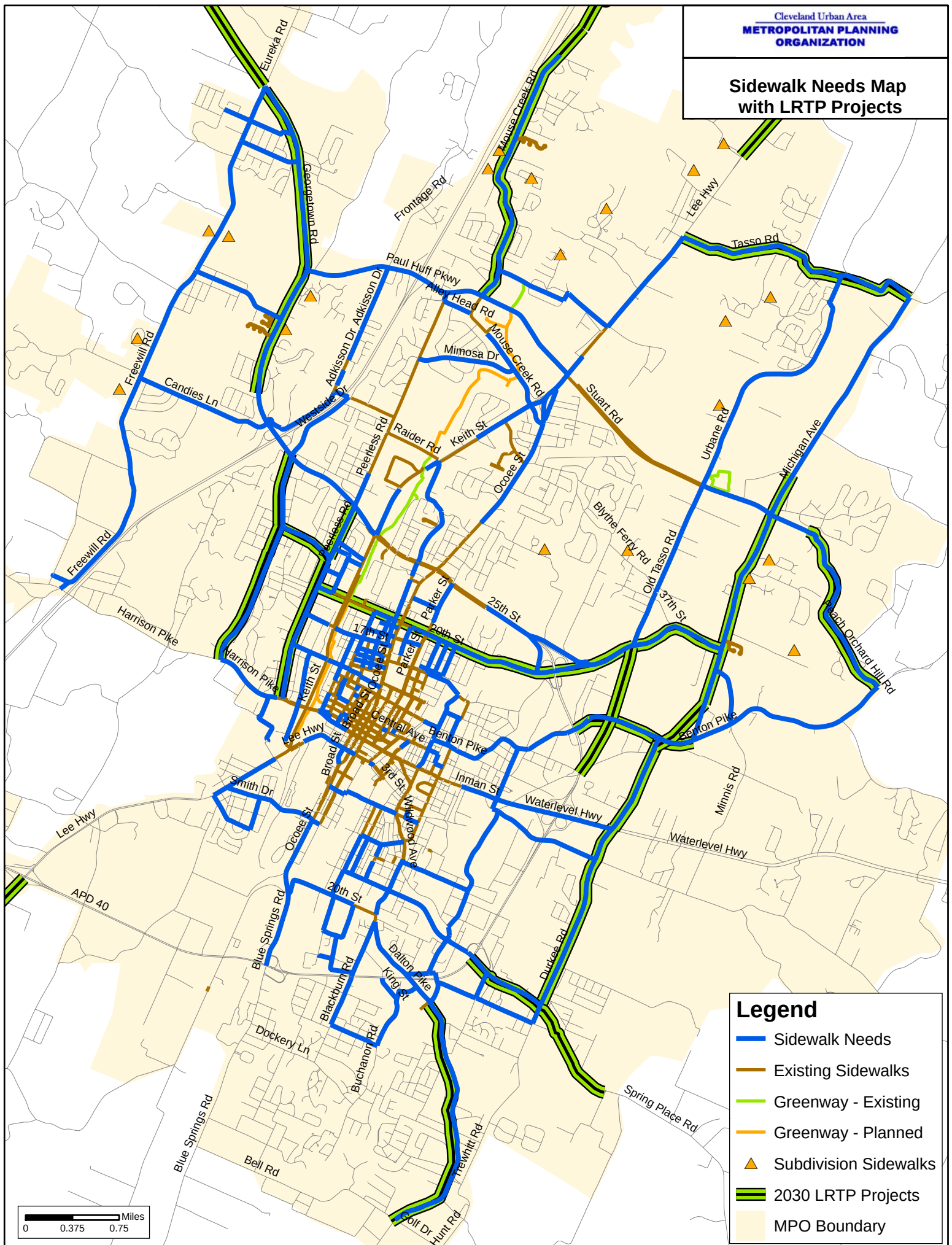
Cleveland Area MPO Bicycle Priority Index (BPI)	
Criteria	BPI Points
<u>Urbanized Area</u>	
• Within MPO Urbanized Area	12
• Within 1 mile radius of MPO Urbanized Area	8
• Within 2 mile radius of MPO Urbanized Area	2
<u>Urban Core</u>	
• Within CDBG Areas (which includes downtown)	0
• Within ¼ mile of CDBG Areas	0
<u>Generators</u>	
• Within ¼ mile of Public Schools/Private School	10
• Within ¼ mile of College/University	10
• Within ¼ mile of other Generators (e.g. Library, Community Centers, Bike Shops, Fitness & Country Clubs, Career Centers, Hospitals, Assisted Living Facilities, Public Housing, Mall, Movies, Camping)	10
• Within ¼ mile of Transit Routes	4
• Within ¼ mile of Parks and Greenway	10
• Within ¼ mile of Largest Employers	4
• Within ¼ mile of Commercial Lands	4
<u>Type of Roadway</u>	
• Arterial Road	6
• Collector Road	4
<u>Population Density</u>	
• 8 or Greater Persons Per Acre (2000 Census Block Level)	8
• 4 + Persons Per Acre (2000 Census Block Level)	4
Max Points	78

APPENDIX E

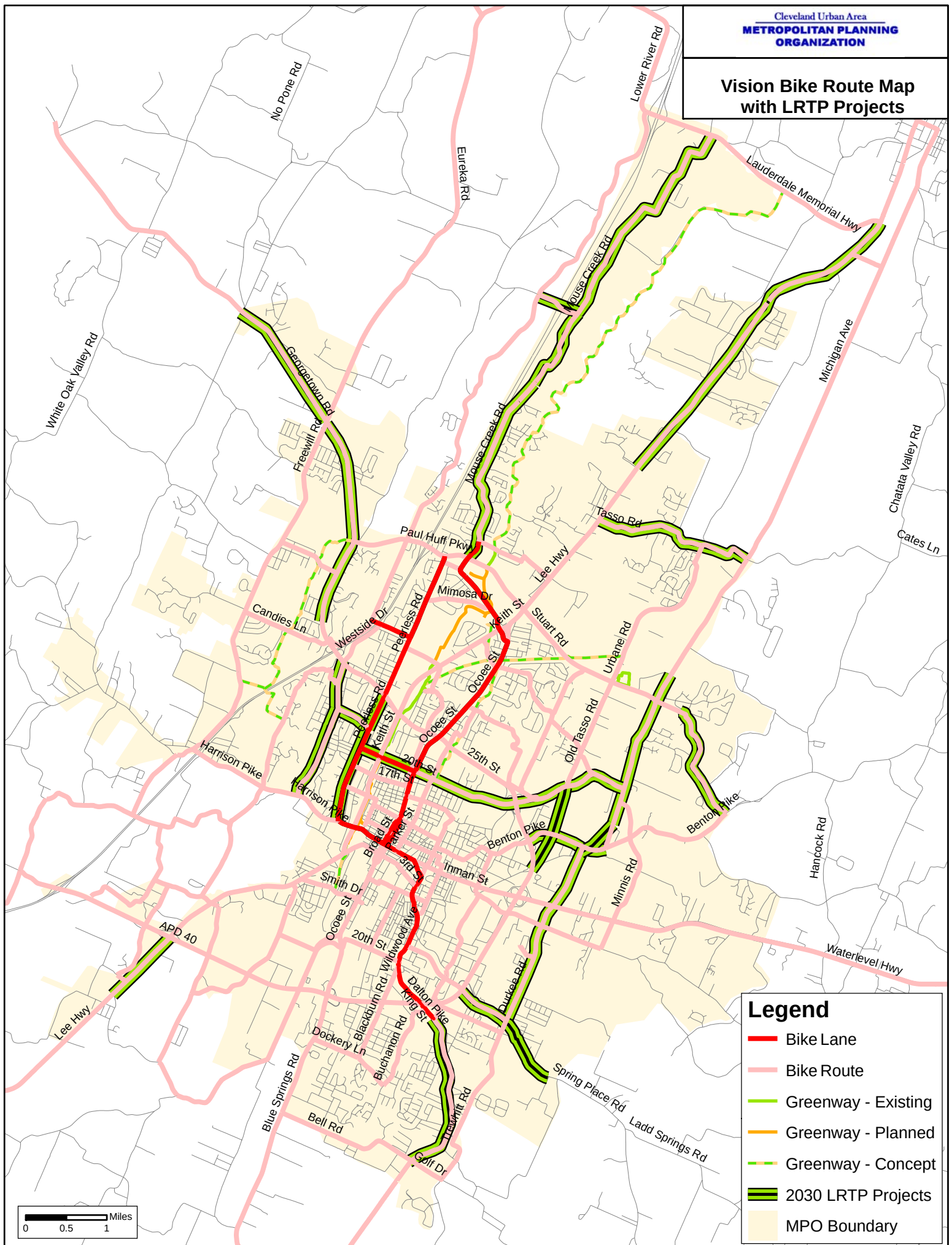
Cleveland Area MPO

Long Range Transportation Plan Comparison

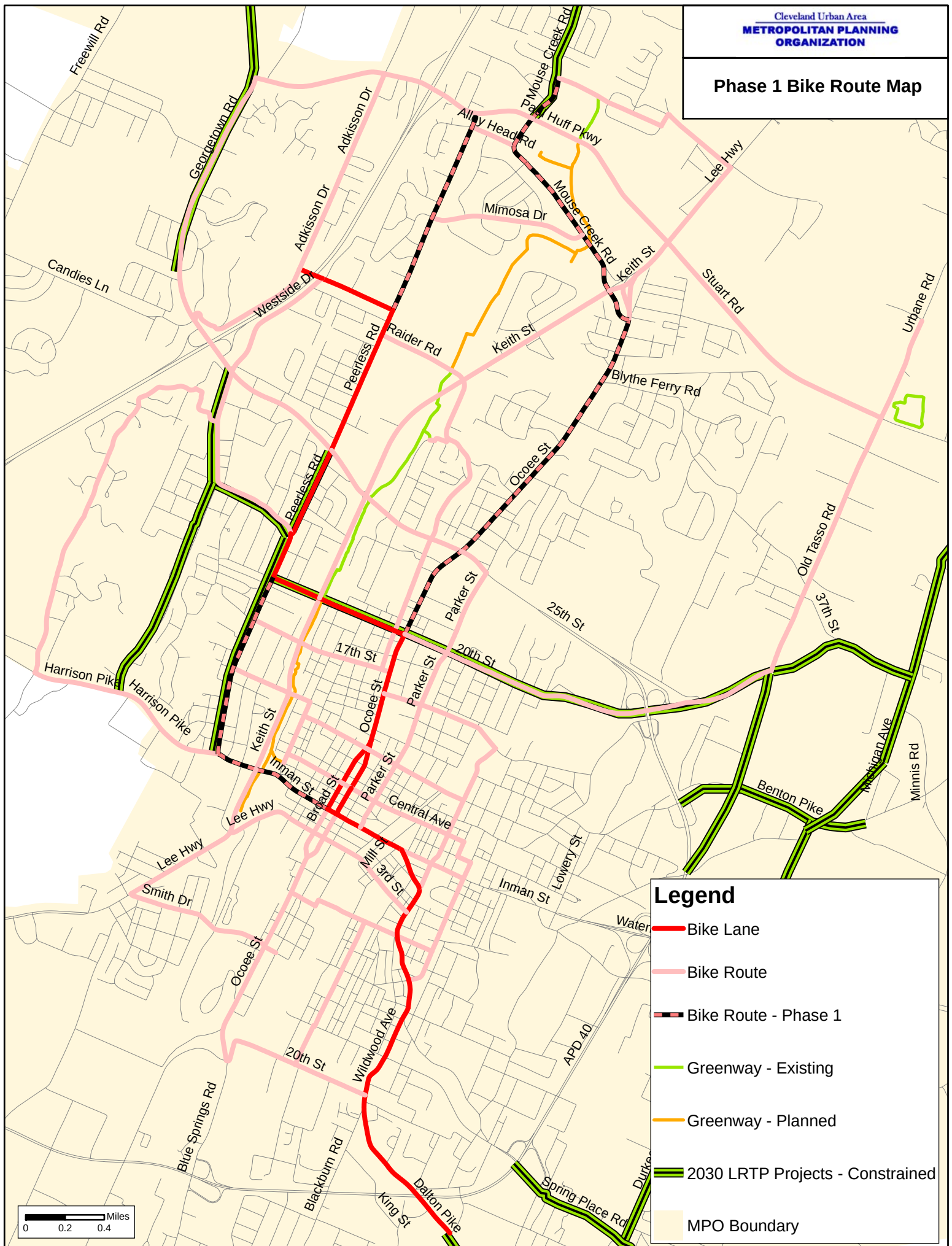
Sidewalk Needs Map with LRTP Projects

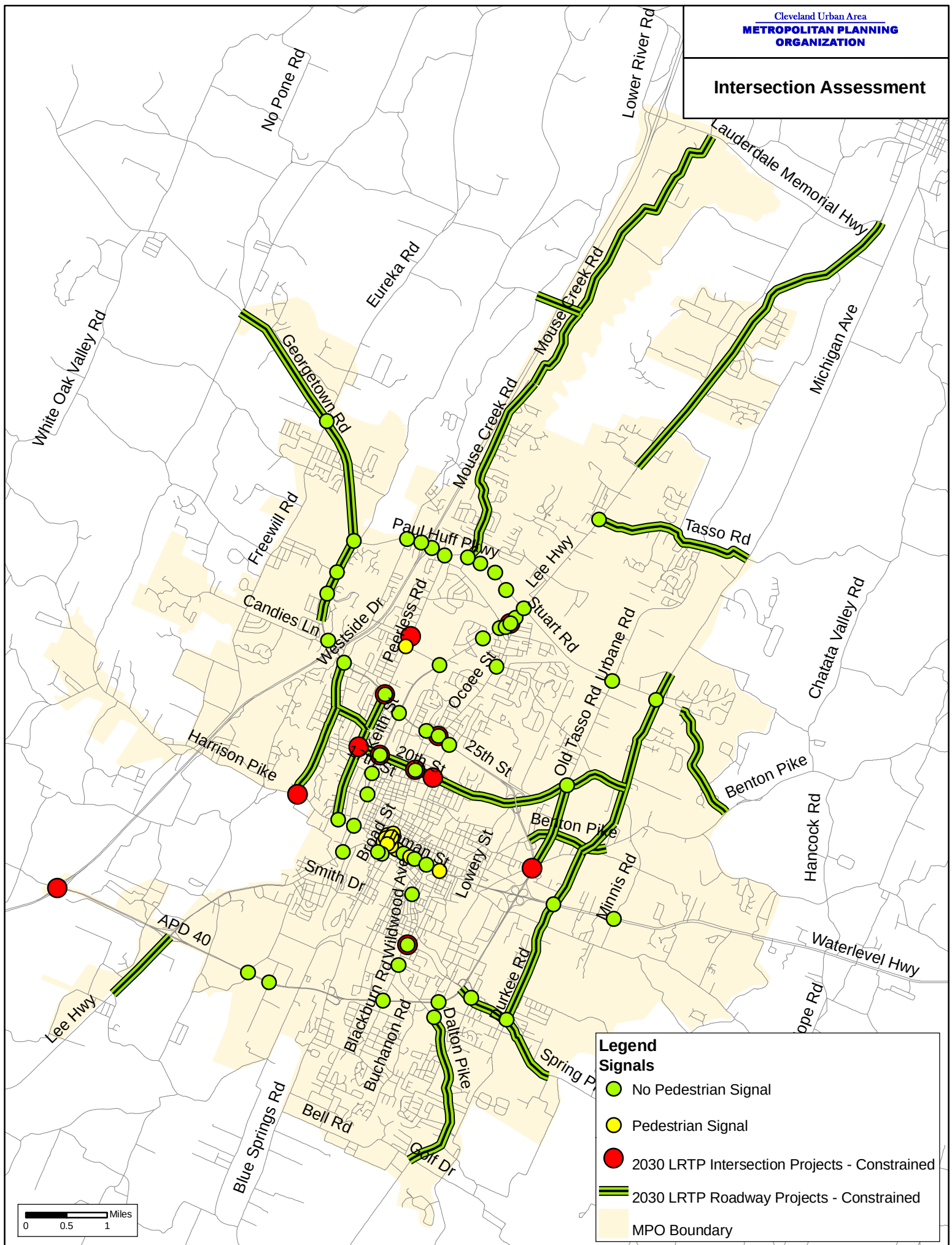


Vision Bike Route Map with LRTP Projects



Phase 1 Bike Route Map





APPENDIX F

Cleveland Area MPO

Detailed Project Costs

COST FOR SIDEWALK PROJECTS (DRAFT APRIL 2008)						
STREET	FROM	TO	Miles*	Cost for Sidewalk**	Total cost***	SPI
Harrison Pk	Westside Dr	Georgetown Rd (EX SW)	1.13	\$243,620	\$267,020	10
Westside Dr	Green Dr	Harrison Pk	2.39	\$513,150	\$544,350	10
Freewill Rd	Georgetown Rd	Georgetown Dr	0.60	\$128,267	\$143,867	18
Georgetown Rd	Freewill Rd	Georgetown Dr	0.88	\$188,939	\$204,539	18
20th St	37th St	Michigan Ave	0.84	\$179,835	\$195,435	20
20th St	Old Tasso Rd	37th St	0.75	\$161,150	\$176,750	20
20th St	Shady Ln	Old Tasso Rd	0.80	\$171,534	\$187,134	20
25th St	East of Parker St	20th St	1.48	\$317,222	\$340,622	20
28th St	Blackburn Rd	Buchanon Rd	0.82	\$176,291	\$191,891	20
Benton Pike	Michigan Ave	Old Parksville Rd	2.59	\$556,356	\$587,556	20
Candies Ln	Freewill Rd	Georgetown Rd	2.24	\$481,157	\$512,357	20
Dalton Pk	Red Food Dr	Golf Dr	4.15	\$892,311	\$923,511	20
Freewill Rd	22nd St	Harrison Pk	2.38	\$511,132	\$542,332	20
Freewill Rd	Lilac Dr	Villa Dr	2.28	\$489,553	\$520,753	20
Freewill Rd	Candies Ln	22nd St	1.55	\$333,955	\$365,155	20
Freewill Rd	Villa Dr	Candies Ln	1.96	\$421,856	\$453,056	20
Georgetown Rd	17th St	Harrison Pk	1.42	\$306,199	\$329,599	20
Georgetown Rd	Villa Dr	Paul Huff Pkwy	0.88	\$190,208	\$205,808	20
Michigan Ave	Tasso Rd	Royal Oaks Dr	1.13	\$242,376	\$265,776	20
Michigan Ave	Peach Orchard Hill Rd	Benton Pk	3.84	\$826,289	\$857,489	20
Minnis Rd	Michigan Ave	Benton Pk	0.98	\$209,743	\$225,343	20
Mouse Creek Rd	Saddle Creek Dr	Mohawk Dr	3.83	\$824,458	\$855,658	20
Old Tasso Rd	Blythe Ferry Rd	20th St	0.93	\$200,087	\$215,687	20
Peach Orchard Hill Rd	Michigan Ave	Old Benton Pk	3.71	\$796,801	\$828,001	20
Shady Ln	25th St	20th St	1.08	\$233,259	\$256,659	20
Tasso Rd	Lee Hwy	Michigan Ave	4.13	\$888,352	\$919,552	20
Villa Dr	Freewill Rd	Georgetown Rd	1.60	\$344,073	\$375,273	20
17th St	Georgetown Rd	Gary St	0.41	\$88,601	\$96,401	22
Bates Pike	Johnson Blvd	Durkee Rd	1.78	\$382,970	\$414,170	22
Benton Pike	Old Parksville Rd	Peach Orchard Hill Rd	0.80	\$172,529	\$188,129	22
Benton Pike	Stawberry Ln	APD 40	0.69	\$147,759	\$163,359	22
Benton Pk	Parker Dr	Michigan Ave	1.76	\$377,725	\$408,925	22
Benton Pk	APD 40	Parker Dr	0.43	\$92,212	\$100,012	22
Benton Pk	Lowery St	Strawberry Ln	0.17	\$37,506	\$45,306	22
Buchanan Rd	Buchanon Cir	28th St	0.97	\$209,518	\$225,118	22
Durkee Rd	Benton Pk	Waterlevel Hwy	1.65	\$354,886	\$386,086	22
Durkee Rd	Waterlevel Hwy	Spring Place Rd	3.08	\$662,475	\$693,675	22
Georgetown Dr	Wilson Rd	Freewill Rd	0.46	\$98,849	\$106,649	22
Georgetown Dr	Freewill Rd	Georgetown Rd	0.74	\$158,397	\$173,997	22
Georgetown Rd	Lilac Dr	Paul Huff Pkwy	1.75	\$375,908	\$407,108	22
Georgetown Rd	Eveningside Dr	I-75	1.07	\$230,031	\$253,431	22
Georgetown Rd	I-75	Westside Dr	0.58	\$124,074	\$139,674	22
Georgetown Rd	Peerless Rd	17th St	0.96	\$205,656	\$221,256	22
Georgetown Rd	Georgetown Dr	Lilac Dr	0.46	\$98,623	\$106,423	22
Henderson Ave	Sunset Dr	25th St	0.94	\$201,104	\$216,704	22
Lee Hwy	Tasso Rd	Sequoia Rd	1.89	\$406,082	\$437,282	22
Lilac Dr	Freewill Rd	Georgetown Rd	0.98	\$211,683	\$227,283	22
Ocoee St	Mouse Creek Rd	Blythe Ferry Rd	0.70	\$150,638	\$166,238	22
Paul Huff Pkwy	Georgetown Rd	Adkisson Dr	1.34	\$288,499	\$311,899	22
Spring Place Rd	APD 40	Durkee Rd	1.00	\$214,522	\$230,122	22
Trewhitt Rd	Spring Place Rd	Young Rd	0.31	\$67,471	\$75,271	22
Waterlevel Hwy	Old Power Line Rd	Durkee Rd	1.68	\$360,491	\$391,691	22
Young Rd	Broomfield Rd	Trewhitt Rd	1.00	\$215,788	\$239,188	22
Michigan Ave	Royal Oaks	Stuart Rd	3.04	\$652,747	\$683,947	24
Old Tasso Rd	Stuart Rd	Blythe Ferry Rd	1.87	\$402,615	\$433,815	24
20th St	Cherry St	APD 40	1.41	\$302,870	\$326,270	26
20th St	25th St	Shady Ln	0.55	\$117,746	\$133,346	26
Bates Pk	Lowery St	Old Power Line Rd	0.10	\$21,663	\$29,463	26
Benton Pike	8th St	Lowery St	0.56	\$119,821	\$135,421	26
Benton Pk	Lang St	8th St	0.61	\$130,096	\$145,696	26
Blue Springs Rd	20th St	APD 40	1.23	\$265,455	\$288,855	26
Inman St	Sheeler St	Old Power Line Rd	0.84	\$179,976	\$195,576	26
Johnson Blvd	Bates pk	Wildwood Lakes Rd	2.13	\$456,995	\$488,195	26

COST FOR SIDEWALK PROJECTS (DRAFT APRIL 2008)						
STREET	FROM	TO	Miles*	Cost for Sidewalk**	Total cost***	SPI
Lowery St	Inman St	Bates Pk	0.17	\$36,870	\$44,670	26
Lowery St	Benton Pk	Inman St	0.88	\$189,909	\$205,509	26
Stuart Rd	Old Tasso Rd	Michigan Ave	1.19	\$255,321	\$278,721	28
Alley Head Rd	Peerless Rd	Mouse Creek Rd	0.47	\$101,100	\$108,900	28
Apache Tr	Mohawk Dr	Sequoia Rd	0.15	\$33,106	\$40,906	28
Executive Park Dr	Ridgeway Dr	Adkisson Dr	0.26	\$56,386	\$64,186	28
Georgetown Rd	25th St	Peerless Rd	2.07	\$444,266	\$475,466	28
Georgetown Rd	Villa Dr	Eveningside Dr	0.79	\$169,656	\$185,256	28
Ocoee St	Blythe Ferry Rd	Weeks Dr	1.20	\$257,577	\$280,977	28
Paul Huff Pkwy	Adkisson Dr	Mouse Creek Rd	1.62	\$348,153	\$379,353	28
Peerless Rd	Paul Huff Pkwy	Valley Head Rd	0.15	\$31,354	\$39,154	28
Ridgeway Dr	Georgetown Rd	Executive Park Dr	0.06	\$13,807	\$21,607	28
Sequoia Rd	Apache Tr	Lee Hwy	0.82	\$176,845	\$192,445	28
Urbane Rd	Tasso Rd	Rosewood Dr	3.36	\$723,321	\$754,521	28
Urbane Rd	Rosewood Dr	Stuart Rd	1.10	\$235,441	\$258,841	28
17th St	Keith St	Harle Ave	0.48	\$102,580	\$110,380	30
25th St	Georgetown Rd	Peerless Rd	1.30	\$280,302	\$303,702	30
25th St	Peerless Rd	Keith St	0.57	\$121,533	\$137,133	30
Adkisson Dr	Paul Huff Pkwy	Catherine Cir	1.10	\$235,845	\$259,245	30
Broomfield Rd	Spring Place Rd	Young Rd	0.44	\$93,971	\$101,771	30
Dalton Pk	Baldwin St	Red Food Dr	0.58	\$125,102	\$140,702	30
Freewill Rd	Georgetown Dr	Lilac Dr	0.36	\$77,367	\$85,167	30
Henderson Rd	Keith St	Sunset Dr	0.95	\$203,256	\$218,856	30
Mohawk Dr	Mouse Creek Rd	Apache Tr	1.15	\$247,700	\$271,100	30
Ocoee St	Lee Hwy	Ocoee St	0.54	\$116,234	\$131,834	30
Parker St	25th St	23rd St	0.48	\$102,776	\$110,576	30
Peerless Rd	25th St	Georgetown Rd	0.95	\$205,046	\$220,646	30
Peerless Rd	Cookdale Tr	25th St	0.57	\$123,462	\$139,062	30
Prospect School Rd	New Murraytown Rd	Freewill Rd	0.28	\$59,570	\$67,370	30
Red Food Dr	APD 40	Dalton Pk	0.43	\$92,374	\$100,174	30
Spring Place Rd	APD 40	APD 40	0.46	\$98,637	\$106,437	30
Young Rd	Red Food Dr	Broomfield Rd	0.66	\$141,297	\$156,897	32
20th St	Parker St	Cherry St	0.75	\$162,064	\$177,664	32
Mimosa Dr	Peerless Rd	Mouse Creek Rd	1.59	\$341,021	\$372,221	34
Smith Dr	Lee Hwy	Ocoee St	1.50	\$321,534	\$344,934	34
Baldwin St	Dalton Pk	Red Food Dr	0.47	\$101,721	\$109,521	34
Blackburn Rd	APD 40	28th St	0.84	\$180,042	\$195,642	34
Blackburn Rd	Dalton Pk	APD 40	0.96	\$206,977	\$222,577	34
Buchanan Cr	Buchanon Rd	Dalton Pk	0.31	\$65,608	\$73,408	34
Country Club Dr	Harrison Pk	Emmett St	0.37	\$78,856	\$86,656	34
Dalton Pk	Blackburn Rd	Baldwin St	1.02	\$220,355	\$243,755	34
Grove Ave	Harrison Pk	Star Vue Dr	0.61	\$131,264	\$146,864	34
Grove Ave	Willow St	Harrison Pk	0.88	\$188,832	\$204,432	34
King St	APD 40	Buchanon Rd	0.41	\$89,126	\$96,926	34
Parker Ave	Smith Dr	Victory St	0.53	\$114,624	\$130,224	34
Red Food Dr	Baldwin St	APD 40	0.08	\$18,262	\$26,062	34
Spring Place Rd	Wildwood Ave	APD 40	1.68	\$360,239	\$391,439	34
Victory St	Lee Hwy	Parker Ave	0.85	\$181,739	\$197,339	34
White St	Wildwood Lake Rd	Spring Place Rd	0.09	\$18,451	\$26,251	34
White St	Spring Place Rd	Baldwin St	0.61	\$132,173	\$147,773	34
Willow St	Georgetown Rd	Keith St	0.61	\$130,490	\$146,090	36
Wilwood Rd	Johnson Blvd	White St	0.14	\$29,049	\$36,849	36
Adkisson Dr	Cleveland State College EX SW	Cleveland State College Ex SW	0.27	\$57,741	\$65,541	36
Lee Hwy	Paul Huff Pkwy	Keith	0.47	\$101,406	\$109,206	36
Lee Hwy	Fairfield Farm Rd	Paul Huff Pkwy	0.38	\$81,358	\$89,158	36
Mouse Creek Rd	Mohawk Dr	Paul Huff Pkwy	0.51	\$109,129	\$124,729	38
Paul Huff Pkwy	Mouse Creek Rd	Lee Hwy	1.91	\$410,702	\$441,902	38
17th St	Harle Ave	Ocoee St	0.48	\$103,371	\$111,171	38
20th St	Georgetown Rd	Kyker-Bonner Ave	0.26	\$55,651	\$63,451	38
21st St	Georgetown Rd	Kyker-Bonner Ave	0.26	\$54,957	\$62,757	38
23rd St	Peerless Rd	Kyker-Bonner Ave	0.25	\$53,407	\$61,207	38
Adkisson Dr	Executive Park Dr	Norman Chapel Rd	1.07	\$230,340	\$253,740	38
Baugh St	20th St	16th St	0.51	\$109,937	\$125,537	38

COST FOR SIDEWALK PROJECTS (DRAFT APRIL 2008)						
STREET	FROM	TO	Miles*	Cost for Sidewalk**	Total cost***	SPI
Clemmer St	20th St	16th St	0.51	\$109,803	\$125,403	38
Hackberry Dr	Peerless Rd	Keith St	0.51	\$109,963	\$125,563	38
Harle Ave	20th St	17th St	0.47	\$100,639	\$108,439	38
Harle Ave	17th St	14th St	0.27	\$57,705	\$65,505	38
Keith St	Mouse Creek Rd	S of Northwood Dr	1.01	\$217,640	\$241,040	38
Keith St	Mouse Creek Rd	Ocoee St	0.32	\$68,491	\$76,291	38
Keith St	Sahara Dr	25th St	0.82	\$176,876	\$192,476	38
Maple St	20th St	16th St	0.51	\$110,310	\$125,910	38
Mouse Creek Rd	Yates Primary School	Keith St	1.37	\$293,589	\$316,989	38
Mouse Creek Rd	Keith St	Lee Hwy	0.38	\$81,315	\$89,115	38
Norman Chapel Rd	Adkisson Dr	Westside Dr	0.25	\$53,604	\$61,404	38
Ocoee St	Lee Hwy	Mouse Creek Rd	0.45	\$96,420	\$104,220	40
Westside Dr	Norman Chapel Rd	Georgetown Rd	1.36	\$293,234	\$316,634	40
18th St	Church St	Parker St	0.27	\$57,255	\$65,055	40
18th St	Blythe Ave	Wildwood Ave	0.80	\$172,611	\$188,211	40
18th St	Harle Ave	Ocoee St	0.46	\$99,254	\$107,054	40
Adkisson Dr	Catherine Cir	Arlena Dr	0.52	\$111,306	\$126,906	40
Chambliss Ave	25th St	24th St	0.23	\$49,838	\$57,638	40
Church St	20th St	16th St	0.49	\$105,344	\$113,144	40
Jordan Ave	13th St	Centenary Ave	0.10	\$20,497	\$28,297	40
Jordan Ave	18th St	17th St	0.16	\$33,611	\$41,411	40
Wildwood Ave	14th St	Spring Place Rd	0.56	\$119,786	\$135,386	42
Wildwood Ave	Spring Place Rd	20th St	0.45	\$96,701	\$104,501	42
15th St	Harle Ave	Chambliss Ave	0.41	\$87,302	\$95,102	42
20th St	Church St	Parker St	0.30	\$63,814	\$71,614	42
4th St	Harle Ave	Oak St	0.20	\$42,761	\$50,561	42
Emmett St	Country Club Dr	Bradley Central School	0.53	\$113,871	\$129,471	42
Highland Ave	17th St	Willow St	0.52	\$111,737	\$127,337	42
Lee Hwy	Victory St	Beard Cir	1.15	\$248,114	\$271,514	42
Oak St	15th St	Centenary Ave	0.28	\$60,962	\$68,762	42
Parker St	23rd St	22nd St	0.20	\$43,132	\$50,932	44
Willow St	Keith St	Harle Ave	0.37	\$80,618	\$88,418	44
11th St	Berry St	Poplar St	0.14	\$29,302	\$37,102	44
11th St	Poplar St	Poplar St	0.05	\$11,335	\$19,135	44
15th St	Peoples St	Gaut St	0.62	\$134,007	\$149,607	44
19th St	Oak St	Ocoee St	0.32	\$68,125	\$75,925	44
20th St	Ocoee St	Blythe Ave	0.94	\$202,109	\$217,709	44
20th St	Harle Ave	Chambliss Ave	0.35	\$76,239	\$84,039	44
23rd St	OcoeeSt	Parker St	0.45	\$95,875	\$103,675	44
Chambliss Ave	20th St	17th St	0.42	\$89,525	\$97,325	44
Chambliss Ave	24th St	20th St	0.70	\$150,387	\$165,987	44
Chambliss Ave	15th St	14th St	0.10	\$21,685	\$29,485	44
Gaut St	15th St	6th St	0.85	\$182,121	\$197,721	44
Jordan Ave	15th St	14th St	0.10	\$21,281	\$29,081	44
Jordan Ave	14th St	13th St	0.09	\$18,465	\$26,265	44
Jordan Ave	17th St	15th St	0.18	\$37,921	\$45,721	44
Jordan Ave	20th St	19th St	0.11	\$23,193	\$30,993	44
Ocoee St	16th St	19th St	0.57	\$122,109	\$137,709	44
Ocoee St	19th St	Old Chattanooga Pk	0.53	\$113,859	\$129,459	46
Poplar St	11th St	Benton Pk	0.47	\$101,209	\$109,009	46
13th St	Harle Ave	Ocoee St	0.54	\$115,673	\$131,273	46
14th St	Harle Ave	Jordan Ave	0.27	\$57,941	\$65,741	46
23rd St	Kyker-Bonner Ave	Keith St	0.25	\$53,124	\$60,924	46
Bowman Ave	Oak St	Ocoee St	0.38	\$81,108	\$88,908	46
Jordan Ave	19th St	18th St	0.16	\$35,326	\$43,126	46
Kyker-Bonner Ave	23rd St	20th St	0.66	\$141,315	\$156,915	48
Willow St	Harle Ave	Oak St	0.20	\$42,831	\$50,631	48
12th St	Wilson Ave	Wildwood Ave	0.37	\$78,897	\$86,697	48
14th St	Lay St	Johnson Blvd	0.76	\$164,357	\$179,957	48
14th St	Wildwood Ave	Lay St	0.39	\$83,098	\$90,898	48
1st St	Shephard St	East St	0.15	\$31,864	\$39,664	48
2nd St	Oak St	Spring St	0.10	\$20,521	\$28,321	48
Benton Pk	Poplar St	Lang St	0.18	\$39,321	\$47,121	48

COST FOR SIDEWALK PROJECTS (DRAFT APRIL 2008)						
STREET	FROM	TO	Miles*	Cost for Sidewalk**	Total cost***	SPI
Benton Pk	Gaut St	Berry St	0.09	\$20,328	\$28,128	48
Benton Pk	Berry St	Poplar St	0.15	\$32,402	\$40,202	48
Blythe Ave	Bower Ln	Justice Center	0.23	\$50,360	\$58,160	48
Blythe Ave	20th St	Foster Ln	0.57	\$123,320	\$138,920	48
Bower Ln	Foster Ln	Blackburn Rd	0.91	\$196,221	\$211,821	48
Central Ave	Parker St	Trunk St	0.09	\$19,449	\$27,249	48
Central Ave	Gaut St	Shephard St	0.18	\$37,816	\$45,616	48
Foster Ln	Blythe Ave	20th St	0.88	\$188,413	\$204,013	48
Gaut St	Central Ave	1st St	0.17	\$35,820	\$43,620	48
Gaut St	6th St	Central Ave	0.18	\$38,915	\$46,715	48
Oak St	2nd St	Inman St	0.20	\$42,607	\$50,407	48
Shepard St	Central Ave	1st St	0.16	\$35,237	\$43,037	48
Spring St	2nd St	1st St	0.10	\$21,002	\$28,802	48
Wilson Ave	16th St	18th St	0.32	\$69,599	\$77,399	50
13th St	Blythe Ave	Wilson Ave	0.36	\$76,553	\$84,353	50
14th St	Ocoee St	Church St	0.13	\$28,210	\$36,010	50
1st St	1st St	Harle Ave	0.09	\$18,595	\$26,395	50
1st St	Highland Ave	Highland Ave	0.00	\$490	\$8,290	50
1st St	Highland Ave	1st St	0.04	\$8,278	\$16,078	50
1st St	Inman St	Highland Ave	0.05	\$11,530	\$19,330	50
6th St	Oak St	Spring St	0.09	\$20,234	\$28,034	50
7th St	Johnson Ave	Harle Ave	0.05	\$11,156	\$18,956	50
9th St	Euclid Ave	Wildwood Ave	0.88	\$189,921	\$205,521	50
Chippewa Ave	13th St	18th St	0.63	\$135,663	\$151,263	50
Harle Ave	1st St	Inman St	0.09	\$18,584	\$26,384	50
Harle Ave	8th St	4th St	0.32	\$69,642	\$77,442	50
Inman St	1st St	Worth St	0.55	\$117,736	\$133,336	50
Lee Hwy	N of Westover Dr	Ocoee St	0.83	\$177,841	\$193,441	50
Ocoee St	Smith Dr	16th St	0.17	\$36,419	\$44,219	52
11th St	Gaut St	Berry St	0.09	\$19,936	\$27,736	52
20th St	Blythe Ave	Foster Ln	0.34	\$73,617	\$81,417	52
3rd St	Ocoee St	Church St	0.10	\$21,663	\$29,463	52
9th St	Gaut St	East St	0.23	\$48,495	\$56,295	52
Blythe Ave	13th St	18th St	0.64	\$137,154	\$152,754	52
Blythe Ave	18th St	20th St	0.44	\$94,470	\$102,270	52
Broad St	Lee Hwy	Broad/Ocoee Split (S)	0.28	\$60,447	\$68,247	52
Euclid Ave	9th St	9th St	0.07	\$14,292	\$22,092	52
Walker St	4th St	Central Ave	0.09	\$19,093	\$26,893	54
8th St	Railroad St	Railroad St	0.03	\$5,892	\$13,692	54
Bates St	Central Ave	South of Inman St	0.18	\$38,106	\$45,906	54
Gaut St	1st St	Inman St	0.18	\$38,039	\$45,839	54
Highland Ave	4th St	1st St	1.03	\$221,185	\$244,585	54
Highland Ave	Willow St	7th St	0.26	\$56,493	\$64,293	54
Gaut St	8th St	9th St	0.12	\$25,400	\$33,200	56
Keith St	Existing SW (S) of Raider	Raider Rd	0.25	\$53,343	\$61,143	56
Wilson Ave	13th St	15th St	0.21	\$45,342	\$53,142	56
16th St	Magnolia Ave	Clemmer St	0.40	\$86,950	\$94,750	58
3rd St	Edwards St	Mill St	0.09	\$18,405	\$26,205	58
Oak St	8th St	7th St	0.09	\$19,847	\$27,647	58
Peoples St	16th St	15th St	0.06	\$12,482	\$20,282	58
8th St	Railroad St	Gaut St	0.23	\$50,345	\$58,145	60
9th St	Ocoee St	Euclid Ave	0.28	\$59,772	\$67,572	60
Total			178.32	\$38,338,080	\$41,816,880	

* Length reflects distance of sidewalk along both sides of the roadway.

** This estimate does not include the cost for drainage or ROW purchase.

*** This includes the cost for handicap ramps and crosswalks at non-signalized intersections.

**COST FOR BICYCLE FACILITIES PHASE 1
(DRAFT APRIL 2008)**

STREET	FROM	TO	Bike Facility	BCI	Miles	Cost for Bicycle Component
20th St	Georgetown Rd	Kyker-Bonner Ave	Bike Lane	3.29	0.13	\$163,200
20th St	Kyker-Bonner Ave	Keith St	Bike Lane	3.55	0.13	\$163,200
20th St	Keith St	Ocoee St	Bike Lane	3.60	0.47	\$595,200
Broad St	2nd St	Inman St	Bike Lane	4.48	0.10	\$126,900
Broad St	Ocoee St	6th St	Bike Lane	3.78	0.13	\$163,400
Broad St	6th St	2nd St	Bike Lane	4.21	0.18	\$231,200
Dalton Pike	20th St	Baldwin St	Bike Lane	3.94	0.57	\$721,100
Dalton Pk	Baldwin St	Red Food Dr	Bike Lane	4.29	0.29	\$367,500
Georgetown Rd	Peerless Rd	20th St	Bike Lane	4.47	0.24	\$303,800
Inman St	Broad St	Wildwood Ave	Bike Lane	4.18	0.43	\$543,100
Norman Chapel Rd	Westside Dr	Peerless Rd	Bike Lane	3.66	0.40	\$498,600
Norman Chapel Rd	Adkisson Dr	Westside Dr	Bike Lane	3.92	0.12	\$157,300
Ocoee St	18th St	Broad/Ocoee split	Bike Lane	3.83	0.44	\$556,800
Ocoee St	Central Ave	8th St	Bike Lane	4.60	0.21	\$268,700
Ocoee St	20th St	18th St	Bike Lane	4.28	0.13	\$161,800
Ocoee St	Central Ave	Inman St	Bike Lane	4.60	0.15	\$190,700
Ocoee St	8th St	Broad/Ocoee split (N)	Bike Lane	3.80	0.05	\$63,900
Peerless Rd	25th St	Georgetown Rd	Bike Lane	3.78	0.48	\$601,400
Peerless Rd	Norman Chapel Rd	25th St	Bike Lane	2.86	0.78	\$980,400
Wildwood Ave	Dooley St	14th St	Bike Lane	4.19	0.65	\$821,000
Wildwood Ave	14th St	Spring Place Rd	Bike Lane	4.19	0.28	\$351,300
Wildwood Ave	Inman St	Dooley St	Bike Lane	3.57	0.21	\$267,900
Wildwood Ave	Spring Place Rd	20th St	Bike Lane	4.19	0.22	\$283,700
14th St	Ocoee St	Church St	Bike Route		0.07	\$700
15th St	Parker St	Gaut St	Bike Route		0.45	\$2,200
15th St	Ocoee St	Parker St	Bike Route		0.20	\$1,200
17th St	Georgetown Rd	Keith St	Bike Route	3.36	0.26	\$1,500
17th St	Keith St	Ocoee St	Bike Route	3.45	0.48	\$2,300
18th St	Blythe Ave	Blythe Ave	Bike Route		0.01	\$500
1st St	Shephard St	East St	Bike Route		0.07	\$800
20th St	Parker St	APD 40	Bike Route	4.33	1.08	\$4,600
20th St	Ocoee St	Blythe Ave	Bike Route	3.66	0.46	\$2,200
20th St	Shady Ln	Old Tasso Rd	Bike Route	4.54	0.40	\$2,000
20th St	APD 40	Shady Ln	Bike Route	4.14	0.27	\$1,500
20th St	Ocoee St	Parker St	Bike Route	4.15	0.24	\$1,400
20th St	Blythe Ave	Foster Ln	Bike Route	3.52	0.18	\$1,200
20th St	Foster Ln	Wildwood Ave	Bike Route	3.66	0.20	\$1,200
25th St	Georgetown Rd	Peerless Rd	Bike Route	3.06	0.65	\$2,900
25th St	Keith St	Ocoee St	Bike Route	5.21	0.57	\$2,600
25th St	Peerless Rd	Keith St	Bike Route	3.06	0.29	\$1,600
25th St	Ocoee St	Parker St	Bike Route	5.11	0.17	\$1,100
3rd St	Linden Ave	Cincinnati Ave	Bike Route	3.24	0.20	\$1,200
3rd St	Cincinnati Ave	Wildwood Ave	Bike Route	3.24	0.09	\$800
3rd St	Ocoee St	Linden Ave	Bike Route	3.33	0.29	\$1,600
8th St	Highland Ave	Broad St	Bike Route		0.36	\$1,800
8th St	Broad St	Ocoee St	Bike Route		0.01	\$600
8th St	Ocoee St	Parker St	Bike Route		0.16	\$1,100
8th St	Parker St	Gaut St	Bike Route		0.39	\$2,000
9th St	Ocoee St	Euclid Ave	Bike Route		0.14	\$1,000
9th St	Euclid Ave	Blythe Ave	Bike Route		0.26	\$1,500
9th St	Wildwood Ave	East St	Bike Route		0.19	\$1,200
9th St	Blythe Ave	Wildwood Ave	Bike Route		0.18	\$1,200
Adkisson Dr	Paul Huff Pkwy	Catherine Cir	Bike Route	4.12	0.55	\$2,600
Adkisson Dr	Catherine Cir	Norman Chapel Rd	Bike Route	3.76	0.54	\$2,500
Adkisson Dr	Norman Chapel Rd	Executive Park Dr	Bike Route		0.55	\$2,600
Alley Head Rd	Peerless Rd	Mouse Creek Rd	Bike Route	3.75	0.24	\$1,400

**COST FOR BICYCLE FACILITIES PHASE 1
(DRAFT APRIL 2008)**

STREET	FROM	TO	Bike Facility	BCI	Miles	Cost for Bicycle Component
Apache Tr	Sequoia Rd	Mohawk Dr	Bike Route		0.08	\$800
Barpen St	Henderson Ave	Oakland Dr	Bike Route		0.02	\$600
Blythe Ave	9th St	18th St	Bike Route		0.59	\$2,700
Blythe Ave	18th St	20th St	Bike Route		0.22	\$1,300
Broad St	Inman St	Lee Hwy	Bike Route	4.27	0.14	\$1,000
Broad St	Lee Hwy	Broad/Ocoee Split	Bike Route	3.51	0.14	\$1,000
Central Ave	Gaut St	Shepherd St	Bike Route		0.09	\$800
Central Ave	Edwards St	Gaut St	Bike Route	2.72	0.25	\$1,400
Central Ave	Church St	Edwards St	Bike Route	2.17	0.24	\$1,400
Central Ave	Broad St	Church St	Bike Route	4.21	0.11	\$900
Central Ave	Highland Ave	Broad St	Bike Route		0.32	\$1,700
Chamblis Ave	20th St	17th St	Bike Route		0.21	\$1,300
Chamblis Ave	25th St	20th St	Bike Route		0.50	\$2,400
Dooley St	Inman St	Wildwood Ave	Bike Route	3.60	0.14	\$1,000
East St	Inman St	9th St	Bike Route		0.40	\$2,000
East St	9th St	Wildwood Ave	Bike Route		0.20	\$1,300
East St	1st St	Inman St	Bike Route		0.09	\$800
Euclid Ave	9th St	9th St	Bike Route		0.03	\$600
Executive Park Dr	Ridgeway Dr	Adkisson Dr	Bike Route		0.13	\$1,000
Gaut St	8th St	Central Ave	Bike Route	3.33	0.19	\$1,200
Gaut St	15th St	8th St	Bike Route		0.32	\$1,700
Gaut St	Central Ave	Inman St	Bike Route		0.17	\$1,100
Georgetown Rd	Eveningside Dr	I-75	Bike Route	1.87	0.54	\$2,500
Georgetown Rd	I-75	Westside Dr	Bike Route	2.97	0.28	\$1,500
Georgetown Rd	25th St	Peerless Rd	Bike Route	4.29	1.03	\$4,400
Georgetown Rd	Villa Dr	Eveningside Dr	Bike Route	4.34	0.39	\$2,000
Georgetown Rd	Paul Huff Pkwy	Villa Dr	Bike Route	4.60	0.44	\$2,200
Harris Cr	Greenway	Oakland Dr	Bike Route		0.03	\$600
Harrison Pike	Westside Dr	Georgetown Rd	Bike Route	4.01	0.62	\$2,800
Harrison Pike	Blythewood Rd	Westside Dr	Bike Route	4.18	0.45	\$2,200
Henderson Ave	Barpen St	25th St	Bike Route		0.61	\$2,800
Henderson Ave	Barpen St		Bike Route		0.00	\$500
Henderson Rd	Keith St	Barpen St	Bike Route		0.32	\$1,700
Highland Ave	Willow St	2nd St	Bike Route		0.34	\$1,800
Inman St	Gaut St	East St	Bike Route	4.08	0.18	\$1,200
Inman St	Wildwood Ave	Gaut St	Bike Route	4.11	0.17	\$1,100
Keith St	17th St	Harrison Pk	Bike Route	2.88	0.69	\$3,100
Keith St	20th St	17th St	Bike Route	5.06	0.25	\$1,400
Keith St	Mouse Creek Rd	25th St	Bike Route	2.79	1.68	\$6,800
Keith St	Stuart Rd	Mouse Creek Rd	Bike Route	3.84	0.15	\$1,100
Keith St	25th St	20th St	Bike Route	5.06	0.56	\$2,600
Keith St	Inman St	Lee Hwy	Bike Route	2.39	0.35	\$1,800
Lee Hwy	Keith St	Ocoee St	Bike Route		0.14	\$1,000
Lee Hwy	Smith Dr	Keith St	Bike Route	4.28	0.60	\$2,700
Lee Hwy	Keith St	Ocoee St	Bike Route	3.60	0.54	\$2,500
Lee Hwy	Sequoia Rd	Paul Huff Pkwy	Bike Route	4.27	0.50	\$2,400
Mimosa Dr	Peerless Rd	Mouse Creek Rd	Bike Route	3.67	0.79	\$3,500
Mohawk Dr	Mouse Creek Rd	Apache Tr	Bike Route		0.58	\$2,700
Mount Vernon Dr	Valley Hills Tr	Georgetown Rd	Bike Route		0.25	\$1,500
Oakland Dr	Harris Cir	Barpen St	Bike Route		0.07	\$800
Ocoee St	Keith St	Mouse Creek Rd	Bike Route	5.12	0.22	\$1,300
Ocoee St	8th St	16th St	Bike Route	3.86	0.47	\$2,300
Ocoee St	16th St	19th St	Bike Route	2.37	0.28	\$1,600
Ocoee St	Broad/Ocoee Split	8th St	Bike Route	3.62	0.12	\$900
Ocoee St	Inman St	3rd St	Bike Route	4.54	0.14	\$1,000
Ocoee St	19th St	20th St	Bike Route	4.09	0.26	\$1,500

**COST FOR BICYCLE FACILITIES PHASE 1
(DRAFT APRIL 2008)**

STREET	FROM	TO	Bike Facility	BCI	Miles	Cost for Bicycle Component
Ocoee St	Lee Hwy/3rd St	Broad/Ocoee split (S)	Bike Route	4.54	0.13	\$1,000
Old Tasso Rd	Stuart Rd	Blythe Ferry Rd	Bike Route	4.80	0.94	\$4,000
Old Tasso Rd	Blythe Ferry Rd	20th St	Bike Route	4.34	0.47	\$2,200
Parker St	11th St	8th St	Bike Route	3.04	0.12	\$900
Parker St	8th St	Central Ave	Bike Route	3.73	0.22	\$1,300
Parker St	25th St	23rd St	Bike Route	2.18	0.24	\$1,400
Parker St	16th St	11th St	Bike Route	3.42	0.22	\$1,300
Parker St	Central Ave	2nd St	Bike Route	1.76	0.05	\$700
Parker St	2nd St	Inman St	Bike Route	3.80	0.10	\$900
Parker St	20th St	15th St	Bike Route	3.42	0.30	\$1,600
Parker St	22nd St	20th St	Bike Route	3.55	0.12	\$1,000
Parker St	23rd St	22nd St	Bike Route	3.40	0.10	\$900
Paul Huff Pkwy	Georgetwon Rd	Adkisson Dr	Bike Route	2.75	0.67	\$3,000
Paul Huff Pkwy	Mouse Creek Rd	Lee Hwy	Bike Route	4.64	0.95	\$4,100
Paul Huff Pkwy	Adkisson Dr	Mouse Creek Rd	Bike Route	4.64	0.81	\$3,500
Raider Rd	Peerless Rd	Keith St	Bike Route	4.04	0.48	\$2,300
Ridgeway Dr	Executive Park Dr	Georgetown Rd	Bike Route		0.03	\$600
Sequoia Rd	Apache Tr	Lee Hwy	Bike Route		0.41	\$2,000
Shepard St	Central Ave	1st St	Bike Route		0.08	\$800
Smith Dr	Lee Hwy	Ocoee St	Bike Route	3.52	0.75	\$3,300
Stuart Rd	Paul Huff Pkwy	Keith St	Bike Route	5.02	0.24	\$1,400
Stuart Rd	Lee Hwy	Old Tasso Rd	Bike Route	4.81	1.43	\$5,900
Tennessee Nursery Rd	Woodvale St	Harrison Pk	Bike Route		1.48	\$6,100
Urbane Rd	Rosewood Dr	Stuart Rd	Bike Route	4.11	0.54	\$2,500
Valley Hills Tr	Woodvale St	Mount Vernon Rd	Bike Route		0.35	\$1,800
Westside Dr	Norman Chapel	Georgetown Rd	Bike Route	3.92	0.68	\$3,100
Willow St	Georgetown Rd	Keith St	Bike Route		0.30	\$1,600
Willow St	Keith St	Highland Ave	Bike Route		0.12	\$900
Georgetown Rd	17th St	Harrison Pk	Bike Route	4.21	0.71	\$3,200
Georgetown Rd	20th St	17th St	Bike Route	4.47	0.24	\$1,400
Harrison Pike	Georgetown Rd	Keith St	Bike Route	4.35	0.21	\$1,300
Inman St	Keith St	Worth St	Bike Route	4.17	0.37	\$1,900
Inman St	Worth St	Broad St	Bike Route	4.18	0.05	\$700
Mouse Creek Rd	Sycamore Dr	Keith St	Bike Route	4.06	0.79	\$3,500
Mouse Creek Rd	Keith St	Ocoee St	Bike Route	3.95	0.19	\$1,200
Mouse Creek Rd	Paul Huff Pkwy	Alley Head Rd	Bike Route	4.21	0.17	\$1,100
Mouse Creek Rd	Alley Head Rd	Sycamore Dr	Bike Route	4.06	0.11	\$900
Mouse Creek Rd	Mohawk Dr	Paul Huff Pkwy	Bike Route	4.22	0.25	\$1,500
Ocoee St	25th St	20th St	Bike Route	4.54	0.52	\$2,500
Ocoee St	Sunset Dr	25th St	Bike Route	3.51	0.39	\$2,000
Ocoee St	Mouse Creek Rd	Blythe Ferry Rd	Bike Route	4.85	0.35	\$1,800
Ocoee St	Blythe Ferry Rd	Sunset Dr	Bike Route	4.85	0.72	\$3,200
Peerless Rd	Paul Huff Pkwy	Norman Chapel Rd	Bike Route	4.10	1.09	\$4,600
Total Bike Lanes					6.80	\$8,582,100
Total Bike Routes					47.29	\$243,300
Total						\$8,825,400

**COST FOR BICYCLE FACILITIES PHASE 2
(DRAFT APRIL 2008)**

STREET	FROM	TO	Bike Facility	BCI	Miles	Cost for Bicycle Component
Georgetown Rd	17th St	Harrison Pk	Bike Lane		0.71	\$898,200
Georgetown Rd	20th St	17th St	Bike Lane		0.24	\$299,500
Harrison Pike	Georgetown Rd	Keith St	Bike Lane		0.21	\$265,300
Inman St	Keith St	Worth St	Bike Lane		0.37	\$468,000
Inman St	Worth St	Broad St	Bike Lane		0.05	\$63,200
Mouse Creek Rd	Sycamore Dr	Keith St	Bike Lane		0.79	\$999,800
Mouse Creek Rd	Keith St	Ocoee St	Bike Lane		0.19	\$238,600
Mouse Creek Rd	Paul Huff Pkwy	Alley Head Rd	Bike Lane		0.17	\$213,100
Mouse Creek Rd	Alley Head Rd	Sycamore Dr	Bike Lane		0.11	\$134,800
Mouse Creek Rd	Mohawk Dr	Paul Huff Pkwy	Bike Lane		0.25	\$320,900
Ocoee St	25th St	20th St	Bike Lane		0.52	\$658,500
Ocoee St	Sunset Dr	25th St	Bike Lane		0.39	\$498,100
Ocoee St	Mouse Creek Rd	Blythe Ferry Rd	Bike Lane		0.35	\$441,900
Ocoee St	Blythe Ferry Rd	Sunset Dr	Bike Lane		0.72	\$911,400
Peerless Rd	Paul Huff Pkwy	Norman Chapel Rd	Bike Lane		1.09	\$1,372,500
20th St	37th St	Michigan Ave	Bike Route		0.41	\$2,000
20th St	Old Tasso Rd	37th St	Bike Route		0.39	\$1,900
25th St	Parker St	20th St	Bike Route		1.11	\$4,700
25th St	20th St	Waterlevel Hwy	Bike Route		1.25	\$5,200
37th St	Old Tasso Rd	20th St	Bike Route		0.31	\$1,700
APD 40	I-75	Lee Hwy	Bike Route		1.50	\$6,100
APD 40	Dalton Pk	Waterlevel Hwy	Bike Route		1.89	\$7,600
APD 40	Lee Hwy	Dalton Pk	Bike Route		3.25	\$13,100
Baldwin St	White St	Red Food Dr	Bike Route		0.05	\$700
Bates Pike	Lowery St	Randolph Samples Rd	Bike Route		1.72	\$7,000
Bell Rd	Blue Springs Rd	Dalton Pk	Bike Route		1.79	\$7,200
Benton Pk	Gaut St	APD 40	Bike Route		1.36	\$5,600
Benton Pk	Michigan Ave	Peach Orchird Hill Rd	Bike Route		1.70	\$6,900
Benton Pk	APD 40	Michigan Ave	Bike Route		1.02	\$4,300
Black Fox Rd	Varnell Rd	Old Chattanooga Pk	Bike Route		0.47	\$2,300
Blackburn Rd	Dalton Pk	APD 40	Bike Route		0.48	\$2,300
Blackburn Rd	APD 40	Dockery Ln	Bike Route		0.75	\$3,300
Blue Springs Rd	20th ST	APD 40	Bike Route		0.62	\$2,800
Blue Springs Rd	APD 40	Bell Rd	Bike Route		1.56	\$6,400
Blue Springs Rd	Bell Rd	Red Clay Park Rd	Bike Route		7.30	\$29,300
Blythe Ferry Rd	Keith St	Ocoee St	Bike Route		0.39	\$2,000
Blythe Ferry Rd	Ocoee St	Old Tasso Rd	Bike Route		1.66	\$6,700
Blythewood Rd	Harrison Pk	Pleasant Grove Pl	Bike Route		1.60	\$6,500
Buchanan Cir	Buchanon Rd	Dalton Pk	Bike Route		0.15	\$1,100
Buchanon Rd	Buchanon Cir	Dockery Ln	Bike Route		1.01	\$4,300
Candies Ln	Freewill Rd	Georgetown Rd	Bike Route		1.12	\$4,700
Cleveland-Dalton Rd	Gilliland Dr	S of Mitchell Rd	Bike Route		8.38	\$33,600
Dalton Pk	Red Food Dr	Waterville Elementary School	Bike Route		2.39	\$9,600
Dockery Ln	Blue Springs Rd	Buchanon Rd	Bike Route		1.06	\$4,500
Durkee Rd	Benton Pk	Waterlevel Hwy	Bike Route		0.83	\$3,600
Durkee Rd	Waterlevel Hwy	Spring Place Rd	Bike Route		1.54	\$6,300
Elm Dr	Weeks Dr	McIntire Ave	Bike Route		0.37	\$1,900
Eureka Rd	Anderson Cabin Rd	Georgetown Rd	Bike Route		8.56	\$34,300
Freewill Rd	Georgetown Rd	Candies Ln	Bike Route		2.60	\$10,400
Freewill Rd	Candies Ln	Harrison Pk	Bike Route		1.97	\$7,900
Frontage Rd	Lauderdale Memorial Hwy	Hooper Gap Rd	Bike Route		2.79	\$11,100
Frontage Rd	Hooper Gap Rd	Paul Huff Pkwy	Bike Route		3.63	\$14,600
Fulbright Rd	Blythe Ferry Rd	Shady Ln	Bike Route		0.95	\$4,100
Georgetown Rd	Old Hwy 58	Freewill Rd	Bike Route		5.16	\$20,800
Georgetown Rd	Freewill Rd	Paul Huff Pkwy	Bike Route		1.54	\$6,300
Golf Dr	Dalton Pk	Hunt Rd	Bike Route		0.43	\$2,100

**COST FOR BICYCLE FACILITIES PHASE 2
(DRAFT APRIL 2008)**

STREET	FROM	TO	Bike Facility	BCI	Miles	Cost for Bicycle Component
Harris Creek Rd	Withrow Rd	Blythewood Rd	Bike Route		2.64	\$10,600
Harris Creek Tr	Old Harrison Ln	Harris Creek Rd	Bike Route		0.94	\$4,000
Harrison Pk	Old Harrison Ln	Blythewood Rd	Bike Route		0.99	\$4,200
Holloway Rd	APD 40	Varnell Rd	Bike Route		0.81	\$3,600
Hooper Gap Rd	Frontage Rd	Mouse Creek Rd	Bike Route		0.54	\$2,500
Humphrey Bridge Rd	Pleasant Grove Church Rd	Johnson School Rd	Bike Route		1.00	\$4,200
Hunt Rd	New	Golf	Bike Route		0.30	\$1,600
Inman St	East St	25th St	Bike Route		1.01	\$4,300
Johnson Blvd	Bates Pk	Wildwood Lake Rd	Bike Route		1.06	\$4,500
Johnson School Rd	Humphrey Bridge Rd	Lee Hwy	Bike Route		0.14	\$1,000
Julian Dr	25th St	McIntire Ave	Bike Route		0.19	\$1,200
Kile Ln	Westland Dr	Ocoee St	Bike Route		0.87	\$3,700
Lakeview Dr	Mike Burke Park	Durkee Rd	Bike Route		0.24	\$1,400
Land Fill Rd	Withrow Rd	I-75 ramp	Bike Route		0.53	\$2,500
Lauderdale Memorial Hwy	Frontage Rd	Lee Hwy	Bike Route		3.34	\$13,400
Lee Hwy	Tasso Rd	Sequoia Rd	Bike Route		0.95	\$4,000
Lee Hwy	Smith Dr	APD 40	Bike Route		1.81	\$7,300
Lee Hwy	APD 40	County Line	Bike Route		6.53	\$26,200
Lee Hwy	Tasso Rd	Lauderdale Memorial Hwy	Bike Route		5.21	\$20,900
Lee Hwy	Lauderdale Memorial Hwy	County Line	Bike Route		1.55	\$6,300
Lower River Rd	Eureka Rd	I-75	Bike Route		4.14	\$16,600
Lowery St	Benton Pk	Inman St	Bike Route		0.44	\$2,200
Lowery St	Inman St	Bates Pk	Bike Route		0.09	\$800
McIntire Ave	Julian Dr	Elm Dr	Bike Route		0.08	\$800
Michigan Ave	Peach Orchard Hill Rd	Benton Pk	Bike Route		1.92	\$7,700
Michigan Ave	Cass Ln	Tasso Rd	Bike Route		6.08	\$24,400
Michigan Ave	Tasso Rd	Stuart Rd	Bike Route		2.08	\$8,300
Minnis Rd	Michigan Ave	Waterlevel Hwy	Bike Route		1.63	\$6,600
Mouse Creek Rd	Saddle Creek Dr	Mohawk Dr	Bike Route		1.92	\$7,700
Mouse Creek Rd	Lauderdale Memorial Hwy	Saddle Creek Dr	Bike Route		4.35	\$17,400
Old Chattanooga Pk	Black Fox Rd	Blue Springs Rd	Bike Route		3.17	\$12,700
Old Harrison Ln	Harrison Pk	Harris Creek Tr	Bike Route		0.22	\$1,300
Old Pleasant Grove Rd	Pleasant Grove Pl	Pleasant Grove Church Rd	Bike Route		0.33	\$1,700
Peach Orchard Hill Rd	Michigan Ave	Benton Pk	Bike Route		1.85	\$7,400
Pleasant Grove Church Rd	Pleasant Grove Tr	I-75	Bike Route		0.78	\$3,400
Pleasant Grove Pl	Lee Hwy	Varnell Rd	Bike Route		0.10	\$900
Pleasant Grove Pl	Pleasant Grove Tr	Lee Hwy	Bike Route		0.78	\$3,400
Pleasant Grove Rd	Land Fill Rd	Palmer Dr	Bike Route		1.01	\$4,300
Pleasant Grove Tr	Harris Creek Rd	Pleasant Grove Tr	Bike Route		1.01	\$4,300
Randolph Samples Rd	Waterlevel Hwy	Bates Pk	Bike Route		0.37	\$1,900
Red Clay Park Rd	Blue Springs Rd	Red Clay Rd	Bike Route		2.31	\$9,200
Red Food Dr	APD 40	Dalton Pk	Bike Route		0.21	\$1,300
Red Food Dr	Baldwin St	APD 40	Bike Route		0.05	\$700
Shady Ln	Weeks Dr	20th St	Bike Route		0.42	\$2,100
Sheffey Ln	Lee Hwy	Michigan Ave	Bike Route		0.40	\$2,000
Spring Place Rd	Wildwood Ave	APD 40	Bike Route		0.89	\$3,800
Spring Place Rd	APD 40	Durkee	Bike Route		0.67	\$3,000
Stevens Rd	Blythe Ferry Rd	Stuart Rd	Bike Route		0.70	\$3,100
Stuart Rd	Urbane Rd	Michigan Ave	Bike Route		0.59	\$2,700
Tasso Rd	Lee Hwy	Urbane Rd	Bike Route		1.40	\$5,700
Tasso Rd	Urdane Rd	Michigan Ave	Bike Route		0.67	\$3,000
Trewhitt Rd	Spring Place Rd	New St	Bike Route		1.95	\$7,800
Urbane Rd	Tasso Rd	Rosewood Dr	Bike Route		1.69	\$6,800
Varnell Rd	Brentwood Tr	Holloway Rd	Bike Route		1.14	\$4,800
Varnell Rd	Holloway Rd	Black Fox Rd	Bike Route		0.93	\$4,000
Victory St	Lee Hwy	Westland Dr	Bike Route		0.08	\$800

**COST FOR BICYCLE FACILITIES PHASE 2
(DRAFT APRIL 2008)**

STREET	FROM	TO	Bike Facility	BCI	Miles		Cost for Bicycle Component
Villa Dr	Freewill Rd	Georgetown Rd	Bike Route		0.80		\$3,500
Waterlevel Hwy	25th St	County Line	Bike Route		6.98		\$28,000
Weatherly Switch Rd	Blue Springs Rd	Cleveland Dalton Rd	Bike Route		1.36		\$5,600
Weeks Dr	Ocoee St	Shady Ln	Bike Route		1.44		\$5,900
Westland Dr	Victory St	Kile Ln	Bike Route		0.59		\$2,700
Westland Dr	Kile Ln	APD 40	Bike Route		0.64		\$2,900
Westside Dr	Green Dr	Harrison Pk	Bike Route		1.19		\$5,000
White St	Wildwood Lake Rd	Baldwin St	Bike Route		0.35		\$1,800
Wildwood Lake Rd	Johnson Blvd	White St	Bike Route		0.07		\$800
Withrow Rd	Harris Creek Rd	Land Fill Rd	Bike Route		0.96		\$4,100
Young Rd	Red Food Rd	Trewhitt Rd	Bike Route		0.83		\$3,600
Total Bike Lane					6.17		\$7,783,800
Total Bike Route					169.38		\$702,700
Total							\$8,486,500

COST FOR PEDESTRIAN IMPROVEMENTS AT SIGNALIZED INTERSECTIONS						
(DRAFT APRIL 2008)						
Main Street	Side Street	Cost for Crosswalk	Cost for Handicap Ramps	Cost for Ped Signal, Signs, & Pushbutton		Total
Inman	Parker		\$4,500			\$4,500
Inman	Church		\$6,000			\$6,000
Inman	Broad		\$6,000			\$6,000
Broad	2nd		\$6,000			\$6,000
Broad	1st		\$6,000			\$6,000
Ocoee	1st		\$6,000			\$6,000
Ocoee	Central		\$6,000			\$6,000
Keith	Inman		\$6,000	\$5,200		\$11,200
Ocoee	2nd		\$6,000			\$6,000
Inman	Edwards		\$6,000	\$5,200		\$11,200
Inman	Ocoee		\$6,000			\$6,000
Inman	Mill		\$4,500			\$4,500
Ocoee	3rd	\$1,200	\$6,000	\$5,200		\$12,400
Broad	3rd	\$1,440	\$6,000	\$5,200		\$12,640
Keith	Willow	\$1,680	\$6,000	\$5,200		\$12,880
Keith	17th	\$1,680	\$6,000	\$5,200		\$12,880
Keith	20th	\$1,680	\$6,000	\$5,200		\$12,880
Keith	25th	\$2,160	\$6,000	\$5,200		\$13,360
25th	Henderson	\$1,680	\$6,000	\$5,200		\$12,880
25th	Ocoee	\$1,680	\$6,000	\$5,200		\$12,880
25th	Parker	\$1,680	\$6,000	\$5,200		\$12,880
Ocoee	Blythe Ferry	\$1,200	\$6,000	\$5,200		\$12,400
Keith	Blythe Ferry Ext	\$1,680	\$6,000	\$5,200		\$12,880
Keith	Mouse Creek	\$1,680	\$6,000	\$5,200		\$12,880
Lee	Ocoee	\$1,200	\$4,500	\$3,900		\$9,600
Ocoee	Lee	\$1,680	\$4,500	\$3,900		\$10,080
Lee	Paul Huff	\$2,160	\$6,000	\$5,200		\$13,360
Paul Huff	Wal-Mart	\$1,680	\$6,000	\$5,200		\$12,880
Paul Huff	Mall	\$1,680	\$6,000	\$5,200		\$12,880
Paul Huff	Fire Station	\$1,680	\$4,500	\$3,900		\$10,080
Paul Huff	Mouse Creek		\$6,000	\$5,200		\$11,200
Paul Huff	Peerless	\$1,680	\$4,500	\$3,900		\$10,080
Paul Huff	I-75 Ramp (E)	\$1,680	\$3,000	\$2,600		\$7,280
Paul Huff	I-75 Ramp (W)	\$1,680	\$3,000	\$2,600		\$7,280
Paul Huff	Frontage	\$1,680	\$6,000	\$5,200		\$12,880
Peerless	Raider		\$4,500			\$4,500
Keith	Raider	\$2,160	\$6,000	\$5,200		\$13,360
25th	Peerless	\$1,680	\$6,000	\$5,200		\$12,880
Georgetown	Westside	\$1,680	\$6,000	\$5,200		\$12,880
Georgetown	Candies	\$1,680	\$6,000	\$5,200		\$12,880
Georgetown	Crown Colony		\$6,000	\$5,200		\$11,200
Georgetown	Villa	\$1,200	\$4,500	\$3,900		\$9,600
Georgetown	Paul Huff	\$1,680	\$6,000	\$5,200		\$12,880
Georgetown	Eureka	\$1,200	\$6,000	\$5,200		\$12,400
Harrison	Georgetown	\$1,200	\$4,500	\$3,900		\$9,600
Lee	Grove/3rd	\$1,680	\$6,000	\$5,200		\$12,880
APD40	Holloway/Westland	\$1,680	\$6,000	\$5,200		\$12,880
APD40	Industrial/Refreshment	\$1,680	\$6,000	\$5,200		\$12,880
APD40	Blackburn	\$1,680	\$6,000	\$5,200		\$12,880
Dalton Pike	Blackburn	\$1,200	\$4,500	\$3,900		\$9,600

COST FOR PEDESTRIAN IMPROVEMENTS AT SIGNALIZED INTERSECTIONS						
(DRAFT APRIL 2008)						
Main Street	Side Street	Cost for Crosswalk	Cost for Handicap Ramps	Cost for Ped Signal, Signs, & Pushbutton		Total
APD40	Red Food	\$2,160	\$6,000	\$5,200		\$13,360
Dalton Pike	Red Food	\$1,680	\$4,500	\$3,900		\$10,080
Spring Place	Broomfield	\$1,680	\$6,000	\$5,200		\$12,880
Spring Place	Durkee	\$1,200	\$6,000	\$5,200		\$12,400
Waterlevel	Durkee	\$1,680	\$6,000	\$5,200		\$12,880
Waterlevel	Minnis	\$1,680	\$6,000	\$5,200		\$12,880
Dalton Pike	Spring Place	\$1,200	\$6,000	\$5,200		\$12,400
Stuart	Michigan	\$1,200	\$6,000	\$5,200		\$12,400
Stuart	Old Tasso	\$1,680	\$6,000	\$5,200		\$12,880
Lee	Old Tasso	\$1,680	\$4,500	\$3,900		\$10,080
20th	Old Tasso	\$1,200	\$4,500	\$3,900		\$9,600
Inman	Wildwood	\$1,200	\$4,500	\$3,900		\$9,600
Inman	East		\$6,000			\$6,000
Inman	Dooley	\$1,200	\$6,000	\$5,200		\$12,400
Wildwood	9th	\$1,200	\$6,000	\$5,200		\$12,400
Ocoee	20th	\$1,200	\$6,000	\$5,200		\$12,400
Ocoee	Lee	\$1,680	\$4,500	\$3,900		\$10,080
Total						\$718,860