DULUTH - SUPERIOR METROPOLITAN AREA BIKEWAYS STATUS REPORT AND IMPLEMENTATION PLAN

Conducted by
the Metropolitan Interstate Committee

January 1999

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DULUTH-SUPERIOR METROPOLITAN AREA BIKEWAYS STATUS REPORT AND IMPLEMENTATION PLAN

Introduction:

The Duluth-Superior Metropolitan Bikeways Plan was developed and adopted by the Metropolitan Interstate Committee (MIC) in 1994 to serve as the bike element of the Long-Range Plan. The plan was a comprehensive effort for identifying bicycle transportation deficiencies in the metropolitan area. The plan also identified a series of recommendations that would improve the biking environment for transportation purposes.

Since 1994, all jurisdictions involved have adopted the Metropolitan Bikeways Plan. The City of Superior adopted the plan in 1994 and has completed several bike projects identified in the plan; most notably the Osaugie Trail and the creation of a pedestrian/bike compatible sidewalk west of Tower Avenue between 34th and 52nd Streets. The map on the following page illustrates completed projects. The City of Proctor also adopted the plan in 1994 and is considering the creation of a multi-use trail through their community. The city of Duluth adopted the Bikeways Plan in the autumn of 1998 and has worked toward improving and enhancing bike facilities such as expanding the Lakewalk under 26th Avenue East. The Hermantown City Council adopted the plan in December of 1998 and has also been actively evaluating multi-use trail options for their community.

Purpose:

Even though several bike-related projects have been completed since the MIC's adoption of the plan in 1994, most of the recommendations have yet to come to fruition. As a result, this past year the MIC set aside resources to review the status of the bikeways plan and develop a strategy for implementing its recommendations. This document summarizes the findings of MIC staff and lays out the initial steps for implementing the Bikeway Plans recommendations.

Process:

MIC staff worked with the appropriate authorities from each of the jurisdictions represented in the plan to determine the current status of the 1994 recommendations. During this process, many concerns arose regarding specific bike-route recommendations. In addition, more general concerns surfaced regarding costs and funding opportunities and liability issues that could arise from implementing recommendations. These issues were also discussed among the members of the MIC and MIC-Transportation Advisory Committee (TAC) and are addressed later in this document.

STATUS OF METROPOLITAN AREA BIKEWAYS PLAN RECOMMENDATIONS

As previously noted, several bike-related projects have been completed since the 1994 bike plan was adopted. The map on the following page identifies the locations of these projects. Most notably are the Osaugie Trail in Superior and the extension of the Lakewalk under 26th Avenue East and the construction of the Keane Creek Trail in West Duluth. While not signed as a bikeway, the reconstruction of Boundary Avenue in Proctor allows an ample paved shoulder for bicyclists. Likewise, the reconstruction of Maple Grove Road with 11 foot paved shoulders and an adjacent sidewalk separated by a raised curb provides an adequate environment for bicyclists. Despite only a few projects being completed, each jurisdiction has made plans for future off-road

multi-use trail facilities for their respective community, suggesting the value that is placed on creating bike-friendly areas and enhancing quality of life.

The following Status report looked at each of the recommendations of the 1994 Bikeways Plan to determine what, if anything, had been accomplished. These recommendations were listed by priority corridors within each jurisdiction; each corridor having a multitude of specific recommendations and alternatives. Given that only a handful of the improvements have been implemented, this status report only summarizes activities that have occurred that would impact bike travel by corridor. To review specific recommendations, a copy of the 1994 Bikeways Plan can be made available through ARDC.

The recommendations in the Bikeways Plan were prioritized for implementation as 1994-1996, 1996-1998, and Beyond 1999; given the dates provided in the original time-frames are obsolete, recommendations will be described as short-term, mid-term, or long-term, respectively. The following are general recommendations to improve the area's biking environment.

GENERAL RECOMMENDATIONS

Short-term

The short-term recommendations focused on simple, low cost improvements and were listed in order of priority by the Metropolitan Bikeways Plan Study Advisory Committee.

1. **Bicycle Route Network:** ..... **Done**
   A bike route network was developed and identified on the bicycle route maps.

2. **Bicycle Route Map:** ..... **Done**
   The maps produced and distributed by MIC staff were quite popular. However, supplies have been exhausted. Updating and reprinting the map would cost approximately $4,000 (these costs may be offset by soliciting sponsors). It would be prudent to wait on reprinting until bike routes scheduled for signs are finalized and additional updated data is obtained.

3. **Bicycle Coordinator and Committee:** ..... **Not Done**
   Several issues arise for developing such a position such as; should this be a multi-jurisdictional position, should these duties be assigned to existing city staff, should the MIC serve such a function, etc. However, what becomes perfectly clear that the issues involved in implementing a bike plan such as this warrants the attention of a quarter to half time paid position.

   Cost: Varies depending on multi-jurisdictional arrangements, duties, and employment status. Based on MIC staff estimates, a quarter to half time position could range between $15,000 - $30,000 per year.

Figure 1: Example of Bicycle Route sign.

4. **Bicycle Route Signs:** ..... **Not Done**
   Implementation Plan contains a two-phase process to obtain federal Transportation Enhancement Funding for 80 percent of the cost of signing bike routes.

   Cost: Bike Route Sign and Installation = $125 per sign

5. **Bicycle-Route & Bicycle-Facility Pavement Markings:** ..... **Not Done**
Implementation Plan contains a phased process to obtain federal Transportation Enhancement Funding for 80 percent of the cost of bike route pavement markings.

Cost:

- Four-inch painted edge line = $0.10 per linear ft. (5280 ft. per mile) = $528.00/mile one-way ($1,056.00 two-way).
- On road preformed bike route identification installation (similar to turn arrow) = $200.

6. **Basic Improvements:** Basic improvements, such as filling pot holes and sweeping roadway debris, at identified problem locations should be made ..... **Indeterminate**
It is unclear whether improvements for "identified problem locations" have been addressed.

Cost: Incidental costs given that these activities would occur regardless; however, designated routes should warrant as higher priorities for basic improvements.

As noted above, the bike network was developed and identified on the bike route maps produced by the MIC. These maps were quite popular, particularly at the visitor centers where tourists were requesting biking information. Periodically, ARDC still receives requests for area bike information. At a minimum, an updated version of the Bikeways map should be produced and distributed. Even though sponsors could offset some of the costs of production, a significant amount of staff time is required to create an updated map. A bike route map update should include the information that was described in the original recommendation.

Mid-term

These recommendations include site specific improvements on existing facilities at relatively low costs. These bicycling improvements can be made with expected or future roadway improvements. Recommendations are listed in order of priority.

1. **Pavements:** Pavement surfaces should be free of irregularities and the edge of the pavement should be uniform in width. Older pavements may need joints filled, utility covers adjusted or the pavement resurfaced. Existing facilities should be brought into compliance with American Association of State Highway and Transportation Officials (AASHTO) guidelines and recommendations of this plan.

2. **Drainage-grates and Utility Covers:** Improvement of drainage grates and utility covers should occur first on the recommended bikeways and bike routes of this plan.

3. **Traffic Control Devices:** Improvement of traffic control devices should occur first on the recommended bikeways and bike routes of this plan. Future bicycle traffic counts should be conducted to assess the feasibility of improving traffic control devices at future locations

4. **Railroad Crossings:** Bicycle crossings should be at right angles to the rails and at the same elevation as the rails. Improvement of railroad crossings should occur first on the recommended bikeways and bike routes of this plan.

5. **Bicycle Parking Facilities:** Bicycle parking facilities should be developed at locations identified in this plan. Institutions and businesses should be encouraged to provide convenient and safe bicycle parking for their employees and customers.

Long-term

Long-term improvements would most likely occur as roadways and bicycle paths are improved and/or reconstructed. Many of these improvements are costly and should be planned for and developed when roadways are reconstructed or resurfaced as part of an overall larger roadway project. Recommendations are listed in priority order.

1. **Connect Gaps:** Major gaps exist between bicycle facilities and major origin and destination points, which should be connected through the continuing development of bicycle facilities.

2. **Retrofitting:** Retrofitting is a term used to describe "fitting" bicycle improvements on roadways at times of roadway reconstruction and resurfacing. This includes re-striping roadways to include bicycle-facilities, widening roadways including the shoulder or curb lane, developing bicycle lanes, and providing bicycle facilities with roadway re/construction projects.

SPECIFIC FACILITY RECOMMENDATIONS FROM OTHER PLANS

Specific recommendations are recommendations concerning bicycle facilities in other plans. These plans include the 1992 Metropolitan Interstate Committee "Tower Avenue Corridor Traffic Analysis", the 1992 Metropolitan Interstate Committee "Miller Trunk Highway Corridor Traffic Analysis Study", and the 1992 "City of Superior Park System Master Plan". The following are recommendations concerning bicycle facilities within these plans.

1. **Tower Avenue –Superior.** ..... **Done**
   SOURCE: Duluth-Superior Metropolitan Interstate Committee. "Tower Avenue Corridor Traffic Analysis". p. 18. December 1992

2. **Superior On-Street Bicycles Routes:** ..... **Not Done**
   SOURCE: " City of Superior Park System Master Plan". p. 60, BRW, 1992.

3. **Superior Off-Street Bicycle-Paths:** The City of Superior Park System Master Plan encourages the following off street bicycle-paths:
   1) Planned Allouez Bayfront Trail. (i.e., Osagie Trail) ..... **Done**
   2) A pair of links across the railroad tracks to connect neighborhoods, parks, and schools. .... **Not Done**
   3) A proposed paved trail where a line of the Chicago-Northwestern Railroad presently runs through the East End, Central Park and Wade Bowl neighborhoods with a connection to Connor's Point. ..... **Not Done**
   SOURCE: " City of Superior Park System Master Plan", p. 61. BRW. 1992.

4. **Superior Off-Road Biking:** The "City of Superior Park System Master Plan" recommends snowmobile routes in the Municipal Forest, the Douglas County routes and part of the state trail to be used for off-road biking in the summer. ..... **Not Done**
   SOURCE: "City of Superior Park System Master Plan". p. 61. BRW. 1992

5. **Allouez Bayfront Trail** (i.e., Osagie Trail)/**Nemadji River –Superior:** The "City of Superior Park System Master Plan" recommends consideration of a possible non motorized trail on the proposed public recreation open space along the Nemadji River connecting to the Osaugie Trail. ..... **Not Done**
SOURCE: " City of Superior Park System Master Plan'. p. 61, BRW. 1992.

6. **Anderson Road/Miller Trunk Highway –Duluth**: The Metropolitan Interstate Committee (MIC) "Miller Trunk Highway Corridor Traffic Analysis Study" recommends the development of an asphalt bicycle trail. This trail should be located from the intersection of Anderson Road and Myrtle Street to the Watson development site, providing an alternative to traveling on the shoulder of the trunk highway. After this point, bicyclists can use intersections and service roads in the Mall area. ..... **Not Done**
SOURCE: MIC "Miller Trunk Highway Corridor Traffic Analysis Study", p. 58' February 1992.

POLICY IMPROVEMENTS

Policy improvements include recommended improvements that are to be implemented locally. These recommendations are related to the development and safety of a comprehensive bicycle facility plan. All jurisdictions involved in the development of bicycle facilities, including the state, county, municipalities, universities and colleges should consider the following bicycle policies regarding transportation issues:

- Consider the bicycle as an important mode in the overall transportation system.
- Recognize that education, enforcement and facilities are important components of a successful overall bicycle safety program.
- Address the needs for safe bicycling throughout the jurisdiction.
- Adopt and use a consistent set of design standards for developing bicycle facilities, specifically the 1991 American Association of State Highway and Transportation Officials' (AASHTO) "Guide for Development of New Bicycle Facilities" and subsequent revisions. The AASHTO guide has been adopted by the Federal Highway Administration as standards for the design and construction of bicycle routes.
- Follow a set of sound guidelines to be used consistently throughout the Duluth-Superior area in the maintenance of bicycle facilities.
- Include bicycles in the ongoing transportation planning process.
- Local jurisdictions shall review project design plans for consistency with the AASHTO guidelines to ensure compliance for bicycle facility projects.
- Local communities are encouraged to review current land use practices. Condensed and mixed land uses create conditions that make alternate modes of transportation more desirable.

GENERAL MAINTENANCE IMPROVEMENTS

The following are specific policy recommendations that pertain to general improvements, maintenance, bicycle safety, education and public information, and bicycle law enforcement. The recommendations are listed in order of priority as developed by the Metropolitan Bikeways Plan Study Advisory Committee.

Developing bikeways are only part of the Bikeways Plan. The maintenance and upkeep of a bicycle facility are essential to promote continued use and prevent problems. The agency responsible for control, maintenance and policing of bicycle facilities should be established before construction. The costs involved with the operation and maintenance should be considered and budgeted. Bicycle facility maintenance programs should be established and budgeted.

Bicycle facilities should be maintained to a reasonable level of safety and rideability giving consideration to several factors:

1) Pavement structure
2) Surface and clearance conditions in all seasons
3) Traffic control devices
4) Parking facilities

Existing roadways that are commonly used by bicyclists should also be maintained with particular consideration given to the condition of curb lanes and shoulders. Improvements and maintenance can reduce conflicts between pedestrians, bicyclists and motorists and can correct conditions unsafe for bicycle riding. Facility maintenance programs and budgets should also include the maintenance of existing facilities such as the Central Entrance Bike Path.

1. **Sweeping and Cleaning:** Regular sweeping of debris in bikeways is necessary. Sweeping and cleaning of designated on-street bike routes, curb lanes, shoulders and paths should be included in the regular street cleaning schedule of local street maintenance agencies, with the highest priority given to those streets with designated bicycle lanes. Particular attention should also be made to the right-hand portion of outside travel lanes and shoulders as part of the regular cleaning operations. Early spring sweeping to remove debris collected throughout the winter is also recommended.

2. **Facility Repair:** Potholes and edges should be repaired. Potholes on designated bikeways and in the outside lane of moderate to heavily traveled roadways should be repaired.

3. **Tree Trimming:** Tree and shrub trimming should be conducted to ensure good sight lines and prevent overgrowth at the facility. Tree and shrub trimming should provide a minimum of eight-foot vertical clearance and two-foot horizontal clearance on both sides of a bikeway always. Tree and shrub trimming should only take place when environmentally feasible. In addition, no herbicides should be used in or near environmentally sensitive areas or near Lake Superior.

4. **Snow Removal:** Snow removal of bicycle facilities should be done throughout the winter to maintain a pavement that is free of snow and ice. On bicycle paths, snow removal should be done to the greatest extent possible. De-icing agents and abrasives can damage bicycles. It is recommended that bicycle paths be plowed with a small layer of packed snow remaining. In many cases, it is easier for bicyclists to ride on packed snow instead of icy surfaces. It is recognized that winter snow conditions may prevent having a two-foot horizontal clearance on both sides of bikeways at all times.

SPECIFIC POLICY IMPROVEMENTS

These policy improvements are recommendations that will have direct and indirect positive effects toward bicycling improvements.

1. **New Roadway Construction:** All new highways in urban areas (except those where bicyclists will be legally prohibited) that are designated as bike routes should be designed and constructed under the assumption that they will be used by bicyclists. This should be done when feasible and when funds allow. Providing for bicyclists on roadways in association with general safety improvements is also a preferred and accepted practice.

All new roadway construction should consider providing sufficient width of smoothly paved surface for shared use of the roadway by bicyclists and motor vehicle operators where needed. When roadway resurfacing (and/or reconstruction) is undertaken, particular attention should be given to improving the surface condition and width of the outside (curb) lane to allow shared uses. Include appropriate provisions for bicyclists when planning all roadway improvements, considering safety, intersection design, roadway surfaces, and roadway width to develop bicycle compatible roadways.

2. **Supplementary Roadway Effects:** Beam guard rails, sign posts and utility poles should not be placed immediately next to paved surfaces. Where feasible, beam-guardrails, sign posts and utility poles should be set back at least two feet from the pavement.

3. **Shoulders:** All jurisdictions should pave shoulders on county trunk highways with a recommended minimum paved shoulder width of four feet when justifiable due to bicycle traffic or other engineering needs. It is recognized that in some areas it may not be possible to achieve this without major construction costs. Pavement of shoulder widths shall also meet local, state and AASHTO guidelines. On state trunk highways not identified as bicycle routes, the Minnesota Department of Transportation is encouraged to use a paved shoulder width of at least four feet when justifiable due to bicycle traffic or other engineering needs and/or safety reasons.

4. **Traffic Control Devices, Sight lines and Lighting:** Consider the needs of bicyclists in the design of all traffic control devices. Sight lines should be kept clear at intersections. Sight line problems can be caused by large buses and trucks, fences, parked cars, foliage and overgrowth. The need for lighting when developing bikeway plans and in the design of all public lighting projects shall also be considered. Bicycle facilities used as commuter routes, as well as underpasses, tunnels and intersections on both commuter and recreational routes should be well lighted.

5. **Future Bikeways:** Consider the development of separate (off-road) bicycle facilities when weighing the following factors.
   1) Existing roadway facilities cannot be made to provide for safe and efficient bicycle travel within a specific corridor.
   2) Conflict points between bicyclists and motorists, such as driveways and intersections, can be reduced.
   3) To provide access for bicyclists around barriers to bicycle travel.
   4) Direct routes can be provided, which have few conflict points with motorists such as rail corridors, lakefronts and water- courses.
   5) When motor vehicle speeds and volumes are incompatible with on-road bicycle use.

   Consider the provision of bikeways when developing parks, open space, shore-lands, railroad rights-of-way, and private subdivision projects, especially those that serve both transportation and recreational uses.

6. **Bicycle Parking Facilities:** Bicycle parking facility development is encouraged to provide many safe, secure, appropriately designed, and conveniently located bicycle parking accommodations where needed in public areas. Jurisdictions should encourage institutions and businesses to provide bicycle parking facilities for use by their employees and customers and encourage the developers/owners of multi-family residential properties to provide bicycle parking facilities adequate for the needs of residents and visitors.

Local jurisdictions should develop bicycle parking requirements for incorporation into local zoning ordinances, subdivision regulations, and building permit requirements. Adequate rest stop facilities should be provided along recreational bicycle trails. Employers should be encouraged to provide conveniently located, safe, and, whenever possible, weather-protected bicycle parking for employees. Employers shall be encouraged to provide showers and locker room facilities for employees whenever possible.

Bicycle parking facilities are included in the recommendations assigned for implementation in the years 1996 to 1999. Included are specifications concerning type and placement of facility.

7. **Liability Issues:** Improperly designed or maintained bicycle facilities will increase the likelihood of accidents and will increase a jurisdiction's liability in case of an accident. It is also important to correct the deficiencies of existing facilities that do not meet current standards. Properly designed and maintained facilities following AASHTO guidelines will increase the safety and enjoyment of bicycling and reduce the financial liability of local governments.

   Concerns by local officials still exist with respect to the designation of bike facilities that share space with vehicular traffic. It is true that improperly designed or maintained bicycle facilities will increase the likelihood of accidents and thus, increase the jurisdiction's liability for the accident. However, this liability potential exists regardless of bike facility designation given that bike travel is allowed on the existing street system. Clearly, if bike facilities are designed and maintained based on general guidelines, such as those provided by AASHTO, the potential for jurisdictional liability should decrease while increasing the safety and enjoyment of the bicycling public.

   According to Tom Huber, the statewide bicycle coordinator for the Wisconsin Department of Transportation, there have been no on-road bike accident lawsuits in the state of Wisconsin that he was aware of. In fact, he noted that lawsuits involving off-road facilities are more common. Mr. Huber noted that cities are just as likely to get sued, if not more likely, if they do nothing at all to address bicycling. Furthermore, by utilizing the bicycle compatibility Index[1], a quantitative analysis can be evaluated prior to implementing bike route designation. In turn, this analysis will ensure wise bike route and facility destination. In conclusion, the key for minimizing liability is following and documenting proper safety guidelines. Refer to appendix for article.

8. **Bridges:** The needs of bicyclists should be considered in the initial planning of state, county, and local roadway and bridge projects. Especially on designated bike routes, adequate funds should be included in project budgets to accommodate the identified needs during the construction period and following the completion of the project. Consideration of bicycle and pedestrian use on bridges should also be weighed. Concerns such as bridge location, traffic volumes and bridge length should also be considered.

9. **Transit and Other Transportation Modes:** The Duluth Transit Authority has provided exterior bicycle racks on buses. The racks are located on the front of buses and accommodate up to two bicycles at one time. All buses in operation have the racks on them during non-winter months (i.e., approximately April through October). In addition, all DTA routes are encouraged to have bike racks at hubs and bus stops. Providing bicycle-parking facilities at these locations increases intermodal use and potential ridership.

[1] Alex Sorton, Northwestern University Traffic Institute.

The North Shore Scenic Railroad should consider allowing bicycles on their trains. With stops between Duluth and Two Harbors, bicyclists could take their bicycles north of Duluth for recreational purposes without contending with high motor vehicle volume areas.

10. **Pave Driveway & Street Entrances.**
Minimize the possibility of sand, gravel and other debris from spreading onto the pavement surface from unpaved streets and driveways. All unimproved intersections, streets and driveways should be paved back a recommended desirable minimum distance of 10 feet or to the right of way line (whichever is less) during new construction, reconstruction and resurfacing. This should especially be encouraged on unimproved roadways that intersect with designated bicycle routes. The current typical minimum pave back is three feet for most roadways.

11. **Buildings:** All major employers and large buildings should provide safe and convenient bicycle parking faciiities, especially with protection from the weather. All new large buildings should also be urged to provide shower and locker facilities.

BICYCLE SAFETY EDUCATION AND PUBLIC INFORMATION

Bicycle safety education and information for the public are also important factors.

1. Bicycle information and Maps
2. Bicycle Coordinator and Bicycle Committee
3. Public information
4. Bicycle Safety Programs
5. Promotional Programs
6. Detailed Utilitarian Bicycling Information
7. Provide Beginner Bicycle Activities

BICYCLE LAW ENFORCEMENT

Enforcement is usually necessary to prevent unauthorized motor vehicle use. Consistent enforcement of traffic laws that enhance bicycle safety by citing violations by both bicyclists and motor vehicle operators should be encouraged. A continuing effort to inform the public of the benefits of bicycle registration for residents in communities that have a registration program is encouraged.

Consideration of developing safety monitor programs, training of law enforcement officers, and consideration of bicycle registration programs should be made. All local law enforcement officers should be trained in the enforcement of laws concerning bicyclists' rights and responsibilities through recruit training and in service refresher courses. Local jurisdictions with bicycle registration programs should examine the potential for upgrading the programs. This would increase compliance and increase the benefits of the programs for bicyclists and local jurisdictions.

The following are recommendations concerning bicycle law enforcement.

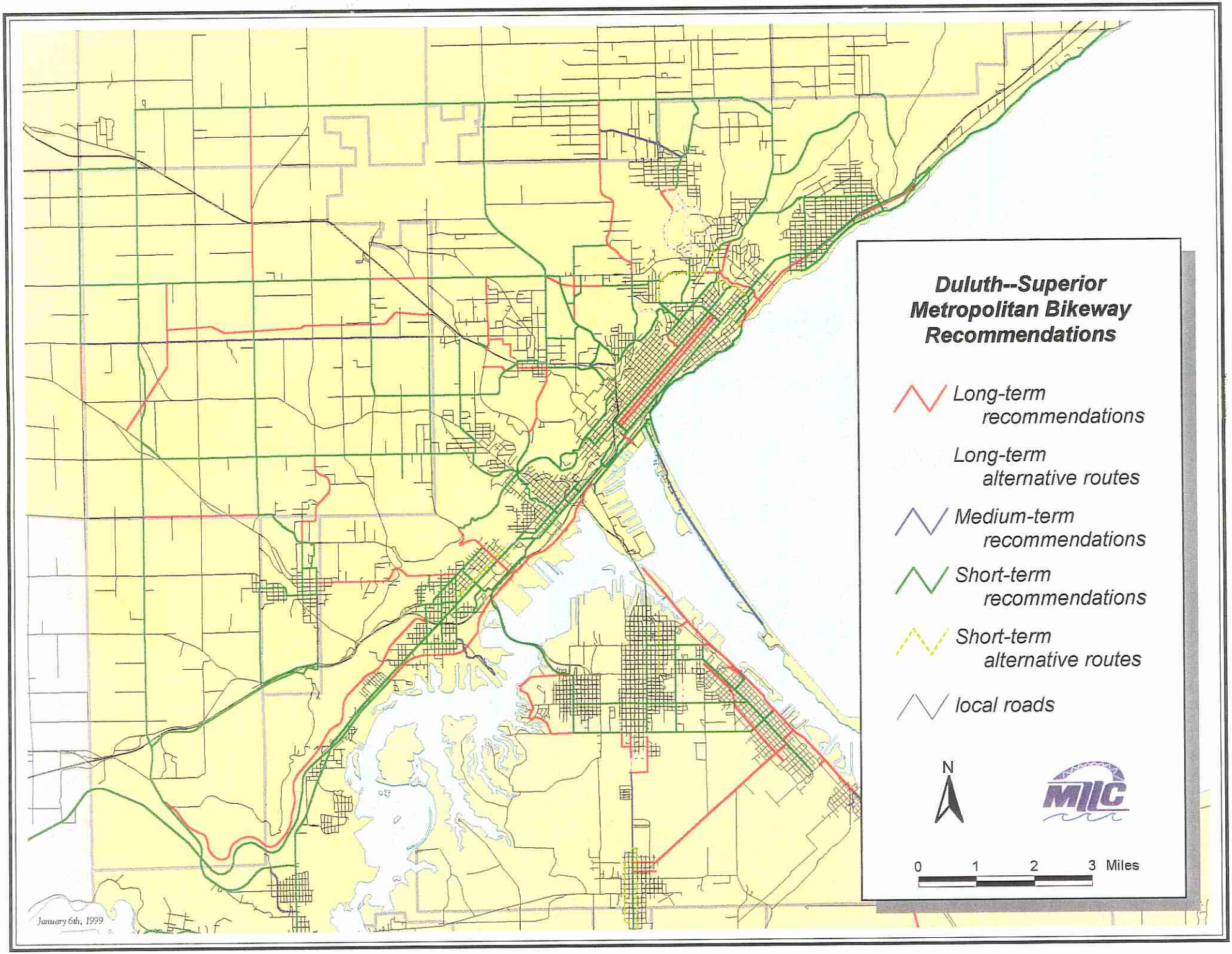
1. Establish a Bicycle Monitor Program
2. Establish a Bicycle Police Patrol
3. Establish a Citizens Watch Program
4. Continual Bicycle Accident Monitoring

ROUTE RECOMMENDATIONS

Recommendations were made for specific Route locations and facility types. The routes were developed by the Metropolitan Bikeways Plan Study Advisory Committee after review of bicycle traffic count surveys, citizen questionnaire surveys, data collection, examination of trip origins and generations, and public information open house comments. The plan's recommendations focus on the development of bicycle facilities designed to address the needs of the average bicyclist. While off-road bicycle paths are preferred, most recommendations advocate on-road bicycle facilities due to environmental, developmental, and cost constraints. The map on the following page illustrates route recommendations from the 1994 Bikeways Plan.

The recommendations for bikeway facility development are listed in priority order by corridor. Only the recommendations that have made some progress toward implementation or have been impacted by some change of events are discussed below. To review the complete list of route recommendations, please refer to the original Duluth-Superior Metropolitan Area Bikeways Plan.

It is important to note that a detailed bike route analysis as described in the American Association of State Highway and Transportation Officials (AASHTO) 1991 "Guide for the Development of Bicycle Facilities" was not used in the selection of bike route recommendations. The Bikeways plan noted that review of the aforementioned guidelines should be reviewed before bikeways are developed to ensure bicycle facility standards are met. The AASHTO guide was adopted by the Metropolitan Bikeways Plan Study Advisory Committee as the guide to standards for bikeway facility development.


Duluth--Superior
Metropolitan Bikeway
Recommendations
Long-term
recommendations
Long-term
alternative routes
Medium-term
recommendations
Short-term
recommendations
Short-term
alternative routes
local roads
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3 Miles
January 6th, 1999

CITY OF DULUTH

Even though the Bikeways Advisory Committee listed recommendations in order of priority, They realized that implementation should be done as opportunities arise. The committee did note that efforts should be made to ensure that bicycle route segments are continuous.

SCENIC NORTH SHORE DR. CORRIDOR

1. ***Scenic North Shore Dr. /Congdon Blvd. (London Rd. to Two Harbors)***
   a. Improved Shoulders: TF=S, J=D,SL,L
      Status: *DONE*

   b. Evaluate Speed Limits: TF=S, J=D,SL,L
      Status: *DONE: Speed limits are more uniform at 50mph.*

   d. Bike Route Signage: TF=S, J=D,SL,L
      Status: *DONE: Edge line and signed.*

   e. Traffic Calming: TF=D, SL, L
      Status: *DONE: Traffic calming techniques are in place and fast-moving and heavy commercial vehicles are encouraged to use expressway.*

Legend of abbreviations used in status of route recommendations.

TF = Time Frame:
S = Short-term
M = Mid-term
L = Long-term

J = Jurisdiction:
D = Duluth
DC = Douglas Co.
H = Hermantown
L = Lake County
M = MnDOT
P = Proctor
SL = St. Louis Co.
S = Superior
W = WisDOT

2. ***Old North Shore Rd. (TH 61/Rohweder Memorial Highway to Brighton Beach Rd.)***
   a. Bike route signage: TF=S, J=D
      Status: *NOT DONE: Not encouraged as bike route because of poor pavement.*

LONDON RD. CORRIDOR

1. ***London Rd. (26th Ave. East to 40th Ave. East)***
   a. Bicycle underpass: TF=L, J=D,SL
      Status: *DONE: Project is funded and will be constructed in 1999.*

   c. Off-road bicycle/pedestrian path: TF=L, J=D,SL, M
      Status: *NOT DONE: Preliminary discussions with St. Louis and Lake County Railroad Authority underway.*

3. ***London Rd. (40th Ave. East to TH 61/Rohweder Memorial Highway)***
   a. Improve TF=S, J=M,D
      Status: *NOT DONE: A three-lane concept is being considered from 26th Ave. East to 60th Ave. Parking would probably be allowed on the Lakeside of London Rd. between East 40th Ave. East to 60th Ave. East. Currently, this 48-foot wide section allows parking on both sides of London Rd. A three-lane road would create a better biking environment.*

SUPERIOR ST. CORRIDOR

No recommendations along this corridor have been implemented to date.

1. ***Superior St. (40th Ave. East to TH 61/Rohweder Memorial Highway)***
   a. Bike route signage: TF=S, J=M,D
      Status: *NOT DONE: Major street improvements are scheduled over the next ten years for Superior Street between 12th Ave. East and 60th Ave. East. Given these improvements and the existing pavement widths, Superior Street may provide an attractive bike connection through eastern Duluth to the Scenic North Shore Highway.*

   b. Off-road bicycle/pedestrian path: TF=L, J=D,SL,M
      Status: *NOT DONE: Preliminary discussions with St. Louis and Lake County Railroad Authority underway to develop an off-road paved bicycle/pedestrian path on the southeast side of the roadway or railroad right of way between 40th Ave. East and TH 61/Rohweder Memorial Highway.*

5. ***Superior St. (26th Ave. East to 5th Ave. West)***
   b. Lakewalk bike route signage: TF=S, J=D,M
      Status: *DONE*

WOODLAND AVE. CORRIDOR-SUPERIOR ST. CORRIDOR CONNECTION

No recommendations along this corridor have been implemented to date.

WOODLAND AVE. CORRIDOR

3. ***Northfield St./Hartley Rd. (Woodland Ave. to Arrowhead Rd.)***
   b. Off-road bicycle/pedestrian path: TF=L, J=D
      Status: *Done: An eight-foot wide paved multi-use trail is planned for Hartley field. The Trail will begin from a newly constructed parking lot off of Hartley Road - west of Woodland Avenue - and connect to Woodhaven Lane. The project is receiving ISTEA Enhancement funding and should be finished in 1999.*

COLLEGE ST. CORRIDOR

No recommendations along this corridor have been implemented to date.

KENWOOD AVE. CORRIDOR

No recommendations along this corridor have been implemented to date.

CANAL PARK/MINNESOTA POINT CORRIDOR

No recommendations along this corridor have been implemented to date.

1. ***Railroad St. (Garfield Ave. to Lake Ave.)***
   a. Bayfront area bicycle and pedestrian provisions: TF=S, J=D
      Status: *NOT DONE: At this time, Bay-Front development is uncertain. However, development proposals should include pedestrian and bicycling accommodations. Railroad Street has been resurfaced and has pavement width that appears to be a desirable bike route.*

3. ***Lake Ave. South/Minnesota Ave. (Aerial Lift Bridge to Park Point Park)***
   a. Re-stripe the roadway: TF=M, J=D
      Status: *NOT DONE: Parking along Minnesota Ave. is an issue; by finding other ways to accommodate residential parking along the roadway, both shoulders of the Minnesota Ave. could be used for bike lanes.*

ARROWHEAD RD. CORRIDOR

No recommendations along this corridor have been implemented to date.

6. ***Arrowhead Rd. (Arlington Ave. to Haines Rd.)***
   a. Bike route signage: TF=S, J=SL
      Status: *NOT DONE: Construction is scheduled for 1999 and will include a sidewalk on the south side of Arrowhead Road*

MARTIN RD. CORRIDOR

No recommendations along this corridor have been implemented to date.

DOWNTOWN CORRIDOR

No recommendations along this corridor have been implemented to date.

1. ***Michigan St. (5th Ave. West to the 1-35 bicycle/pedestrian overpass)***
   b. Widen sidewalk: TF=S, J=D
      Status: *DONE*

   c. Install Boulevard/barrier: TF=M, J=D
      Status: *DONE*

2. ***3rd St. (24th Ave. East to 4th Ave. West)***
   a. Bicycle lane: TF=L, J=M,D
      Status: *NOT DONE: The lake side of 3rd St. from 12th Ave. East to 4th Ave. West could accommodate a bike lane. However, current law indicates that bikes are required to stay on the far right of the street. ADT may not warrant continuing street as one-way.*

3. ***2nd St. (4th Ave. West to 24th Ave. East)***
   a. Bicycle lane: TF=L, J=M,D
      Status: *NOT DONE: ADT may not warrant continuing street as one-way.*

4. ***4th St. (Hawthorne Rd. to Mesaba Ave.)***
   a. Bike route signage: TF=S, J=SL,J
      Status: *NOT DONE: A new streetscape design is planned for 4th St. corridor which may provide an opportunity to provide bike accommodations.*

SNIVELY ROAD/JEAN DULUTH RD. CORRIDOR

No recommendations along this corridor have been implemented to date.

6. ***Old Marshall Rd. (Amity St. to Maxwell Rd.)***
   a. Recreational route: TF=S, J=D
      Status: *NOT DONE: Exists as an off-road route.*

7. ***Snowmobile trail (Lester River Rd. to Oak St.)***
   a. Recreational route: TF=S, J=D
      Status: *NOT DONE: Exists as non-paved route.*

WEST DULUTH, MORGAN PARK, & GARY NEW DULUTH CORRIDORS

1. ***Munger Trail Extension (Pulaski St. to Railroad St.)***
   c. Railroad St. resurfacing: TF=S, J=D
      Status: *DONE: Under construction and will be 40-foot wide two lane roadway.*

2. ***Bong Bridge***
   a. Bike route signage: TF=S, J=D,SL,M
      Status: *NOT DONE: A key recommendation.*

16. ***Raleigh St. (Grand Ave. to Central Ave.)***
   b. Keane Creek off-road bicycle/pedestrian path: TF=M, J=D
      Status: *DONE*

Figure 2: Example of a bike lane along a rural highway

CENTRAL ENTRANCE CORRIDOR

No recommendations along this corridor have been implemented to date.

1. ***Central Entrance (Basswood Ave. to Trinity Rd.)***
   a. Bike route signage. TF=L, J=D
      Status: *NOT DONE: Change Palm St. to Orange St. is recommended.*

6. ***Improve Central Entrance/Mesaba Ave. intersection for bicycle use***
   b. Bicycle/pedestrian overpass/underpass: TF=L, J=M
      Status: *NOT DONE: May be cost prohibitive.*

   d. Bicycle traffic signal phasing: TF=L, J=M,SL
      Status: *NOT DONE: Does have pedestrian crossing activation control.*

ANDERSON RD. CORRIDOR

No recommendations along this corridor have been implemented to date.

HOWARD GNESEN RD. CORRIDOR

1. ***Howard Gnesen Rd. (Arrowhead Rd. to Martin Rd.)***
   a. Shoulder improvement: TF=L, J=SL
      Status: *NOT DONE: Check with County. May be scheduled in five year plan.*

WEST END/PIEDMONT HEIGHTS CORRIDOR

No recommendations along this corridor have been implemented to date.

4. ***Decker Rd./Piedmont Ave./Chambersburg Ave.***
   a. Bike route signage: TF=S, J=D, SL
      Status: *NOT DONE: Chambersburg Ave. may be preferable.*

7. ***Piedmont Ave./Skyline Pkwy. Intersection***
   a. Future bikeway facilities: TF=L, J=M
      Status: *NOT DONE: Key recommendation.*

CITY OF HERMANTOWN

No recommendations for the City of Hermantown have been implemented to date.

1. ***Maple Grove Rd. (Haines Rd. to Solway Rd.)***
   a. Improve shoulders (designate as a bike route after construction) TF=M, J=SL
      Status: *DONE*

   b. Off-road bicycle/pedestrian path alternative: TF=L, J=H
      Status: *NOT DONE: 3-5 years to implementation.*

5. ***Lavaque Rd. (Morris Thomas Rd. to Proctor city limits)***
   a. Bike route signage: TF=L, J=SL
      Status: *NOT DONE: Morris Thomas Rd. to Maple Grove Rd. is scheduled for reconstruction after 2000.*

6. ***Ugstad Road/Lavaque By-pass (St. Louis River Rd. to Martin Rd.)***
   a. Bike route signage: TF=S, J=H
      Status: *NOT DONE: Morris Thomas Rd. to St. Louis River Rd. has gravel shoulders, yet, a low ADT.*

10. ***Future Western Hermantown Bike Path***
    a. Off-road bicycle/pedestrian path: TF=L, J=H
       Status: *NOT DONE: Existing snowmobile trial, if abandoned, could be considered for multi-purpose trial.*

11. ***Stebner Rd. (Anderson Rd. to Arrowhead Rd.)***
    a. Bike route signage: TF=S, J=H
       Status: *NOT DONE: Stebner Rd. is scheduled to be rebuilt in 1999. Check with county projects/TIP.*

12. ***Anderson Rd. (Haines Rd. to Stebner Rd.)***

a. Bike route signage: TF=S, J=H
Status: *NOT DONE: Anderson Rd. has been resurfaced, is narrow with gravel shoulders and has low ADT (local traffic).*

14. ***Future Eastern Hermantown Bike Path.***

a. Off-road bicycle/pedestrian path: TF=L, J=H
Status: *NOT DONE: This recommendation is based on recent plans to expand sewer line into Hermantown which will require an easement ideal for trail construction.*

CITY OF PROCTOR

1. ***2nd Ave./Lavaque Rd. (2nd St. to north city limits)***

a. Bike route signage: TF=L, J=SL
Status: *NOT DONE: St. Louis River Road is scheduled to be reconstructed in 1999.*

b. 2nd Ave. (2nd St. to St. Louis River Rd.). Bike route signage: TF=S, J=SL
Status: *NOT DONE: Wait until reconstruction by St. Louis Co.*

2. ***Westgate Boulevard/new frontage Rd. (Ugstad Rd. to Boundary Ave.)***

a. Bike route signage: TF=S, J=P
Status: *NOT DONE: Road was recently constructed with wide shoulders.*

3. ***Boundary Ave. (9th St. to Westgate Blvd.)***

b. Resurface/widen shoulders. Designate as a bike route when completed: TF=M, J=SL
Status: *DONE: Was reconstructed in 1996 with wide paved shoulders. However, from 5th St. to 9th St., shoulders are not in ideal condition (this section was not rebuilt).*

c. Bicycle/pedestrian traffic signal phasing: TF=M, J=SL, M
Status: *DONE*

4. ***4th St./5th St. (Ugstad Rd. to 2nd St.)***

a. Bike route signage: TF=S, J=SL
Status: *NOT DONE: Road was widened during 1995 reconstruction project.*

9. ***Ugstad Rd. (Westgate Blvd. to 4th St.)***

a. Bike route signage: TF=S, J=SL
Status: *NOT DONE: Road is in poor condition; may be prudent to wait until road is improved.*

10. ***Future Bike Path connecting Munger Trail to park and recreational area***

a. Off-road bicycle/pedestrian path: TF=L, J=P
Status: *NOT DONE: This recommendation is based on recent plans to expand sewer line into Hermantown which will require an easement ideal for trail construction.*

CITY OF SUPERIOR

TOWER AVE. CORRIDOR

1. ***Tower Ave. (North 28th St. to 34th St./37th St.)***
   a. Off-road bicycle/pedestrian path or bike lane: TF=L J=W,S
      Status: *DONE: 10 foot wide Sidewalk on West Side of Tower.*

   b. Bike route signage. Alternative to 1.a: TF=L, J=S
      Status: *NOT DONE: Sign Route to Frontage Road or Sidewalk.*

   c. Extension of Oaks Ave. (N 28th St. to N. 31st St.) Designate Bike route: TF=L, J=S
      Status: *NOT DONE: 28th St. to 31st St. via Oaks St. has been reconstructed.*

2. ***Tower Avenue (34th St. to 37th St.)***
   a. Improve roadway surface: TF=L, J=S
      Status: *DONE: 10 foot wide Sidewalk on West Side of Tower.*

   b. Signage and crosswalk markings: TF=L, J=S
      Status: *DONE:*

   c. Bike route signage: TF=L, J=S
      Status: *NOT DONE: Alternative to 2.a. Not necessary.*

   d. Bike route signage. Alternative to 2.a. and 2.c.: TF=L, J=S
      Status: *NOT DONE: Not necessary*

   e. Off-road bicycle/pedestrian path: TF=L, J=S
      Status: *NOT DONE: Not Feasible.*

3. ***Tower Ave. (34th St. to 52nd St.)***
   a. Off-road bicycle/pedestrian path: TF=M, J=S
      Status: *DONE: 10 foot wide Sidewalk east of Tower.*

   b. Sidewalks: TF=M, J=W
      Status: *DONE: Sidewalk east of Tower.*

   c. Bike route signage. TF=S, J=W
      Status: *NOT DONE*

   d. Ogden Ave. (or Oaks Ave) to 52nd St. Ogden Ave. Alternate bike route: TF=S, J=S
      Status: *NOT DONE: Route is feasible.*

EAST 2ND ST. CORRIDOR

1. ***East 2nd St. Corridor (Wisconsin Point/Moccasin Mike Rd. to 39th Ave. East)***
   a. Off-road bicycle/pedestrian path.TF=M, J=S,DC
      Status: *DONE: Osagie Trail.*

   b. Bike route signage: TF=M, J=S,DC
      Status: *NOT DONE: Concerns with signing Osagie Trail as bike route.*

2. ***East 2nd St. Corridor (39th Ave. East to 18th Ave. East)***
   a. Off-road bicycle/pedestrian path: TF=L, J=S,DC
      Status: *DONE: Osagie Trail.*

   b. Bike route signage. TF=L, J=S,DC
      Status: *NOT DONE: Concerns with signing Osagie Trail as bike route.*

   c. Off-road bicycle/pedestrian path: TF=L, J=S,DC
      Status: *DONE: Osagie Trail.*

3. ***East 2nd St. Corridor (18th Ave. East to Marina Drive)***
   a. Off-road bicycle/pedestrian path: TF=L, J=S,DC
      Status: *DONE: Osagie Trail.*

   b. Bike route signage: TF=L, J=S,DC
      Status: *NOT DONE: Concerns with signing Osagie Trail as bike route.*

   c. Bicycle/pedestrian overpass: TF=L, J=S,DC
      Status: *NOT DONE: Funding feasibility is questionable.*

4. ***East 2nd St. Corridor (Marina Dr. to Winter St.)***
   a. Off-road bicycle/pedestrian path: TF=L, J=S,DC
      Status: *NOT DONE: Dependent on Rail Right of Way. Check on City ROW or Alleys. Consider 5th St. Instead of Winter St.*

   b. Bike route signage: TF=L, J=S
      Status: *NOT DONE: Dependent on Rail Right of Way. Check on City ROW or Alleys. Consider 5th St. Instead of Winter St.*

5. ***East 2nd St. Corridor (Winter St. to Main St.)***
   a. Off-road bicycle/pedestrian path: TF=L, J=S
      Status: *NOT DONE: Feasible.*

6. ***East 2nd St. Corridor (Main St. to Connor's Point)***
   a. Improve roadway/bike route signage. T=L, J=S
      Status: *NOT DONE: Not Feasible or Desirable. Connor's Point is not being developed as a likely destination.*

   b. Bicycle/pedestrian overpass: TF=L, J=W,S,DC
      Status: *NOT DONE: Funding feasibility is questionable.*

NORTH 28TH ST. CORRIDOR

No recommendations along this corridor have been implemented to date.

2. ***North 28th St. (East 10th St. to Bardon Ave.)***
   a. Bike route signage and crossings: TF=S, J=S
      Status: *NOT DONE: High priority.*

   b. Bike lane/widened curb lane: TF=L, J=S
      Status: *NOT DONE: Low priority.*

   c. Off-road bicycle/pedestrian path: TF=L, J=S
      Status: *NOT DONE: Feasible: Replace with Sidewalk width adjacent to roadway is an alternative to 2a and 2.b.*

3. ***North 28th St. (Bardon Ave. to Cummings Ave.)***
   a. Bike route signage and crossings: TF=L, J=S
      Status: *NOT DONE: High priority.*

   b. Bike lane/widened curb lane: TF=L, J=S
      Status: *NOT DONE: Low priority.*

   c. Off-road bicycle/pedestrian path: TF=L, J=S
      Status: *NOT DONE: Complete from Catlin to Mariner Mall.*

4. ***North 28th St. (Cummings Ave. to Hammond Ave.)***
   a. Bike route signage: TF=S, J=S
      Status: *NOT DONE: Existing Sidewalk to Elmira Ave. exists.*

   b. Off-road bicycle/pedestrian path: TF=L, J=S
      Status: *NOT DONE: Need to construct on South side. Homes are too close on North side.*

5. ***37th St./Hammond Ave. (3 1st St. and Tower Ave.)***
   a. Designate Hammond Ave. (28th St. to 37th St.) and 37th St. (Hammond Ave. to Tower Ave.) as a bike route: TF=S, J=S
      Status: *NOT DONE: Not Recommended.*

   b. Improve the roadway surface on 37th St. and on Hammond Ave and designate as bike route: TF=S, J=S
      Status: *NOT DONE: Not Recommended.*

8. **Belknap St. (Wyoming Ave. to Susquehanna Ave.) and Susquehanna Ave. (Belknap St. to Bong Bridge bike/pedestrian path)**
   a. Bike route signage: TF=S, J=S
      Status: *NOT DONE: High priority.*

9. ***Scenic route proposal***
   a. Scenic route proposal. The City of Superior could consider designating a scenic route through Billings Park (on Belknap St. and North 28th St.), along the St. Louis Bay, and in/near the Municipal Forest. Alternative option TF=L, J=S
      Status: *NOT DONE: Is planned.*

EAST 5TH ST. CORRIDOR

No recommendations along this corridor have been implemented to date.

1. ***East 5th St. (31st Ave. East to 6th Ave. East)***
   a. Bike route signage. Alternative to the East 2nd St. Corridor: TF=S, J=S
      Status: *NOT DONE: An alternative to 2nd St. not necessary.*

   b. Designate and sign 9th Ave. East (East 5th St. to East 2nd St.) as a bike route TF=S, J=S
      Status: *NOT DONE: 6th Ave. would provide signalized intersection crossing.*

   c. Off-road bicycle/pedestrian path from the 9th Ave. East/East 2nd St. intersection to provide access with Barker's Island. Alternative to Marina Drive TF=S, J=S
      Status: *NOT DONE: Would provide a better connection between Central Park and the Raspberry Walking Trail.*

3. ***Chicago-Northwestern Bicycle/Pedestrian Path (26th Ave. East to Hill Ave.)***
   a. Off-road bicycle/pedestrian path: TF=L, J=S
      Status: *NOT DONE: Not likely given that the right-of-way is owned by railroad.*

STINSON AVE. CORRIDOR

No recommendations along this corridor have been implemented to date.

1. ***Stinson Ave. (56th St. to East 14th St.)***
   a. Off-road bicycle/pedestrian path parallel to the roadway: TF=L, J=S
      Status: *NOT DONE: Newton Creek Corridor is incorporated in Superior's Park Plan although not parallel to roadway and should connect to Osagie trail.*

2. ***56th St. (Tower Ave. to Stinson Ave.)***
   a. Bike route signage after an off-road bicycle/pedestrian path is developed on Stinson Avenue: TF=L J=S
      Status: *NOT DONE: Not recommended due to high truck traffic, ditches and narrow shoulders, safety is a concern.*

NORTH 21ST ST. CORRIDOR

No recommendations along this corridor have been implemented to date.

1. ***North 21st St. (Wyoming Ave. to Washington Ave.)***
   a. Bike route signage: TF=S, J=S
      Status: *NOT DONE: Route is possible despite being very narrow.*

2. ***North 21st St. (Washington Ave. to Banks Ave.)***
   a. Bike route signage TF=S, J=S
      Status: *NOT DONE: Route is possible despite being very narrow.*

3. ***North 21st St. (Banks Ave. to East 5th St.)***
   a. Bike route signage. Designate and sign as a bike route. TF=S, J=S
      Status: *NOT DONE: Recommend Catlin Ave. to UWS W. on 19th to Weeks Ave. connecting to Grand Ave. to the south of North 21st St. and North on Catlin Ave. to 28th Ave.*

HAMMOND AVENUE/GRAND Ave. CORRIDOR

No recommendations along this corridor have been implemented to date.

1. ***Hammond Ave. (North 28th St. to North 5th St.)***
   a. Bike route signage: TF=S, J=S
      Status: *NOT DONE: Not recommended; instead recommend Oaks Ave. at 9th St. to 31 St. to Tower Ave. in Short Term and/or Grand Ave. to weeks to 19th St. to Catlin to 28th. St. in Long Term.*

2. ***Grand Ave. (Belknap St. to North 5th St.)***
   a. Bike route signage. alternative to 1.a.: TF=S, J=S
      Status: *NOT DONE: : Not recommended; instead recommend Oaks Ave. at 9th St. to 31 St. to Tower Ave. in Short Term and/or Grand Ave to weeks to 19th St. to Catlin to 28th. St. in Long Term.*

CATLIN AVENUE/NORTH 12TH ST. CORRIDOR

No recommendations along this corridor have been implemented to date.

1. ***Catlin Ave. (North 6th St. to North 28th St.)***
   a. Bike route signage: TF=S, J=S, UWS
      Status: *NOT DONE: Not recommended because of high traffic and narrow streets.*

2. ***North 12th St. (Catlin Ave. to Hill Ave.)***
   a. Bike route signage: TF=S, J=S
      Status: *NOT DONE: Not recommended because of high traffic and narrow streets.*

3. ***East 5th St. (North 12th St. to Belknap St.)***
   a. Bike route signage: TF=S, J=S
      Status: *NOT DONE: Contingent on 5th St. Corridor not being recommended.*

4. ***Winter St. (Hammond Ave. to East 2nd St.)***
   a. Bike route signage: TF=S, J=S
      Status: *NOT DONE: Important connection.*

5. ***Hill Ave. (North 12th St. to Winter St.)***
   a. Bike route signage: TF=S, J=S
      Status: *NOT DONE: Important connection.*

Railroad Crossings

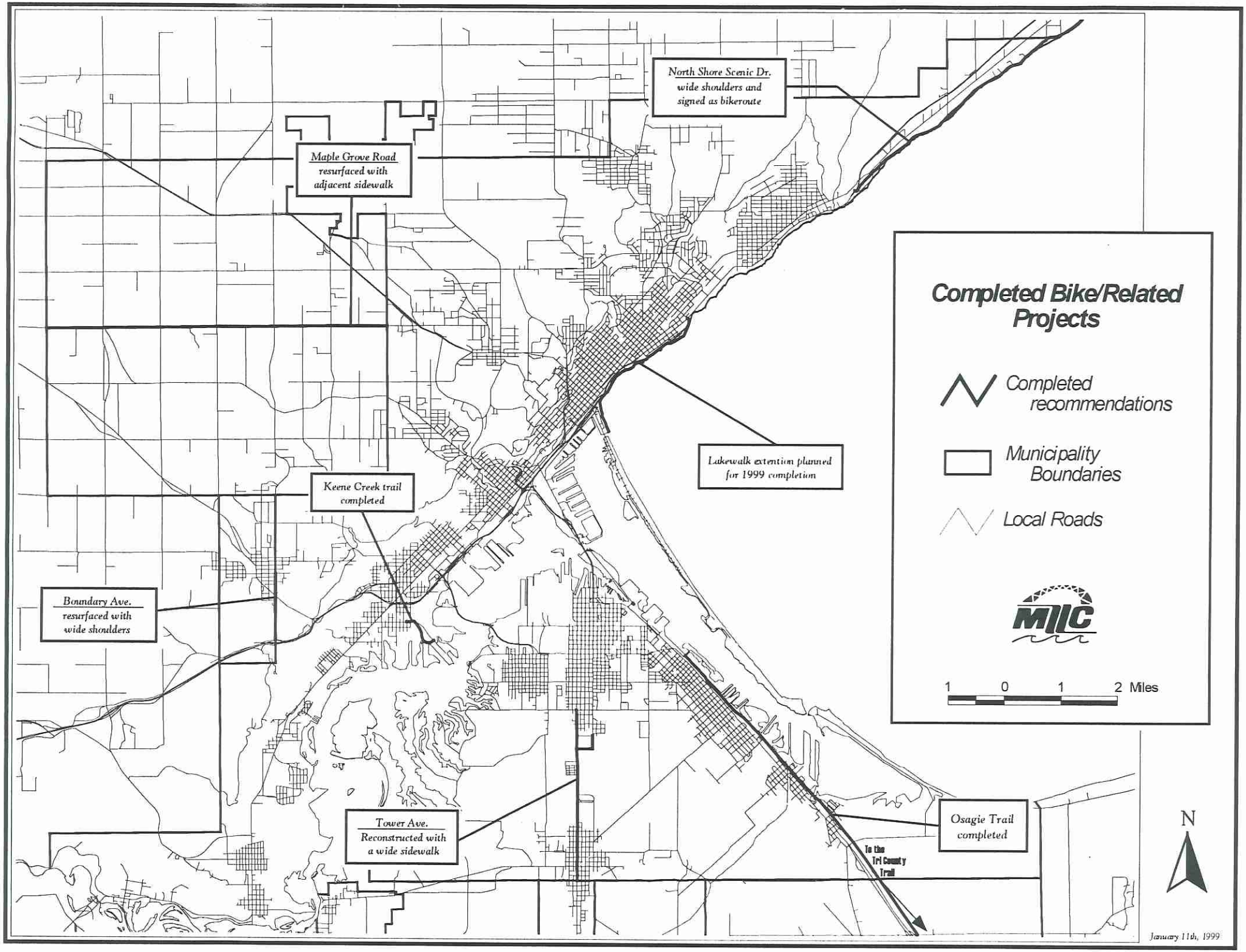
The following recommended bike routes cross or potentially cross railroad tracks. The above guidelines should be considered when route development occurs at the following locations:

- Catlin Ave. (between North 8th St. and Winter St.)
- Winter St. (between Catlin Ave. and Elm Ave.)
- North 12th St. (between Poplar Ave. and Hill Ave.)
- East 5th St. (between Hill Ave. and East St.)
- The North 28th St. bike-path (between Hill Ave. and Spartan Rd.) and North 28th St. (between Oaks Ave. and Elmira Ave.)
- The Stinson Ave. bike-path (between 55th St. and Hill Ave.)
- Hammond Ave. (between Winter St. and North 8th St.)

Status Report Conclusion

As this document describes, several bike-related projects have been completed over the last several years. However, most of these projects have been off-road multi-use trails designed primarily for recreational purposes. Obviously, dedicated bike facilities provide environments with little potential for bike conflicts with motorized vehicles. However, these facilities are extremely costly. Therefore, to make the metro area bike-friendly, on-road facilities are needed. By making roadways safer places to bike, existing off-road facilities will be more accessible and will be able to serve transportation purposes as well as recreational purposes. In addition, by creating bike-friendly roadways, utilitarian biking will increase, creating a community less reliant on cars, and thus improving the region's quality of life.

A primary objective of ISTEA and TEA-21 was to provide for the development of an intermodal transportation system. With the inclusion of the transportation enhancements program included in ISTEA and TEA-21, many multi-use trails have been able to be developed that may not have occurred if this funding had not been available. These facilities serve an important function. However, these facilities are designed primarily for recreational use, the 1994 Duluth-Superior Metropolitan Area Bikeways Plan looks at bicycling as a transportation mode. The Bikeways Plan clearly serves the transportation objective expressed in ISTEA and TEA-21. While off-road trails such as the Lakewalk, and Osaugie Trail can serve as transportation routes, they can only due so if they are connected to the transportation system. The Bikeways Plan provides the tools for creating these connections.


North Shore Scenic Dr.
wide shoulders and
signed as bikeroute
Maple Grove Road
resurfaced with
adjacent sidewalk
Lakewalk extention planned
for 1999 completion
Keene Creek trail
completed
Boundary Ave.
resurfaced with
wide shoulders
Tower Ave.
Reconstructed with
a wide sidewalk
Osagie Trail
completed
To the
Tri County
Trail
Completed Bike/Related Projects
Completed
recommendations
Municipality
Boundaries
Local Roads
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January 11th, 1999

IMPLEMENTATION PLAN

Over the past six months, MIC staff has taken several steps toward the implementation of the Bikeways Plan. MIC staff:

1. Presented the Bikeways plan recommendations to jurisdictions for adoption.
   - The Duluth City Council adopted the plan in the fall of 1998.
   - The Hermantown city Council adopted the plan in December 1998.
   - The City of Superior and Proctor had adopted the Plan in 1994.
2. Met with the four jurisdictions administrators to:
   - Review the current status of recommendations and changes to roadways that could impact route designation.
   - Discuss implementation concerns.
   - Obtain information on planned bike related projects.
   - Discuss possible time frames and funding options for implementation.
3. Calculated costs estimates for implementing the short-term bike route recommendations.
4. Inquired with cities about interest in MIC staff applying and submitting a Transportation Enhancements Project funding application in 1998 on behalf of jurisdictions. Applications reviewed and prioritized high enough by the Enhancements Task Force would receive Federal funding for projects in fiscal year 2002. The City of Hermantown and the city of Duluth expressed interest in applying for Enhancement funding for implementation of the short-term bikeway recommendations. The City of Proctor did not feel that filing an application for December of 1998 was prudent for them at this time but expressed interest in pursuing enhancement funding for bikeways in 1999.
5. Given the total cost for implementation, MIC staff felt it would be prudent to pursue the completion of short-term bikeway recommendations in a multi-phase process. Phase-One would include bike routes in Hermantown and approximately a third of the key routes in Duluth. Phase-Two would include the remaining Duluth bike routes and all of the routes for Proctor. Given that Superior is subject to a different process and timeline for the State of Wisconsin, Phase-Three, which includes all the Wisconsin side bike route recommendations, would be pursued at the appropriate time. Phase III for the Wisconsin bike routes could occur as soon as possible and is not contingent on the implementation of Phase-One or Phase-Two.
6. Upon the submission of letters stating the commitments required from the City of Duluth and Hermantown, an Enhancements Application sponsored by ARDC was completed and submitted on December 31, 1998 on behalf of those respective communities. Refer to Appendix for review of Enhancements Application.

For the implementation of the Bikeways Plan to be successful, several conditions need to exist. Many of the efforts listed above have helped to develop the environment needed to accomplish the following conditions.

1. The public and political leaders need to be committed to the plan and/or creating a bike-friendly community.
2. Bike issues and concerns need to be the responsibility of an identified individual/administrator.
3. To increase the attractiveness of the implementation process, funding alternatives need to be pursued and implementation initiated as incremental steps that minimize annual costs.

Implementation Plan for Route Recommendations:

Route recommendations identified for bike route signage, painted edge lanes, and bike route markings focused on the original short-term route recommendations identified in the original plan. The criteria used in developing these routes are described on p.11 of this document. In developing the Bikeways Implementation Plan, bike routes were reviewed with city engineers and staff to obtain their input into bike route assignments. These discussions led to some changes to the proposed 1994 plan routes. Even though preliminary review of route designations has occurred, final bike route assignments are subject to change based on criteria developed by the American Association of State Highways and Transportation Officials' (AASHTO) Guide for the Development of Bicycle Facilities, 1991. In addition, selected corridors will be subject to a bicycle street compatibility evaluation developed by the Northwestern University Traffic Institute (see Appendix). This evaluation will be completed in 1999 and will allow MIC/ARDC staff to quantifiably identify and prioritize the most desirable bike route environments.

Final bike route assignments are subject to change based on criteria developed by AASHTO.

The table on the following page lists estimated costs to implement the short-term route recommendations. Not surprisingly, the implementation of this plan would require a funding commitment. However, the MIC feels that these costs are reasonable and justifiable given the transportation benefits, particularly when compared to similar transportation and bike-related projects. In addition, alternative-funding sources may be available such as Federal Transportation Enhancement funding, which requires that local jurisdictions only cover 20 percent of the entire cost of constructing the project.

Federal transportation enhancement funding appears to offer one of the best funding sources available for implementing the Bikeways Plan. Up to 80 percent of the cost of implementing the bikeway recommendations could be covered by Federal funding through the transportation enhancement program authorized by congress through the Transportation Equity Act for the 21st Century (TEA-21). The transportation enhancement project application could be made by each jurisdiction or cooperatively through ARDC. The benefit of ARDC sponsoring the application is that the submitting jurisdictions would not have to compete with each other for what is essentially the same project.

The following assurances need to be met by the Transportation Enhancement Project application sponsor:

- Assurance of 20% minimum local match.
- Total project cost greater than $50,000 Maximum $300,000 (historically).
- Assurance of operation and maintenance for useful life of facilities.
- Illustrate relationship to transportation.
- Transportation mitigation projects to include water pollution runoff and wildlife vehicle mortality reduction.
- Demonstrate project can be delivered within budget and on time.

The following criteria are used by the Northeast Minnesota Area Transportation Partnership's Enhancements Task Force in the evaluation and prioritization for funding Transportation Enhancement projects.

Priority Criteria	Relative Weight
Provides a regional benefit	30%
Provides a local/community benefit	20%
Implementation of a community of regional plan	20%
Completion of other projects	10%
Meeting multiple ISTEA/TEA-21 objectives	10%
Provides a local match beyond 20%	10%

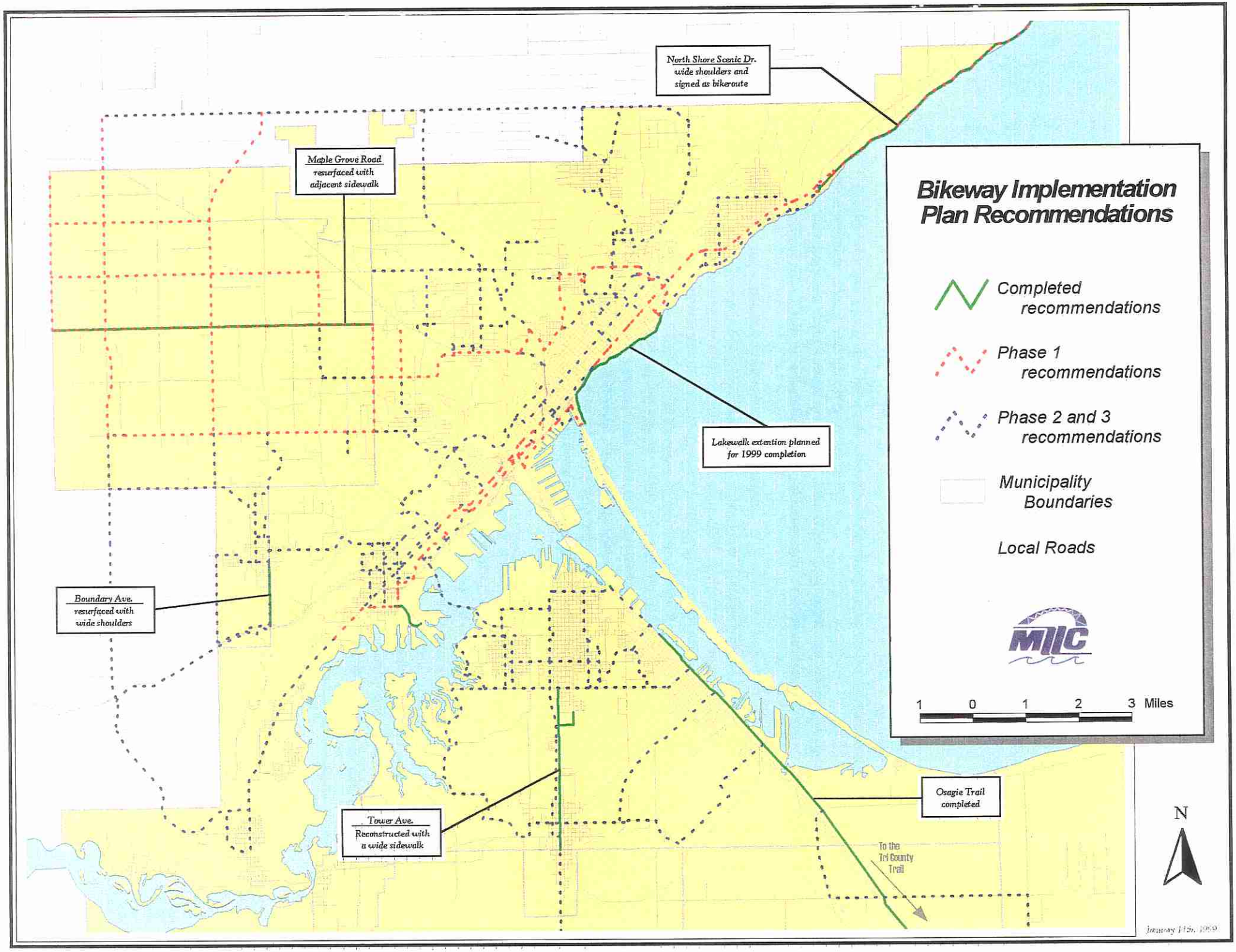
Given that Transportation Enhancement applications require a minimum project cost of $50,000 with a maximum of $300,000, it would be beneficial for jurisdictions to work together to submit a two-phased metro-wide project which would benefit all jurisdictions and enhance the bike friendliness of the entire region. However, since Minnesota and Wisconsin have different processes for allocating enhancement funds, the city of Superior's portion of bikeways would have to be submitted under a different time frame and procedure. In order to obtain funding to construct a project in 2002, an enhancement funding application was submitted December 31, 1998. Likewise, in order to receive project funds in 2003, an application for Phase-Two could be submitted the following year.

MIC staff presented the options for applying for transportation projects to the city councils of Hermantown, Duluth, and Proctor. While Proctor officials were not prepared at this time to participate in an enhancement application, both Hermantown and Duluth were interested in allowing ARDC to submit an application on their behalf. Because of the cost of implementing the entire Duluth bike routes proposed, all the bikeways in Hermantown and roughly one-third of the bikeways in Duluth were included in phase-One of the enhancements application (refer to map on the following page). Phase-One routes for Duluth were chosen based on providing access through the community, connecting with Hermantown and existing facilities such as the Munger Trail, the Lakewalk, and the North-shore Scenic Highway bike route. The map on the following page illustrates proposed routes by implementation phase.

In order for ARDC to submit an application for Transportation Enhancement Project Funding on behalf of a jurisdiction a letter and/or resolution stating the following and signed by the respective jurisdiction's mayor and/or city council is required:

1. Permission for ARDC to submit an enhancement application on behalf of the jurisdiction.
2. Commitment to cover the 20 percent match required with federal enhancement funds.
3. Commitment to provide any preliminary engineering and construction engineering costs necessary to complete the project.
4. Commitment to operate and maintain facilities.

The letters of Commitment have been received from the City of Hermantown and the City of Duluth.


North Shore Scenic Dr.
wide shoulders and
signed as bikeroute
Maple Grove Road
resurfaced with
adjacent sidewalk
Lakewalk extention planned
for 1999 completion
Boundary Ave.
resurfaced with
wide shoulders
Tower Ave.
Reconstructed with
a wide sidewalk
Osagie Trail
completed
To the
Tri County
Trail
Bikeway Implementation
Plan Recommendations
Completed
recommendations
Phase 1
recommendations
Phase 2 and 3
recommendations
Municipality
Boundaries
Local Roads
MIC
1 0 1 2 3 Miles
N
January 11th, 1999

Implementation Plan Costs

The following costs for bikeway implementation identified in tables one through four are based on the following estimates and assumptions.

- Unit Costs: Bike Route Sign and Installation = $125. (10 /mile)
- Four-inch painted edge line = $0.10 per linear ft. (5,280 ft. per mile) = $528.00/mile one way ($1,056.00 two way).
- Preformed pavement marking installation (similar to turn arrow) = $200[2]. (4/mile)
- P.E.= Preliminary Engineering = eight percent of total costs; C.E.= Construction Engineering = eight percent of total costs.

Phase-One includes approximately 40 miles of bikeways in Hermantown and 50 miles in Duluth at a total implementation cost of $275,000. If the project receives enhancement funding, Hermantown and Duluth will be required to cover only $28,000 and $30,000, respectively (refer to Table 1). Total costs for implementing short-term recommendations are listed in Table 4. It is important to note that the amount listed in the column labeled "Total" does not include Preliminary and Construction Engineering costs or Operations and Maintenance (O&M) Costs. The column labeled "Total Local Imp Cost" includes Preliminary and Construction Engineering cost estimates and the 20 percent local match required if the project qualifies for federal enhancement funding.

Table 1: Phase 1 Costs

	Mileage	Bike Route Sign	Preformed Pavement Marking	Painted Edge Lanes	Total	*P.E.=8% C.E.=8% 16% of Total	Local 20%	Federal 80%	Total Local Imp. Cost
Duluth	48	$60,000	$38,400	$50,700	**$149,100**	$23,900	$29,800	$119,300	$53,700
Hermantown	41	$51,300	$32,800	$43,300	**$127,300**	$20,400	$25,500	$101,900	$45,800
Total	**89**	**$111,300**	**$71,200**	**$94,000**	**$276,400**	**$44,300**	**$55,300**	**$221,200**	**$99,600**

*P.E.= Preliminary Engineering = 8% of total cost; C.E.= Construction Engineering = 8% of total cost
Note: Figures are rounded to the nearest hundred dollars. Totals reflect calculations prior to rounding.

Table 2: Phase 2 Costs

	Mileage	Bike Route Sign	Preformed Pavement Marking	Painted Edge Lanes	Total	*P.E.=8% C.E.=8% 16% of Total	Local 20%	Federal 80%	Total Local Imp. Cost
Duluth	95	$119,200	$76,300	$100,700	**$296,100**	$47,400	$59,200	$236,900	$106,600
Proctor	9	$11,300	$7,200	$9,500	**$28,000**	$4,500	$5,600	$22,400	$10,100
Total	**104**	**$130,400**	**$83,500**	**$110,200**	**$324,100**	**$51,800**	**$64,800**	**$259,200**	**$116,700**

*P.E.= Preliminary Engineering = 8% of total cost; C.E.= Construction Engineering = 8% of total cost
Note: Figures are rounded to the nearest hundred dollars. Totals reflect calculations prior to rounding.

[2] City of Duluth Engineering Department; 11/98

Table 3: Phase 3/Superior Costs

	Mileage	Bike Route Sign	Preformed Pavement Marking	Painted Edge Lanes	**Total**	*P.E.=8% C.E.=8% 16% of Total	Local 20%	Federal 80%	Total Local Imp. Cost
Superior	30	$37,500	$24,000	$31,700	**$93,200**	$14,900	$18,600	$74,500	$33,500

*P.E.= Preliminary Engineering = 8% of total cost; C.E.= Construction Engineering = 8% of total cost
Note: Figures are rounded to the nearest hundred dollars. Totals reflect calculations prior to rounding.

Table 4: Total Costs for Short-term Bikeway Recommendation Implementation

	Mileage	Bike Route Sign	Preformed Pavement Marking	Painted Edge Lanes	**Total**	*P.E.=8% C.E.=8% 16% of Total	Local 20%	Federal 80%	Total Local Imp. Cost
Duluth	143	$178,800	$114,400	$151,000	**$444,200**	$71,100	$88,800	$355,300	$159,900
Hermantown	41	$51,300	$32,800	$43,300	**$127,300**	$20,400	$25,500	$101,900	$45,800
Proctor	9	$11,300	$7,200	$9,500	**$28,000**	$4,500	$5,600	$22,400	$10,100
MN Total	193	$241,300	$154,400	$203,800	**$599,500**	$95,900	$119,900	$479,600	$215,800
Superior	30	$37,500	$24,000	$31,700	**$93,200**	$14,900	$18,600	$74,500	$33,500
Total	**223**	**$278,800**	**$178,400**	**$235,500**	**$692,600**	**$110,800**	**$138,500**	**$554,100**	**$249,300**

*P.E.= Preliminary Engineering = 8% of total cost; C.E.= Construction Engineering = 8% of total cost
Note: Figures are rounded to the nearest hundred dollars. Totals reflect calculations prior to rounding.

Other Costs:

- Bicycle /Pedestrian Implementation Coordinator ..... = Indeterminate ($15,000-$30,000)
- Cost of Route Map update and publication ..... = $4,000

- Ongoing operation and maintenance costs
  Repainting edge lanes..... = Refer to table 3
- Cleaning, minor repairs, etc. ..... = Indeterminate

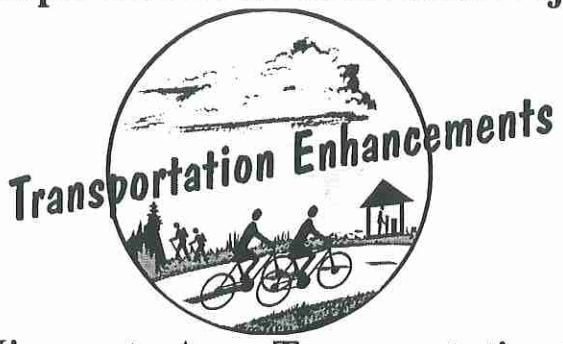
Even though a large portion of the implementation costs will occur up front with the purchase and installation of signs, annual operations and maintenance (O&M) costs need to be considered; however, these issues exist for any new transportation facility.

Conclusion

As noted earlier, the short-term bikeway recommendations are relatively inexpensive to implement, particularly given the comparable costs associated with dedicated trails. The implementation of these recommendations would enhance bike travel in and around the metro area as well as improve access to existing trails and facilities. MIC/ARDC staff feels that by allowing ARDC to submit an enhancement project application in two-phase process would offer the greatest opportunity to secure federal funding that would ultimately benefit the entire metropolitan area while minimizing the commitment of local funds. Unfortunately, the Minnesota and Wisconsin Departments of Transportation each have their own processes for allocating these funds. Therefore, a separate enhancement project would have to be submitted for the city of Superior.

APPENDIX

APPLICATION FOR
Transportation Enhancement Projects



Northeast Minnesota Area Transportation Partnership
State Fiscal Year 2002 Funding

For Implementation of Phase 1
of the
Duluth-Superior Metropolitan Area Bikeways Plan

Submitted by the Arrowhead Regional Development Commission
on the behalf of
The City of Duluth and
The City of Hermantown

December 31, 1998

TRANSPORTATION ENHANCEMENTS
APPLICATION CHECKLIST

Things You Need to Include with the Application

The following is a checklist that is to be filled out and signed by the sponsor and returned with the application. Please check the completed requirements and sign at the bottom of the second page.

APPLICATION REQUIREMENTS

The following items are required with submittal of your application:

✓ This application checklist, signed by the project sponsor.
✓ Detailed responses to each qualifying criterion.
✓ Detailed responses to each prioritizing criterion.
✓ Detailed project cost totals.
✓ Estimates of preliminary engineering and construction engineering costs (preliminary and construction engineering are not eligible for Enhancement funding, but should be considered by the applicant/sponsor at the time of this application).
✓ Documentation of contact with all impacted or other relevant agencies, parties and/or land owners.

Please make sure that the application:

✓ Identifies a project manager responsible for developing the project documentation.
✓ Indicates that the project is located within the boundaries of the NE MN ATP.
✓ Identifies how the project is eligible for Enhancement funding (per Intermodal Surface Transportation Efficiency Act (ISTEA) / Transportation Equity Act for the 21st Century (TEA-21) and Area Transportation Partnership (ATP) guidelines.
✓ Includes the Section, township and range numbers of the project location.
✓ Clearly describes the proposed project, what is entailed by the project scope, where the project is located, and what its expected impacts will be.
✓ Demonstrates that the project manager understands what is involved in delivering the project.
✓ Is submitted to the Arrowhead Regional Development Commission (ARDC) office by Thursday, December 31, 1998.

The application should be formatted so that:

✓ Pages in the proposal are numbered.
✓ The proposal is limited to ten 8½ x 11" pages excluding maps, drawings and/or photos.
✓ The proposal includes a project location map that is reproducible.
N/A The proposal includes a site map with adjoining land uses shown.
✓ The proposal identifies each criterion by number when responding.

The following items are required to be submitted to ARDC by January 31, 1999:

__ A signed certification of funding commitment for the local match is included (in the form of a letter of support or resolution from the source of the local match).

__ A resolution from the sponsoring agency committing to financial support and the ongoing and long-term maintenance of facility is required. A detailed maintenance plan will also be required for approval at the time of project plan submittal.

(over)

SUCCESSFUL PAST APPLICANTS HAVE INCLUDED:

The following is provided for information purposes and includes examples of items that successful past applicants have included in their applications.

- A sufficient number of photographs to document the project/property and its surroundings from several perspectives.
- Maps with important points indicated.
- A detailed description of how the project effects their community.
- A detailed outline of events and involvement.
- If the project is identified in a community or regional plan, a copy of the page or map from the plan that identifies or discusses the project submitted

ADDITIONAL QUESTIONS TO BE COMPLETED BY PROJECT SPONSOR:

What is the earliest fiscal year can the project be delivered? **2002**
NOTE: Projects approved for FY 2002 Enhancements funding may have an opportunity to be advanced to an earlier fiscal year. Projects submitted for this process must be delivered no later than FY 2002.

Describe the source of financial resources for the project's ongoing and long-term maintenance.

The city of Duluth, The City of Hermantown,

Can the project be developed in segments or prioritized phases? (circle one) ✓**YES** **NO**
If so, please indicate priority and schedule for each phase. *NOTE: Segments or prioritized phases must be able to stand alone as separate projects. There is no guarantee of Enhancement funding for future phases.*

Phase 1, Phase 2 as describe in application

Who is your project manager? Name: **Jim Henricksen** Phone #: **218-529-7512**

When will the environmental documentation be completed (month/year)? **January 2001**

When will site plans be prepared (month/year)? **June 2001**

When will bids be opened (month/year)? **June 2001**

When will construction begin (month/year)? **July 2002**

Who will be responsible for preliminary engineering and construction engineering costs? **City of Duluth, City of Hermantown**
Will the project be using the Enhancement funds for right of way acquisition costs? (circle one) **YES** ✓**NO**

Will other funds be used for acquiring right of way? If so, please describe the source of these funds.

NO

Signature: _____ **Title:** Executive Director **Date:** Jan 4, 1999
Signature of sponsor required (i.e. city mayor, county board chair, etc.)

Transportation Enhancement Project
Qualifying Criteria

1. **Please explain why your project is eligible for Enhancement funds as defined in the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) or the 1998 Transportation Equity Act for the 21st Century (TEA-21) (as explained above).**

   Phase one of a two-phase process, would designate and establish 90 miles of on-road bike routes within the City of Hermantown and the city of Duluth. The bike routes for Phase One and Phase Two, shown on the following map, were developed through an extensive planning process which culminated in the Duluth-Superior Metropolitan Area Bikeways Plan completed in 1994 by the Metropolitan Interstate Committee (MIC). The Bikeways Plan serves as the bike component of the MIC's Long-Range Transportation Plan.

   Implementation of the Duluth-Superior Metropolitan Bikeways Plan: Phase One would provide designated on-street bicycle routes that would enhance bike travel in the area and maximize the benefits of existing off-road bike trails. Phase 1 of this project would meet eligibility criteria for enhancement funding based on the first qualifying activities listed on the application directions and described as " 1. Provision of facilities for pedestrians and bicycles." A strong argument could also be make that by designating bike routes that meet AASHTO bikeway guidelines would increase biking safety. Furthermore, by installing signs would warn motorists of increased bike usage on routes; thus, accomplishing activity "12. Provision of safety and educational activities for pedestrian and bicyclists."

   Bike routes[1] would be identified with bike route signage and appropriate pavement markings (e.g., painted edge lane lines). On-road bike routes would serve bicycle travel and would not encourage or allow pedestrian activities (including in-line skating). The establishment of bike routes would accomplish several transportation objectives such as:

   - Identifying the most desirable and appropriate on-street bike routes
   - Encouraging bike use for transportation as well as recreational purposes by providing connections between communities and access to other bike facilities. Phase One would make biking between Hermantown and Duluth easier and provide connections between the Munger Trail, the Lakewalk and the Scenic Highway 61 on-road bike route to Two Harbors. These routes would also connect a variety of destinations throughout the area including the Spirit Valley shopping Center, the Miller Hill Mall, Hermantown Recreation Center, the University of Duluth, the College of St. Scholastica, Downtown Duluth, Canal Park, and Lester Park, Minnesota.
   - Making motorists more cognizant of bicyclists, warning them of their responsibility to "share the road"; thus, improving safety for both bikers and motorists.
   - Providing destination information to bicyclists.

[1] Bike routes would be designated and designed according to the *Guide for the Development of Bicycle Facilities*, published by the American Association of State and Highway Transportation Officials and the *Manual on Uniform Traffic Control Devices for Streets and Highways*, published by the U.S. Department of Transportation's Federal Highway Administration. Bike Routes identified on maps are subject to change as a result of these guidelines.

2. **Describe the source and amount of your projects assured local (non-federal funds) match. Local matches must be at least 20 percent of the estimated total cost of the proposed project.**

The assured local match will be covered by the city of Hermantown and the City of Duluth as noted in Table 1: below. Letters of commitment to the local match from respective jurisdictions will be available by the January 31st deadline. The 20 percent local match was calculated from the estimated total project costs and excludes preliminary engineering (P.E.) and construction engineering (C.E.) costs. The cost's associated with project coordination among the jurisdictions are also excluded from the local match calculations in Table 1; coordination costs will be covered with MIC planning funds

Table 1: Phase 1 Costs

	Mileage	Total	**Local (20%)**	Federal (80%)	*P.E.=8% C.E.=8%	Total Local Imp. Cost
Duluth	50	$148,100	**$29,600**	$118,400	$23,700	$53,300
Hermantown	40	$127,300	**$25,500**	$101,900	$20,400	$45,800
Total	90	$275,400	**$55,100**	$220,300	$44,100	$99,100

*P.E.= Preliminary Engineering = 8% of total cost; C.E.= Construction Engineering = 8% of total cost
Note: Figures are rounded to the nearest hundred dollars. Totals were calculated prior to rounding.

3. **Describe the assurance of operation and maintenance of the property and facility for the useful life of the improvement. The use of any right-of-way cannot be changed without prior approval from the Minnesota Department of Transportation and the Federal Highway Administration.**

Operation and maintenance (O&M) Costs associated with Bike route facilities will be covered by the City of Hermantown and the City of Duluth for bikeways, which fall within their respective jurisdictions. Commitments by respective jurisdictions to cover O&M functions for the life of the facility have been confirmed and will be addressed in the letter describing the local match.

The change of Right-of-way use is not an issue since bike routes will be located on existing roadways, which do not prohibit bike use. However, if a situation arises where a permitted use of right-of-way is in conflict with bike-route designation (e.g., parking lane), the respective jurisdiction will work with the Minnesota Department of Transportation and the federal highway administration to obtain approval for any change of right-of-way use.

Given that permitted use of bike routes consist of only those vehicles currently allowed on the designated roadway, no significant short or long-term maintenance impact increases are foreseen. However, a detailed maintenance plan will be prepared by each jurisdiction for approval at the time of project plan submittal.

4. **Who is sponsoring the project? 1) City, 2) County, 3) State Agency, 4) Tribal Government, 5) Regional Rail Authority, 6) Federal Agency**

The sponsoring agency is the Arrowhead Regional Development Commission on behalf of City of Hermantown and the City of Duluth. Because the project is multi-jurisdictional and was spurred by planning done by the ARDC's Metropolitan Interstate Committee (MIC), it is

reasonable for ARDC to sponsor the project in order that individual jurisdictions are not forced to compete with each other for funding the same project.

5. Describe your project's estimated costs; the funding request amount must be at least $50,000.

Table 2 illustrates that Phase One of the proposed project is well above the $50,000 minimum funding request amount as well as below the maximum of $300,000. The Costs include Bike route signage, preformed pavement markings and painted edge lines. Phase One is based on approximately 90 miles of bikeway routes through Hermantown and Duluth.

Table 2: Phase 1 Cost Details

	Mileage	Bike Route Sign	Preformed Pavement Marking	Painted Edge Lanes	Total	**Federal (80%)**
Per Unit Costs		$125	$200	$ 1,056		
Units Per Mile		10	4			
Total	89	$111,300	$71,200	$94,000	$276,500	$221,200

The costs identified are based on the following estimates provided by the City of Duluth Department of Engineering, November 1998.

- Unit Costs: Bike Route Sign and Installation = $125
- Four-inch painted edge line = $0.10 per linear ft. (5,280 ft. per mile) = $528.00/mile one way ($1,056.00 two way).
- Preformed pavement marking installation (similar to turn arrow) = $200

*P.E.= Preliminary Engineering = 8% of total cost; C.E.= Construction Engineering = 8% of total cost
Note: Figures are rounded to the nearest hundred dollars. Totals were calculated prior to rounding.

Phase Two of the project would also meet the minimum and maximum funding request per project. The success of Phase One in providing critical links for safe bike travel in the metropolitan area is not dependent on the implementation of Phase Two. Both phases of this project could function effectively without the other. While phase One would provide initial critical connections for bike travel, Phase Two would complete a comprehensive bikeway system for the entire Minnesota side of the Metropolitan area. It is important to note that similar efforts to develop the Superior bikeway system will also be occurring through the Wisconsin process. To emphasize the point, the effectiveness of Phase One, Phase Two or the Superior Phase is not dependent on the implementation of the other segments.

Table 3: Phase 2 Cost Details

	Mileage	Bike Route Sign	Preformed Pavement Marking	Painted Edge Lanes	Total	**Federal**
Per Unit Costs		$125	$200	$ 1,056		**80%**
Units Per Mile		10	4			
Total	104	$130,000	$83,200	$109,800	$323,000	**$258,400**

*P.E.= Preliminary Engineering = 8% of total cost; C.E.= Construction Engineering = 8% of total cost
Note: Figures are rounded to the nearest hundred dollars. Totals were calculated prior to rounding.

6. Describe how your project has a demonstrated relationship to transportation by meeting function, proximity and impact.

The Metropolitan Bikeways Plan is a component of the Long-Range Transportation Plan, which is mandated by the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and the Transportation Equity Act for the 21st Century (TEA-21) of 1998. These pieces of legislation, which define federal transportation policy, recognized the increasing importance bicycles do and could play as part of a truly intermodal transportation system. The development of a comprehensive, contiguous, metropolitan bikeway system serves to create an environment, which allows, and encourages the use of bicycles as a realistic mode of transportation.

The Duluth-Superior Metropolitan Area Bikeways Plan, from which this project was conceived, based its recommendations on identifying a transportation system that is integrated with the existing system and provides access to most major destination sites desired by travelers. Furthermore, this plan looked to create bicycle friendly environments using existing transportation facilities in order to maximize travel benefits while minimizing capital costs.

Describe the intended use (FUNCTION) of the project if delivered (for example: bicycle use, pedestrian use, snowmobile use, historic preservation, etc.).

Function: The function of the project is to designate facilities that accommodate safe on-road bicycle travel by:

- Utilizing exiting transportation facilitates to accommodate bicycling use in order to provide a truly multi-modal transportation environment.
- Maximizing existing facilities to assist with the integration of bicycles to create an intermodal transportation system. For example, utilizing DTA bike racks on buses is more desirable if bike routes offer connections with DTA routes.
- Providing bicyclists with designated bike routes that meet AASHTO guidelines for bikeway development; thus, encouraging bicyclists to use facilities that are better suited toward bike travel.
- Increasing motorist's awareness of bike use and promote the responsibility of motorist's to "share the road" with bicyclists.
- Identifying and promoting desirable routes, which will, in turn, encourage more bicycle use.

Proximity: Bikeways will provide contiguous routes, which lead to major destinations, throughout Duluth and Hermantown. The bikeways project would connect exiting trails such as the Munger Trail, the Keene Creek Trail, the Lake walk, and the North-Shore Scenic Byway. These connections will not only make trails more accessible for recreation purposes but would enhance these trails as transportation routes. Furthermore, Phase One of the bikeways project would provide a biking connection to the West and East side of Duluth as well as to the Miller Hill Mall and Hermantown.

What will be the IMPACT on the transportation system if this project is funded and delivered?

Impact: The impact will be more bicycle travel on roadways that meet the guidelines developed by AASHTO and serve bicyclists needs; thus, making the area more bike friendly. Since the bike routes proposed focus on shared roadway facilities and will be designed according to AASHTO guidelines, the impact on existing vehicular traffic should be minimal.

By developing a bikeway system, bike and motor vehicle conflicts should decrease creating a safer environment for all transportation system users.

Creating a bike friendly community can generate impacts identified below.

- Environmental Benefits (e.g., less air and noise pollution, more energy efficiency, and since bikes require little pavement or parking space and can lessen congestion problems)
- Social/Economic Benefits (e.g., fuel efficient, affordable transportation, require fewer resources, an alternative to auto travel, promotes livable communities)
- Health Benefits (e.g., increased physical activity results in physical fitness and reduced stress, and biking is an activity available to virtually any age group)
- Transportation Benefits (e.g., provide connection between destinations, integrates with other modes such as transit and auto travel)

7. **Explain any details of your project that may be considered mitigation of a transportation project, and how the project is eligible for Enhancements funding.**

By creating a community bikeways system and encouraging more people to utilize bikes as a travel mode, traffic congestion could decrease leading to less of a need to build and/or expand roadways, which in turn, would mean water run-off that might otherwise occur. Likewise, wildlife mortality would decline if more people used bicycles instead of motor vehicles.

8. **Please provide a project implementation schedule: include dates that identify when site plans and environmental documents will be completed, when construction bids will be advertised and opened, when the project is to be let, and when actual construction will begin and end.**

Phase 1 Implementation Schedule:

- Finalize route designation based on AASHTO guidelines and Bike Stress Analysis
  Date: 12/1999
- Construction bids
  Date: 1/2002
- Installation of Signs, pavement markers and painted edge lanes
  Date: 6/2002

Phase 2 Implementation Schedule

- Construction bids
  Date: 1/2003
- Installation of Signs, pavement markers and painted edge lanes
  Date: 6/2003

Please provide detailed cost estimates for the project being proposed. Differentiate between the construction costs (which are eligible for Enhancements funding) and engineering and other costs incurred by the project, (which are not eligible). Also identify other funding sources being used to cover non-eligible costs.

Phase 1 & 2 Bikeway Implementation Costs

The following costs identified below were based on the following estimates and assumptions supplied by the City of Duluth Department of Engineering.

- Unit Costs: Bike Route Sign and Installation = $125
- Four-inch painted edge line = $0.10 per linear ft. (5,280 ft. per mile) = $528.00/mile one way

($1,056.00 two way).

- Preformed pavement marking installation (similar to turn arrow) = $200
- P.E.= Preliminary Engineering = 8% of total costs; C.E.= Construction Engineering = 8% of total costs.

Table 4: Phase 1 Costs

	Mileage	Bike Route Sign	Preformed Pavement Marking	Painted Edge Lanes	**Total**	*P.E.=8% C.E.=8%	Local	Federal	Total Local Imp. Cost
Per Unit Costs		$125	$200	$ 1,056		16% of Total	20%	80%	
Units Per Mile		10	4						
Duluth	48	$60,000	$38,400	$50,700	$149,100	$23,900	$29,800	$119,300	$53,700
Hermantown	41	$51,300	$32,800	$43,300	$127,300	$20,400	$25,500	$101,900	$45,900
Total	89	$111,300	$71,200	$94,000	$276,500	$44,300	$55,300	$221,200	$99,600

*P.E.= Preliminary Engineering = 8% of total cost; C.E.= Construction Engineering = 8% of total cost
Note: Figures are rounded to the nearest hundred dollars. Totals were calculated prior to rounding.

Table 5: Phase 2 Costs

	Mileage	Bike Route Sign	Preformed Pavement Marking	Painted Edge Lanes	**Total**	*P.E.=8% C.E.=8%	Local	Federal	Total Local Imp. Cost
Per Unit Costs		$125	$200	$ 1,056		16% of Total	20%	80%	
Units Per Mile		10	4						
Duluth	95	$118,800	$76,000	$100,300	$295,100	$47,200	$59,000	$236,100	$106,200
Proctor	9	$11,300	$7,200	$9,500	$28,000	$4,500	$5,600	$22,400	$10,100
Total	104	$130,100	$83,200	$109,800	$323,100	$51,700	$64,600	$258,500	$116,300

*P.E.= Preliminary Engineering = 8% of total cost; C.E.= Construction Engineering = 8% of total cost
Note: Figures are rounded to the nearest hundred dollars. Totals were calculated prior to rounding.

Table 6: Total Costs for Short-Term Bikeway Recommendation Implementation

	Mileage	Bike Route Sign	Preformed Pavement Marking	Painted Edge Lanes	**Total**	*P.E.=8% C.E.=8%	Local	Federal	Total Local Imp. Cost
Per Unit Costs		$125	$200	$ 1,056		16% of Total	20%	80%	
Units Per Mile		10	4						
Duluth	143	$178,800	$114,400	$151,000	$444,200	$71,100	$88,800	$355,300	$159,900
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Proctor	9	$11,300	$7,200	$9,500	$28,000	$4,500	$5,600	$22,400	$10,100
MN Total	193	$241,300	$154,400	$203,800	$599,500	$95,900	$119,900	$479,600	$215,800
Superior	30	$37,500	$24,000	$31,700	$93,200	$14,900	$18,600	$74,500	$33,500
Total	223	$278,800	$178,400	$235,500	$692,600	$110,800	$138,500	$554,100	$249,300

*P.E.= Preliminary Engineering = 8% of total cost; C.E.= Construction Engineering = 8% of total cost
Note: Figures are rounded to the nearest hundred dollars. Totals were calculated prior to rounding.
Shaded area includes costs associated with Superior, Wisconsin bikeway implementation and is not relevant to the Northeast Minnesota Area Transportation Partnership's process.

Other Costs

- Bicycle /pedestrian implementation coordinator to conduct bike stress analysis and assess bike compatibility with AASHTO guidelines would be conducted by ARDC/MIC-Staff = ($15,000-$30,000)

- Cost of Bike Route Map update and publication = $4,000

- Ongoing operation and maintenance costs
  - Repainting edge lanes = Refer to previous cost estimates
  - Cleaning, minor repairs, etc. = Indeterminate

Does right-of-way (ROW) need to be acquired to deliver this project? If YES, how and when will the ROW be acquired, and what are the anticipated land acquisition costs?

Please include this information in your implementation schedule and cost estimates.

No right-of-way needs to be acquired for this project.

What environmental document path will the project most likely follow (Project Memorandum, Project Path Report or Environmental Assessment)?

Given that only existing roadways would be used for the project and the installation of bike route signage would create little to no environmental impact, a project memorandum describing the insignificant environmental impacts would appear to be a sufficient.

Are the project segments or phases prioritized? If so, please indicate the priority and schedule for each phase. Which phase is this application requesting funding for?

As previously noted, this project is segmented into two phases. Phase One is being pursued for enhancement funding for the fiscal year 2002. Funding for Phase Two will occur once a commitment to complete Phase One is secured.

Transportation Enhancements
Priority Criteria

1. **Describe whom the proposed project will benefit, how it will benefit Northeastern Minnesota, why the facility is needed, what the benefits will be, and how frequently the facility will be used.**

   This project will serve and benefit Northeast Minnesota with a bikeway network, which serves both utilitarian and recreational bicyclists. On-road bike facilities would encourage greater use of the bicycles as a serious transportation mode and direct them to the most appropriate routes. Bike routes would provide a more convenient means of accessing the variety of destinations throughout the area; benefiting not only area residents, but also visitors wishing to enjoy the area's dedicated bike trails and other tourist destination sites as well. This project would benefit touring bicyclists throughout the region and state in that it would provide key connections through the city and to existing biking facilities and destinations.

   It is difficult to project how much bike use would increase with such facilities. However, other cities have seen significant increased bike usage upon incorporating bikeway systems.

2. **What are the potential losses to Northeastern Minnesota if this project is not funded?**

The potential losses may mean that the area will not attract area bicyclists to the extent that they would if this project were implemented. It is interesting to note that there is not a "bike-friendly" route for bicyclists connecting the northern end of the Munger Trail and southern end of the North-Shore scenic byway. It is also disheartening to think of the number of tourists and vacationers bringing bicycles to the area and yet do not have good access through the city to dedicated bike trails and other destinations. If the area does not become more "bike-friendly", we will continue to see that more bikes are attached to the top of motor vehicles than in bike racks outside of restaurants, hotels and shops.

3. **Describe whom the proposed project will benefit, how it will benefit the community/area/etc., why the facility is needed, what the benefits will be, and how frequently the facility will be used.**

Since the end of World War II, the automobile has dominated transportation policy to the exclusion of almost all other travel modes. With the passage of ISTEA and TEA-21, congress sent a message that communities need to look past traditional methods of solving transportation problems. The purpose of the transportation enhancement program is clear; to provide a means of enhancing the transportation system in ways that were not necessarily available in the past. The development of a bikeways system as described here helps create a balanced multi-modal transportation system that the authors of ISTEA and TEA-21 had envisioned.

Approximately 120,000 people live within the Duluth-Superior urbanized area. Of the roughly 52,000 commuters in 1990, 270 reported that they usually commuted to work by bicycle. While this is not a large number, it is significant. It is important to note that this data was gathered prior to the completion of the Lakewalk and other dedicated bike trails that have encouraged biking. The experience of the Lakewalk, is a good example that by providing appropriate facilities behaviors do change. By making the area more bike-friendly, and increasing bicycling, particularly utilitarian biking, the quality of life in the community and region will be improved.

4. **What are the potential losses to the community and/or the public if this project is not funded?**

The potential loss to the community if this project if not completed is considerable. Unlike other enhancement projects, this project serves a regionally significant transportation purpose. This project is not about creating park-like settings for people to take leisurely weekend bike rides. This project is about creating a balanced multi-modal transportation system in which one can get from point A to point B on a bicycle safely. This project is about providing travelers with a realistic alternative to the car and helping to create a more livable community.

Having worked with the Duluth Alliance for Youth's Transportation Task Force, it is somewhat disconcerting that young adults have to rely on friends or parents with automobiles to access various activities and destinations. If projects such as this, which look at bikes as a legitimate transportation mode are not implemented, the intent of ISTEA and TEA-21 is lost.

5. **Describe if (and/or how) your project is identified in or is consistent with local, regional or statewide plans. These plans may have been adopted by federal, state, or regional agencies or Metropolitan Planning Organizations, or by an individual community.**

Please include the plan, reference to your project within the plan or source where the plan may be obtained. Is the project a part of a larger project concept? Can funding of the project leverage additional dollars from other sources?

As noted earlier, both phases of this project are derived from the short-term recommendations of the Duluth-Superior Metropolitan Area Bikeways Plan, which serves as the bike component of the Metropolitan Interstate Committee's Long-Range Transportation Plan (enclosed). The Bikeways plan was completed in 1994 and is the culmination of an extensive effort by several groups of people. The Metropolitan Interstate Committee, the MIC Transportation Advisory Committee, and a study advisory committee, made up of representatives from the jurisdictions, school representatives, local bicyclists, and staff from various city departments including engineering, planning, police, public works, parks and Recreation, and public transit all participated in the plan's development.

The Metropolitan Interstate Committee, the federally designated Metropolitan Planning Organization for the Duluth-Superior Metropolitan area, has adopted the 1994 Bikeways Plan. The Bikeways Plan has also been adopted by the city councils of the City of Duluth, the City of Hermantown, the City of Proctor, and the City of Superior, Wisconsin.

In addition to the original planning that was completed in 1994, MIC staff has recently completed a Bikeways Status Report and Implementation Plan. The statuses of the plan's original recommendations were examined and a few proposed changes were developed with the assistance of each of the respective jurisdictions. The implementation plan outlines phase one and two, which are essentially the short-range recommendations, generated from the 1994 Bikeways Plan.

6. **Describe any components of your project that have already been funded and/or started from other funding sources, especially projects for which the proposed project would complete a larger project, concept or plan. Does the proposed project anticipate use of other funds or anticipate use of multiple funding sources other than TEA-21 funding?**

Several recommendations from the 1994 Bikeways Plan have been completed as projects. For example, bike racks were installed on all DTA buses. The DTA has seen a tremendous positive response to the bike racks, which have seen increased usage every year since they were installed. Other projects that have been completed include the Lakewalk extension under 26th Avenue east in Duluth, the completion of the Osaugie Trail in Superior, and the creation of a pedestrian/bike compatible sidewalk along the west side of Tower Avenue between 34th and 52nd Streets in Superior.

Most of the recommendations that have been completed to date are dedicated trails. While these facilities have tremendous benefits, particularly to recreational uses, they generally do not offer the connectivity necessary for utilitarian bike trips and do not promote bicycling as a mode of transportation. Furthermore, many of the existing trails are not very accessible by bicycles. In other words, it is difficult to get to dedicated bike and Pedestrian facilities on a bike. As a result, it is not uncommon to see people loading and unloading bikes at the head of a dedicated trail. Bikeway connections are needed between neighborhoods and trials. The most efficient way to make these connections is by identifying on-street bike facilities.

The 1994 plan identified several possible funding sources including other federal and transportation programs. However, the Transportation Enhancements Activities program

offered the best fit as defined by the program criteria. To date, no other sources other than local funds have been pursued.

7. **Explain the degree to which your project will enhance, preserve or protect the identified ISTEA/TEA-21 activities eligible for Enhancement funding. Which activities/objectives will be accomplished with the completion of the proposed project?**

Of the identified ISTEA/TEA-21 activities eligible for funding, this project accomplishes "1. Provision of facilities for pedestrians and bicycles." Our primary focus is on identifying and providing facilities for bicycles in order to create a truly multi-modal transportation system. By identifying a bike route system, safety and education activities are occurring as well. Bike route signs not only identify routes that meet AASTHO Guidelines and offer routes with fewer potential conflicts to bikers, they also warn motorists of the increased potential for bike traffic and encourages them to respect their responsibility to "share the road". In addition to designating bike routes, the Metropolitan Interstate Committee plans to recreate an area bikeways map, which will identify and promote bike routes and other useful destinations to bicyclists. This map will provide other information useful to those biking in the Twin Ports area.

8. **Explain what percentage of assured local (non-federal funds) match will be provided for your project.**

As the table below illustrates, the City of Hermantown and the City of Duluth would cover the phase 1 local match. Phase 2, would be covered by the City of Duluth and the City of Proctor. The Phase 1 local match is estimated at 20 percent of the total costs of construction. However, when preliminary and construction engineering costs are considered, which are not covered by enhancement funding, the true local share of completing the project is about 26 percent. In addition, ARDC and the MIC will have used significant resources for planning, bike route analysis, and the production of an area Bikeways Map.

Table 7: Phase 1 Local Match Estimates

	Mileage	Total	**Local (20%)**	Federal (80%)	*P.E.=8% C.E.=8%	Total Local Imp. Cost
Duluth	48	$148,100	**$29,600**	$118,400	$23,900	$53,700
Hermantown	41	$127,300	**$25,500**	$101,900	$20,400	$45,900
Total	**89**	$276,400	**$55,100**	**$220,300**	$44,100	$99,600

*P.E.= Preliminary Engineering = 8% of total cost; C.E.= Construction Engineering = 8% of total cost
Note: Figures are rounded to the nearest hundred dollars. Totals were calculated prior to rounding.

Table 7: Phase 2 Local Match Estimates

	Mileage	Total	**Local (20%)**	Federal (80%)	*P.E.=8% C.E.=8%	Total Local Imp. Cost
Duluth	95	$296,100	**$59,200**	$236,900	$47,400	$106,600
Proctor	9	$28,000	**$5,600**	$22,400	$4,500	$10,100
Total	104	$324,100	**$64,800**	$259,200	$51,800	$116,700

*P.E.= Preliminary Engineering = 8% of total cost; C.E.= Construction Engineering = 8% of total cost
Note: Figures are rounded to the nearest hundred dollars. Totals were calculated prior to rounding.