

Snapshot Minneapolis

Bicycling and Walking 2007



Prepared by
Transit for Livable Communities
as part of the Bike/Walk Twin Cities initiative
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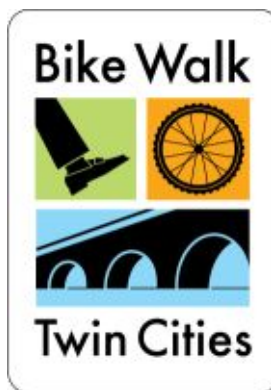
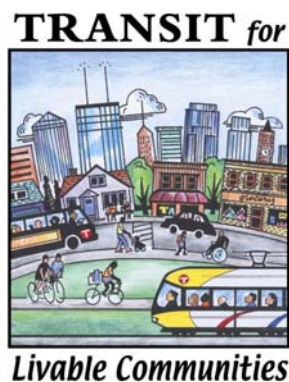


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Executive Summary

All across America there is a growing effort to encourage bicycling and walking. Government, the private sector, non-profit organizations, and residents are working together to make communities safer, more convenient, and more appealing places to walk and ride a bike. They are motivated by rising energy costs, traffic congestion, public health concerns, the threat of climate change and a desire for better neighborhoods. Snapshot Minneapolis is part of that effort.

Transit for Livable Communities wrote the report to develop a baseline of information for the Bike Walk Twin Cities initiative. Bike Walk Twin Cities is a federally-funded initiative to increase bicycling and walking, and reduce driving in Minneapolis and its 13 neighboring communities. Working with local governments, businesses, organizations and residents, the initiative provides public education and allocates funds for safer crosswalks, bike lanes and other improvements to increase bicycling and walking. Transit for Livable Communities is designated by federal law to administer the \$21.5 million Bike Walk Twin Cities program.

This report pulls together information about bicycling and walking from numerous local and national sources. That information, combined with other counts and surveys, will provide a baseline of data from which changes can be measured over the program's four-year timeframe. Information shows that residents of Minneapolis already walk and bicycle in far greater numbers (17 percent of trips) than do other residents of the region (9 percent of trips). Those non-motorized trips are short - on average two miles for bicycling and one mile for walking. The longest trip people make is the work trip, and the shortest trip is a trip to school or a trip to shopping.

While Minneapolis is recognized for its infrastructure for walking and bicycling – its off road trails, its bicycle parking, its nearly complete sidewalk system – much can still be done to make the city and its adjoining communities safer, more convenient, and more appealing for bicycling and walking. When surveyed, people say they would bicycle and walk more often if they had: more destinations close to home; less concern about traffic and crime; and better facilities including bicycle lanes, paths, bike parking, lighting, benches, and other amenities. Focus groups with residents of color living in Minneapolis indicate that they have some unique needs and concerns regarding non-motorized travel.

Transit for Livable Communities believes that Bike Walk Twin Cities will have the greatest impact with:

- A focus on short trips, especially trips to shopping and services.
- Additional research to understand behavior change, especially barriers for populations with the greatest potential to bicycle and walk for transportation.
- Identification of a regional network and local priority corridors, with special focus on high crash locations.
- Continued efforts to fill gaps in on-road and off-road bicycle system and continued expansion of bicycle parking.
- Greater attention to amenities related to walking (lighting, shade trees, and zoning).
- Greatly expanded education programs, including a safety and awareness campaign, ambassador program, and personal travel planning.
- Revision by MnDOT and the Metropolitan Council of roadway design standards and classifications to make bicycle and pedestrian design less costly, safer, and more appealing.

I. Background and Introduction

Transit for Livable Communities (TLC) undertook the Snapshot Minneapolis report to inform the implementation of the Bike/Walk Twin Cities initiative (known in federal law as the Non-Motorized Transportation Pilot Program, or NTP). This report provides information about existing conditions, behaviors and barriers, and identifies potential opportunities to increase rates of bicycling and walking. Where information was very limited or not available, Snapshot Minneapolis identifies areas for further study.



In 2005, the federal transportation law, SAFETEA-LU, established a pilot program to determine if investing significant resources in planning, education/promotion, and facilities could achieve a measurable increase in bicycling and walking, reduce driving, energy use, and traffic congestion, and improve public health. The pilot program includes four communities: Minneapolis and its adjoining communities, Minnesota; Sheboygan County, Wisconsin; Columbia, Missouri; and Marin County, California. SAFETEA-LU provided \$25 million to each of the pilot communities, but the Federal Highway Administration estimates that Congress will make approximately \$21.5 million available.

Transit for Livable Communities (TLC), a nonprofit, nonpartisan organization working to reform Minnesota's transportation system, is administering the Non-Motorized Transportation Pilot Program for the Minneapolis area – which includes the City of Minneapolis, 14 adjoining municipalities, and two adjoining jurisdictions. TLC renamed the pilot program Bike/Walk Twin Cities, and the initiative includes planning, infrastructure investments, promotion, education,

and an evaluation program. TLC is administering at least two rounds of competitive funding for planning and/or infrastructure through a solicitation (request for application) process. TLC's education program includes funding for a Bicycle/Pedestrian Ambassador Program, a safety and awareness campaign, seminars, workshops, and events including an exhibit on walking, bicycling, and transit at the Minnesota State Fair.

Photo Credit: Bl@ck Coffee

II. Travel behavior: What we know about bicycle and pedestrian trips

To inform and measure activity throughout the pilot program, TLC established a starting point or baseline. For this information, TLC relied on the Metropolitan Council's Travel Behavior Inventory (TBI) (2001), isolating respondents from the City of Minneapolis. TLC also examined 2000 Census Journey to Work data and a survey conducted by the Center for Transportation Studies at the University of Minnesota for the national NTP program.

A. **Mode Share: Minneapolis residents already bicycle and walk for many trips.**

As Table 1 shows, the rates of bicycling and walking in Minneapolis are much higher than in the region as a whole. Bicycling and walking constitute 17 percent of all trips taken by Minneapolis residents, which is more than double the percentage for the seven county region as a whole (seven percent). The mode share for bicycling, walking, and transit in the region could be even higher because the TBI likely undercounted people with limited English skills, whom research shows are more likely to walk, use bicycles, and ride public transit.¹ The variations in mode share between Minneapolis and the wider Twin Cities region could be attributable to differences in development patterns, the existence (or nonexistence) of sidewalks and trails, availability of transit, rates of car ownership, and public awareness.²

**TABLE 1. Mode of Transport by Percentage of all Trips:
Residents of Minneapolis and the Seven County Region (2001)³**

Mode	Minneapolis ⁴	Seven County Region
Walk*	13.0	5.6
Bicycle	4.0	1.5
Public Transit	4.0	2.3
Auto trips**	77.0	89.0
Other***	1.4	1.5
Total	99.4	100.0

* The 5.6 percent walk share includes some walk trips to transit

**Auto trips include drove alone and carpool

***Other trips include school bus, motorcycle, taxi, and other vehicles

In 2006, the four NTP pilot communities contracted with the Center for Transportation Studies (CTS) at the University of Minnesota to conduct a survey to develop an estimated baseline mode share. That baseline survey will serve as one of several components in an overall evaluation process. Using information from a phone and mail survey, CTS estimated that bicycling and walking trips in Minneapolis resulted in 91 million miles of avoided driving in one year.⁵ As Table 2 shows, the CTS

¹ US Census Journey to Work (2000). Data for specific demographic groups including non-citizens and immigrants.

² While five percent of households in the Twin Cities region do not own a car, 18 percent of Minneapolis households do not own a car. National data shows that households without vehicles have much higher rates of bicycling, walking, and, transit use.

³ Metropolitan Council, 2000 Travel Behavior Inventory: Home Interview Survey Data and Methodology, St. Paul: August 2003. The survey included a random sample of 5,032 households in the seven-county metro area including 885 Minneapolis households.

⁴ Metropolitan Council, 2000 Travel Behavior Inventory. Table 34 and breakout data for Minneapolis households provided to TLC by Mark Filipi, Metropolitan Council staff, in March and November 2006.

⁵ Krizek, Barnes et al, Chapter for Inclusion in Interim Report to Congress, p. 16 Table x 19.

survey for Minneapolis shows a slightly higher percentage of walking trips and a slightly lower percentage of bicycling trips as compared to the TBI. Due to its lower cost, the CTS survey was not as robust or comprehensive as the TBI. The most significant limitation of the CTS survey methodology is that white and higher-income residents of Minneapolis were overrepresented and middle and lower income residents and minority racial and ethnic residents were under-represented.

TABLE 2. Daily Bicycling and Walking Mode Share as a Percentage of all Trips:⁶ Minneapolis Residents Compared to Top Metro Areas Nationally

Travel Mode	CTS Survey (2006)	Met Council TBI (2001)	NHTS Top 50 Metro Areas¹
Bicycling	2.0	4.0	0.9
Walking	16.7	13.0	11.0
Total Bicycling and Walking	18.7	17.0	11.9

¹ Source: National Household Travel Survey information from Thunderhead Alliance Benchmarking Report, 2007

Using the measure from either the CTS or TBI, the rates of walking and bicycling for all trips in Minneapolis greatly exceed the rates of the top 50 metro areas nationally, as can be seen in tables 3 and 4.⁷

TABLE 3. Percentage of Trips to Work by Bicycling: Largest U.S. Cities (2006)

Portland, OR	4.2
Minneapolis	2.5
Seattle	2.3
San Francisco	2.3
Oakland	2.2
Washington DC	2.0
Denver	1.8
Tucson	1.6
Honolulu	1.5
Sacramento	1.3
Boston	1.2
Albuquerque	1.2
Philadelphia	1.2
Fresno	1.1
Chicago	0.9

Source: American Community Survey (2006)

⁶ Krizek et al, p. iii and data provided by Mark Filipi, Metropolitan Council, in March and November 2006.

⁷ 2006 American Community Survey by the Census Bureau, which ranks the 50 cities with the most workers over the age of 16.

**TABLE 4. Percentage of Trips to Work by Walking:
Largest U.S. Cities (2006)**

Boston	13.9
Washington DC	11.8
New York City	9.9
San Francisco	9.6
Seattle	8.4
Philadelphia	8.0
Baltimore	8.0
Minneapolis	7.1
Honolulu	6.7
Chicago	5.4
Milwaukee	5.2
Portland, OR	5.2
Oakland	4.8
Atlanta	4.6
Denver	4.2

B. Travel time and distance: Short bicycling and walking trips are the norm.

Trip distance is an important factor in people’s decision to walk or bicycle. While some people are comfortable with a ten-mile bicycle ride to work or a three-mile walk to the store, Table 5 shows that those longer trips are not the norm. The average bicycle trip is slightly over two miles and the average walking trip is one mile. Trips by Minneapolis residents are significantly shorter in length and time than trips by residents of the region as a whole.

**TABLE 5. Average Travel Distance and Time by Mode:
Minneapolis and Seven County Region⁸**

Mode	Mean Distance (miles)		Mean Time (minutes)	
	Minneapolis	7-County	Minneapolis	7-County
Motor Vehicle	6.0	7.3	18	18
Public Transportation	3.7	6.7	27	31
Bicycle	2.2	2.3	18	17
Walk	1.0	1.3	9	10

Given the data regarding trip length, the Bike/Walk Twin Cities initiative should focus on bicycling and walking for shorter trips: under four miles for bicycling and under two miles for walking. Another strategy could be providing shortcuts for bicyclists and pedestrians to shorten trip distances.

C. Number of trips and trip purpose.

On average, residents of the Twin Cities region make 4.5 trips per weekday (all modes) and households make 11 trips per weekday.⁹ The number of trips per person and per household declines

⁸ Metropolitan Council, 2000 Travel Behavior Inventory, Tables 52A and 57A, and data for Minneapolis provided to TLC by Mark Filipi.

with lower vehicle availability and household income.¹⁰ Trip purpose will be an important consideration in targeting investments made through the Bike/Walk Twin Cities initiative. Currently, the work trip receives much attention within the region since most work trips occur during peak periods with the highest traffic volumes. Nevertheless, the work trip represents only one in four trips made each day by residents of the Twin Cities' region, as can be seen in Table 6.

**TABLE 6. Trips by Purpose – Seven County Region¹¹
(As Percentage of all Trips - 2001)**

Purpose of trip	Percent
Work and work related	26
Shopping	17
School	3
Other	54
TOTAL	100

As can be seen from Table 7, trip distance for Minneapolis residents varies by trip purpose. The work trip is typically the longest trip and trips to shopping tend to be the shortest.

TABLE 7. Average Trip Distance from Home for Bicycling, Walking, Driving Trips: Residents of Minneapolis (2001)			
	Bike trip (in miles)	Walk trip (in miles)	Auto Trip (in miles)
Home to non-home location	2.2	1.1	5.5
Home to school	3.5	0.7	3.7
Home to shopping	0.7	1.4	4.2
Home to work	3.2	1.6	5.9
Home to work-related	3.0	1.5	5.3

Information from Metropolitan Council Travel Behavior Inventory (2000).

Other data shows a marked difference between trip purpose for bicycling as compared to walking. More bicyclists bicycle to work than for any other trip purpose, except for trips to school. For walking, few people walk to work (but many walk to transit to get to work), and more people walk for non-work trips. Also, a high percentage of work-related trips that don't start or end at home are made on foot, such as running errands over a lunch hour. This suggests that strategies to increase walking should focus more on non-work trips or walks to transit, while strategies to increase bicycling should include some focus on trips to work. Interestingly, bicycling or walking to work may be substituting for transit rather than for driving. Among respondents to the CTS survey, only one-third of bicycling trips to work were replacing a driving trip, but 91 percent of non-work trips by bicycle were replacing a driving trip. The results were similar for walking trips.¹² This finding also suggests a focus on non-work trips.

⁹ Ibid, Tables 29A and 29B.

¹⁰ Metropolitan Council TBI (2000), Tables 30B and 32.

¹¹ Metropolitan Council TBI (2000), Table 33B.

¹² Krizek, Barnes, Wilson, Johns, McGinnis, Nonmotorized Transportation Pilot Program Evaluation Study, University of Minnesota Center for Transportation Studies, Minneapolis: 2007, pages 23-24.

D. Who bicycles and walks?

Data from the *National Household Travel Survey* (NHTS) and the *American Community Survey* (2005) show a bicycle mode share in the U.S. of approximately one percent and a pedestrian mode share of nearly nine percent. The surveys show little variation in mode share by income class for bicycling; however, lower-income cyclists may bicycle more for transportation than recreation.¹³ A high percentage of walking trips (over 60 percent) are made by people with lower incomes (incomes at or below \$35,000 per year).¹⁴

Nationally, men bike to work at three times the rate of women. The cycling rate by gender varies across states. In its September 2007 counts, Transit for Livable Communities found that 72 percent of bicyclists counted in Minneapolis were male, 28 percent were female. In European cities with high rates of bicycling, men and women bicycle at similar rates. In the US, men also make a higher percentage of walking trips than women, but the difference is less dramatic. Men are estimated to make 55 percent of walking trips and women 45 percent.¹⁵ In its September 2007 counts, Transit for Livable Communities found that 51 percent of pedestrians counted in Minneapolis were male, 46 percent were female and 3 percent were children (gender not documented).

E. Bicycle and pedestrian counts and intercept surveys.

TLC and the City of Minneapolis collect data through visual counts of pedestrians and bicyclists, and TLC also conducts intercept surveys using the methodology of the *National Bicycle and Pedestrian Documentation Project*. TLC's intercept survey includes questions on trip purpose, trip length, and choice of route, among other questions. Surveys are offered to participants in English, Somali, or Spanish.



The most extensive count occurs in early September. In September 2007, counts occurred at approximately 70 locations within the City of Minneapolis and in adjacent corridors connecting into the city from surrounding municipalities. The fall counts are supplemented by a few counts in other seasons to allow TLC and the City to track seasonal changes and to annualize the fall data. For more information on the counts, please contact Transit for Livable Communities or the City of Minneapolis. (Photo: Volunteer bike/walk counter, 2007)

F. Areas for further study.

Analyzing additional information from the Metropolitan Council's Travel Behavior Inventory would be useful, especially data specific to the City of Saint Paul and communities bordering Minneapolis. It would also be helpful to have bicyclist and pedestrian count information in those adjoining

¹² Thunderhead Alliance, *Bicycling and Walking in the US: Benchmarking Report 2007*, pp 20 -29.

¹³ *Ibid*, page 20.

¹⁴ *Ibid*, page 33.

¹⁵ *Ibid*.

communities. Currently, Saint Paul, Golden Valley, and St. Louis Park are conducting counts at select locations.

III. Why aren't more people walking and bicycling?

Several recent surveys shed light on the question of why rates of bicycling and walking are not higher and what might increase rates of bicycling and walking.¹⁶ Although the Ramsey County survey included only five of the 13 Bike/Walk Twin Cities communities, the results are still informative.

A. Survey data.

In a recent Mn/DOT survey, the agency found that about half of metro respondents to its metro survey did not ride a bicycle at all during the bicycling season. Reasons cited included “too busy or no interest” (37 percent), “physical limitation” (24 percent) and “no bicycle” (13 percent.)¹⁷ In a 2005 Ramsey County survey, 57 percent of St. Paul residents and 32 percent of suburban Ramsey County respondents considered themselves to be “inactive” or “rarely to never” physically active.¹⁸

A national survey in 2002 found that 72 percent of people responding said they did not bicycle even once during the month of August. The top reasons were “no bike” (26 percent), “too busy” (17 percent), “physical limitation” (10 percent), “bad weather” (8 percent), and “no interest” (6 percent). Most people reported a walking trip, but the 21 percent who did not said it was because of “physical disability” (25 percent), “bad weather” (22 percent), or “were too busy” (19 percent).¹⁹ Photo Credit: Bl@ck Coffee



B. Infrastructure for walking and bicycling.

Increased levels and types of infrastructure and facilities—including off-road bicycle trails, on-street bicycle lanes, wide shoulders, sidewalks, crosswalks, and crossing signals—are identified by potential and current bicyclists and pedestrians as the key investments to increase rates of bicycling and walking. In the MnDOT survey, basic infrastructure ranked ahead of bicycle parking, better maintenance, and shower/locker facilities as the most important factor in whether people were likely to bicycle to work.²⁰ The Ramsey County survey found that the presence of “neighborhood

¹⁶ Those surveys are the Minnesota Department of Transportation's (MnDOT) *Statewide Omnibus Transportation Survey* (2006); a survey in 2006 by Ramsey County as part of a program called *Active Living Ramsey County*, and the CTS survey completed as part of the Bike/Walk Twin Cities initiative.

¹⁷ Minnesota Department of Transportation, “MnDOT Statewide Omnibus Study 2006, reported February 2007.” The survey was a random phone survey of 800 residents in Minnesota 18 years and older including 400 metro area residents.

¹⁸ Active Living Ramsey County, 2005 Residential Survey, performed by Decision Resources LTD, reported April 2006. The survey was administered to a random sample of 600 St. Paul residents and 600 residents of suburban Ramsey County.

¹⁹ National Highway Traffic Safety Administration and Bureau of Transportation Statistics, “National Survey of Pedestrian and Bicyclist Attitudes and Behaviors, Highlights Report,” Washington, D.C.: 2002. Accessed from website: <http://www.bicyclinginfo.org/survey2002.cfm> on March 30, 2007.

²⁰ The MnDOT survey included only 150 current and potential cyclists. Since that is a small sample size, results should be interpreted with caution.

amenities,” such as good trails and sidewalks and pleasant places to cycle and walk, were positively correlated with higher activity levels including more bicycling and walking.

These findings are consistent with several national studies demonstrating that infrastructure improvements are related to measurable increases in bicycling and walking rates.²¹ In addition, national surveys show very high public support for investing in more bicycling and walking facilities, ahead of other possible transportation investments.²²

The City of Minneapolis ranked 10th highest of the largest 50 U.S. regions in investment of federal funding for bicycling and walking between 2001 and 2006.²³ Minnesota invested 3.6 percent of its federal transportation dollars in bicycling and walking projects between 2004 and 2006. While this places Minnesota 6th highest of the 50 states, the percentage is still well below the estimated mode share for bicycling and walking in Minnesota, which is approximately 10 percent.

C. Weather.

Evidence shows that cold weather is not a barrier to cycling. Montana and Alaska are among states with the coldest temperatures, yet are states with high levels of cycling.²⁴ Canada also has much higher rates of cycling, despite a lower average year-round temperature than the United States.²⁵ Certainly the rate of bicycling declines in cold winter months, but the overall rate of bicycling in Minnesota is higher than in many warm weather states. Bicycle counts conducted by TLC in winter 2007 show that the number of bicyclists is still 20 to 30 percent of what it is on an average summer day.



D. Safety for pedestrians and bicyclists.

Pedestrians and bicyclists are the most vulnerable users of the transportation system. On the basis of miles traveled, bicyclists and pedestrians have a higher rate of injury and death than do motorists. Furthermore, pedestrians who are seniors, young people, and people of color are injured and killed in higher their percentage of the general population.²⁶ Pedestrians comprise 8 percent of all traffic fatalities in Minnesota and 2.5 percent of all injuries. Bicyclists constitute 1.3 percent of all traffic fatalities and 2.5 percent of all injuries.²⁷ In addition, pedestrian safety may be getting worse in the

²¹ University of North Carolina Highway Safety Research Center, A Compendium of Available Bicycle and Pedestrian Trip Generation Data in the United States, 1990's, Chapter 1. Also see Dill and Carr, "If You Build Them, Commuters Will Use Them - Another Look," Portland State University, Portland OR: 2003; and Barnes, Thompson and Krizek, "A Longitudinal Analysis of the Effect of Bicycle Facilities on Commute Mode Share," University of Minnesota, Minneapolis MN: July 2005.

²² Bureau of Transportation Statistics (BTS). Survey of Attitudes and Behaviors towards Bicycling and Walking. Also Belden Russonello and Stewart, "Americans Attitudes Toward Walking and Creating Better Walking Communities," April 2003.

²³ Thunderhead, page 49.

²⁴ Ibid, page 84.

²⁵ Ibid.

²⁶ Surface Transportation Policy Project, "Mean Streets 2004: How Far Have We Come? Pedestrian Safety 1994-2003," November 2004.

²⁷ Minnesota Department of Public Safety, Office of Traffic Safety, Minnesota Motor Vehicle Crash Facts, 2005, St. Paul, MN 2005.

Twin Cities: the number of injuries and deaths is increasing relative to the amount of walking.²⁸ Safety is identified as a key barrier to get more people bicycling and walking. When comparing the U.S. with some European countries, researchers have noted that rates of bicycling and walking are much higher in Europe, but crash rates are much lower.²⁹

A recent study examines the relative risk associated with different modes of transportation. This information should inform transportation planning and investment in our region.³⁰

Bus	.4
Passenger Vehicles	9.2
Walking	13.7
Bicycling	21.0
Motorcycle	536.6

Source: American Journal of Epidemiology. April 21, 2007.

Identifying causative factors in crashes involving pedestrians and bicyclists can help determine the best ways to increase safety. The City of Minneapolis analyzed bicycle crashes that occurred in Minneapolis during 2006 and drew the following conclusions:

- Most bicycle/vehicle crashes involve cyclists who are between 10 and 29 years of age.
- Approximately 75 percent of crashes occur at intersections, while 25 percent occur at non-intersection locations.
- Overall, 54 percent of crashes in 2006 were determined to be the fault of the motorist, 36 percent were the cyclist's fault, and fault could not be determined in 10 percent of crashes. Fault differs dramatically depending on the age of the bicyclist involved in a crash, with younger cyclists found at fault more often than older cyclists.³² (Photo Credit: Poppysseed Bandits)



Appendix A contains a map of bicycle crashes and a map of pedestrian crashes in Minneapolis.

²⁸ Ibid, pp. 13-16.

²⁹ Pucher and Dijkstra, "Promoting Safe Walking and Cycling to Improve Public Health: Lessons from the Netherlands and Germany," American Journal of Public Health, Sept 2003, Vol. 93, No. 9, 1509.

³⁰ Beck, Laura F., Ann M. Dellinger, and Mary E O'Neil, American Journal of Epidemiology. Motor Vehicle Crash Injury Rates by Mode of Travel, United States: Using Exposure-Based methods to Quantify Differences. Vol. 166. Nov. 2. April 21, 2007.

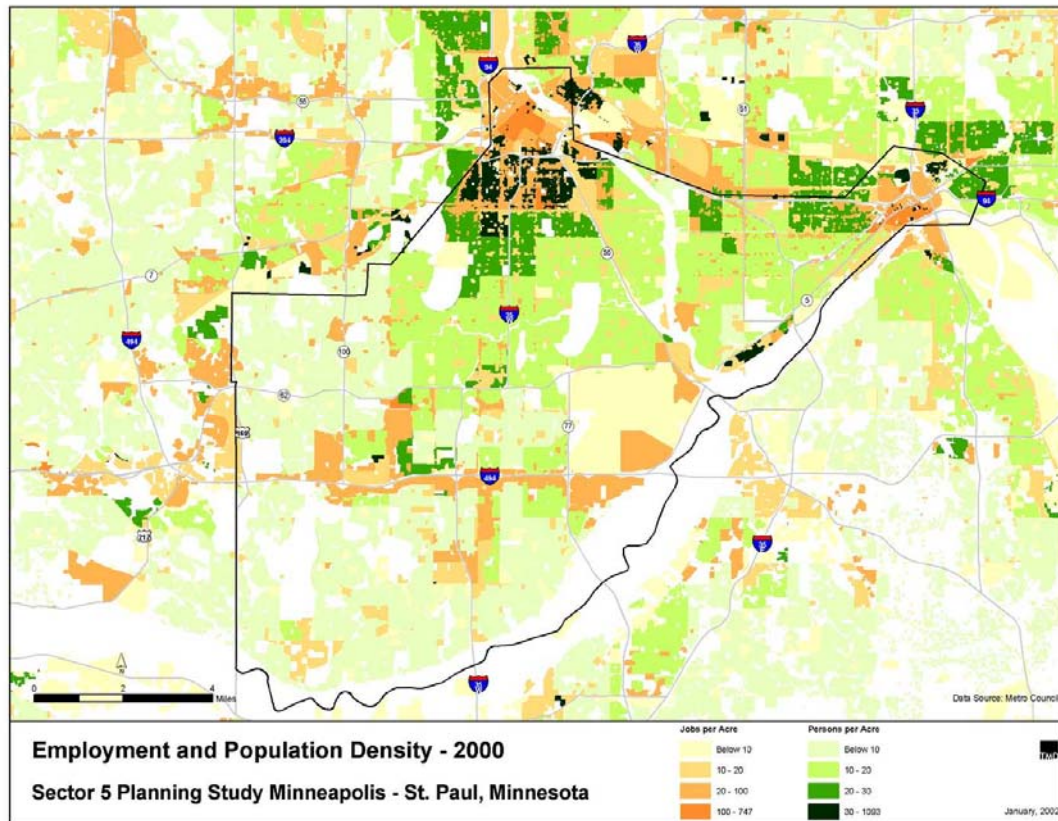
³¹ Ibid.

³² Shaun Murphy, City of Minneapolis, Analysis of 223 crashes involving bicyclists in Minneapolis in 2006, provided February 2007.

In the Twin Cities and in the U.S. generally, few resources are devoted to safety education for bicyclists and pedestrians and enforcement of traffic laws related to the safety of bicyclists and pedestrians. While driver behavior is cited as a key barrier to bicycling and walking, little money is spent to educate drivers about Minnesota laws regarding the responsibility of motorists in relation to bicyclists and pedestrians. Safety education on bicycling and walking is rare in public schools, although the Safe Routes to Schools program is changing this. In many European countries, driver education and school curriculums include extensive bicycling and walking education and training and crash rates are much lower.³³

E. The influence of development on walking and bicycling.

Density of development, the mix of development, and the connectivity of a community’s street layout influence how people get around. In areas with higher densities, destinations are closer together, creating shorter trip distances, and people bicycle, walk and take transit more.³⁴ Therefore, it is no surprise that Minneapolis has the highest mode share for bicycling and walking as compared to its adjoining cities. The city has a higher density of development than the rest of the region and a well-connected street pattern with a nearly complete sidewalk network, providing direct routes for bicycling and walking to local and other destinations. The City has many neighborhood businesses providing residents with opportunities to access civic destinations and shopping close to home.



³³ Transit for Livable Communities, “Sharing the Road: Encouraging Bicycling and Walking in Minnesota,” 2003, especially chapters on traffic enforcement and safety education.

³⁴ Dr. John Holtzclaw, Community Characteristics Promoting Transit and Walking, National Resources Defense Council, June 1994, accessed from <http://www.sierraclub.org/sprawl/articles/characteristics.asp> and Cervero R, and Radisch C., “Travel Choice in Pedestrian Versus Automobile Oriented Neighborhoods,” Transport Policy 1996; 3:127-41.

People who take transit to work, especially those who work in nodes of mixed use development (i.e. downtown Minneapolis or the University of Minnesota) can conduct some of their daily business on foot: stopping at an ATM, a card shop, the barber, or the Post Office before, during, or after the workday.

F. Other factors influencing rates of bicycling and walking.

The Ramsey County survey, the CTS survey for the NTP pilot communities, and national literature on bicycling and walking rank safety from both traffic and crime, destinations and short trip distances, and pleasant places to bicycle and walk as other key elements determining whether people will bicycle and walk. Informal polling among current local cyclists also highlights concerns of safe bicycle storage, shower/locker facilities, better road and trail maintenance, and hauling cargo.³⁵

The CTS survey included questions to a small sample of Minneapolis residents about their attitudes towards bicycling and walking as well as transit. While the survey was not a random sample and focused more heavily on geographic areas of the city with higher rates of bicycling, it still provides useful information. A strong majority of respondents said their neighborhoods had good bicycling and walking facilities, destinations that were easily accessible by bicycling or walking, and a very high number noted good bicycling and walking connections to transit.

Nevertheless, close to half also believed that major gaps existed in the bicycling network. In addition, 64 percent believed that more money should be invested in facilities for bicycling and walking.³⁶ Additionally, of those respondents with children, over half lived more than three miles from their children's school. Many bicyclists cited traffic levels, motorist behavior, and unsafe intersections as safety concerns, while pedestrians did not cite a high level of safety concerns.³⁷

Respondents identified numerous improvements that would motivate them to bicycle or walk more, including (not in priority order):

- More destinations close to home
- Areas free from crime
- Less traffic/slower traffic
- More bicycle lanes and paths (bicyclists)
- Better/more lighting
- Better or safer bicycle parking (bicyclists)
- If vehicle parking were harder to find/cost more
- Safer intersections³⁸



The biggest complaint regarding bicycling and walking to transit was the lack of bicycle parking at transit stops.³⁹ (Photo Credit: Bl@ck Coffee).

³⁵ Transit for Livable Communities survey at Twin Cities Bicycle Expo, 51 respondents, March, 2007 and TLC's survey at Twin Cities Bike Classic, September 2006.

³⁶ CTS, Nonmotorized Transportation Pilot Program Evaluation Study, University of Minnesota: 2007. Appendix B and C.

³⁷ Ibid.

³⁸ Ibid, Appendix D.

G. Motivations and barriers for physical activity by cultural group in Minneapolis.

The Minneapolis Department of Health and Family Support conducted focus groups in 2005 as part of the Steps to a Healthier Minneapolis program. These were held in the city's poorest neighborhoods – Near North, Northeast, and Phillips. From these conversations, cultural implications of physical activity are apparent. Some highlights are included below.⁴⁰

African American parents had traditional and domestic definitions of physical activity that ranged from organized sport to housework and childcare. Their greatest motivators for involvement in physical activity were social interaction and efforts to counter physical decline. Major obstacles to physical activity that parents experienced included safety (especially on the North Side), expense, and finding the time. Social support, being able to exercise in tandem with children, and having facilitative tools like videos and equipment made physical activity easier for parents. (Photo Credit: Miles I 322)

Across all the **American Indian** focus groups, children were the primary motivation for most participants to be more physically active for two reasons: a desire to model better behaviors and to “keep up with them.” Participants in all of the focus groups noted five obstacles or barriers to being physically active: lack of financial resources, childcare difficulties, time constraints, lack of motivation, and existing physical conditions/ailments (pregnancy, diabetes, arthritis and asthma).



Among **Hispanic/Latino** respondents, nearly all of the focus group participants mentioned that they enjoyed walking either with family or friends, but were dismayed with the lack of any programs that specifically targeted Hispanic/Latino couples. The following factors were considered significant:

- *Safety:* Feeling safe did not necessarily equate to involving the police since some of the participants did not trust the police. It meant that the activity took place in a safe location and that they and their children could safely arrive at the location.
- *Daycare/Youth Instruction:* The programs/activities needed to be family-focused, involving men, women and children.
- *Bilingual/Bicultural Instruction:* It was important to have an instructor who knew how to cater information about other cultures and unfamiliar activities to moderate to low-income Hispanics/Latinos such that they could use the information in their daily lives.
- *Location:* The activities needed to be close to where the participants lived or take transportation issues into account.

³⁹ Ibid.

⁴⁰ For more information please see www.ci.minneapolis.mn.us/dhfs/steps.asp.

- *Capacity-building*: Ideally instructors would be bilingual individuals from the Hispanic/Latino community and/or easily accessible.
- *Effective and Appropriate Marketing*: Many of the participants mentioned that they often received new information by word of mouth. However, they also mentioned that advertising could occur on the most common radio stations (e.g. *El Rey, La Mera Buena*) and television stations with programming in Spanish.

In the **Hmong/Laotian** focus groups, women preferred to exercise with other women and men preferred to exercise individually (Laotian and Hmong). Men and women noted that much or most of their physical activity related to daily routine, e.g., walk about the park with children, household chores, cutting grass, picking up garbage. Personal safety was mentioned in this group also, especially the fear of women as well as men to walk alone. Some said that they would like to attend health clubs but they did not have transportation.

This pilot and bicycling/walking programming will face challenges in understanding and addressing these and other cultural factors. To create lasting change and inclusive benefits of our program, TLC will work to develop programs with cultural sensitivity and relevance.

H. Areas for further study.

Additional studies are needed to understand why people do not bicycle and walk (or do not bicycle and walk more frequently), particularly in Minneapolis and other Bike/Walk Twin Cities communities not covered in the Ramsey County study. Social marketing research could be useful in providing a more in-depth understanding of psychological and physical barriers people face. Even by demographic group or neighborhood, this research could help target awareness efforts to the groups with the highest potential to change and help identify the right messages.

IV. Existing efforts to encourage bicycling and walking



In the Bike/Walk Twin Cities pilot area, local units of government are beginning to address barriers to increasing rates of bicycling and walking for both transportation and recreation. Following is a brief summary of existing conditions, facilities and efforts in the areas of infrastructure; land use patterns; planning and policies; safety (education and enforcement); and encouragement and awareness. The issues of funding and data collection are underlying policy issues that relate to all the barriers. The Metropolitan Council has not taken a leadership role in identifying a priority bicycle or pedestrian system or network within the

region so there is no list of high priority areas or projects in regional planning documents.

A. Physical infrastructure for bicycling and walking.

As was discussed in Section III, safe and accessible facilities are key factors to encouraging bicycling and walking. People are reluctant to walk along the shoulder of a road with high-speed traffic, and children will be reluctant to ride a bicycle to school if there is not a safe place to lock a bicycle. Different types of facilities are needed for different types of users. Some bicyclists will ride in a bicycle lane on a high traffic street, and other bicyclists may only ride on low traffic residential streets and

off-road trails. Some pedestrians will walk along any sidewalk, but some sidewalk facilities and locations really attract walkers to an area--the Nicollet Mall and the paths around the lakes in Minneapolis for example. Bicycle facilities include off-road trails, on-street bicycle lanes, and bicycle boulevards (not currently found in Minnesota). Facilities for pedestrians include off road trails and sidewalks. High quality infrastructure should also include bicycle parking, lighting, landscaping, and signage.

Since many of the roads and much of the development in the Bike/Walk Twin Cities communities (especially adjoining communities) were built when bicycle and pedestrian access was not a high priority, there are significant barriers to make bicycling and walking safe, convenient, and pleasant transportation options. While some units of government have experimented with “road diets” and other treatments, the state, region, and local communities have not adopted policies regarding new street design standards (today often called “Complete Streets”) to ensure that new and reconstructed roads better accommodate bicyclists, pedestrians, and transit users. This section summarizes current conditions for bicycling and walking facilities in the Bike/Walk Twin Cities area.

I. **Bicycling.**

a. Bicycle parking. Adequate and convenient bicycle parking encourages riding and discourages bicycle theft. The existence of bicycle parking also serves as a visual reminder to people about bicycling. Minneapolis is a national leader in bicycle parking. The Thunderhead Benchmarking study shows 453 bicycle parking spaces per 10,000 residents in Minneapolis, the highest rate for cities surveyed.⁴¹ The City owns nearly 330 lockers and approximately 4,000 bicycle racks with spaces to park 16,500 bicycles.⁴² The City is currently conducting an inventory of all of its public bicycle parking, and one can view a draft map of those locations.⁴³ Cost sharing is required to install a new bicycle rack at many locations.



Bicycle lockers are available in locations downtown, at the University of Minnesota, and along some major transit lines, including the Hiawatha Light Rail. At two locations, showers are available at a nominal cost with the rental of a bicycle locker. Although all light rail stations have bicycle parking, and many transit hubs have bike racks and lockers, little is known about the availability of bicycle parking at bus stops.

Minneapolis’s first Bike Station opened in May 2008, and is operated by Freewheel Bicycle in partnership with the Midtown Greenway Coalition. This facility is located adjacent to the Midtown Global Market on the Midtown Greenway and offers bicycle storage, bicycle rental, and bicycle repair.

⁴¹ Thunderhead Alliance, *Bicycling and Walking in the US: Benchmarking Report 2007*, page 69.

⁴² Don Pflaum, City of Minneapolis, e-mail correspondence with Sacha Peterson, TLC, March 2007.

⁴³ Bike Racks and Lockers draft map, January 2007. <http://www.ci.minneapolis.mn.us/bicycles/bikerack-lockers.pdf>

b. Connections to transit. All Metro Transit buses and trains have bicycle racks so a rider can pedal for part of their trip and ride the bus or train for the rest. If a bicyclist rides a bicycle three times a week or more, they are eligible for a Guaranteed Ride Home through a program sponsored by the Metropolitan Council. This free program makes sure cyclists can get home in an emergency.

c. On-street and off-street accommodations. Over the last ten years, the City of Minneapolis has made great strides in improving facilities for bicyclists. As of spring 2007, the city had 38 miles of on-street bike lanes, 57 miles of off-street multi-use trails, and hundreds of miles of local streets suitable for bicycling. The City has some of the nation's premier facilities for bicycling, including the Grand Rounds system of trails around the chain of lakes and along the Mississippi River; three bridges over the Mississippi River that are open only to pedestrians and bicyclists; and Hennepin County's Midtown Greenway, one of the nation's only "bicycle highways," which runs east/west across the entire southern half of the City. Bicyclists are allowed to ride on all roads in Minneapolis except for limited access expressways. Most residential streets have low traffic volumes and lower vehicle speeds and provide good access for bicyclists, especially those bicyclists who prefer not to ride on high traffic streets. The City of Minneapolis does not currently have "bicycle streets," or "bicycle boulevards," although some streets prioritize bicycle traffic.

(Photo Credit: Andrew Ciscel)



Three departments/agencies within Hennepin County (the Transportation Department, Three Rivers Parks and Housing, Community Works and Transit) plan and develop off-road bicycle infrastructure. Many of the off-road trails in Minneapolis and the rest of the county were spearheaded by Hennepin County. Notable among these trails are the Minnesota River Bluffs LRT Regional Trail and the Midtown Greenway. The County invested its own funds and used funding from federal grants to develop its off-road facilities. The county's latest Bicycle Systems Plan (2007) identifies 805 miles of existing and potential county, state, and municipal bikeways, both on and off-road, of which 447 miles have been built. Since the Bicycle Plan was developed in 1995-1996, 58 miles of new bikeways have been constructed. A Gap Study prepared by Hennepin County in 2003 identified 109 gaps in the trail system, and 20 more have been added. By June 2007, Hennepin County had addressed 18 of the gaps.

Saint Paul reports that it has 108 miles of paved, off-street bicycle or multi-use trails and 35 miles of striped and signed bicycle lanes. The City has an additional 40 miles of on-street bikeway treatments such as striped shoulders and designated, signed bicycle routes.⁴⁴ Roseville and Golden Valley each reported 65 miles of trails, but in each community this mileage may include sidewalks or narrow bituminous trails. The remainder of the communities reported 12 or fewer miles of bicycling or multi-use trails, which appears not to include the existing county or state trails. In the adjoining communities, arterial streets often have speed limits higher than 30 mph, which raises safety concerns about on-street bicycling.

⁴⁴ Sacha Peterson, Transit for Livable Communities, E-mail correspondence with John Maczko, City of St. Paul April 2007.

Since 2005, the Metropolitan Council has been working with other agencies to develop a comprehensive GIS map that includes information on multi-use trails, on-street bike lanes, and other bike facilities. Initially, the concept was simply to map existing and planned bikeways, but the scope may be expanded to allow easy updating by each managing authority and a MapQuest-type route planning tool for the public. Ideally, the mapping project would include an inventory of planned facilities; the age, condition and width of facility pavements; and a “level of service” rating for each facility as well as for roads where bikeways do not exist (but may need to be used because of gaps in the bikeway network).

Through its *Access to Destinations* study, the Center for Transportation Studies at the University of Minnesota is investigating accessibility as a key performance measure for transportation across all modes, including bicycling and walking.⁴⁵

2. Walking.

a. Sidewalks and trails. Lack of sidewalks and trails is a major barrier to walking. Minneapolis has a nearly complete sidewalk system, but none of the adjoining communities has a complete sidewalk network. Only Saint Paul (an estimate) and St. Louis Park have sidewalks on more than half of city streets, as can be seen in Table 9. Saint Paul, Edina, and Golden Valley are the only Bike/Walk Twin Cities communities that had not officially inventoried their sidewalk system as of spring 2007.

TABLE 9. Percent Sidewalk Coverage in Bike/Walk Twin Cities Communities

City	Percent of streets with sidewalks on one or both sides of street
Minneapolis	95
St. Louis Park	60
St. Paul	50
Richfield**	100/5
Robbinsdale	42
Brooklyn Center	25
Golden Valley	20
Roseville	20
St. Anthony	14
Lauderdale	10
Fridley	8

**Richfield reports that 100 percent of their arterials and collector streets have sidewalks and almost none (5 percent) of their local streets have sidewalks.

Source: TLC survey of Bike/Walk Twin Cities communities 2007.

More information is needed about pedestrian infrastructure in both Minneapolis and the Bike/Walk Twin Cities adjoining communities. Only Minneapolis and St. Louis Park have mapped their sidewalk and trail network. Little is known about the connectivity of that network within communities, the

⁴⁵ Center for Transportation Studies, *Access to Destinations* Study. For more information, see <http://www.cts.umn.edu/access-study/>.

extent to which access is provided on or through private property, and the extent to which the network connects to key community and neighborhood destinations, transit stops, and stations.

It should be noted that the federal government has requirements regarding accessibility for people with disabilities that relate to bicycle and walking facilities. These requirements will influence the way in which facilities in Minneapolis and the Bike/Walk Twin Cities adjoining communities are designed, implemented, and maintained.

3. Amenities: Signage, mapping, and more.

The *Star Tribune* newspaper, community business leaders, and others have often lamented the lack of attention within the Twin Cities to the “amenities” that make bicycling and walking pleasant and enjoyable activities. Walkers want shade on a sunny summer day. Bicyclists want a secure place to park their bicycle. Both bicyclists and pedestrians need adequate lighting to see where they are going and to feel safe from crime. Beautiful landscaping, building design, and public art all contribute to creating streets that attract bicyclists and pedestrians.



Several recent street redesign projects in Minneapolis - Hennepin Avenue South, Lake Street, and Franklin Avenue - placed a high priority on pedestrian design and bicycle parking. The streets now have bicycle parking, wider sidewalks, street trees, and other amenities. These changes not only improved those streets for walking, but they appear to have improved the business climate on those corridors as well. (Photo Credit: Kevinhoule)

a. Signage. Way finding signage is an important tool to help people navigate by bicycle or on foot, identify a bicycling or walking network or route, and to help create a sense of identity and place. The Minneapolis Park Board recently installed way finding signs and kiosks at all city parks with funding from a federal transportation grant. Walking Minneapolis is a new private sector effort to encourage pedestrian activity in and around downtown. The Minneapolis Riverfront District group developed a Signage and Way finding Master Plan, which was funded by the St. Anthony Heritage Board, to define and identify the downtown riverfront area.



b. Mapping. Printed maps and on-line maps that are kept up-to-date are important tools for good planning and for encouraging bicycling and walking. Of the 12 cities from which TLC received survey responses, eight reported that they have mapped their existing sidewalks and six have mapped existing city bicycle/multi-use trails. Many of these communities, however, use these maps for planning purposes and do not have maps of walking and bicycling routes for public distribution.

A number of printed bike maps are available in the region today. There are also a couple of local on-line mapping efforts, none of which is yet operational. To date, there is a mapping tool similar to

MapQuest that bicyclists and pedestrians can use to navigate the region by bicycle or on foot (Mapmyride.com is a limited-function version of this type of tool). Below is a listing of maps currently available in the region. Several have limitations (not up-to-date, not peer reviewed, no information on safety, not widely available, etc.).

- Hennepin County has a map (2007) that shows existing and planned bicycle trails and on-street bikeways. It also has bikeway route maps that are available online. Neither of these maps rates the safety of the facilities, although the facilities shown meet the County's minimum standards for bikeways design. The county distributes approximately 30,000 copies per year.
- Saint Paul has online maps of existing bike lanes, routes, and trails (last updated July 2006). This map is used internally for planning purposes and is not available to the public.
- Anoka County has an online map of existing regional and city trails.
- Ramsey County is mapping existing bicycle and pedestrian facilities through GIS, which will be used to promote safe routes to destinations, identify gaps and prioritize infrastructure improvements.
- Minneapolis has a bikeways map on its web site that identifies existing bicycle facilities, including on-road and off-road facilities (from December 2006).
- The University of Minnesota produces a bicycle map of the campus area for students and employees (updated annually).
- A company called Little Transport Press produces a bicycle map for the Twin Cities region. The map can be purchased in bicycle shops. The routes selected are largely the recommendation of one cyclist.
- The book Twin Cities Cycling, also by only one bicyclist, contains routes and maps for 50 rides in the Twin Cities metro area and is updated every few years.
- Twin Cities Bicycling Club's Minnesota Bike Atlas contains maps and a CD with descriptions of over 100 road and trail rides in Minnesota and western Wisconsin.

The Metropolitan Council, MnDOT, and several metro counties and cities have recently completed a mostly-current GIS database of bicycle facilities that will be a useful tool for agency planning. Included are existing and planned on and off road facilities. TLC recommends including descriptors on width and age of pavements, ratings on level of service for bicycling, speed limits, and other items. Major discrepancies between Hennepin County's and the Metropolitan Council's data will need to be resolved, however.

B. Planning and policies.

I. Planning. Bicycle and pedestrian planning has not been a high priority of the Metropolitan Council or most local units of government in the Twin Cities region. The Metropolitan Council's Development Framework contains only a few short references to bicycling and walking for transportation. The Metropolitan Council's Transportation Policy Plan (2004) devotes only six of its 136 pages to bicycle and pedestrian travel, and there are no benchmarks for mode share, crash reduction, or system improvements. Local communities are encouraged, but not required, by the Metropolitan Council to include bicycling and walking in their 10-year comprehensive plans.

Most municipalities have a pedestrian and/or bicycle section in their comprehensive plans but those sections are limited in scope and specificity. Of the municipalities eligible under the Bike/Walk Twin Cities program which were surveyed by TLC (11 of 13 responded), eight stated that they have a bicycle plan and five stated that they have a pedestrian plan.

The City of Minneapolis has recently begun to develop its first pedestrian plan (funded in part with a Bike/Walk Twin Cities award). Minneapolis does not have a bike plan per se but it does have a bicycle map/project list (2001) that identifies existing facilities and future facilities and a recently completed gap study. Saint Paul is currently updating its bicycle transportation plan.

Hennepin County has a comprehensive Bicycle Transportation Plan (1997). Its maps of existing and planned bicycle facilities are only a few years old. Ramsey County has a trails plan that is part of its park and recreation systems plan (2006). Anoka County does not have a bicycle plan, and none of the counties has a pedestrian plan.

Most U.S. cities that have significantly increased mode share for bicycling and walking have comprehensive bicycle and pedestrian plans. Blue Cross and Blue Shield of Minnesota, with its interest in increasing physical activity, is offering grants to Twin Cities communities that wish to complete a bicycle and pedestrian component for their comprehensive plans.⁴⁶ Planning also generates citizen interest and input that can lead to support for new programs, policies, and investments.



2. Policies. Only three communities (Minneapolis, St. Paul, and Fridley) have a policy for striping on-street bicycle lanes when roads are resurfaced or rebuilt. Both Ramsey and Hennepin counties have done a good job of refurbishing major river bridges to accommodate bicyclists and pedestrians (Lake Street Bridge, Ford Parkway Bridge). Minneapolis is the only municipality examining the location and circumstances of bicycle and pedestrian crashes as part of its planning process. *(Photo Credit: Payton Chung).*

Minneapolis is completing a 10-Year Transportation Action Plan. It calls for transit to be the motorized mode of choice downtown. Its Downtown Action Plan component focuses most of its analysis on improving the “Primary Transit Network” in the downtown. While the downtown portion of the Action Plan discusses existing gaps in the bicycling and walking network, it defers a more comprehensive analysis of bicycle and pedestrian investment and policy needs to its upcoming Pedestrian Plan, and its future Comprehensive Bicycle Plan (not yet funded).

The cities of Minneapolis and St. Paul occasionally complete neighborhood and corridor plans that identify ways to increase bicycling, walking, and transit use. Neither Metro Transit nor local communities have examined barriers (lack of sidewalks, lack of bus shelters, etc.) that discourage

⁴⁶ All cities in the seven-county region are required by the Metropolitan Council to update their comprehensive plans by 2008.

bicyclists and pedestrians from accessing public transit. In May 2007, TLC awarded a grant to Metro Transit to explore ways to improve bicycling and pedestrian connections to transit within the project area of the Bike/Walk Twin Cities initiative.



In 2007, the Hennepin County board passed a resolution regarding “active living” that sets transportation priorities through an interdisciplinary framework that focuses on the built environment. The resolution directs county staff “to work across disciplines and departments to incorporate tools, such as Health Impact Assessments, into county decision-making on infrastructure including buildings and roads.” Relevant features include the following provisions:

- Buildings and their landscapes should be designed with features that promote opportunities for active living and active transportation, including highly visible stairs, orientation to streets and sidewalks, bicycle facilities, and transit stops at main building entries;
- Transportation systems, including transit and trails, should provide safe, convenient, and affordable access to destinations such as housing, employment, schools, and community services.

At this time, neither the State of Minnesota nor any entities within Minnesota have a complete streets policy. “Complete Streets” are designed and operated to enable safe access for all users. Bicyclists, pedestrians, motorists, and transit riders of all ages and abilities are able to safely move along and across a complete street.⁴⁷ Many states and local governments have adopted this strategy as a way to ensure attention to all users in designing and funding transportation facilities. The Thunderhead Alliance offers the City of Chicago ordinance as the best model.

CHICAGO’S COMPLETE STREETS POLICY

“The safety and convenience of all users of the transportation system including pedestrians, bicyclists, transit users, freight, and motor vehicle drivers shall be accommodated and balanced in all types of transportation and development projects and through all phases of a project so that even the most vulnerable – children, elderly, and persons with disabilities – can travel safely within the public right of way.”

3. Development review process. Cities have tools and strategies to ensure that the needs of pedestrians and bicyclists are considered in new development, redevelopment, and street improvements. A few strategies include: requiring trail dedication or sidewalks as part of new development, incentives for providing bike parking, reducing vehicle parking requirements, establishing building design and landscaping standards that enhance streetscapes, and reviewing traffic impacts of a proposed development with bicyclists and pedestrians in mind. Based on responses to questions in TLC’s survey, only Minneapolis and Golden Valley have extensive provisions that

⁴⁷ www.completestreets.org

consider the needs of bicyclists and pedestrians in the development review process; other cities consider bicyclists and pedestrians in only a few aspects of their development review process.⁴⁸ Some communities in other U.S. regions have reviewed their local zoning codes to ensure that they promote safe and convenient access by bicyclists and pedestrians. Some cities reduce vehicle parking requirements and subsidies as a way to encourage bicycling, walking, and transit use.

4. Staffing and other resources. When compared to the investments in motor vehicle transportation, bicycling and walking are a much lower priority in the region. Most cities in the Bike/Walk Twin Cities project area have multiple staff members devoted to planning, constructing, and maintaining roads and parking and only a few staff devoted to bicycling and walking. Minneapolis, with a 17 percent mode share for bicycling and walking, has 2.5 full time employees devoted to bicycle and pedestrian work and dozens of employees assigned to road construction, maintenance, or vehicle parking.⁴⁹ TLC was not able to obtain a number from the City of Saint Paul. None of the other Bike/Walk Twin Cities municipalities have staff specifically dedicated to bicycle or pedestrian transportation.

TLC surveyed the Bike/Walk Twin Cities communities regarding their education, enforcement, and promotion/awareness efforts for bicycling and walking. For the most part, individual cities' efforts are extremely limited and not coordinated with each other. No city reported any ongoing enforcement efforts; some said they try to ticket jaywalkers. About half of the cities have some level of education programming in the school system or in summer camps, and some cities conduct community bicycle rodeos and helmet giveaways. Minneapolis, Saint Paul, and other cities promote bicycling and walking through organized bicycle rides, walks, and runs.

5. Areas for further study. Additional analysis of crash reports for intersections with high incidence of bicycle and pedestrian crashes in adjoining communities should be conducted. Current state, regional, and local investments being made in bicyclist and pedestrian safety and education should be collected and analyzed.

C. Education, enforcement, and encouragement.

For people who are not currently bicycling or walking for transportation or at all, awareness and education efforts are extremely important. Simply providing good infrastructure may not be enough to motivate this segment of the population. Some people will need to be encouraged to overcome the barriers such as lack of interest, lack of time, or not feeling equipped or capable to bicycle or walk.⁵⁰



In 2006, TLC examined a number of education and encouragement programs from around the U.S. The programs that seemed to hold promise for the Bike/Walk Twin Cities program include: Chicago and Toronto's Bicycling and Pedestrian Ambassador Program; personal travel planning efforts in

⁴⁸ Transit for Livable Communities survey responses from 12 cities, November 2006 to January 2007.

⁴⁹ Barb Thoman, Transit for Livable Communities conversation with Don Pflaum, May 14, 2007.

⁵⁰ Ramsey County Active Living, Key Informants Report, 2006, regarding strategies to address initial barriers to physical activity.

Portland, Oregon and Australia; San Francisco's Co-Exist Campaign; and city efforts to develop and distribute neighborhood maps for bicycling and walking. (Photo Credit: Andrew Ciscel).

A number of initiatives from Minnesota in the area of education, enforcement, and awareness are described in detail in Appendix B to this document. They include: a state agency effort called Towards Zero Deaths, MnDOT's Share the Road campaign, MnDOT's Safe Routes to Schools program, Metro Transit's Learn a New Way to Move campaign, Ramsey County's Active Living Ramsey County, Blue Cross Blue Shield's "do" campaign, and the efforts of local bicycle clubs. Other efforts described include the work of Transportation Management Organizations, employer efforts, and neighborhood initiatives. The combined dollar investment in these educational efforts is very small in comparison to the amount spent on transportation infrastructure.

D. Additional policy-level barriers.

1. Funding. Federal transportation laws have increased the amount of money spent on bicycling and walking infrastructure and safety in the past 15 years. Still, no state spends more than 2.5 percent of its federal transportation dollars on bicycling and walking, even though much of the federal funding going to states can be spent flexibly on any travel mode.⁵¹ Approximately \$10 million in federal grants for infrastructure for bicycling and walking are awarded in the Twin Cities region each biennium by the Metropolitan Council's Transportation Advisory Board.

2. Inadequacy of data. There is a lack of data in almost all areas relating to bicycle and pedestrian travel (national, regional, and local levels). This includes existing travel behavior, particularly disaggregated by demographic groups; attitudes/reasons for not bicycling and walking; existing facilities; crashes, particularly causative factors; barriers; and spending on bicycling and walking.

V. Recommendations and Best Practices

A. More study of travel behavior.

The rates of bicycling and walking in Minneapolis, at 13 percent for walking and 4 percent for bicycling, were higher than TLC expected. The average length of these bicycling and walking trips is short (only 2 miles for bicycling and 1 mile for walking). The work trip is the longest trip people make and while very few people walk to work, many walk to transit to get to work, and many ride a bicycle to work. Many more men bicycle than women. Short trips to local destinations (shopping, school, the library, the post office) seem to show promise as trips on which to focus. More thought will be given to understanding which groups have the greatest potential to change, determining specific barriers, and targeting awareness campaigns.



B. Funding for planning.

Planning for bicycle and pedestrian transportation should be a priority for the state, region, and local units of government. The aim should be identification of a regional network and local priority corridors. The state is fortunate to have Blue Cross and Blue Shield of Minnesota, which is supporting the development of bicycle and pedestrian plans for local units of government in the Twin

⁵¹ Surface Transportation Policy Project, Mean Streets 2002, Washington, D.C.: 2002, p. 19.

Cities region. The TLC Board awarded a grant to Minneapolis from Bike/Walk Twin Cities to pay for a portion of the cost of the City's first pedestrian plan. There is also a need for more corridor planning and site-specific planning for high crash locations. The region and state could learn from other regions that have built innovative facilities that are not currently in place here and implemented new street design standards and zoning ordinances that encourage travel by bicycle and walking.

C. Investment in facilities.

The City of Minneapolis has some of the nation's premier off-road trails and a number of on-road facilities. Nevertheless, many gaps remain in its bicycle and pedestrian networks. Minneapolis has committed to developing a pedestrian plan with a portion of the funding likely to come from the Bike/Walk Twin Cities initiative. While Minneapolis has a nearly complete sidewalk network, the city lacks other pedestrian infrastructure including pedestrian scale lighting, benches, shade trees, and zoning that encourages walking. Minneapolis also has both on-street and off-street gaps in its bicycle network. The City does not currently have any true "bicycle boulevards." Minneapolis has a program for installation of bicycle parking, but many destinations have no bicycle parking or an inadequate amount of bicycle parking.

The adjoining communities also lack information on their facilities, but most know that their network of facilities for bicycling and walking is very thin. Few of the adjoining communities have a city-wide plan for a bicycle or pedestrian network. Across the pilot area, many intersections present hazards for non-motorists and streetscapes that are bleak and uninviting. Bicyclists and pedestrians need safer and more attractive connections to transit stops and stations.

D. Increased education and awareness.

Because so little has been done in this area, there is tremendous opportunity to have a significant impact. Planners and engineers lack information on best practices and innovative treatments. Motorists, bicyclists, and pedestrians need education and information about their rights and responsibilities. Many of the innovative and successful educational programs tried in other places have not been implemented in Minnesota: awareness and safety campaigns, a bicycle and pedestrian ambassador program (recently funded through the Bike/Walk Twin Cities initiative and due to launch in summer 2008), and community-based personal travel planning.

E. Obtain more and better data.

TLC encourages the Metropolitan Council to expand its information-gathering for bicycling and walking. TLC analyzed unpublished data provided by the Metropolitan Council from the Travel Behavior Inventory to determine travel information for Minneapolis isolated from other municipalities. The findings were quite unexpected and useful. The importance of the TBI to regional planning and transportation facility design would suggest that it should be conducted more than once every ten years, that the sample size should be large enough to provide robust data for larger municipalities, and that additional effort should be made to reach households whose residents are low-income and non-English speaking. Efforts should also be made to encourage local communities to collect information about their existing infrastructure and amenities, crash rates, use of facilities, and level of investment.

F. Roadway design.

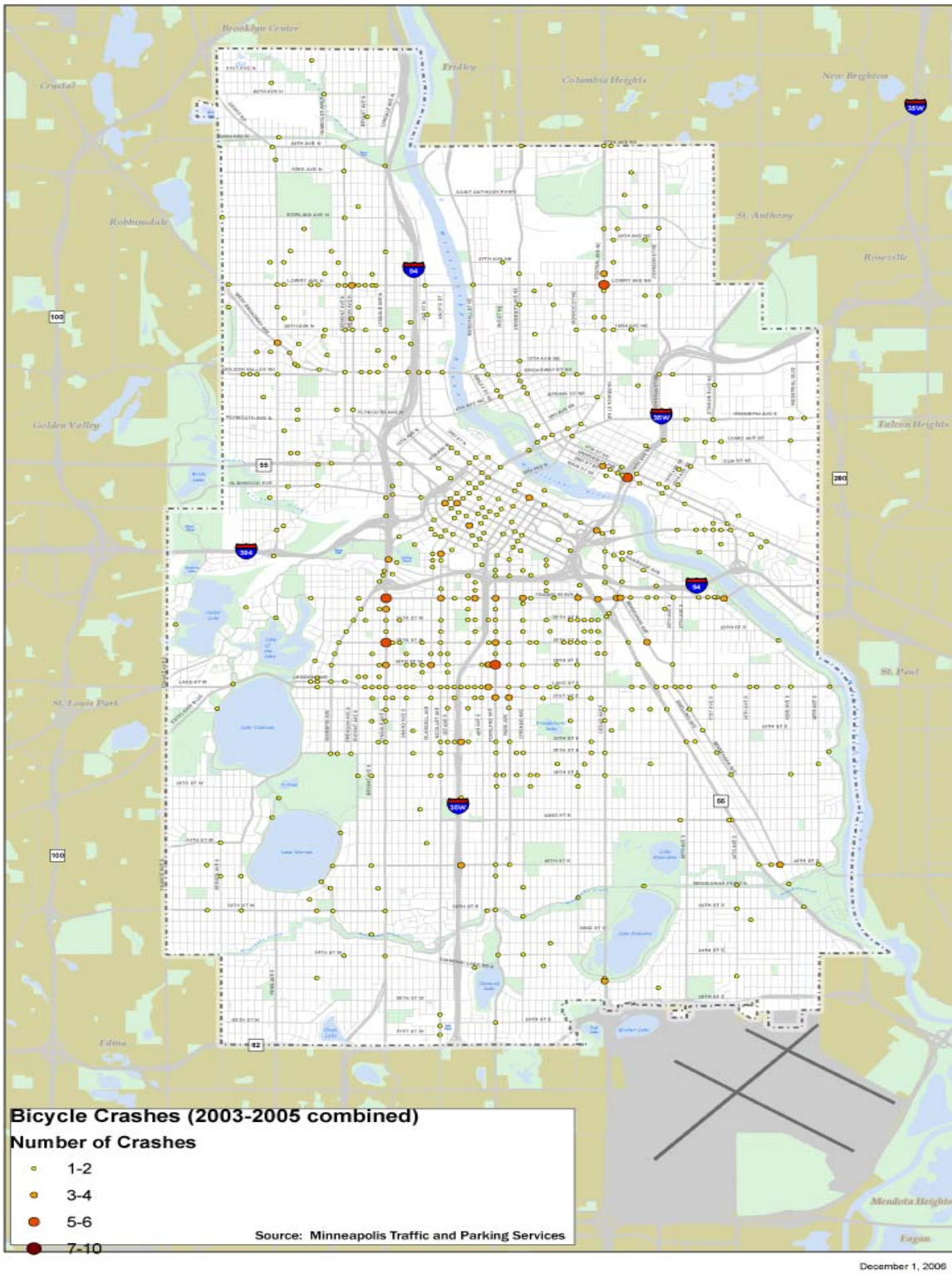
Minnesota's requirements for roadway design on the state-aid road system can present barriers to slower vehicle speeds and providing adequate and safe space for bicycling and walking. Minnesota's requirements prohibit travel lanes less than 11 feet wide and require four travel lanes when traffic

volumes exceed 15,000 vehicles per day. A city or county can request a variance from MnDOT's Variance Committee, but the process is cumbersome (the committee meets quarterly) and the outcome unpredictable. Other states provide more flexibility in roadway design. Minnesota should consider revising its roadway design standards and adopting a "complete streets" approach. As of 2007, ten state and 25 local complete streets policies have been adopted.⁵² The Metropolitan Council's roadway classifications (A-Minor Arterial Collector, Augmenter, etc.) would also benefit from a reorientation toward balancing the needs of all users and greater attention to the land uses and destinations along a corridor. The Council's classifications form the basis of a competitive grants program.

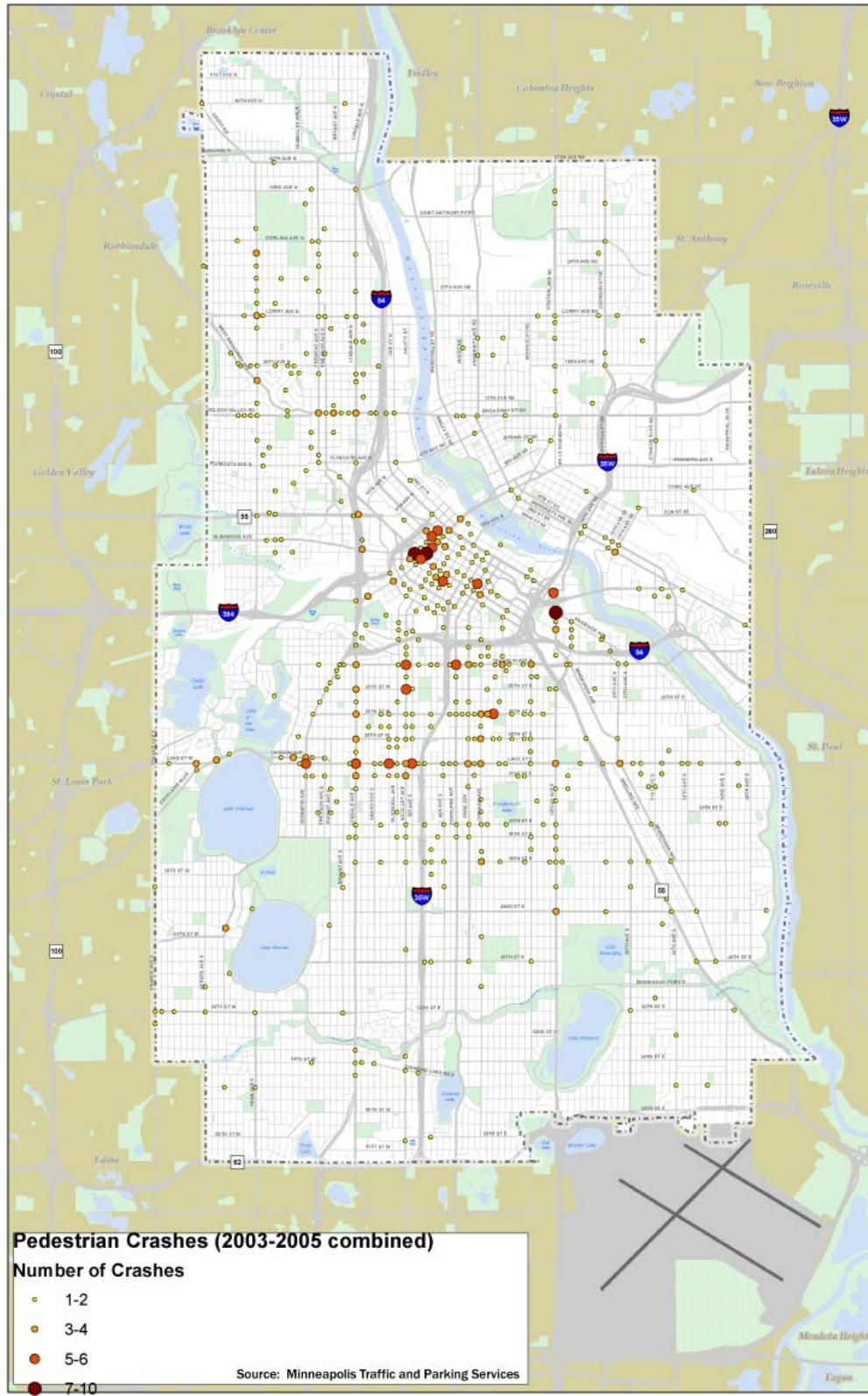
⁵² Thunderhead Alliance, *Bicycling and Walking in the US: Benchmarking Report, 2007*, page 44.

Appendix A-I

Bicycle Crashes – City of Minneapolis (2003-2005)



Appendix A-2 Pedestrian Crashes – City of Minneapolis (2003-2005)



Appendix B

Best Practices and Current Programs

A number of local initiatives in the area of education, enforcement, and awareness are listed below.

Public Agency Education Programs

1. State Agencies – MnDOT and MN Department of Public Safety

Towards Zero Deaths - Minnesota has had recent success on curbing traffic deaths, which has undoubtedly had a positive impact on pedestrian and bicycling safety. The Minnesota Department of Public Safety's interagency partnership called Towards Zero Deaths dramatically reduced traffic fatalities in 2003, 2004, 2005, and 2006. The enforcement efforts target drunk drivers and speeders.

“Share the Road” - MnDOT and the State Bicycle Advisory Committee have teamed up on a public awareness campaign to reduce deaths and injuries from bicycle-car collisions. The campaign has promoted its message by distributing materials at events, presentations and television appearances; rewriting the bicycle section of the Minnesota Driver's Manual; training Drivers Education teachers; and installing “Share the Road” signs in some public areas.

Safe Routes to Schools (SRTS) - Safe Routes to Schools is both a national and grassroots initiative that aims to get more children bicycling and walking to school. The federal transportation law, SAFETEA LU, included \$612 million for a national Safe Routes to School program. Money is available for all 50 states to increase rates of bicycling and walking by students in grades K-8. MnDOT is administering the program in Minnesota and, thus far, two rounds of competitive grant funding have been made available. During the life of the federal bill, MnDOT will distribute approximately \$8 million. Within the NTP pilot area, Minneapolis Public Schools received a grant in MnDOT's 2006 funding round to organize a SRTS program at five schools. In the 2007 round, a small grant was awarded to the Edina Public Schools to conduct a speed study within school zones.

2. Regional and County Agencies

Metro Transit's “Commuter Challenge” and “Learn a New Way to Move” campaigns - Metro Transit coordinates the region's annual “Commuter Challenge” which occurs in May of each year. That program is primarily employer-based and encourages residents of the region to substitute transit, carpool, bicycle, and walking for driving. The program includes special events, rides to work, prizes, and campaign materials that can be downloaded from the Metro Transit web site.

Metro Transit's New Way to Move awareness campaign took place in fall/winter 2006 and aimed to both increase usage of Metro Transit's services and “re-brand” Metro Transit as not just transit, but a one-stop shop for anything related to transit, carpooling, bicycling and walking. The campaign was primarily advertising-based and included pre- and post-campaign user surveys. In 2007, Metro Transit's campaign theme will be “Go Greener” promoting the environmental benefits of riding transit.

Active Living Ramsey County (ALRC) - ALRC was a project begun in 2005 to improve public health in Ramsey County by encouraging county residents to be more physically active. ALRC conducted a resident survey to find out about people's activity levels and what influenced them. ALRC interviewed 50 key ‘informants’ who had expertise in physical activity, health and

their communities. ALRC produced the report “Best Land Use Practices for Active Living,” which advises cities on comprehensive planning strategies that encourage active living. ALRC is partnering with other groups to map existing bicycling and pedestrian facilities in the county and identify gaps and priorities for infrastructure investment. Promotional and educational events include community events and workshops for professionals and volunteers. Hennepin County also has an active living initiative and both counties’ efforts are funded through the Robert Wood Johnson Foundation.

Cities - TLC surveyed 13 of the 14 NTP communities regarding their education, enforcement, and promotion/awareness efforts for bicycling and walking. For the most part, individual cities’ efforts are limited and not coordinated with each other. About half the cities have some level of education programming in the school system or in summer camps and a few conduct community bicycle rodeos and helmet giveaways. Minneapolis, St. Paul, and other cities promote bicycling and walking through organized bicycle rides, walks, and runs.

3. **Private Organizations and Nonprofits**

Transportation Management Organizations - A number of Transportation Management Organizations in the Twin Cities region, including Saint Paul Smart Trips in Saint Paul and the Minneapolis Downtown TMO, offer seminars for employers on bicycle commuting and other alternatives to driving alone. The TMOs also make available maps and other resources and help promote Bike / Walk to Work Day (May of each year) and Metro Transit’s Commuter Challenge. Midway TMO has developed a particular niche in bike/walk in the form of Midway in Motion, a promotion aimed at getting people to bike, walk, or use transit for short, non-commute trips around town. The TMO has also partnered with Saint Paul to provide small businesses with bike racks in the public right-of-way, and has played a central role in re-shaping St. Paul’s Bicycle Transportation Plan.

Blue Cross Blue Shield’s “do” campaign - The “do” campaign is a public education and awareness campaign aimed at helping people incorporate physical activity into their daily routine (walking, taking the stairs, gardening). In addition to paid advertising, the campaign positions “do” signs or “point of decisions prompts” in strategic locations to show how people can be physically active each day. Once a week the “do crew” scours the streets and rewards people who are “doing” with a fun prize. They have installed “do lanes” indoors to encourage walking during inclement weather.⁵³ Blue Cross and Blue Shield of Minnesota has also awarded grants to communities to develop an “active living” component as part of a community’s comprehensive plan.

Neighborhoods - Several neighborhoods, particularly in Minneapolis and St. Paul, have been proactive in promoting traffic calming. These efforts have included planting boulevard gardens, producing signage to ask drivers to slow down or obey speed limits, and advocating for changes to street design. The Macalester-Groveland neighborhood in St. Paul is encouraging bicycling and walking through its Mac-Groveland Moves project. Corcoran Neighborhood in Minneapolis has a summer walking brigade on Thursday nights to deter crime and foster community. The Longfellow and Seward neighborhoods held an event to promote “sharing the road” in spring 2007.

Employers - There are many employer-initiated wellness programs that encourage employees to bicycle, walk, and incorporate other types of physical activity into their daily activity. Hennepin

⁵³ In addition to the “do” campaign, BCBSM is funding programs that promote increased physical activity such as walking clubs, technical assistance to improve comprehensive planning at local agencies, and funding for bike and pedestrian infrastructure improvements.

County works with suburban employers and the University of Minnesota has an employee wellness program. In addition, Metro Transit's Commuter Choice Awards recognize area employers that promote alternatives to driving; past award recipients include St. Paul Travelers, Best Buy, Abbott Northwestern Hospital, YWCA of Minneapolis, and Perkins and Will.

Neighborhood Bike Centers - The Grease Pit, the Hub, Freewheel Bikes, Youth Express, Paul Wellstone International Bike Club, and Sibley Bike Depot are entities that provide bicycle safety and maintenance instruction to their members, supporters, patrons, and neighbors. All but the Hub and Freewheel also accept donated bikes, fix them up, and make them available to low-income youth, usually working with the youth to fix them up. Countless hours contributed by passionate volunteers go into these grassroots efforts.

Recreational Bicycling Clubs - There are many recreational bicycling clubs in the Twin Cities, some of which provide cycling education to members. Twin Cities Bicycling Club, the largest club in the Twin Cities, offers training courses for ride leaders and hosts over 400 rides per year. The Major Taylor Bicycling Club is a Twin Cities recreational club primarily for African-American bicyclists, which sponsors rides and educates bicyclists. Many local bicycle shops host rides, as do other businesses including the Birchwood Café in Minneapolis.

"Bike-in at the Bell" - "Bike-in at the Bell" is a summer event co-sponsored by the Bell Museum of Natural History and Minnesota Film Arts; it is an evening of outdoor film and music where people arriving by bicycle receive discounted admission. The Bicycle Film Fest highlights examples of bicycling-friendly cities around the globe.

Bike On - Bike On is a grassroots organization promoting community, family and youth-centered bicycling in Minneapolis. Programs include: 1) Women Bike On, a multilingual program that provides an opportunity for women to learn to ride bicycles on the Midtown Greenway, use bicycles, learn about energy use, gain transportation options, and build community; 2) Minnesota State Bike-to-School League, promoting fun and bicycling through three bike-to-school competitions each school year.

4. Advisory Groups and Advocacy Efforts

The Twin Cities region is home to numerous bicycle and pedestrian advisory and advocacy groups, including both official entities established to advise government agencies and independent advocacy organizations made up of participants and activists. An incomplete list of these includes:

Agency sponsored advisory committees:

- Minnesota State Bicycle Advisory Board
- Hennepin County Bicycle Advisory Board
- Minneapolis Bicycle Advisory Committee
- Minneapolis Pedestrian Advisory Committee
- St. Paul Bicycle Advisory Committee
- Edina Bicycle Task Force

Independent advocacy or participant organizations for bicycling and walking:

- Walking Minneapolis
- Organizations devoted to increasing and preserving trails, parks and open space such as Parks and Trails Council of Minnesota, Sierra Club, and Trust for Public Land
- Critical Mass
- Twin Cities Bicycle Club
- Major Taylor Bicycling Club
- Bikeon.org
- Two Wheels to Town
- Transit for Livable Communities

Appendix C

Key Resource Documents

Metropolitan Council 2000 Travel Behavior Inventory Home Interview Survey: Data and Methodology. Every decade, the Metropolitan Council undertakes a travel activity survey. Information is gathered through phone interviews with residents of the Twin Cities region, traffic counts, an origination and destination survey, and the U.S. Census. The data is used to update the regional transportation planning model and inform transportation planning in the region. This document is the most comprehensive look at transportation patterns in the region. For this report, TLC obtained isolated data on the City of Minneapolis from the Travel Behavior Inventory.

National Household Travel Study is sponsored by the Bureau of Transportation Statistics and the Federal Highway Administration. Data is collected for all trips, but the sample sizes are small so state to state or metro area comparisons can be problematic. Since data is available for Metropolitan Statistical Areas, it is also difficult to get information broken down by municipality.

U.S. Census information is limited to Journey to Work so it does not include the majority of trips most Americans make each day. It also asks respondents to report only their regular commute patterns, so someone who might only bicycle or walk a couple days each week or only in warm weather months might not be counted. It also does not include trips made by children under 16. U.S. Census databases can be found on the web. The **American Community Survey** is an effort by the U.S. Census Bureau.

Information in this section on the National Household Travel Study and the U.S. Census comes from *Bicycling and Walking in the U.S.: Benchmarking Report* by the Thunderhead Alliance, 2007.