



Grand Valley Valley Metro Council

Non- Motorized Transportation Plan

DRAFT

March 13, 2006

Non-Motorized Transportation Plan

Table of Contents

Overview	2
Vision	3
Goals and Objectives	3
History of Non-Motorized Transportation	4
Benefits of Non-Motorized Transportation	5
Measuring Demand for Non-Motorized Transportation	8
Obstacles to Non-Motorized Transportation	9
Bicyclist Types	13
Non-Motorized Facility Type	14
Non-Motorized Project List	16
Study Recommendations	17
Study Process/Committee Makeup	18
Public Involvement/Next Steps	20
Appendix A-Regional Non-Motorized Facility Map	
Appendix B-Urban Area Inset of Non-Motorized Facility Map	
Appendix C-Non-Motorized Transportation Funding Sources	

4.0 NON-MOTORIZED TRANSPORTATION

4.1 Overview

The Grand Rapids Metropolitan Area has become one of the fastest growing metropolitan areas in the Midwest because of the amenities it offers including aesthetic beauty, high quality of life, strong family values, a diverse economic base, and a reasonable cost of living. The provision of safe and efficient multi-modal transportation facilities are a part of improving the quality of life for an area and many studies have shown that the more transportation options available to a community, the higher the level of quality of life that community enjoys. Bicycle and pedestrian facilities are an integral part of the transportation network and this plan is geared specifically to the non-motorized transportation network for the Grand Rapids Metropolitan Area.

The Non-Motorized Transportation Plan will be a component to the area's Year 2030 Long-Range Transportation Plan. The Long-Range Transportation Plan's purpose is to explore and analyze conditions of all modes of transportation in the area, of which, non-motorized transportation is an integral part. For the purposes of this study, the Grand Rapids Metropolitan Area consists of the Metropolitan Planning Organization (MPO) Study Area served by the Grand Valley Metro Council, which is the federally designated agency to carry out the MPO function. The MPO area includes all of Kent County and five communities in Southeast Ottawa County. There are also communities that are members of the Grand Valley Metro Council that do not fall in the MPO area that are participating in this study. The needs and wishes of these communities will be included in this document as well.

This plan, when completed, will replace previous area non-motorized planning documents. The Grand Valley Metro Council Bicycle Plan approved in 1996, and the Pedestrian Plan approved in 1997 were used as guides to integrate non-motorized transportation issues into one comprehensive document. It is hoped that this document will be updated in the future consistent with the update of the entire Long-Range Transportation Plan. The Long-Range Transportation Plan is updated on a three-year basis as per federal transportation planning guidelines. This document is being developed to guide long-range non-motorized transportation planning and development in the area. While the scope of the document is twenty-plus years, this document will be reexamined regularly and adjusted to reflect current priorities of area decision-makers.

4.2 Vision

The Grand Valley Metro Council Non-Motorized Transportation Plan is designed to be broad in concept and comprehensive in content. The plan advocates an area-wide network of interconnected routes, which will be safe and efficient for non-motorized transportation. The positive impacts of such a network will be far reaching environmentally, socially, and economically for local municipalities and the Grand Rapids area alike, improving the quality of life for residents and the quality of the experience for visitors from outside the immediate area.

4.3 Non-Motorized Goals and Objectives

The goal of this plan is fairly simple. It is hoped that this plan will help to guide development of bicycle and pedestrian facilities consistent with the demands for such facilities for those who choose to use that transportation option. Facilities that are developed should be safe and, where appropriate, connected. Additionally, facilities should be well planned and coordinated to maximize the experience of the user. Further, this project will strive to prioritize facility development and identify funding sources for the development of non-motorized facilities. Based on input from the GVMC Non-Motorized committee, it is hoped that this plan will achieve the following:

Promote the benefits of non-motorized transportation as a healthy and efficient form of transportation.

Provide an integrated network of non-motorized facilities for efficient travel.

Identify breaks in the current network that discourage connectivity.

Identify projects that will contribute to the connectivity of the non-motorized network. Forward those prioritized projects to area transportation decision makers for funding consideration.

Encourage the use of safe and consistent construction/design standards for new non-motorized facility development while continuing to maintain current non-motorized facilities according to safe standards. All facilities shall conform to the American with Disabilities Act (ADA).

Provide a way for non-motorized interests to bring their priorities and concerns to area transportation decision-makers.

Continue to update the area inventory of existing and planned pedestrian/bicycle facilities.

Work toward the establishment of a regional non-motorized network that connects all non-motorized facilities and connects those facilities with other modes of transportation.

4.4 History of Non-Motorized Transportation

Transportation is the act of delivering goods or people from location to location. There is a reliance on transportation to achieve many things both from a utilitarian purpose and a recreation purpose. As technology has advanced from foot travel to jets and automobiles, these transportation functions can happen countless ways. Now, when the act of transportation is about to take place, a choice needs to be made regarding what mode of transportation to use. Two non-motorized choices are included in this element of the 2025 Long-Range Transportation Plan for the Grand Valley Metro Council: pedestrian and bicycle.

Pedestrian and bicycle transportation are unique in the 21st Century since they do not involve high technology or limited-resource fuels. They also differ from trains, planes, and automobiles because they rely on the human physique to provide the desired act of transportation. Pedestrian travel, which is walking or running, is the oldest form of traveling between two points, and still used every day around the world. According to the Bicycle Encyclopedia, bicycling evolved from the velocipede during the 1800's, and although rejected by many countries for utilitarian trips, the bicycle still has a strong presence and purpose in transportation. Intriguingly, bicyclists in the United States formed the League of American Wheelman in 1880 and lobbied for the construction of roads. The efforts of this group at the turn of the twentieth century would form the foundation of a national road network that would eventually stretch across the country and be overtaken by the automobile in the early 1900's.

The combustion engine dramatically changed transportation modes as machinery made the delivery of goods and people faster, less expensive, and easier. These changes shifted the emphasis away from human-powered transportation modes. Pedestrian and bicycle transportation gradually switched from a less utilitarian transportation mode to a more recreational transportation mode for most Americans. There is a segment of the population that continues to use non-motorized transportation as a utilitarian mode and whether for health reasons, energy conservation, lack of accessibility to automobiles or other factors, these facilities need to have a plan in place to promote an efficient and connected network.

4.5 Benefits of Non-Motorized Transportation

Foot and bicycle locomotion deserve attention because they can help combat a number of important issues facing urban America: health problems, regional air quality, economic development, and rising vehicle miles traveled (VMT).

Obesity in Americans continues to increase, and the National Health and Nutritional Examination Survey of Americans from 1988-1994 show that 14% of children and 35% of adults over 20 years of age are now obese; this is a 6% and 9% increase respectively from the 1976-1980 study. Obesity then leads to other health problems such as heart disease, diabetes, certain cancers, and high blood pressure. According to the National Heart, Lung, and Blood Institute, Americans are also overweight, and some studies have shown that up to 55% of the adult population is either now overweight or obese. The United States Surgeon General has recommended at least 30 minutes of moderate exercise every day to overcome weight problems in Americans, according to information published by the Department of Health and Human Services. The Centers for Disease Control handbook, *Promoting Physical Activity Among Adults*, praises the dual benefits of cycling and walking for improving health and serving a transportation function:

“the most effective activity regimens may be those that are moderate in intensity, individualized, and incorporated into daily activity. Bicycling and walking are healthy modes of transportation that incorporate these components. Bicycling or walking to work, school, shopping, or elsewhere as part of one’s regular day-to-day routine can be both a sustainable and a time-efficient exercise regimen for maintaining an acceptable level of fitness.”

There are many other sources that advocate walking or bicycling to work, school, church, or for pleasure, as ways that people can incorporate exercise into their daily lives and improve their health.

Regional air quality is a second issue that hovers over West Michigan, since this region has previously been in non-attainment with the United States Environmental Protection Agency for ground-level ozone. Since 1996, Kent and Ottawa counties have been re-classified as maintenance areas, which means they have met air quality standards but must stay in compliance to avoid becoming non-attainment again. The region has worked to reduce emissions and raise public awareness through an Ozone Action! program, but as tens of thousands of people continue to move into the Grand Rapids area, which expands industry, and commute by cars, air quality could quickly degrade.

Breathing poor quality air is not a popular option for most people, and one method of improving air quality is leaving automobiles at home. For example, according to the April 1998 *Consumer’s Report* magazine, a Ford Taurus driven 15,000 miles/year releases 14,085 pounds of CO₂/year, and a Ford Explorer driven 15,000 miles/year releases 18,520 pounds of CO₂/year. If more people walked or rode their bicycles for

daily trips, the amount of emissions released into the atmosphere would be reduced by tons.

The third issue is vehicle miles traveled (VMT). This represents the number of miles traveled by a vehicle in a given period of time, such as annually or daily. According to U.S. Department of Transportation figures, annual VMT has increased by 35% between 1960 and 1996. Regionally, VMT is estimated to be 16,000,000 miles every day. With an increase in VMT, people are also spending more time in their vehicles, such that the national average is now in excess of 70 minutes every day according to *Consumer Reports* magazine. As people drive more miles, air quality is threatened, non-renewable resources are consumed, and road conditions are worsened by increased use both through road quality and traffic congestion. Obviously, if more people use bicycle or pedestrian modes of transportation then fewer people will use automobiles, thus reducing the amount of congestion on our roadways. Once again, foot-powered transportation helps air quality, preserves fossil fuels, does little or no damage to roads, and reduces congestion. The savings in environmental and construction costs alone make non-motorized modes valuable transportation options.

Vehicle miles traveled also have an influence on air quality, especially during the summer months. The increase in sunlight and higher temperatures is a catalyst for the chemical reaction that triggers the formation of ground-level ozone. A heightened level of ozone affects the health of people and plants, as well as damages some man-made materials like plastics. A reduction in VMT then, especially in the summer when non-motorized transportation is very feasible, can also improve air quality. A recent Federal Highway Administration publication proves the positive impact of bicycle and pedestrian transportation:

“It has been estimated that in the United States since 1991, bicycling and walking were equivalent to between 7.6 and 28.1 billion motor vehicle miles, saving between 370 million and 1.34 billion gallons of gasoline and 4.4 to 16.3 metric tons of exhaust emissions.”

The automobile will continue to be the most convenient mode of travel for the majority of Americans, yet by having this region work toward facilitating non-motorized transportation, bicycle and pedestrian travel can become more prevalent. With expanded use, bicycling and walking would offer significant benefits: improved health, reduced emissions in the natural environment, the preservation of open space/greenways, and the built environment with fewer vehicle miles traveled.

There are other benefits of non-motorized transportation. It is the only option available to those populations that have limited transportation choices due to health or demographic circumstances. The poor, senior citizens, children, and those with health problems are some of the population groups that may not have access to motor vehicles. Non-motorized transportation offers these groups of people a way to get to jobs, shopping, etc.

Bicycle and pedestrian facilities provide a recreation opportunity serving as links from neighborhoods or residential areas to amenities like parks, open spaces, beaches, and other recreational uses. The need for these facilities is founded on earlier information cited denoting the increase in bicycle and pedestrian trips in America.

Non-motorized facilities can have economic benefits as well. Local revenue through tourism, property values, and quality-of-life have all been enhanced as a result of bicycle and pedestrian development. Non-motorized transportation facilities have been used as a centerpiece to lure home buyers to subdivision developments as well as serving as the focal point of chamber-of-commerce advertising campaigns. Also, by promoting compact community development with well maintained pedestrian and bicycle facilities, less money is required for expensive infrastructure such as roads, and water and sewer lines and less land is required thereby preserving important and limited resources.

Obviously, there are a number of factors that support the need and benefits of non-motorized transportation. Why then aren't more people utilizing non-motorized facilities in West Michigan? We'll provide some background on the obstacles to non-motorized transportation later in this report.

4.6 Measuring Demand for Non-Motorized Transportation

As mentioned previously, data in our region that addresses walking or bicycling as a mode of transportation is scarce. According to the National Personal Transportation Survey of 1995, 7.2 percent of all transportation trips are made by walking and 0.7 percent by bicycle. Local information is available in the 1990 U.S. Census at a county level regarding work trips only. Other non-motorized trips are difficult to measure due to lack of data. People are walking and biking but who are they? Where are people going and what is the purpose of their trips? Related to that, are there amenities available to serve those who prefer to walk? If not, would the availability of amenities encourage more walking trips?

These questions are tough to answer except through anecdotal evidence. Within the Grand Valley Metro Council Transportation Planning Process, comments are received addressing the need for non-motorized facilities in busy commercial and residential areas. The provision of connected non-motorized facilities or an integrated network of facilities has also been cited as a priority in transportation surveys distributed by the Metro Council.

Because of the width and breadth of pedestrian facilities in the Grand Rapids metro area, the pedestrian focus of this plan is a more generalized summary. A hindrance of meaningful pedestrian planning is borne in the fact that there is not much meaningful data available. Most statistics that classify trips into specific categories such as walking have a national focus, not a local one. There is more information prevalent to bicycle data available that will be presented and analyzed including facility type, rider type, etc. More detail of these specifics will appear later in the report.

There are many characteristics of the built environment that have an effect on pedestrian traffic. Pedestrians are not much different than any other mode of transportation in that the preference is a direct, safe, and convenient route with access to practical amenities on well-maintained facilities.

A major hurdle to effective non-motorized planning is the breaking down of barriers that confront non-motorized users.

4.7 Obstacles to Non-Motorized Transportation

While pedestrian and bicycle transportation has been illustrated as a viable choice, there are a number of deterrents and obstacles to people utilizing non-motorized modes of transportation. Some of these deterrents in Kent and eastern Ottawa counties include the lack of non-motorized facilities, weather, number of users, time/distance, land-use patterns, funding, lack of support facilities, and safety. Probably the largest deterrent to people choosing non-motorized transportation is the lack of adequate facilities. This includes items such as sidewalks, safe intersections, parking lots, bike lanes, multi-use paths, and storage units. A major portion of this plan will be the identification of current, proposed, and needed facilities. The presence of non-motorized facilities is the backbone to a successful non-motorized long-range transportation plan, and a necessary component when overcoming the other obstacles to non-motorized travel in our region.

Living in Michigan poses another hurdle to non-motorized transportation since seasonal weather often makes it difficult or nearly impossible for people to safely or efficiently bicycle or walk from place to place. Cold weather, heat, humidity, rain, wind, and snow all represent obstacles to non-motorized transportation, however non-motorized transportation is a choice. People can elect to bicycle in the warmer months, walk in the winter, or utilize public or private transportation when the weather becomes inclement.

The most common weather issue for non-motorized travel in Michigan is snow but this can be overcome with regular snow removal. Some municipalities in Michigan plow snow from sidewalks and multi-use paths to facilitate non-motorized travel during the winter months. Besides making non-motorized transportation feasible, this also improves the safety and consistency of surfaces for travelers. Therefore, with planning, each jurisdiction can determine what weather-related maintenance initiatives are necessary throughout the year.

Another impediment is the demand for non-motorized modes of transportation. This is a difficult number to determine, partially because there is no easy way to count pedestrians or bicyclists on any given day. It is also impossible to determine if people are walking or bicycling for recreation or utilitarian purpose without conducting personal surveys throughout the urbanized area. Still, according to the 1995 National Personal Transportation Survey data, bicycles are used nationally for 0.9% of all trips in the United States (a 30% increase since 1990). The 2000 Census reports that 0.2% of the workforce in Kent and Ottawa counties uses a bicycle as their primary means of transportation to work. In addition, as reported by the 1995 National Personal Transportation Survey, 5.5% of all trips were by walking and according to 2000 Census data, 2.8% walk to work in Kent and Ottawa counties.

Although the numbers make up a small fraction of the transportation public, facilities are warranted, and it is arguable that with more facilities more people would take advantage of non-motorized transportation modes. This, in fact, may be the non-motorized transportation conundrum. Would there be more non-motorized travel if more facilities

were in existence? Would an increase in funding non-motorized facilities be warranted based on the level of current or future use?

Americans are always in a hurry to get from place to place and activity to activity, and the automobile has become the primary tool of efficient transportation. Walking or bicycling is perceived as slow. Therefore, time and distance become obstacles to non-motorized transportation, because people think that walking or bicycling a given distance will take too long. Yet according to the National Personal Transportation Survey, over 64% of all trips made by Americans are less than five miles in length; this includes trips to work, shopping, school, visiting friends, and religious activities. Even more interesting is that 44% of all trips to work are also less than five miles. Furthermore, the national average travel time to work by car is 20.10 minutes, and is 17.7 minutes in Grand Rapids where congestion is not a major problem. This means that a person could walk or bicycle to destinations instead of driving a vehicle, without adding much time to their journey. For example, a person can walk three miles at a moderate pace of 4 mph in 45 minutes, and a bicyclist traveling at 10 mph can cover that length in 18 minutes. Non-motorized transportation is an option that would often only add a few extra minutes, and the benefit of exercise, to the vast majority of short trips.

Land-use patterns are another barrier to non-motorized travel in many communities. Cul-de-sacs, strip developments, parking lots, highways, major arterials, and suburbs are all examples of land-use obstacles; they break up routes and heighten traffic levels for non-motorized travelers. Cul-de-sacs are dead-end roads, strip developments generate congested levels of vehicular traffic, parking lots are an ocean of vehicles, highways limit routes under or over them, major arterials funnel high levels of vehicular traffic, and suburban housing is often separated from employment and social centers. Developers, planners, and government agencies are beginning to evaluate these land-use issues and recognize the value of designing for “walkability.” By “walkability”, the reference is location-efficiency, or having the ability and convenience of using non-motorized modes to get to work, school, or social centers. However, many already developed areas were built without this concept in mind, and are missing non-motorized facilities. Although retrofits/additions can be expensive to a community, these missing links can be developed, and by being included in an original design, or redesign, non-motorized transportation modes become functional options for travel.

The type and density of land use can play a pivotal role in the circulation of pedestrians. Multi-use or mixed-use developments (those that have residential, commercial and office/retail development interspersed or mixed throughout) encourage more walking trips as more destination are located within a reasonable walking distance. Current zoning regulations in most communities group like uses together, houses next to houses, etc. While this increases land use compatibility, it discourages efficient and direct pedestrian trips.

The nature of residential development has changed the landscape of pedestrian circulation as well. Older, traditional neighborhoods, for the most part, employ a grid street system. Densities are higher in these areas, and more connectivity can be

maintained from one neighborhood to the next. Newer residential development has brought about more reliance on the cul-de-sac. Most cul-de-sacs streets do not have pedestrian outlets at the end, which causes isolation of that particular developed area.

Communities recognize the cost of non-motorized facilities, which is a common deterrent to adding them to neighborhoods, or industrial and commercial areas. In most cases, funding opportunities for non-motorized projects are severely limited. When road construction projects involve reconstruction or widening, these projects can also fund the addition of non-motorized facilities, but this can create a patchwork of non-motorized facilities that abruptly stop. Community-wide surveying can identify these problem links though, and local ordinances can ensure that they get fixed with road improvement projects or new developments. A second funding challenge is that most bicycle and walking facilities are viewed as recreational, and thus ineligible for transportation money. With proper planning, non-motorized facilities can be shown to serve utilitarian trips and therefore transportation dollars can be allocated to constructing them.

Support facilities for bicycles include a lack of adequate parking. Secure parking is important, especially to those users who are commuting and need to leave their bicycles for long periods of time. Further, places to shower and change would make commuting more attractive and convenient for those who choose to do so. Support facilities are really not necessary for pedestrians, as walking does not pose the same needs as bicycling does.

Safety is a final obstacle. According to the National Safety Council, of the total motor vehicle related deaths from 1990-1995, only 1.9% were bicycle fatalities and 15% were pedestrian fatalities. Any number above zero is a tragedy, yet more people are killed in accidents with other motor vehicles and fixed objects than while walking or bicycling. Safety can be improved to help protect non-motorized travelers from accidents; signage, enforcement, traffic signals, education, crossing medians, marked lanes, and separate paths are all safety enhancing devices. With improved safety features, more people will feel comfortable traveling via a non-motorized mode. These examined obstacles are surmountable with proper planning and some changes in individual behavior, and other barriers can similarly be evaluated.

Often a missing or substandard stretch of sidewalk can mean the difference between a direct route and one which becomes counterproductive. A barrier in a pedestrian trip, especially one mid-block, means backtracking and going around that particular block, or sacrificing safety by proceeding into vehicular traffic. Neither option is very attractive. Local identification of barriers, how to prevent them, and mitigation strategies can mean the difference between encouraging pedestrian transportation as a viable option and discouraging walking.

Trip length plays a role in influencing non-motorized transportation. Based on research regarding casual trips, 80% of Americans are willing to walk 500 feet. As the length of the trip grows longer, the percentage of those willing to walk decreases rapidly. Only 20% will walk 1,000 feet, while 10% percent will walk 2,500 feet. It is generally

accepted that 2,000 feet is the accepted length that people will walk to for most types of trips. The 2,000 feet threshold is approximately the equivalent of a ten-minute walk or about three city blocks. Interestingly, the environment of the walk can play a major factor in the length that people will walk. A prime example of this would be a shopper that will park as close as possible to a mall entrance only to walk long distances once inside the mall.

Obviously, a lack of facilities, mainly sidewalks, is an impediment of the system. There are places on major Grand Rapids thoroughfares (28th Street, Plainfield Avenue, and others) that have no sidewalks. Pedestrian traffic is noticeable in these places because you will often find dirt paths where the grass has been worn away by bicyclists and pedestrians. Another impediment to efficient pedestrian movements is incomplete facilities such as sidewalks that do not continue to another link, or end mid-block. In many areas, traffic signalization does not favor the pedestrian. Often, signalization cycles are too short for the average pedestrian to reasonably cross an intersection, especially in the case of busy roadways. Part of the problem is that these busy roadways, by nature of the traffic volume they serve, are four, five and even six lane facilities. There are other concerns including the existence and/or quality of walkways over highway facilities and interchanges.

4.8 Bicyclist Types

A 1994 report by the Federal Highway Administration used the following categories of bicycle user types to assist highway designers in determining the impact of different facility types and roadway conditions on bicyclists:

Advanced or experienced riders are generally using their bicycles as they would a motor vehicle. They are riding for convenience and speed, and want direct access to destinations with a minimum of detour or delay. They are typically comfortable riding with motor vehicle traffic; however, they need sufficient operating space on the traveled way or shoulder to eliminate the need for either themselves or a passing motor vehicle to shift position.

Basic or less confident adult riders may also be using their bicycles for transportation purposes, but prefer to avoid roads with fast and busy motor vehicle traffic unless there is ample roadway width to allow easy overtaking by faster motor vehicles. Thus, basic riders are comfortable riding on neighborhood streets and shared use paths, and prefer designated facilities such as bike lanes or wide shoulder lanes on busier streets.

Children, riding on their own or with their parents, may not travel as fast as their adult counterparts, but still require access to key destinations in their community such as schools, convenience stores, and recreational facilities. Residential streets with low motor vehicle speeds, linked with shared use paths and busier streets with well-defined pavement markings between bicycles and motor vehicles, can accommodate children without encouraging them to ride in the travel lane of major arterials.

One of the challenges of facility design is accounting for all types of users.

4.9 Non-Motorized Facility Type

The American Association of State Highway and Transportation Officials (AASHTO) is considered the source for guidance and standards on the development of bicycle and non-motorized facilities. A summary of facility types, as listed in the AASHTO 1999 *Guide for the Development of Bicycle Facilities*, is provided below. Each type of facility provides different opportunities for the non-motoring public.

Shared Roadway (No Bikeway Designation)

Most bicycle travel in the United States occurs on streets and highways without bikeway designations. This probably will be true in the future as well. In some instances, a community's existing street system may be fully adequate for efficient bicycle travel, and signing and striping may be unnecessary. In other cases, some streets and highways may be unsuitable for bicycle travel at present, and it would be inappropriate to encourage bicycle travel by designating the routes as bikeways. Finally, some routes may not be considered high bicycle demand corridors, and it would be inappropriate to designate them as bikeways regardless of roadway conditions (e.g., minor residential streets).

Some rural highways are used by touring bicyclists for intercity and recreational travel. In most cases, such routes should only be designated as bikeways where there is a need for enhanced continuity with other bicycle routes. However, the development and maintenance of 4-foot paved shoulder with a 4-inch edge stripe can significantly improve the safety and convenience of bicyclists and motorists along such routes.

Signed Shared Roadway

Signed shared roadways are designated by bike route signs, and serve either to provide continuity to other bicycle facilities, or designate preferred routes through high-demand corridors. As with bike lanes, signing of shared roadways should indicate to bicyclists that particular advantages exist to using these routes compared with alternative routes. This means that responsible agencies have taken actions to assume that these routes are suitable shared routes and will be maintained in a manner consistent with the needs of bicyclists. Signing also serves to advise vehicle drivers that bicycles may be present.

Bicycle Lane

Bike lanes are established with appropriate pavement markings and signing along streets in corridors where there is significant bicycle demand, and where there are distinct needs that can be served by them. The purpose should be to improve conditions for bicyclist on the streets. Bike lanes are intended to delineate the right of way that is assigned to bicyclists and motorists and to provide for predictable movements by each. Bike lanes also help to increase the total capacities of highways carrying mixed bicycle and motor vehicle traffic. Another important reason for constructing bike lanes is to better accommodate bicyclists where insufficient space exists for comfortable bicycling on existing streets. This may be accomplished by reducing the width of vehicular lanes or prohibiting parking in order to delineate bike lanes. In addition to lane striping, other measures should be taken to ensure that bicycle lanes are effective facilities. In particular, bicycle-safe drainage inlet grates should be used, pavement surfaces should be

smooth, and traffic signals should be responsive to bicyclists. Regular maintenance of bicycle lanes should be a top priority, since bicyclists find great difficulty trying to use a lane with potholes, debris, or broken glass.

Shared Use Paths

Generally, shared use paths should be 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 should offer opportunities not provided by the road system. They can provide a recreational opportunity, or in some instances, can serve as direct commuter routes if cross flow by motor vehicles and pedestrians is minimized. The most common applications are along rivers, ocean fronts, canals, utility rights-of-way, former or active railroad rights-of-way, within college campuses, or within and between parks.

There has been much debate by the Non-Motorized Committee about the type of facilities that should be developed along some of the priority areas identified in this plan. Generally, it has been the policy of GVMC staff to support facility development as a whole and leave the decision about the specific type of facility developed to the unit of government responsible for maintenance and upkeep. As part of the development of this plan, GVMC staff has compiled a resource booklet explaining the advantages and challenges to each type of facility listed here.

4.10 Non-Motorized Project List

Based on the input of the committee from our past meetings, other lists generated through the plan development process, the following were identified to promote more connectivity of the non-motorized system and to promote better access for transit users.

28 th Street	Division to Patterson
28 th Street	Wilson to Byron Center
M-6 Trail	Kent Trails to Paul Henry Trail
White Pine Trail	Russell Road to North Kent County Line
Cascade Road	Reeds Lake to Forest Hill
36 th Street	Shaffer to Kraft
Port Sheldon/44 th Street	Chicago Drive to Kenowa
Rivertown Parkway	Kenowa to Canal
Paul Henry Trail	60 th Street to South Kent County Line
4 Mile Extended	Musketawa Trail to Comstock Park/White Pine Trail
Musketawa Extension	Marne through Walker to Richmond Park in Grand Rapids
	Marne to Comstock Park using 4 Mile Road Corridor
Remembrance Road	Leonard to Kinney
Burton Street	Patterson to west of Spaulding
Wilson Avenue	South of Rivertown Mall area to M-6
M-44/Northland	Over the Grand River at Cannonsburg/West River
Eastern Avenue	36 th Street to 44 th Street
Forest Hill Avenue	Burton to Kentwood City Limits

*Some small pieces along many of these segments have some type of non-motorized access but for the improvement of the overall system, these corridors need continuous facilities.

4.11 Study Recommendations

Beyond working toward the development of facilities listed on the previous page, there are a number of issues that have been raised throughout the meetings of the Non-Motorized Committee that need to be addressed.

Facility Development/Type

There has been substantial debate about the non-motorized facility type that gets developed in the Grand Rapids area. Currently, there is little being done on the network in the form of bike lanes; communities prefer either a sidewalk facility or off-road facility. It is recommended that GVMC staff work with the Non-Motorized Committee on developing a background report that compares the types of facilities, cost, maintenance, etc.

Future Study

There are a number of corridors that have been identified as strategic for non-motorized users and some of these corridors have deficiencies for non-motorized users. GVMC staff will work to identify and study these corridors as well as identifying possible solutions.

Funding

As part of the identification of non-motorized deficiencies, especially those on a broader corridor level, GVMC staff will work with implementing agencies to identify and pursue funding sources for those deficiencies.

Policy

GVMC staff will work with the non-motorized committee to identify and address policy related issues that hinder the development of non-motorized facilities within the Grand Rapids metro area. Where appropriate, GVMC staff will contact policy makers on behalf of the non-motorized committee to further the agenda of the committee.

4.12 Study Process/Committee Makeup

The main focus of this plan is to provide a framework for the encouragement of providing non-motorized facilities for the people of the Grand Valley Metropolitan area. To understand what is needed, we must first look at where the existing non-motorized facilities are located. Secondly, we must look at where non-motorized are being proposed in the future. By looking at current and proposed facilities, areas will be identified that are breaks in the system. This plan will identify those breaks and work with the local units of government in the area to propose projects to better link the system or eliminate the breaks.

The Grand Valley Metro Council (GVMC) has developed a comprehensive non-motorized facility inventory that includes sidewalk facilities on the Federal-Aid eligible roadway network as well as designated bikeway facilities. The maps developed for this report were produced through the GVMC Regional Geographic Information System (REGIS). The approximately 1,400 miles of Federal-Aid eligible roadways in the Grand Rapids Metropolitan Area are, by virtue of their designation, the most strategic roads within the region. These roadways are among the most often traveled in the area and in many cases are direct routes between important destinations. The bikeway data was provided by local units of government either directly as part of this project or through data already available in the REGIS system. Another layer of information provided on the maps is the existence of transit routes. The committee determined that the existence of sidewalks along transit routes was very important to maintaining safe and efficient connections for non-motorized transportation.

A regional map (Appendix A) and a more detailed map of the central urban core (Appendix B) are both provided as appendices of this document. GVMC staff will continue to maintain and update these maps on a regular basis and share those changes with the GVMC Non-Motorized Committee.

Because the level of detail in recording the location of facilities varies from community to community, it is difficult to locate every facility. Conversely, in communities with miles and miles of sidewalks, not all sidewalks are identified on the regional map. The regional map being utilized for this planning process denotes those facilities which are major local or regional (multi-jurisdictional) routes in nature.

A non-motorized committee was formed to help GVMC staff guide the direction of the planning process. Local units of government and members of the Grand Valley Metro Council Transportation Committees were asked to nominate members for the non-motorized transportation committee from their agencies or from other citizen/stakeholder groups. The committee was made up of local bicycle club members, the Michigan Department of Transportation, local environmental advocates, trail advocates/volunteers, professional planners, media representatives, bicycle enthusiasts, and those who rely on non-motorized transportation as their main source of travel. The meetings of this group are open to the general public. Specific meetings were held with many jurisdictions to further identify current and future non-motorized issues. These meetings also served to

identify partnership opportunities with neighboring jurisdictions. Previous bicycle and pedestrian planning efforts were analyzed and a general course of action was prescribed by the committee for addressing area priorities.

4.13 Public Involvement/Next Steps

Considerable time and effort have been spent collecting data for future planning. It is anticipated that the Non-Motorized Committee will be convened on a regular basis to revisit the priorities, facilities, and policies contained in this plan.

GVMC staff is relying on the committee to build on the initial work done as part of this process and continue to identify and prioritize future non-motorized facilities for development. The project list developed in this plan will be forwarded to local elected officials and decision-makers for consideration. Funds will be pursued to develop the priorities of the GVMC Non-Motorized Plan. As part of the transportation planning process, this document will be subjected to the Public Involvement processes that the Transportation department of GVMC have set forth in their Public Involvement Plan. This will allow for additional input to be provided and for public review of the findings of the GVMC Non-Motorized Committee.

Upon completion, this document will be amended into the GVMC Long Range Transportation Plan.

Appendix A
Regional Map of Non-Motorized Facilities

Appendix B
Urban Inset of Regional Non-Motorized Map

Appendix C Non-Motorized Funding Sources

Michigan Department of Transportation

Transportation Enhancement Program

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) established a fund for Transportation Enhancement Activities. Transportation Equity Act for the 21st Century (TEA-21) of 1998 continued this program through the year 2003 and the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU) continues this program through the year 2009. Ten percent of the Surface Transportation Fund that the State of Michigan receives is set aside for these activities. Eligible transportation enhancement activities include the funding of bicycle and pedestrian facilities.

Applicants must be an Act 51 Transportation agency (city, village, or county road commission). Non Act 51 agencies must be sponsored by an Act 51 agency.

Applicant must provide at least a 20 percent match.

Michigan Department of Natural Resources

Michigan Natural Resources Trust Fund

Program Objective(s):

The objective is to provide grants to local units of government and to the State for acquisition and development of lands and facilities for outdoor recreation or the protection of Michigan's significant natural resources.

Criteria:

Applications are evaluated on established criteria such as resource protection, water access, and project need. At least 25 percent match on either acquisition or development projects is required from local government applicants. Recommendations are made by the Michigan Natural Resources Trust Fund Board (members are appointed by the Governor) to the State Legislature for final approval. Criteria are spelled out in the "Recreation Grants Selection Process" booklet given to all applicants. There are eleven evaluation criteria:

1. Protection and use of significant natural resources.
2. Use of inland waters.
3. Population served.
4. Economic benefits.
5. Hunting, fishing and other wildlife-related values.
6. Need for proposal.

7. Applicant history.
8. Site and project quality.
9. Special Initiatives of the MNRTF Board (See below).
10. Financial need of the applicant.
11. Local match contribution.

Past Special Initiatives of the Board have included:

1. Acquisition or development of trailways that contribute to an overall State trail system.
2. Acquisition of lands open to hunting or development of hunting-related facilities, such as shooting ranges.
3. Acquisition of lands that provide for deer habitat with thermal cover.
4. Local shooting ranges or State/local shooting range partnerships.
5. Acquisition projects that create, establish and protect wildlife/ecological corridors by connecting to and/or buffering existing protected and managed State or local natural areas, forests or game areas.

Eligibility:

Any local of government, including school districts, or any combination of units in which authority is legally constituted to provide recreation. Local units of government, school districts and local authorities must have a DNR-approved recreation plan to be eligible.

Funding:

Development project minimum/maximum grant amount: \$15,000 to \$500,000. No minimum/maximum limits on land acquisition grants. 25% match minimum.

Department of Housing and Urban Development

Community Development Block Grant

Overview

The Community Development Department implements the federal Community Development Block Grant (CDBG) program in all Kent County communities except Grand Rapids, Cedar Springs, and Wyoming. Funds are distributed from the federal government to the County on a formula basis. The formula considers extent of poverty, population, housing overcrowding, age of housing, and population growth lag in relation to other metropolitan areas.

The Community Development Department awards funding to local projects based on the following requirements: 1) meets a need identified in an established action plan; 2) not less than 70% of funds must be used for activities that benefit low and moderate income persons; and 3) the activity meets one of the CDBG national objectives (i.e., benefits low and moderate income persons, prevention or elimination of slums or blight, or a

particular urgency because existing conditions pose a serious and immediate threat to the health or welfare of the community).

The Community Development Department is also responsible for implementing the Shelter Plus Care program, which contracts with non-profit housing corporations to provide rental units as permanent housing for homeless individuals and families.

Goals

- The conservation and expansion of Kent County's housing stock in order to provide a decent home and a suitable living environment for all persons, but principally those of low and moderate income
- The provision of a more rational utilization of land and other natural resources and the better arrangement of residential, commercial, industrial, recreational and other needed activity centers
- The reduction of the isolation of income groups within communities and geographical areas, and the promotion of an increase in the diversity and vitality of urban and rural communities
- The restoration and preservation of properties of special value for historic, architectural or esthetic reasons.

Kent County has used this program on a limited basis for non-motorized facility development in areas where the criteria fits. Grand Rapids, Wyoming, and Cedar Springs have similar programs that are administered at the City level rather than the County level. The same basic regulations would apply.

While this is not an exhaustive list, these are the programs that staff is aware of that have been used in our area for non-motorized facility development.