

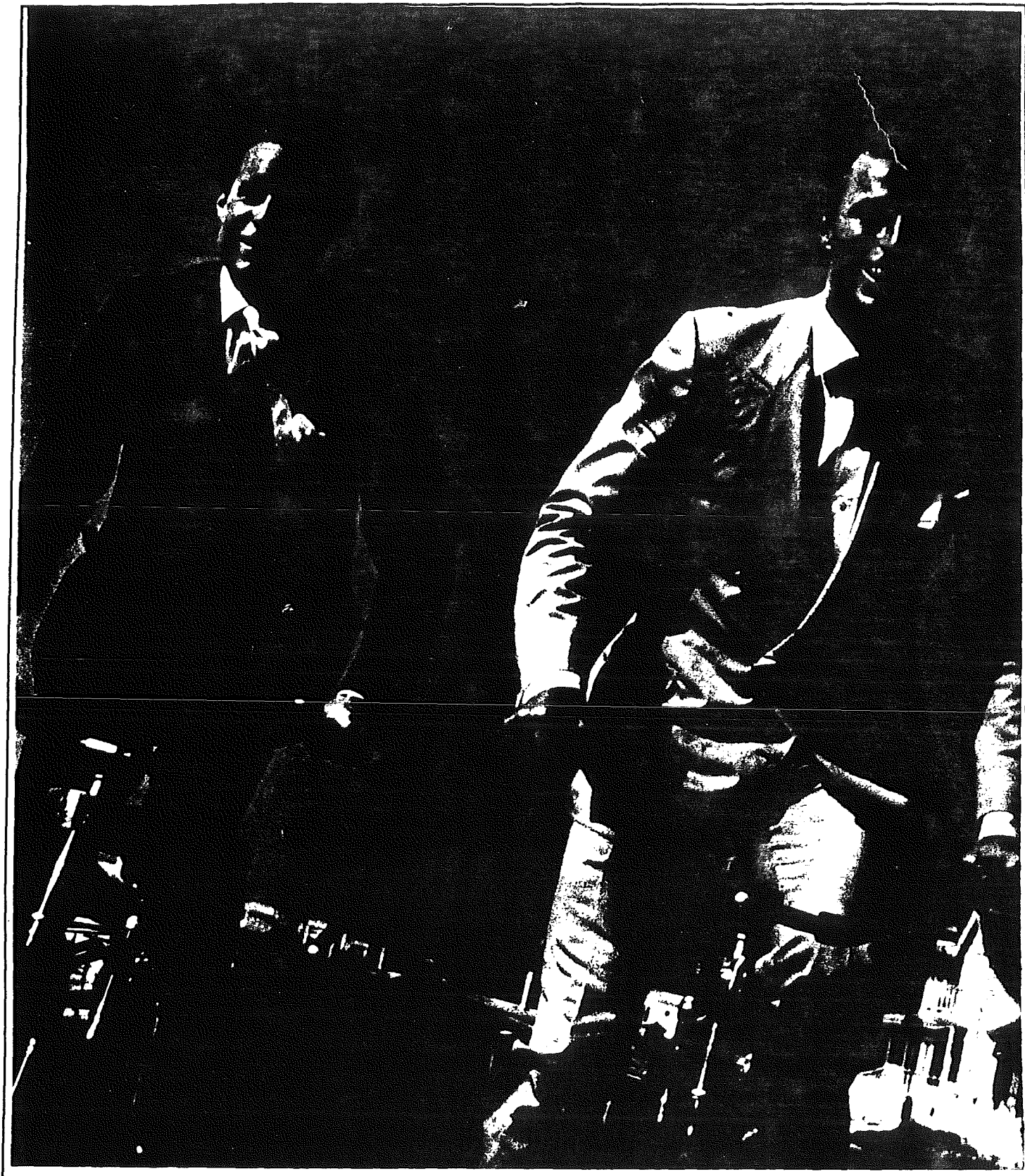
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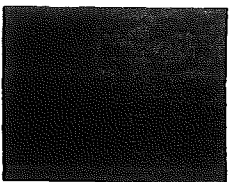
Minnesotans are recapturing
the thrill of movement
and the sense of freedom
they knew as children.

We are rediscovering the bicycle.

Biking to work or school, for short
trips to visit friends or just to pick up
a few groceries, the bicycle is bringing
greater fun and fitness to our lives.

And for longer trips...





... biking to express bus stops, and relaxing while they arrive at their destinations, often as quickly as if they had driven their cars.

For children, the bicycle continues to be a major source of mobility, recreation, exercise, and socializing.

Bicycling vacations are helping to create new economic vitality for rural areas.

These pioneering Minnesotans are putting the fun back into transportation. And at the same time getting fresh air and exercise, saving money, and rediscovering the beauty of the world they live in, even Minnesota's winter wonderland.

They are demonstrating that there is another very attractive way to have personal mobility. One from which we all benefit.

Someday, Minnesota cities could be designed around this refreshing means of transportation.

But today, our job is to do all we can to encourage these trends. To make the bicycle one of the truly viable and attractive transportation options available to all Minnesotans.

PLAN B

Letting Bicycling Work for Minnesota

This plan is hereby recommended as a guide for state agencies and the legislature to allow the bicycle to fulfill its potential in contributing to the health, safety and welfare of Minnesotans.

Kirby Beck, 1990 Chair,
State Bicycle Advisory Board

We, the undersigned, do hereby adopt this plan, as amended, with the intent of implementing it to the best of our abilities.

John Riley, Commissioner
Department of Transportation

Ralph Church, Commissioner
Department of Public Safety

Rod Sando, Commissioner
Department of Natural Resources

Marlene Marschall, Commissioner
Department of Health

Dana Badgerow, Commissioner
Department of Administration

Gene Mammenga, Commissioner
Department of Education

Kris Sanda, Commissioner
Department of Public Service

Peter Gillette, Commissioner
Department of Trade and Economic Development

Charles Williams, Commissioner
Pollution Control Agency

The State Bicycle Advisory Board hereby concurs with this plan as amended.

Duke Addicks, 1991 Chair

State Bicycle Advisory Board Members 1990-1991

Duke Addicks, Lanesboro

Kirby Beck, Coon Rapids

Ken Buckeye, Minneapolis

Mike Budak, International Falls

Mike Carlson, St. Paul

Mary Clark, Winona

Alison Fuhr, Edina

Bill Gervais, Stillwater

Dan Gray, Mahtomedi

Dick Hanson, Adams

Jerry Hiniker, Blaine

John Jefferson, Edina

Doug Laird, Edina

Mike Miller, St. Paul

Allen Moe, Apple Valley

Ron Nickerson, Minneapolis

Barb Schmidt, Eagan

Marsha Soucheray, Shoreview

Matt Welbes, Minneapolis

PLAN B

The Comprehensive State Bicycle Plan

Prepared pursuant to Minnesota Laws of 1984, Chapter 199, Section 14, Subdivision 1: "...to make recommendations to the commissioners of transportation and public safety and the legislature on bicycle safety and bicycle education and development programs," by the State Bicycle Advisory Board and the Minnesota Departments of Public Safety, Public Service, Natural Resources, Education, Health, Trade and Economic Development, Administration, the Pollution Control Agency, State Planning Agency, and the . . .

. . . Minnesota Department of Transportation
enabling Minnesotans to travel their different ways of life.

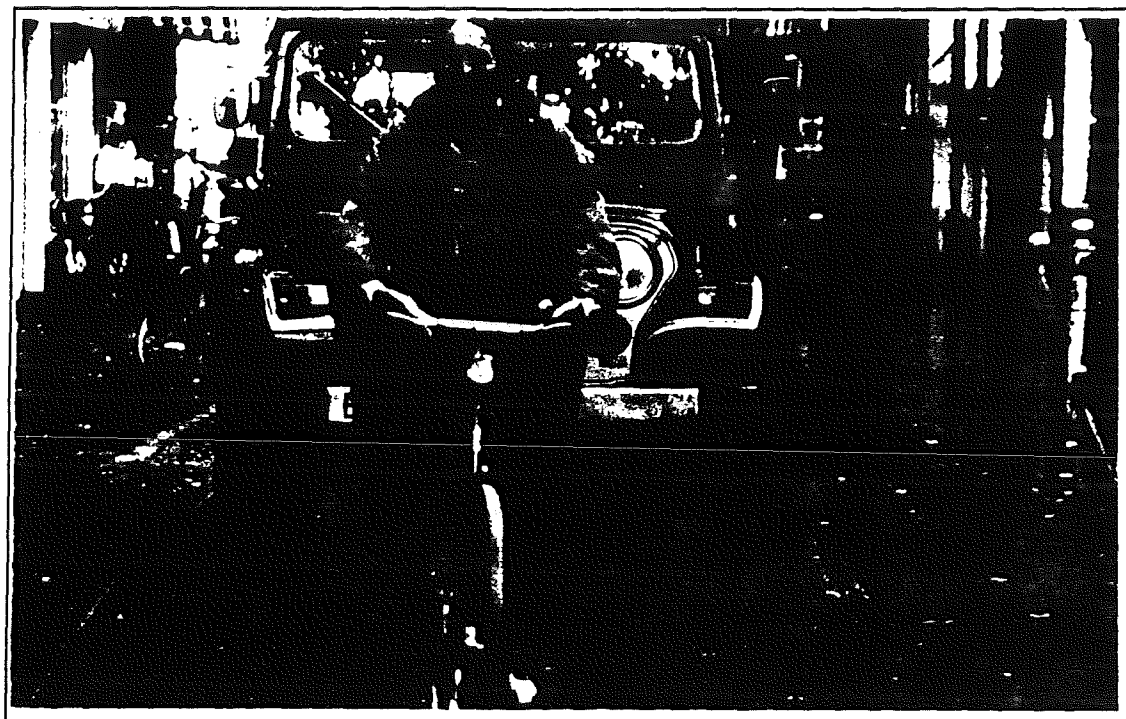


Letting Bicycling Work for Minnesota



"When I see an adult on a bicycle, I do not despair for the future of the human race."

H.G. Wells



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 significant economic and other benefits accrue; substantial growth
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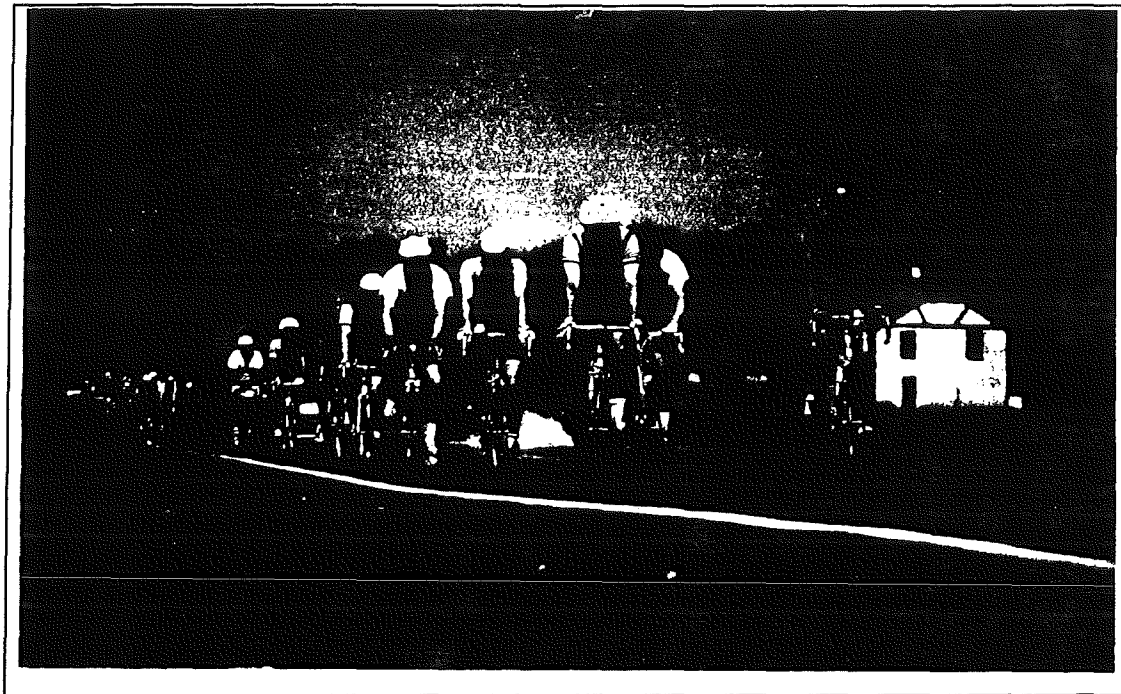
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66% of all Minnesotans are bicyclists.

As a result of progressive public policies to date, Minnesotans are already bicyclists at nearly twice the national average. Almost half of all bicycle miles travelled are for transportation purposes.

Yet with 30% of all car trips being less than 2 miles in length, only 5% of those short trips, and only 0.4% of all trips are taken by bicycle in Minnesota today.

The growth potential for bicycling is great. That potential can best be realized by accomodating and enhancing the inherent recreational benefits in all bicycling endeavors.

Bicycling is a smart investment. Increasing Minnesota's investment in bicycle transportation from \$4 to \$10 million per year is anticipated to yield additional tax and other public savings of at least \$13 million per year by 1999.

This plan outlines a rationale for elevating the position of bicycling on the public agenda. And it provides a framework to guide the investments that will translate the legal rights of bicyclists into a safe reality, so that the bicycle contributes substantially to the public health, safety, and welfare.

This new reality will keep Minnesota in a position of national and international leadership in making the bicycle not just a smart means of transportation, but a viable and attractive option from which Minnesotans can choose.

"Affirmative public policy and government support are major factors which increase bicycle use. Having the infrastructure required for the convenient use of bicycles is of greater influence than weather or standards of living."

Transportation Study Board
Preliminary Findings
September 1990

Public policy is the key to maximizing bicycle use.

A landmark study of the past decade that compared cycling and non-cycling cities around the world came upon a remarkable finding. The cities in which bicycles are used for a substantial percentage of total trips are not notably different, in terms of weather, geography, or standards of living, from their neighboring cities in which bicycles are used much less frequently.

The primary factor differentiating the two sets of cities: differences in public policy and levels of government support.

As indicated in Figure 1 below, the cities in the right hand column have, through strong public policy and government support, created environments that encourage bicycling, and are reaping the benefits of higher bicycle mode share.

Indeed, even the fact that Minnesota adults are *bicyclists* at nearly twice the national average has most often been attributed to state and local bicycle programs over the past 15 years.

SIMILAR PLACES; DISSIMILAR PUBLIC POLICIES: Percent of all trips taken by bicycle

Less-Strong public policies:		Strong public policies:	
Los Angeles*:	ca 1%	vs	Davis, CA: 23%
Minneapolis:	1%	vs	Madison, Wis*: ca 9%
Beijing, China:	48%	vs	Tiahjin , China: 77%
The Hague*:	ca 23%	vs	Groningen, Netherlands: 50%

Source: Worldwatch Institute

* other estimates

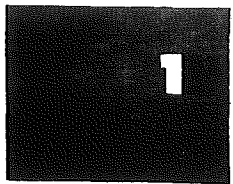
Figure 1

We Can Do It:

"All you have to do is make it easier to ride a bike than drive a car. People will take it from there."

Ellen Fletcher
Palo Alto City Council

PART ONE: THE STATE OF MINNESOTA BICYCLING

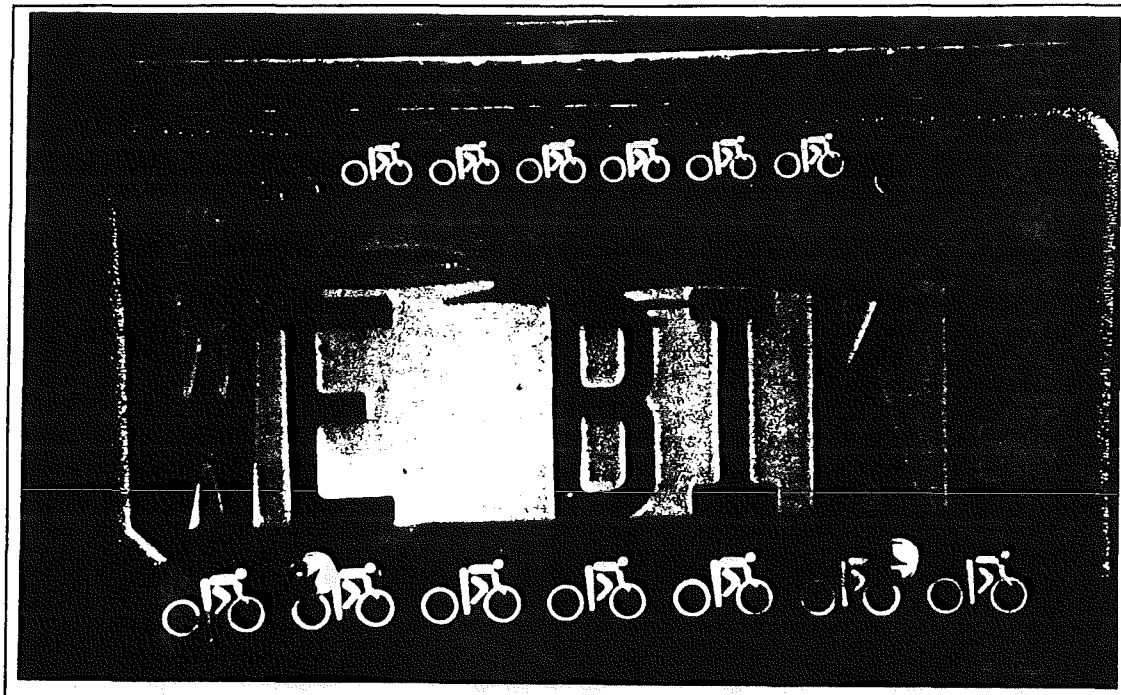


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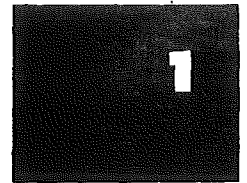


Minnesotans are bicyclists at nearly twice the national average.



63% of Minnesota adults are bicyclists.

PART ONE: THE STATE OF MINNESOTA BICYCLING



Bicycling is very big in Minnesota.

As a result of 15 years of progressive legislative, public agency, and bicycle organizations' leadership, Minnesota has developed a strong statewide bicycling foundation, and the public has responded. As early as 1985...

- 66% of all Minnesotans are bicyclists;
- the vast majority are adults;
- Minnesota adults are bicyclists at nearly twice the national average.

% of Minnesota Adults who are bicyclists (bicycling one or more times per year)

source: Mn/DOT

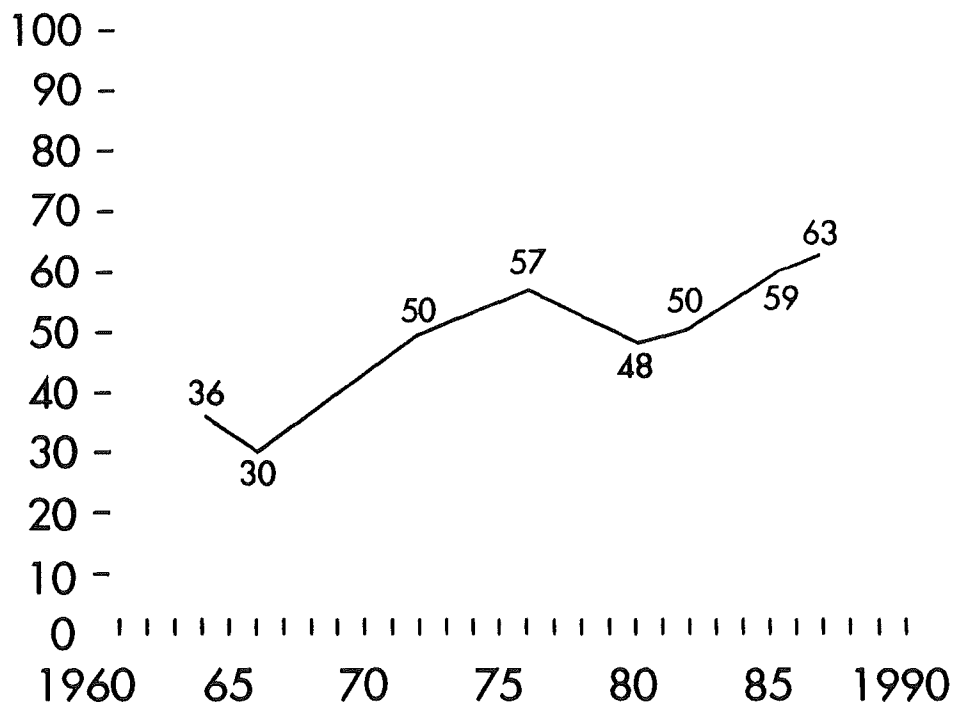
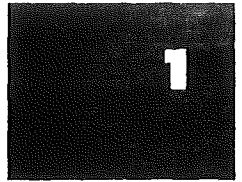


Figure 2

PART ONE: THE STATE OF MINNESOTA BICYCLING



Bicycling is by far the most popular outdoor recreation activity in the state, other than walking.

- Since 1983 bikeways have consistently been the most requested facility type, most recently by 61% of Minnesotans.
- Not only is recreational biking good for the health and well-being of Minnesotans, but it bodes very well for growth in transportation bicycling in the future.

Popularity of the Three Top Recreational Activities in Minnesota

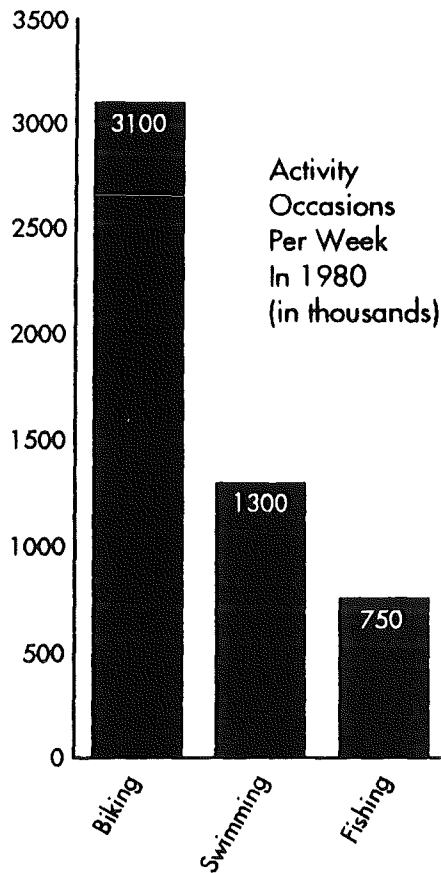


Figure 3

PART ONE: THE STATE OF MINNESOTA BICYCLING

Nearly half of all biking is for transportation purposes.

- 2000 people commute to work each day to downtown Minneapolis by bicycle.
- 7% of all trips to the U of M Twin Cities campus are by bicycle, with less in winter (85% of bicyclists have cars).
- 10% of all Minnesota adults bike to work one or more times per year.
- Minnesotans travelled an estimated 138 million miles by bicycle for transportation purposes in 1989.

Bicycle Miles Traveled (BMT), Estimated 1964-1987

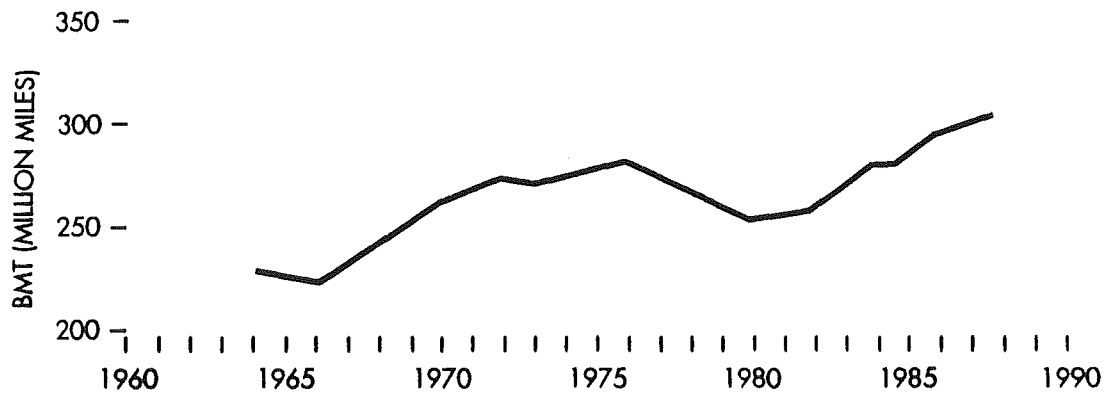
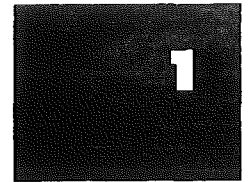


Figure 4

"The bicycle is a form of transportation from which broad social, environmental, and economic benefits accrue. Current trends such as global warming, traffic congestion, and dependence on imported oil necessitate focussing on the bicycle as part of the transportation solution.

Transportation Study Board
Preliminary Findings
September 1990

PART ONE: THE STATE OF MINNESOTA BICYCLING



Bicycling Benefits Minnesota

Transportation biking saved Minnesotans in excess of \$24 million in out of pocket costs, plus an estimated \$7 to \$30 million in tax and other savings to the general public in 1989 alone. Highway capital investment savings could push these figures higher yet.

And that's just the beginning.

There are few if any public works which give purely positive returns for relatively insignificant public investments. Bicycle accommodations are among those few.

The benefits of bicycling are particularly significant for public policy makers when they are translated into economic benefits and tax savings.

Figure 5

ESTIMATED SAVINGS PER BICYCLE MILE TRAVELLED (BMT) (substituted for car travel)

OUT-OF-POCKET SAVINGS TO INDIVIDUAL CONSUMERS: \$.18-\$.58/BMT

HIGHWAY CAPITAL INVESTMENT SAVINGS POTENTIAL: \$.08-\$.33/BMT

OTHER TAX AND GENERAL PUBLIC SAVINGS:

(eg air quality, oil imports, congestion)

Reduced oil imports:	\$.01-\$.07/BMT
Reduced trade deficit:	\$.01-\$.01/BMT
Noise reduction:	NA
Recreation value:	NA
Greenhouse effect:	NA
Air pollution:	\$.01-\$.10/BMT
Congestion:	\$.02-\$.04/BMT
Health/fitness:	NA

Subtotal:

\$.05-\$.22/BMT

TOTAL POTENTIAL SAVINGS:

\$.31-\$1.13/BMT

Sources: Appendix D

NA: not currently available

PART ONE: THE STATE OF MINNESOTA BICYCLING

1

Bicycling Benefits Minnesota

Environmental Benefits

- The bicycle requires virtually no finite resources.
- Operating a bicycle creates no air pollution. Every 100 miles travelled on a bike instead of in a car keeps the following amounts of pollutants out of the atmosphere:

4.2	pounds of carbon monoxide
0.3	pounds of hydrocarbons
0.4	pounds of nitrogen oxides
94.0	pounds of carbon dioxide

Bicycling Minnesotans kept over 130 million pounds of these pollutants out of the atmosphere in 1989 alone.

- Bicycles require very little pavement or parking space, and help relieve congestion.
- Bicycles are quiet.

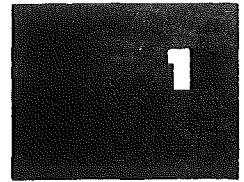
Social Equity and Stability

- Bicycles are the most efficient form of transportation ever devised.
- Bicycles are low cost, and therefore available to all.
- Ensuring access and mobility for bicycles help ensure individual choice, and equality of opportunity.
- Using bicycles for transportation helps free resources for other needs, and for others in need: "Living simply, that others may simply live".

Health and Fitness

- Bicycling is a lifetime activity; even among elementary and secondary students it is the top activity away from school.
- The bicycle ranks just behind jogging and cross country skiing in energy expenditure, and in the ability to get the heart rate up and provide meaningful cardiovascular training.
- Bicycling 12 miles in an hour burns 480 calories.
- Bicycling for transportation incorporates fitness and recreation into everyday routines.
- Bicycling has great recreational value, is relaxing, and contributes a sense of well-being and connectedness to the world.

PART ONE: THE STATE OF MINNESOTA BICYCLING



Economic benefits

Business climate improvement

Bicycling opportunities enhance the environmental quality of life. This can translate into a competitive advantage in attracting industry.

In a 1982 survey the Washington DC based Partners for Livable Places found that environmental quality was the single biggest factor that influenced corporate decisions as to where to locate headquarters offices.

Tourism development

Bicycle touring, part of the adventure tourism market, has been growing at over 10% per year in the U.S. In 1989 over 1.1 million Americans spent an average of \$20-\$60 per day on bicycle touring vacations, most in rural areas. The volume of one national tour operator has grown from \$425,000 in 1984 to \$5 million in 1989.

Bicycle touring has the added attraction of not generating debilitating motor vehicle traffic volumes in host communities.

Tax and other savings from bicycle use.

When bicycles are substituted for car trips, the social and environmental benefits translate into massive public savings to the general public have been calculated to be at least \$.05 to \$.22 for every bicycle mile travelled — from lowered air pollution, oil imports, and congestion.

As shown in Figure 5, when highway capital investment savings potential and out-of-pocket savings to the individual consumer are included, the savings can amount to over \$1 per bicycle mile traveled.

PART ONE: THE STATE OF MINNESOTA BICYCLING

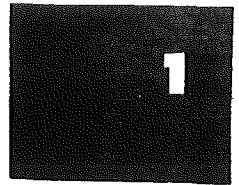


Figure 6

Projected annual public savings from bicycle transportation in Minnesota

at various rates, per bicycle mile travelled

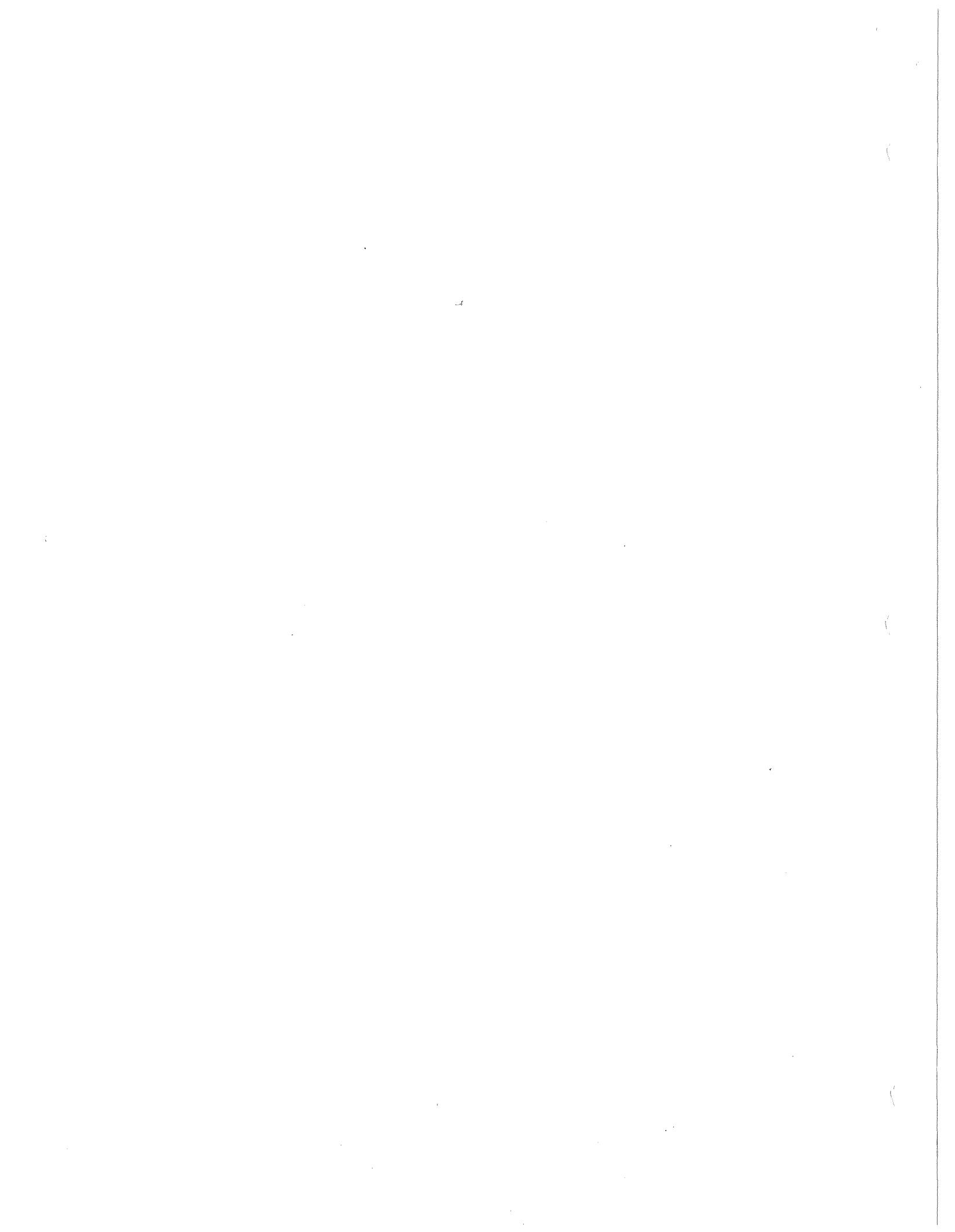
	BMT (mill)	% Transp.	Transp BMT (mill)	% of 1989 VMT	at \$.05 /BMT	at \$.15 /BMT	at \$.45 /BMT
1989	300	46%	138	0.4%	\$7 mil	\$15mil.	\$62 mil.
1999	550	60%	330	0.9%	\$20 mil.	\$50 mil.	\$148 mil.
Increase:					\$13mil.	\$29 mil.	\$86 mil.



**PART ONE:
THE STATE OF MINNESOTA**

Minnesota is already benefitting from bicycle transportation.

But despite the fact that Minnesotans are bicyclists at nearly twice the national average, and *nearly half of all bicycling is for transportation purposes. . .*



PART ONE: THE STATE OF MINNESOTA BICYCLING

. . . the bicycle has barely begun to be tapped as a serious transportation contender in Minnesota.

Whereas 30% of all car trips are 2 miles or less,

and 47% of all trips to work are 5 miles or less,

only 5% of all trips 2 miles or less, and only 0.4% of all trips are made by bicycle in Minnesota today.

The growth potential for bicycle transportation in Minnesota is substantial.

The potential of the bicycle to materially contribute to the health, safety, and welfare of Minnesotans is similarly substantial.

But to realize that potential takes action today to improve bicycling condition in Minnesota.

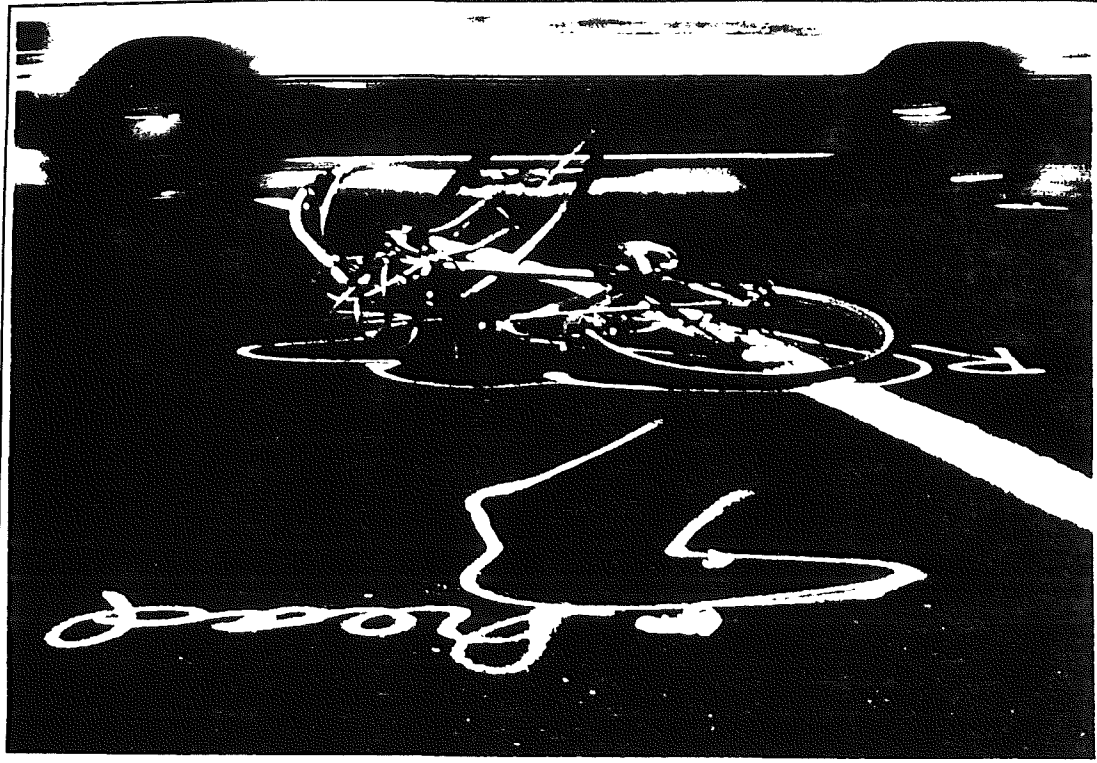


Bicyclists legal rights to public roads have not been translated into safe reality; the majority of public investments in transportation today do more to discourage than to encourage bicycle transportation.

PART TWO: THE MINNESOTA BICYCLING ENVIRONMENT

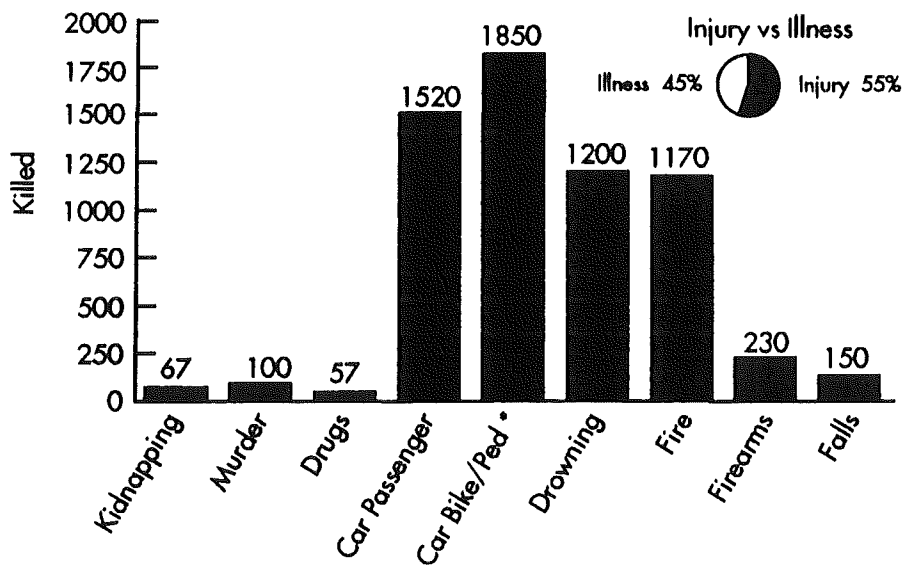


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The bicycle fatality rate in Minnesota is over 3 times as high as the automobile fatality rate.

Where Kids are Killed 1986, U.S.



*60-80% pedestrian
 Figure 7

PART TWO: THE MINNESOTA BICYCLING ENVIRONMENT

The predominant impression that bicycling is unsafe is confirmed by accident statistics.

Although the fatality rate for bicyclists has declined substantially since 1975, and there were only 10 fatalities in 1989,

- the bicycle fatality rate per mile traveled is over 3 times that of the automobile fatality rate in Minnesota.
- And the bicycle injury rate per mile traveled is over 41 times that of motorists...and climbing.
- While Minnesota has had the lowest automobile fatality rate per mile traveled in the nation, the bicycle fatality rate per capita in Minnesota ranks 11th.
- Nationwide, more children 14 and younger lose their lives as bicyclists and pedestrians than from any other accident type.
- Bicycles rank number 2 in accounting for hospital emergency room admissions nationwide. (CPSC)
- 25,000 Minnesota households had one or more members who had a bicycle accident requiring emergency room treatment in 1985.
- By Minnesota Safety Council figures, Minnesota's economic loss in 1983 due to reported bicycle accidents and fatalities was \$8.9 million.

PART TWO: THE MINNESOTA BICYCLING ENVIRONMENT



Bicycle and Motor Vehicle Fatality Rates

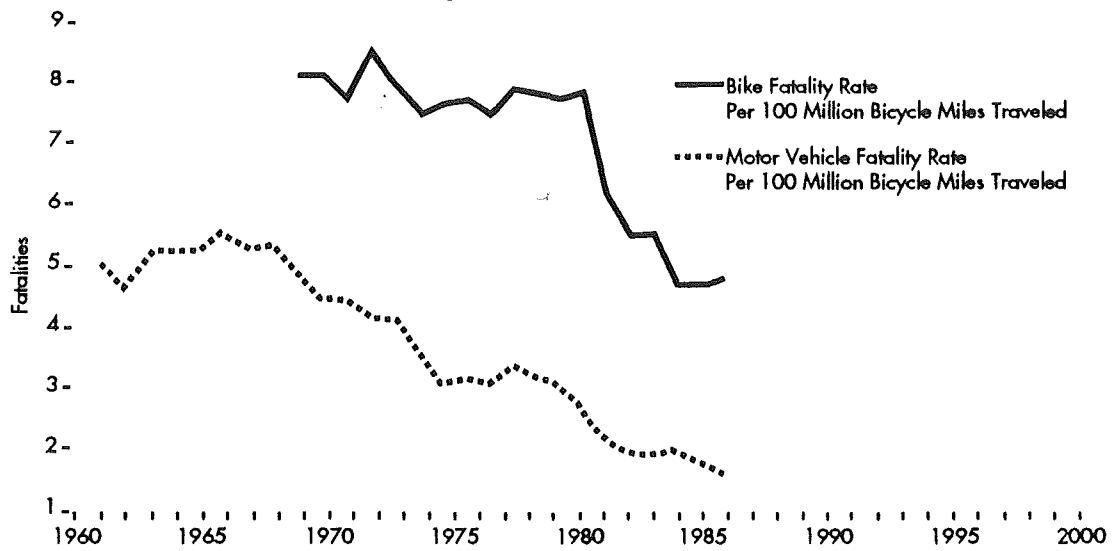


Figure 8

Car Fatality Rates/Bike Injury Rates, 1960-89

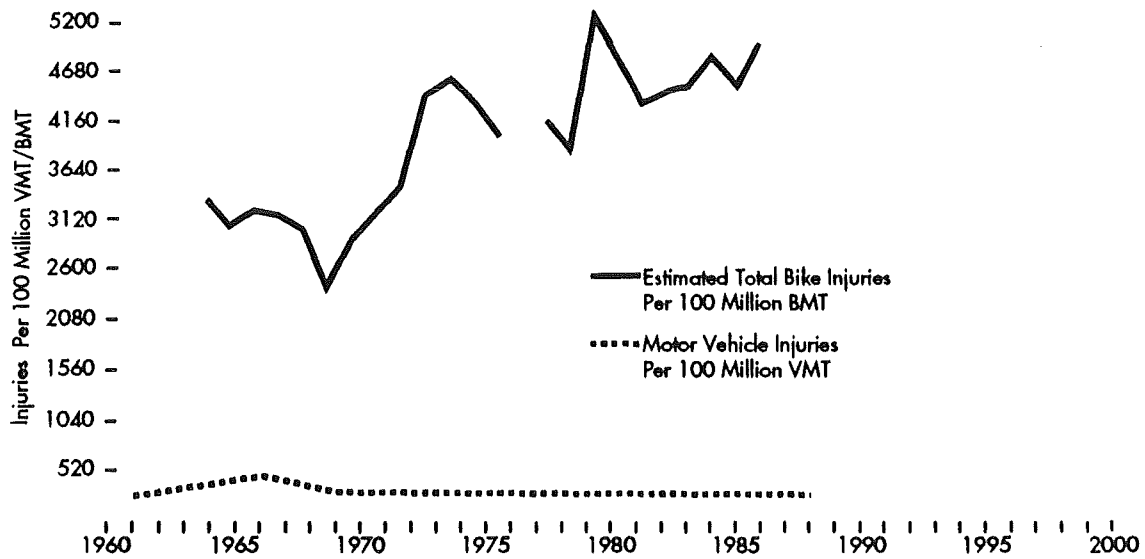


Figure 9

PART TWO: THE MINNESOTA BICYCLING ENVIRONMENT

2

There are five primary factors which not only contribute to the bicycle accident problem, but also limit the overall viability and use made of bicycles in Minnesota.



30% of all car trips are less than 2 miles long.



Minnesota has over 750 miles of bike paths.



76% of all urban arterials are rated poor or unsatisfactory for bicycling.

PART TWO: THE MINNESOTA BICYCLING ENVIRONMENT

2

1. First and foremost, there is a lack of consistently safe and adequate space in which to ride.

Although Minnesota has an extensive and well mapped inventory of bikeways and low traffic roads, the highest demand urban areas of the state are only marginally accessible to bicyclists.

Bicycles are legal and utilized on all public streets and highways in the state, except limited access freeways. But nearly one-third of those highways statewide are substandard for bicyclists. In urban areas, between 50 and 75% of non-residential streets are deficient.

The vast network of residential streets in Minnesota's cities and towns represent an infrastructure of great significance for bicycle transportation, needing minor if any modifications. But they are rendered virtually useless for anything more than riding around the neighborhood because of the unsafe conditions that are met by the bicyclist on adjoining collector and arterial streets which must be traveled to typical destinations.

Percent of Minnesota Roads Good or Fair for Bicycles

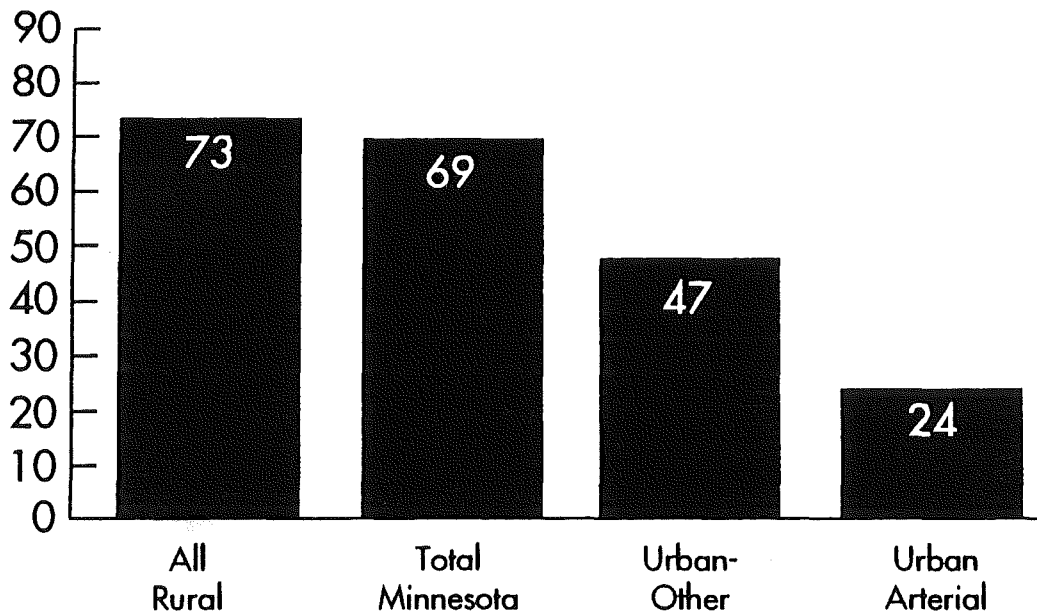


Figure 10

PART TWO: THE MINNESOTA BICYCLING ENVIRONMENT

2

The majority of bicycle accidents are the result of bicyclist error or violation.

Two primary factors contribute to these behavior problems.

2. Minnesota's students and motor vehicle drivers are underexposed to bike safety education.

Accelerated bike safety elementary education programs through the Department of Public Safety have paralleled a decrease in fatality rates. However:

- Only 20-30% of eligible students receive any contact at all.
- The vast majority of educational contact is at Level Two (assembly program plus brochures) or lower.
- Reported expenditures per eligible student per year ranges from \$.11 - \$.40.

And although the Minnesota Driver Manual covers the rules of the road for bicyclists, there is no assurance that they are covered in classroom or behind the wheel training, and there is no testing on that subject.



Only 20-30% of students aged 5-15 receive any formal bike safety training.

PART TWO: THE MINNESOTA BICYCLING ENVIRONMENT

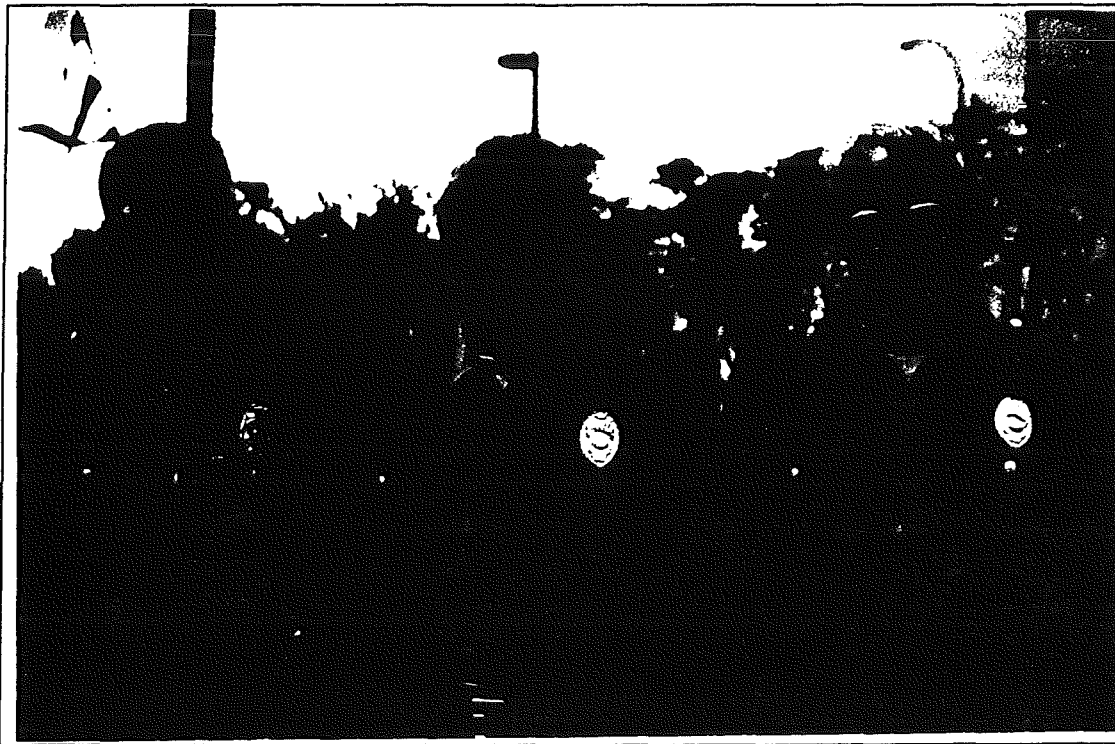
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3. Enforcement of traffic laws for bicyclists is virtually non-existent (although some communities are notable exceptions).

This lack of enforcement is particularly serious because overlooking violations is viewed as condoning violations. Thus, whatever bike safety education does take place is apt to be nullified.

Efforts to increase enforcement are difficult:

- Many police officers received their training before bicycles became a significant part of traffic, and are unaware of the severity of safety problems.
- Bicyclists lack accountability because of there being no license or other identification requirement in most cities (only 4% of Minnesota cities mandated state bicycle registration in 1983).



Police officers need to "re-enforce" education efforts.



Obstacles pervade the Minnesota bicycling environment. But lack of safe space, unsafe riding behaviour, and unbalanced media and land use environments can be properly addressed if there is a will to do so.

This plan reflects the will of the people of Minnesota, that the bicycle become one of the viable transportation options from which we all can choose.

The following pages outline the primary means by which state agencies plan to respond to that will.



Bicycle facilities are the single most requested "recreation" improvement, by 63% of Minnesotans.

"In view of the desirability and growing popularity of bicycling, and the vulnerability of bicyclists as reflected by fatality and injury rates, the Transportation Study Board supports the increased use of public funds to make bicycling as safe and attractive as possible."

Transportation Study Board
Preliminary Findings
September 1990

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The MnDOT Strategic Plan "Making the System Work"

The Minnesota Department of Transportation is currently involved in a strategic planning process designed to maintain a leadership role in providing transportation services in a complex and changing society.

The following excerpts illustrate the consistency between MnDOT's overall philosophy and intent and that of the Comprehensive State Bicycle Plan.

Mission Statement: MnDOT will manage a transportation system to serve the people in Minnesota.

- minimizing the environmental impacts of transportation
- increasing coordination and use of all modes of transportation
- playing an instrumental role in improving the state's quality of life
- aggressively addressing congestion problems in the metro area and assisting in improving the rural economy
- striving to lower the state accident rate

Goals and Objectives: A Framework for Action

Purpose Goal:

To make bicycling safe and attractive so that the bicycle fulfills its potential in contributing to the health, safety, and welfare of Minnesotans.

Overall Objectives for 1999:

1. For bicycle miles travelled to reach a growth rate of 10% per year.
2. For the bicycle fatality and injury rates to be reduced by 50% from the 1985 rates.
3. For 100% of all bicycles in Minnesota to be registered by 1999, and for 50% of all bicycles in Minnesota to be registered by 1995.

Discussion:

These objectives are judged to be both appropriate and achievable for the next increment in bicycle transportation growth in Minnesota.

Achieving the first objective would mean that bicycle miles travelled would be roughly 1% of motor vehicle miles travelled. This is approximately twice what it is in 1990, but still definitely on the conservative end of what has been realized in other places in the US and abroad. It should be noted that in order to achieve a 10% statewide increase will require a much higher mode share in urban areas

Achieving the second objective would be very similar to what has been achieved since 1965, when the bicycle fatality rate was twice what it was in 1985.

Achieving the third objective is judged important due to its funding implications and for its ability to help clarify the bicycle's status as a legal vehicle, with attendant rights and responsibilities.

Program Goals and Primary Objectives

Achieving these three overall objectives by 1999 will require enhanced programs in three areas: facility development, safety education and enforcement, and promotion. Achieving the following objectives is anticipated to lead to achievement of the overall objectives.



People act globally when they have the option.

Bicycle Facilities

Program Goal: To develop and maintain roadways, bikeways, and support facilities that allow and encourage safe, convenient, and pleasant bicycle travel.

Primary Program Objective: To add or improve 500 miles of suitable roadways and bikeways in each of the three categories of urban arterials, other rated urban roads, and rural roads, in ways and in places that will maximize use by bicyclists for transportation purposes, for example through shoulder improvements, bike lanes, bike routes, and off road bike paths.

Discussion: Adding 500 miles of suitable urban arterials will result in a doubling of bike-safe urban arterials, from 24% to 50%. Smaller percentage increases will result in the other categories.

Safety Education and Enforcement

Program Goal: To develop a broad awareness of and respect for the rights and responsibilities of bicyclists on public streets and highways that will maximize safe and pleasant bicycle travel.

Program Objective 1: For all Minnesota bicyclists to be aware of the need for safe and legal bicycle driving, and the substantial benefits of helmet use.

Program Objective 2: For all Minnesota students to receive three bike safety education contacts by sixth grade, at the following levels:

Level One or Two:	100% of students
Level Three:	75% of students
Level Four:	50% of students
Level Five:	10% of students

For definitions of each level and examples of materials and curricula for each, see Appendix C.

Program Objective 3: For all Minnesota police departments to conduct enforcement officer training in bicycle enforcement.

Discussion: Although roadway and bikeway improvements are the single biggest need for more, and safer bicycling to take place, those improvements are not sufficient. The majority of bicycling will of necessity continue to take place on the more than 100,000 miles of public streets and highways, most of which were not designed with the bicycle in mind, although this problem will diminish to the extent that roadway modifications are made over time.

Thus bicyclists and motorists need to coexist, with attitudes of mutual respect. This starts with a knowledge of, and enforcement of, the rules of the road—especially for bicyclists.

Promotion and Public Information

Program Goal: To convey to the public that the bicycle is the best transportation tool for many transportation jobs.

Discussion:

Currently the vast majority of transportation publicity consists of advertisements for automobiles. In that it is in the public's interest to encourage bicycling, and that the bicycle industry is at an inherent capital disadvantage to compete with the automobile industry, it is up to the public sector to provide support for advertising and promoting increased travel by bicycle.



Only 5% of all trips 2 miles or less are currently taken by bicycle.

Program Recommendations

In order to achieve the stated objectives for 1999, program recommendations have been made in the following six areas:

Access Facilities

- Safe urban streets and highways 49
- Bike parking..... 50
- Bike/transit interface 51
- Comprehensive pilot projects..... 52

Recreation and Tourism Facilities 53

Safety Education and Enforcement 55

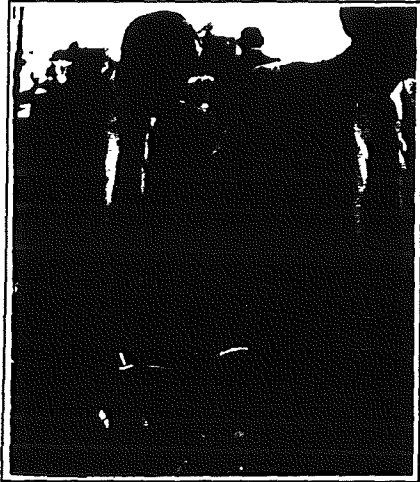
Promotion and Public Information 57

Planning and Administration 57

Funding 58

identify a mandatory outcome: safe accommodation of bicycles on all urban projects.
2. That a model bike parking policy be developed, integrated into the state building code, and implemented at state office buildings.

Implementing State Agency: Department of Administration



Primary Legislative Authorities:

Chapter 116D: State government shall use all practicable means...to assure safe, healthful, and aesthetic surroundings for all citizens; to maintain variety of individual choice; to encourage styles of living that minimize environmental degradation; to reduce the deleterious impact on air quality from operation of vehicles with internal combustion engines; and to minimize noise. To the fullest extent practicable the policies, rules, and public laws of the state shall be interpreted and administered in accordance with this chapter.

Chapter 16: The Department of Administration provides management and support services for state agencies, including provision of state offices and administering the state building code.

Related Policy Recommendations: PR 2, 6, 8, 15, 16 (see page 61)

Anticipated Fiscal Scope: \$50,000 per year for six years

3. That a model park and ride policy be developed to encourage dual mode trips by bicycle and transit, and implemented at pilot sites in conjunction with a promotional campaign.

Implementing State Agency: Department of Transportation, in cooperation with local units of government and transit providers

Primary Legislative Authorities:

Chapter 116D: State government shall use all practicable means...to assure safe, healthful, and aesthetic surroundings for all citizens; to maintain variety of individual choice; to encourage styles of living that minimize environmental degradation; to reduce the deleterious impact on air quality from operation of vehicles with internal combustion engines; and to minimize noise. To the fullest extent practicable the policies, rules, and public laws of the state shall be interpreted and administered in accordance with this chapter.

Chapter 174.256: The commissioner shall have the power to develop and monitor a comprehensive park and ride facility program throughout the state.

Related Policy Recommendations: PR 2, 6, 8, 15, 16, 20 (see page 61)

Anticipated Fiscal Scope: \$50,000 per year for two years

4. That a demonstration grant program be established and implemented to develop bicycle friendly zones in urban areas wherein the attractiveness of the bicycle as a mode of transportation is maximized. This program should also have public education, promotional, and monitoring components.

Implementing State Agency: Department of Transportation, in conjunction with participating local units of government.

Primary Legislative Authorities:



Constitution Article XIV: The state and subdivisions shall construct and improve public highways (any way open to the public as a matter of right for vehicular travel, including bicycles —Chapter 169); motor fuel and vehicle taxes shall be used solely for highway purposes. Motor vehicles may be taxed on a more onerous basis than other personal property.

Chapter 116D: State government shall use all practicable means to assure safe, healthful, and aesthetic surroundings for all citizens; to maintain variety of individual choice; to encourage styles of living that minimize environmental degradation; to reduce the deleterious impact on air quality from operation of vehicles with internal combustion engines; and to minimize noise. To the fullest extent practicable the policies, rules, and public laws of the state shall be interpreted and administered in accordance with this chapter.

Chapter 160 265: The commissioner shall establish a program for the development of bikeways primarily on existing road rights of way.

Chapter 473 146: The transportation chapter of the Metropolitan Council's comprehensive development guide must include policies relating to all transportation forms.

Related Policy Recommendations: PR 1-20(see page 61)

Anticipated Fiscal Scope: \$1 million per year for two years

Recreation and Tourism Facilities Recommendations

1. That recreational bicycle trails be developed in areas of the state, and in ways that maximize the strength of the state's tourism economy.

Implementing State Agency: Department of Natural Resources

2. That bicycle tour routes be established, improved, mapped, and signed in areas of the state that maximize the strength of the state's tourism economy.

Implementing State Agencies: Department of Natural Resources, Department of Trade and Economic Development, Department of Transportation

3. That local bicycle trails be developed that provide recreational and optimum transportation opportunities.

Implementing State Agency: Department of Trade and Economic Development

Primary Legislative Authorities:

Chapter 116D: State government shall use all practicable means to assure safe, healthful, and aesthetic surroundings for all citizens, and to encourage styles of living that minimize environmental degradation.

Chapter 84.029: Authorizing a bicycle trail program under the jurisdiction of the commissioner of natural resources.

Chapter 86A: Defining a state trail program (DNR, MnDOT)

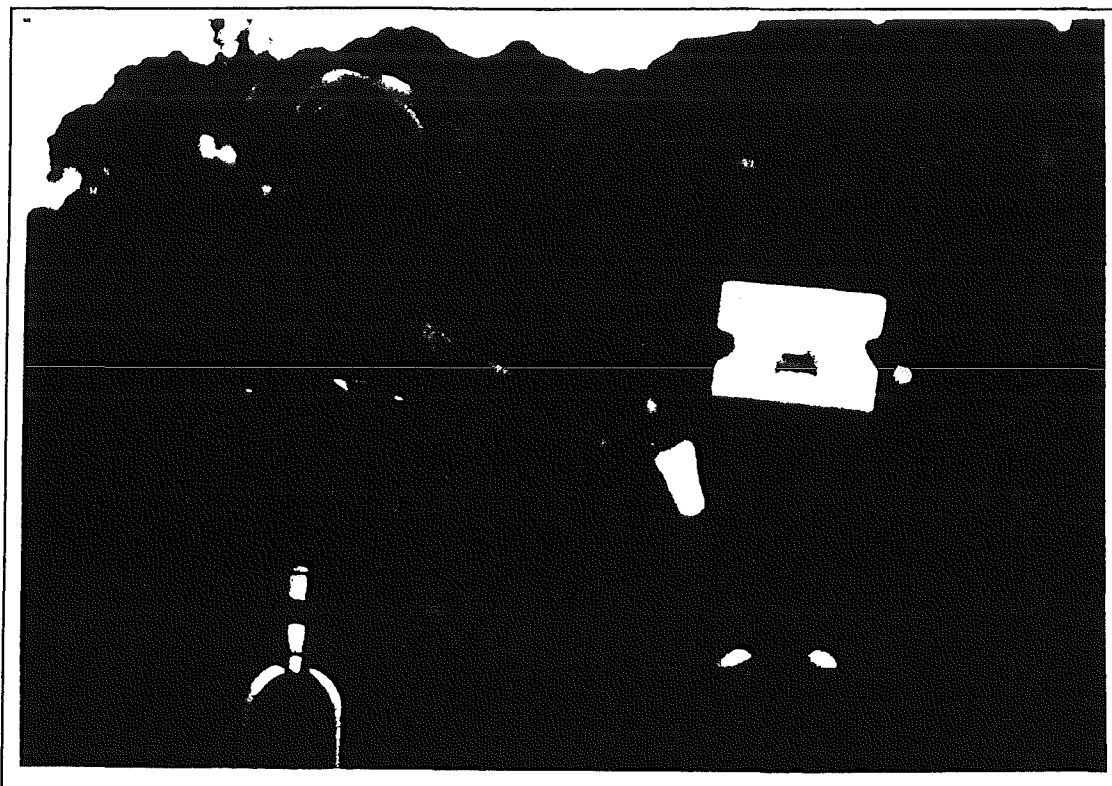
Chapter 116J.58: To encourage, promote, and develop the commerce and the state, and the use and conservation of its resources (DTEED).

Related Policy Recommendations: PR 1, 2, 6-8; 13-15; 17-19 (see page 61)

Anticipated Fiscal Scope: \$3 million per year.

"The Transportation Study Board finds that bicycle safety education, enforcement, and licensing programs shall continue to foster responsible roadway use by bicyclists and mutual respect between bicyclists and motorists."

Transportation Study Board
Preliminary Findings
September 1990



The most vulnerable of all roadway users need driver training too.

Safety Education and Enforcement Recommendations

1. That a comprehensive bike safety education and encouragement program be developed and implemented, components of which are included in the health and physical education curriculum of elementary schools, and in motor vehicle drivers tests.

Implementing State Agencies: Department of Public Safety, Department of Health, Department of Education

Primary Legislative Authorities:

Chapter 116D: State government shall use all practicable means to assure safe and healthful surroundings for all citizens.

Chapter 12: The primary responsibility of the commissioner of public safety is to maintain a safe environment for citizens through safety programs.

Chapter 144.05: The commissioner of health shall be responsible for programs for protecting and maintaining the health of the citizens.

Chapters 120.011, 126.02: The purpose of public education is to help individuals acquire skills and positive attitudes for leading fulfilling lives; health and physical education is required through grade 10.

Related Policy Recommendations: PR 2-6; 8-11 (see page 61)

Anticipated Fiscal Scope: \$800,000 per year through 1999
(approx. \$1 per student)

2. That a comprehensive bicycle enforcement training program for law enforcement officers be developed and implemented throughout the state.

Implementing State Agency: Department of Public Safety

Primary Legislative Authority:

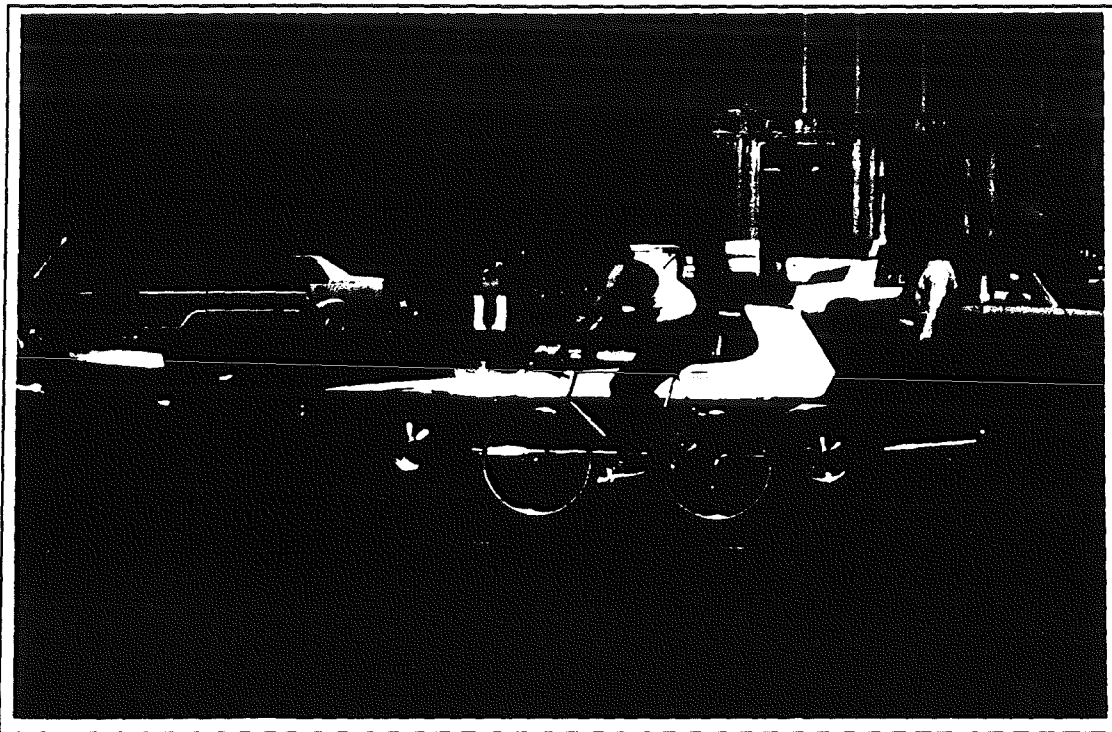
Chapter 12: To administer and enforce laws relating to drivers, vehicles, and traffic.

Related Policy Recommendations: PR 2-6; 8-11 (see page 61)

Anticipated Fiscal Scope: \$20,000 per year through 1999

"The Transportation Study Board supports efforts to undertake a statewide campaign promoting the use of bicycles as an alternative form of transportation."

Transportation Study Board
Preliminary Findings
September 1990



\$2 billion per year is spent convincing Americans to spend 25% of their incomes on automobiles.

Promotion and Public Information Recommendations

1. That a promotional campaign be developed to encourage people to use bicycles for transportation, and implemented to achieve a significant media presence. A component of this campaign should be translated for appropriate integration into public school curricula.

Implementing State Agencies: Department of Public Service, Department of Health, Pollution Control Agency, Department of Education

Primary Legislative Authorities:

Chapter 116B: Each person is entitled by right to the protection and enhancement of air quality, and each person has the responsibility to contribute to that protection and enhancement.

Chapter 116D: State government shall use all practicable means to encourage through education styles of living that minimize environmental degradation. To the fullest extent practicable the policies, rules, and public laws of the state shall be interpreted and administered in accordance with this chapter.

Chapter 116J: The commissioner of public service shall design and implement a state program for the conservation of energy in transportation, and shall inform and educate the public about the sources and uses of energy and the ways in which persons can conserve energy.

Chapter 144.05: The commissioner of health shall be responsible for the development and maintenance of an organized system of programs for protecting and improving the health of the citizens.

Chapter 116: The pollution control agency is established to achieve a reasonable degree of purity of air consistent with the maximum enjoyment and use thereof in furtherance of the welfare of the people of the state.

Chapter 120.011: The purpose of public education in Minnesota is to help all individuals prepare for leading productive lives in a complex and changing society.

Related Policy Recommendations: PR 8, 12 (see page 61)

Anticipated Fiscal Scope: \$1 million per year through 1999

Planning and Administrative Recommendations

1. That statistics on bicycle use and accident rates be maintained in such a way that they are comparable with those for motor vehicles, and are integral parts of transportation information systems.

Implementing State Agencies: Department of Transportation, Department of Public Safety

Primary Legislative Authority:

Chapter 116D: State government shall use all practicable means...to assure safe, healthful, and aesthetic surroundings for all citizens; to maintain variety of individual choice; to encourage styles of living that minimize environmental degradation; to reduce the deleterious impact on air quality from operation of vehicles with internal combustion engines; and to minimize noise. To the fullest extent practicable the policies, rules, and public laws of the state shall be interpreted and administered in accordance with this chapter.

Related Policy Recommendations: PR 1, 3, 4 (see page 61)

Anticipated Fiscal Scope: \$25,000 per year through 1999

2. That existing land use policies and guidelines be reviewed and modified to include comprehensive short and long term strategies that will yield future land use patterns that can be viably served by bicycle.

Implementing State Agency: State Planning Agency, in cooperation with the U of M Center for Transportation Studies and the Department of Transportation

Primary Legislative Authorities: Chapter 116D, Chapter 116K

Related Policy Recommendations: 1-3, 16, 20 (see page 61)

3. That the partnership between bicycling interests and transportation and recreation providers be strengthened through the development of, and consultation with, state and local bicycle advisory boards and committees.

Implementing State Agencies: all

Funding the Future of Minnesota Bicycling

"The designation of specific funding for bicycling projects and programs has been periodic, temporal, and insufficient, with a net result that planning for bicycling development is exceedingly difficult, if not impossible. Without financial commitment, such development is relegated to a low-priority status and all efforts to improve the situation are severely hampered."

Governor's Special Commission on Bikeways
September 1983

"In view of the desirability and growing popularity of bicycling, and the vulnerability of bicyclists as reflected by fatality and injury rates, the Transportation Study Board supports the increased use of public funds to make bicycling as safe and attractive as possible."

Transportation Study Board
Preliminary Findings
September 1990

Clearly, if bicycling is to become a truly viable transportation-recreation option, with resulting benefits accruing to all, there is a need for either a much higher priority being placed on the accommodation of bicycling within existing funding levels, or for additional funding...or both.

Funding Recommendations

1. Funding based on current use: That the minimum base level funding for bicycling within transportation/public safety, and recreation agencies be proportional to the existing or potential use of bicycles by the public, relative to the use of other modes of transportation or recreation within each agency's clientele, using MnDOT estimates or alternate estimates, whichever yield the greater proportions. For example, the bicycle transportation mode share is currently estimated to be one percent of all vehicle miles travelled.

2. Funding based on deaths and injuries: That additional funds be available for accelerated bicycle safety programs, in amounts commensurate with the risk levels of bicyclists relative to those of other parts of agencies' clientele, using estimates of fatality and injury rates per 100 million vehicle miles travelled developed from Departments of Health and Public Safety estimates of deaths and injuries, and Mn/DOT's estimates of bicycle and motor vehicle miles travelled.

3. Funding based on social benefits: That additional transportation funds be allocated to bicycle transportation programs in amounts equivalent to the external cost savings and savings in public subsidies that accrue when bicycle use is substituted for other modes of transportation. The results of generally accepted, published studies determining the level of those savings should be used, for example in the areas of health and physical fitness, air pollution and global warming, noise, congestion, imported oil "access maintenance", international trade imbalances, and US budget deficits.

4. Funding offsets

That the above funding allocations may be offset by:

- a. Revenues from the Minnesota bicycle registration system, which is recommended to be made mandatory, and
- b. Sales tax revenues from bicycle sales, and from bicycling equipment and clothing sales, and
- c. MnDOT bikeway map sales revenue.

5. Mandatory registration: That legislation be adopted by no later than 1992 to make the Minnesota bicycle registration system mandatory statewide.

Related Policy Recommendations: PR 8, 12

By way of example, Figure 13 below indicates the number of bicyclists per day required to amortize typical costs of various bikeway improvements at various values assigned to each bicycle mile travelled in lieu of automobile travel. This example reflects Funding Recommendations #1 and #3, consistent with Appendix D, as highlighted on pages 19 and 22 of this plan.

figure 13 to be added.

**Annual Revenue Possibilities From Bicycle Registration: at \$6/bike/year
Alternative Scenarios**

- a. At current levels (approximately 5% of all bicycles):
 $2.6 \text{ mill bikes} \times 5\% \times \$1.67 = \$217,000$
- b. With 100% participation:
 $2.6 \text{ mill bikes} \times \$1.67 = \$4.3 \text{ million}$
- c. With 50% participation:
 $2.6 \text{ mill bikes} \times 50\% \times \$1.67 = \$2.15 \text{ million}$
- d. With 75% of all bikes of those aged 16 and over registered:
 $2.6 \text{ mill bikes} \times 68\% \times 75\% \times \$1.67 = \$2.21 \text{ million}$
- e. With 75% of all bikes of those aged 13 and over registered:
 $2.6 \text{ mill bikes} \times 87\% \times 75\% \times \$1.67 = \$2.83 \text{ million}$

Assumption: that age distribution of currently registered bike owners is the same as age distribution of all bike owners.

Figure 14



Minnesota has the most emulated bicycle licensing system in the world.

POLICY RECOMMENDATIONS

Policy Recommendations

In order to fulfill the bicycle's potential in contributing to the health, safety, and welfare of all Minnesotans, it is recommended (by the State Bicycle Advisory Board) that the following policies be adopted by implementing agencies and units of government and that they be addressed by individual programs and projects.

Overall Policy Recommendations (PR 1 - PR 2)

PR 1. Right to Transportation/Mobility: That people have an inherent right to safe non-motorized transportation.

Discussion: People have an inherent right to travel safely other than with motorized vehicles; the availability of cars should not be allowed to diminish the viability of pedestrian and bicycle movement. Because of this inherent right and the broad public benefits, planners, engineers, motorists, bicyclists and the general public all have critical roles to play in advocating and accommodating non-motorized travel.

PR 2. Overall: That, in so far as possible, choosing the bicycle be made more attractive than the other transportation alternatives available.

Discussion: Given the broad and far-reaching public benefits of increased levels of bicycle use, it is prudent to develop and manage the public environment in such a way that bicycling is a compellingly attractive means of fulfilling many transportation needs.

Administrative Policy Recommendations (PR 3 - PR 8)

PR 3. Integration: That bicycle considerations be integrated into existing governmental structures, policies, procedures, and programs.

PR 4. Governmental Roles: That roles for different levels of government in program implementation be defined according to significance levels and clientele served.

Discussion: Problems and opportunities are generally best addressed by the level of government closest to the people affected. With 96% of all bicycling occurring within 25 miles of home, local, county, and regional governments have major roles to play in assuring the realization of bicycling's full potential. State government has a central role as well, in maintaining an appropriate legal status for bicycling, managing its own systems, developing demonstration programs, and in planning and coordinating those activities that are more

efficiently done once centrally than individually and severally by local units of government.

- PR 5. Public-private partnerships: That an appropriate level of program and promotional support be made available to private and non-profit bicycling education and activity organizations.**

Discussion: In cases where organizations are performing functions which serve purposes consistent with legislative mandates or agency charges, supporting the efforts of those private or non-profit organizations can be more effective and less costly than initiating independent programs.

- PR 6. Monitor Effectiveness: That mechanisms for monitoring the impact and effectiveness of bicycle programs be in place prior to their implementation.**

Discussion: Because bicycle planning is in its infancy, little information is available on the likely outcomes of programs. It is important to monitor program outcomes so that the effectiveness of successive programs can be enhanced.

- PR 7. Recreational Bicycling Embraced: That recreational bicycling and touring be broadly embraced and supported due to their value recreationally and because of their value in introducing people to the broader transportation capabilities of bicycles.**

Discussion: In order for the general public to be aware of the potential bicycling has as a multi-purpose transportation option, they need to realize that they can bicycle more than short distances around their neighborhoods; recreational rides and tours provide an ideal introduction to longer distance cycling. And this aspect of recreational bicycling is in addition to a) its inherent and profound "re-creational", or life-giving attributes that can yield improved physical fitness, mental health, spiritual depth, and relief from stress, and b) its value as a means by which to develop a low impact, high-yield tourism economy.

- PR 8. Funding: That funding levels and sources for bicycle programs reflect the broad societal benefits likely to accrue from increased and safer bicycling.**

Discussion: To the extent that use made of bicycles in lieu of other modes of transportation yields substantial economic, environmental, and social benefits, it is prudent to make commensurate public investments to facilitate the safe use of bicycles. A user contribution should be one source of funds.

Social Environment Policy Recommendations (PR 9 - PR 12)

PR 9. Bicycle Rights to Roads: That the bicycle's status as a legal vehicle on public roadways be maintained notwithstanding the existence of exclusive or preferential bikeway space in addition to the roadway itself, per M.S. 169.222.

Discussion: Because roadways serve the vast majority of bicycling needs and because of the variable suitability of bikeways for the wide range of bicyclists' needs, maintaining the roadway as a universal bikeway option is a key and cost-effective means by which to enhance the viability of bicycling and its contribution to the welfare of all.

PR 10. Bicycles Welcome On Roadways: That a pervasive understanding and attitude of mutual respect and accommodation between bicyclists and motorists be developed that results in bicycles being welcome on all legal roadways.

Discussion: For the foreseeable future, the existing roadway network will continue to serve the majority of bicycle travel needs. Even where exclusive or preferential bicycling space is provided, the roadway must be a viable alternate bikeway choice. Sharing roadway space with other vehicles will in some cases be the only cost-effective bikeway solution. Because of the potential danger motor vehicles represent to bicyclists, it is imperative that bicyclists be anticipated and welcomed by motorists. A key prerequisite is responsible road use by bicyclists.

PR 11. Bicycle-Safety Education and Enforcement: That bicycle-safety education be an integral part of educational systems, and that safe and legal bicycling practice be reinforced through consistent and appropriate enforcement activity.

Discussion: Children should have a right to be apprised of how to safely bicycle in mixed vehicular traffic. Because it provides long-term continuity to formal educational contact, proper ongoing enforcement activity can be the most effective way to improve bicycle safety and should be vigorously pursued. Formal education requires the participation of schools to ensure contact, and can be enhanced by community involvement.

PR 12. Promotion: That publicity campaigns to encourage bicycling as a form of transportation be undertaken on an ongoing basis.

Discussion: Although bicycling can be suitable as a primary means of personal

transportation for many kinds of trips, it suffers from a perceived lack of social status, and inadequate knowledge of its multi-purpose transportation capabilities. Advertising that imbues bicycling with comparable attractiveness and social status to that attributed to automobiles through advertising and which informs the public of its multi-purpose capabilities would encourage additional bicycle usage. Because the public has much to gain from increased bicycling, and because the bicycle industry is at an inherent capital disadvantage compared with the automobile industry, it is appropriate that public funds be utilized for these purposes. Incentive payments or tax deductions for bicyclists may be desirable components of these promotions.

Physical Environment Policy Recommendations (PR 13 - PR 20)

PR 13. Transportation/Recreation Integration: That the multi-functional nature of bicycling be recognized by providing dual purpose recreation-transportation bikeways.

Discussion: Because the bicycle serves both recreation and transportation needs, facilities that can serve both of those needs can yield significant cost savings to the public, often at relatively minimal additional cost over that of either type of facility alone. In addition, combining the recreation, exercise and transportation functions will yield valuable enhancements to the quality of everyday life. The planning and design necessary to achieve dual purpose bikeways will require new links and close coordination between recreation and transportation providers.

PR 14. Environmental Quality: That high priority be placed on maintaining and developing the aesthetic attractiveness of bikeways to encourage significant use levels.

Discussion: Because a person on a bicycle is in close contact with the physical environment compared with people using other modes of transportation, the condition of that environment has a major effect on the use made of bikeway investments. Aesthetic attractiveness includes not only visual and noise considerations but also climatic considerations such as sun, shade, and wind.

PR 15. Personal Security: That high priority be placed on developing bicycling environments that enhance personal safety.

Discussion: Because a person on a bicycle is especially vulnerable to assault or attack compared with a person in an enclosed vehicle, measures need to be taken in the design and operation of bikeways to minimize risks of this type.

PR 16. Extra-equal Access/Equal Opportunity: That insofar as possible bicycle access be sufficient to yield at least equal mobility opportunities to people on bicycles as are enjoyed by people in cars.

Discussion: Because of the limited range of bicycles relative to cars, extra measures need to be taken by the public and private sectors to result in equal access opportunities. These should be undertaken particularly in and between cities and towns where trip distances are within bicycling range. Measure should include developing facilities such as exclusive bikeways, roadway improvements for bicyclists, and secure bicycle parking and other bicycle-transit interface provisions such as facilitating transporting bicycles on transit vehicles. Adequate river and freeway crossings are critical needs.

In sparsely populated areas the location of bikeways should largely be determined by tourism and touring considerations. Incidental or low volume bicycle use in sparsely populated areas should generally be accommodated through cooperative use of available roadway and shoulder areas.

PR 17. Designated Bicycling Space: That exclusive/preferential space for bicycle travel be provided and designated wherever feasible in heavily travelled areas.

Discussion: In order to enhance bicycle safety and to encourage people to consider bicycling as an alternative to other modes of transportation, designating exclusive or preferential space for bicycle travel is especially desirable in heavily travelled areas. The space can take the form of paved shoulders, striped bike lanes, bike paths, or special alternate bike routes, depending on the individual circumstances. There needs to be a long-term commitment to maintaining a stable inventory of appropriate bikeways in order to allow people time to adapt their lifestyles to greater utilization of bicycles. There also needs to be a commitment to maintaining bicycles' legal right to the roadway notwithstanding the availability of exclusive/preferential bikeways (per PR 9 and MS 169.222).

PR 18. Tourism Resources: That bikeways be developed as an integral part of the tourism infrastructure in areas having high potential for tourism.

Discussion: Recreational bikeways can be valuable components of tourism areas because bicycling is a popular activity among people of all ages and can be an enjoyable means of travel among a region's attractions. The substitution of travel by bicycle and public transportation for travel by private car can also minimize the traffic congestion that can otherwise be an undesirable consequence of tourism.

PR 19. Design and Maintenance: That the detail design and maintenance of bikeways, and roadways and shoulders where bicycling is legal, be done in such a manner as to result in bicycle-smooth surfaces.

Discussion: Because the bicycle is more vulnerable to surface irregularities than are motor vehicles, special care needs to be taken in the design and specification of such appurtenances as expansion and contraction joints, drain grates, manhole covers, curb ramps, and in the removal of debris from paved surfaces so that their safety and suitability for bicycling is not compromised.

PR 20. Land Use Density and Transit Interface: That land use development patterns which can be most viably served by bicycles and by transit be encouraged.

Discussion: Since the average bicycle trip is approximately 2 miles in length, it can be a transportation option for a variety of trips that are of similar length. If the short-range flexibility of the bicycle and the longer distance capabilities of transit are combined, a high degree of personal mobility over larger areas results. To the extent that public policy results in a net decrease in automobile travel, its benefits go far beyond benefits to bicycling.

FUNDING

Bicycle Program Funding History

Bicycle programs and projects in Minnesota have been funded from a variety of federal, state, and local sources since 1975. Some bicycle-specific expenditures are accounted for separately; however in the majority of cases, these expenditures are integral parts of larger projects and programs.

In the latter cases, bicyclists are either an inherent, or specifically-designated part of agencies' clienteles. Their needs are addressed in an integral fashion as deemed appropriate using normal and available funding sources.

Current funding levels for the 1990 fiscal year total approximately \$4 million for all state programs:

Fiscal Scope of State Bicycle Programs FY 1990

MnDOT:	\$2.2 million
DNR:	1.8 million
DTED:	75,000
DPSafety:	155,000
DPSservice:	20,000
LCMR/UofM:	60,000
UofM Transp Studies:	30,000
<hr/>	
TOTAL:	\$4.3 million

Because bicycles are dealt with as incidental parts of broader programs, and the resulting difficulty in accounting for amounts spent specifically on bicycles, all dollar amounts are very approximate.

Table __ below outlines state-level funding sources and ranges of annual expenditure levels over the fiscal years 1980-1990. Where programs or program elements benefitting bicycling have not been estimated or accounted for separately, those items are referred to as "integral" (integ.).

(Note: Local expenditures for bike programs are not currently available.

(One means of deriving a rough estimate of local governmental expenditure levels for some categories of bike programs may be to use the local vs state distribution of bike trail mileage which is documented in the Registry of Public Recreational Trail Mileages, DNR Trails and Waterways. It should be noted, however, that local administration of bikeways does not always imply local funding of the original capital improvement.

(As of 1990, 35% of bike trail mileages are administered by state agencies; 65% by local units of government. Thus, multiplying state funding levels by a factor of 2 might give some indication of local investment levels).

Table __: Annual State Bicycle Program Budget Ranges, FY 1975-90

Agency/Function	Capital Improvements-Facilities		Staffing Budget	Other Program Budget	
	Direct Expend	Grants (%state share)		Direct Expend	Grants (%state share)
Mn/DOT Bikeways	0-\$2 million ¹ ; integ	0-\$1 million ² (75%)	80,000- 280,000; ¹ integ	20,000 ^{1,2}	
DNR Trails	integral ³		\$280,000 ² avg	integ	
Trade/Econ Devel Outdoor Rec Grants		\$5,000- 450,000 ⁴ (75%)	integ.		
DPS-MN Comm Bike Safety Project			\$40,000- 70,000 ⁵	\$5,000- 15,000 ⁵	0-\$30,000 ⁵ (varies)
DPS-Public Info			integ.	integ.	
DPS-Crash Facts			integ.	integ.	
DPS-State Patrol Safety Ed.			integ.		
DPS-Bike Reg.			\$100,000- ⁶ 125,000		
Dept of Pub Serv Energy Div			integ.	0-\$5,000 ⁷	0-\$15,000 ⁷ (varies)
UofM/Metro Bike Program			0-\$40,000 ⁷	0-\$19,000 ⁷	
Trade/Econ Devel Tourism			integ.	2,500 ²	
State Bike Coord (Mn/DOT)			0-\$40,000 ²	0-\$40,000 ²	

1 - Funding Source: Trunk Highway Fund

2 - Funding Source: State General Fund

3 - Bicycle surfaces have been developed on \$11 million worth of multiple use State trails between 1975 and 1989, funded by bond sales, general fund, snowmobile licenses, and the unrefunded gas tax.

4 - Current funding source is general fund; past funding sources have included cigarette tax revenue.

5 - Currently funded from the State General Fund, this program has also received federal highway safety funds and UofM/CTS funds in the past.

6 - Funding Source: Receipts from sale of bicycle licenses. Receipts have exceeded costs by up to \$50,000/yr.

7 - Funding Source: LCMR/Oil Overcharge funds

Note: "Integ." refers to programs in which the bicycle component of budgets or staff time are integral to the agency's function and not accounted for separately. In some cases bikes are handled both integrally and separately.

In addition to the above, the following grant programs have been, or could be, funding sources for specific types of bicycle-related projects, on a competitive basis:

- Legislative Commission on Minnesota Resources (LCMR): pilot environmental protection and recreation projects, in part using oil overcharge money
- U of M Center for Transportation Studies (CTS): transportation research
- Minnesota Office of Tourism (MOT): tourism promotion

Several federal statutes also address bicycle concerns or make funds available.

Federal policy in 23 CFR 652.5 states: "The safe accomodation of pedestrians and bicyclists should be given full consideration during the development of federal-aid highway projects."

In addition, 23 USC 109(n) prohibits "the severance or destruction of an existing major route for nonmotorized transportation traffic and light motorcycles unless such project provides a reasonable alternative route or such a route exists."

Federal-aid money is available for bicycle facilities as part of a normal federal-aid highway construction project and at the same financial match ratio as the other highway work.

Bicycle projects independent of other construction projects can be funded with a 100 percent federal share as provided in 23 USC 217. Section 217 also states that bicycle projects must be principally for transportation, rather than recreation purposes. There is a \$4.5 million per year per state maximum on Section 217 funds.

While Minnesota has made use of matched federal-aid highway funds, no Section 217 funds have been utilized in Minnesota for bicycling purposes. Instead, MnDOT incorporates bicycle facilities in construction projects using categorical funds.

LEGISLATIVE AUTHORITIES

In addition to the catalyzing legislative authority contained in Laws of 1984, Chapter 199, this plan has been prepared pursuant to the broad range of Minnesota statutes which govern state agency operations related to the bicycling environment in the state.

Some of these statutes, such as Chapter 116D, are overarching in nature, and apply to all state agencies. Others relate specifically to individual state agencies. The latter are grouped according to the three major functional areas affecting the Minnesota bicycling environment: facilities, safety education and enforcement, and promotion and public information.

(Page 77-78:)

State Environmental Policy
MS 116D

MN Environmental Rights Law
MS 116B

(EQB)
MS 116C

(SPA)
MS 116K

page 79:

Facilities

MnDOT

DNR

DTED

DAdmin

Met Cncl

MTC

page 84:

Safety Education
and Enforcement

DPS

DEd

DH

page 86:

Promotion and
Public Information

DH

DPS Energy

MPCA

DTED

DEd

MEEB

OVERARCHING LEGISLATIVE AUTHORITIES

All state agencies must use all practicable means to protect and improve the quality of the environment. - State Environmental Policy — MS Chapter 116D

Chapter 116D, State Environmental Policy, defines the protection of air, land and other natural resources from pollution, impairment, or destruction as being the state's paramount concern (116D.04, Subd 6), and requires that, "...to the fullest extent practicable the policies, rules, and public laws of the state shall be interpreted and administered in accordance with [Chapter 116D]. (116D.03, Subd 1).

Chapter 116D.02, Subd 2 further states that "...it is the continuing responsibility of the state government to use all practicable* means, consistent with other essential considerations of state policy, to...

- assure...safe, healthful, productive, and aesthetically...pleasing surroundings [for all]
- ...maintain...variety of individual choice
- ...encourage...attitudes and styles of living that minimize environmental degradation
- ...reduce the deleterious impact on air and water quality from...operation of vehicles with internal combustion engines in urbanized areas
- minimize noise, particularly in urban areas...."

Chapter 116B, Minnesota Environmental Rights Law, "...declares that each person is entitled by right to the protection, preservation, and enhancement of air, water, land, and other natural resources...and that each person has the responsibility to contribute to the protection, preservation, and enhancement thereof...."

Environmental Quality Board

To insure agency compliance with state environmental policy.

Environmental Quality Board: "...shall determine which environmental problems of interdepartmental concern shall be considered by the board..., shall review programs of state agencies that significantly affect the environment...and insure agency compliance with state environmental policy" (MS 116C.04, Subd 2a).

* See page 90

OVERARCHING LEGISLATIVE AUTHORITIES

State Planning Agency

Comprehensive statewide planning to promote the health, safety, and welfare of Minnesotans.

State Planning Agency, pursuant to its purpose of promoting Minnesotans' health, safety, and welfare, is charged to...

- "...evaluate alternative long-range policies and strategies...and
- ...prepare comprehensive long-range recommendations for the orderly and coordinated growth of the state through public investment programs, and
- promote awareness by citizens and public officials of major long-range trends and policy issues (MS 116K).

LEGISLATIVE AUTHORITIES FOR FACILITIES DEVELOPMENT

MnDOT

To develop public highways open to the public as a matter of right for vehicular travel (including bicycles) and to develop bikeways...enabling Minnesotans to travel their different ways of life.

The most fundamental of the commissioner's authorities are defined by the constitutional powers and duties of the state and political subdivisions to "...construct, improve, and maintain public highways..." (Art XIV, Sect 1), defined in statutes to be "...any way...open to the use of the public, as a matter of right, for the purposes of vehicular traffic" MS 169.01, Subd 29).

Bicycles are specifically embraced within these constitutional powers and duties, as amplified in statutes. Vehicles are defined as "...every device...by which any person or property is...transported...upon a highway..." (MS 169.01, Subd 2), and bicycle is defined as "...every device propelled solely by human power upon which any person may ride..." (MS 169.01, Subd 51). Additional statutory support is provided by 169.222, Subd 1 and 4, and 169.21, Subd 3.

The Minnesota constitution also created "...a highway user tax distribution fund to be used solely for highway purposes..." consisting of motor fuel tax proceeds and proceeds from the taxation of motor vehicles, which "...the legislature may tax...on a more onerous basis than other personal property" (Article XIV, Sections 5, 9, and 10).

MS 169.305, Subd 1c outlines conditions under which bicycles may be regulated on, or prohibited from controlled access highways.

The commissioner's authorities to provide for the needs of bicycles as an integral part of the state's transportation system are further underscored by the following statutory duties:

- "...shall make continuing efforts to mitigate any adverse social, economic and environmental effects from transportation facilities..." (MS 174.03, Subd 6).
- "...shall...promote the more efficient use of energy resources for transportation purposes" (MS 174.03, Subd 7).

Additional support for accomodating bicycles is provided by the following legislative findings, policy statements, and statements of purpose:

- "...dependence on the private automobile must be reduced..., and encouragement

of increased bicycle usage...is a way of reducing this dependence" (MS 168C.01).

- "...to alleviate problems of automobile congestion and energy consumption and [to] promote desirable land use..." (MS 174.21).
- "...to reduce the use of the automobile..., to decrease...congestion, pollution, energy consumption, highway damage, and other costs associated with highway use, and [to reduce] the need for increases in urban land used for parking" (MS 174.256, Subd 1).

Statutory authorities to also provide special bikeways are provided by the following:

- "...it is in the interest of the public health, safety and welfare, to provide for the addition of bicycle...lanes to proposed and existing highways" (MS 160.262, Subd 1).
- "The commissioner...shall establish a program for the development of bikeways primarily on existing road rights of way...in coordination with [other bikeway providers]" (MS 160.265, Subd 1. This statute also provides for mapping bikeways, and for a state grant system for the development of local bikeways.
- In areas of unusual scenic interest, the commissioner may develop "...facilities intended to expand the recreational use of trunk highway segments..." (MS 160.81).
- The commissioner may also administer state trails (MS 86A.05, Subd 4).
- When highway construction would otherwise destroy "...an existing bikeway...or roadway used by bicycles...the road authority responsible shall replace the destroyed facility or access with [one] comparable" (MS 160.264).

LEGISLATIVE AUTHORITIES FOR FACILITIES DEVELOPMENT

Department of Natural Resources

To develop long range programs to conserve the natural resources of the state, statewide recreational planning, and state trail development.

The commissioner of Natural Resources has broad authority "...to best serve the public in the development of a long range program to conserve the natural resources of the state" (MS 84.024).

This broad purpose is further detailed regarding recreation resources and parks:

- "...to conserve the scenery and natural resources and to provide for their enjoyment such that they remain unimpaired..." (MS 85.01),
- outdoor recreation resources are "...becoming increasingly important to the health, welfare, and prosperity of the citizens of Minnesota [and] should be made available to all citizens of Minnesota now and in the future..." (MS 86A.02).

Related duties, powers, and assignments of the commissioner:

- Statewide recreational planning programs (84.028 [2])
- "...a long range plan governing the use of the public domain under the commissioner's jurisdiction" and biennial reports to the legislature including recommendations for the improvement or conservation of that domain (84.03).

Planning and developing programs and facilities for bicycles is one of the most promising means by which the commissioner can accomplish all of these purposes.

In addition DNR has specific legislative authority for bicycle programs:

- a Bicycle Trail [Bikeway] Program utilizing state trails, other park and recreation land, state forests, and extensions (authorized by 84.029) such as abandoned railroad grades and suitable township roads (MS 85.016).

To the extent that 85.016 requires consideration of "...the model standards for...recreational vehicle [bicycle] lanes promulgated by the commissioner of transportation...", and with the precedent set by the on-road Countryview [State] Bicycle Trail (85.015, Subd 3), the DNR's bicycle trail program has some flexibility to include on-road bikeways.

LEGISLATIVE AUTHORITIES FOR FACILITIES DEVELOPMENT

- State trails under the jurisdiction of the DNR include those legislatively authorized by 85.015.

State trail purposes and site qualifications are defined by MS 86A.05, Subd 4 as being recreational travel routes (a) through or connecting areas of scenic, natural, or cultural significance, or (b) which provide commuter transportation, and, (c) which provide maximum potential for the appreciation, conservation, and enjoyment of significant scenic, historical, natural, or cultural qualities of the areas through which the trail may pass.

State trails are to be administered by the commissioners of transportation or natural resources.

Department of Trade and Economic Development

To develop commerce and the state, and promote the use and conservation of its resources.

A variety of programs affecting the Minnesota bicycling environment operate under the powers and duties of the commissioner to encourage, promote, and develop the commerce and the state, and the use and conservation of its resources (MS 116J.58).

These include: Minnesota Star Cities, Minnesota Main Street, Minnesota Community Improvement, Minnesota Beautiful, Governor's Design Team, Small Cities Grant Program, Rural Development Board, the Minnesota Amateur Sports Commission, and the Minnesota Office of Tourism.

The Outdoor Recreation Grant Program, pursuant to MS 116J.406, makes grants to metropolitan areas outside the Twin Cities for the acquisition and betterment of parks and trails.

Department of Administration

In providing management and support services for state agencies pursuant to MS 16, the department operates several programs that affect the Minnesota bicycling environment, primarily in the areas of parking and other facilities for bicycle commuters.

- The Building Codes and Standards Division administers the State Building Code to assure the health, safety, comfort, and security of building occupants.
- The Division of State Building Construction carries out remodeling and

Metropolitan Council

The Metropolitan Council, created to coordinate the planning and development of the seven county Twin Cities metropolitan area (MS 473.122), is charged with preparing, adopting, and updating, a comprehensive development guide which encompasses needs and developments which will have an impact on the entire area (MS 473.145; 473.146, Subd.2c).

The transportation chapter "...must include policies relating to all transportation forms..." (MS 473.146, Subd 3) and be designed to promote and encourage "...transportation options...designed to meet public needs efficiently and effectively..." (MS 473.371, Subd. 1).

The council is also charged with preparing and updating a regional recreation open space policy plan as an integral part of the comprehensive development guide, such that the outdoor recreation needs of the people of the metropolitan area are reasonably met (MS 473.147).

The metropolitan council has extensive review, grant-making, and bonding authorities for the purpose of implementing the open space plan (MS 473.313, 473.315, 473.325).

LEGISLATIVE AUTHORITIES FOR SAFETY EDUCATION AND ENFORCEMENT

Department of Public Safety

To maintain a safe environment for citizens.

The Department of Public Safety administers and enforces laws including those relating to drivers, vehicles, and traffic. Its principal responsibility is to maintain a safe environment for citizens by developing, operating, and coordinating programs and activities relating to the safety of the public. (MS 12, 168-171, 299A-299I, 340)

The following are the primary programs related to the safety of the bicycling environment.

Office of Public Information: Provides information, publications and educational services concerning a variety of public safety topics, including bicycle safety.

State Patrol: Safety Education Officers provide traffic safety talks, primarily to schools and other community groups. Bicycle traffic safety is a popular focus of these talks.

Driver and Vehicle Services: Operates and manages the statewide bicycle licensing system (MS 168C).

Driver Clinics and Training: Serves as a clearinghouse for driver education and driver training school information.

Driver Examining: Prints the Driver Manual and conducts all written and road tests for driver's licenses.

Accident Records: Maintains a file of accident records, and records the location and cause of every reported accident.

Office of Traffic Safety: Maintains and publishes statistical records on traffic crashes involving motor vehicles; administers statewide traffic safety programs, including the Minnesota Community Bike Safety Project.

LEGISLATIVE AUTHORITIES FOR SAFETY EDUCATION AND ENFORCEMENT

Department of Education

Preparing Minnesotans for fulfilling lives in a changing society.

“The purpose of public education in the state of Minnesota is to help all individuals acquire knowledge, skills, and positive attitudes toward self and others that will enable them to solve problems, think creatively, continue learning, and develop maximum potential for leading productive, fulfilling lives in a complex and changing society” (MS 120.011).

- Physical and health education, training, and instruction is required through grade 10 (MS 126.02).
- Development of programs in environmental and energy education is required (MS 126.111).

This provision is further supported by MS 116D.02, Subd 2, which advocates using all practicable means to encourage, through education, attitudes and styles of living that minimize environmental degradation.

LEGISLATIVE AUTHORITIES FOR PROMOTION AND PUBLIC INFORMATION

Minnesota Department of Health

Protecting and improving the health of Minnesotans.

The commissioner of health "...shall be responsible for the development and maintenance of an organized system of programs and services for protecting, maintaining, and improving the health of the citizens...including...:

- (c) Establish[ing] and enforc[ing] health standards for the protection and promotion of the public's health [including for]...environmental health hazards...;
- (e) Promot[ing] personal health by conducting general health education programs and disseminating health information;
- (f) Coordinat[ing] and integrat[ing] local, state and federal programs and services affecting the public's health;
- (h) Advis[ing] the governor and legislature on matters relating to the public's health" (MS 144.05).

In addition, "The commissioner of health may appoint an advisory task force on health promotion and wellness..." (MS 145.98, Subd 1).

Department of Public Service, Energy Division

Increasing Minnesota's energy efficiency.

Legislative findings and purpose: "...continued growth in demand for energy will cause severe social and economic dislocations, and that the state has a vital interest in...increased efficiency in energy consumption..." (116J.05).

Among the commissioner's duties are to:

- "Design and implement a state program for the conservation of energy, ...includ[ing in] transportation areas..." (116J.09,h).
- "Inform and educate the public about the sources and uses of energy and the ways in which persons can conserve energy" (116J.09,i).
- "...make grants to counties and cities...for...community energy plan[ning...or for

LEGISLATIVE AUTHORITIES FOR PROMOTION AND PUBLIC INFORMATION

implementing plans] for the management of problems resulting from...lack of efficient public and private transportation..." (116J.14).

- "...recommend to the governor and the legislature additional energy policies and conservation measures [required to meet state objectives]" (116J.09,d).

Pollution Control Agency

Improving Minnesota air quality.

The Pollution Control Agency is established "...to achieve a reasonable degree of purity of water, air and land resources of the state consistent with the maximum enjoyment and use thereof in furtherance of the welfare of the people of the state..." (116.01).

Among the powers and duties of the commissioner are to "...improve air quality by promoting, in the most practicable way possible, the use of energy sources...which produce or emit the least air contaminants..." (116.07).

Department of Trade and Economic Development (see above)

Department of Education (see above)

Environmental Education Board

"It is the policy of the state of Minnesota to encourage development of life values and a style of living which fosters the constructive use, rather than exploitation of natural resources the the environment..." (MS 116E.01).

- A. U.S. Bicycling Market Segments**
- B. The Minnesota Bicycling Market**
- C. The Minnesota Bicycling Environment**
- D. Economic Benefits of Bicycling**

Available on request from State Bicycle Coordinator, 807 Transportation Building,
St. Paul, MN 55155

Minnesota Bicycle Market Summary — Source: Appendix B

(1980 estimates)

Type of trip	Classification T=Transp. R=Rec.	% of all bike trips (daily ac- tivity occasions)	1980 MN bike trips (in thousands)	avg. daily trip length (miles)	bike miles traveled (thousands)	% of all bike miles traveled
1a Work	T	5	3481	1.4	4873	3
1b School	T	15	10442	2.3	24017	13
1c Personal Business Social/Recreation	T	17	11835	1.5	17752	10
Home based day trips						
2a General Fitness	R	9.7	6753	4.0	27011	15
2b Racing/Training	R	0.3	209	30.0	6265	3
3a Neighborhood	R	28	19492	1.5	29238	16
3b Other-Bike	T	15	10442	2.0	20885	11
3c Other-Drive	R	6	4177	8.0	33415	18
Vacation based trips						
3d Day trips	R	3	2088	2.0	4177	2
Overnight tours						
4a Weekend (1-3 nights)	T	0.7	487	25	12183	7
4b 1 Week (4-9 nights)	T	0.2	139	29	4038	2
4c 2 Week (10-16 nights)	T	0.07	49	29	1413	0.8
4d Extended (17+ nights)	T	0.03	21	29	606	0.3
Total		100	69615	2.67	185872	100
Total Transportation		53	36896	2.32	85766	46
Total Recreational		47	32719	3.06	100106	54

"Before I flew I was already aware of how small and vulnerable our planet is; but only when I saw it from space, in all its ineffable beauty and fragility, did I realize that humankind's most urgent task is to cherish and preserve it."

German Cosmonaut Sigmund Jahn

It is the continuing responsibility of the state government to place paramount importance on, and to use all practicable means to protect and improve, the quality of the environment.

Minnesota Statutes Chapter 116D
State Environmental Policy



Practicable:

possible to practice or perform;

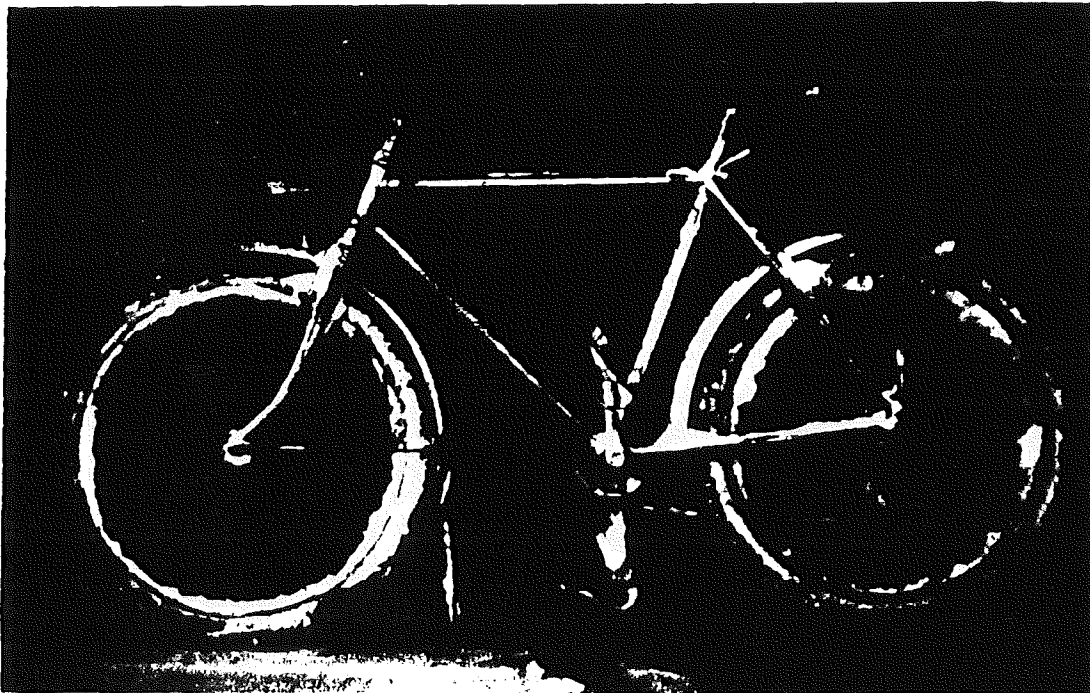
practicable, practical...shared meaning element: capable of being used or turned to account. In spite of the common element of meaning these terms are not interchangeable without loss of precision of expression.

Practicable applies chiefly to something immaterial (as a plan, expedient, or design) which has not been tested in practice or to something material (as a machine or implement) that has not been proved in service or use; the term implies expectation rather than assurance of successful testing or proving.

Practical stresses opposition to all that is theoretical, speculative, ideal, unrealistic, or imaginative and implies a relation to the actual life of man, his daily needs, or problems that must be met. The term emphasizes actual established usefulness rather than discovered or theoretical usability;

thus, "the modern low-slung high-speed automobile was practicable long before improved roads and fuels made it practical; a practicable expedient seems likely to meet the needs of a case, but a practical expedient has been proved effective in use".

Webster's New Collegiate Dictionary, 1975



Winter doesn't keep Minnesotans housebound.

Plan B: The Comprehensive State Bicycle Plan

Letting Bicycling Work for Minnesota

As a result of progressive public policies to date, Minnesotans are already bicyclist at nearly twice the national average. Almost half of all bicycle miles traveled are for transportation purposes.

Yet with 30% of all car trips being less than 2 miles in length, only 5% of those short trips, and only 0.4% of all trips are taken by bicycle in Minnesota today.

The growth potential is great.

Bicycling is a smart investment. Increasing Minnesota's investment in bicycle transportation from \$4 to \$10 million per year is anticipated to yield additional tax and other public savings of at least \$13 million per year by 1999.

This plan outlines a rationale for elevating the position of bicycling on the public agenda. And it provides a framework to guide the investments that will translate the legal rights of bicyclists into a safe reality, so that the bicycle contributes substantially to the public health, safety, and welfare.

This new reality will keep Minnesota in a position of national and international leadership in making the bicycle not just a smart means of transportation, but a viable and attractive option from which Minnesotans can choose.

