Technical Memorandum #1

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Date: May 21, 2013

Reference: Summary of Relevant Data, Plans and Studies (Task 2)

The purpose of this technical memorandum is to provide a summary of relevant data, studies and plans. The summary focuses on displaying existing data (see attachments), describing how the datasets will be used to identify bicycle corridors of regional significance, and documenting criteria used to define existing bicycle corridors. The documented criteria will be further analyzed to help define the criteria to be used to identify bicycle corridors of regional significance in Task 3.

DATA AND MAPS

The consultant team has obtained the following data from the Metropolitan Council and the Datafinder website to review as part of this study:

- **Cycletracks info table, segments and trips**.

  Cycletracks is a smart phone app that records GPS points as a person bikes on a route. The dataset obtained from the Metropolitan Council is a self-selected participation dataset recorded from May to November of 2012 in the Metro area. The dataset included roughly 4,000 bicycle related trips and recorded information such as the rider's age, gender, zip code for home/work/school, cycling frequency, purpose of the trip, as well as the trip information related to start/end locations, speed, date and time.

  This dataset is useful in identifying the origins and destinations (O/Ds) of bicycle trips in the region. When used as a set together, the starting and ending points give a snap shot of where people were biking to and from in reality during the data collection period (May to November 2012). Furthermore, this dataset also maps the actual route people take therefore it is possible to see the trips relevant to actual road and bikeway facilities. This is especially useful in evaluating facility alternatives when multiple alternatives appear to be viable in close proximity to one another.

  There are two major limitations of this dataset. First is the lack of attributes relating the trip routes to any given road or trail facility. Although the trips were recorded with GPS points along the actual route the rider took, there is no data relating the route to the ID or name of any road or trail. So even though we can visually inspect the locations of the routes in relation to the facilities, it is impossible to quantify the number of trips taken on any given facility.

  The other limitation of the data is the base sampling method of data collection made it difficult to derive a statistically significant comparison to other regional data. The data was reported on a volunteer basis. So it is possible to have some riders

reporting a lot of trips while other riders reporting much less or none at all. Since we cannot be certain about the representation of the reported trips verses all trips, we cannot present the density of either the O/Ds or the trip routes as representing the actual regional frequency patterns.

Based on these findings, we will emphasize the use of this dataset in a locational instead of quantitative manner. We will use it in evaluating alternatives of both the O/Ds and the regional corridors.

- **Metro Bikeways**

  At the beginning of this project, we obtained the 2007 metro bikeways data from the Metropolitan Council's Datafinder website. This data was based on the Metro Bicycle Network map book of 2001 with additional information digitized from 2003 through 2007 based on various county and local jurisdiction datasets. This dataset included both on road and off road facilities throughout Metro communities. It also identified both the existing and planned facilities. Attributes included many types of information concerning individual segments.

  This dataset was the most comprehensive data available regarding the location and detailed information of the existing and proposed bicycle facilities in the region. It provided a good base understanding of the system and was theoretically easy to keep up to date because almost all county and local data in the metro area has been created and maintained in the same GIS format.

  Since 2007, this data set has gone through several updating efforts. Most recently, it was incorporated into the base information for Cyclopath and updated there. We have obtained a recent export from Cyclopath and will be using this updated version as our primary base for studying the connectivity of the current bikeway system, delineating potential regional corridors and analyzing system gaps.

  The new bikeway data has attributes related to facility type and corresponding roadway information if the facility is on road. A limitation of the dataset is unlike the original 2007 data, the field that indicates whether a facility exists, is planned or proposed is not populated. Therefore, we will need to consult the specific local plans to know whether any particular facility actually exists. While this does not constitute a major problem in our analysis for the regional corridors, it will dictate additional time in our studies.

- **Regional Trails** – 01/15/2013 version

  The regional trails dataset was developed by the Metropolitan Council. This is a compilation of alignments for existing and planned regional trails for the 7 county Twin Cities Metropolitan Area. This data has attributes depicting the name, status, length and operating agency for each trail. Most of the metro regional trails are shared use paths. This data will be helpful in analyzing connectivity to O/Ds in this project.

Associated with this data, we have also received a spreadsheet from the Metropolitan Council regarding regional parks and trails with high annual visitation. This will be very valuable in the selection of regional O/Ds.

- **Cyclopath extracted data** – 10/2012

  Cyclopath is a web based geowiki for public users to identify potential routes from one place to another on bicycle. As users query the routes, the system records the places they wanted to start and end as well as the routes generated by the application. Periodically, this data is extracted to a conglomerated dataset to help planning efforts like this project in understanding the regional O/Ds and potential usage of facilities.

  We have obtained the most recently extracted dataset from October 2012 and made three maps (attached). One map depicts patterns of route request frequencies. A second map depicts patterns of trip beginning points. The third map depicts patterns of trip ending points.

  From reviewing of these maps and data, we feel this data is helpful in helping to identify prominent corridors and O/D areas. It provides an understanding on where people wanted to go and the potential best routes based on facility strengths.

  The limitation of this dataset lies in the fact that the records are for potential trips instead of actual trips. The user can select many ways to evaluate the strength of any route segment. While this is very useful for the user, it creates difficulties in statistically evaluating the quantities of the resulting routes. We do not know how many trips and which trips were actually taken. Therefore caution will be used when we apply quantitative analysis to the data.

- **2010 existing land use**

  The Metropolitan Council publishes a dataset depicting the existing land use for the region every 5 years. The latest was in 2010. We have mapped this data to illustrate the current development pattern of the metro area (attached). This data will be used to provide context for the O/Ds for this project.

- **2030 planned land use**

  The Metropolitan Council has put the planned land use from local comprehensive plans together into this dataset that shows the planned 2030 land use for the region. We have mapped this data to illustrate the planned development pattern of the metro area (attached). This data is mapped in two ways: one depicts the generalized land use types and one depicting the density expectations of residential development. We will be mapping the initial O/D areas based on this dataset.

- **Metro existing roadway classification and planned 2030 additions and transit corridors**

  We have obtained these datasets from the Metropolitan Council's datafinder website. We have mapped this data on one map to illustrate the transportation system envisioned for 2030 (attached). This data together with all the above mentioned information can assist us in identifying the regional bikeway corridors and their hierarchy and timeframe.

- **TBI HH Survey Data Table** Feb 2013 UNEXPANDED

  This dataset came from a two year metro wide survey of trips made by a sample of households via all transportation modes. The sampling size was 1% of area households and over 80,000 trips were recorded. Attention was given to make the sampling comparable among age and other characteristics of the households.

  Bicycle use was identified as one type of transportation modes in the data collected and around 1,100 trips were recorded where bicycle was either the primary mode for the entire trip or to a transit facility. The data only recorded the starting and ending points of the trips. No route information was recorded. Detailed information regarding the household members was recorded. This information included location, income, car ownership, bike ownership, usage of transit, housing type (cost, rent/own), age, gender, number of children, student or not, education level, etc. Regarding the trips, the records included trip mode, cost, purpose of trip, whether anyone accompanied the recorder, time of day, etc.

  We feel this dataset is very helpful for identifying the O/Ds for this project. Since this data was derived from a carefully selected sample of the area households, the distribution pattern is statistically better than other mentioned datasets in displaying the patterns of the O/D areas. We will not use it to arrive at the initial set of O/Ds but will be using it to verify and supplement them.

- **Regional Job and Activity Centers**

  Metropolitan Council developed this dataset based on 2010 employment data from the Census, the 2010 existing land use mentioned earlier, and the proprietary Longitudinal Employer-Household Dynamics (LEHD) data from The Center for Economic Studies. A threshold was set for any areas to be recognized as a center when the area holds at least 7,000 jobs at a density of at least 10 jobs per acre of developable land. These centers are classified as Metro Centers when they held 50,000 + jobs at the density of 50+ Jobs per acre; Regional Centers when the area held 15,000 to 49,999 Jobs at a density of 10 to 49 jobs per acre; and Subregional Centers when the area held 7,000 to 14,999 jobs at a density of 10 to 49 jobs per acre. Each category was further divided to sub categories based on the prominent type of jobs in the area.

  This data set was originally developed to assist the location of regional transit corridors. Thus the emphasis on employment. We feel it is also helpful in verifying our selection of the O/Ds as biking to and from work can be an important component of all bicycle usage.

The Metropolitan Council provided the consultant team with the following maps as graphics inside various documents to review as part of this study (the maps are attached to this memo for reference):

- Existing Twin Cities Metro Bikeways (Regional 2030 Transportation Policy Plan)
- Minneapolis Existing and Funded Bike Routes map (Feb. 2012)
- Minneapolis Bicycle Master Plan map (2011)
- Minneapolis Bicycle Functional Classification (2011)
- St. Paul 2011 Citywide Bike Plan map
- St. Paul Proposed Bikeways and Trails
- Bloomington Active Living Biking and Hiking Guide
- Bloomington Alternative Transportation Plan (2008)
- Bloomington Core Alternative Transportation System Plan with Principal Destinations map (2008)
- Carver County 2030 Trail and Bikeway Plan (2030 comprehensive plan)
- Dakota County Bike Trails map and Trail Gaps map (2030 Transportation Plan)
- Hennepin County Bicycle System Plan map and Bicycle Gaps map (Sep. 2012)
- Anoka County (Parks) Bike map
- Ramsey County Active Living (parks) Bike map
- Ramsey County 2011 Bicycle System Map
- Ramsey County Hiking and Biking Trail Information
- Scott County Regional and County Trail System map (2030 Comprehensive Plan)
- Washington County Existing Trails map and Planned Trail System map (2030 Comprehensive Plan)

These maps are useful in verifying if the datasets we obtained include or are missing bicycle facilities (both existing and planned) that are included in adopted plans analysis.

PLANS

The objective of the plan review is to document criteria used to define existing regional bicycle corridors. Overall, the criteria documented in the plans include:

- Qualitative measures for defining trail and bikeway corridors, (e.g., links between origins and destinations, improve access to transit, continuous connections between communities, connections between on-road bikeways and off-road trails, remove barriers, fill gaps, directness, etc.).
- Quantitative measures regarding desired spacing of bikeway facilities is not included in regional or county plans, but is included in both the Minneapolis Bicycle Master Plan (i.e., *Principal arterial bikeways should be spaced about 2 miles apart with minor arterial bikeways spaced 1 mile apart*) and St. Paul Transportation Plan (i.e., *bikeways should be no more than a half-mile apart, and arterial striped bike lanes and/or off-street trails should be no more than one mile apart).* Bloomington's Alternative Transportation Plan strongly advocates the overarching principle that quality should take precedence over quantity.
- Geographic considerations based on roadway function, jurisdiction, and ownership (e.g., principal or minor arterials, county right-of-way along roadways and rail corridors, not on county road shoulders, high use corridors, parallel local streets, etc.).
- Trip purpose (e.g., transportation or recreation)

The Metropolitan Council provided the consultant team with several plans to review and the consultant team obtained additional plan documents via the internet. Excerpts from each plan are provided below and potential criteria are in **bolded font**. The documented criteria will be further analyzed to help define the criteria used to identify bicycle corridors of regional significance in Task 3.

METROPOLITAN COUNCIL 2030 TRANSPORTATION POLICY PLAN

Policies and Strategies (pg. 172)

- Strategy 18a. Bicycle and Pedestrian Regional Investment Priorities: The Council will prioritize federal funding for bicycle and pedestrian improvements based on their **ability to accomplish regional transportation objectives** for bicycling or walking in a cost-effective manner and **improving access to major destinations**.

- Strategy 18b. Connectivity to Transit: Recognizing the importance of walking and bicycling to a multimodal transportation system, the Council will strongly encourage local units of government to develop a safe and attractive pedestrian environment near major transit corridors and stations with **linkages for pedestrians and bicyclists from origins and destinations to buses and trains**.

- Strategy 18d. Interjurisdictional Coordination: The Metropolitan Council, along with local and state agencies, will coordinate planning efforts to develop efficient and **continuous bikeway systems** and pedestrian paths, **eliminate barriers and critical gaps** and ensure adequate interjurisdictional connections and signage.

- Strategy 18e. Complete Streets: Local and state agencies should implement a multimodal roadway system and should explicitly consider **providing facilities for**

pedestrians and bicyclists in the design and planning stage of **principal or minor arterial road construction and reconstruction projects** with special emphasis placed on travel barrier removal and safety for bicyclists and pedestrians in the travel corridor.

Investment Priorities and Requirements (pg.175)

- Transportation Purpose. Federal transportation funds will be used on bicycle projects that **serve primarily a transportation function** in addition to recreation. **Bikeway facilities should be located where potential use is highest** and where they can most significantly enhance transportation choices.

Designing Complete Streets (pgs. 178-179)

- When a **principal or minor arterial road is constructed or reconstructed**, off-road walkway designs and both on- and off-road bikeway designs should be considered at the planning and scoping stage of the project, with special emphasis placed on safety and barrier removal with the goal that the street meets the needs of all users. In the case that bicycle or pedestrian facilities on the roadway right-of-way itself are **deemed impractical** during the planning and scoping stages of the project, such travel should be **facilitated and improved along the general corridor such as on adjacent streets or trails** to the greatest extent feasible.

- **Bicycle facilities should be provided within existing rights-of-way** whenever feasible instead of acquiring exclusive new rights-of-way. Improvements could include the addition of wide marked shoulders or bike lanes, sidewalks or multi-use paths, as well as intersection treatments that are sensitive to the safety of non-motorized users of the roadway. Improvements for bicycle and pedestrian safety and mobility should be made on **minor arterials** so long as they do not diminish the capability for multimodal function and capacity.

- Some communities with grid street systems have introduced "**bicycle boulevards**" on which bicycle travel is prioritized on local residential streets with pavement markings, traffic calming techniques and careful intersection crossing treatments so that cyclists may travel unimpeded parallel to a major arterial where bike lanes are impractical. Converting these types of streets is an innovative way to improve the environment for bicycling by retrofitting underutilized infrastructure. However, **they do not replace the need to provide bicycle accommodation on collector or minor arterial roadways**.

Bridges (pg. 179)

- **Every bridge that** is newly constructed or reconstructed with federal or state funding and that **removes or crosses a barrier for pedestrians and bicyclists must safely accommodate bicycle and pedestrian travel unless** a reasonable alternative exists within one-half mile for bicyclists and one quarter mile for pedestrians. However, bicyclists and pedestrians must be explicitly considered in project planning and scoping for all new or reconstructed bridges.

Interjurisdictional Coordination (pg. 182)

- The regional bikeways mapping project is an example of this effort. This effort was initiated originally by MnDOT, with participation from regional partners, to evaluate the need to **plan a regional bikeway system focused on the highest priority bicycling transportation corridors and destinations and to remove barriers in the bicycle transportation system**. A regional bikeways map published by the Council is a starting point for cities and counties to use in developing integrated metro-wide bikeway systems. The Council will update the dataset with information from local comprehensive plans which should provide the most current inventory of what local governments are planning and what exists today.

- **Efforts are needed to integrate the trail systems within the region's bicycle network as well as connections between on-road bikeways and off-road trails**. Recreational bicycling and walking are popular activities among the region's residents and bicycling for recreation is usually the first introduction that potential bicycle commuters have to bicycling.

METROPOLITAN COUNCIL 2030 REGIONAL PARKS POLICY PLAN

Siting and Acquisition Strategy 3 (pgs. 2-15 – 2-17): New trails, or trail segments, that serve a regional audience are a significant priority for the regional parks system.

- To qualify for regional trail status, an existing or proposed trail must serve a regional audience, based on visitor origin and service-area research on regional trails, and should not duplicate an existing trail. The trail may include part of an existing county or local trail if it is a destination itself, providing a high-quality recreation experience that traverses significant natural resource areas where the trail treadway will have no adverse impact on the natural resource base, and/or it links two or more units of the regional recreation open space system.

- New Linking Regional Trails should be located within the developing or developed area of the region. For Linking Regional Trails, any two trails running parallel to each other and not separated by natural or human-built barriers should be at least 1.5 miles apart so as not to overlap the localized service area of those trails. For Destination Regional Trails or Greenways, there should be no spacing minimums or maximums; instead, the decision to locate the trail should be based on the availability of existing high-quality natural resources or the opportunity for natural resources restoration, enhancement and protection. Areas within the urban and urbanizing portion of the metropolitan area that are not within 3 miles of a regional trail should be identified as search sites for new regional trails.

- Destination Regional Trails or Greenways should be located to reasonably maximize the amount of high quality natural resources within the trail corridor boundaries. Whenever possible, Linking Regional Trails should be located to reasonably maximize inclusion of high-quality natural resources and connections to local trails, areas of lifecycle and affordable housing, and areas of infill and redevelopment.

- Trail corridors planned and operated mainly to provide bicycle transportation such as trips to work, shopping, etc., are not emphasized as a part of this policy plan—the emphasis is on recreational trail activities—but new regional trails that are projected to serve both recreation and commuting uses are desirable as part of the

regional trail system. Some regional trails also function as bicycle transportation corridors and have been funded in part with federal transportation funds. The selection, development and operation of bicycle transportation arteries are covered as a component of the Council's transportation plan. The commuter on a regional trail typically enjoys a more scenic travel experience compared to the experience offered on road-based bicycle transportation lanes, so commuting trips taken on regional trails have an inherent recreation component. Increased commuting opportunities by locating new regional trails benefit the region through reduced congestion and the health benefits associated with physical activity. Examples of existing regional trails that provide multiple benefits include the Southwest LRT Regional Trails, Cedar Lake Regional Trail, the Mississippi River Regional Trail, the Big Rivers Regional Trail and the Bruce Vento Regional Trail.

- User surveys indicate that recreation trails draw heavily from nearby areas, so the priority is to concentrate on the acquisition of more trail corridors in the metropolitan urban service area, where more than 90 percent of the population lives. In this urbanized area, attention should be given to both high-quality natural resources and, in the fully built-up areas, to major human-built or developed resources. The interesting human-built developed resources include historical and architectural buildings and sites, education facilities, cultural facilities, and major public and private buildings. Utilizing the surface rights of underground utility corridors, such as large sewers, for trail purposes protects the utility for access/maintenance and provides a linear corridor for the trail.

- The regional trail system in the metropolitan area is like the highway system, with regional and local components. The regional component consists of trails in the regional trail system and state-administered trails. This system is complemented by shorter, local trails, which may eventually feed into units of the regional trail system. The opportunities for interesting trail recreation experiences are substantially enhanced where local trails intersect with or are reached by elements of the regional system. Another priority for designation of regional trails is the existing or likely possibility of intersecting with the local trail system.

- Some of the metropolitan area's inner-ring suburbs are not close to regional parks and don't have large tracts of land that would be available for future development of parks for the regional system. Regional trail development should be pursued in these suburbs when the need has been identified, to help achieve equitable geographic distribution of regional parks system facilities.

Finance Strategy 4 (pg. 2-21): Any development should primarily benefit citizens of the metropolitan area. The eligibility criteria (not in any priority order) for development and rehabilitation of regional park reserves, parks, trails and special facilities are:

- Regional trails that connect to other trails or regional facilities or extend existing trails.

Finance Strategy 7 (pgs. 2-25 – 2-26): Trails that may be used for transit in the future should only be acquired if it is clear they will be used as trails for at least 10 years.

- ...potential problem situations occur. First is a situation where the surplus corridor is wide enough to accommodate permanent use both as a light-rail/busway transit right-of-way and for trail recreational purposes. Such areas are of substantial

interest to the regional parks system. It is hoped that differences between the transportation use and the recreation use can be resolved so that both types of activity can become permanent, valuable additions to the metropolitan area. Planning, development and management arrangements, however, will have to be worked out among the various interests involved.

Planning Strategy 1 (pgs. 2-32 – 2-33): Acquisition and improvement projects must be part of approved master plans, or their amendments.

- Master plans for regional linking trails, regional destination trails or greenways must include a demand forecast - the recreational demand to be met by the trail as identified by the Council, the regional park implementing agency or other sources

Planning Strategy 2 (pg. 2-34): Joint-powers agreements for regional trails are encouraged.

- Regional trails generally extend through several communities. Unlike regional parks, where the regional park implementing agency owns the park and usually deals with one or two local governments, regional trails affect several local governments and may not be “owned” by the regional park implementing agency. The regional park implementing agency may lease the trail land and manage it with a local government through a joint-powers agreement.

- Joint-powers agreements need not be identical, but regional park implementing agencies are encouraged to negotiate arrangements that deal with the primary issue of how trail land ownership is controlled and how the trail is going to be managed, and that insure the trail will be open to all people (not restricted by residence). The trail should be treated as a truly regional facility, since regional and state funds are or will be used to finance its acquisition, development and operations/maintenance.

Recreation Activities and Facilities Strategy 1 (pg. 2-38): Activities in regional parks must be tied to the natural resources of the parks, but not impact them negatively.

- Night trail use. Opening trails at night allows those who work during the weekdays to use them more frequently. Walking and cross-country skiing at night increases trail uses during the off-peak spring, fall and winter seasons. Trail lighting projects are encouraged where appropriate, especially on trails with high demand. When considering lighted trails, however, it’s important to assess lighting’s impact on adjacent land uses.

Recreation Activities and Facilities Strategy 2 (pg. 2-41): Most heavy recreational use should be in the more urban regional parks.

- When feasible, transit system elements should be developed to provide access to regional parks system units. Transit planners should prepare specific transit system elements that are sensitive to parks, park users, park development plans and local agencies’ rules and regulations.

- The 2030 Regional Development Framework integrates plans for regional parks, park reserves and trails in the rural area. These regional parks and trails should primarily serve the demands of residents of the urban area; they should not interfere with agricultural activities or natural resource conservation and hunting, and should be planned in a way that discourages urban-density developments from occurring around their peripheries.

Recreation Activities and Facilities Strategy 3 (pg. 2-42): Regional parks facilities and programs should encourage use by special populations.

- Metro Transit and other transit providers are urged to work with the regional park implementing agencies to identify any transportation barriers for special populations and design programs to increase the level of access to the regional parks system.

Recreation Activities and Facilities Strategy 4 (pg. 2-43): Bicycle and pedestrian access and trails must be part of the regional parks system.

- Safe, high-quality, continuous, barrier-free bicycle and pedestrian systems shall be developed, maintained and improved to function as integral parts of the region's transportation and recreation systems.

- Regional trails may serve a transportation function as well as a recreation function—especially for bicycle commuting. Where bicycling can safely be accommodated with pedestrian traffic, it will be allowed. The selection, development and operation of bicycle transportation arteries is covered as a component of the Council's 2030 Transportation Policy Plan rather than the Regional Parks Policy Plan.

- The Metropolitan Council's 2030 Transportation Policy Plan, adopted in January 2009, contains a policy and related strategies that address these issues. That policy has been included in this plan, since it is an important consideration when planning for the regional parks system. For the purposes of this plan, the policy has been updated to recognize recreational use of trails.

The regional trails system will provide primarily these bicycle facilities:

- Off-road facilities, which are paths within the roadway rights-of-way but separated from the roadway surface. They may be used for hiking and in-line skating as well as bicycling.

- Independent trails, such as trails using abandoned railroad corridors or utility easements that exist in their own independent rights-of-way.

These facilities are intended to serve:

- Group B bicyclists, who are casual or new adult and teenage riders who prefer comfortable access, preferably by a direct route, on low-speed or low-traffic streets where having the right-of-way as a moving vehicle is not critical. Group B bicyclists are most comfortable on designated bikeways, off-road facilities and independent trails.

- Group C bicyclists, who are pre-teen riders whose roadway use is usually accompanied by a parent. They need access to local schools, libraries, recreation facilities, shopping or other residential areas. They need separation of bicycles and motor vehicles through off-road facilities or

independent trails, or access to streets with low vehicle speeds and volumes.

In addition to Group B and C bicyclists, the regional trail system may occasionally serve Group A bicyclists, who are experienced riders, including regular bicycle commuters, messengers and racers/trainers who can operate under most traffic conditions. They want direct access to destinations at maximum speed with minimum delays. Group A bicyclists primarily rely on the road system for routes and value having the right-of-way like other vehicles, but occasionally enjoy independent trails if they are relatively continuous and not overly crowded.

The majority of regional trail miles should be off-road. However, in some instances it may be necessary for a short stretch of trail to be adjacent to or on a road in order to bypass natural or man-made barriers or private property. These portions of trails should be designed to safely accommodate Group C bicyclists.

Regional parks system funds and federal transportation enhancement grants may be used to finance parts of the regional trail system where the system serves a transportation function as well as a recreation function.

Transportation funds for highway and bridge construction/reconstruction should be used to provide on-road and off-road facilities, including striped bike lanes that exist within the extent of the actual road surface and bicycle/ pedestrian bridge lanes to provide safe routes over rivers, freeways or railroad tracks to provide continuity to the regional trail system. The appropriate sources of funding for local trails are the local tax base and the Minnesota Department of Natural Resources Local Trails Grant Program.

A comprehensive network of trails that serves both recreation and transportation needs is desirable. This network links state, regional, county and local trails, and integrates the trail system with other transportation modes such as the bus and light-rail transit systems. Regional trails are primarily recreation trails, though some of the urban regional trails also have important commuter functions. County and local trails serve as recreation and transportation routes for the immediate local population. They may also serve as “feeder” trails into the larger regional system of trails. To help integrate the network, the Council is responsible for reviewing the comprehensive plans of all cities and townships within the metropolitan area. This review includes an assessment of local trails and their relationship to the regional trail and transit systems. Enhanced dialogue between recreation providers at all levels will be promoted by the Council and should result in a well-designed comprehensive system of trails throughout the metropolitan area.

The Metropolitan Council is responsible for regional transportation planning, including bicycle transportation facilities. Since regional trails also serve non-motorized commuters, it is important that the regional trail system and the regional transportation system work in unison when developing trail and transportation plans. Regional trail projects that would serve transportation needs qualify for additional funding with transportation enhancement grants.

Regional Trails (pg. 3-57)

- Trails also are selected for their ability to intersect with local trail networks, with the regional trails functioning much like regional highways that interconnect with more local arterials and collector streets. The regional trail network, especially in the urban areas, serves as commuting routes for bicyclists. As the regional trail and transit systems expand, opportunities to provide connections between these forms of travel should be explored. People can ride the bus or light rail to access a regional trail, and conversely, people can use regional trails to access transit.

- Regional trails can also be developed as greenways, or linear parks, where the trail itself is a destination. These greenways typically include wide corridors that provide opportunities for improving wildlife habitat, protecting natural resources, and providing recreational opportunities.

- People tend to prefer trails that are relatively close to where they live. Surveys conducted by the Metropolitan Council show that more than 75 percent of trail visitors live within 3 miles of the trails they used. However, trail users are traveling from one city or county to another. It is this inter-jurisdictional trail length that makes these trails regionally significant.

Classification System for Local and Regional Facilities*

Component	Use	Service Area
Local linear parks, trail, corridors and parkways	Area developed for one or more varying modes of recreational travel such as hiking, biking, snowmobiling, horseback riding, cross-country skiing, canoeing and driving.	A neighborhood or several neighborhoods in a city or township
County linear parks, trail, corridors and parkways	Area developed for one or more varying modes of recreational travel such as hiking, biking, snowmobiling, horseback riding, cross-country skiing, canoeing and driving.	Several cities and/or townships in a county.
Regional destination trail	Area developed for one or more varying modes of nonmotorized recreational travel such as hiking, biking, horseback riding, cross-country skiing, and canoeing.	The entire metropolitan region
Regional linking trail	Area developed for one or more varying modes of nonmotorized recreational travel such as hiking, biking, horseback riding, cross-country skiing, and canoeing.	The entire metropolitan region

* Adapted from Table 3-1, pgs. 3-59 - 3-60, Met Council Regional Parks Policy Plan (2012)

HENNEPIN COUNTY BIKE PLAN (2001)

Executive Summary (pgs. i, vi, xi)

- Efforts are needed to **integrate the trail systems within the region's bicycle network** as well as **connections between on-road bikeways and off-road trails**. Recreational bicycling and walking are popular activities among the region's residents and bicycling for recreation is usually the first introduction that potential bicycle commuters have to bicycling.

- The selection of corridors that make up the bicycle transportation system evolved from the initial goals and objectives established for the plan and the need to satisfy the enhanced **continuity and connectivity** system needs.

  To identify the primary system of bicycle routes, the general corridors were overlaid on the Hennepin County roadway system and appropriate county roads were selected for inclusion in the Bicycle Transportation System.

  Where **county roads were not available** or were identifies as being inappropriate for bicycle transportation, **secondary system routes were identified**. Independent trails were included as part of the overall system.

  The result of the planning process above was a system of primary and secondary bicycle routes and independent trails identified graphically on the map.

  The **primary routes** (blue) in the system were identified as being corridors where the **goal of full bicycle accommodation for bicyclists is focused**. These corridors may be comprised **of county roadways and right-of-ways** or they may make use of **parallel lower volume city streets**.

- Full bicycle accommodation defines roadways that provide both on-road and off-road facilities for bicyclists within or adjacent to the road right-of-way.

HENNEPIN COUNTY GAP STUDY (2002)

Gap evaluation criteria (pgs. 3-5):

- Gap is Identified on a Bicycle Systems Plan
- Gap is Across a Natural or Man-made Barrier
- Gap is Within an Upcoming County, City or Agency Capital Improvement Program (CIP)
- Bicycle / Pedestrian Accident History
- Gap is in an Area with Few Other Options for Travel
- Length of Gap
- Other considerations **anticipated facility use**, **connection to a high bike-trip generator**, **use benefits within dense areas, directness/continuity of the overall route, connecting existing facilities** that are designed consistent with county and Mn/DOT design guidelines, and if the gap connects to segments that are themselves more than 1 mile in length.

WASHINGTON COUNTY 2030 TRANSPORTATION PLAN

Non-motorized facilities (pgs. 4-39, 4-49, and 4-72)

- Washington County operates trail corridors that serve both recreational and transportation purposes. In addition to bicycle commuters, these trails are commonly used by walkers/runners, recreational bicyclists, inline skaters, and, on some trails, cross-country skiers and snowmobilers. Where separated trails do not exist, road shoulders provide an interim facility for nonmotorized travel. **Washington County does not designate shoulders as trails or bicycle routes**.

- Policy 4-21: Identify and support trail connections that provide **links to parks, cultural and historic resources, and community destinations**.

- Non-motorized facilities consist mainly of off-road trails along county roads which provide opportunities for both recreational use and commuting to and from work. Enhancing these nonmotorized facilities, as part of the overall transportation system, is a key element to providing a transportation system that is sustainable, **links destinations and attractions**, and encourages healthy and active lifestyles. Connectivity of the facilities includes **connections within neighborhoods, between neighborhoods, to activity centers, to other regional trail facilities, and to transit facilities**. This connectivity forms a seamless integration for users to be able to utilize this transportation mode to meet their needs. Much of the neighborhood connectivity occurs at the local level in land use planning of neighborhoods and commercial areas. This planning lays the foundation for how the community provides these local connections to these areas and supports walking and bicycling. At the county level, the focus is more on **connecting to the local trail/sidewalk network and providing connections to destinations and attractions**.

SCOTT COUNTY 2030 TRANSPORTATION PLAN

Trails and Non-Motorized Facilities (pg. VI-56 and VI-57)

- Given that the County's highways are high volume, high-speed facilities, **separated bike and pedestrian ways are an important element of a safe and efficient transportation system**.

- Figure VI-27 shows the current Metropolitan Council adopted regional trail network in yellow. The blue are lines are anticipated future separated trails that will be considered with future road projects. The pink is the County's desire for a regional trail to be considered in future regional plans. Other **County highways are to have on road bike facilities provided as roads are reconstructed**. It is anticipated the County will **include trails on both sides of the road** when highways are reconstructed in or near the urban areas.

- **On-Road Bikeways**. These are associated with the road surface. **Typically are local and do not serve as a regional route**.

CARVER COUNTY 2030 COMPRHENSIVE PLAN

Trails – Bicycle and Pedestrian (pg. 4.13)

- As stated in the Parks, Open Space, and Trails portion of the County Comprehensive plan, the County goal is to provide residents with a high quality, **interconnected** trail and bikeway system for recreation, fitness, and transportation and as a means to **tie parks and open spaces together with local communities**.

County Goal Parks Open Space (pg. 6.7)

- To provide residents with a high quality, **interconnected trail and bikeway system for recreation, fitness, and transportation** and as a means to **tie parks and open spaces together with local communities**.

  Objectives in Support of Goal Statement:
  - To provide a trail system that emphasizes harmony with the natural environment
  - To develop a system of high value trails and bikeways, with a focus on providing a **high quality experience to encourage high levels of use**
  - To allow for relatively uninterrupted walking, hiking, biking, and other uses to and through the County's park and open space system and developed areas
  - To **effectively tie the various parks together into an interconnected, high quality system; and to effectively tie the county trail system with those of local communities**
  - To safely protect users from developmental encroachment and associated vehicular traffic

Trail and Bikeway Plan (pg. 6.30 and 6.39 – 6.40)

- The trail system is underpinned by the common vision defined in Sections 1 and 2. The over-arching goals of the trail system are to:
  - Develop an **interlinking** system of high value trails throughout the county that **connect with local cities and townships**
  - Provide **reasonable trail access to parks, open spaces, and natural resource amenities within the county** without unduly compromising their integrity and natural qualities
  - Provide an appropriate level of **universal accessibility** to trails throughout the system

- Bikeways (which in most cases will take the form of a **6-foot or wider shoulder**) along identified routes are used to meet the needs of subgroup of bicyclists preferring to ride on streets and roadways for recreation, fitness, and transportation.

- With the bikeway system, the primary goal with the routes shown on the plan is to **create a series of loops across the county that link small towns with the larger growing cities**. Providing a wide shoulder and bike route signage along these roads will allow a bicyclist to safety use county roads when out for longer recreation and fitness rides, or using their bike for transportation.

DAKOTA COUNTY 2030 TRANSPORTATION PLAN

Integrating Pedestrian and Bicycling Modes (pg. 5-40)

- The County will integrate pedestrian and bicycling modes to provide for safe, timely, and **efficient connections between communities, activity generators and employment centers**.

County Role in Pedestrian and Bicycle Travel (pg. 5-42)

- Pedestrian and bicyclists share destinations with motorists. Many of these destinations are on the County highway system, particularly **commercial areas, schools, employment centers and regional parks**. The County highway system is in many cases the most **direct** option for pedestrians and bicyclists; in some cases it is the only option. Most suburbanized areas of Dakota County lack a connected road network that would allow pedestrians and bicyclists to travel off the County system. This makes the County highway system the only choice.

General Strategies and Policies (pg. 5-44)

- Create a countywide greenway system to support non-motorized transportation modes.
    - Create an **off-road trail hierarchy** with attractive spine routes **that function similarly to the highway system's arterials**.
    - **Connect city and County parks, new pedestrian-oriented development, schools, and existing pedestrian-scale areas (downtowns) with the greenway system**.
- Bicycle and Trail Facilities
    - Create bicycle and regional trails that form a framework to serve countywide needs (e.g. **access to major County facilities, activity centers, employment centers and schools**), and provide connections between municipalities and to adjacent counties

ANOKA COUNTY 2030 TRANSPORTATION PLAN

Goals for the 2030 Transportation System:

- Modes: **Enhance alternative travel modes and connections**—transit, **bicycle**, pedestrian, freight, air, and trails.

- **Trails/sidewalks adjacent to improved county roads**

- I**mprove connectivity between residential areas and major activity centers**, including employment areas, schools, commercial areas, medical facilities, etc.

- **Support of land uses and transit facilities with the bikeway and pedestrian system** where these modes can be used as a **convenient and efficient alternative mode** of travel, as well as an attractive recreational opportunity.

- **Support extension** of the county, cities, and township **bikeway, trail, and pedestrian systems** to be integrated and coordinated with new development and transportation improvement projects, consistent with the county's 2006 Parks and Recreation Comprehensive System Plan and city and township Comprehensive Plans.

MINNEAPOLIS BICYCLE MASTER PLAN

Engineering (pgs. 75 – 80)

- 4.5.1 Density —Dense communities typically result in more bicycling. Bike projects that are located in areas that **connect high population densities to high employment densities** are very desirable because they are likely the projects that will serve the highest numbers of bicyclists. These areas also tend to be the most congested and tend to generate the most crashes. **Population and employment density are two factors often used to prioritize regional funding**.

- 4.5.2 Development Factors—Minneapolis was platted in a grid before the invention of the automobile. Most of the surrounding first ring suburbs were constructed between 1940 and 1965 in the height of the interstate era with little consideration for bicycles. Many of the bicycle accommodations in Minneapolis are the result of redevelopment. Newer communities (second and third ring suburbs) have also included bicycle facilities into new streets and developments. A map of all bicycle facilities in the metropolitan area was completed a few years ago and a striking observation can be made. There are **relatively few bicycle facilities in first ring suburbs, creating a donut around both Minneapolis and St. Paul**. Several regional trails have been completed within the last 15 years that have helped bridge this gap including the SW LRT Trails, the Luce Line Trail, the Gateway Trail, and the Bruce Vento Trail. Many of the first ring suburbs now also have policies that support bicycling and walking.

- 4.5.3 Spacing of Bikeways —To ensure a safe and reasonable bicycle facility network, it has been concluded that **trails should be spaced approximately 2 miles apart, bike lanes 1 mile apart, and local signed routes 1/2 mile apart**. This density ensures that no one within the city is more than 1 mile from a trail, a 1/2 mile from a bike lane, or 1/4 mile from a signed route. In denser areas including Downtown and the U of M, facilities may be spaced more closely together.

- 4.5.7 Access to Destinations—**Access to destinations is important for all travel modes**, especially for popular locations that attract large numbers. Colleges/universities, shopping malls, stadiums, and central business districts require planning and accommodations for bicycles.

4.6 Equity (pg. 94)

- 4.6.1 Modal Connections—Distance and weather are two common barriers for bicyclists. **By ensuring good modal connections, bicyclists can travel seamlessly from place to place using public transit for part of their trip**. Buses and trains can be easily retrofitted to accommodate bicycles and many of the major transit stops have bicycle parking for those who do not wish to take their bike with on a round trip.

5.5 Engineering (pg. 116)

- Corridor Improvement Needs: These needs are based on a number of factors including **existing bikeway gaps and discontinuities, bikeway spacing, adjacent land use, available right-of-way, potential use, topography, and minimizing conflicts with other modes.**

5.6 Equity (pg. 117)

- 5.6.1 Equity Needs—The Minneapolis Bicycle Program must be fair and present opportunities for all. There are three areas of emphasis with regard to equity; geographic, demographic, and modal equity.

    - Need for Geographic Equity: Geographic equity ensures that **all parts of the city will see the same types of facilities at the same density and quality.**

    - Need for Demographic Equity: Demographic equity ensures that **people of all age, race, ethnicity, and gender are treated equally**.

    - Need for Modal Equity: Modal equity is achieved when **bicycling is treated as an equal mode of transportation** alongside autos, trucks, motorcycles, buses, and pedestrians.

- 7.2.6 Bikeways Master Plan (pg. 159)–**Factors**: Before placing a bicycle route on the Bikeways Master Plan a number of factors were considered including (detailed analysis has not been done):

    • Potential use

    • Traffic safety and personal safety

    • Directness of route

    • Access to destinations and land use

    • System connectivity

    • Removing system gaps and barriers

    • Connections to transit/bus routes

    • Types of users and skill levels to be served

    • Available right-of-way/available space

    • Proximity to other bicycle facilities

    • Jurisdictional responsibility/function

    • Community support

    • Truck volumes/potential truck conflicts

    • Proximity to parks and schools

    • Location of existing traffic control devices

    • Motor vehicle parking impacts

    • Bicyclist comfort/scenic route locations

    • Number of at-grade locations

    • Motor vehicle volumes and speeds

    • Grades/topography

- 7.3.2 **Bicycle Functional Classification** (pg. 179) —Bicycle functional classification can be used as a tool to help **prioritize stand-alone bikeway projects**. Many of the qualifying and prioritizing criteria including system connectivity, travel demand, cost effectiveness, operations/maintenance, regional benefit, regional equity, and access to destinations can be graphically portrayed. By assigning designations for every bikeway in the 2010 Bikeways Master Plan, limited resources can be applied appropriately. Modeled after roadway functional classification, corridors within each travelshed are assigned as arterial bikeways, collector bikeways, and neighborhood bikeways. It is important not to confuse

roadway functional classification with bicycle functional classification as many arterial bikeways are located on collector streets and some collector bikeways are located along minor arterial roads.

- Travelsheds: Travelsheds are geographic zones that are bound by significant barriers such as freeways, rivers, and railroads. Travelsheds are oriented to fan out from Downtown Minneapolis like slices of pie. Travelsheds ensure that all parts of the city are treated equally and that the bikeway network maximizes mobility/accessibility.

- **Arterial Bikeways**: **Arterial bikeways have regional significance and attract the highest numbers of bicyclists**. Principal arterial bikeways are like freeways with grade separation corridors and faster speeds. **Principal arterial bikeways should be spaced about 2 miles apart with minor arterial bikeways spaced 1 mile apart**. It is also important that each travelshed include at least one arterial bikeway. Ideally arterial bikeways should form a spider web throughout the city, crossing travelsheds and becoming the spine for the bikeway network. Since different types of bikeways accommodate different bicyclists' needs, there may be situations where arterial bikeways are located on two parallel routes within close proximity. Due to limited resources, the strategy is to maintain arterial routes at a high standard, but give lesser attention to collector and neighborhood bikeways.

- **Collector Bikeways**: Collector bikeways feed into arterial bikeways similar to how smaller rivers flow into larger ones. **Collector bikeways should be spaced about 1/2 mile apart** to capture bicyclists in every part of the city.

- **Neighborhood Bikeways**: Neighborhood bikeways feed into collector routes and can be found in just about every neighborhood. Neighborhood bikeways are intended to **provide local connections and are not eligible for regional funding**.

ST. PAUL TRANSPORTATION PLAN

Coordinated Transportation and Land Use (pg. 10)

- 2.1 Create true transportation choices for residents, workers, and visitors in every part of the city. A more balanced transportation system should **improve access to a range of travel modes and facilities**, as well as increase the capacity of the regional transportation system. The City should **create places to live, work, play, and conduct business that do not depend principally on the automobile for access**, but rather accommodate all modes of transportation.

Increased Transit Ridership and Management of Single-Occupancy Vehicle Use (pg. 13)

- 2.11 Create more seamless connections between pedestrians, bicycles, transit, and automobiles. Regional efforts must be made to enable more convenient and safe connections for all modes of transportation:

a. Work with Metro Transit and other stakeholders to ensure that sufficient **bicycle facilities** and pedestrian amenities are **provided to and at transit stations**;

c. **Support bicycle-sharing programs near transit stations and major destinations** to encourage daily bicycle use and minimize the need for parking at these locations;

Opportunities for integrating physical activity into daily routines as an alternative to driving (pgs. 16 – 19)

- 3.4 Develop and maintain a complete and connected bikeway system. Generally, **bikeways should be no more than a half-mile apart, and arterial striped bike lanes and/or off-street trails should be no more than one mile apart**. It is the desired goal of the City to increase the bicycle mode share from 2% in 2000 to 5% in fifteen years and increase the mode share of bicycling commuters from 0.6% to 2.5% during the same period. Saint Paul will become a world-class bicycling city that accommodates cyclists of varying skill levels riding bicycles for both transportation and recreation and encourages bicycle use as a part of everyday life.

- 3.5 Support existing off-street shared-use paths and add facilities and amenities supportive of active living principles. Good coordination between the Department of Public Works and the Department of Parks and Recreation will be required to **integrate Saint Paul's system of off-road trails and facilities with on-street bicycle facilities and the sidewalk system**.

- 3.6 **Fill gaps in the bikeway system**. The bikeway system includes both **on-street and off-street routes**.

- 3.8 Promote "**bicycle boulevards**" as a new type of bikeway. The implementation of bicycle boulevards should be explored, particularly to **connect neighborhoods and major destinations** and to provide convenient nearby alternatives to bicycling on major streets. Used in cities across North America and Europe, these routes typically utilize low-traffic, largely residential streets to create safe corridors for bicycling. Routes should be well-signed and facilitate safe and convenient crossings across major streets. Local traffic is allowed to access and park on the streets to reach homes and local destinations, while through-traffic is discouraged with various calming methods.

- 3.11 Provide **safe citywide connections to schools, libraries, parks, and recreation centers, with improved crossings and comfortable pedestrian environments at high demand destinations**. Safety issues on routes to these destinations should be identified and criteria in ranking priority projects should be established.

Connectivity to regional systems (pgs. 20 – 22)

- 4.4 **Coordinate with surrounding communities and jurisdictions to enhance regional bicycle and pedestrian networks, recognizing the importance of Saint Paul in regional and statewide connectivity**

  a. Support Hennepin County and City of Minneapolis efforts to build a **new bicycle and pedestrian bridge across the river to extend the Midtown Greenway**.;

b. Complete the Saint Paul **extension of the Midtown Greenway**;

c. Provide a **connection from the Lafayette Bridge to the Bruce Vento Regional Trail**;

d. Participate in regional discussions about the **implementation of a standardized system of route identification**, signage, and directional and destination information;

e. Support the **completion of the Trout Brook/Lower Phalen Creek Greenway trail connections** and the **extension of the Trout Brook Regional Trail through the Trillium Preserve**; and

f. Emphasize **connections to regional destinations**, including Como, Battle Creek, and Phalen Regional Parks.

Community Accessibility (pgs. 23 – 24)

- 4.7 **Connect neighborhoods** that have poor sidewalks or little access to trails and bike routes, especially east and north of Downtown.

- 4.10 Create **new connections and improve existing stairways and paths between neighborhoods, parkland, and the Mississippi River**, while protecting natural vegetation and the integrity of the bluffline.

BLOOMINGTON ALTERNATIVE TRANSPORTATION PLAN

Classifications for Core Alternative Transportation Components (pg. 2.8)

- Destination Trails: Destination trails are paved trails for walking, jogging, bicycling, and in-line skating **located within a greenway, open space, park, parkway, or designated trail corridor**. **Destination trails will form the backbone of the trail system** that loops the city and connects to adjoining communities and the Minnesota River.

- Linking Trails: Linking trails emphasize **safe travel** for walking, jogging, bicycling, and in-line skating **to/from parks and destinations around the community**. Linking trails are most **often located within road rights-of-way**. Linking trails will be primarily used as a means to connect neighborhoods and developed areas to the destination trail system, and provide safe routes to various destinations and schools.

- On-Road Bikeways: Bike routes and lanes are on-road facilities that primarily serve fitness and transportation bicyclists, as well as recreationalists with a higher skill and comfort level being around automobiles. **Bikeways augment, but do not take the place of, the trail and sidewalk system**.

Values and Preferences of Common User Groups (pg. 2-9)

- **Family Group** – Various Modes: **Safety and convenience** are top priorities, followed by a pleasant recreational experience. Controlled, traffic-free access to sidewalks and trails is preferred. Length of trail is less important than **quality of**

experience. Will typically only use **low-volume residential streets when biking** or skating, and **rarely busy streets** even with bike lanes or routes.

- **Transportation** Walker, **Bicyclists**, and In-Line Skater**: Directness of route** is important. Will use a combination of sidewalks, trails, residential streets, and roads that are relatively **safe, convenient, and direct**. **Bike lanes/routes are preferred on busy roads to improve safety**. Bicyclists are **not overly dependent on trails**, but **will use them if convenien**t and **not too heavily used by families and recreational users**, who tend to slow them down. Walkers need a trail or sidewalk.

Guiding Principles (pg. 2-11)

- Principle #1: Develop an initial or core system of **interconnected, high value trails,** pedestrian-ways, **and bikeways to form the backbone of an alternative transportation system** that will evolve over time and complement the existing vehicular-oriented system.

Quality Over Quantity (pg. 2-12)

- In support of these principles, the plan strongly advocates the overarching principle that **quality should take precedence over quantity**. The key understanding here is that higher levels of use of alternative forms of transportation will only occur if the facilities meet or exceed expectations and desirable design standards and aesthetic qualities. Developing facilities that do not reach this standard tend to perform poorly and serve to disenfranchise those they were intended to serve.

Principal Destinations (pgs. 3-3 – 3-7):

- **parks and city-based public facilities,**
- **Metro Transit connections,**
- **schools,**
- **retail, business, and commercial nodes**

Core On-Road Bikeways (pgs. 3-21 – 3-23)

- The goal of the alternative transportation plan is to establish a **base network of safe and “reasonable” north-south/east-west bikeway routes across the city** while recognizing established vehicular traffic patterns. Reasonable in this context relates to the practical reality that vehicular traffic levels are heavy on many of the collector or higher-level roads in the city and elimination of drive lanes to accommodate a bikeway is simply not always feasible. To that end, the core bikeway plan was developed in recognition of the traffic flow patterns associated with the major thoroughfares across the city. In general, proposed routes, as shown on the System Plan, **targeted streets with less than 10,000 ADT**.

MNDOT STATEWIDE BICYCLE PLANNING STUDY (2013)

Project/Route Prioritization (pg. 11)

- Refine and clarify **route prioritization criteria identified in the MnDOT Bicycle Modal Plan**.
- Identify regional and district priorities and coordinate with statewide network goals.
- Consider requiring cities over a certain size to develop and maintain a bicycle plan.

Connectivity (pgs. 12-13)

- Identify a **fully connected system statewide**. Include **both the Trunk Highways system and primary connections at the local level**. Consider the MRT route establishment and implementation process as a model for identifying state bikeways and candidates for the emerging USBRS.
- Evaluate existing roadways and current bikeway accommodations.
- **Establish a desired level of service or level of separation for bicycles based on roadway classification**.
- Develop both statewide and district bikeway maps.
- Develop a database that provides information about local and regional level bikeway planning to district staff and allows local jurisdictions to access information about state and regional priorities. The statewide Cycloplan tool currently being developed by MnDOT provides an opportunity to implement this recommendation.

ATTACHMENTS:

1. Twin Cities Base Map Series
2. Maps from Met Council, County and City Plans