Foot-Powered Progress

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EXECUTIVE SUMMARY

Even in the most extreme winter weather, many Minnesotans have no problem walking or pedaling to work and school. It’s part of the reason—along with forward-thinking public policy and corporate culture—that Minnesota is a national leader in bicycling and walking.

Since 2002, the state has more than doubled the number of people who bike to work and significantly increased the number of people walking to their jobs, according to the U.S. Census Bureau’s American Community Survey.

In 2009, about 96,000 Minnesotans bicycled or walked to work, thanks largely to government and corporate efforts to promote these healthy, economical, environmentally friendly ways of getting around. The League of American Bicyclists has honored seven Minnesota cities and 23 companies as “Bicycle Friendly.”

Those businesses range from three-person operations to Fortune 100 companies and cross multiple economic sectors from finance to energy. Indoor bike parking, locker rooms with showers and health insurance discounts are some of the incentives they offer. One Twin Cities company with about 140 employees estimates that its workers combine to travel 5,000 miles every day to and from work.

Local governments—large and small, outstate and in the metro—have been recognized for their Complete Streets planning efforts, with Hennepin County and the state receiving the National Complete Streets Coalition’s No. 1 ranking.

It’s well documented that Minneapolis is America’s best bicycling city, but it also leads comparable Midwestern cities in people walking to work. Per capita, more Minneapolis workers use foot power in their daily commute than in Denver, St. Louis, Milwaukee and even Chicago.

Non-motorized transportation is good for the environment, too. Nearly half of the trips in American cities are shorter than three miles; if more people switched from motor travel, greenhouse gas emissions could be cut by up to eight percent.

Bicycling also benefits Minnesota’s economy. The state’s cycle shops, many locally owned, grossed more than $140 million in 2009 sales, according to RideBoldly.org.
While Minnesota’s remarkable bike-walk progress stands as a national model, policymakers need to continue investing, planning and educating citizens on non-motorized travel to boost the share of daily commuters in the state above the current four percent.

Bicycling policies and practices in northern Europe, where non-motorized travel is 10 to 25 times more prevalent than in the United States, should serve as a guide for Minnesota. For example, traffic signals can be synchronized to cycling speeds with signage indicating the ideal pace to catch consecutive green lights. Better street lighting and priority bicycle parking for women would also encourage more riders.

The cost of building and maintaining bike-walk infrastructure is a small fraction of what Minnesota spends on roads. Non-motorized investments also benefit traditional roadways by reducing congestion and extending the life cycles of highways and bridges.

This report highlights non-motorized transportation’s history in Minnesota, the state’s progress and ways for policymakers to move forward on 21st century transportation infrastructure.
Key Findings

✓ Bicycling and walking, transportation powered by human energy instead of fossil fuels, are economical, healthy, pollution-free means of getting around, affordable to virtually everyone.

✓ Nearly a century of land and associated public infrastructure development oriented toward automobile travel has reduced nonmotorized transport’s presence in Minnesota and the nation as a whole, with negative effects on public health, the environment and household budgets.

✓ Costs of car ownership in 2010 ranged from $7,619 to $12,598 a year, compared with $300 for a bicycle. And walking is practically free.

✓ Relatively small public investments in support of active transportation are producing increasing levels of biking and walking in Minnesota, which has become a national leader in the field. Nearly 100,000 Minnesotans regularly bike or walk to work.

✓ In addition to sidewalks, separate bicycling trails and on-street lane markings, compact, multiuse urban and suburban development is vital to promoting active transport.

✓ Prosperous northern European nations with very high levels of walking and biking show that active transport is fully compatible with dynamic modern economies.

Recommendations

✓ State and local governments in Minnesota should continue adding and improving bicycling and walking infrastructure as long as these investments keep boosting active transport’s market share. This would rebalance near-exclusive support for motor travel in recent decades.

✓ Minnesota schools should establish safe and healthy bicycle education programs in schools to go along with driver training that emphasizes adequate regard for cyclists and pedestrians sharing the right-of-way.

✓ Minnesota traffic laws and enforcement should be stepped up to hold drivers, cyclists and pedestrians alike responsible for safe travel for all.

✓ Minnesota’s public and private sectors should expand efforts to encourage and incentivize active transportation, including bicycle sharing, promotional events and employer payments to bicycle and shoe leather commuters who don’t need expensive automobile parking.
INTRODUCTION

As Minnesotans struggle with potholed pavement, traffic congestion and high gasoline prices, increasing numbers of us are turning to ways of getting around that save big money, promote health and safety, consume no fossil fuel or electricity and emit no toxic fumes.

Bicycling and walking, once thought fit by Americans only for children and outdoor recreation, are becoming vital cogs in a multimodal transportation system that offers options for everyone’s needs and means.

Need to go a long way fast? Fork over for an increasingly pricey airline ticket or nearly $4-a-gallon gas to fuel your $10,000-and-up automobile on roads built and maintained with hundreds of billions of tax dollars. But for shorter, routine trips on a looser timeline and tighter budget, take the economical bicycle or shoe leather. In Minnesota today, you can even find places where the proximity of homes, work, shopping and recreation makes motor travel the exception for everyday mobility, not the rule.

This is a growing trend that deserves public support at least proportional to that lavished on motor travel, although it’s unclear that has ever happened in Minnesota. Federal Transportation Enhancement and Safe Routes to School investment for bicycling and walking in the state totaled $256 million\(^1\) from 1992 to 2009, barely half of Washington’s $472.8 million aid to Minnesota highways in 2010 alone, and dwarfed by the state’s entire $1.58 billion 2010 highway user fund.\(^2\)

Even so, with smart development policies, an expanding system of bike-walk paths and transit that knits together compact multiuse communities, non-motorized transportation is reentering the mainstream to everyone’s benefit, including drivers.

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2 Minnesota Department of Transportation, Revenue and Expenditures for Transportation Purposes, All Sources of Funds, FY2010. http://www.dot.state.mn.us/about/pdfs/Sources2010.pdf
Signs of this already are abundant in Minnesota, a national leader in bike-walk practice and promotion despite our harsh winters that can discourage all but the hardiest self-propelled travelers.

More than two dozen North Star State cities, businesses and educational institutions employing more than 43,000 workers have been cited as “Bicycle Friendly” by the League of American Bicyclists. A public-private partnership established Nice Ride, one of the nation’s earliest and largest modern bicycle-rental systems, which is expanding its reach after a successful rollout in central and south Minneapolis in 2010. The Minnesota Department of Transportation, as well as cities and counties from Brainerd to Rochester, have stepped up “complete streets” policies, planning and investments that seek to put bicycling and walking on a level playing field with driving.

And in contrast to the autocentric complaints of a few right-wing bicycle-bashers, non-motorized transportation remains woefully underfunded in a nation where nearly one of every eight trips is powered by human energy instead of fossil fuels.

“And today, 12 percent of all trips are by bike or on foot, yet America spends only about 1 percent of its transportation budget on bicycle and pedestrian infrastructure,” said Caron Whitaker of America Bikes. “And nearly 14 percent of road fatalities are bicyclists and pedestrians. So we’re over-represented in road deaths but under-represented in road spending.”

On the other hand, the health benefits of active transport—reduced obesity and diabetes, longer lives—far outweigh the risks of collisions with much bigger motor vehicles, by a factor of as much as 80 to 1. One study in the bicycling-rich Netherlands found that those who switched from driving to pedaling for short trips gained 3 to 14 months of life expectancy while sacrificing only 5 to 9 days to the risk of traffic crashes. Other research shows that as more and more cyclists hit the roads, their accident rates drop—as do those of motorists—thanks to “safety in numbers.”

But there’s more than just health benefits to walking and cycling. A 2010 study in the United States found that building bicycle and pedestrian infrastructure creates up to twice as many jobs per dollar than either road upgrades or resurfacing. And several opinion polls, including one for the National Association of Realtors, have shown significant majority support and preference for bike-walk-adapted neighborhoods.

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OVERVIEW

It has been mostly forgotten in this autocratic age, but it was the bicycle, not the motor car, that launched a worldwide revolution in personal mobility. “It started about two decades before Henry Ford’s first Model T, and it was based on a combination of the electric railway and the safety bicycle,” according to conservative transportation commentator William Lind.6

It was the bicycle, not the motor car, that launched a worldwide revolution in personal mobility.

Bicycling was even credited with advancing the liberation of women by giving them freedom of movement far beyond that of the horse-drawn age. “I think it has done more to emancipate women than anything else in the world,” said suffragist Susan B. Anthony. “It gives women a feeling of freedom and self-reliance. I stand and rejoice every time I see a woman ride by on a wheel… the picture of free, untrammeled womanhood.”7

Minneapolis installed its first cycle paths in 1895 and by 1899 the St. Paul Cycle Path Association had published an extensive map of cycling routes around the Twin Cities. In 1902, Minneapolis had 302 miles of graded streets, 103 miles of paved streets and 43 miles of bicycle paths.8

In the span of a single generation, however, automobiles largely supplanted the bicycle-transit combination, aided, Lind said, by aggressive government road-building and parking provision “while the privately owned electric railways [aka streetcars] were taxed and regulated out of existence.”9

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Despite the obvious convenience and labor savings of private motor travel—“America did not become a nation of walruses because we like to exercise,” Lind notes—bicycling and walking remained major contributors to American mobility well into the 20th century.

For example, walking and bicycling comprised 7.9 percent of commuting to work in the United States in 1970, and half of children’s trips to school in 1969. Studies in the past few years have shown those travel shares dropping by as much as two-thirds. Meanwhile, the percentage of U.S. children who are overweight or obese has nearly quadrupled, reaching 30 percent (25 million) in recent studies.

Some of this trend may be explained by suburban sprawl, fewer neighborhood schools and increased student busing, a $21 billion annual expense nationally. At the same time, as much as 30 percent of morning traffic can be generated by parents driving children to school. And motor vehicle crashes are the leading cause of death for U.S. children ages 3 to 14.

Amid these dispiriting statistics, however, there are some signs of a renaissance in active transportation, at least among adult males. Between 1990 and 2009, the number of U.S. bike commuters rose 64 percent while bicycling fatalities fell. And, in a reversal from the popularity of bikes among Gilded Age women, almost all of the growth in U.S. bicycling over the past two decades has been among men 25 to 64 years old. Some studies have attributed this to greater female concerns for safety on streets clogged with fast-moving automobiles.

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10 Lind, Ibid.
WHY BIKE OR WALK?

While self-propelled transportation may never be for everyone, it is clear that many more Americans could enjoy the financial, health and environmental advantages of biking and walking.

“Since 48 percent of trips by all modes in American cities are shorter than 3 miles, the potential for further growth in bicycling seems enormous,” researchers John Pucher, Charles Komanoff and Paul Schimek wrote.\(^{18}\)

First, consider the savings, which also are enormous. The median U.S. household spends 16 percent of its income on transportation, more than on food, twice as much as on health care and second only to housing costs.\(^{19}\)

According to the American Automobile Association, the yearly financial burden of maintaining and operating a car ranges from $7,619 for a small sedan to $12,598 for a four-wheel-drive SUV. And that was based on a 2010 average gasoline cost of $2.88 a gallon, nearly a dollar less than current prices.\(^{20}\)

The comparable cost for a bicycle? About $300 a year.\(^{21}\)

“Bicycles continue to provide mobility and freedom to many people in the U.S. who don’t have a driver’s license, don’t own a car, don’t have access to public transit or simply don’t want to drive,” U.S. Transportation Secretary Ray LaHood said.\(^{22}\)

In addition, some simply can’t afford to drive, even in prosperous Minneapolis, where 18.4 percent of households own no cars.\(^{23}\) Their mobility depends largely on public transit, walking and bicycling. Fortunately, in many Minnesota cities, facilities for those modes are rich and, especially for biking, growing.

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Besides serving the significant carless minority as individuals, investments in these facilities make good public policy because they encourage healthy, active lifestyles; reduce pollution from motor vehicles; ease motorway congestion and accident rates, all while remaining inexpensive to build and maintain with long infrastructure life cycles.

Bicycling is also a thriving industry, ringing up $5.9 billion in U.S. sales in 2008 with unit volume twice that of the automakers.\(^{24}\) Minnesota bike shop sales in 2009 totaled $141.2 million.\(^{25}\) Another economic plus: Homes located closer to bicycling facilities are more valuable.

Far from being the elitist fad that conservatives sometimes characterize it as, active transportation is a big contributor to personal mobility for all income levels. Rich and poor in America bicycle at about the same rates, although high-income earners do it mainly for recreation and exercise, the less affluent more for utilitarian purposes of work and shopping.\(^{26}\)

Meanwhile, however, the 21st century’s early adopters of walking for routine trips face daunting dangers—47,700 killed in the United States from 2000 to 2009, two-thirds of them on federal-aid streets and roads “designed for speeding traffic rather than people,” according to Transportation for America. “But state departments of transportation have largely ignored pedestrian safety from a budgetary perspective, allocating only 1.5 percent of available federal funds to projects that retrofit dangerous roads or create safe alternatives.”\(^{27}\)

“We’ve had a near-century of overwhelming federal funding preference for the automobile,” said syndicated urban affairs columnist Neal Peirce. “Nationwide promotion of biking and walking for short trips could cut 70 billion to 200 billion miles from what Americans drive yearly. And we’d reduce our oil consumption and greenhouse gas emissions by at least 3 percent, with luck as much as 8 percent.”\(^{28}\)


\(^{26}\) Pucher, Buehler, Seinen, Op. Cit.

\(^{27}\) Transportation for America, Op. Cit.

MINNESOTA SCENE

Bicycling Magazine calls Minneapolis “America’s best bike city.” Minnesota ranks No. 4 on the League of American Bicyclists’ list of “Bicycle Friendly States,” behind only Washington, Wisconsin and Maine. The City of Minneapolis, with a gold medal rating, highlights more than 20 Minnesota employers—most of them private enterprises—that have earned the league’s “Bicycle Friendly Business” awards. The league also has named the Minnesota cities of Apple Valley, Edina, Mankato, North Mankato, Minneapolis, Rochester and Rosemount as “Bicycle Friendly Communities.”

The 300,000-member league, founded in 1880, bases its state and community awards on “the Five Es” of engineering of bicycle infrastructure, education, encouragement, enforcement and evaluation and planning. According to the league, “the Bicycle Friendly Business program recognizes employers’ efforts to encourage a more bicycle-friendly atmosphere for employees and customers. The program honors innovative bike-friendly efforts and provides technical assistance and information to help companies and organizations become even better for bicyclists.”

These and similar Minnesota public and private initiatives have produced excellent results, including a rating of the Twin Cities as fifth-best among the 52 biggest U.S. metropolitan areas for pedestrian safety. Sprawling Sunbelt cities where many fewer people walk to work but many more are killed dominate the list of places most dangerous for pedestrians.

In 2009, more than 96,000 Minnesotans biked or walked to work, according to the U.S. Census Bureau’s American Community Survey.

Above-average support for Minnesota walkers and bikers is not just a Twin Cities phenomenon. Stearns County produced its first bikeway plan in 1977 and has completed construction of about half of a 1996 update, mostly in areas near St. Cloud. A 2010 plan proposes more routes.

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BEST STATES FOR BIKING

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<td>5</td>
<td>New Jersey</td>
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32 U.S. Census Bureau, American Community Survey, analysis by Minnesota 2020 policy associate Riordan Frost.
The Minnesota Department of Transportation has done extensive planning, standard-setting and funding of non-motorized travel infrastructure and will publish a statewide bicycle map in the fall of 2011, replacing a 2001 version that is now out of print.34

Duluth, Mankato, Marshall and Rochester are among Minnesota cities that also have systematically planned and built bicycling facilities.

But the most ambitious city in this regard is the state’s largest, Minneapolis, which has a detailed, comprehensive bicycle plan and results to show for it. In 2009, more than 8,000 Minneapolis residents biked to work and more than 13,300 walked, increases of 59 percent and 10 percent, respectively, when adjusted for population shifts since 2005. By comparison, St. Paul, with three-quarters the population of Minneapolis but less aggressive promotion of active transportation, had fewer than one-quarter the number of bicycle commuters and just half as many who walked.35

With a big boost from one-time federal funding through the $21.5 million Bike Walk Twin Cities program, Minneapolis will have 177.5 miles of bicycle trails and lanes by the end of 2011. That’s nearly double the 97.5 miles completed in 2001, but still well short of the city’s more than 1,000 miles of streets. For the first time, the extent of the city’s on-street bicycle lanes, more suited to commuting than recreation, will overtake that of dedicated trails, most of which are on parkland. This year alone, Minneapolis is adding 47 miles of bicycle paths at a capital cost of about $12 million – a mid-range price for one lane-mile of new urban freeway.36

“It’s a huge jump this year and next,” said city transportation planner Don Pflaum. “But it will flatten out afterward.”37 With the end of federal funding, Minneapolis’ capital spending on bicycle facilities will likely revert to a range of $1 million to $3 million a year, he added. Maintenance of this infrastructure — much of it simply paint on pavement — runs about $150,000 annually.

34 Minnesota Department of Transportation. State Bicycle Map Project. http://www.dot.state.mn.us/bike/project.html
35 U.S. Census Bureau, American Community Survey, analysis by Riordan Frost.
37 Don Pflaum, telephone interview, May 25, 2011.
In addition, Minneapolis allocates $40,000 per year to bicycle parking improvements, most of it going toward a 50-50 match with local businesses that request $200 racks suitable for locking two bicycles near their doors. These public-private partnerships have increased the number of secure bicycle parking places in Minneapolis to 16,600, tops among U.S. cities per capita.  

Meanwhile, Minnesota’s Complete Streets statute, enacted in 2010, and Hennepin County’s Complete Streets policy, adopted in 2009, were rated best in the nation in a recent survey by the National Complete Streets Coalition. Exurban Big Lake and outstate Rochester scored No. 2 and 4, respectively, for city policies. Southeastern Minnesota small towns Byron and Stewartville came in fourth and fifth, respectively among city resolutions.

“Complete Streets policies formalize a community’s intent to plan, design and maintain streets so they are safe for all users of all ages and abilities [and] accommodate … pedestrians, bicyclists, public transportation users, motorists and freight vehicles,” the coalition explained.

The coalition cautioned, however, that its analysis “is based purely on what has been written on paper and is not intended to reflect the degree to which any given community is successful in implementing its Complete Streets goals.”

Still, more and more Minnesota communities are taking early steps to make active transportation safer and more convenient. Outer-ring Dakota County suburbs Apple Valley and Rosemount developed bike-walk master plans last year and first-ring West St. Paul is doing so this year. All three were assisted by $25,000 planning grants through a Minnesota Department of Health program.

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<th>TOP 5 COMPLETE STREETS POLICIES IN CITIES by the National Complete Streets Coalition</th>
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<td>74.4</td>
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<td>72.0</td>
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40 Ibid., p. 9
41 Ibid., p. 8.

More and more Minnesota communities are taking early steps to make active transportation safer and more convenient.
WALKING TO HEALTH, SECURITY AND A CLEANER ENVIRONMENT

For millennia, humans relied almost entirely on their own two feet to get around. In our motorized age, walking is less prevalent, but hardly obsolete. In fact, pedestrian infrastructure plays an important and growing role in 21st century economics and lifestyles.

The most successful commercial and tourist districts rely on high levels of foot traffic. Walking promotes health for individuals and the environment by reducing obesity, heart disease and greenhouse gas emissions. Cities are safer when folks are out walking, partly because people get to know their neighbors.

“Walking is an essential mode of transportation for everyone [and] the only mode of transportation universally affordable to everyone,” notes the City of Minneapolis Pedestrian Master Plan.43 “Walking and walking in conjunction with transit and bicycling provide equitable access to jobs, recreation, community, goods and services for all citizens.”

Throughout Minnesota, nearly 82,000 people walked to work, according to the American Community Survey’s 2005-09 study of commuters aged 16 and up. The data also show nearly 20,000 Minnesotans biked to work. In Minneapolis, pedestrians accounted for 6.4 percent of commuters in 2009 and 5.1 percent in St. Paul – increases of more than 10 percent and nearly 50 percent respectively in just four years.44

But there’s still room for improvement, even in a place such as Minneapolis where 93 percent of the streets have sidewalks, says the city’s pedestrian plan: “Some of the most common barriers to walking … relate to conflicts between pedestrians and cars at intersections and along busy streets; streets that lack trees and have little buffer from traffic lanes; and maintenance issues related to snow, newspaper boxes and construction zones.”45

For example, Minneapolis clears all snow emergency streets and bicycle paths within 24 hours of major snowfalls (an estimated 4,000 bicyclists ride in Minneapolis on an average winter day)46, but relies mainly on property owners to maintain safe access to its 1,714 miles of sidewalks.

44 U.S. Census Bureau, American Community Survey, analysis by MN2020 policy associate Riordan Frost.
CYCLING TO PROSPERITY, EQUALITY AND SAFETY

Increased cycling in cities such as Minneapolis and Portland, Ore., that have invested seriously in bicycle infrastructure indicate that “if you build it they will come – on two wheels.” But even these success stories have yet to overcome doubts, at least in the United States, that a significant culture of non-motorized transportation is compatible with a modern, prosperous economy.

Fortunately, those doubts have been greatly put to rest by the experience of affluent European countries whose plummeting bicycling rates were reversed beginning in the mid-1970s. That’s when their governments began providing bike lanes combined with traffic calming on residential streets, ample bike parking and integration with public transit.47

The Netherlands, Denmark and Germany, all ranked among the world’s top 20 nations for per capita gross domestic product,48 boast cycling rates ranging from 10 to 25 times that of the United States.49

“Dutch, German and Danish cities have focused on serving people, making their cities people-friendly rather than car-friendly, and thus more livable and sustainable than American and British cities,” said researchers John Pucher and Ralph Buehler.50 “Because it is affordable by virtually everyone, cycling is among the most equitable of all transport modes.”

“Because it is affordable by virtually everyone, cycling is among the most equitable of all transport modes.”

Europeans’ embrace of bicycling for up to 27 percent of all trips (in the Netherlands) has occurred despite the lack of a simple cycling-transit link that is common in the United States and universal in the Twin Cities: bike racks on buses and rail transit vehicles. Most Dutch, Danish and German cities do not allow bikes to be brought on buses or provide exterior racks for them, Pucher and Buehler report.

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50 Ibid.
“It appears to be the one area where American transit systems do a better job of coordinating cycling with transit,” they wrote. “The northern European approach is to provide bike parking facilities at major bus terminals, bus route interchanges and even some suburban bus stops.” Dutch and German rail systems also have long provided bike rentals at train stations.51

Furthermore, northern Europe’s cycling boom has brought sharply lower rates of death and injury from accidents. The Dutch, with the developed world’s highest rate of cycling, also have the lowest casualty rates per mile biked, less than one-fifth of that in the United States for fatalities and only about three percent of the U.S. rate for injuries.52

Despite greatly increased cycling over the past 35 years, Germany, Denmark and the Netherlands all have shown drops in total fatalities of more than 70 percent. “The least improvement in bicycle safety has been in the USA, where fatalities fell by only 30 percent,” Pucher and Buehler found.53

Surprisingly, however, Europe’s cycling safety improvements have not relied on the American approach of encouraging, sometimes even mandating, bicycle helmets. “In the Netherlands, with the safest cycling of any country, less than 1 percent of adult cyclists wear helmets, and even among children, only 3-5 percent wear helmets,” Pucher and Buehler wrote.54

Beyond infrastructure improvements, the Netherlands, Denmark and Germany facilitate safe, widespread biking with extensive classroom and onboard education of children, training of motorists to avoid endangering cyclists, strict traffic laws applied to drivers, cyclists and pedestrians alike and promotional efforts such as Odense’s “Get Rid of the Sack” program, which is targeted at overweight middle-aged men who need more exercise.55

“Higher levels of active transport in the Netherlands, Sweden and Denmark may also contribute to longer life expectancy as well as longer healthy life expectancy — two years longer than in the USA,” according to Pucher and Buehler.56

51 Ibid.
52 Ibid., see Figure 10.
53 Ibid.
54 Ibid.
55 Ibid.
THE WAY FORWARD

As Pucher and Buehler acknowledge, higher walking and cycling rates in Europe are associated to some extent with shorter trip distances in older, compact, mixed-use European cities. But even in the sprawling, freeway-laced Twin Cities, active transportation is on the rise, thanks to new emphases on roads and streets serving more than just automobiles, plus development of urban and suburban communities where a car isn’t always necessary for commuting, shopping and recreation.

Bike Walk Twin Cities reports a 29.6 percent jump in its Minneapolis bicycle and pedestrian counts from 2007 to 2010. Meanwhile, biking on sidewalks, a hazard for walkers, has declined by up to 85 percent as new cycling facilities have come on line.57

These positive trends owe much to recent public sector encouragement of active transportation as a real alternative to the mid-20th century assumption that everyone would drive everywhere. But walking and bicycling will not keep growing—benefitting the economy, the environment and public health—without more public investments and policy initiatives. Specifically, Minnesota leaders should:

- Continue adding and improving bicycling and walking infrastructure, at least as long as these investments keep boosting active transportation’s market share. After almost a century of focus on building for drivers, bicycling and walking deserve a bigger slice of public resources.

- Establish safe and healthy bicycling training programs in schools to go along with driver training that includes adequate regard for cyclists and pedestrians sharing the right-of-way.

- Improve traffic laws and step up enforcement to hold drivers, cyclists and pedestrians alike responsible for safe travel for all.

- Promote active transportation through efforts such as the Twin Cities’ Nice Ride bicycle sharing program and June’s Twin Cities Bike Walk Week and Bike Walk to Work Day. In addition, more businesses should offer financial incentives for active transport commuters who minimize the need for expensive employer-provided automobile parking.

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APPENDIX A

Bicycle-Friendly policies in the Netherlands, Denmark and Germany

From “Making Cycling Irresistible: Lessons from the Netherlands, Denmark and Germany” by John Pucher and Ralph Buehler, Rutgers University.

Extensive separate cycling facilities

✓ Well-maintained, fully integrated paths, lane and special bicycle streets.
✓ Coordinated, color-coded directional signs for cyclists.
✓ Off-street shortcuts such as mid-block connections and passages through auto dead ends.

Intersection and signal modifications

✓ Advance green lights and signal waiting positions (bike boxes) for cyclists.
✓ Bike paths become brightly colored bike lanes crossing intersections.
✓ Traffic signals synchronized at cyclist speeds (green wave).
✓ Flashing lights along bike routes to signal proper speed for consecutive green lights.

Traffic calming

✓ Residential street speed limits of 20 m.p.h. and “home zones” with 5 m.p.h. speed limits where cars must yield to pedestrians and cyclists.
✓ Narrow roads (bicycle streets) where bikes have absolute priority over cars.
✓ Physical structures such as curb bump-outs that slow down motor traffic.

Bike parking

✓ Large supply throughout cities.
✓ Improved lighting and security, often with guards, video surveillance and priority parking for women.

Transit coordination

✓ Bike parking and rentals at most train stations.
✓ “Call a Bike” programs for renting bicycles by the minute at transit stops using cell phones; bikes can be dropped off at any busy intersection.
✓ Deluxe bike parking at some train stations, including music, repair services and rentals.
Traffic education

✓ Comprehensive bicycle training course for virtually all school children with testing by traffic police.
✓ Special cycling training test tracks for children.
✓ Stringent education of motorists to avoid hitting cyclists and pedestrians.

Traffic laws

✓ Special legal protection for children and elderly cyclists.
✓ Motorists assumed to be responsible for nearly all crashes with cyclists.
✓ Strict enforcement of cyclists’ rights by police and courts.
## APPENDIX B

League of American Bicyclists Bicycle-Friendly Awards in Minnesota

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<td>Edina</td>
<td>Honorable mention</td>
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<td>Mankato/North Mankato</td>
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<td>Carmichael Lynch</td>
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<td>Clockwork Active Media</td>
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<td>The Green Institute</td>
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<td>Live Green Apartments</td>
<td>St. Paul</td>
<td>Honorable mention</td>
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APPENDIX C
Estimates from the Census Bureau’s American Community Survey

<table>
<thead>
<tr>
<th>NUMBERS OF COMMUTERS (AGED 16 AND UP)</th>
<th>BICYCLING AND WALKING TO WORK</th>
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<tbody>
<tr>
<td></td>
<td>Minnesota</td>
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<tr>
<td>1 Year Studies</td>
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<td>2003</td>
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<td>2004</td>
<td>10,263</td>
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<td>2005</td>
<td>13,766</td>
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<td>2006</td>
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<td>2007</td>
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<td>2009</td>
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<td>3 Year Studies</td>
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<td>5 Year Studies</td>
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<table>
<thead>
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<tbody>
<tr>
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<td>4,589</td>
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<td>2006</td>
<td>4,835</td>
<td>13,735</td>
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<td>7,198</td>
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<td>2008</td>
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<td>13,308</td>
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<td>2005-2009</td>
<td>7,171</td>
<td>13,618</td>
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<table>
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<th>Saint Paul</th>
<th>Bicycled to Work</th>
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<tbody>
<tr>
<td>2005</td>
<td>869</td>
<td>4,318</td>
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<td>1,296</td>
<td>5,348</td>
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<td>1,849</td>
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<td>1,731</td>
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<td>2005-2009</td>
<td>1,393</td>
<td>5,976</td>
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## City Comparison: 2005 - 2009

*Percentages of Total Commuter Population*

<table>
<thead>
<tr>
<th>City</th>
<th>Bicycled to Work</th>
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<th>Total</th>
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<tbody>
<tr>
<td>Minneapolis</td>
<td>3.52 %</td>
<td>6.68 %</td>
<td>10.20 %</td>
</tr>
<tr>
<td>Chicago</td>
<td>1.00 %</td>
<td>5.75 %</td>
<td>6.75 %</td>
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<tr>
<td>Denver</td>
<td>1.62 %</td>
<td>4.34 %</td>
<td>5.96 %</td>
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<tr>
<td>Milwaukee</td>
<td>0.69 %</td>
<td>4.94 %</td>
<td>5.63 %</td>
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<tr>
<td>Saint Paul</td>
<td>1.03 %</td>
<td>4.41 %</td>
<td>5.44 %</td>
</tr>
<tr>
<td>St Louis</td>
<td>0.65 %</td>
<td>3.34 %</td>
<td>3.99 %</td>
</tr>
</tbody>
</table>
Minnesota 2020 is a progressive, non-partisan think tank, focused on what really matters.

2324 University Avenue West, Suite 204, Saint Paul, MN 55114
www.mn2020.org