



# Hennepin County

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## *Transportation Planning*

### **HENNEPIN COUNTY BICYCLE TRANSPORTATION PLAN**

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Department of Public Works - Transportation Division  
Hennepin County

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*Internet access to this document is available at:  
[Http://www.co.hennepin.mn.us/transp/tp/bikeplan.html](http://www.co.hennepin.mn.us/transp/tp/bikeplan.html)*

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# Executive Summary

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## INTRODUCTION

Hennepin County supports bicycle use as a choice for general transportation including commuter, utilitarian, and recreation trips. The county's Department of Public Works--Transportation Division prepared this Bicycle Transportation Plan with the assistance of a consulting team led by Barton-Aschman Associates, Inc., Minneapolis.

There is a need in Hennepin County to establish a safe, convenient bicycle transportation system. The Hennepin County Bicycle Transportation Plan was undertaken to address the county's role in providing bicycle planning services, in designing and constructing bicycle facilities, and in supporting the provision of other bicycle amenities. The focus of the plan is the provision of the infrastructure necessary to allow the bicycle to become a viable transportation option.

Successful bicycle planning is always a multi-jurisdictional and community wide effort. It involves not only transportation and public works, but parks, schools, police, utility firms and railroad authorities. Linear corridors inevitably involve extensive community, city, county and sometimes state coordination. City support is of primary importance during plat review and when determining right-of-way needs and dedications. Furthermore, local community groups, from bicycle clubs to service organizations, can play important roles in providing information, education and advocacy for improved and safer conditions.

This plan proceeds on the assumption that the county level of government is best able to provide for a “**primary**” bicycle transportation system. An overall plan can address the transportation needs of bicyclists while at the same time enhancing recreational opportunities.

There is a need to connect municipal loop trails, regional park trails and state trails to major activity centers such as public facilities, schools, libraries, and commercial areas. Hennepin County is in a unique position to serve this need and to provide for bicycle transportation by utilizing its extensive roadway facilities, light rail transit corridors and abandoned railroad rights-of-way. Additionally, the plan will serve to support the efforts of other jurisdictions to provide local facilities and programs for bicyclists.

Traditionally, Hennepin County has had a very limited role in bikeway planning and construction. Bikeways and bicycle movement were considered to be a local concern. Hennepin Parks and local cities have taken the lead in the provision of existing trails and bikeways. However, Hennepin County's Bicycle Transportation Plan supports the consideration of bicyclists needs on county roads as one means of efficient transportation investment and environmental improvement.

Some county roads have been signed and/or striped as bicycle routes by other governments. Bicycle paths have also been proposed for inclusion with new projects along county roads and the county has budgeted funds to help with construction. Maintenance of these facilities has been the responsibility of individual cities.

With the addition of this plan, the county will expand its role and consider the designation, construction and maintenance of bicycle facilities. The Hennepin County Bicycle Transportation Plan offers the opportunity to comprehensively integrate county, municipal, park and state bicycle facilities. It provides a unified vision of how to address the transportation needs of bicyclists. The bicycle transportation plan helps guide decisions for accommodating bicycle travel and provides a systematic approach rather than reacting to isolated, case-by-case project needs.

The bicycle transportation plan (including text, maps, and cross sections) responds to the existing plans and comments of various parties in the metropolitan area including the Hennepin County Bicycle Advisory Committee which is appointed by the County Board of Commissioners, the Northwest League of Municipalities, the University of Minnesota, Hennepin Parks, and several cities. A series of newsletters and public meetings provided an opportunity for public review and comment which was also incorporated into the plan.

Bicycle transportation plan elements include:

- Recommendations for changes to the traditional role of Hennepin County in bicycle planning.
- A provision to seek public input and participation concerning the role of the county, bicycle transportation plan contents and philosophy.

- An inventory of existing and proposed bicycle facilities within Hennepin County based on definitions established by the county.
- Establishment of a vision, goals, and objectives.
- Development of a process to identify and support improvements that will result in a primary bicycle transportation system.
- Development of design guidelines that can be applied consistently while recognizing and responding to the constraints and needs of unique locations.
- The establishment of a program that will effectively use federal ISTEA and other funding sources. The plan will provide support for county financial applications and will help the county to support other agencies' funding requests.
- A clear portrayal of the roles and responsibilities of various agencies and departments within the county for activities including bicycle facility planning, amenity provisions, design, construction, operations and maintenance.
- Supportive information for other bicycle facility implementers on several topics including bicycle safety education, bicycle friendly development, and integration options with transit.

This plan is intended to become a "living" plan, continually reviewed and updated as changes occur. It will also be incorporated as an element of the comprehensive Hennepin County Transportation Systems Plan (HC-TSP). The plan will become part of a process that will coordinate bikeway improvements within the Transportation Systems Plan and capital improvements program.

As an on-going effort, the bicycle plan will have a continually expanding planning horizon of 3 - 5 years. The vision guides the plan and offers a long range outlook through the next decade and beyond.

**PUBLIC  
PARTICIPATION**

The Bicycle Plan was the product of considerable public review and comment. The draft document was widely distributed. Over one hundred full plans and over one hundred fifty executive summaries were mailed to interested individuals, cities, county staff and other agencies. Other groups receiving the plan included counties, bicycle groups, general interest / neighborhood groups, engineering and planning consultants, and media contacts.

The draft plan was made available for review at the twenty-six regional county libraries and five county service centers. Information on the plan was also disseminated through the publication of three newsletters with a mailing list of over 350 individuals. Two series of open house meetings were held during the development of the plan at a number of different locations in the county.

Besides the informal comments received at the open house meetings, approximately two dozen responses were received. Half of the comments were submitted in written form, and the remaining half were verbal, usually by telephone. In addition, the county's Bicycle Advisory Committee (BAC) spent three of their regularly scheduled monthly meetings reviewing the plan in detail, resulting in a number of comments and suggestions.

**BICYCLE  
TRANSPORTATION  
PLAN VISION**

The following are the main elements of the bicycle transportation vision which guided the development of the bicycle transportation plan:

- ***Hennepin County respects its residents' values and lifestyle choices. To support these values, the county wants to have an active role in expanding residents' mobility options and furthering their travel alternatives.***
- ***The choice to use a bicycle should be welcomed as a realistic and sensible form of transportation in its own right. Transportation planning should include the bicycle choice, just as it includes other modes such as automobiles, walking and transit.***
- ***Hennepin County believes that there is a critical need to establish a safe, convenient bicycle transportation system.***

- *The county is the right entity to help accommodate bicycle transportation by using its extensive roadway rights-of-way, light rail transit corridors, and other railroad or utility corridors.*
- *It is envisioned that an extensive countywide bikeway system will be designed to serve all types of bicyclists regardless of their levels of rider expertise or travel destination.*

These vision elements are embodied in the remaining sections of this bicycle transportation plan.

## LEVELS OF ACCOMMODATION

The system plan does not specify what types of bicycle facilities are to be provided or what level of route guidance will be appropriate. Many factors determine the actual bicycle improvements that are desirable and possible for any given corridor. Among these factors are the availability of and demands on the right-of-way, traffic conditions, the types of destinations near the facility, and which predominant groups of bicyclists need to be served. Although the goal of the plan is to provide full accommodation to all types of bicyclists, existing conditions and constraints may require different levels of accommodation from one corridor to the next.

Five levels of accommodation (not necessarily listed in order of importance) were developed for Hennepin County road right-of-ways:

- Full Accommodation
- Independent Trail
- Bicycle Compatible Roadway
- Multi-Use Path
- Basic Roadway

**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. This level of accommodation is the goal of the bicycle transportation plan for all primary county bicycle routes. All types of bicycle riders would be accommodated under this configuration. While this configuration is the ultimate goal of the plan, very few examples of this type of facility currently exist in Hennepin County. In the interim until full accommodation can be implemented, the bicycle provisions may consist of a combination of bicycle compatible roadways or multi-use paths as described below.

*An example of a 2-lane facility where full bicycle accommodation is provided*



**Independent Trails** define a classification where a separated trail for two-way bicycle travel is provided on an independent right-of-way usually substantially separated from any adjacent roadways. The trails may be open to a wide variety of non-motorized uses including pedestrians, in-line skaters, and equestrian users. The independent trails form a part of the primary bicycle system due to their incorporation of limited vehicle crossings and grade separations.

*Example of an independent trail facility (Southwest LRT Trail at CSAH-60, Minnetonka)*



Independent trails are popular recreational facilities which can also serve a significant role in transportation when they offer an alternative route to destinations of interest to bicyclists. The physical separation from traffic offered by trails is reassuring to casual adult and children bicyclists. They are also popular with some advanced commuter riders at those times during the day when the facility is not crowded with slower bicycle users, pedestrians or other users.

Hennepin County is endowed with numerous existing and planned independent trails. Additional trail opportunities that use LRT right-of-way and other rail corridors are possible. An important goal of this plan is to support completion of these trails and to provide connections to and between them as needed.



***Bicycle Compatible Roadways*** are a configuration of on-road space designated for multiple purposes including bicycles. Other uses such as temporary parking for disabled vehicles are typically allowed. In some urban situations such as in downtown Minneapolis and near the University of Minnesota, the roadway space is actually designated for bicycles-only by appropriate signage (bike lane) and pavement markings. Bicycle compatible roadways can be delineated with a painted stripe, colored or textured pavement, or an extended concrete gutter section.

*Example of a bicycle compatible roadway  
(Carlson Parkway -  
Wayzata)*



Bicycle compatible roadways are excellent facilities for avid bicyclists and some casual adult riders (depending on traffic conditions). Many Hennepin County roadways are designated or could be designated as bicycle compatible roadways since they have sufficient existing shoulder width areas.

**Multi-use paths** are a level of accommodation on par with the bicycle compatible roadways. They provide a parallel path to the roadway usually within the roadway right-of-way. The path is generally separated from the adjacent roadway. Multi-use means that pedestrians and in-line skaters are also allowed on the facilities.

*Example of an off-road multi-use path along Vicksburg Lane at 28th Avenue North - Plymouth*



**Basic Roadway** accommodations means that due to design and / or right-of-way constraints, bicycles must share road space with motorized traffic. Under this situation, the county routinely removes obstacles and hazards to bicycle travel along the roadway edge. In some cases where adjacent sidewalks and occasional bicycle usage exists, a widened lane may be provided to provide refuge space and vehicle reaction distance.

Bicycle usage on basic roadways is not encouraged nor is bicycle route signage included on these types of roads. Basic roadways are the lowest desirable level of accommodation, and they do not meet the standards necessary for inclusion into the primary or secondary county bicycle systems. Many existing urban and rural roadways are currently basic roadways with little special provision for bicycles.

The bicycle transportation plan has designated a number of its current basic roadways as part of the system plan. Parallel facilities through public lands or on adjacent city streets may need to be utilized in the cases where the existing constraints prohibit adding bicycle accommodations to basic roadways.

*Example of a basic roadway with no special accommodations for bicycles*



## BICYCLE SYSTEM PLAN

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 onto 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 identified 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 attached map.

The **primary routes (blue)** in the system plan 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.

The **secondary routes (green)** in the system are bikeways which have a heavy recreational focus or are lesser routes which still have an auxiliary importance to the overall system. Often these routes have another parallel alternative route nearby. The recreational routes may also serve transportation uses due to their location and proximity to bicycle trip generators. Something less than full accommodation such as an on-road shoulder or a off-road multi-use path can be acceptable on a secondary route.

The **independent trails (red)** (those trails not within roadway rights-of-way) are included because of their importance to overall bicycle system continuity in Hennepin County. Since they often span natural and man made barriers, the trails provide strong cross-county linkages that are important for bicycle transportation.

**TYPICAL ROADWAY SECTIONS**

A set of illustrations were developed for the plan to show idealized situations of how individual design components can be integrated into a complete roadway design. Typical roadway sections were developed that present a cross-sectional view of the road from the perspective of a driver or bicycle rider. Where applicable, the figures denote the state and county safety clear zones which control some of the dimensions and the location / placement of the elements within the right-of-way.

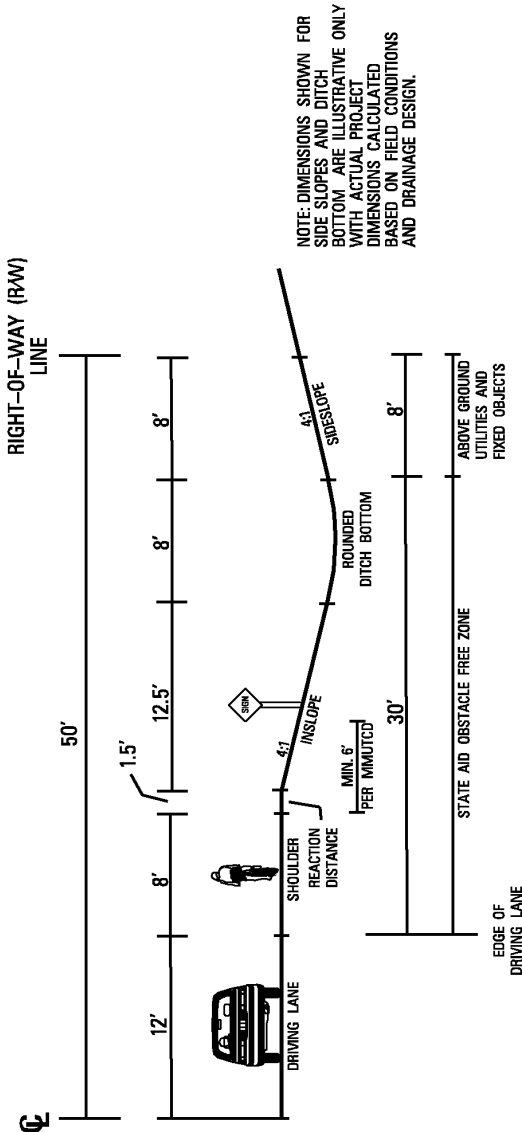
The typical roadway sections are shown on Figures 6.1 through 6.5 to illustrate the cross-sectional requirements for each of the four levels of roadway accommodation. The fifth non-roadway accommodation (independent trail) is shown on Figure 6.6. The figures are presented by area type, which is the most important determining element.

Only one-half of the roadway right-of-way is shown for clarity purposes. In many cases the opposite side of the roadway would be a mirror image of the section shown since on-road bicycle accommodation must be two-way. Right-of-way limitations may necessitate the placement of off-road multi-use paths on only one side of the roadway.

## 2 LANE RURAL

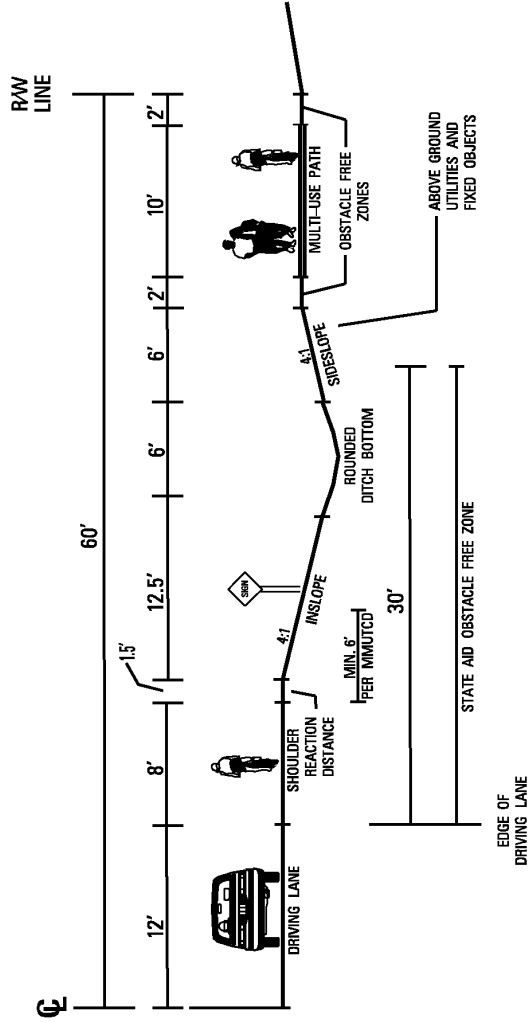
FUNCTION CLASS: COLLECTOR & MINOR ARTERIALS  
 PROJ. ADT VOLUMES: 1,500 - 10,000 ADT  
 SPEED: 45+ MPH

### COMPATIBLE ROADWAY



CURRENT TYPICAL DESIGN

### FULL ACCOMMODATION



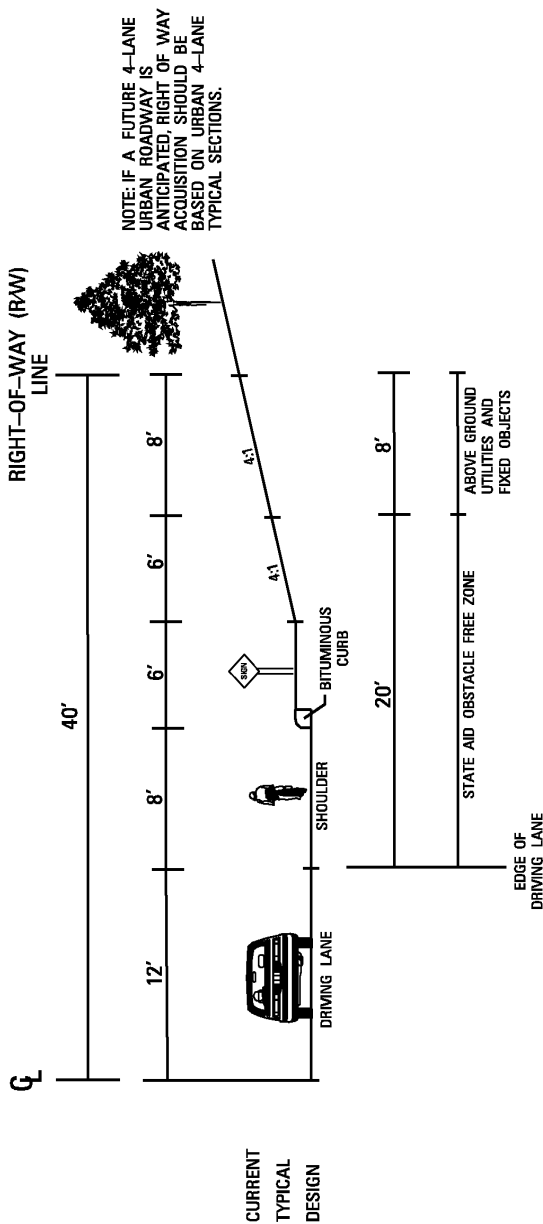
ORIGINAL: JANUARY 1996  
 REVISED: JANUARY 1997

FIGURE 6.1

## 2 LANE SUBURBAN

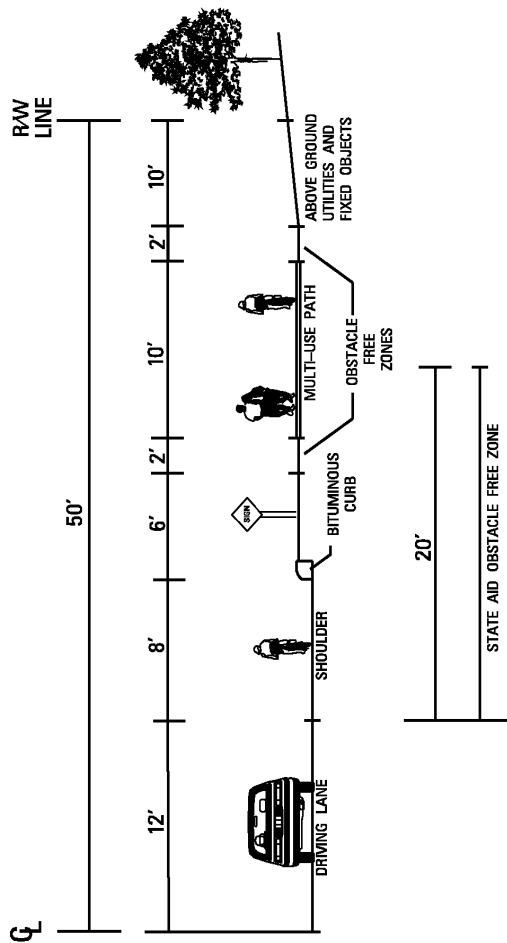
FUNCTION CLASS: COLLECTOR & MINOR ARTERIALS  
 PROJ. ADT VOLUMES: 1,500 - 10,000 ADT  
 SPEED: 35 - 40 MPH

### COMPATIBLE ROADWAY



CURRENT TYPICAL DESIGN

### FULL ACCOMMODATION



ORIGINAL: JANUARY 1996  
 REVISED: JANUARY 1997

FIGURE 6.2

**2 LANE URBAN  
2-WAY LEFT TURN LANE  
SPECIAL APPLICATIONS**

FUNCTION CLASS: COLLECTOR & MINOR ARTERIALS  
 PROJ. ADT VOLUMES: 5,000 - 16,000 ADT  
 SPEED: 30 - 35 MPH

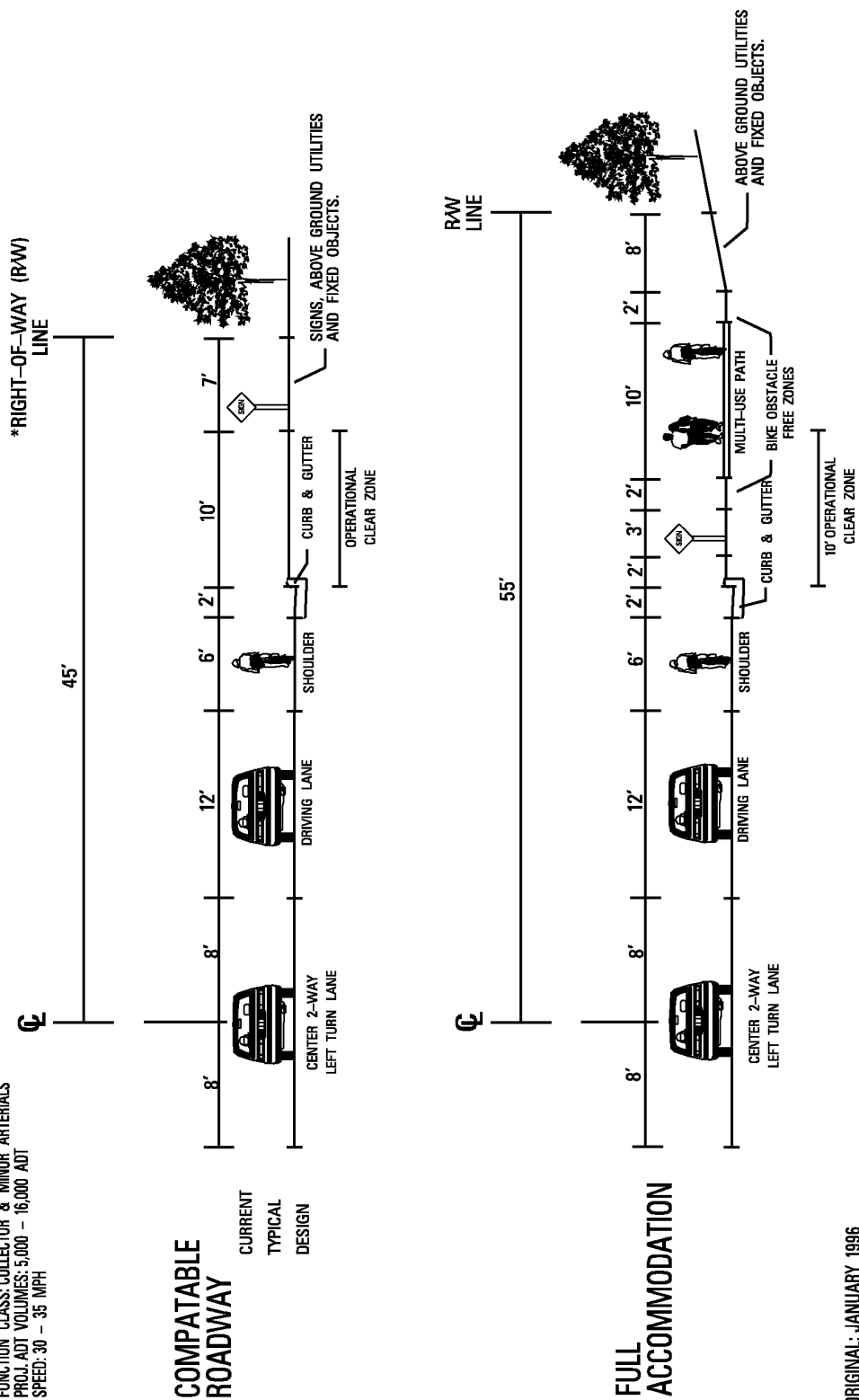


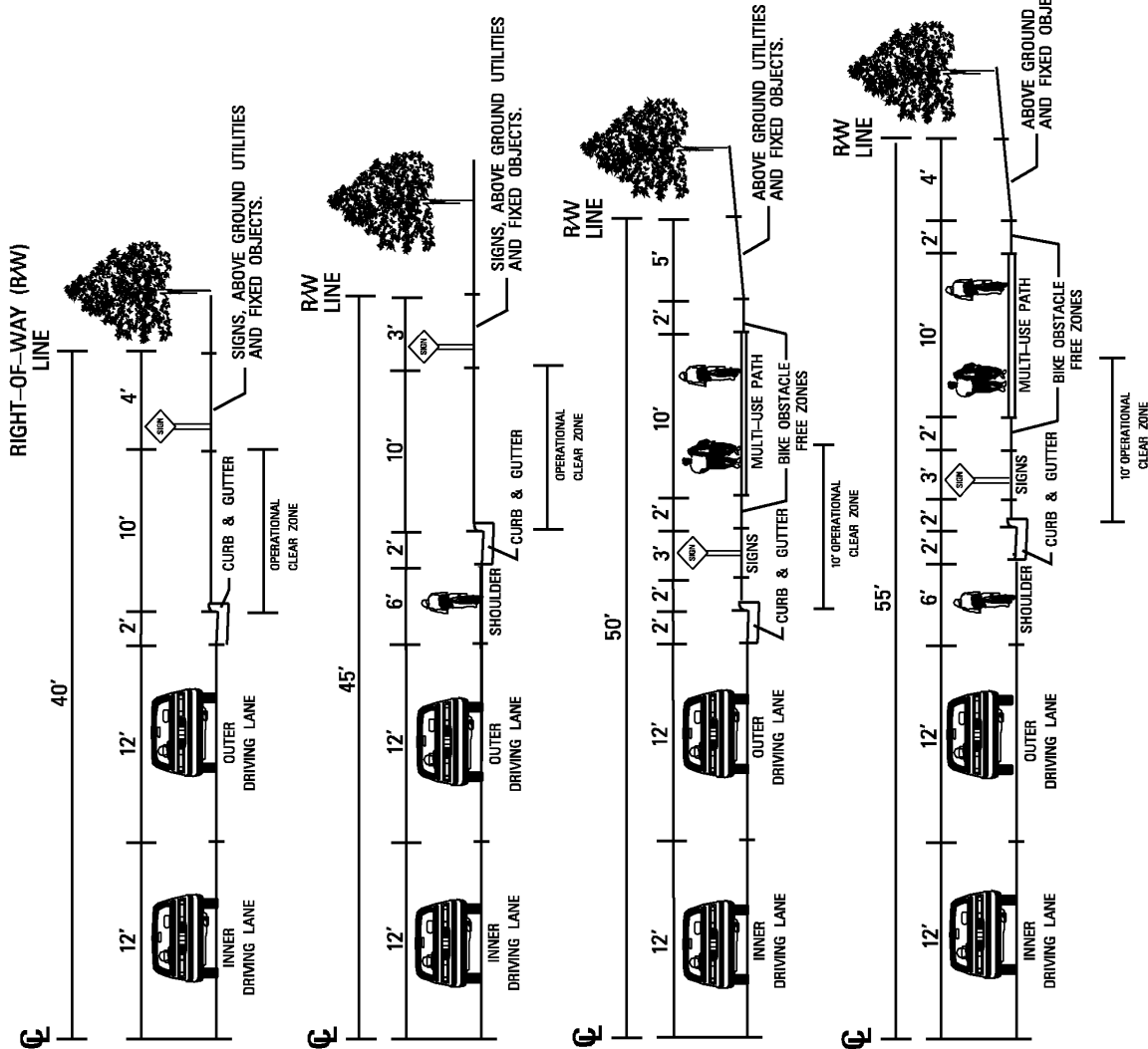
FIGURE 6.3

ORIGINAL: JANUARY 1996  
 REVISED: JANUARY 1997



### 4 LANE URBAN UNDIVIDED

FUNCTION CLASS: COLLECTOR & MINOR ARTERIALS  
 PROJ. ADT VOLUMES: 5,000 - 16,000 ADT  
 SPEED: 35 - 40 MPH



### BASIC ROADWAY

CURRENT TYPICAL DESIGN

### COMPATIBLE ROADWAY

### MULTI-USE PATH ADJACENT TO ROADWAY

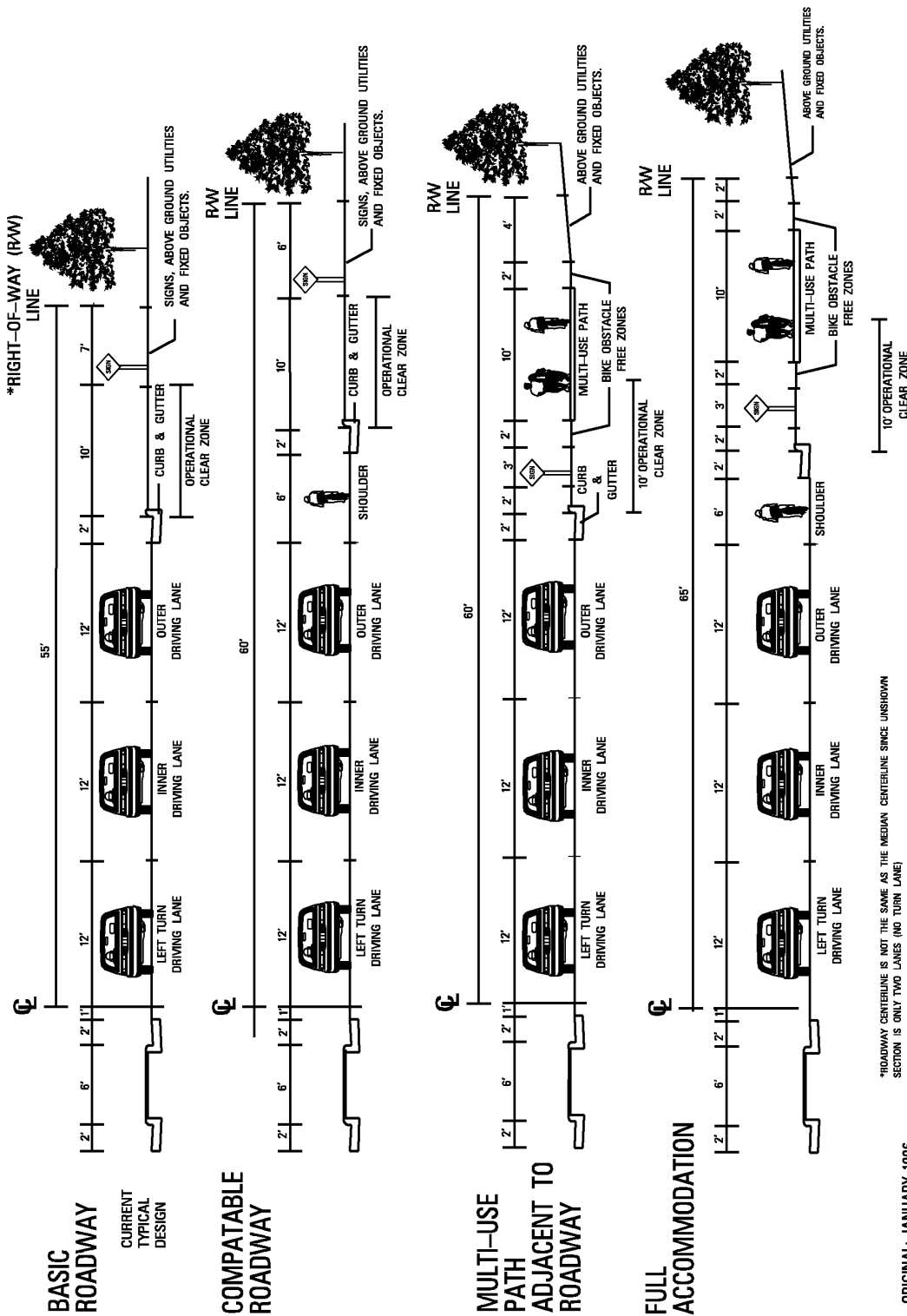
### FULL ACCOMMODATION

ORIGINAL: JANUARY 1996  
 REVISED: JANUARY 1997

FIGURE 6.4

# 4 LANE URBAN DIVIDED

FUNCTION CLASS: MINOR ARTERIALS  
 PROJ. ADT VOLUMES: 8,000 - 25,000 ADT  
 SPEED: 35 - 45 MPH

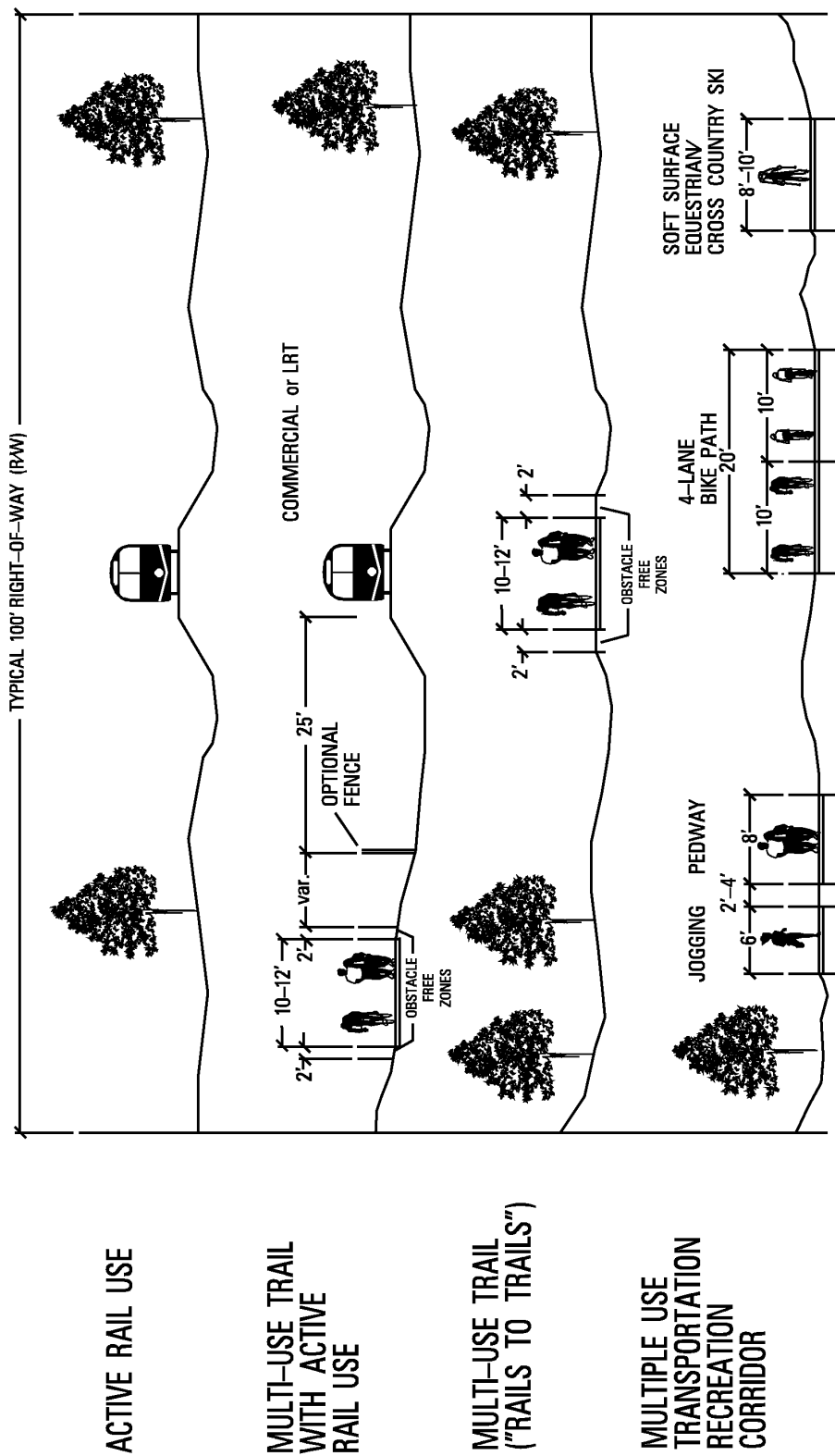


\*ROADWAY CENTERLINE IS NOT THE SAME AS THE MEDIAN. CENTERLINE SINCE UNSHOWN SECTION IS ONLY TWO LANES (NO TURN LANE)

ORIGINAL: JANUARY 1996  
 REVISED: JANUARY 1997

FIGURE 6.5

# RAILROAD OR INDEPENDENT TRAIL CORRIDOR



ORIGINAL: JANUARY 1996  
 REVISED: JANUARY 1997

FIGURE 6.6

**POLICY  
RECOMMENDATIONS**

To implement the bicycle transportation plan, revisions, refinements and additions are proposed to the current Department of Public Works policies which affect bicycle accommodations.

**Bicycle Route Signing**

The responsibilities for bicycle route signing on county roadways belongs with the Department of Public Works. Hennepin County will sign a bicycle route on roadway shoulders adjacent to a county road when:

- The roadway segment is denoted on the system plan map
- The roadway and shoulder design meets the design guidelines for a bicycle compatible roadway
- The roadway segment provides a logical connection between bicycle origins and destinations or to a municipal bikeway or regional trail system. The signing of short, isolated 1-2 block segments will be avoided so that continuous, predictable routing is provided.

The signing of other segments of the county roadway system will be considered if such segments are part of a city bicycle system, a specific request (resolution) is received from the city to sign the route, and if the route design meets the necessary design guidelines.

Bicycle route signing will be evaluated as part of the project development process for all county pavement maintenance, reconstruction, or new roadway construction projects.

One of the first actions after the adoption of this bicycle plan will be the evaluation and signing of the existing county roadway system consistent with these policies.

## Right-of-way Acquisition

This policy establishes the guidelines for the provision of right-of-way for acquisition on capital improvement projects and for the dedication on present or proposed Hennepin County roadways. The right-of-way dimension widths are taken from the typical roadway sections of Figures 6.1 to 6.6. Right-of-way widths can be a combination of right-of-way and roadway easement. Table I below illustrates the recommended right-of-way widths.

*Table I  
Recommended  
Right-of-way Widths*

<b>Recommended Right-of-Way Widths</b>		
Basic Right-of-Way Widths - 1/2 section (centerline to outside edge)		
Roadway Type	Minimum (Bicycle Compatible)	Desirable (Full Accommodation)
2-Lane Rural	<b>50 Feet</b>	<b>60 Feet</b>
2-Lane Suburban	<b>40 Feet</b>	<b>50 Feet</b>
2-Lane Urban	<b>45 Feet</b>	<b>55 Feet</b>
4-Lane Urban (undivided)	<b>45 Feet</b>	<b>55 Feet</b>
4-Lane Urban (divided)	<b>60 Feet</b>	<b>65 Feet</b>

## Funding Participation

Bicycle facilities are often constructed through cooperative agreements between the county and municipalities. Table II on the following page provides the suggested funding formulas for off-road multi-use paths and on-road shoulder accommodation. The county will participate in one-half the construction costs of multi-use paths on one side of the roadway in rural and most suburban locations. Urban settings having higher pedestrian and bicycle usage may require multi-use paths on both sides of the roadway which the county would consider participating in one-half the cost of both paths

*.Table II  
Funding Participation  
Guidelines*

<b>Funding Participation Guidelines</b>		
<b>I. Multi-use paths on the Bicycle System Plan</b>		
<u>Element</u>	<u>Participation County / City</u>	<u>Discussion / Comments</u>
Right-of-Way	50 % / 50 %	<ul style="list-style-type: none"> <li>• Would apply regardless of whether the bikeway is part of a roadway or if the project is only for the bikeway.</li> </ul>
	100% City	<ul style="list-style-type: none"> <li>• If right-of-way initially requested by County in a plat review process was declined by the City.</li> </ul>
Construction	50 % / 50 %	<ul style="list-style-type: none"> <li>• Would apply regardless of whether the bikeway is part of a roadway or if the project is only for the bikeway.</li> <li>• County participation is limited to half of path on one side of the roadway in rural and most suburban areas. Urban areas are evaluated individually.</li> </ul>
Maintenance	100% City	
Reconstruction	100% County	<ul style="list-style-type: none"> <li>• Only applies to areas disturbed by county roadway projects.</li> </ul>
Signing	50 % / 50 %	<ul style="list-style-type: none"> <li>• Only applies to uniform signing</li> <li>• City or Park jurisdiction is responsible for sign installation and maintenance.</li> </ul>
<b>II. On-Road facilities on the Bicycle System Plan</b>		
<u>Element</u>	<u>Participation County / City</u>	<u>Discussion / Comments</u>
Right-of-Way	50 % / 50 %	<ul style="list-style-type: none"> <li>• Would apply regardless of whether the bikeway is part of a roadway or if the project is only for the bikeway.</li> </ul>
	100% City	<ul style="list-style-type: none"> <li>• If right-of-way initially requested by County in a plat review process was declined by the City.</li> </ul>
Construction	100 % County 50 % / 50 %	<ul style="list-style-type: none"> <li>• Shoulders in urban or rural areas</li> <li>• Dedicated bicycle lanes</li> </ul>
Maintenance	100% County	
Reconstruction	100% County	
Signing	100% County	<ul style="list-style-type: none"> <li>• Applies to uniform bike route signing</li> <li>• County is responsible for sign installation and maintenance.</li> </ul>
<b>III. Bicycle Amenities</b>		
Bicycle amenities such as bicycle racks, storage lockers, and shower / clothes locker areas are generally not eligible for county public works cost participation.		

Where the primary bicycle system is provided on an adjacent city street, the county may contribute to construction and signing, but the city would be 100 percent responsible for street maintenance.

Deviations may occur from the funding participation guidelines on a case-by-case basis where special circumstances exist, where special funding via public or private contributions exist, and when all parties agree to the modification. Hennepin County participation is based on the project eligibility and availability of funding. The Bicycle Capital Improvements Program policy below discusses the project eligibility criteria, application process, and the 5-Year CIP program.

### **Bicycle Capital Improvements Program**

A program of improvements needs to be developed for the *Bicycle Transportation System* that lists by year, the elements of the system to be planned and constructed should be developed in conjunction with the county's normal Capital Improvements Program (CIP) process. Projects will include those improvements to be accomplished in conjunction with other programmed roadway improvements, as well as projects initiated as strict bicycle improvements.

A program of planned improvements should schedule projects that are part of the *Bicycle Transportation System*. A common problem for bicycle facility implementation is that isolated projects are built as funding is available, but an overall connected and continuous system is never completed. A program will coordinate bicycle projects with other roadway projects as well as develop independent projects. An implementation or investment target would facilitate the eventual completion of the system.

The current CIP covers a 5-year period from 1997-2001. The CIP allocates \$100,000 per annum specifically for bicycle improvements to be matched by an equal amount by cities, other agencies or private contributions. Annual allocations are valid for two years, where upon expiration any remaining monies are returned to the general fund.

Projects are submitted by cities or other operating agencies. In the interim until a bicycle CIP is developed, the submittals are evaluated on a first come, first served basis. Submittals must include a concept layout plan and a preliminary cost estimate. Eligibility criteria must be met for a bicycle project to receive county funding. The eligibility criteria include:

- The proposed project should be identified on the county Bicycle Transportation System Plan
- The project should meet all safety requirements
- The project design elements should conform to state and county design guidelines
- Funds must be available within the current 5-year CIP

### **Project Development Process**

To successfully implement the bicycle system, it is critical that the consideration of bicycle accommodations be integrated throughout the planning, preliminary design, final design, construction and maintenance processes. The roadway design process contains a number of important mileposts where coordination and discussion needs to occur.

The county has the authority to review development plats if they abut a county road. The cities have the authority to designate land uses and to control zoning. Other agencies also retain permitting or review authorities depending on the specifics of a project. Coordination and communication among the various agencies and interest groups is a key ingredient to developing a successful project.

### **Bicycle Information**

The county should offer information and technical assistance including those areas of activity that are not the primary responsibility of the County. These areas of supportive action include coordination of bicycle access with public transit, local community development, and local bikeway development.



The county should provide mapping information on existing facilities. This can be coordinated with Hennepin Parks and private map developers.

### **Bicycle Parking**

The county should encourage the provision of bicycle parking for all new and rehabilitated developments. As a first step, the county should examine the location, amount, design, and shelter / security of existing bicycle parking for its downtown Minneapolis facilities. The county Bicycle Advisory Committee should develop model bike parking ordinances for availability to interested cities.

### **CONTACT FOR MORE INFORMATION**

Persons who desire more information regarding the Hennepin County Bicycle Transportation Plan should contact:

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