

DRIVING BLIND

**Minnesota Needs a More Transparent Transportation Policy
That Connects Prices to Costs and Benefits to Investments**

**Report of the Citizens League Transportation Study Committee
January 21, 2005**

DRIVING BLIND

Minnesota Needs a More Transparent Transportation Policy That Connects Prices to Costs and Benefits to Investments

Executive Summary

Hidden costs lead to distorted choices

- 70 percent of the public cost of roads is hidden in state aid to local governments, local property taxes, and motor vehicle registration taxes and is not related to travel behavior.
- Market research suggests that if the hidden costs for roads were borne by the users it would send a strong signal to homebuyers, which would affect how developers consider projects.
- We currently lack the funding mechanisms and the public process to make good decisions on what transportation facilities and services are needed and their comparative value in providing access, contributing to economic prosperity, reducing congestion, or improving safety. A much more dynamic approach is required to meet the mission of the transportation system in the future.
- The best way to start finding the answer requires that current costs become more visible to the citizens of Minnesota. In a word, costs must be more **transparent**. “Transparency” is connecting prices to costs and benefits to investments. Transparency is a principle to apply when asking the following question, “Are the beneficiaries of a public investment paying for the benefit they are receiving and are they paying through a mechanism that reveals the cost to them?”

Minnesota is at a crossroads

- We have reached a pivotal point in Minnesota at which we must decide how the entire gamut of transportation-related facilities and services should best serve our efforts for continued economic growth (economic prosperity) and high quality of life (access).
- What funding there is hasn’t kept pace with the demand for roads or transit, nor is the money being distributed in a way that addresses the state’s most pressing congestion and safety problems. While there is a growing sense of urgency that we need more money for transportation, there is little agreement on how money should be raised and spent.
- For metro area residents, the desire for a more rural lifestyle is reflected in a housing preferences survey performed by the Met Council in 2002.
- If the transportation system continues to provide access to areas further away from regional centers without making transparent the cost of that access, the tendency toward using larger amounts of land that cost less and are further out will increase.
- The regional arterial system and a limited number of minor arterials are growing more slowly than demand, especially to meet the growth in cross-regional trips and trips from the collar counties. This system is under the greatest stress and is most congested.

Transparency must be applied to funding and process

The Citizens League initial recommendations listed below focus mainly on transparent funding. Establishing a transparent governance process for making transportation investments is also necessary and should be considered as a follow-up study. The seven metro counties and the nine “collar” counties must be considered through a unified governance process that is able to make judgments between projects in a transparent way and address access issues along major transportation corridors.

Recommendations – Initial Steps Toward Transparency

1. Tolling: Apply tolling (initially in the form of congestion pricing) as often as possible throughout the arterial highway system whenever there is new capacity or a major reconfiguration/rebuild.

2. Vehicle registration fees based on road impact: Annual vehicle registration fees, auto and truck, should be based upon a weight and horsepower formula which reflects individual vehicle wear and tear impact on roadway surfaces.

3. Dedicated funding should be to all transportation facilities and services: For the necessary flexibility in decision-making, the gas tax and vehicle license fees should not be subject to the current dedication and formula. At the least, any “new” revenues should be dedicated to all transportation services so that government can respond more effectively to the emerging transportation market.

4. Tie funding to land value increases: When the public invests in major transportation projects that spur appreciable increases in land value, the state should capture part of the revenue increases attributable to the investment to fund the improvement in one of two ways:

- State tax increment financing (TIF): the amount of property tax revenue attributable to the public transportation investment.
- At the point of sale of a benefited piece of undeveloped land, the state should tax a portion of the capital gain from that sale to pay for the transportation improvement that provided the benefit.

5. Strategic investments to gauge “bang for the buck”: Make small amounts of funding available in public/private partnerships to make strategic investments in pilot projects, to have public discussion, and to test demand.

- Incentives for telecommuting on an organization-wide level.
- Provide equivalent commute incentives to determine what choices employees would make when offered a choice with the cost of their employer-paid parking.
- Tax incentives to groups of employers to coordinate transportation services for their employees.
- Test the opportunities throughout Minnesota for communications technology to replace travel, particularly as travel costs increase.
- Test circulator functions to support suburban job densities that are not well-accessed by traditional transit because of land use that is difficult for walking.

6. TIF on undeveloped land: Where tax increment financing (TIF) is used to subsidize development on previously undeveloped land, the TIF should be required to include costs associated with arterial road development in the area. MnDOT would be required to produce an estimate of the costs of the arterial improvement.

7. Legislative Auditor should establish transparent baseline: Where there remains fundamental disagreement about transportation costs and significant process questions, a “baseline” of the sources and uses of transportation funding and the associated processes should be established by a well-respected and non-partisan source, the Office of the Legislative Auditor.

DRIVING BLIND

Minnesota Needs a More Transparent Transportation Policy that Connects Prices to Costs and Benefits to Investments

What do roads cost and who pays? What does transit cost and who pays? What other options do we have? What do those options cost and who should pay?

What are the impacts of transportation that we can't quantify?

Funding for transportation in Minnesota has stagnated, and what funding there is hasn't kept pace with the demand for roads or transit, nor is the money being distributed in a way that addresses the state's most pressing congestion and safety problems. While there is a growing sense of urgency that we need more money for transportation, there is little agreement on how money should be raised and how it should be spent.

The Citizens League Transportation Study Committee was charged with creating a framework to help establish the 'true cost' of transportation choices. We discovered that arriving at true cost is not simple and may not be possible and that the best way to start finding the answer is to make current costs more visible to the citizens of Minnesota. In a word, costs must be more **transparent**.

Why? Even if all the citizens of Minnesota were transportation economists and even if we could establish the "true costs" of transportation, we might not agree about who should pay for transportation facilities and services. The objective is to make the costs of transportation more visible in the hope that greater understanding of costs among citizens will lead to more informed choices by citizens and policymakers.

One thing, however, will remain the same unless we do something to change it: attempts to answer these questions will continue to be like looking into a dense fog when examining how government at different levels collects revenue on the one side and funds transportation facilities and services on the other. Why? It's because many of the ways that we raise and spend money for transportation in Minnesota hide these costs from citizens, thus distorting their choices.

Hidden costs lead to distorted choices

For the last half century, Minnesota has raised money for transportation in the same basic way: the gas (motor fuels) tax and the vehicle registration fee are collected at the state level and are used to build and maintain the arterial road system and provide state aid to counties and cities for road building and maintenance. Local governments also tap more than \$1 billion annually from property tax revenues to pay for local roads.

As a result of our current funding system, more than 70 percent of the public cost of roads is hidden in state aid to local governments, local property taxes, and motor vehicle registration taxes and is not related to travel behavior.¹

Since the gas tax and vehicle license fees are dedicated in the state constitution to only fund roads, this leads to an ad-hoc approach to fund transit or any other transportation facilities and services out of the state general fund or through bonding, which is usually project-oriented as opposed to systemic in its approach. Much of what state and local government raises to pay for roads has little connection to road use in either the way it is raised or the way it is distributed. While the gas tax has a strong connection to road use in the way it is raised, the portion distributed to counties for example is allocated according to a formula primarily based on road

miles. The result is that the resources are not available to respond to congestion.

And since the gas tax is embedded in the retail price of gasoline, the gas tax also does little to make the cost of roads transparent. At the pump, consumers don't know how much of the price of a tank of gas goes to build or repair roads, so the gas tax doesn't send users a strong price signal about the cost of road use.

While it may be true that more funding is needed, that was not the charge to the Citizens League Transportation Study Committee, rather we have concluded that the work of the Committee can be encapsulated in one word - **transparency**. For a look at what revenue sources would generally be more transparent see Table 1.

Applying transparency to transportation funding and decision-making will increase citizen understanding by sending *price signals* to citizens. Increased citizen understanding will spur the emergence of choices desired by citizens. Understanding the choices that citizens desire will lead policy makers to better decisions. Minnesota has an ample supply of quality transportation professionals to implement those decisions.

Minnesota at a crossroads

We have reached a pivotal point in Minnesota at which we must decide how the entire gamut of transportation-related facilities and services should best serve our efforts for continued economic growth (economic prosperity) and high quality of life (access). Access and economic prosperity are the two-fold mission of the transportation system.

Access is the most fundamental mission of transportation. The transportation system must provide broad access to goods and services that have a high public value. These include opportunities for employment, education, health care, food, and other necessities. For these goods and services with high public value, the mission of the transportation system must strive to supply fair and equitable access. The well being of our society is dependent on the ability of all people to have this primary level of access.

Even though primary access is not necessarily assured for all, many Minnesotans have come to expect a secondary level of access that supports a chosen lifestyle. More and more people want access to rural areas and small towns, while still desiring access to urban amenities. The mission of the transportation system in Minnesota, therefore, also must address the management of access to lifestyle choices and cultural amenities as they are reflected in land use and development patterns.

Economic prosperity is the other main goal of the transportation system. To support economic prosperity, the transportation system must provide for efficient and safe movement of goods, services and information to assist in continued growth and the creation of jobs. There is no established method for quantifying the impacts of congestion or safety on the regional or state economy.

What are costs?

The most widely accepted way to look at costs is through the lens of the economist. The most directly applicable work available of this nature is "The Full Cost of Transportation in the Twin Cities," which was published

TABLE 1: Transparency in Transportation

Less Transparent	More Transparent
Gas Tax w/ Current Constitutional Dedication	Mileage Tax
Sales Taxes	Tolls
Property Taxes	Transportation Utility Fees
Municipal Consent/Local Veto Authority	Unified Governance Process
Current Registration Fee	Fee w/ Weight & HP Component

as part of the University of Minnesota's Transportation and Regional Growth Study in 2000. This study uses an economic definition of the Twin Cities region that encompasses 19 counties (including three in Wisconsin).²

For our purposes, there are three basic categories to understand in order to look at costs as defined in economics:

- Governmental costs (costs borne by any level of government) including roads, subsidies for public parking and transit; law enforcement and safety; environmental regulation or protection; and energy security costs.
- Internal costs (costs borne by the person who causes them) including private vehicle costs; fares for transit and taxis; home garages and driveways; free parking lots, driveways, and roads; pain and suffering from crashes; and personal time costs (travel time without congestion, time spent maintaining vehicle, time costs of driver education).
- External costs (costs not borne by the person who causes them) including congestion; crashes; pollution; and petroleum consumption.

For the purposes of public policy, we are most concerned with governmental costs and external costs. Internal costs are those costs that are borne by the person who caused them and are more dependent on the purchasing choices of the individual. For the full list of costs see Appendix A.

What is transparency?

Transparency is a principle to apply when asking the following question about government involvement in providing transportation facilities and services:

“Are the beneficiaries of a public investment paying for the benefit they are receiving and are they paying through a mechanism that reveals the cost to them?”

The principle of transparency certainly has a more broad definition than what we are stating here, but when addressing government spending for the public benefit, we feel that it is the most appropriate focus.

Any mechanism that reveals costs to citizens is what helps define a *price signal*, and therefore has a greater chance of affecting behavior. Paying for transportation costs through general taxes such as property and sales taxes does not have any connection to the use of transportation and does not send significant price signals on the costs of transportation.

Defining transportation and transportation services

“Transportation” is defined as the movement of people, goods, services and information. By this definition, transportation includes communications technology, in particular when it replaces the need to travel.

“Transportation services” includes all alternatives to driving a car. It includes “transit,” which means anything that turns automobile drivers into riders, walkers or cyclists.

FINDINGS

There is a tension between the two central transportation goals for the state – access and economic prosperity – that must be transformed into a balance that supports both.

Because of a lack of transparency about what the government raises and spends on transportation-related facilities and services, and because of a 50-year-old policy entwined with our constitutional dedication of the gas tax, the only current policy questions that citizens have before them seem to be:

- Do we need more gas taxes to build and maintain roads under the current formula?
- Should we be involved in each piecemeal struggle at the Legislature or in the community to build or not build light rail transit (LRT), bus rapid transit (BRT), commuter rail, or other options such as personal rapid transit (PRT)?
- Will we have an opportunity to change any of this?

Where We Are Now: Factors in Transportation Demand

Land use and transportation are interrelated in a fundamental way. That relationship must be a primary consideration in how true costs are established. *Lifestyle* can be defined as what we want from our land use. Employers make decisions based on land costs and access to an appropriate workforce. The overwhelming choice for manufacturing and retail businesses is for horizontal operations that take large amounts of land for buildings and parking. If the transportation system continues to provide access to areas further away from regional centers without making transparent the cost of that access, the tendency toward using larger amounts of land that cost less and are further out will increase. The allowance of tax increment financing (TIF) for green field economic development at the edge of the region actually subsidizes such choices and exacerbates the trend.

For metro area residents, the desire for a more rural lifestyle is reflected in a housing preferences survey performed by the Met Council in 2002.³ The survey reveals that in the seven-county metro area:

- 10 percent of residents currently live in rural areas and 20 percent would like to live in rural areas.
- 10 percent of residents currently live in a small city or town and 12 percent would like to live in a small city or town.
- 7 percent currently live in the urban/downtown and 8 percent would like to live in the urban/downtown.
- 73 percent currently live in either older city neighborhoods, older suburbs, or growing suburbs and only 54 percent would like to live in those areas.

The Twin Cities is not only spreading out, but it is thinning out. From 1982 to 1997, the Twin Cities urbanized land three times faster than the rate of population growth. Over that same period, the Twin Cities decreased in density by 22 percent, the second greatest decrease when compared with its peers nationally.⁴ Lower density development increases:

- The demand for new schools, new roads, new public facilities and new sewer and water connections.
- The costs of key services such as police, fire and emergency medical.⁵

Road costs have the greatest added cost when development “sprawls.” It is estimated that road costs increase by 33 percent over compact development that is contiguous and at higher densities compared to what would be found at the urban edge. Sewer and water are estimated to cost 20 percent more, and schools about 5 percent more.⁶

Wealth – For the last 50 years, Minnesota has performed better than the nation on a number of economic indicators. As a result, Minnesota now ranks 6th in the nation in median household income at \$54,480 (2001-2003 average). Minnesota has jumped dramatically since 1989, when we ranked 17th at \$30,909 in median household income (a 76 percent increase).⁷ This translates to general wealth that manifests itself in the transportation-land use dynamic. In the Greater Metro Area (7-county metro and 13-county ring), this translates to more than one automobile per licensed driver, and more miles and time on the road.⁸ We are willing to drive from rural to urban settings, on longer cross-regional suburb to suburb work trips, and for greater and greater distances for a variety of purposes and can afford to do so. Wealth also spurs a vigorous market for land sales, development, and purchase for personal/recreational use. In some cases, the public investment for major transportation infrastructure results in high profits when land is sold for development.

Growth – Minnesota has the highest rate of population growth in the Midwest and is expected to continue relatively dynamic growth. Three-fourths of Minnesota counties are in the middle of a decade of some population growth (66 of 87 counties).⁹ Forty-nine counties are expected to add more than 1,000 people between 2000 and 2010. The transportation system is growing in size and the patterns of use are getting more complex. At the same time, use of the system is growing in intensity. There are more congested areas on our arterial roadways, the peaks of congestion are higher, and the period of congestion lasts longer.¹⁰

User choices are exacerbating this trend. From 1990 to 2000, U.S. Census data shows that the Twin Cities continued to increase in the percentage of those driving alone for work trips and decreased in the percentage of work trips by transit, carpooling and other modes.¹¹

The arterial road system and transportation services are not expanding to meet the expected rate and pattern of growth. There are 24 Minnesota counties that had 15,000 people or more in 2000 and are expected to grow by more than 10 percent by 2010. Ten of these counties are linked to the Twin Cities economy in terms of percentage of job destinations (Dakota, Anoka, Scott, Washington, Carver, Sherburne, Wright, Chisago, Rice and Isanti). Fourteen of these counties are not (Olmsted, Stearns, Crow Wing, Cass, Otter Tail, Beltrami, Benton, Douglas, Mille Lacs, Pine, Hubbard, Aitkin, Kanabec and Dodge).

Because they are already densely populated, the two core metro counties do not meet the aforementioned percentage threshold for growth, but Hennepin is expected to add 82,600 more people from 2000 to 2010, more than any other county, but only a 7.4 percent increase overall. Ramsey County is expected to add the sixth-most people over the decade at 28,765, which is a 5.6 percent increase. Four of the collar counties also did not meet the population and growth thresholds: Goodhue, McLeod, Sibley and Le Sueur, yet all are expected to add more than 1,000 people over the decade (see Appendix B).

More Dispersed Workforce – In 1970, more than 45 percent of Twin Cities' households were located in the central cities of Minneapolis and St. Paul. Another 40 percent were located in the developed suburbs and about 11 percent were in the developing suburbs. By 2000, the central cities' share of households had dropped to about 27 percent and had been surpassed by the developing suburbs at about 28 percent of the seven-county total. The developed suburbs remained at about 40 percent. By 2030, the developing suburbs are projected to have 38 percent of the total households, the developed suburbs about 33 percent and the central cities about 22 percent (see Figure 1).

In 1970, more than 55 percent of the jobs were in the central cities and about 38 percent were in the developed suburbs. The developing suburbs had about 7 percent of the region's jobs. By 2000, about 45 percent of the jobs were in the developed suburbs, while the central cities fell to 31 percent of the jobs. The developing suburbs rose to about 23 percent of the jobs. By 2030, it is projected that about 43 percent of the jobs will be in the developed suburbs, 28 percent in the developing suburbs, and 27 percent in the central cities (see Figure 2).

Locations for housing and jobs have spread out more and more over the last three decades, but not in the same way. The greatest household growth has been in the developing suburbs while the greatest job location growth has been in the developed suburbs. These developed suburbs are now significant job destinations for commuters from outside the seven-county area.

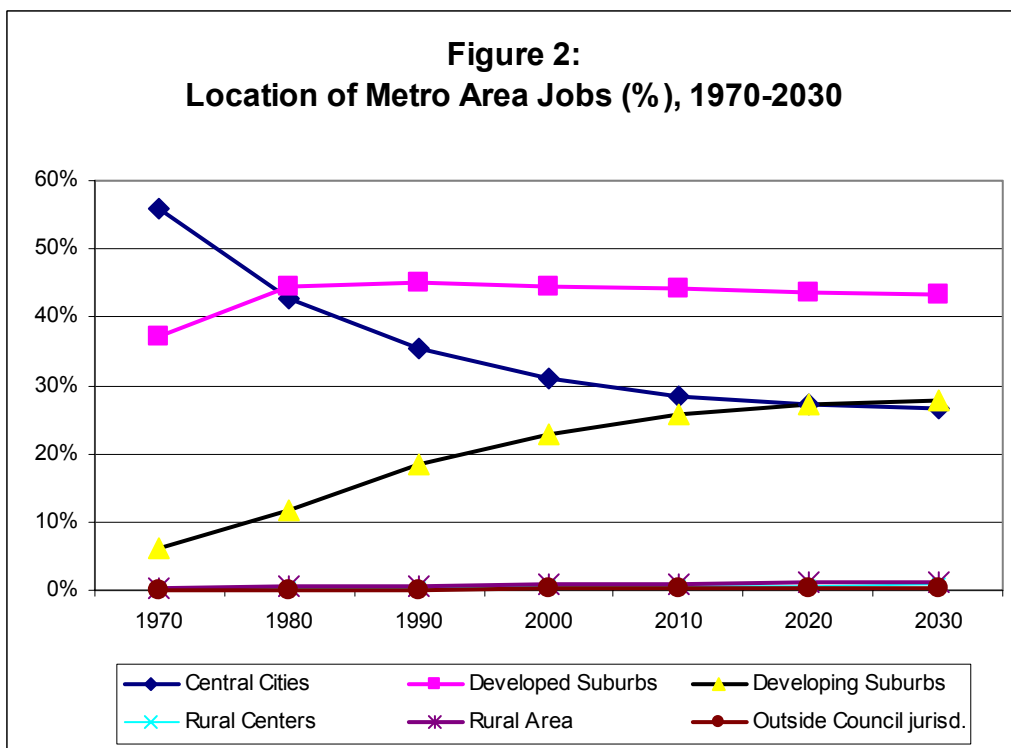
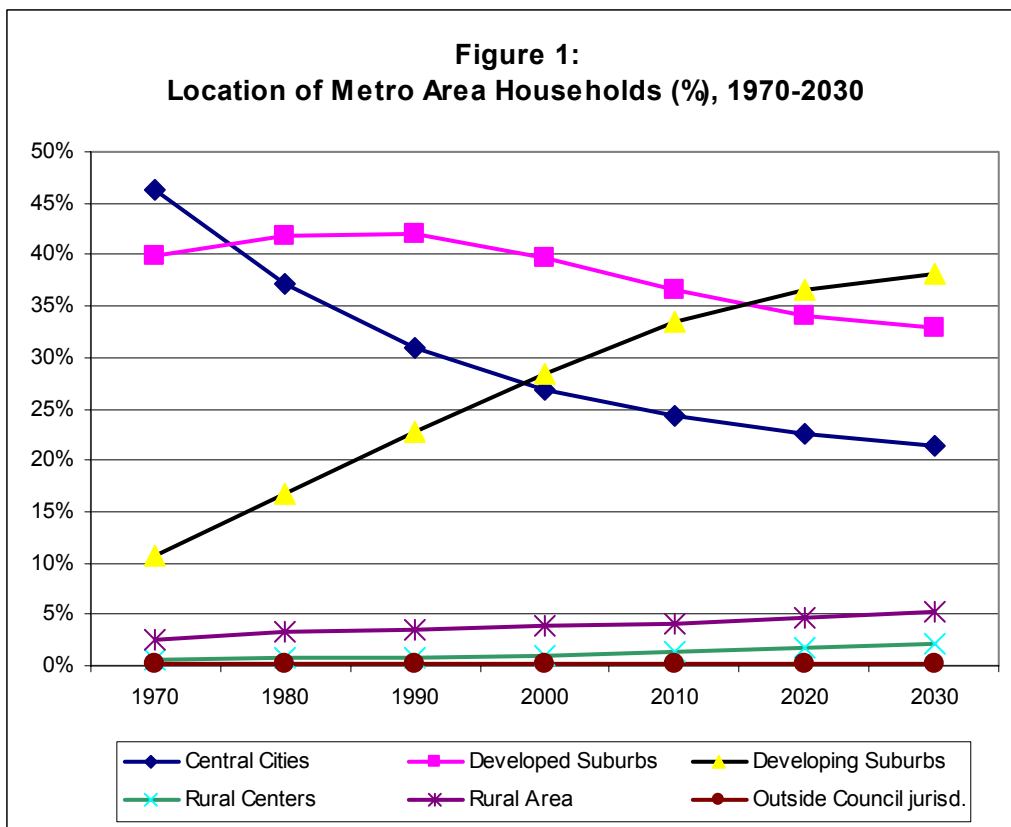
The nature of households and the nature of the job market have also changed a great deal since 1970. There are many more households with two working adults now. People also change jobs more frequently than they did in 1970. The net result is that it is more difficult to locate near work when the one worker in the household may have a job located 30-40 miles away from the other. This dynamic also increases cross-regional travel, which adds substantially to congestion on the arterial road system and is expensive and difficult to serve with traditional transit.

Analyzing work trips

An analysis of work trips that begin in the Metro Area show that, as expected, in the two counties (Hennepin and Ramsey) that host the two core cities (Minneapolis and St.

Paul), a much higher percentage of work trips begin and end in the same city – 32 percent in Hennepin County and 31 percent in Ramsey County. On the other end of the spectrum, only 16 percent of the work trips in Anoka County begin and end in the same city. Washington County fares a little better at 16.5 percent (see Figure 3).

The next indicator for the transportation system is to see how many work trips from the seven-county area end

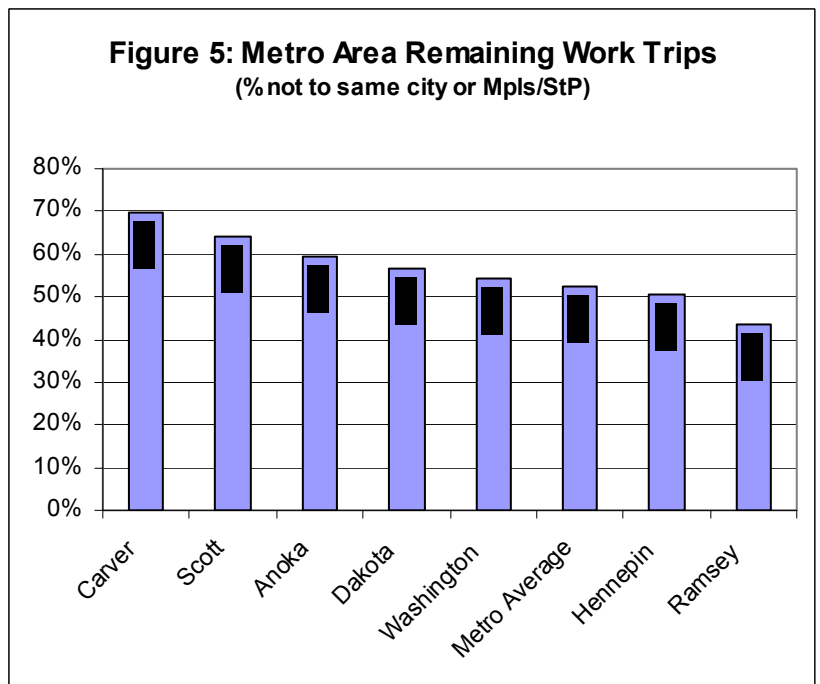
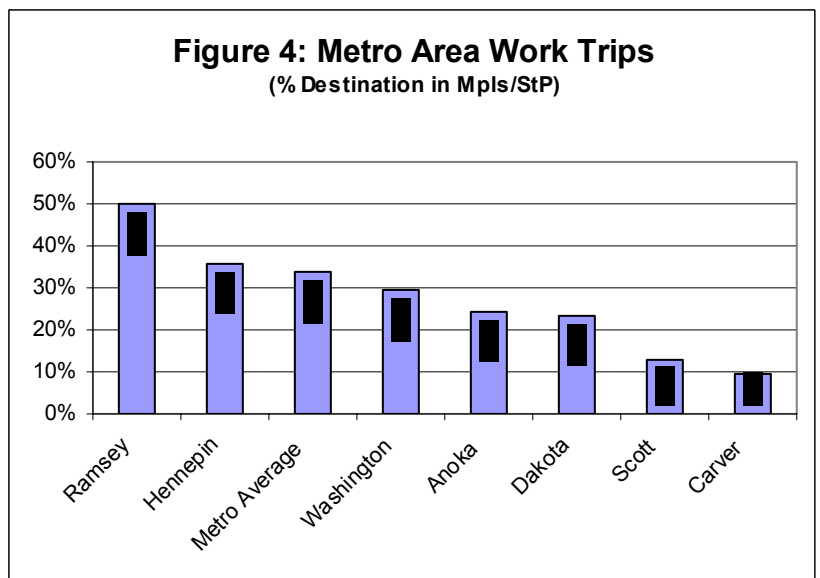
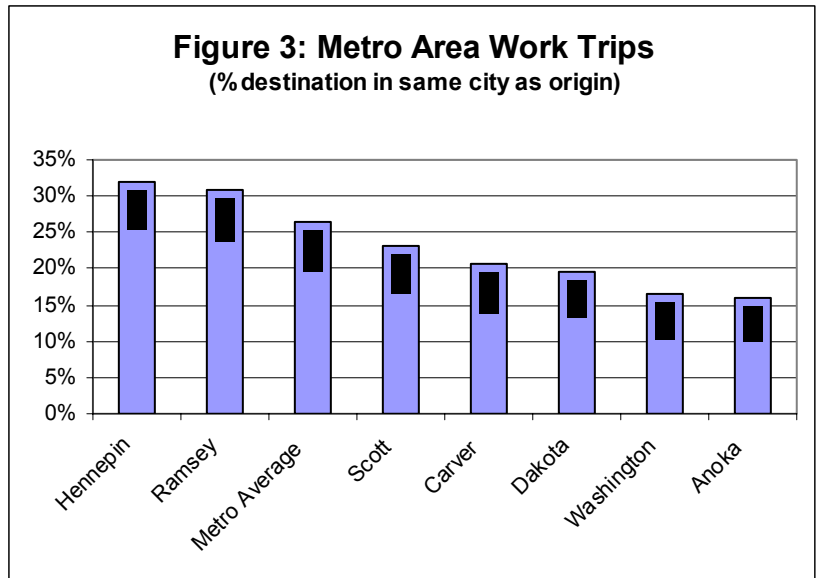


up in the core cities of Minneapolis and St. Paul (not just the downtown, but the entire city). Nearly one-half of the work trips that start in Ramsey County end up in one of the core cities (49.8 percent). In Hennepin County, the percent is substantially lower at 36 percent. Carver (9.6 percent) and Scott (12.9 percent) counties send the least number of work trips into Minneapolis and St. Paul (see Figure 4). When we combine these factors, we find that every metro county except Ramsey sends more than one-half of work trips to somewhere other than the same city or one of the core cities.

Almost 70 percent of the trips in Carver County and 64 percent in Scott County are heading somewhere other than Minneapolis, St. Paul, or the city of origin (see Figure 5). Having so many growing suburban job centers make it much more difficult to offer traditional transit service. In one-fourth of metro area cities and towns (48 out of 192), more than 90 percent of work trips left the city of origin in 2000. Most are the smaller cities and towns, but cities such as Andover, Lino Lakes, Champlin, Crystal, Little Canada, Mounds View, Vadnais Heights, and White Bear Township each produce more than 5,000 work trips per day and more than 90 percent leave the city of origin and don't necessarily leave to go to a particular job "center." For metro city detail, see Appendix B.

This is only part of the picture. The seven-county area is an artificial region when it comes to the land use-transportation dynamic around where we live and where we work, shop and recreate. There is a significant amount of commuting into the seven-county area, particularly from some of the 13 "collar" counties.

An analysis of Wright and Sherburne counties shows there may be an even greater diffusion of work trips than in the seven metro counties (see Figure 6). For these counties we checked to see how many trips were going to a non-metro regional center in addition to counting the number of trips that ended in the same city



or in Minneapolis or St. Paul. Even by adding an additional regional center more than 58 percent of Sherburne County work trips ended in the suburban metro or somewhere other than:

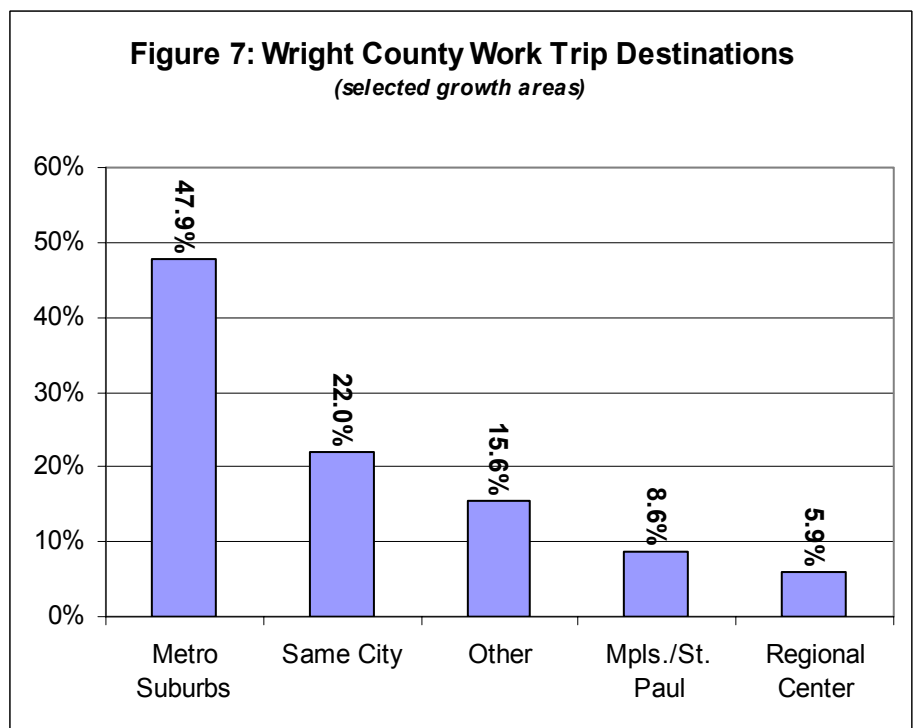
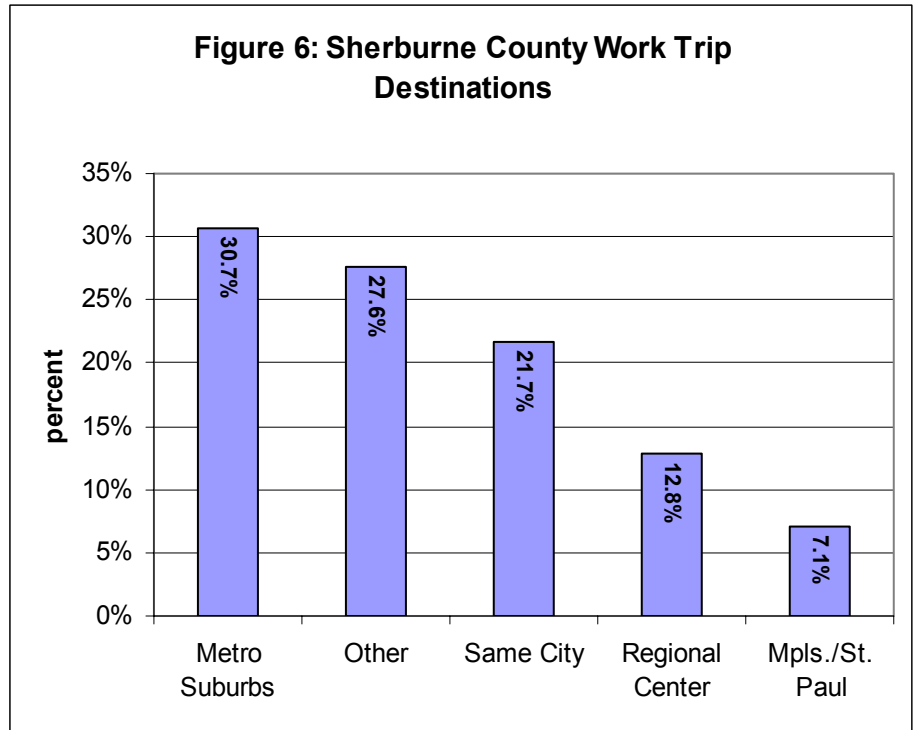
- The same city (21.7 percent);
- A non-metro regional center (12.8 percent); or
- Minneapolis and St. Paul (7.1 percent).

With the exception of Elk River, the highest growth areas in Sherburne County are mainly townships, which are unlikely to create significant job densities (see Appendix B).

In Wright County, the fastest growth areas tend to be cities, but they have even higher percentages of work trips that are cross-regional metro suburban trips. Of the 10 fastest growing cities in Wright County, 6 of them (Albertville, Delano, Hanover, Montrose, Rockford and St. Michael) send more than 50 percent of work trips into the suburban metro area (see Figure 7).

Looking at a couple of examples, it seems that cities in the highest growth collar counties (Sherburne, Wrights and Chisago) are even more diffuse in work trip patterns than metro suburban cities. Taking all destinations that represent at least 1 percent of total work trips, we compared Farmington in Dakota County and Lindstrom in Chisago County. For Farmington, more than 16 percent of work trips began and ended in Farmington and a total of 19 total destinations made up 85 percent of all work trips. For Lindstrom, more than 14 percent of work trips began and ended in Lindstrom, but it took a total of 25 destinations to make up a lower percent (80%) of all work trips (see Appendix B).

In collar counties that are not growing as fast and have older regional centers, such as Goodhue and Sibley, the diffusion does not appear to be as marked. In other growth counties, there can be big differences. In Beltrami County, for example, 80 percent of the work trips that start in Bemidji end in Bemidji, and much of the county send a significant number of commuters to Bemidji. In Cass County, however, which is experiencing one of the highest percent increases in



housing,¹² the work trips seem much more diffuse, with no real “center.”

Increased Congestion – All of the factors listed above increase congestion in the Twin Cities region. The Twin Cities has yet to experience the degree of congestion that many of the largest metro areas in the U.S. have, but our short-term rate of congestion increase has been noted by the Texas Transportation Institute (TTI) as the second highest among our peer cities (metro areas between 1 and 3 million people). That indicator is based on short-term growth (1996-2001) and gives us an opportunity to respond to a worsening situation before it produces greater negative effects (see Appendix C).

The 2000 Census data offers transportation measures of the 25 largest metropolitan areas that put the Twin Cities’ regional economy and transportation behavior in perspective. From 1990 to 2000, the Twin Cities had the 10th highest rate of population growth and the 6th highest rate of employment growth, but the average travel time for work trips in the region was only the 18th highest rate of growth—moving the region from 25th, the shortest work trip in 1990 at 21.2 minutes, to 24th in 2000 at 23.7 minutes (see Appendix C).

The Twin Cities was one of 8 regions where driving alone increased and all other modes of transportation to work decreased. Driving alone increased in 20 of the 25 regions. The Twin Cities moved up from 10th in 1990 to 8th in 2000 with driving alone counting for more than 78% of work trips. Although carpooling in the Twin Cities decreased by 11.6 percent, the region moved up from 21st to 18th, because 21 of 25 regions saw reductions in the percent of carpoolers.

In the use of transit for work trips, the Twin Cities dropped from 9th to 11th with a 13.6% decline. In general, the top 10 regions in employment growth either had reductions in driving alone, or had a less substantial increase than the Twin Cities; and had an increase in some other mode for trips to work.

To draw conclusions from these numbers, however, would require a complex analysis that accounts for factors such as immigration, location of new jobs in the region from 1990 to 2000, and investment in the various modes of travel. Minnesota’s phenomenal income growth since 1989 has put us right at the top in median household income. This is a major factor in number of vehicles as related to number of jobs, where Minnesota also ranks quite high (low unemployment, higher percentages in the workforce of men and women).

The 7-county metro area built enough roads in the 1970s and the 1980s to serve and in some cases spur growth, but that is not possible to do again. Roads can continue to provide access to a vast majority of citizens, but will not be able to provide the desired mobility. Much of our existing road system cannot be expanded enough to retain mobility without prohibitive cost due to existing land use. It is estimated that to build our way out of congestion with roads by 2020 would require a 70 percent expansion of the existing freeway system (an additional 1,146 lane miles).¹³ This theoretical number could not be accomplished, since we don’t have the land available where there is the need. Under current conditions, the Met Council plans to add 300 lane miles by 2030 in its regional framework, which is a substantial amount.

Increased Pollution – Air quality is directly impacted by the growing number and length of automobile trips. More air pollution has a health care cost linked with chronic and acute pulmonary and cardiovascular disease and higher rates of asthma. Costs of air pollution and where the costs are created and borne are included in the economic full cost analysis of transportation (see Appendix D). Water and land pollution costs are much more difficult to ascertain and are not calculated for cost in the economic work.

Where We Are Now: Factors in Supply of Transportation

In general, the local street network is keeping up with providing access to parcels of land as they change from agriculture into housing and employment locations. The local collector system is expanding as much of the lane capacity grows in the developing suburbs. These roads seem largely able to keep up with demand.

The regional arterial system and a limited number of minor arterials are growing much slower than demand, especially to meet the growth in cross-regional trips and trips from rural collar counties. This system is under the greatest stress and is most congested. More difficult to ascertain are the access issues when local roads access trunk highways. Who pays when there is growth and how? How do we maintain the efficiency of the arterial system that is already overburdened?

Transportation service options exist and many could be readily expanded, but demand for them has been static or declining. Regular route transit and use of carpools is declining in the face of a greatly dispersed set of trip destinations and increasing purchase and use of automobiles as the preferred option.

The only significant market for fixed guideway transit (LRT and BRT) and regular route bus service continues to be the downtowns where employees pay for parking. Continuation of current land use patterns in developing areas will result in more of the transportation system depending on automobile travel with increasing rates of driving alone to reach a growing diffusion of home, work and retail locations.

The fewer alternatives for transportation services that can be provided in this region in an efficient way, the greater the vulnerability to adverse economic impacts from sharp increases in the price of petroleum as the supply declines (see Appendix E).

CONCLUSIONS

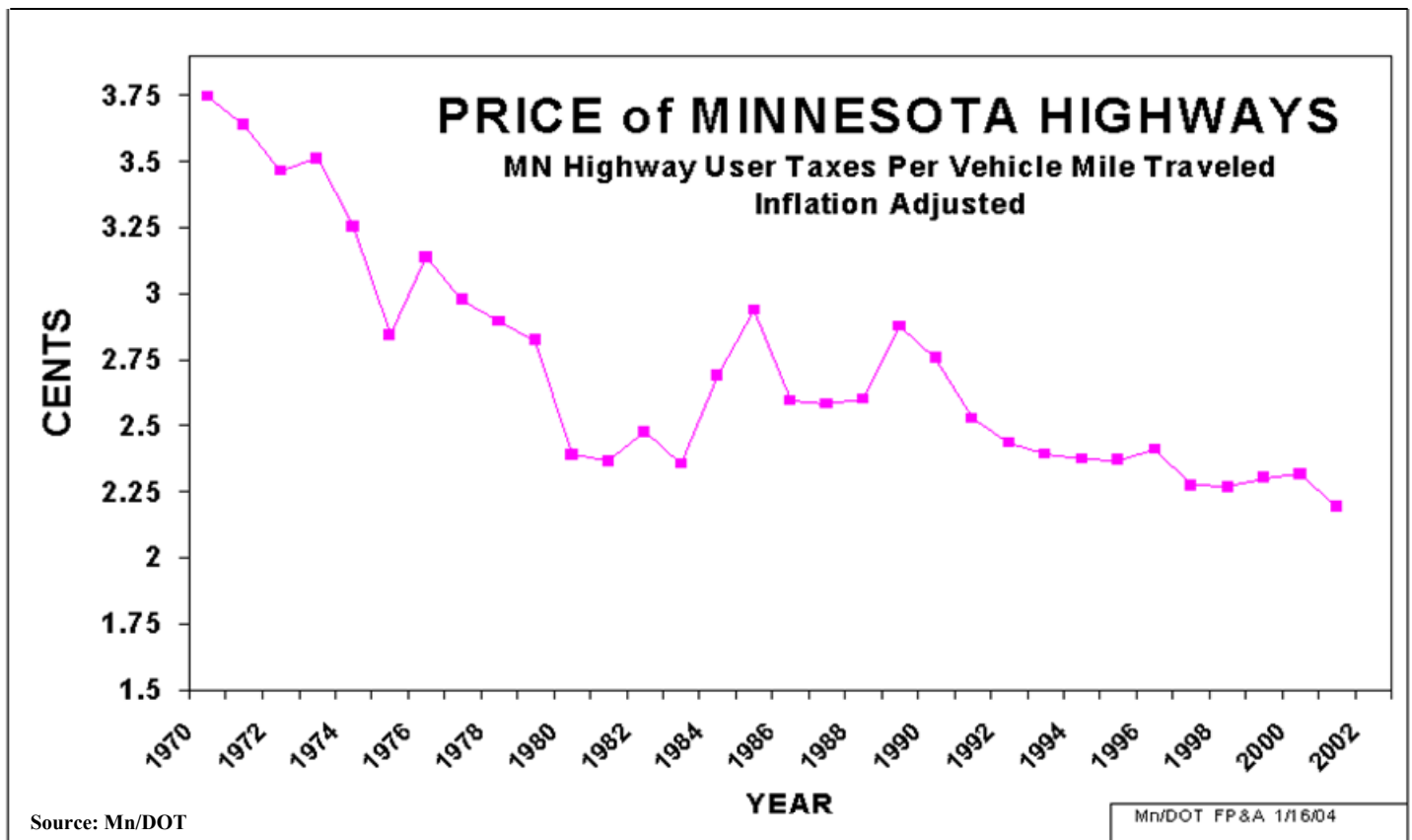
Land use and transportation have a fundamental connection, but costs are hidden

The connection between transportation and land use is fundamental, but the costs imposed on the transportation system (particularly the arterial road network) are largely obscured. Seventy percent of the public cost of roads is hidden in state aid to local governments, local property taxes, and motor vehicle registration taxes and is not related to travel behavior.¹⁴ We pay, but it is not clear, or *transparent*, and does not send a strong *price signal* to the users of the system. Without a clear transportation price signal, the market for land is driven largely by the preference to buy larger, less expensive lots for rural residential housing and horizontal manufacturing and retail that is dependent on truck distribution. Market research suggests that if the hidden costs for roads were borne by the users it would send a strong signal to homebuyers, which would lead developers to abandon projects that added more than \$5,000 in annual commuter costs to the homeowner.¹⁵ That is why it is imperative to price the transportation market with the greatest transparency and see how that impacts demand for transportation services.

Minnesota's transportation system is not keeping up with growth

Funding to meet this growth has been declining for several years relative to the cost of providing more roads (see Figure 8). And since the costs are largely hidden from citizens, we have little idea of the level of cost that would spur demand for other transportation services.

Figure 8



It is also easy to focus only on growth. There are other areas where roadways still do not meet the standards that we should demand for safety. The cost of fatalities and injuries from automobile accidents is estimated at \$1.6 billion per year in Minnesota. A disproportionate number of the 600 fatalities happen on rural roads (more than 70 percent).¹⁶

Where costs cannot be counted, transparency is the best guide

As stated earlier, land use is closely tied to transportation costs and the overall perception of land use costs is necessary to assess the transportation market, but to accurately quantify the costs are beyond any widely accepted methods of economic analysis.

The full cost economic analysis does include subsidies for roads, transit, parking and other areas related to transportation, but does not include subsidies associated with inefficient land use, such as the use of tax increment financing (TIF) to develop undeveloped areas.

There are also external costs that are not included in the full cost analysis, specifically, water and land pollution costs from transportation. These demands have a significant impact on water quality, from the spilling, leaking and improper disposal of the products used in vehicles to the large amounts of paved surfaces that create more impermeable surfaces and more direct runoff of polluted water that does not filter down through the ground before reaching our waterways. There is no cost estimated for the impact of our continued development preference of large amounts of surface parking with new developments on land or water.

The authors of the full cost report also note that energy security, particularly the military protection of oil supplies, can be very controversial. Since their estimate was made before 9/11 and the Iraq war, it is possible that the estimate for energy security could be substantially higher now and in the future.

“Free” parking is perhaps the largest hidden cost of all

Although internal costs are not the focus of the full cost analysis, the authors note a few areas that cause concern, the top one being parking costs. So-called “free” parking raises internal (private) costs that are nearly as large as all the external costs in the study. How citizens pay for “free” parking is perhaps the largest hidden cost of all. It is embedded in the goods and services that everyone purchases and in what everyone earns.

In the area of governmental costs, the full cost analysis reveals that government in the 19-county metro region subsidized public parking (\$270 million) as much as transit (\$260 million) in 1998 (see Appendix A). This includes federal, state and local funding and does not include parking on streets.¹⁷

Transparent Funding Needed for Good Decisions

Establishing the true costs of transportation, therefore, cannot be arrived at through further calculations of economic costs. Some of what is true cost comes down to what we value as citizens and how much we are willing to pay.

We currently lack the public mechanism to make good decisions on what transportation facilities and services are needed and their comparative value in providing access, contributing to economic prosperity, reducing congestion, or improving safety. A much more dynamic approach is required to meet the mission of the transportation system in the near future. A mechanism must be designed to provide transparency of costs and bene-

fits and provide policymakers a better way to judge what citizens want, what they will use, and how much it should be subsidized.

The best way for government to assess the true cost of transportation, then, is to provide *cost transparency* by sending direct *price signals* to the consumers for the impacts of their transportation choices.

In order to achieve some measure of transparency, we must begin with direct governmental costs of transportation and begin to tie funding to the citizens receiving benefit from this public investment. This is the only way to begin to offer citizens more understanding and choice in transportation.

If the transportation system continues to provide access to areas further away from regional centers without making transparent the cost of that access, the tendency toward using larger amounts of land that cost less and are further out from the center will increase. The “market” for driving vehicles on roads must be more fully and directly priced in a transparent way. Driving cars alone, in particular, must be priced as fully as possible in order for transportation “consumers” to decide what other options, if any, interest them.

All options must be examined, not only in terms of comparative cost, but in terms of providing a fundamental level of access to transportation for those with low incomes and those who are unable to drive. Currently, this requires some level of subsidy above the level of subsidy for driving. Transparency requires that we are able to identify the level of subsidization for different options with some degree of meaning. The reason that we currently have no mechanism to set this cost baseline for policy makers or citizens is because we have not made the cost of driving vehicles – our most widespread mode of transportation – transparent.

Transparent Process Needed for Good Decisions

There is a somewhat vicious cycle inherent in viewing transportation as a consumer market. For consumers to have choice there must be choices available, and due in part to more recent development patterns in Minnesota, reasonable choices are not very available for many consumers. For government to invest greatly in making more transportation choices available for more people, it is difficult to move forward when the vast majority of consumers do not get a sense of the real cost of their current choices.

It is not enough to have more transparent funding. A transparent governance process must also be established to address funding the costs and impacts of growth and land use on transportation, particularly for the greater metropolitan area consisting of the seven metro counties and the nine “collar” counties that surround it in Minnesota. A governance process must be established that is able to make judgments between projects in a transparent way and address access issues along major transportation corridors.

Local consent for transportation projects and local veto authority over toll roads must be re-examined in light of who bears the cost of the choices made and the state objective of managing congestion and access. There is a cost when projects are delayed and there are additional costs when meeting local concerns and demands that go beyond improving the flow of the arterial road system. Citizens must get a better idea of costs and be ready to pay more directly before they can make better decisions.

The fundamental question we will need to answer to have more transparency is: how do we create a process that has distance from the forces that drive the process today, yet can be citizen-governed?

Although the Transportation Study Committee did not study different possibilities for new governance structures, there was strong agreement that there must be a process for evaluating transportation options based on transparent evaluation of costs and the application of pricing mechanisms that reflect costs to the system users.

RECOMMENDATIONS

Initial Steps Toward Transparency

Many measures could begin now to price a transportation market that will begin to reveal costs to the consumer of transportation.

1. Tolling: Apply tolling (initially in the form of congestion pricing) as often as possible throughout the arterial highway system whenever there is new capacity or a major reconfiguration/rebuild. Toll revenue should not be dedicated to only roads. It should also be available for transportation service options to alleviate congestion and support access to all users.

2. Vehicle registration fees based on road impact: Annual vehicle registration fees, auto and truck, should be based upon a weight and horsepower formula which reflects individual vehicle wear and tear impact on roadway surfaces.

3. Dedicated funding should be to all transportation facilities and services:

Any “new” revenues—increases in motor vehicle fuel taxes, tolling, fees based on impact (weight & horsepower), etc.—should be dedicated to all transportation services so that government can respond more effectively to the emerging transportation market. For the necessary flexibility in decision-making, the gas tax and vehicle license fees—or at the very least any increases in these sources—should not be subject to the current dedication and formula. Either action would require approval from the voters in 2006. Ideally, if the gas tax is to remain the major source of revenue for transportation, the constitutional dedication to roads should be entirely done away with and the gas tax should be reconstituted as a user fee and indexed to an appropriate price index. The same ballot that offers repeal of the current constitutional dedication should then ask voters to dedicate the gas tax for funding all transportation facilities and services.

4. Tie funding to land value increases: When the public invests in major transportation projects that spur appreciable increases in land value, the state should arrive at the true cost—the expenditures less the value of the benefits received—and capture part of the revenue increases attributable to the investment to fund the improvement in one of two ways:

- State tax increment financing (TIF): the amount of property tax revenue attributable to the public transportation investment is captured to pay for the road, rail or fixed guideway.
- At the point of sale of a benefited piece of undeveloped land, the state should tax a portion of the capital gain from that sale to pay for the transportation improvement that provided the benefit. For an example of what level of benefits are sometimes received, see the Star Tribune article from May 30, 2004 that quotes an analysis of what interchanges are estimated to add to land value around Rochester. The transportation tax proposed here is different from the federal capital gains tax which treats all capital gains equally. A tax on the capital gain from a transportation investment would be determined by the market value increase attributable to the public investment in the transportation facility or service.

5. Strategic investments to gauge “bang for the buck”: Make small amounts of funding available in public/private partnerships to make strategic investments in pilot projects, to have public discussion, and to test demand. This will provide a better picture of how much “bang for the buck” we can expect out of alternatives.

- Look at incentives for businesses to test economic benefits of applying telecommuting on an organization-wide level.
- Provide equivalent commute incentives to determine what choices employees would make when offered a choice with the cost of their employer-paid parking.
- Provide tax incentives to groups of employers to coordinate transportation services for their employees, including shuttles from park and ride lots and carpool matching assistance.

- To what extent does universal access to communications technology assist in replacing travel? What are the opportunities throughout Minnesota for communications technology to replace travel, particularly as travel costs increase?
- Circulator functions to support suburban job densities that are not well-accessed by traditional transit because of land use that is difficult for walking. Incentives for groups of employers to provide shuttles or try Personal Rapid Transit (PRT) with a public/private partnership. Circulators can link to major fixed guideway transit or park and rides. There may also be application in more ex-urban areas.

6. TIF on undeveloped land: Where tax increment financing (TIF) is used to subsidize development on previously undeveloped land, the TIF should be required to include costs associated with arterial road development in the area. MnDOT would be required to produce an estimate of the costs of the arterial improvement.

7. Legislative Auditor should establish transparent baseline: Where there remains fundamental disagreement about transportation costs (particularly government subsidies), and where there are significant process questions (particularly the impact of municipal consent), we recommend that a “baseline” of the sources and uses of transportation funding and the associated processes be established by a well-respected and non-partisan source, the Office of the Legislative Auditor. The work should focus on better definition of comparative levels of government costs (subsidies) related to auto use (roads and parking) and other transportation options. A baseline, or principles, must be established for how to weigh this information for use in a transparent process to judge transportation options.

Endnotes

- ¹“Road Finance Alternatives: An Analysis of Metro-Area Road Taxes.” Barry Ryan and Tom Stinson, Department of Applied Economics, University of Minnesota. TRG Study #9 (March 2002).
- ²“The Full Cost of Transportation in the Twin Cities Region.” David Anderson and Gerard McCullough, Center for Transportation Studies, University of Minnesota. TRG Study #5 (August 2000).
- ³“Seven Momentous Trends; Three Regional Forecasts,” Mark Vander Schaaf, Met Council, Regional Policy Initiative Conference, May 26, 2004.
- ⁴“Who Sprawls the Most?” William Fulton, et al, The Brookings Institution, 2001. The peer regions are San Diego, Denver, Portland, Kansas City, Indianapolis and Boston.
- ⁵“Building a More Competitive Region: The Twin Cities.” Bruce Katz, Center on Urban and Metropolitan Policy, the Brookings Institution, Regional Policy Initiative Conference, May 26, 2004.
- ⁶“TCRP Report 39: Costs of Sprawl Revisited: The Evidence of Sprawl’s Negative and Positive Impacts.” Burchell et al. 1998. Washington D.C.: Transportation Research Board.
- ⁷U.S. Census Bureau.
- ⁸2000 Transportation Behavior Inventory (TBI), Met Council, Tables 28 and 71.
- ⁹State Demographic Center
- ¹⁰Met Council
- ¹¹Metropolitan Area Comparison Table: Journey to Work Trends 1990-2000, U.S. Census Bureau
- ¹²U.S. Census Bureau.
- ¹³“Building Our Way Out Of Congestion,” Gary A. Davis, Department of Civil Engineering, University of Minnesota, published by the Minnesota Department of Transportation, October 2001.
- ¹⁴“Road Finance Alternatives: An Analysis of Metro-Area Road Taxes.” Barry Ryan and Tom Stinson, Department of Applied Economics, University of Minnesota. TRG Study #9 (March 2002).
- ¹⁵“Market Choices and Fair Prices,” Transportation and Regional Growth Study #17, University of Minnesota Center for Transportation Studies, January 2003.
- ¹⁶“Transportation in Minnesota: What You Need To Know.” The Minnesota Transportation Alliance.
- ¹⁷“The Full Cost of Transportation in the Twin Cities Region.” David Anderson and Gerard McCullough, Center for Transportation Studies, University of Minnesota. TRG Study #5 (August 2000).

Charge to the Citizens League Transportation Study Committee

Finding and Funding Solutions for Minnesota's Transportation System

The quality of a region's transportation system is a key to its quality of life and to its economic competitiveness. Congestion is increasing at a rapid rate in the Twin Cities area, while the need for transportation interconnectedness and improvement across the state grows. There is a great amount of information available regarding transportation needs and options, but there is no reasonable way for citizens to judge the costs and benefits of our current transportation system in relation to the costs and benefits of future transportation options.

- The Citizens League will establish a committee to review available research and synthesize data to establish a 'true cost' framework for transportation options in Minnesota.
- The committee will identify areas where additional research is needed.
The committee will produce a plan for further action by the Citizens League that:
 - a.) clarifies the value of various transportation options throughout the state;
 - b.) provides funding ideas and mechanisms that can make those ideas possible; and
 - c.) engages citizenry and leadership in making choices to develop and fund a statewide transportation system.

CITIZENS LEAGUE TRANSPORTATION STUDY COMMITTEE

The Committee met 15 times between February 23, 2004 and January 10, 2005.

Morrie Anderson, Chair
Jeffrey Bland
Bright Dornblaser
Steve Elkins
John Farrell
Steve Finley
Dave Hutcheson
Charles Jorgenson
Steve Keefe
Margaret Kirkpatrick
John LaVine
Patrick O'Leary
Maxine Pierson
Hal Schroer
Robert Scroggins
Clarence Shallbetter
Robert Winthrop

Staff

Bob DeBoer, Senior Program Associate
Michael Iacono, Research Intern

Thanks to Nodira Dadabayeva for research assistance in work trip analysis and Madelaine Haddican for media assistance.

Appendix A

“The Full Cost of Transportation in the Twin Cities Region,” David Anderson & Gerard McCullough, Center for Transportation Studies, Transportation and Regional Growth Study, University of Minnesota (2000)

Governmental costs (costs borne by any level of government) include:

- Construction, maintenance, and land for federal, state and local roads;
- Subsidies for public parking;
- Law enforcement and safety;
- Subsidies to transit;
- Environmental regulation or protection; and
- Energy security costs.

Internal costs (costs borne by the person who causes them) include:

Monetary, non-bundled

- Fixed costs of private vehicle operation (depreciation, insurance, anti-theft, driver education and licensing, etc.);
- Variable costs of vehicle operation (repair, maintenance, fuel, oil, crashes, parking fees, time costs of travel during work, etc.);
- Fares for transit and taxis;

Monetary, bundled

- Home garages and driveways;
- Free parking lots, driveways, and roads;

Non-monetary

- Pain and suffering from crashes;
- Personal time costs (travel time without congestion, time spent maintaining vehicle, time costs of driver education).

External costs (costs not borne by the person who causes them) include:

Monetary

- Congestion;
- Crashes;
- Pollution;
- Petroleum consumption;
- Robberies, net gain to criminals;
- Fires due to transportation;

Non-monetary

- Uncompensated congestion delays;
- Crash costs caused by pain and suffering;
- Pollution (pain and suffering from pollution, lost visibility, noise and vibrations, losses of wildlife and recreation);
- Other effects on land and neighborhoods;
- Costs associated with crimes; and
- Costs associated with fires.

	<u>Governmental Costs</u>		
1998		2020	% Increase
\$1.535 billion	Streets & Highways	\$2.195 billion	43.0%
\$315 million	Law Enforcement & Safety	\$565 million	79.4%
\$270 million	Parking	\$415 million	53.7%
\$260 million	Transit	\$415 million	59.6%
\$105 million	Environmental Cleanup	\$165 million	57.1%
\$70 million	Costs to Other Agencies	\$120 million	71.4%
\$2.56 billion	Total Governmental Costs	\$3.87 billion	51.2%
	<u>Internal Costs</u>		
1998		2020	
\$8.91 billion	Non-Transit Travel Time	\$14.44 billion	62.1%
\$6.45 billion	Fixed Vehicle	\$9.00 billion	39.5%
\$2.65 billion	Variable Vehicle	\$4.35 billion	64.2%
\$2.04 billion	Parking & Drives	\$3.17 billion	55.1%
\$1.37 billion	Crashes	\$2.01 billion	46.9%
\$1.24 billion	Other Personal Time	\$1.48 billion	19.4%
\$220 million	Transit Fares & Travel Times	\$365 million	65.9%
\$22.9 billion	Total Internal Costs	\$34.8 billion	52.0%
	<u>External Costs</u>		
1998		2020	
\$725 million	Air Pollution (Health)	\$800 million	10.3%
\$330 million	Congestion	\$1.15 billion	247.0%
\$295 million	Petroleum Consumption	\$355 million	20.3%
\$220 million	Crashes	\$335 million	52.3%
\$175 million	Air Pollution (Other)	\$220 million	25.7%
\$100 million	Global Warming	\$135 million	35.0%
\$40 million	Noise, Fires, & Robberies	\$55 million	37.5%
\$1.89 billion	Total External Costs	\$3.05 billion	61.4%
\$27.4 billion	Full Cost of Transportation	\$41.7 billion	52.2%

Appendix B:
MN Counties with Projected Population Growth 2000-2010

(source: State Demographic Center)

COUNTY	2000	2010	% change 2000-10	Difference 2000-10
Scott	89,498	130,020	45.3%	40,522
Carver	70,205	95,950	36.7%	25,745
Sherburne	64,415	86,350	34.1%	21,935
Chisago	41,101	51,640	25.6%	10,539
Cass	27,150	33,630	23.9%	6,480
Wright	89,993	109,710	21.9%	19,717
Crow Wing	55,099	67,090	21.8%	11,991
Aitkin	15,301	18,570	21.4%	3,269
Cook	5,168	6,250	20.9%	1,082
Washington	201,130	240,800	19.7%	39,670
Hubbard	18,376	21,950	19.4%	3,574
Kanabec	14,996	17,840	19.0%	2,844
Mille Lacs	22,330	26,180	17.2%	3,850
Dakota	355,904	412,960	16.0%	57,056
Isanti	31,287	35,930	14.8%	4,643
Anoka	298,084	341,670	14.6%	43,586
Pine	26,530	30,360	14.4%	3,830
Benton	34,227	39,010	14.0%	4,783
Rice	56,665	64,540	13.9%	7,875
Beltrami	39,650	45,040	13.6%	5,390
Olmsted	124,277	140,510	13.1%	16,233
Douglas	32,821	36,970	12.6%	4,149
Dodge	17,731	19,860	12.0%	2,129
Stearns	133,167	148,450	11.5%	15,283
Otter Tail	57,159	63,240	10.6%	6,081
Carlton	31,718	34,750	9.6%	3,032
Becker	30,000	32,690	9.0%	2,690
Meeker	22,644	24,520	8.3%	1,876
Itasca	43,992	47,590	8.2%	3,598
Steele	33,680	36,390	8.0%	2,710
Wabasha	21,610	23,270	7.7%	1,660
McLeod	34,898	37,490	7.4%	2,592
Hennepin	1,116,200	1,198,800	7.4%	82,600
Le Sueur	25,426	27,300	7.4%	1,874
Lake of the Woods	4,522	4,850	7.3%	328
Sibley	15,356	16,450	7.1%	1,094
Nicollet	29,771	31,860	7.0%	2,089
Goodhue	44,127	47,140	6.8%	3,013
Lake	11,058	11,810	6.8%	752
Roseau	16,338	17,360	6.3%	1,022
Kandiyohi	41,203	43,670	6.0%	2,467
Morrison	31,712	33,550	5.8%	1,838
Wadena	13,713	14,490	5.7%	777
Ramsey	511,035	539,800	5.6%	28,765
Houston	19,718	20,780	5.4%	1,062
Winona	49,985	52,570	5.2%	2,585
Blue Earth	55,941	58,810	5.1%	2,869

COUNTY	2000	2010	% change 2000-10	Difference 2000-10
Todd	24,426	25,620	4.9%	1,194
Waseca	19,526	20,430	4.6%	904
Clearwater	8,423	8,810	4.6%	387
Mower	38,603	39,900	3.4%	1,297
Freeborn	32,584	33,670	3.3%	1,086
Fillmore	21,122	21,820	3.3%	698
Mahnomen	5,190	5,360	3.3%	170
Pennington	13,584	14,000	3.1%	416
Swift	11,956	12,300	2.9%	344
Pope	11,236	11,540	2.7%	304
Clay	51,229	52,610	2.7%	1,381
St. Louis	200,533	205,910	2.7%	5,377
Nobles	20,832	21,230	1.9%	398
Lyon	25,425	25,888	1.8%	463
Watonwan	11,876	12,070	1.6%	194
Brown	26,911	27,310	1.5%	399
Grant	6,289	6,380	1.4%	91
Stevens	10,053	10,090	0.4%	37
Red Lake	4,299	4,310	0.3%	11

Appendix B: 2000 Metro Work Trip Origins & Destinations

<u>Origin</u>	<u>Destination</u>						% End Not in Same City or Mpls/StP
	Total Trips	# End in Same City	% End in Same City	% Leave City	# End in Mpls./St. Paul	% End in Mpls./St. Paul	
<u>ANOKA COUNTY</u>							
ANDOVER TOTAL	14,314	1,312	9.2%	90.8%	2,983	20.8%	70.0%
ANOKA TOTAL	9,295	2,017	21.7%	78.3%	1,264	13.6%	64.7%
BETHEL TOTAL	187	32	17.1%	82.9%	22	11.8%	71.1%
BLAINE TOTAL	25,636	3,802	14.8%	85.2%	5,837	22.8%	62.4%
BURNS TOWNSHIP TOTAL	1,914	219	11.4%	88.6%	223	11.7%	76.9%
CENTERVILLE TOTAL	1,884	176	9.3%	90.7%	524	27.8%	62.8%
CIRCLE PINES TOTAL	2,628	271	10.3%	89.7%	677	25.8%	63.9%
COLUMBIA HEIGHTS TOTAL	9,416	1,139	12.1%	87.9%	3,603	38.3%	49.6%
COLUMBUS TWP. TOTAL	2,289	189	8.3%	91.7%	506	22.1%	69.6%
COON RAPIDS TOTAL	34,144	6,691	19.6%	80.4%	7,269	21.3%	59.1%
EAST BETHEL TOTAL	5,866	551	9.4%	90.6%	918	15.6%	75.0%
FRIDLEY TOTAL	15,221	3,088	20.3%	79.7%	4,202	27.6%	52.1%
HAM LAKE TOTAL	7,121	781	11.0%	89.0%	1,458	20.5%	68.6%
HILLTOP TOTAL	382	36	9.4%	90.6%	139	36.4%	54.2%
LEXINGTON TOTAL	1,230	124	10.1%	89.9%	287	23.3%	66.6%
LINO LAKES TOTAL	8,103	811	10.0%	90.0%	2,485	30.7%	59.3%
LINWOOD TWP. TOTAL	2,469	188	7.6%	92.4%	496	20.1%	72.3%
OAK GROVE TOTAL	3,911	312	8.0%	92.0%	748	19.1%	72.9%
RAMSEY TOTAL	10,539	1,393	13.2%	86.8%	1,481	14.1%	72.7%
ST. FRANCIS TOTAL	2,480	319	12.9%	87.1%	310	12.5%	74.6%
SPRING LAKE PARK TOTAL	3,773	487	12.9%	87.1%	983	26.1%	61.0%
ANOKA COUNTY TOTAL	148,488	23,938	16.1%	83.9%	36,415	24.5%	59.4%
<u>CARVER COUNTY</u>							
BENTON TWP. TOTAL	522	106	20.3%	79.7%	14	2.7%	77.0%
CAMDEN TWP. TOTAL	528	79	15.0%	85.0%	21	4.0%	81.1%
CARVER CITY TOTAL	731	66	9.0%	91.0%	48	6.6%	84.4%
CHANHASSEN CITY TOTAL	10,701	2,005	18.7%	81.3%	1,496	14.0%	67.3%
CHASKA CITY TOTAL	9,198	2,327	25.3%	74.7%	809	8.8%	65.9%
CHASKA TWP. TOTAL	86	16	18.6%	81.4%	8	9.3%	72.1%
COLOGNE CITY TOTAL	577	86	14.9%	85.1%	25	4.3%	80.8%
DAHLGREN TWP. TOTAL	811	138	17.0%	83.0%	41	5.1%	77.9%
HAMBURG CITY TOTAL	279	34	12.2%	87.8%	3	1.1%	86.7%
HANCOCK TWP. TOTAL	182	41	22.5%	77.5%	9	4.9%	72.5%
HOLLYWOOD TWP. TOTAL	623	149	23.9%	76.1%	33	5.3%	70.8%
LAKETOWN TWP. TOTAL	1,263	141	11.2%	88.8%	71	5.6%	83.2%
MAYER CITY TOTAL	299	48	16.1%	83.9%	22	7.4%	76.6%
NEW GERMANY CITY TOTAL	171	28	16.4%	83.6%	5	2.9%	80.7%
NORWOOD YOUNG AMERICA TOTAL	1,629	387	23.8%	76.2%	59	3.6%	72.6%
SAN FRANCISCO TOTAL	470	64	13.6%	86.4%	27	5.7%	80.6%
VICTORIA CITY TOTAL	2,181	281	12.9%	87.1%	243	11.1%	76.0%
WACONIA CITY TOTAL	3,578	934	26.1%	73.9%	287	8.0%	65.9%
WACONIA TWP. TOTAL	665	62	9.3%	90.7%	33	5.0%	85.7%
WATERTOWN CITY TOTAL	1,610	274	17.0%	83.0%	119	7.4%	75.6%
WATERTOWN TWP. TOTAL	721	127	17.6%	82.4%	50	6.9%	75.5%
YOUNG AMERICA TWP. TOTAL	492	98	19.9%	80.1%	27	5.5%	74.6%
CARVER COUNTY TOTAL	36,104	7,491	20.7%	79.3%	3,450	9.6%	69.7%

<u>Origin</u>	<u>Destination</u>						<u>% End Not in Same City or Mpls/StP</u>
	<u>Total Trips</u>	<u># End in Same City</u>	<u>% End in Same City</u>	<u>% Leave City</u>	<u># End in Mpls./St. Paul</u>	<u>% End in Mpls./St. Paul</u>	
<u>DAKOTA COUNTY</u>							
APPLE VALLEY TOTAL	26,221	4,215	16.1%	83.9%	6,043	23.0%	60.9%
BURNSVILLE CITY TOTAL	35,224	8,739	24.8%	75.2%	7,189	20.4%	54.8%
CASTLE ROCK TWP. TOTAL	865	47	5.4%	94.6%	67	7.7%	86.8%
COATES CITY TOTAL	98	19	19.4%	80.6%	14	14.3%	66.3%
DOUGLAS TWP. TOTAL	367	86	23.4%	76.6%	28	7.6%	68.9%
EAGAN CITY TOTAL	36,969	9,461	25.6%	74.4%	10,304	27.9%	46.5%
EMPIRE TWP. TOTAL	905	79	8.7%	91.3%	89	9.8%	81.4%
EUREKA TWP. TOTAL	856	150	17.5%	82.5%	88	10.3%	72.2%
FARMINGTON CITY TOTAL	6,548	1,071	16.4%	83.6%	536	8.2%	75.5%
GREENVALE TWP. TOTAL	385	61	15.8%	84.2%	36	9.4%	74.8%
HAMPTON TOTAL	232	30	12.9%	87.1%	29	12.5%	74.6%
HAMPTON TWP. TOTAL	461	67	14.5%	85.5%	56	12.1%	73.3%
HASTINGS CITY TOTAL	9,707	4,082	42.1%	57.9%	1,368	14.1%	43.9%
INVER GROVE HEIGHTS TOTAL	16,780	2,402	14.3%	85.7%	5,199	31.0%	54.7%
LAKEVILLE CITY TOTAL	22,998	3,791	16.5%	83.5%	4,086	17.8%	65.7%
LILYDALE CITY TOTAL	302	36	11.9%	88.1%	130	43.0%	45.0%
MARSHAN TWP. TOTAL	613	113	18.4%	81.6%	78	12.7%	68.8%
MENDOTA CITY TOTAL	77	19	24.7%	75.3%	16	20.8%	54.5%
MENDOTA HEIGHTS TOTAL	5,710	752	13.2%	86.8%	2,539	44.5%	42.4%
MIESVILLE CITY TOTAL	68	27	39.7%	60.3%	3	4.4%	55.9%
NEW TRIER CITY TOTAL	70	14	20.0%	80.0%	8	11.4%	68.6%
NININGER TWP. TOTAL	517	56	10.8%	89.2%	39	7.5%	81.6%
NORTHFIELD CITY TOTAL	301	26	8.6%	91.4%	33	11.0%	80.4%
RANDOLF CITY TOTAL	141	21	14.9%	85.1%	18	12.8%	72.3%
RANDOLF TWP. TOTAL	356	34	9.6%	90.4%	42	11.8%	78.7%
RAVENNA TWP. TOTAL	1,349	80	5.9%	94.1%	197	14.6%	79.5%
ROSEMOUNT CITY TOTAL	7,634	1,046	13.7%	86.3%	1,630	21.4%	64.9%
SCIOTA TWP. TOTAL	170	29	17.1%	82.9%	8	4.7%	78.2%
SOUTH ST. PAUL TOTAL	10,722	1,734	16.2%	83.8%	3,473	32.4%	51.4%
SUNFISH LAKE CITY TOTAL	196	5	2.6%	97.4%	97	49.5%	48.0%
VERMILLION CITY TOTAL	263	14	5.3%	94.7%	39	14.8%	79.8%
VERMILLION TWP. TOTAL	695	97	14.0%	86.0%	80	11.5%	74.5%
WATERFORD TWP. TOTAL	269	33	12.3%	87.7%	19	7.1%	80.7%
WEST ST. PAUL CITY TOTAL	9,725	1,532	15.8%	84.2%	3,937	40.5%	43.8%
DAKOTA COUNTY TOTAL	202,249	39,901	19.7%	80.3%	47,462	23.5%	56.8%
<u>HENNEPIN COUNTY</u>							
BLOOMINGTON CITY TOTAL	47,327	15,976	33.8%	66.2%	10,368	21.9%	44.3%
BROOKLYN CENTER TOTAL	14,686	2,253	15.3%	84.7%	4,160	28.3%	56.3%
BROOKLYN PARK TOTAL	37,393	5,981	16.0%	84.0%	9,906	26.5%	57.5%
CHAMPLIN TOTAL	12,678	1,180	9.3%	90.7%	2,625	20.7%	70.0%
CORCORAN TOTAL	3,125	396	12.7%	87.3%	445	14.2%	73.1%
CRYSTAL TOTAL	12,577	1,149	9.1%	90.9%	2,796	22.2%	68.6%
DAYTON TOTAL	2,568	246	9.6%	90.4%	343	13.4%	77.1%
DEEPPHAVEN TOTAL	1,833	182	9.9%	90.1%	405	22.1%	68.0%
EDEN PRAIRIE TOTAL	30,611	8,980	29.3%	70.7%	4,994	16.3%	54.3%
EDINA TOTAL	22,547	6,055	26.9%	73.1%	6,874	30.5%	42.7%
EXCELSIOR TOTAL	1,424	176	12.4%	87.6%	184	12.9%	74.7%
GOLDEN VALLEY TOTAL	10,706	2,016	18.8%	81.2%	3,133	29.3%	51.9%
GREENFIELD TOTAL	1,345	181	13.5%	86.5%	242	18.0%	68.6%

<u>Origin</u>	<u>Destination</u>						<u>% End Not in Same City or Mpls/StP</u>
	<u>Total Trips</u>	<u># End in Same City</u>	<u>% End in Same City</u>	<u>% Leave City</u>	<u># End in Mpls./St. Paul</u>	<u>% End in Mpls./St. Paul</u>	
GREENWOOD TOTAL	399	43	10.8%	89.2%	86	21.6%	67.7%
HANOVER TOTAL	203	15	7.4%	92.6%	18	8.9%	83.7%
HASSAN TOWNSHIP TOTAL	1,302	156	12.0%	88.0%	141	10.8%	77.2%
HOPKINS TOTAL	9,501	1,426	15.0%	85.0%	2,008	21.1%	63.9%
INDEPENDENCE TOTAL	1,779	214	12.0%	88.0%	216	12.1%	75.8%
LONG LAKE TOTAL	1,037	157	15.1%	84.9%	173	16.7%	68.2%
LORETTO TOTAL	324	56	17.3%	82.7%	32	9.9%	72.8%
MAPLE GROVE TOTAL	29,715	5,310	17.9%	82.1%	6,027	20.3%	61.8%
MAPLE PLAIN TOTAL	1,116	161	14.4%	85.6%	114	10.2%	75.4%
MEDICINE LAKE TOTAL	238	19	8.0%	92.0%	53	22.3%	69.7%
MEDINA TOTAL	2,018	266	13.2%	86.8%	378	18.7%	68.1%
MINNEAPOLIS TOTAL	203,951	111,271	54.6%	45.4%	124,962	61.3%	38.7%
MINNETONKA TOTAL	29,066	7,059	24.3%	75.7%	6,477	22.3%	53.4%
MINNETONKA BEACH TOTAL	292	24	8.2%	91.8%	63	21.6%	70.2%
MINNETRISTA TOTAL	2,318	327	14.1%	85.9%	379	16.4%	69.5%
MOUND TOTAL	5,703	758	13.3%	86.7%	911	16.0%	70.7%
NEW HOPE TOTAL	11,204	1,572	14.0%	86.0%	2,494	22.3%	63.7%
ORONO TOTAL	3,949	541	13.7%	86.3%	732	18.5%	67.8%
OSSEO TOTAL	1,265	144	11.4%	88.6%	173	13.7%	74.9%
PLYMOUTH TOTAL	36,835	8,799	23.9%	76.1%	7,460	20.3%	55.9%
RICHFIELD TOTAL	19,187	2,514	13.1%	86.9%	5,590	29.1%	57.8%
ROBBINSDALE TOTAL	7,450	932	12.5%	87.5%	2,210	29.7%	57.8%
ROCKFORD TOTAL	85	7	8.2%	91.8%	2	2.4%	89.4%
ROGERS TOTAL	2,030	238	11.7%	88.3%	292	14.4%	73.9%
ST. ANTHONY TOTAL	2,589	274	10.6%	89.4%	1,199	46.3%	43.1%
ST. BONIFACIUS TOTAL	1,052	109	10.4%	89.6%	97	9.2%	80.4%
ST. LOUIS PARK TOTAL	26,441	5,125	19.4%	80.6%	7,965	30.1%	50.5%
SHOREWOOD TOTAL	3,762	490	13.0%	87.0%	587	15.6%	71.4%
SPRING PARK TOTAL	847	142	16.8%	83.2%	151	17.8%	65.4%
TONKA BAY TOTAL	841	87	10.3%	89.7%	135	16.1%	73.6%
WAYZATA TOTAL	2,068	557	26.9%	73.1%	489	23.6%	49.4%
WOODLAND TOTAL	180	36	20.0%	80.0%	38	21.1%	58.9%
HENNEPIN COUNTY TOTAL	607,567	193,600	31.9%	68.1%	218,127	35.9%	50.5%
RAMSEY COUNTY							
ARDEN HILLS TOTAL	4,917	1,104	22.5%	77.5%	1,470	29.9%	47.7%
FALCON HEIGHTS TOTAL	2,879	471	16.4%	83.6%	1,522	52.9%	30.8%
GEM LAKE TOTAL	219	10	4.6%	95.4%	59	26.9%	68.5%
LAUDERDALE TOTAL	1,485	45	3.0%	97.0%	820	55.2%	41.8%
LITTLE CANADA TOTAL	5,517	535	9.7%	90.3%	2,157	39.1%	51.2%
MAPLEWOOD TOTAL	18,071	2,683	14.8%	85.2%	7,379	40.8%	44.3%
MOUNDS VIEW TOTAL	7,163	650	9.1%	90.9%	2,002	27.9%	63.0%
NEW BRIGHTON TOTAL	12,523	1,574	12.6%	87.4%	4,265	34.1%	53.4%
NORTH OAKS TOTAL	1,780	233	13.1%	86.9%	647	36.3%	50.6%
NORTH ST. PAUL TOTAL	6,426	772	12.0%	88.0%	2,164	33.7%	54.3%
ROSEVILLE TOTAL	17,761	3,736	21.0%	79.0%	7,199	40.5%	38.4%
ST. ANTHONY TOTAL	1,312	98	7.5%	92.5%	507	38.6%	53.9%
ST. PAUL TOTAL	139,067	62,898	45.2%	54.8%	85,989	61.8%	38.2%
SHOREVIEW TOTAL	14,801	1,826	12.3%	87.7%	4,974	33.6%	54.1%
SPRING LAKE PARK TOTAL	54	7	13.0%	87.0%	5	9.3%	77.8%
VADNAIS HEIGHTS TOTAL	7,550	708	9.4%	90.6%	2,539	33.6%	57.0%

<u>Origin</u>	<u>Destination</u>						<u>% End Not in Same City or Mpls/StP</u>
	<u>Total Trips</u>	<u># End in Same City</u>	<u>% End in Same City</u>	<u>% Leave City</u>	<u># End in Mpls./St. Paul</u>	<u>% End in Mpls./St. Paul</u>	
WHITE BEAR TOWNSHIP TOTAL	6,219	529	8.5%	91.5%	1,943	31.2%	60.3%
WHITE BEAR LAKE TOTAL	12,543	2,387	19.0%	81.0%	3,867	30.8%	50.1%
RAMSEY COUNTY TOTAL	260,287	80,266	30.8%	69.2%	129,508	49.8%	43.6%
<u>SCOTT COUNTY</u>							
BELLE PLAINE TOTAL	1,906	611	32.1%	67.9%	88	4.6%	63.3%
BELLE PLAINE TOWNSHIP TOTAL	375	71	18.9%	81.1%	15	4.0%	77.1%
BLAKELEY TOWNSHIP TOTAL	244	36	14.8%	85.2%	12	4.9%	80.3%
CEDAR LAKE TOWNSHIP TOTAL	1,234	174	14.1%	85.9%	103	8.3%	77.6%
CREDIT RIVER TOWNSHIP TOTAL	2,230	230	10.3%	89.7%	276	12.4%	77.3%
ELKO TOTAL	271	19	7.0%	93.0%	47	17.3%	75.6%
HELENA TOWNSHIP TOTAL	759	98	12.9%	87.1%	49	6.5%	80.6%
JACKSON TOWNSHIP TOTAL	759	24	3.2%	96.8%	55	7.2%	89.6%
JORDAN TOTAL	1,926	308	16.0%	84.0%	95	4.9%	79.1%
LOUISVILLE TOWNSHIP TOTAL	655	69	10.5%	89.5%	35	5.3%	84.1%
NEW MARKET TOTAL	198	20	10.1%	89.9%	12	6.1%	83.8%
NEW MARKET TOWNSHIP TOTAL	1,687	239	14.2%	85.8%	250	14.8%	71.0%
NEW PRAGUE TOTAL	1,403	460	32.8%	67.2%	52	3.7%	63.5%
PRIOR LAKE TOTAL	8,678	1,833	21.1%	78.9%	1,053	12.1%	66.7%
ST. LAWRENCE TOWNSHIP TOTAL	291	12	4.1%	95.9%	10	3.4%	92.4%
SAND CREEK TOWNSHIP TOTAL	868	143	16.5%	83.5%	54	6.2%	77.3%
SAVAGE TOTAL	11,726	1,264	10.8%	89.2%	1,856	15.8%	73.4%
SHAKOPEE TOTAL	11,579	3,483	30.1%	69.9%	927	8.0%	61.9%
SPRING LAKE TOWNSHIP TOTAL	2,069	206	10.0%	90.0%	277	13.4%	76.7%
SCOTT COUNTY TOTAL	40,185	9,300	23.1%	76.9%	5,171	12.9%	64.0%
<u>WASHINGTON COUNTY</u>							
AFTON TOTAL	1,518	143	9.4%	90.6%	515	33.9%	56.7%
BAYPORT TOTAL	878	242	27.6%	72.4%	120	13.7%	58.8%
BAYTOWN TOWNSHIP TOTAL	814	60	7.4%	92.6%	162	19.9%	72.7%
BIRCHWOOD VILLAGE TOTAL	516	43	8.3%	91.7%	187	36.2%	55.4%
COTTAGE GROVE TOTAL	16,674	2,671	16.0%	84.0%	5,038	30.2%	53.8%
DELLWOOD TOTAL	526	59	11.2%	88.8%	132	25.1%	63.7%
DENMARK TOWNSHIP TOTAL	778	144	18.5%	81.5%	158	20.3%	61.2%
FOREST LAKE TOTAL	3,429	871	25.4%	74.6%	721	21.0%	53.6%
FOREST LAKE TOWNSHIP TOTAL	4,391	509	11.6%	88.4%	1,078	24.6%	63.9%
GRANT TOTAL	2,220	247	11.1%	88.9%	695	31.3%	57.6%
GREY CLOUD ISLAND TOWNSHIP TOT	171	20	11.7%	88.3%	50	29.2%	59.1%
HUGO TOTAL	3,510	294	8.4%	91.6%	1,048	29.9%	61.8%
LAKE ELMO TOTAL	3,495	437	12.5%	87.5%	1,016	29.1%	58.4%
LAKELAND TOTAL	1,209	120	9.9%	90.1%	344	28.5%	61.6%
LAKELAND SHORES TOTAL	179	9	5.0%	95.0%	65	36.3%	58.7%
LAKE ST. CROIX BEACH TOTAL	657	51	7.8%	92.2%	176	26.8%	65.4%
LANDFALL TOTAL	327	18	5.5%	94.5%	105	32.1%	62.4%
MAHTOMEDI TOTAL	3,911	438	11.2%	88.8%	1,011	25.9%	63.0%
MARINE ON ST. CROIX TOTAL	284	59	20.8%	79.2%	74	26.1%	53.2%
MAY TOWNSHIP TOTAL	1,583	155	9.8%	90.2%	361	22.8%	67.4%
NEWPORT TOTAL	2,033	217	10.7%	89.3%	667	32.8%	56.5%
NEW SCANDIA TOWNSHIP TOTAL	1,990	316	15.9%	84.1%	387	19.4%	64.7%
OAKDALE TOTAL	14,560	1,586	10.9%	89.1%	5,315	36.5%	52.6%

<u>Origin</u>	<u>Destination</u>						
	Total Trips	# End in Same City	% End in Same City	% Leave City	# End in Mpls./St. Paul	% End in Mpls./St. Paul	% End Not in Same City or Mpls/StP
OAK PARK HEIGHTS TOTAL	1,813	264	14.6%	85.4%	310	17.1%	68.3%
PINE SPRINGS TOTAL	227	13	5.7%	94.3%	79	34.8%	59.5%
ST. MARYS POINT TOTAL	191	8	4.2%	95.8%	38	19.9%	75.9%
ST. PAUL PARK TOTAL	2,611	291	11.1%	88.9%	827	31.7%	57.2%
STILLWATER TOTAL	8,022	2,708	33.8%	66.2%	1,387	17.3%	49.0%
STILLWATER TOWNSHIP TOTAL	1,337	149	11.1%	88.9%	315	23.6%	65.3%
WEST LAKELAND TOWNSHIP TOTAL	1,823	124	6.8%	93.2%	501	27.5%	65.7%
WHITE BEAR LAKE TOTAL	140	23	16.4%	83.6%	30	21.4%	62.1%
WILLERNIE TOTAL	299	24	8.0%	92.0%	55	18.4%	73.6%
WOODBURY TOTAL	25,334	5,370	21.2%	78.8%	8,523	33.6%	45.2%
WASHINGTON COUNTY TOTAL	107,454	17,683	16.5%	83.5%	31,490	29.3%	54.2%
METRO AREA TOTAL	1,402,334	372,179	26.5%	73.5%	471,623	33.6%	52.2%

Appendix B: Sherburne County Work Trips

Residence State-County	Workplace State-County	Count	Same City	Reg. Center	Metro Center	Metro Suburbs	Other					
BALDWIN TOWNSHIP												
Baldwin Twp. Sherburne Co. MN	Waverly city Wright Co. MN	8				2000	2005	2010				
Baldwin Twp. Sherburne Co. MN	Tarrant Co. TX	13				4,623	5,918	6,682				
Baldwin Twp. Sherburne Co. MN	Superior city Douglas Co. WI	3	<u>Baldwin Twp.</u>	<u>Princeton</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>			<u>Other</u>			
BALDWIN TOWNSHIP TOTAL		2,661	245	9.2%	614	23.1%	259	9.7%	971	36.5%	572	21.5%
BECKER												
Becker city Sherburne Co. MN	St. Michael city Wright Co. MN	29				2000	2005	2010				
Becker city Sherburne Co. MN	Silver Creek Twp. Wright Co. M	3				2,683	3,612	4,457				
Becker city Sherburne Co. MN	Hartland town Pierce Co. WI	4	<u>Becker</u>	<u>St. Cloud</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>			<u>Other</u>			
BECKER TOTAL		1,405	413	29.4%	120	8.5%	76	5.4%	303	21.6%	493	35.1%
BECKER TOWNSHIP												
Becker Twp. Sherburne Co. MN	Silver Creek Twp. Wright Co. M	17				2000	2005	2010				
Becker Twp. Sherburne Co. MN	Dunkirk city Chautauqua Co. NY	6				3,595	4,255	4,860				
Becker Twp. Sherburne Co. MN	Superior city Douglas Co. WI	5	<u>Becker Twp.</u>	<u>Becker</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>			<u>Other</u>			
BECKER TOWNSHIP TOTAL		1,878	158	8.4%	242	12.9%	107	5.7%	572	30.5%	799	42.5%
BIG LAKE												
Big Lake city Sherburne Co. MN	Rockford city Wright Co. MN	24				2000	2005	2010				
Big Lake city Sherburne Co. MN	St. Michael city Wright Co. MN	39				6,063	7,814	9,105				
Big Lake city Sherburne Co. MN	Silver Creek Twp. Wright Co. M	17	<u>Big Lake</u>	<u>Monticello</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>			<u>Other</u>			
BIG LAKE TOTAL		3,268	577	17.7%	382	11.7%	226	6.9%	1,340	41.0%	743	22.7%
BIG LAKE TOWNSHIP												
Big Lake Twp. Sherburne Co. MN	St. Michael city Wright Co. MN	27				2000	2005	2010				
Big Lake Twp. Sherburne Co. MN	Silver Creek Twp. Wright Co. M	41				6,785	7,683	8,695				
Big Lake Twp. Sherburne Co. MN	Waverly city Wright Co. MN	4	<u>Big Lake Twp.</u>	<u>Elk River</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>			<u>Other</u>			
BIG LAKE TOWNSHIP TOTAL		3,617	456	12.6%	520	14.4%	284	7.9%	1,383	38.2%	974	26.9%
BLUE HILL TOWNSHIP												
Blue Hill Twp. Sherburne Co. MN	Monticello city Wright Co. MN	2				2000	2005	2010				
Blue Hill Twp. Sherburne Co. MN	Otsego city Wright Co. MN	7				811	1,097	1,201				
Blue Hill Twp. Sherburne Co. MN	St. Michael city Wright Co. MN	4	<u>Blue Hill Twp.</u>	<u>Princeton</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>			<u>Other</u>			
BLUE HILL TOWNSHIP TOTAL		411	26	6.3%	72	17.5%	30	7.3%	158	38.4%	125	30.4%
CLEAR LAKE												
Clear Lake city Sherburne Co. M	Clearwater city Wright Co. MN	7				2000	2005	2010				
Clear Lake city Sherburne Co. M	Monticello city Wright Co. MN	11				266	300	296				
Clear Lake city Sherburne Co. M	St. Michael city Wright Co. MN	3	<u>Clear Lake</u>	<u>St. Cloud</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>			<u>Other</u>			
CLEAR LAKE TOTAL		137	20	14.6%	25	18.2%	3	2.2%	12	8.8%	77	56.2%
CLEAR LAKE TOWNSHIP												
Clear Lake Twp. Sherburne Co. I	Southside Twp. Wright Co. MN	1				2000	2005	2010				
Clear Lake Twp. Sherburne Co. I	Waverly city Wright Co. MN	4				1,630	1,720	1,875				
Clear Lake Twp. Sherburne Co. I	Multnomah Co. OR	1	<u>Clear Lake Twp.</u>	<u>St. Cloud</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>			<u>Other</u>			
CLEAR LAKE TOWNSHIP TOTAL		902	63	7.0%	340	37.7%	21	2.3%	110	12.2%	368	40.8%

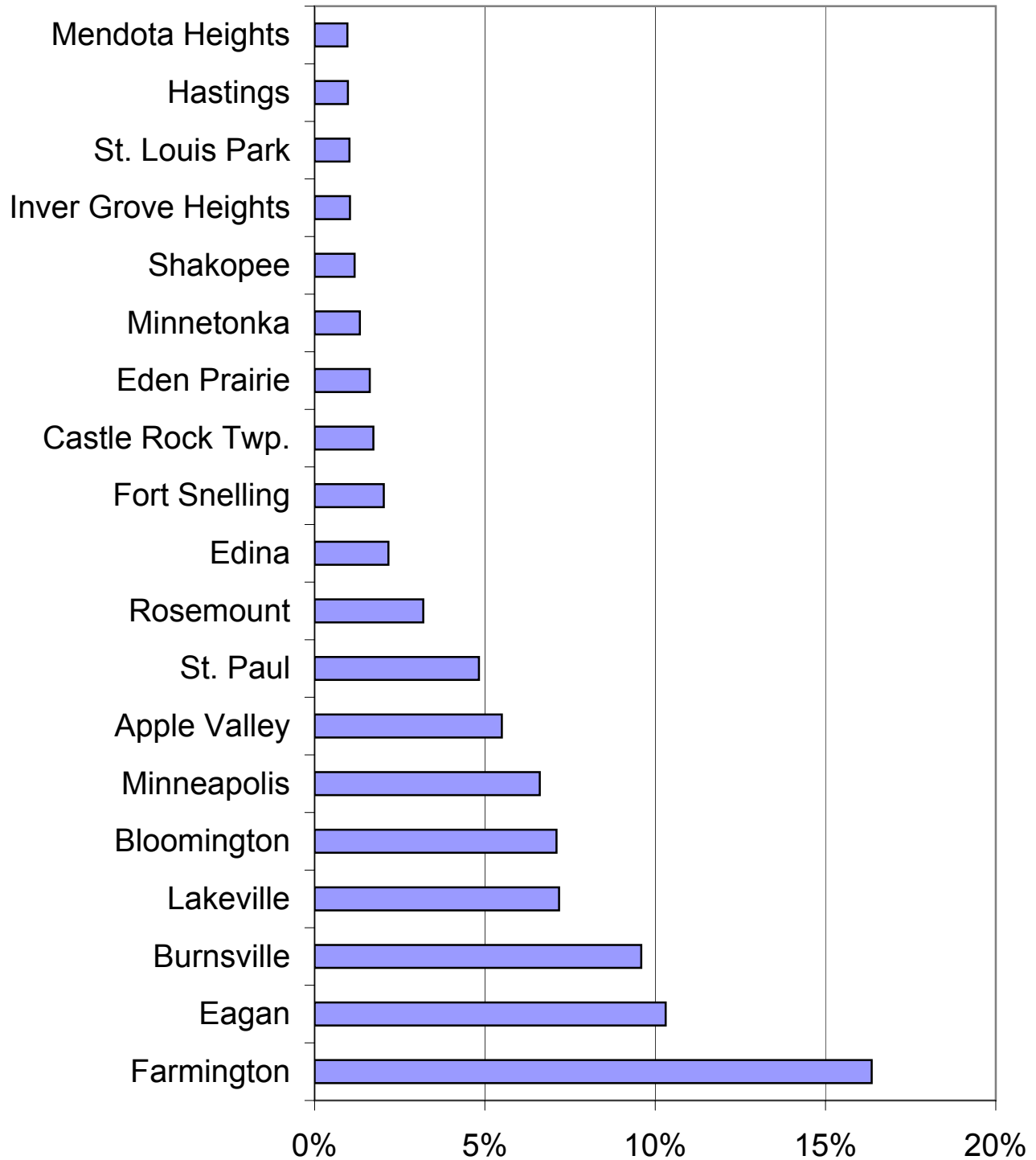
Elk River city Sherburne Co. MN	Southside Twp. Wright Co. MN	5	ELK RIVER					2000	2005	2010		
Elk River city Sherburne Co. MN	Pulaski Co. MO	4					16,447	19,112	21,611	31.4%		
Elk River city Sherburne Co. MN	POLAND	6	<u>Elk River</u>	<u>Monticello</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>				<u>Other</u>		
ELK RIVER TOTAL		8,737	2,826	32.3%	100	1.1%	786	9.0%	2,825	32.3%	2,200	25.2%
Haven Twp. Sherburne Co. MN	Silver Creek Twp. Wright Co. M	4	HAVEN TOWNSHIP					2000	2005	2010		
Haven Twp. Sherburne Co. MN	Hamilton Co. OH	3					2,024	2,104	2,161	6.8%		
Haven Twp. Sherburne Co. MN	CZECH REPUBLIC	2	<u>Haven Twp.</u>	<u>St. Cloud</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>				<u>Other</u>		
HAVEN TOWNSHIP TOTAL		1,177	149	12.7%	620	52.7%	25	2.1%	50	4.2%	333	28.3%
Livonia Twp. Sherburne Co. MN	St. Michael city Wright Co. MN	6	LIVONIA TOWNSHIP					2000	2005	2010		
Livonia Twp. Sherburne Co. MN	Silver Creek Twp. Wright Co. M	3					3,914	4,783	5,566	42.2%		
Livonia Twp. Sherburne Co. MN	Hudson city St. Croix Co. WI	5	<u>Livonia Twp.</u>	<u>Elk River</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>				<u>Other</u>		
LIVONIA TOWNSHIP TOTAL		2,008	173	8.6%	321	16.0%	187	9.3%	879	43.8%	448	22.3%
Orrock Twp. Sherburne Co. MN	Rockford city Wright Co. MN	13	ORROCK TOWNSHIP					2000	2005	2010		
Orrock Twp. Sherburne Co. MN	St. Michael city Wright Co. MN	29					2,764	3,281	3,848	39.2%		
Orrock Twp. Sherburne Co. MN	Clifton town Pierce Co. WI	2	<u>Orrock Twp.</u>	<u>Elk River</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>				<u>Other</u>		
ORROCK TOWNSHIP TOTAL		1,498	126	8.4%	186	12.4%	106	7.1%	604	40.3%	476	31.8%
Palmer Twp. Sherburne Co. MN	Waverly city Wright Co. MN	2	PALMER TOWNSHIP					2000	2005	2010		
Palmer Twp. Sherburne Co. MN	Milwaukee city Milwaukee Co. V	2					2,414	2,634	2,922	21.0%		
Palmer Twp. Sherburne Co. MN	Hudson town St. Croix Co. WI	2	<u>Palmer Twp.</u>	<u>St. Cloud</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>				<u>Other</u>		
PALMER TOWNSHIP TOTAL		1,284	94	7.3%	430	33.5%	69	5.4%	204	15.9%	487	37.9%
St. Cloud city Sherburne Co. MN	Monticello city Wright Co. MN	9	ST. CLOUD (SHERBURNE)					2000	2005	2010		
St. Cloud city Sherburne Co. MN	Monticello Twp. Wright Co. MN	5					5,982	6,115	6,389	6.8%		
St. Cloud city Sherburne Co. MN	St. Michael city Wright Co. MN	23	<u>St. Cloud</u>	<u>Little Falls</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>				<u>Other</u>		
ST. CLOUD TOTAL		2,763	1,847	66.8%	44	1.6%	71	2.6%	119	4.3%	682	24.7%
Santiago Twp. Sherburne Co. MI	St. Michael city Wright Co. MN	14	SANTIAGO TOWNSHIP					2000	2005	2010		
Santiago Twp. Sherburne Co. MI	Silver Creek Twp. Wright Co. M	5					1,553	1,805	2,123	36.7%		
Santiago Twp. Sherburne Co. MI	Hudson town St. Croix Co. WI	2	<u>Santiago Twp.</u>	<u>Becker</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>				<u>Other</u>		
SANTIAGO TOWNSHIP TOTAL		839	70	8.3%	110	13.1%	52	6.2%	212	25.3%	395	47.1%
Zimmerman city Sherburne Co. MN	Monticello city Wright Co. MN	9	ZIMMERMAN					2000	2005	2010		
Zimmerman city Sherburne Co. MN	Monticello Twp. Wright Co. MN	5					2,854	3,626	4,338	52.0%		
Zimmerman city Sherburne Co. MN	St. Michael city Wright Co. MN	10	<u>Zimmerman</u>	<u>Elk River</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>				<u>Other</u>		
ZIMMERMAN TOTAL		1,499	166	11.1%	238	15.9%	134	8.9%	728	48.6%	233	15.5%
SHERBURNE COUNTY TOTAL		34,084	7,409	21.7%	4,364	12.8%	2,436	7.1%	10,470	30.7%	9,405	27.6%

Appendix B: Wright County Work Trips

			Same City	Reg. Center	Metro Center	Metro Suburbs	Other
Albertville city Wright Co. MN	Otsego city Wright Co. MN	7					
Albertville city Wright Co. MN	St. Michael city Wright Co. MN	104	<u>Albertville</u>	<u>St. Michael</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>	<u>Other</u>
ALBERTVILLE TOTAL		2,040	222 10.9%	104 5.1%	247 12.1%	1,272 62.4%	195 9.6%
Annandale city Wright Co. MN	Silver Creek Twp. Wright Co. M	2					
Annandale city Wright Co. MN	Southside Twp. Wright Co. MN	38	<u>Annandale</u>	<u>Buffalo</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>	<u>Other</u>
ANNANDALE TOTAL		1,260	320 25.4%	110 8.7%	62 4.9%	337 26.7%	431 34.2%
Buffalo city Wright Co. MN	Silver Creek Twp. Wright Co. M	8					
Buffalo city Wright Co. MN	Richland Co. SC	6	<u>Buffalo</u>	<u>Monticello</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>	<u>Other</u>
BUFFALO TOTAL		5,127	1,842 35.9%	140 2.7%	352 6.9%	1,904 37.1%	889 17.3%
Delano city Wright Co. MN	Silver Creek Twp. Wright Co. M	4					
Delano city Wright Co. MN	Hudson city St. Croix Co. WI	4	<u>Delano</u>	<u>Buffalo</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>	<u>Other</u>
DELANO TOTAL		2,047	452 22.1%	49 2.4%	168 8.2%	1,178 57.5%	200 9.8%
Hanover city Wright Co. MN	St. Michael city Wright Co. MN	19					
Hanover city Wright Co. MN	River Falls city St. Croix Co. WI	1	<u>Hanover</u>	<u>St. Michael</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>	<u>Other</u>
HANOVER TOTAL		557	70 12.6%	19 3.4%	71 12.7%	323 58.0%	74 13.3%
Monticello city Wright Co. MN	St. Michael city Wright Co. MN	63					
Monticello city Wright Co. MN	Woodland Twp. Wright Co. MN	5	<u>Monticello</u>	<u>Buffalo</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>	<u>Other</u>
MONTICELLO TOTAL		4,262	1,305 30.6%	213 5.0%	309 7.3%	1,589 37.3%	846 19.8%
Montrose city Wright Co. MN	Rockford Twp. Wright Co. MN	2					
Montrose city Wright Co. MN	Waverly city Wright Co. MN	2	<u>Montrose</u>	<u>Buffalo</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>	<u>Other</u>
MONTROSE TOTAL		611	57 9.3%	73 11.9%	24 3.9%	325 53.2%	132 21.6%
Otsego city Wright Co. MN	St. Michael city Wright Co. MN	79					
Otsego city Wright Co. MN	MALAYSIA	7	<u>Otsego</u>	<u>Elk River</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>	<u>Other</u>
OTSEGO TOTAL		3,543	346 9.8%	570 16.1%	333 9.4%	1,700 48.0%	594 16.8%
Rockford city Wright Co. MN	Rockford city Wright Co. MN	163					
Rockford city Wright Co. MN	St. Michael city Wright Co. MN	24	<u>Rockford</u>	<u>Delano</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>	<u>Other</u>
ROCKFORD TOTAL		1,764	176 10.0%	53 3.0%	151 8.6%	1,227 69.6%	157 8.9%
St. Michael city Wright Co. MN	Waverly city Wright Co. MN	6					
St. Michael city Wright Co. MN	Somerset village St. Croix Co. V	10	<u>St. Michael</u>	<u>Albertville</u>	<u>Mpls./St. Paul</u>	<u>7-County Suburbs</u>	<u>Other</u>
ST. MICHAEL TOTAL		4,881	956 19.6%	198 4.1%	528 10.8%	2,650 54.3%	549 11.2%
WRIGHT COUNTY TOTAL (selected growth areas)		26,092	5,746 22.0%	1,529 5.9%	2,245 8.6%	12,505 47.9%	4,067 15.6%

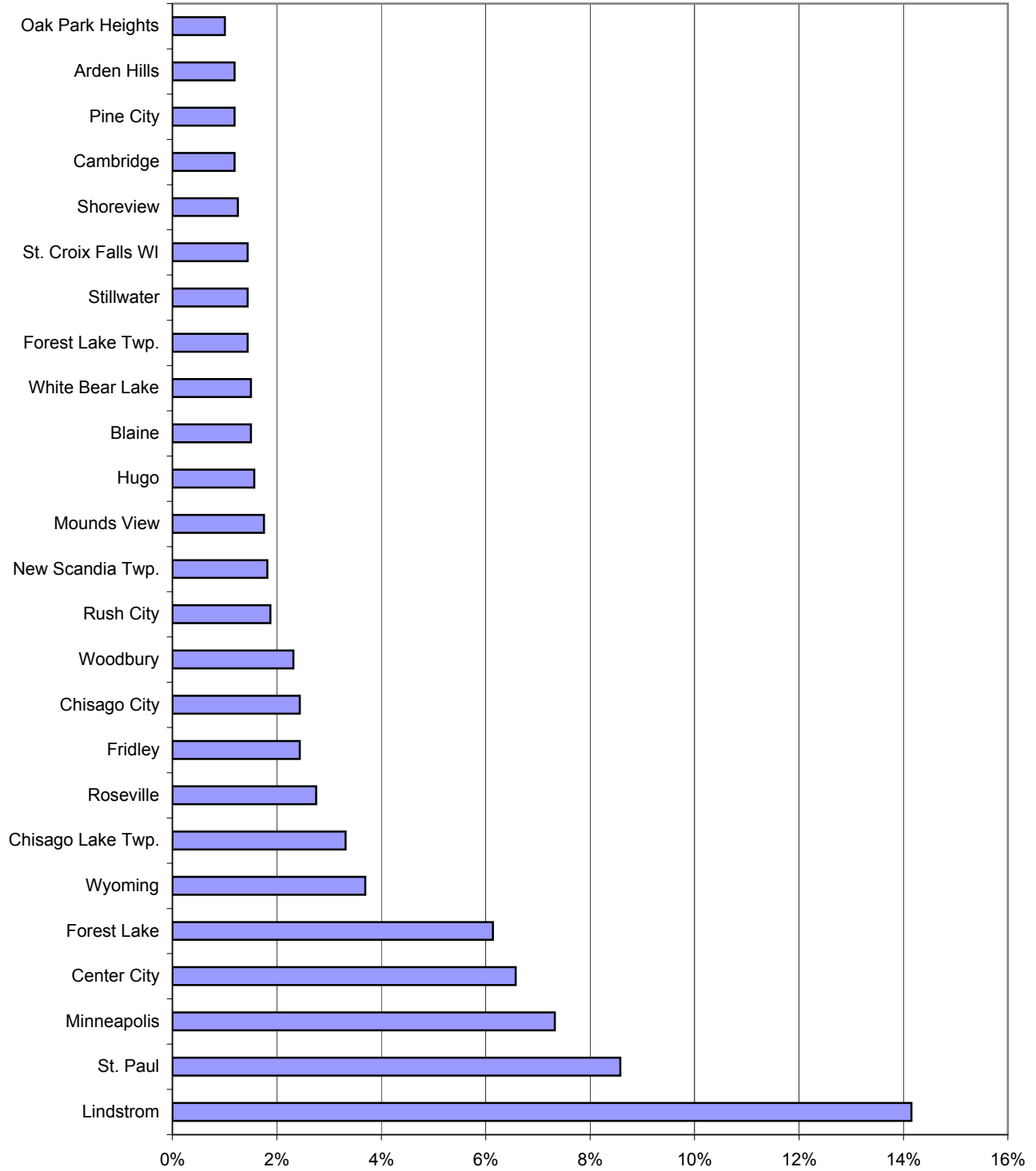
Farmington Work Trip Distribution

(84.7% of all work trips)



Lindstrom Work Trip Distribution

(79.9 percent of total work trips)



Appendix B: Metro Household Growth by Planning Areas and City/Town

Households													
	1980	1990	Change 1980-90	Change 1980-90	2000	Change 1990-00	Change 1990-00	2010	Change 2000-10	Change 2000-10	2020	Change 2010-20	Change 2010-20
CENTRAL CITIES													
Minneapolis	161,858	160,682	-0.7%	-1,176	162,352	1.0%	1,670	172,000	5.9%	9,648	181,000	5.2%	9,000
St. Paul	106,223	110,249	3.8%	4,026	112,109	1.7%	1,860	120,000	7.0%	7,891	127,000	5.8%	7,000
TOTALS	268,081	270,931	1.1%	2,850	274,461	1.3%	3,530	292,000	6.4%	17,539	308,000	5.5%	16,000
DEVELOPED SUBURBS													
Anoka	5,382	6,394	18.8%	1,012	7,262	13.6%	868	7,900	8.8%	638	8,500	7.6%	600
Apple Valley	6,376	11,145	74.8%	4,769	16,344	46.6%	5,199	21,000	28.5%	4,656	26,000	23.8%	5,000
Arden Hills	2,284	2,904	27.1%	620	2,959	1.9%	55	3,600	21.7%	641	4,600	27.8%	1,000
Birchwood	326	364	11.7%	38	357	-1.9%	-7	360	0.8%	3	360	0.0%	0
Bloomington	28,660	34,488	20.3%	5,828	36,400	5.5%	1,912	37,700	3.6%	1,300	39,200	4.0%	1,500
Brooklyn Center	10,751	11,226	4.4%	475	11,430	1.8%	204	11,800	3.2%	370	12,000	1.7%	200
Burnsville	12,080	19,127	58.3%	7,047	23,687	23.8%	4,560	25,300	6.8%	1,613	27,100	7.1%	1,800
Champlin	2,733	5,423	98.4%	2,690	7,425	36.9%	2,002	8,500	14.5%	1,075	9,200	8.2%	700
Circle Pines	922	1,562	69.4%	640	1,697	8.6%	135	2,050	20.8%	353	2,100	2.4%	50
Columbia Hgts.	7,343	7,766	5.8%	423	8,033	3.4%	267	8,600	7.1%	567	9,200	7.0%	600
Coon Rapids	10,336	17,449	68.8%	7,113	22,578	29.4%	5,129	25,000	10.7%	2,422	26,500	6.0%	1,500
Crystal	8,977	9,272	3.3%	295	9,389	1.3%	117	9,700	3.3%	311	10,100	4.1%	400
Deephaven	1,223	1,324	5.3%	101	1,373	3.7%	49	1,450	5.6%	77	1,450	0.0%	0
Edina	17,961	19,860	10.6%	1,899	20,996	5.7%	1,136	21,600	2.9%	604	22,000	1.9%	400
Excelsior	1,149	1,160	1.0%	11	1,199	3.4%	39	1,250	4.3%	51	1,330	6.4%	80
Falcon Hgts.	1,894	2,016	6.4%	122	2,103	4.3%	87	2,350	11.7%	247	2,400	2.1%	50
Fort Snelling	17	7	-58.8%	-10	0	-100.0%	-7	0	0.0%	0	0	0.0%	0
Fridley	10,416	10,909	4.7%	493	11,328	3.8%	419	11,600	2.4%	272	11,900	2.6%	300
Gem Lake	118	140	18.6%	22	139	-0.7%	-1	160	15.1%	21	170	6.3%	10
Golden Valley	7,597	8,273	8.9%	676	8,449	2.1%	176	8,900	5.3%	451	9,200	3.4%	300
Greenwood	234	250	6.8%	16	285	14.0%	35	320	12.3%	35	330	3.1%	10
Hilltop	453	410	-9.5%	-43	400	-2.4%	-10	400	0.0%	0	400	0.0%	0
Hopkins	7,061	7,973	12.9%	912	8,358	4.8%	385	8,500	1.7%	142	8,800	3.5%	300
Landfall	310	300	-3.2%	-10	292	-2.7%	-8	300	2.7%	8	300	0.0%	0
Lauderdale	809	1,166	44.1%	357	1,150	-1.4%	-16	1,160	0.9%	10	1,200	3.4%	40
Lexington	746	829	11.1%	83	820	-1.1%	-9	900	9.8%	80	950	5.6%	50
Lilydale	222	297	33.8%	75	338	13.8%	41	480	42.0%	142	490	2.1%	10
Little Canada	2,936	3,902	32.9%	966	4,375	12.1%	473	4,870	11.3%	495	5,300	8.8%	430
Long Lake	586	747	27.5%	161	756	1.2%	9	900	19.0%	144	1,000	11.1%	100
Loretto	109	167	53.2%	58	225	34.7%	58	280	24.4%	55	290	3.6%	10
Mahtomedi	1,239	1,874	51.3%	635	2,503	33.6%	629	3,000	19.9%	497	3,400	13.3%	400
Maplewood	8,806	11,496	30.5%	2,690	13,758	19.7%	2,262	15,600	13.4%	1,842	16,500	5.8%	900
Medicine Lake	162	169	4.3%	7	159	-5.9%	-10	170	6.8%	11	190	11.9%	20

Appendix B: Metro Household Growth by Planning Areas and City/Town

Households													
	1980	1990	Change 1980-90	Change 1980-90	2000	Change 1990-00	Change 1990-00	2010	Change 2000-10	Change 2000-10	2020	Change 2010-20	Change 2010-20
DEVELOPED SUBURBS													
Mendota	80	69	-13.8%	-11	80	15.9%	11	90	12.5%	10	100	11.1%	10
Mendota Hgts.	2,210	3,302	49.4%	1,092	4,178	26.5%	876	4,600	10.1%	422	4,800	4.3%	200
Minnnetonka	12,667	18,687	47.5%	6,020	21,270	13.8%	2,583	22,300	4.8%	1,030	23,000	3.1%	700
Minnnetonka Beach	187	204	9.1%	17	215	5.4%	11	230	7.0%	15	230	0.0%	0
Mound	3,384	3,710	9.6%	326	3,982	7.3%	272	4,350	9.2%	368	4,600	5.7%	250
Mounds View	4,248	4,702	10.7%	454	5,018	6.7%	316	5,350	6.6%	332	5,600	4.7%	250
New Brighton	7,739	8,523	10.1%	784	9,013	5.7%	490	9,400	4.3%	387	9,800	4.3%	400
New Hope	7,627	8,507	11.5%	880	8,665	1.9%	158	9,100	5.0%	435	9,600	5.5%	500
Newport	1,153	1,323	14.7%	170	1,418	7.2%	95	1,550	9.3%	132	1,800	16.1%	250
North St. Paul	3,980	4,447	11.7%	467	4,703	5.8%	256	4,900	4.2%	197	5,400	10.2%	500
Osseo	1,015	995	-2.0%	-20	1,035	4.0%	40	1,090	5.3%	55	1,160	6.4%	70
Richfield	15,258	15,551	1.9%	293	15,073	-3.1%	-478	16,500	9.5%	1,427	18,000	9.1%	1,500
Robbinsdale	5,705	6,008	5.3%	303	6,097	1.5%	89	6,400	5.0%	303	6,800	6.3%	400
Roseville	12,876	13,562	5.3%	686	14,598	7.6%	1,036	15,500	6.2%	902	16,000	3.2%	500
Shoreview	5,954	8,991	51.0%	3,037	10,125	12.6%	1,134	10,500	3.7%	375	10,700	1.9%	200
South St. Paul	7,748	7,914	2.1%	166	8,123	2.6%	209	8,300	2.2%	177	8,600	3.6%	300
Spring Lake Park (total)	1,992	2,343	17.6%	351	2,724	16.3%	381	2,800	2.8%	76	2,900	3.6%	100
Spring Park	684	741	8.3%	57	930	25.5%	189	1,000	7.5%	70	1,080	8.0%	80
St. Anthony (total)	3,045	3,453	13.4%	408	3,697	7.1%	244	3,950	6.8%	253	4,300	8.9%	350
St. Louis Park	17,669	19,925	12.8%	2,256	20,773	4.3%	848	22,000	5.9%	1,227	23,000	4.5%	1,000
St. Paul Park	1,511	1,749	15.8%	238	1,829	4.6%	80	2,200	20.3%	371	2,500	13.6%	300
Stillwater	4,065	4,982	22.6%	917	5,797	16.4%	815	6,900	19.0%	1,103	7,700	11.6%	800
Tonka Bay	495	577	16.6%	82	614	6.4%	37	700	14.0%	86	760	8.6%	60
Vadnais Hgts.	1,760	3,924	123.0%	2,164	5,064	29.1%	1,140	5,600	10.6%	536	6,100	8.9%	500
Wayzata	1,560	1,715	9.9%	155	1,929	12.5%	214	2,000	3.7%	71	2,130	6.5%	130
West St. Paul	7,501	8,441	12.5%	940	8,645	2.4%	204	8,900	2.9%	255	9,300	4.5%	400
White Bear Lake (total)	7,124	9,070	27.3%	1,946	9,618	6.0%	548	10,470	8.9%	852	11,300	7.9%	830
White Bear Twp.	1,797	3,205	78.4%	1,408	4,010	25.1%	805	4,700	17.2%	690	4,800	2.1%	100
Willernie	236	227	-3.8%	-9	225	-0.9%	-2	230	2.2%	5	240	4.3%	10
Woodland	183	176	-3.8%	-7	173	-1.7%	-3	180	4.0%	7	200	11.1%	20
TOTALS	315,812	384,268	21.7%	68,456	424,227		39,959	456,720		32,493	485,430		28,710
DEVELOPING SUBURBS													
Andover	2,469	4,430	79.4%	1,961	8,107	83.0%	3,677	12,100	49.3%	3,993	14,600	20.7%	2,500
Bayport	677	743	9.7%	66	763	2.7%	20	840	10.1%	77	1,000	19.0%	160
Blaine (total)	8,474	12,825	51.3%	4,351	15,926	24.2%	3,101	24,800	55.7%	8,874	29,300	18.1%	4,500
Brooklyn Park	15,268	20,386	33.5%	5,118	24,432	19.8%	4,046	28,400	16.2%	3,968	32,000	12.7%	3,600
Centerville	214	519	142.5%	305	1,077	107.5%	558	1,340	24.4%	263	1,600	19.4%	260

Appendix B: Metro Household Growth by Planning Areas and City/Town

DEVELOPING SUBURBS	Households												
	1980	1990	Change 1980-90	Change 1980-90	2000	Change 1990-00	Change 1990-00	2010	Change 2000-10	Change 2000-10	2020	Change 2010-20	Change 2010-20
Chanhassen (total)	2,075	4,016	93.5%	1,941	6,914	72.2%	2,898	9,900	43.2%	2,986	13,000	31.3%	3,100
Chaska	3,006	4,212	40.1%	1,206	6,104	44.9%	1,892	9,000	47.4%	2,896	9,500	5.6%	500
Corcoran	1,243	1,545	24.3%	302	1,784	15.5%	239	4,000	124.2%	2,216	7,000	75.0%	3,000
Cottage Grove	5,127	6,856	33.7%	1,729	9,932	44.9%	3,076	13,000	30.9%	3,068	16,500	26.9%	3,500
Dayton (pt.)	1,161	1,359	17.1%	198	1,546	13.8%	187	2,000	29.4%	454	6,500	225.0%	4,500
Eagan	6,824	17,427	155.4%	10,603	23,773	36.4%	6,346	26,500	11.5%	2,727	28,000	5.7%	1,500
Eden Prairie	5,383	14,447	168.4%	9,064	20,457	41.6%	6,010	23,500	14.9%	3,043	25,500	8.5%	2,000
Empire Twp.	360	426	18.3%	66	515	20.9%	89	700	35.9%	185	1,600	128.6%	900
Farmington	1,511	2,064	36.6%	553	4,169	102.0%	2,105	7,500	79.9%	3,331	10,500	40.0%	3,000
Forest Lake	3,311	4,424	33.6%	1,113	5,433	22.8%	1,009	7,000	28.8%	1,567	9,000	28.6%	2,000
Grey Cloud Twp.	112	165	47.3%	53	117	-29.1%	-48	1,800	1438.5%	1,683	2,500	38.9%	700
Hassan Twp.	452	585	29.4%	133	778	33.0%	193	1,000	28.5%	222	4,000	300.0%	3,000
Hastings	4,197	5,401	28.7%	1,204	6,640	22.9%	1,239	8,800	32.5%	2,160	11,000	25.0%	2,200
Hugo	1,082	1,416	30.9%	334	2,125	50.1%	709	4,300	102.4%	2,175	7,000	62.8%	2,700
Inver Grove Hgts.	5,551	7,803	40.6%	2,252	11,257	44.3%	3,454	14,000	24.4%	2,743	17,000	21.4%	3,000
Lake Elmo	1,687	1,973	17.0%	286	2,347	19.0%	374	3,500	49.1%	1,153	6,000	71.4%	2,500
Laketown Twp.	521	601	15.4%	80	637	6.0%	36	1,700	166.9%	1,063	3,500	105.9%	1,800
Lakeville	4,337	7,851	81.0%	3,514	13,609	73.3%	5,758	20,200	48.4%	6,591	28,000	38.6%	7,800
Lino Lakes	1,388	2,603	87.5%	1,215	4,857	86.6%	2,254	7,100	46.2%	2,243	8,600	21.1%	1,500
Maple Grove	6,239	12,531	100.8%	6,292	17,532	39.9%	5,001	24,500	39.7%	6,968	30,000	22.4%	5,500
Maple Plain	465	696	49.7%	231	770	10.6%	74	870	13.0%	100	950	9.2%	80
Medina	765	1,007	31.6%	242	1,309	30.0%	302	2,070	58.1%	761	2,700	30.4%	630
Minnetrissa	974	1,195	22.7%	221	1,505	25.9%	310	2,100	39.5%	595	3,000	42.9%	900
North Oaks	810	1,085	34.0%	275	1,300	19.8%	215	1,600	23.1%	300	2,100	31.3%	500
Oak Park Hgts.	868	1,322	52.3%	454	1,528	15.6%	206	2,000	30.9%	472	2,300	15.0%	300
Oakdale	4,004	6,699	67.3%	2,695	10,243	52.9%	3,544	11,300	10.3%	1,057	12,000	6.2%	700
Orono	2,291	2,613	14.1%	322	2,766	5.9%	153	3,200	15.7%	434	3,700	15.6%	500
Plymouth	10,491	18,361	75.0%	7,870	24,820	35.2%	6,459	29,000	16.8%	4,180	31,500	8.6%	2,500
Prior Lake	2,313	3,901	68.7%	1,588	5,645	44.7%	1,744	10,500	86.0%	4,855	12,000	14.3%	1,500
Ramsey	2,660	3,620	36.1%	960	5,906	63.1%	2,286	10,300	74.4%	4,394	15,500	50.5%	5,200
Rogers	210	259	23.3%	49	1,195	361.4%	936	2,300	92.5%	1,105	2,700	17.4%	400
Rosemount	1,456	2,779	90.9%	1,323	4,742	70.6%	1,963	8,000	68.7%	3,258	11,200	40.0%	3,200
Savage	1,234	3,255	163.8%	2,021	6,807	109.1%	3,552	11,000	61.6%	4,193	14,500	31.8%	3,500
Shakopee	3,226	4,163	29.0%	937	7,540	81.1%	3,377	15,000	98.9%	7,460	19,500	30.0%	4,500
Shorewood	1,484	2,026	36.5%	542	2,529	24.8%	503	2,770	9.5%	241	3,000	8.3%	230
St. Bonifacius	281	398	41.6%	117	681	71.1%	283	1,100	61.5%	419	1,100	0.0%	0
Sunfish Lake	107	138	29.0%	31	173	25.4%	35	190	9.8%	17	200	5.3%	10
Victoria	427	756	77.0%	329	1,367	80.8%	611	2,400	75.6%	1,033	3,000	25.0%	600
Waconia	988	1,401	41.8%	413	2,568	83.3%	1,167	3,000	16.8%	432	3,300	10.0%	300
Woodbury	3,232	6,927	114.3%	3,695	16,676	140.7%	9,749	23,500	40.9%	6,824	30,500	29.8%	7,000
TOTALS	133,553	218,108	63.3%	84,555	315,807	44.8%	97,699	436,460	38.2%	120,653	542,350	24.3%	105,890

Appendix B: Metro Household Growth by Planning Areas and City/Town

Households													
	1980	1990	Change 1980-90	Change 1980-90	2000	Change 1990-00	Change 1990-00	2010	Change 2000-10	Change 2000-10	2020	Change 2010-20	Change 2010-20
RURAL CENTERS													
Belle Plaine	942	1,092	15.9%	150	1,396	27.8%	304	2,500	79.1%	1,104	3,300	32.0%	800
Bethel	93	130	39.8%	37	149	14.6%	19	160	7.4%	11	180	12.5%	20
Carver	218	262	20.2%	44	458	74.8%	196	1,100	140.2%	642	1,600	45.5%	500
Cologne	202	216	6.9%	14	385	78.2%	169	700	81.8%	315	1,000	42.9%	300
Elko	80	75	-6.3%	-5	155	106.7%	80	800	416.1%	645	1,600	100.0%	800
Hamburg	173	184	6.4%	11	206	12.0%	22	240	16.5%	34	300	25.0%	60
Hampton	101	118	16.8%	17	156	32.2%	38	260	66.7%	104	290	11.5%	30
Jordan	893	1,042	16.7%	149	1,349	29.5%	307	2,250	66.8%	901	3,100	37.8%	850
Marine on St. Croix	201	234	16.4%	33	254	8.5%	20	320	26.0%	66	370	15.6%	50
Mayer	142	166	16.9%	24	199	19.9%	33	600	201.5%	401	1,000	66.7%	400
New Germany	130	138	6.2%	8	143	3.6%	5	180	25.9%	37	250	38.9%	70
New Market	99	82	-17.2%	-17	131	59.8%	49	1,000	663.4%	869	2,000	100.0%	1,000
Norwood Young America	856	972	13.6%	116	1,171	20.5%	199	1,800	53.7%	629	2,800	55.6%	1,000
St. Francis	355	760	114.1%	405	1,638	115.5%	878	2,800	70.9%	1,162	4,000	42.9%	1,200
Vermillion	123	157	27.6%	34	160	1.9%	3	200	25.0%	40	240	20.0%	40
Watertown	658	848	28.9%	190	1,078	27.1%	230	1,800	67.0%	722	2,300	27.8%	500
TOTALS	5,266	6,476	23.0%	1,210	9,028	39.4%	2,552	16,710	85.1%	7,682	24,330	45.6%	7,620
RURAL AREAS													
Afton	776	890	14.7%	114	996	11.9%	106	1,100	10.4%	104	1,200	9.1%	100
Baytown Twp.	237	302	27.4%	65	492	62.9%	190	630	28.0%	138	800	27.0%	170
Belle Plaine Twp.	202	211	4.5%	9	266	26.1%	55	340	27.8%	74	400	17.6%	60
Benton Twp.	260	276	6.2%	16	307	11.2%	31	320	4.2%	13	330	3.1%	10
Blakeley Twp.	149	140	-6.0%	-9	166	18.6%	26	190	14.5%	24	220	15.8%	30
Burns Twp.	536	754	40.7%	218	1,123	48.9%	369	1,500	33.6%	377	1,900	26.7%	400
Camden Twp.	257	287	11.7%	30	316	10.1%	29	340	7.7%	24	370	8.7%	30
Castle Rock Twp.	395	460	16.5%	65	514	11.7%	54	550	7.0%	36	600	9.1%	50
Cedar Lake Twp.	396	523	32.1%	127	719	37.5%	196	1,000	39.1%	281	1,200	20.0%	200
Chaska Twp.	59	60	1.7%	1	65	8.3%	5	1,000	1438.5%	935	3,000	200.0%	2,000
Columbus Twp.	870	1,129	29.8%	259	1,328	17.6%	199	1,450	9.2%	122	1,600	10.3%	150
Credit River Twp.	637	864	35.6%	227	1,242	43.8%	378	1,700	36.9%	458	2,500	47.1%	800
Dahlgren Twp.	331	394	19.0%	63	479	21.6%	85	700	46.1%	221	2,100	200.0%	1,400
Dellwood	223	301	35.0%	78	353	17.3%	52	380	7.6%	27	390	2.6%	10
Denmark Twp.	318	367	15.4%	49	481	31.1%	114	650	35.1%	169	820	26.2%	170
Douglas Twp.	164	192	17.1%	28	235	22.4%	43	270	14.9%	35	300	11.1%	30
East Bethel	1,955	2,542	30.0%	587	3,607	41.9%	1,065	4,400	22.0%	793	5,000	13.6%	600
Eureka Twp.	373	447	19.8%	74	496	11.0%	49	550	10.9%	54	630	14.5%	80
Grant	831	1,173	41.2%	342	1,374	17.1%	201	1,580	15.0%	206	1,740	10.1%	160
Greenfield	402	457	13.7%	55	817	78.8%	360	1,000	22.4%	183	1,300	30.0%	300

Appendix B: Metro Household Growth by Planning Areas and City/Town

RURAL AREAS	Households												
	1980	1990	Change 1980-90	Change 1980-90	2000	Change 1990-00	Change 1990-00	2010	Change 2000-10	Change 2000-10	2020	Change 2010-20	Change 2010-20
Greenvale Twp.	187	228	21.9%	41	227	-0.4%	-1	260	14.5%	33	300	15.4%	40
Ham Lake	2,226	2,720	22.2%	494	4,139	52.2%	1,419	5,700	37.7%	1,561	6,800	19.3%	1,100
Hampton Twp.	223	260	16.6%	37	320	23.1%	60	360	12.5%	40	400	11.1%	40
Hancock Twp.	108	110	1.9%	2	121	10.0%	11	140	15.7%	19	160	14.3%	20
Helena Twp.	321	352	9.7%	31	450	27.8%	98	550	22.2%	100	650	18.2%	100
Hollywood Twp.	314	327	4.1%	13	371	13.5%	44	410	10.5%	39	450	9.8%	40
Independence	789	925	17.2%	136	1,088	17.6%	163	1,380	26.8%	292	1,600	15.9%	220
Jackson Twp.	466	459	-1.5%	-7	461	0.4%	2	520	12.8%	59	1,500	188.5%	980
Lake St. Croix Beach	397	415	4.5%	18	462	11.3%	47	480	3.9%	18	500	4.2%	20
Lakeland	550	645	17.3%	95	691	7.1%	46	720	4.2%	29	730	1.4%	10
Lakeland Shores	65	101	55.4%	36	116	14.9%	15	120	3.4%	4	120	0.0%	0
Linwood Twp.	833	1,146	27.3%	313	1,578	37.7%	432	1,850	17.2%	272	2,100	13.5%	250
Louisville Twp.	232	278	19.8%	46	410	47.5%	132	470	14.6%	60	520	10.6%	50
Marshan Twp.	431	373	-13.5%	-58	404	8.3%	31	450	11.4%	46	490	8.9%	40
May Twp.	611	820	34.2%	209	1,007	22.8%	187	1,200	19.2%	193	1,400	16.7%	200
Miesville	49	47	-4.1%	-2	52	10.6%	5	60	15.4%	8	60	0.0%	0
New Market Twp.	441	627	42.2%	186	956	52.5%	329	1,400	46.4%	444	1,900	35.7%	500
New Scandia Twp.	851	1,060	40.1%	209	1,294	22.1%	234	1,500	15.9%	206	1,700	13.3%	200
New Trier	31	29	-6.5%	-2	31	6.9%	2	30	-3.2%	-1	30	0.0%	0
Nininger Twp.	201	241	19.9%	40	280	16.2%	39	330	17.9%	50	370	12.1%	40
Oak Grove	1,093	1,638	49.9%	545	2,200	34.3%	562	2,600	18.2%	400	2,800	7.7%	200
Pine Springs	77	135	75.3%	58	140	3.7%	5	140	0.0%	0	140	0.0%	0
Randolph	110	111	0.9%	1	117	5.4%	6	160	36.8%	43	210	31.3%	50
Randolph Twp.	118	158	33.9%	40	192	21.5%	34	240	25.0%	48	260	8.3%	20
Ravenna Twp.	433	546	26.1%	113	734	34.4%	188	840	14.4%	106	920	9.5%	80
San Francisco Twp.	194	244	25.8%	50	293	20.1%	49	350	19.5%	57	410	17.1%	60
Sand Creek Twp.	371	412	11.1%	41	478	16.0%	66	600	25.5%	122	750	25.0%	150
Sciota Twp.	75	86	14.7%	11	92	7.0%	6	130	41.3%	38	160	23.1%	30
Spring Lake Twp.	721	899	24.7%	178	1,217	35.4%	318	2,000	64.3%	783	3,500	75.0%	1,500
St. Lawrence Twp.	101	122	20.8%	21	144	18.0%	22	200	38.9%	56	280	40.0%	80
St. Mary's Point	114	126	10.5%	12	132	4.8%	6	150	13.6%	18	160	6.7%	10
Stillwater Twp.	448	639	42.6%	191	833	30.4%	194	1,000	20.0%	167	1,400	40.0%	400
Vermillion Twp.	281	354	26.0%	73	395	11.6%	41	430	8.8%	35	500	16.3%	70
Waconia Twp.	408	407	-0.2%	-1	429	5.4%	22	500	16.6%	71	800	60.0%	300
Waterford Twp.	164	182	11.0%	18	193	6.0%	11	210	8.8%	17	230	9.5%	20
Watertown Twp.	412	439	6.6%	27	478	8.9%	39	550	15.1%	72	800	45.5%	250
West Lakeland Twp.	355	524	47.6%	169	1,101	110.1%	577	1,300	18.1%	199	1,450	11.5%	150
Young America Twp.	274	285	4.0%	11	267	-6.3%	-18	300	12.4%	33	350	16.7%	50
TOTALS	26,426	32,229	22.0%	5,803	41,269	28.0%	9,040	51,290	24.3%	10,021	65,320	27.4%	14,030

Appendix B: Metro Household Growth by Planning Areas and City/Town

	Households												
	1980	1990	Change 1980-90	Change 1980-90	2000	Change 1990-00	Change 1990-00	2010	Change 2000-10	Change 2000-10	2020	Change 2010-20	Change 2010-20
OUTSIDE COUNCIL													
Hanover (pt.)	64	82	28.1%	18	113	37.8%	31	150	32.7%	37	200	33.3%	50
New Prague (pt.)	677	870	28.5%	193	1,160	33.3%	290	1,800	55.2%	640	2,500	38.9%	700
Northfield (pt.)	3	54	1700.0%	51	216	300.0%	162	300	38.9%	84	400	33.3%	100
Rockford (pt.)	125	163	30.4%	38	57	-65.0%	-106	100	75.4%	43	200	100.0%	100
TOTALS	869	1,169	34.5%	300	1,546	32.2%	377	2,350	52.0%	804	3,300	40.4%	950
METRO TOTALS	759,907	923,131	21.5%	163,224	1,076,338	16.6%	153,207	1,265,580	17.6%	189,242	1,438,830	13.7%	173,250

Appendix B: Metro Employment Growth by Planning Areas and City/Town

CENTRAL CITIES	Employment												
	1980	1990	Change 1980-90	Change 1980-90	2000	Change 1990-00	Change 1990-00	2010	Change 2000-10	Change 2000-10	2020	Change 2010-20	Change 2010-20
Minneapolis	268,600	278,438	3.7%	9,838	301,826	8.4%	23,388	317,000	5.0%	15,174	332,500	4.9%	15,500
St. Paul	176,900	172,578	-2.4%	-4,322	184,589	7.0%	12,011	196,600	6.5%	12,011	210,000	6.8%	13,400
TOTALS	445,500	451,016	1.2%	5,516	486,415	7.8%	35,399	513,600	5.6%	27,185	542,500	5.6%	28,900
DEVELOPED SUBURBS	1980	1990	Change 1980-90	Change 1980-90	2000	Change 1990-00	Change 1990-00	2010	Change 2000-10	Change 2000-10	2020	Change 2010-20	Change 2010-20
Anoka	11,612	11,755	1.2%	143	13,250	12.7%	1,495	14,400	8.7%	1,150	15,200	5.6%	800
Apple Valley	2,859	6,528	128.3%	3,669	11,250	72.3%	4,722	16,750	48.9%	5,500	20,100	20.0%	3,350
Arden Hills	7,650	10,929	42.9%	3,279	12,429	13.7%	1,500	15,200	22.3%	2,771	17,100	12.5%	1,900
Birchwood	30	0	-100.0%	-30	0	0.0%	0	0	0.0%	0	0	0.0%	0
Bloomington	61,098	75,837	24.1%	14,739	101,564	33.9%	25,727	118,600	16.8%	17,036	126,200	6.4%	7,600
Brooklyn Center	11,995	17,006	41.8%	5,011	16,693	-1.8%	-313	18,150	8.7%	1,457	18,550	2.2%	400
Burnsville	13,176	25,438	93.1%	12,262	31,825	25.1%	6,387	37,700	18.5%	5,875	41,200	9.3%	3,500
Champlin	411	1,110	170.1%	699	2,623	136.3%	1,513	3,700	41.1%	1,077	5,100	37.8%	1,400
Circle Pines	623	861	38.2%	238	2,057	138.9%	1,196	2,250	9.4%	193	2,400	6.7%	150
Columbia Hgts.	4,618	4,536	-1.8%	-82	6,419	41.5%	1,883	6,600	2.8%	181	6,750	2.3%	150
Coon Rapids	10,641	16,449	54.6%	5,808	21,462	30.5%	5,013	24,200	12.8%	2,738	26,000	7.4%	1,800
Crystal	6,030	6,019	-0.2%	-11	5,567	-7.5%	-452	6,600	18.6%	1,033	7,250	9.8%	650
Deephaven	300	407	35.7%	107	977	140.0%	570	1,000	2.4%	23	1,100	10.0%	100
Edina	36,061	44,534	23.5%	8,473	52,753	18.5%	8,219	57,100	8.2%	4,347	60,000	5.1%	2,900
Excelsior	1,947	1,656	-14.9%	-291	1,578	-4.7%	-78	1,980	25.5%	402	2,250	13.6%	270
Falcon Hgts.	3,120	3,180	1.9%	60	3,698	16.3%	518	3,900	5.5%	202	4,050	3.8%	150
Fort Snelling	19,519	29,844	52.9%	10,325	35,195	17.9%	5,351	36,400	3.4%	1,205	37,200	2.2%	800
Fridley	22,968	23,821	3.7%	853	25,957	9.0%	2,136	30,200	16.3%	4,243	33,000	9.3%	2,800
Gem Lake	260	320	23.1%	60	548	71.3%	228	720	31.4%	172	840	16.7%	120
Golden Valley	30,052	28,589	-4.9%	-1,463	29,467	3.1%	878	31,650	7.4%	2,183	33,100	4.6%	1,450
Greenwood	100	185	85.0%	85	200	8.1%	15	220	10.0%	20	230	4.5%	10
Hilltop	250	250	0.0%	0	254	1.6%	4	350	37.8%	96	420	20.0%	70
Hopkins	14,685	12,252	-16.6%	-2,433	11,777	-3.9%	-475	13,600	15.5%	1,823	14,800	8.8%	1,200
Landfall	50	50	0.0%	0	50	0.0%	0	60	20.0%	10	70	16.7%	10
Lauderdale	499	500	0.2%	1	700	40.0%	200	730	4.3%	30	750	2.7%	20
Lexington	623	630	1.1%	7	631	0.2%	1	880	39.5%	249	1,050	19.3%	170
Lilydale	50	200	300.0%	150	461	130.5%	261	480	4.1%	19	500	4.2%	20
Little Canada	2,106	4,287	103.6%	2,181	5,693	32.8%	1,406	6,400	12.4%	707	6,850	7.0%	450
Long Lake	1,338	1,370	2.4%	32	2,327	69.9%	957	2,600	11.7%	273	2,700	3.8%	100
Loretto	65	212	226.2%	147	250	17.9%	38	280	12.0%	30	300	7.1%	20
Mahtomedi	450	750	66.7%	300	1,160	54.7%	410	1,870	61.2%	710	2,350	25.7%	480
Maplewood	23,610	25,068	6.2%	1,458	29,961	19.5%	4,893	36,600	22.2%	6,639	41,000	12.0%	4,400
Medicine Lake	50	50	0.0%	0	50	0.0%	0	60	20.0%	10	70	16.7%	10

Appendix B: Metro Employment Growth by Planning Areas and City/Town

DEVELOPED SUBURBS	Employment												
	1980	1990	Change 1980-90	Change 1980-90	2000	Change 1990-00	Change 1990-00	2010	Change 2000-10	Change 2000-10	2020	Change 2010-20	Change 2010-20
Mendota	330	100	-69.7%	-230	100	0.0%	0	130	30.0%	30	150	15.4%	20
Mendota Hgts.	2,998	5,805	93.6%	2,807	8,099	39.5%	2,294	9,100	12.4%	1,001	9,800	7.7%	700
Minnetonka	19,818	35,536	79.3%	15,718	50,471	42.0%	14,935	53,800	6.6%	3,329	56,000	4.1%	2,200
Minnetonka Beach	202	210	4.0%	8	210	0.0%	0	210	0.0%	0	210	0.0%	0
Mound	2,333	1,849	-20.7%	-484	1,709	-7.6%	-140	1,860	8.8%	151	2,020	8.6%	160
Mounds View	2,866	3,142	9.6%	276	4,382	39.5%	1,240	5,900	34.6%	1,518	6,950	17.8%	1,050
New Brighton	8,557	9,779	14.3%	1,222	10,542	7.8%	763	12,850	21.9%	2,308	14,400	12.1%	1,550
New Hope	10,013	14,149	41.3%	4,136	12,900	-8.8%	-1,249	13,850	7.4%	950	14,500	4.7%	650
Newport	1,414	1,654	17.0%	240	2,035	23.0%	381	3,900	91.6%	1,865	5,200	33.3%	1,300
North St. Paul	2,613	3,200	22.5%	587	3,500	9.4%	300	5,900	68.6%	2,400	7,500	27.1%	1,600
Osseo	2,128	2,120	-0.4%	-8	2,318	9.3%	198	2,700	16.5%	382	2,950	9.3%	250
Richfield	10,798	10,844	0.4%	46	11,602	7.0%	758	17,100	47.4%	5,498	17,600	2.9%	500
Robbinsdale	5,348	6,813	27.4%	1,465	6,988	2.6%	175	8,100	15.9%	1,112	8,800	8.6%	700
Roseville	30,030	33,046	10.0%	3,016	39,103	18.3%	6,057	42,450	8.6%	3,347	44,700	5.3%	2,250
Shoreview	3,718	5,771	55.2%	2,053	9,829	70.3%	4,058	14,200	44.5%	4,371	15,800	11.3%	1,600
South St. Paul	5,870	5,564	-5.2%	-306	7,708	38.5%	2,144	8,050	4.4%	342	8,300	3.1%	250
Spring Lake Park (total)	2,323	3,019	30.0%	696	4,287	42.0%	1,268	4,600	7.3%	313	4,800	4.3%	200
Spring Park	505	842	66.7%	337	788	-6.4%	-54	1,330	68.8%	542	1,690	27.1%	360
St. Anthony (total)	4,635	3,650	-21.3%	-985	3,382	-7.3%	-268	4,350	28.6%	968	5,000	14.9%	650
St. Louis Park	31,978	36,791	15.1%	4,813	40,714	10.7%	3,923	46,200	13.5%	5,486	50,500	9.3%	4,300
St. Paul Park	1,050	1,174	11.8%	124	1,172	-0.2%	-2	1,400	19.5%	228	1,600	14.3%	200
Stillwater	5,516	7,040	27.6%	1,524	10,169	44.4%	3,129	11,550	13.6%	1,381	12,500	8.2%	950
Tonka Bay	50	100	100.0%	50	150	50.0%	50	200	33.3%	50	240	20.0%	40
Vadnais Hgts.	1,113	3,800	241.4%	2,687	7,119	87.3%	3,319	7,950	11.7%	831	8,500	6.9%	550
Wayzata	4,570	5,500	20.4%	930	5,912	7.5%	412	6,200	4.9%	288	6,400	3.2%	200
West St. Paul	7,757	9,264	19.4%	1,507	8,783	-5.2%	-481	10,700	21.8%	1,917	12,000	12.1%	1,300
White Bear Lake (total)	5,543	8,119	46.5%	2,576	11,963	47.3%	3,844	13,390	11.9%	1,427	14,350	7.2%	960
White Bear Twp.	335	906	170.4%	571	2,164	138.9%	1,258	4,150	91.8%	1,986	5,900	42.2%	1,750
Willernie	100	100	0.0%	0	134	34.0%	34	140	4.5%	6	140	0.0%	0
Woodland	15	0	-100.0%	-15	0	0.0%	0	0	0.0%	0	0	0.0%	0
TOTALS	477,853	591,288		113,435	718,691		127,403	827,840		109,149	893,150		65,310
DEVELOPING SUBURBS	1980	1990	Change 1980-90	Change 1980-90	2000	Change 1990-00	Change 1990-00	2010	Change 2000-10	Change 2000-10	2020	Change 2010-20	Change 2010-20
Andover	399	1,200	200.8%	801	3,062	155.2%	1,862	4,200	37.2%	1,138	4,800	14.3%	600
Bayport	2,050	3,200	56.1%	1,150	4,478	39.9%	1,278	5,200	16.1%	722	5,700	9.6%	500
Blaine (total)	6,292	11,751	86.8%	5,459	16,962	44.3%	5,211	20,070	18.3%	3,108	21,640	7.8%	1,570
Brooklyn Park	8,017	16,592	107.0%	8,575	23,256	40.2%	6,664	26,900	15.7%	3,644	29,100	8.2%	2,200
Centerville	150	168	12.0%	18	359	113.7%	191	520	44.8%	161	630	21.2%	110

Appendix B: Metro Employment Growth by Planning Areas and City/Town

DEVELOPING SUBURBS	Employment												
	1980	1990	Change 1980-90	Change 1980-90	2000	Change 1990-00	Change 1990-00	2010	Change 2000-10	Change 2000-10	2020	Change 2010-20	Change 2010-20
Chanhassen (total)	2,102	6,105	190.4%	4,003	8,501	39.2%	2,396	13,030	53.3%	4,529	15,200	16.7%	2,170
Chaska	5,447	7,833	43.8%	2,386	10,185	30.0%	2,352	12,400	21.7%	2,215	13,900	12.1%	1,500
Corcoran	176	467	165.3%	291	1,542	230.2%	1,075	4,000	159.4%	2,458	6,500	62.5%	2,500
Cottage Grove	4,364	4,545	4.1%	181	5,950	30.9%	1,405	8,450	42.0%	2,500	9,950	17.8%	1,500
Dayton (pt.)	100	498	398.0%	398	1,057	112.2%	559	3,900	269.0%	2,843	5,750	47.4%	1,850
Eagan	10,358	26,000	151.0%	15,642	42,114	62.0%	16,114	48,300	14.7%	6,186	52,000	7.7%	3,700
Eden Prairie	12,807	36,095	181.8%	23,288	49,392	36.8%	13,297	55,000	11.4%	5,608	62,000	12.7%	7,000
Empire Twp.	107	167	56.1%	60	174	4.2%	7	250	43.4%	76	300	20.2%	50
Farmington	2,109	2,342	11.0%	233	3,833	63.7%	1,491	6,600	72.2%	2,767	8,400	27.3%	1,800
Forest Lake	3,514	5,135	46.1%	1,621	6,359	23.8%	1,224	7,910	24.4%	1,551	9,000	13.8%	1,090
Grey Cloud Twp.	50	50	0.0%	0	50	0.0%	0	100	100.0%	50	240	140.0%	140
Hassan Twp.	100	250	150.0%	150	627	150.8%	377	3,250	418.3%	2,623	5,000	53.8%	1,750
Hastings	6,123	6,982	14.0%	859	8,317	19.1%	1,335	8,700	4.6%	383	8,950	2.9%	250
Hugo	416	1,012	143.3%	596	1,768	74.7%	756	2,050	16.0%	282	2,270	10.7%	220
Inver Grove Hgts.	3,301	5,724	73.4%	2,423	7,018	22.6%	1,294	9,250	31.8%	2,232	10,900	17.8%	1,650
Lake Elmo	877	1,011	15.3%	134	1,636	61.8%	625	2,250	37.5%	614	2,650	17.8%	400
Laketown Twp.	145	180	24.1%	35	331	83.9%	151	750	126.6%	419	1,300	73.3%	550
Lakeville	2,955	6,563	122.1%	3,608	9,885	50.6%	3,322	11,900	20.4%	2,015	13,200	10.9%	1,300
Lino Lakes	771	1,229	59.4%	458	2,444	98.9%	1,215	2,950	20.7%	506	3,300	11.9%	350
Maple Grove	1,840	7,750	321.2%	5,910	16,749	116.1%	8,999	32,450	93.7%	15,701	42,900	32.2%	10,450
Maple Plain	950	1,110	16.8%	160	1,681	51.4%	571	2,350	39.8%	669	2,800	19.1%	450
Medina	1,281	2,155	68.2%	874	2,928	35.9%	773	5,500	87.8%	2,572	6,700	21.8%	1,200
Minnetrissa	50	300	500.0%	250	313	4.3%	13	820	162.0%	507	1,150	40.2%	330
North Oaks	100	370	270.0%	270	1,008	172.4%	638	1,060	5.2%	52	1,100	3.8%	40
Oak Park Hgts.	2,140	2,220	3.7%	80	3,000	35.1%	780	3,900	30.0%	900	4,500	15.4%	600
Oakdale	1,859	3,962	113.1%	2,103	7,189	81.4%	3,227	9,250	28.7%	2,061	10,600	14.6%	1,350
Orono	809	980	21.1%	171	951	-3.0%	-29	1,230	29.3%	279	1,420	15.4%	190
Plymouth	20,212	38,103	88.5%	17,891	52,574	38.0%	14,471	59,900	13.9%	7,326	63,400	5.8%	3,500
Prior Lake	1,587	3,000	89.0%	1,413	7,671	155.7%	4,671	12,000	56.4%	4,329	15,100	25.8%	3,100
Ramsey	399	1,941	386.5%	1,542	3,587	84.8%	1,646	6,700	86.8%	3,113	9,100	35.8%	2,400
Rogers	683	1,775	159.9%	1,092	4,208	137.1%	2,433	5,950	41.4%	1,742	7,100	19.3%	1,150
Rosemount	3,151	4,114	30.6%	963	6,089	48.0%	1,975	8,400	38.0%	2,311	10,100	20.2%	1,700
Savage	3,125	3,180	1.8%	55	4,680	47.2%	1,500	6,000	28.2%	1,320	6,850	14.2%	850
Shakopee	5,566	8,500	52.7%	2,934	12,476	46.8%	3,976	17,800	42.7%	5,324	21,300	19.7%	3,500
Shorewood	480	490	2.1%	10	732	49.4%	242	990	35.2%	258	1,160	17.2%	170
St. Bonifacius	179	247	38.0%	68	398	61.1%	151	520	30.7%	122	600	15.4%	80
Sunfish Lake	0	0		0	0		0	0		0	0		0
Victoria	454	653	43.8%	199	836	28.0%	183	1,020	22.0%	184	1,150	12.7%	130
Waconia	1,310	1,946	48.5%	636	3,777	94.1%	1,831	7,000	85.3%	3,223	8,100	15.7%	1,100
Woodbury	2,658	5,000	88.1%	2,342	15,700	214.0%	10,700	25,950	65.3%	10,250	34,200	31.8%	8,250
TOTALS	131,987	252,831	91.6%	120,844	383,564	51.7%	130,733	502,109	30.9%	118,545	581,170	15.7%	79,061

Appendix B: Metro Employment Growth by Planning Areas and City/Town

	Employment												
	1980	1990	Change 1980-90	Change 1980-90	2000	Change 1990-00	Change 1990-00	2010	Change 2000-10	Change 2000-10	2020	Change 2010-20	Change 2010-20
RURAL CENTERS													
Belle Plaine	883	931	5.4%	48	1,469	57.8%	538	1,910	30.0%	441	2,200	15.2%	290
Bethel	177	193	9.0%	16	248	28.5%	55	330	33.1%	82	380	15.2%	50
Carver	80	95	18.8%	15	156	64.2%	61	350	124.4%	194	550	57.1%	200
Cologne	100	117	17.0%	17	212	81.2%	95	300	41.5%	88	400	33.3%	100
Elko	50	50	0.0%	0	74	48.0%	24	200	170.3%	126	550	175.0%	350
Hamburg	50	58	16.0%	8	100	72.4%	42	110	10.0%	10	120	9.1%	10
Hampton	100	100	0.0%	0	262	162.0%	162	280	6.9%	18	300	7.1%	20
Jordan	808	913	13.0%	105	1,264	38.4%	351	1,500	18.7%	236	1,650	10.0%	150
Marine on St. Croix	50	126	152.0%	76	224	77.8%	98	290	29.5%	66	330	13.8%	40
Mayer	40	40	0.0%	0	74	85.0%	34	210	183.2%	136	300	43.1%	90
New Germany	40	43	7.5%	3	52	20.9%	9	70	34.6%	18	90	28.6%	20
New Market	50	63	26.0%	13	100	58.7%	37	200	100.0%	100	350	75.0%	150
Norwood Young America	653	1,145	75.3%	492	1,553	35.6%	408	2,100	35.2%	547	2,450	16.7%	350
St. Francis	335	793	136.7%	458	1,226	54.6%	433	1,630	33.0%	404	1,900	16.5%	270
Vermillion	100	167	67.0%	67	388	132.3%	221	420	8.2%	32	450	7.1%	30
Watertown	463	600	29.6%	137	670	11.7%	70	1,200	79.1%	530	1,550	29.2%	350
TOTALS	3,979	5,434	36.6%	1,455	8,072	48.5%	2,638	11,100	37.5%	3,028	13,570	22.3%	2,470
RURAL AREAS													
Afton	137	220	60.6%	83	290	31.8%	70	450	55.2%	160	560	24.4%	110
Baytown Twp.	50	100	100.0%	50	50	-50.0%	-50	70	40.0%	20	100	42.9%	30
Belle Plaine Twp.	40	40	0.0%	0	55	37.5%	15	70	27.3%	15	80	14.3%	10
Benton Twp.	202	227	12.4%	25	300	32.2%	73	310	3.3%	10	320	3.2%	10
Blakeley Twp.	20	20	0.0%	0	27	35.0%	7	50	85.2%	23	70	40.0%	20
Burns Twp.	252	259	2.8%	7	294	13.5%	35	350	19.0%	56	400	14.3%	50
Camden Twp.	10	12	20.0%	2	12	0.0%	0	30	150.0%	18	40	33.3%	10
Castle Rock Twp.	50	100	100.0%	50	200	100.0%	100	230	15.0%	30	250	8.7%	20
Cedar Lake Twp.	25	25	0.0%	0	50	100.0%	25	60	20.0%	10	70	16.7%	10
Chaska Twp.	50	50	0.0%	0	66	32.0%	16	400	506.1%	334	1,200	200.0%	800
Columbus Twp.	100	100	0.0%	0	482	382.0%	382	730	51.5%	248	900	23.3%	170
Credit River Twp.	100	100	0.0%	0	219	119.0%	119	270	23.3%	51	300	11.1%	30
Dahlgren Twp.	80	109	36.3%	29	106	-2.8%	-3	550	418.9%	444	1,500	172.7%	950
Dellwood	60	80	33.3%	20	121	51.3%	41	150	24.3%	29	170	13.0%	20
Denmark Twp.	50	247	394.0%	197	300	21.5%	53	360	20.0%	60	400	11.1%	40
Douglas Twp.	50	50	0.0%	0	70	40.0%	20	80	14.3%	10	90	12.5%	10
East Bethel	404	457	13.1%	53	1,211	165.0%	754	1,380	14.0%	169	1,500	8.7%	120
Eureka Twp.	50	50	0.0%	0	80	60.0%	30	100	25.0%	20	120	20.0%	20
Grant	424	480	13.2%	56	612	27.5%	132	615	0.5%	3	620	0.8%	5
Greenfield	50	50	0.0%	0	100	100.0%	50	1,240	1140.0%	1,140	2,000	61.3%	760

Appendix B: Metro Employment Growth by Planning Areas and City/Town

RURAL AREAS	Employment												
	1980	1990	Change 1980-90	Change 1980-90	2000	Change 1990-00	Change 1990-00	2010	Change 2000-10	Change 2000-10	2020	Change 2010-20	Change 2010-20
Greenvale Twp.	50	50	0.0%	0	150	200.0%	100	160	6.7%	10	170	6.3%	10
Ham Lake	262	1,820	594.7%	1,558	2,812	54.5%	992	3,050	8.5%	238	3,200	4.9%	150
Hampton Twp.	50	50	0.0%	0	88	76.0%	38	90	2.3%	2	100	11.1%	10
Hancock Twp.	20	20	0.0%	0	35	75.0%	15	40	14.3%	5	40	0.0%	0
Helena Twp.	50	50	0.0%	0	90	80.0%	40	100	11.1%	10	100	0.0%	0
Hollywood Twp.	20	27	35.0%	7	130	381.5%	103	150	15.4%	20	160	6.7%	10
Independence	80	90	12.5%	10	150	66.7%	60	160	6.7%	10	160	0.0%	0
Jackson Twp.	50	50	0.0%	0	120	140.0%	70	500	316.7%	380	750	50.0%	250
Lake St. Croix Beach	10	48	380.0%	38	100	108.3%	52	110	10.0%	10	120	9.1%	10
Lakeland	150	167	11.3%	17	300	79.6%	133	420	40.0%	120	500	19.0%	80
Lakeland Shores	50	50	0.0%	0	50	0.0%	0	50	0.0%	0	50	0.0%	0
Linwood Twp.	50	50	0.0%	0	120	140.0%	70	140	16.7%	20	150	7.1%	10
Louisville Twp.	202	200	-1.0%	-2	385	92.5%	185	420	9.1%	35	440	4.8%	20
Marshan Twp.	50	50	0.0%	0	200	300.0%	150	230	15.0%	30	250	8.7%	20
May Twp.	40	40	0.0%	0	37	-7.5%	-3	40	8.1%	3	45	12.5%	5
Miesville	50	50	0.0%	0	121	142.0%	71	130	7.4%	9	140	7.7%	10
New Market Twp.	50	113	126.0%	63	257	127.4%	144	300	16.7%	43	300	0.0%	0
New Scandia Twp.	50	387	674.0%	337	255	-34.1%	-132	420	64.7%	165	520	23.8%	100
New Trier	50	50	0.0%	0	44	-12.0%	-6	50	13.6%	6	50	0.0%	0
Nininger Twp.	20	20	0.0%	0	80	300.0%	60	220	175.0%	140	310	40.9%	90
Oak Grove	68	200	194.1%	132	354	77.0%	154	430	21.5%	76	530	23.3%	100
Pine Springs	30	0	-100.0%	-30	0	0	0	0	0	0	0	0	0
Randolph	50	50	0.0%	0	97	94.0%	47	110	13.4%	13	120	9.1%	10
Randolph Twp.	50	50	0.0%	0	88	76.0%	38	90	2.3%	2	100	11.1%	10
Ravenna Twp.	20	20	0.0%	0	103	415.0%	83	120	16.5%	17	130	8.3%	10
San Francisco Twp.	20	20	0.0%	0	30	50.0%	10	40	33.3%	10	50	25.0%	10
Sand Creek Twp.	75	75	0.0%	0	180	140.0%	105	220	22.2%	40	250	13.6%	30
Sciota Twp.	50	50	0.0%	0	50	0.0%	0	60	20.0%	10	70	16.7%	10
Spring Lake Twp.	50	100	100.0%	50	145	45.0%	45	210	44.8%	65	260	23.8%	50
St. Lawrence Twp.	50	100	100.0%	50	177	77.0%	77	200	13.0%	23	210	5.0%	10
St. Mary's Point	45	10	-77.8%	-35	10	0.0%	0	10	0.0%	0	10	0.0%	0
Stillwater Twp.	100	136	36.0%	36	112	-17.6%	-24	120	7.1%	8	120	0.0%	0
Vermillion Twp.	50	50	0.0%	0	60	20.0%	10	80	33.3%	20	90	12.5%	10
Waconia Twp.	80	100	25.0%	20	180	80.0%	80	300	66.7%	120	400	33.3%	100
Waterford Twp.	100	191	91.0%	91	270	41.4%	79	320	18.5%	50	350	9.4%	30
Watertown Twp.	70	76	8.6%	6	191	151.3%	115	220	15.2%	29	250	13.6%	30
West Lakeland Twp.	50	50	0.0%	0	80	60.0%	30	90	12.5%	10	90	0.0%	0
Young America Twp.	50	58	16.0%	8	90	55.2%	32	90	0.0%	0	90	0.0%	0
TOTALS	6,546	9,484	44.9%	2,938	14,386	51.7%	4,902	18,995	32.0%	4,609	23,385	23.1%	4,390

Appendix B: Metro Employment Growth by Planning Areas and City/Town

	Employment												
	1980	1990	Change 1980-90	Change 1980-90	2000	Change 1990-00	Change 1990-00	2010	Change 2000-10	Change 2000-10	2020	Change 2010-20	Change 2010-20
OUTSIDE COUNCIL													
Hanover (pt.)	50	50	0.0%	0	59	18.0%	9	60	1.7%	1	70	16.7%	10
New Prague (pt.)	756	1,044	38.1%	288	2,570	146.2%	1,526	2,800	8.9%	230	2,950	5.4%	150
Northfield (pt.)	0	0	0.0%	0	0	0.0%	0	0	0.0%	0	0	0.0%	0
Rockford (pt.)	164	240	46.3%	76	583	142.9%	343	680	16.6%	97	740	8.8%	60
TOTALS	970	1,334	37.5%	364	3,212	140.8%	1,878	3,540	10.2%	328	3,760	6.2%	220
METRO TOTALS	1,076,735	1,321,337	22.7%	244,602	1,624,340	22.9%	303,003	1,887,234	16.2%	262,894	2,067,635	9.6%	180,401

Appendix C: Short-Term Congestion Increase (2003 Mobility Report - Texas Transportation Institute)											
City	Population	% Congested, Peak		Hours Delay	Hrs. Saved	% Peak Per.	% Change	%Change	% Daily Travel	%Change	%Change
2001	2001 (millions)	Freeway	Arterials	per Person	Pub. Transp.	in Congestion	1982-2001	1996-2001	in Congestion	1982-2001	1996-2001
Atlanta	3.0	75	75	34	8.3	83	59	19	41	29	9
Minneapolis-St. Paul	2.4	60	65	28	4.7	71	58	17	36	29	9
San Antonio	1.3	45	45	18	2.8	51	39	15	26	20	8
Denver	2.0	60	80	36	5.6	79	47	14	39	23	7
Orlando	1.2	45	65	33	2.1	63	33	13	31	16	6
Cincinnati	1.3	55	40	20	2.4	62	45	12	31	23	6
Baltimore	2.2	55	60	22	7.3	65	42	11	33	21	6
San Bernadino	1.4	75	60	34	2.6	76	53	10	38	27	5
West Palm Beach	1.1	50	55	19	0.6	62	44	10	31	22	5
Ft. Lauderdale	1.6	50	60	28	3.8	64	40	10	32	20	5
Portland	1.6	70	65	24	8.1	78	60	9	39	30	5
Sacramento	1.4	75	60	19	2.1	78	54	9	39	27	5
Indianapolis	1.0	60	70	23	0.7	69	58	9	34	29	4
Averages		54	60	22	3.8	65	40	9	32	20	4
Kansas City	1.4	30	55	9	0.3	32	26	9	16	13	4
San Jose	1.7	60	65	34	4.1	73	21	8	36	10	4
Buffalo	1.1	30	35	5	0.7	22	14	8	11	7	4
San Diego	2.7	75	60	25	4.6	80	53	7	40	26	4
Miami	2.3	65	65	33	5.0	77	33	7	39	17	4
Milwaukee	1.4	60	40	14	2.9	59	42	7	29	20	3
St. Louis	2.1	50	65	18	1.6	58	32	7	29	16	3
Phoenix	2.9	70	55	28	1.7	73	30	7	36	15	3
Seattle	2.1	70	65	32	14.0	79	48	5	39	24	2
Las Vegas	1.3	60	60	16	3.6	67	47	5	33	23	2
Oklahoma City	1.1	30	40	6	0.1	31	22	4	16	12	2
Columbus	1.1	40	60	17	1.3	52	42	3	26	21	1
Pittsburgh	1.8	20	55	7	2.2	26	5	1	13	2	0
Tampa	2.0	30	70	24	0.7	63	14	-1	32	7	0
New Orleans	1.1	40	50	10	1.9	46	9	-1	23	4	-1
Cleveland	1.9	35	40	7	1.6	38	30	-2	19	15	-1
Norfolk	1.5	35	55	13	1.1	44	19	-3	22	10	-1

Appendix C: Regional Groupings

Reduced driving alone & increased carpooling or transit

Phoenix--Mesa
Atlanta
Seattle--Tacoma--Bremerton
Portland--Salem
San Francisco--Oakland--San Jose

Increased driving alone & increased transit or carpooling

Denver--Boulder--Greeley
Dallas--Fort Worth
Sacramento--Yolo
San Diego
Boston--Worcester--Lawrence
New York--Northern New Jersey--Long Island
Los Angeles--Riverside--Orange County

Increased driving alone & decreased transit and carpooling

Tampa--St. Petersburg--Clearwater
Kansas City
Miami--Fort Lauderdale
Detroit--Ann Arbor--Flint
Chicago--Gary--Kenosha

Increased driving alone & decreased transit, carpooling and all other modes

Minneapolis--St. Paul
Houston--Galveston--Brazoria
Cincinnati--Hamilton
Cleveland--Akron
Washington--Baltimore
St. Louis
Pittsburgh
Philadelphia--Wilmington--Atlantic City

Key for City/Regional Names:

bold type [gray] = reduced percent of driving alone & increased carpooling or transit

normal type [gray] = increased transit or carpooling

normal type = decreased transit and carpooling

bold type = decreased transit, carpooling and other modes

U.S. Census 1990-2000

Appendix C: Average Travel Time in Minutes 1990-2000 (Metropolitan Area Comparison Table: Journey to Work Trends 1990-2000)

(Arranged by % growth in workforce)	Total Workers			Average Travel Time (in minutes)		Travel Time Change (in minutes)		Means of Transportation to work							
				1990	2000			change	1990	2000	% Drove Alone		% Carpool		% Transit
	1990	2000	change	1990	2000	Minutes	change	1990	2000	1990	2000	1990	2000	1990	2000
Minneapolis--															
St. Paul rank	14	14	6	25	24	21	18	10	8	21	18	9	11	13	13
New York	9,271,089	9,319,218	0.5%	30.0	34.0	4.1	13.6%	55.4	56.3	10.4	9.4	24.8	24.9	9.4	9.4
Washington DC	3,611,094	3,839,052	6.3%	28.2	31.7	3.5	12.4%	66.1	70.4	15.5	12.8	11.0	9.4	7.5	7.4
Atlanta	1,542,948	2,060,632	33.6%	26.0	31.2	5.2	20.2%	77.9	77.0	13.0	13.6	4.5	3.7	4.6	5.7
Chicago	3,922,295	4,218,108	7.5%	27.9	31.0	3.1	11.1%	67.6	70.5	12.0	11.0	13.4	11.5	7.0	7.1
San Francisco	3,200,833	3,432,157	7.2%	25.6	29.3	3.7	14.7%	68.3	68.1	13.0	12.9	9.3	9.5	9.4	9.5
Los Angeles	6,809,043	6,767,619	-0.6%	26.4	29.1	2.7	10.2%	72.3	72.4	15.5	15.2	4.6	4.7	7.6	7.7
Miami	1,476,085	1,642,866	11.3%	24.1	28.9	4.8	20.1%	75.3	76.6	14.5	13.4	4.4	3.9	5.9	6.0
Houston	1,768,567	2,081,607	17.7%	26.1	28.8	2.7	10.5%	76.1	77.0	14.6	14.2	3.8	3.3	5.6	5.4
Philadelphia	2,784,581	2,815,405	1.1%	24.0	27.9	3.9	16.1%	69.1	73.3	12.1	10.3	10.2	8.7	8.5	7.7
Boston	2,760,435	2,898,680	5.0%	23.6	27.8	4.2	17.9%	71.9	73.9	10.8	8.8	8.6	9.0	8.7	8.3
Seattle	1,499,734	1,776,224	18.4%	24.1	27.7	3.6	14.8%	73.1	71.6	12.1	12.8	6.1	6.8	8.7	8.8
Dallas	2,038,398	2,527,648	24.0%	24.1	27.5	3.4	13.9%	78.6	78.8	13.9	14.0	2.3	1.8	5.2	5.5
Phoenix	1,036,017	1,466,434	41.5%	23.0	26.1	3.1	13.6%	74.9	74.6	14.5	15.3	2.1	2.0	8.5	8.0
Detroit	2,294,108	2,482,457	8.2%	23.1	26.1	3.0	12.8%	82.8	84.2	10.1	9.3	2.3	1.8	4.8	4.8
Denver	1,026,847	1,346,025	31.1%	22.2	25.9	3.7	16.6%	75.0	75.6	12.5	11.5	4.0	4.3	8.6	8.5
Sacramento	685,945	799,989	16.6%	21.8	25.6	3.8	17.4%	75.2	75.3	13.7	13.5	2.4	2.7	8.7	8.4
Tampa	914,711	1,063,957	16.3%	21.8	25.6	3.8	17.5%	78.8	79.7	13.3	12.4	1.5	1.4	6.5	6.5
St. Louis	1,166,023	1,238,964	6.3%	23.2	25.5	2.3	9.9%	79.6	82.6	12.2	9.9	2.9	2.4	5.3	5.1
San Diego	1,230,446	1,299,503	5.6%	22.2	25.3	3.1	14.1%	70.9	73.9	13.8	13.0	3.3	3.4	12.1	9.7
Pittsburgh	1,023,825	1,057,354	3.3%	22.5	25.3	2.8	12.6%	72.0	77.4	12.7	9.7	7.4	6.2	7.8	6.7
Portland	861,141	1,105,133	28.3%	21.5	24.4	2.9	13.5%	73.8	73.1	12.7	12.1	4.8	5.7	8.7	9.1
Cincinnati	844,125	951,709	12.7%	22.4	24.3	1.9	8.5%	79.0	81.4	11.7	10.0	3.5	2.9	5.8	5.7
Cleveland	1,282,092	1,375,774	7.3%	21.9	24.0	2.1	9.5%	79.5	82.3	10.3	8.7	4.4	3.4	5.7	5.5
Minneapolis	1,344,797	1,595,550	18.6%	21.2	23.7	2.5	11.7%	75.9	78.3	11.3	10.0	5.2	4.5	7.6	7.2
Kansas City	778,624	881,258	13.2%	21.5	22.9	1.4	6.7%	79.8	82.8	12.6	10.4	2.1	1.3	5.5	5.5
National Total	115,070,274	128,279,228	11.5%	22.4	25.5	3.1	13.8%	73.2	75.7	13.4	12.2	5.3	4.7	8.2	0.0

Note: Ranks are based on descending values

Source: US Census 2000

Key for City/Regional Names:

bold type = reduced percent of driving alone & increased carpooling or transit

normal type = increased transit or carpooling

normal type = decreased transit and carpooling

bold type = decreased transit, carpooling and other modes

Appendix C: Percent Growth in Workers (Metropolitan Area Comparison Table: Journey to Work Trends 1990-2000)

(Arranged by % growth in workforce)	Total Workers			Average Travel Time (in minutes)		Travel Time Change (in minutes)		Means of Transportation to work							
	1990	2000	change	1990	2000	Minutes	change	% Drove Alone		% Carpool		% Transit		% Other	
								1990	2000	1990	2000	1990	2000	1990	2000
Minneapolis-- St. Paul rank	14	14	6	25	24	21	18	10	8	21	18	9	11	13	13
Phoenix	1,036,017	1,466,434	41.5%	23.0	26.1	3.1	13.6%	74.9	74.6	14.5	15.3	2.1	2.0	8.5	8.0
Atlanta	1,542,948	2,060,632	33.6%	26.0	31.2	5.2	20.2%	77.9	77.0	13.0	13.6	4.5	3.7	4.6	5.7
Denver	1,026,847	1,346,025	31.1%	22.2	25.9	3.7	16.6%	75.0	75.6	12.5	11.5	4.0	4.3	8.6	8.5
Portland	861,141	1,105,133	28.3%	21.5	24.4	2.9	13.5%	73.8	73.1	12.7	12.1	4.8	5.7	8.7	9.1
Dallas	2,038,398	2,527,648	24.0%	24.1	27.5	3.4	13.9%	78.6	78.8	13.9	14.0	2.3	1.8	5.2	5.5
Minneapolis	1,344,797	1,595,550	18.6%	21.2	23.7	2.5	11.7%	75.9	78.3	11.3	10.0	5.2	4.5	7.6	7.2
Seattle	1,499,734	1,776,224	18.4%	24.1	27.7	3.6	14.8%	73.1	71.6	12.1	12.8	6.1	6.8	8.7	8.8
Houston	1,768,567	2,081,607	17.7%	26.1	28.8	2.7	10.5%	76.1	77.0	14.6	14.2	3.8	3.3	5.6	5.4
Sacramento	685,945	799,989	16.6%	21.8	25.6	3.8	17.4%	75.2	75.3	13.7	13.5	2.4	2.7	8.7	8.4
Tampa	914,711	1,063,957	16.3%	21.8	25.6	3.8	17.5%	78.8	79.7	13.3	12.4	1.5	1.4	6.5	6.5
Kansas City	778,624	881,258	13.2%	21.5	22.9	1.4	6.7%	79.8	82.8	12.6	10.4	2.1	1.3	5.5	5.5
Cincinnati	844,125	951,709	12.7%	22.4	24.3	1.9	8.5%	79.0	81.4	11.7	10.0	3.5	2.9	5.8	5.7
Miami	1,476,085	1,642,866	11.3%	24.1	28.9	4.8	20.1%	75.3	76.6	14.5	13.4	4.4	3.9	5.9	6.0
Detroit	2,294,108	2,482,457	8.2%	23.1	26.1	3.0	12.8%	82.8	84.2	10.1	9.3	2.3	1.8	4.8	4.8
Chicago	3,922,295	4,218,108	7.5%	27.9	31.0	3.1	11.1%	67.6	70.5	12.0	11.0	13.4	11.5	7.0	7.1
Cleveland	1,282,092	1,375,774	7.3%	21.9	24.0	2.1	9.5%	79.5	82.3	10.3	8.7	4.4	3.4	5.7	5.5
San Francisco	3,200,833	3,432,157	7.2%	25.6	29.3	3.7	14.7%	68.3	68.1	13.0	12.9	9.3	9.5	9.4	9.5
Washington DC	3,611,094	3,839,052	6.3%	28.2	31.7	3.5	12.4%	66.1	70.4	15.5	12.8	11.0	9.4	7.5	7.4
St. Louis	1,166,023	1,238,964	6.3%	23.2	25.5	2.3	9.9%	79.6	82.6	12.2	9.9	2.9	2.4	5.3	5.1
San Diego	1,230,446	1,299,503	5.6%	22.2	25.3	3.1	14.1%	70.9	73.9	13.8	13.0	3.3	3.4	12.1	9.7
Boston	2,760,435	2,898,680	5.0%	23.6	27.8	4.2	17.9%	71.9	73.9	10.8	8.8	8.6	9.0	8.7	8.3
Pittsburgh	1,023,825	1,057,354	3.3%	22.5	25.3	2.8	12.6%	72.0	77.4	12.7	9.7	7.4	6.2	7.8	6.7
Philadelphia	2,784,581	2,815,405	1.1%	24.0	27.9	3.9	16.1%	69.1	73.3	12.1	10.3	10.2	8.7	8.5	7.7
New York	9,271,089	9,319,218	0.5%	30.0	34.0	4.1	13.6%	55.4	56.3	10.4	9.4	24.8	24.9	9.4	9.4
Los Angeles	6,809,043	6,767,619	-0.6%	26.4	29.1	2.7	10.2%	72.3	72.4	15.5	15.2	4.6	4.7	7.6	7.7
National Total	115,070,274	128,279,228	11.5%	22.4	25.5	3.1	13.8%	73.2	75.7	13.4	12.2	5.3	4.7	8.2	0.0

Note: Ranks are based on descending values

Source: US Census 2000

Key for City/Regional Names:

bold type = reduced percent of driving alone & increased carpooling or transit

normal type = increased transit or carpooling

normal type = decreased transit and carpooling

bold type = decreased transit, carpooling and other modes

Appendix D: Pollution Costs by Sub-Region (1998 dollars)

Sub-Region	Cong.	Rank	Poll.	Rank	Crash	Rank	VHT	Rank	VMT	Rank	Tax	Rank
MPLS Far SE	308	47	863	1	769	2	18,679	10	397,428	25	215	27
MPLS South Lakes	290	48	857	2	777	1	9,483	56	204,649	59	201	46
MPLS Hiawatha/River	263	53	782	3	750	3	7,912	62	140,966	68	173	58
STP Highland	281	49	747	4	653	5	14,824	24	313,297	45	212	38
MPLS Mid South	262	54	733	5	671	4	11,602	41	241,641	51	131	66
South St. Paul/West St. Paul	362	46	657	6	277	37	17,532	16	397,996	24	173	58
MPLS North Lakes	265	52	644	7	536	7	3,216	72	66,418	70	109	71
Richfield	368	23	642	8	482	12	11,046	46	230,318	53	196	50
STP Near West	255	58	560	9	426	19	11,287	44	232,749	52	143	65
Robbinsdale/Crystal/New Hope	393	5	500	10	389	22	15,304	21	330,057	40	203	44
STP Near NW	251	61	491	11	346	27	10,924	48	219,376	55	125	68
MPLS North	257	57	479	12	481	13	8,986	58	179,371	64	130	67
MPLS Near NE/Dinkytown	255	58	448	13	437	17	3,333	70	62,989	73	99	73
Minnnetonka	376	11	442	14	281	35	17,953	15	441,109	19	234	20
Hopkins/St. Louis Park	368	23	442	15	308	29	14,867	23	329,579	41	163	63
MPLS NE Industrial	260	56	434	16	507	9	9,768	54	191,287	61	166	62
Edina	372	17	422	17	407	20	18,111	14	411,927	22	228	24
Coon Rapids	369	21	421	18	248	43	26,252	3	660,126	4	236	17
Fridley/Spring Lake Pk./Columbia Hts.	365	32	398	19	259	41	15,904	19	372,883	30	154	64
Brooklyn Center	377	10	392	20	431	18	7,923	61	184,758	62	170	60
STP Near North	251	61	379	21	289	33	10,118	52	203,852	60	106	72
Golden Valley	374	13	371	22	493	11	13,812	29	313,594	44	229	23
MPLS Near South	239	69	359	23	294	31	2,170	74	36,265	74	38	78
MPLS Downtown	241	66	354	24	213	45	1,697	75	29,858	76	62	77
Bloomington West	371	19	344	25	341	28	21,939	5	546,408	9	239	16
Brooklyn Park West	393	5	336	26	392	21	7,024	65	167,827	66	205	42
Roseville	367	25	333	27	389	22	13,135	33	305,874	46	215	27
Mounds View/New Brighton	367	25	331	28	385	24	10,485	50	264,878	50	176	57
Burnsville	364	37	326	29	146	54	18,416	11	490,650	13	192	53
Bloomington East	369	21	302	30	302	30	9,671	55	214,660	57	195	51
MPLS Near North	270	51	267	31	502	10	3,199	73	65,769	71	84	74
Arden Hills/Shoreview	373	15	264	32	475	15	16,806	18	458,610	17	296	1
Eagan	365	32	253	33	182	49	18,348	12	511,122	11	207	41
STP Midway	252	60	248	34	378	26	3,271	71	65,666	72	122	70
Brooklyn Park East	482	1	245	35	517	8	14,656	25	376,368	29	256	10
Maplewood	365	32	235	36	267	38	11,654	40	275,140	49	169	61
Mendota	367	25	222	37	443	16	5,158	68	130,748	69	273	5
Wayzata/Plymouth South	380	8	218	38	289	33	12,912	35	332,988	38	228	24
MPLS U of M	243	65	217	39	478	14	1,671	76	31,445	75	67	75
STP East	261	55	200	40	267	38	7,858	63	174,076	65	124	69
Chanhassen/Chaska	366	29	183	41	125	56	14,214	28	389,370	27	274	4
White Bear Lake	371	19	175	42	280	36	24,110	4	653,813	5	258	9
Blaine/Lino Lakes	373	15	160	43	203	48	27,304	2	763,525	2	252	11
Eden Prairie	374	13	158	44	229	44	15,462	20	403,750	23	241	15
Maple Grove	459	2	155	45	380	25	17,137	17	477,503	15	270	7
Ramsey/Anoka	426	3	154	46	209	46	13,599	31	362,472	33	276	3
Plymouth North	389	7	147	47	293	32	7,756	64	205,303	58	199	47
Apple Valley/Rosemount	366	29	140	48	157	52	18,766	9	528,451	10	231	21
Shakopee/Savage	364	37	135	49	81	62	11,463	43	300,546	47	230	22
Oakdale/Rural East	364	37	127	50	125	56	13,038	34	371,390	32	194	52
Inver Grove Heights	364	37	121	51	254	42	8,750	59	228,952	54	204	43
Hastings	364	37	118	52	170	51	6,407	67	183,249	63	211	39
Lakeville	367	25	112	53	150	53	10,516	49	318,838	42	226	26
Woodbury/Rural East	366	29	111	54	141	55	14,421	27	443,666	18	235	19
Stillwater	364	37	101	55	109	58	11,157	45	317,567	43	209	40
STP Downtown/Airport Industrial/Capitol	240	68	96	56	85	61	516	78	12,883	78	67	75
Cottage Grove	363	43	76	57	107	59	12,222	37	343,940	36	183	55
Ham Lake, /Andover	379	9	69	58	206	47	11,939	38	347,504	35	287	2
Lake Minnetonka	376	11	56	59	175	50	20,789	6	603,250	8	271	6
Rural Far NE	365	32	39	60	67	75	11,031	47	348,738	34	236	17

Sub-Region	Cong.	Rank	Poll.	Rank	Crash	Rank	VHT	Rank	VMT	Rank	Tax	Rank
Rural Far NW	404	4	33	61	263	40	13,346	32	422,795	20	263	8
Rural Far SW	363	43	28	62	52	77	15,237	22	509,301	12	202	45
Airport/Fort Snelling	281	49	28	62	585	6	766	77	19,037	77	197	48
Sherburne County	220	76	22	64	81	62	20,390	7	682,446	3	213	29
Rural Far North	372	17	18	65	92	60	9,772	53	330,903	39	197	48
Wright County	241	66	16	66	81	62	28,741	1	961,929	1	213	29
Rural Far West	363	43	15	66	36	78	9,333	57	372,246	31	185	54
Chisago County	228	72	13	67	81	62	13,793	30	461,646	16	213	29
Rice County	227	73	12	68	81	62	18,268	13	611,422	7	213	29
St. Croix County WI	229	71	9	70	81	62	19,284	8	645,403	6	249	12
McLeod County	248	64	9	70	81	62	11,485	42	384,408	28	213	29
Pierce County WI	200	77	8	72	81	62	11,664	39	390,397	26	249	12
Isanti County	223	75	8	72	81	62	10,170	51	340,381	37	213	29
Goodhue County	251	61	7	74	81	62	14,565	26	487,468	14	213	29
Rural Far South	365	32	7	74	64	76	6,705	66	215,341	56	183	55
Le Sueur County	231	70	6	76	81	62	8,549	60	286,128	48	213	29
Polk County WI	191	78	4	77	81	62	12,508	36	418,637	21	249	12
Sibley County	225	74	3	78	81	62	4,920	69	164,682	67	213	29

Source: The Full Costs of Transportation in the Twin Cities Region

Appendix D: Congestion Costs by Sub-Region (1998 dollars)

Sub-Region	Cong.	Rank	Poll.	Rank	Crash	Rank	VHT	Rank	VMT	Rank	Tax	Rank
Brooklyn Park East	482	1	245	35	517	8	14,656	25	376,368	29	256	10
Maple Grove	459	2	155	45	380	25	17,137	17	477,503	15	270	7
Ramsey/Anoka	426	3	154	46	209	46	13,599	31	362,472	33	276	3
Rural Far NW	404	4	33	61	263	40	13,346	32	422,795	20	263	8
Robbinsdale/Crystal/New Hope	393	5	500	10	389	22	15,304	21	330,057	40	203	44
Brooklyn Park West	393	5	336	26	392	21	7,024	65	167,827	66	205	42
Plymouth North	389	7	147	47	293	32	7,756	64	205,303	58	199	47
Wayzata/Plymouth South	380	8	218	38	289	33	12,912	35	332,988	38	228	24
Ham Lake, /Andover	379	9	69	58	206	47	11,939	38	347,504	35	287	2
Brooklyn Center	377	10	392	20	431	18	7,923	61	184,758	62	170	60
Minnetonka	376	11	442	14	281	35	17,953	15	441,109	19	234	20
Lake Minnetonka	376	11	56	59	175	50	20,789	6	603,250	8	271	6
Golden Valley	374	13	371	22	493	11	13,812	29	313,594	44	229	23
Eden Prairie	374	13	158	44	229	44	15,462	20	403,750	23	241	15
Arden Hills/Shoreview	373	15	264	32	475	15	16,806	18	458,610	17	296	1
Blaine/Lino Lakes	373	15	160	43	203	48	27,304	2	763,525	2	252	11
Edina	372	17	422	17	407	20	18,111	14	411,927	22	228	24
Rural Far North	372	17	18	65	92	60	9,772	53	330,903	39	197	48
Bloomington West	371	19	344	25	341	28	21,939	5	546,408	9	239	16
White Bear Lake	371	19	175	42	280	36	24,110	4	653,813	5	258	9
Coon Rapids	369	21	421	18	248	43	26,252	3	660,126	4	236	17
Bloomington East	369	21	302	30	302	30	9,671	55	214,660	57	195	51
Richfield	368	23	642	8	482	12	11,046	46	230,318	53	196	50
Hopkins/St. Louis Park	368	23	442	15	308	29	14,867	23	329,579	41	163	63
Roseville	367	25	333	27	389	22	13,135	33	305,874	46	215	27
Mounds View/New Brighton	367	25	331	28	385	24	10,485	50	264,878	50	176	57
Mendota	367	25	222	37	443	16	5,158	68	130,748	69	273	5
Lakeville	367	25	112	53	150	53	10,516	49	318,838	42	226	26
Chanhassen/Chaska	366	29	183	41	125	56	14,214	28	389,370	27	274	4
Apple Valley/Rosemount	366	29	140	48	157	52	18,766	9	528,451	10	231	21
Woodbury/Rural East	366	29	111	54	141	55	14,421	27	443,666	18	235	19
Fridley/Spring Lake Pk./Columbia Hts.	365	32	398	19	259	41	15,904	19	372,883	30	154	64
Eagan	365	32	253	33	182	49	18,348	12	511,122	11	207	41
Maplewood	365	32	235	36	267	38	11,654	40	275,140	49	169	61
Rural Far NE	365	32	39	60	67	75	11,031	47	348,738	34	236	17
Rural Far South	365	32	7	74	64	76	6,705	66	215,341	56	183	55
Burnsville	364	37	326	29	146	54	18,416	11	490,650	13	192	53
Shakopee/Savage	364	37	135	49	81	62	11,463	43	300,546	47	230	22
Oakdale/Rural East	364	37	127	50	125	56	13,038	34	371,390	32	194	52
Inver Grove Heights	364	37	121	51	254	42	8,750	59	228,952	54	204	43
Hastings	364	37	118	52	170	51	6,407	67	183,249	63	211	39
Stillwater	364	37	101	55	109	58	11,157	45	317,567	43	209	40
Cottage Grove	363	43	76	57	107	59	12,222	37	343,940	36	183	55
Rural Far SW	363	43	28	62	52	77	15,237	22	509,301	12	202	45
Rural Far West	363	43	15	66	36	78	9,333	57	372,246	31	185	54
South St. Paul/West St. Paul	362	46	657	6	277	37	17,532	16	397,996	24	173	58
MPLS Far SE	308	47	863	1	769	2	18,679	10	397,428	25	215	27
MPLS South Lakes	290	48	857	2	777	1	9,483	56	204,649	59	201	46
STP Highland	281	49	747	4	653	5	14,824	24	313,297	45	212	38
Airport/Fort Snelling	281	49	28	62	585	6	766	77	19,037	77	197	48
MPLS Near North	270	51	267	31	502	10	3,199	73	65,769	71	84	74
MPLS North Lakes	265	52	644	7	536	7	3,216	72	66,418	70	109	71
MPLS Hiawatha/River	263	53	782	3	750	3	7,912	62	140,966	68	173	58
MPLS Mid South	262	54	733	5	671	4	11,602	41	241,641	51	131	66
STP East	261	55	200	40	267	38	7,858	63	174,076	65	124	69
MPLS NE Industrial	260	56	434	16	507	9	9,768	54	191,287	61	166	62
MPLS North	257	57	479	12	481	13	8,986	58	179,371	64	130	67
STP Near West	255	58	560	9	426	19	11,287	44	232,749	52	143	65
MPLS Near NE/Dinkytown	255	58	448	13	437	17	3,333	70	62,989	73	99	73
STP Midway	252	60	248	34	378	26	3,271	71	65,666	72	122	70

Sub-Region	Cong. Rank		Poll.	Rank	Crash	Rank	VHT	Rank	VMT	Rank	Tax	Rank
STP Near NW	251	61	491	11	346	27	10,924	48	219,376	55	125	68
STP Near North	251	61	379	21	289	33	10,118	52	203,852	60	106	72
Goodhue County	251	61	7	74	81	62	14,565	26	487,468	14	213	29
McLeod County	248	64	9	70	81	62	11,485	42	384,408	28	213	29
MPLS U of M	243	65	217	39	478	14	1,671	76	31,445	75	67	75
MPLS Downtown	241	66	354	24	213	45	1,697	75	29,858	76	62	77
Wright County	241	66	16	66	81	62	28,741	1	961,929	1	213	29
STP Downtown/Airport Industrial/Capitol	240	68	96	56	85	61	516	78	12,883	78	67	75
MPLS Near South	239	69	359	23	294	31	2,170	74	36,265	74	38	78
Le Sueur County	231	70	6	76	81	62	8,549	60	286,128	48	213	29
St. Croix County WI	229	71	9	70	81	62	19,284	8	645,403	6	249	12
Chisago County	228	72	13	67	81	62	13,793	30	461,646	16	213	29
Rice County	227	73	12	68	81	62	18,268	13	611,422	7	213	29
Sibley County	225	74	3	78	81	62	4,920	69	164,682	67	213	29
Isanti County	223	75	8	72	81	62	10,170	51	340,381	37	213	29
Sherburne County	220	76	22	64	81	62	20,390	7	682,446	3	213	29
Pierce County WI	200	77	8	72	81	62	11,664	39	390,397	26	249	12
Polk County WI	191	78	4	77	81	62	12,508	36	418,637	21	249	12

Source: The Full Cost of Transportation in the Twin Cities Region

World Crude Oil Production, Consumption and Reserves, 2002
(Barrels Per Year)

Appendix E: World Crude Oil Production, Consumption and Reserves by Region (2002)					
	(Barrels/Year)	(Barrels/Year)	(Barrels)	Production as a	Consumption as
	Production	Consumption	Reserves	% of Reserves	a % of Reserves
Region/Country	2002	2002	2002	2002	2002
North America					
Bermuda	0	1,460,000	0		
Canada	792,269,000	763,796,810	5,485,000,000	14.4%	13.9%
Greenland	0	1,387,000	0		
Mexico	1,159,684,935	722,929,950	17,197,000,000	6.7%	4.2%
Saint Pierre and Miquelon	0	182,500	0		
United States	2,097,124,000	7,212,874,500	22,677,000,000	9.2%	31.8%
North America Total	4,049,077,935	8,702,630,760	45,359,000,000	8.9%	19.2%
Central & South America					
Antarctica	0	547,500	0		
Antigua and Barbuda	0	1,314,000	0		
Argentina	276,321,060	154,942,500	2,820,000,000	9.8%	5.5%
Aruba	0	2,372,500	0		
Bahamas, The	0	8,030,000	0		
Barbados	365,000	3,723,000	Not Separately Reported		
Belize	0	2,372,500	0		
Bolivia	11,739,860	17,155,000	929,800,000	1.3%	1.8%
Brazil	531,145,080	789,130,000	9,813,000,000	5.4%	8.0%
Cayman Islands	0	912,500	0		
Chile	2,190,000	85,045,000	11,800,000	18.6%	720.7%
Colombia	210,583,100	96,725,000	1,632,000,000	12.9%	5.9%
Costa Rica	0	14,052,500	0		
Cuba	17,263,040	75,555,000	510,000,000	3.4%	14.8%
Dominica	0	292,000	0		
Dominican Republic	0	45,625,000	0		
Ecuador	143,273,085	52,195,000	4,621,100,000	3.1%	1.1%
El Salvador	0	14,235,000	0		
Falkland Islands	0	73,000	0		
French Guiana	0	2,336,000	0		
Grenada	0	547,500	0		
Guadeloupe	0	4,745,000	0		
Guatemala	6,568,175	24,455,000	Not Separately Reported		
Guyana	0	4,015,000	0		
Haiti	0	4,197,500	0		
Honduras	0	12,775,000	0		
Jamaica	0	24,455,000	0		
Martinique	0	4,927,500	0		
Montserrat	0	146,000	0		
Netherlands Antilles	0	26,280,000	0		
Nicaragua	0	9,307,500	0		
Panama	0	29,930,000	0		
Paraguay	0	8,760,000	0		
Peru	35,355,725	60,225,000	963,000,000	3.7%	6.3%
Puerto Rico	0	78,475,000	0		
Saint Kitts and Nevis	0	259,150	0		
Saint Lucia	0	912,500	0		
Saint Vincent/Grenadines	0	456,250	0		
Suriname	3,650,000	4,015,000	Not Separately Reported		

World Crude Oil Production, Consumption and Reserves, 2002
(Barrels Per Year)

	(Barrels/Year)	(Barrels/Year)	(Barrels)	Production as a	Consumption as
	Production	Consumption	Reserves	% of Reserves	a % of Reserves
Region/Country	2002	2002	2002	2002	2002
Central & South America					
Trinidad and Tobago	44,470,870	10,767,500	990,000,000	4.5%	1.1%
Turks and Caicos Islands	0	40,150	0		
Uruguay	0	11,315,000	0		
Venezuela	950,439,925	190,530,000	53,130,000,000	1.8%	0.4%
Virgin Islands, U.S.	0	33,580,000	0		
Virgin Islands, British	0	153,300	0		
Other-Country Not Specified	10,583,175	32,193,000	433,000,000	2.4%	7.4%
Central & South America Total	2,233,364,920	1,911,902,850	75,853,700,000	2.9%	2.5%
Western Europe					
Austria	6,782,065	96,677,185	83,500,000	8.1%	115.8%
Belgium	0	220,004,845	0		
Bosnia and Herzegovina	0	7,300,000	0		
Croatia	8,030,000	31,755,000	93,000,000	8.6%	34.1%
Denmark	135,328,130	71,964,860	1,834,000,000	7.4%	3.9%
Faroe Islands	0	1,642,500	0		
Finland	0	76,973,025	0		
France	9,825,070	724,288,845	150,400,000	6.5%	481.6%
Germany	25,134,995	993,175,950	274,100,000	9.2%	362.3%
Gibraltar	0	8,395,000	0		
Greece	1,154,130	149,063,810	Not Separately Reported		
Iceland	0	6,440,060	0		
Ireland	0	71,103,095	Not Separately Reported		
Italy	31,157,130	674,541,900	744,600,000	4.2%	90.6%
Luxembourg	0	18,820,860	0		
Macedonia, TFYR	0	6,935,000	0		
Malta	0	6,205,000	0		
Netherlands	16,910,085	328,174,055	56,600,000	29.9%	579.8%
Norway	1,091,409,130	75,404,985	9,018,100,000	12.1%	0.8%
Portugal	0	124,824,890	0		
Slovenia	7,300	18,250,000	0		
Spain	2,399,875	549,894,035	Not Separately Reported		
Sweden	0	125,956,025	0		
Switzerland	0	96,335,910	0		
Turkey	17,036,010	230,961,050	280,500,000	6.1%	82.3%
United Kingdom	836,479,990	619,145,850	4,476,200,000	18.7%	13.8%
Yugoslavia (Serbia and Montenegro)	5,110,000	30,660,000	Not Separately Reported		
Other-Country Not Specified	8,664,005	800,720,940	22,000,000	39.4%	3639.6%
Western Europe Total	2,186,763,910	5,364,893,735	17,033,000,000	12.8%	31.5%
Eastern Europe & Former U.S.S.R.					
Albania	2,321,765	8,760,000	398,500,000	0.6%	2.2%
Armenia	0	13,870,000	0		
Azerbaijan	113,244,170	41,610,000	Not Separately Reported		
Belarus	13,325,055	86,505,000	Not Separately Reported		
Bulgaria	365,000	33,215,000	1,200,000	30.4%	2767.9%
Czech Republic	2,736,040	63,623,150	20,000,000	13.7%	318.1%
Estonia	0	20,805,000	Not Separately Reported		
Georgia	730,000	13,505,000	Not Separately Reported		

World Crude Oil Production, Consumption and Reserves, 2002
(Barrels Per Year)

	(Barrels/Year)	(Barrels/Year)	(Barrels)	Production as a	Consumption as
	Production	Consumption	Reserves	% of Reserves	a % of Reserves
Region/Country	2002	2002	2002	2002	2002
Eastern Europe & Former U.S.S.R.					
Hungary	8,787,010	50,525,125	145,800,000	6.0%	34.7%
Kazakhstan	298,701,035	62,050,000	Not Separately Reported		
Kyrgyzstan	730,000	6,935,000	Not Separately Reported		
Latvia	0	16,425,000	Not Separately Reported		
Lithuania	3,226,600	36,500,000	Not Separately Reported		
Moldova	0	12,410,000	Not Separately Reported		
Poland	6,110,100	139,793,175	127,700,000	4.8%	109.5%
Romania	43,800,000	94,900,000	1,131,000,000	3.9%	8.4%
Russia	2,703,983,145	941,700,000	58,765,000,000	4.6%	1.6%
Slovakia	365,000	28,835,000	Not Separately Reported		
Tajikistan	91,250	5,475,000	Not Separately Reported		
Turkmenistan	65,542,685	29,930,000	Not Separately Reported		
Ukraine	27,523,920	150,745,000	Not Separately Reported		
Uzbekistan	28,993,045	60,590,000	Not Separately Reported		
Other-Country Not Specified	552,472,760	572,320,000	21,332,000,000	2.6%	2.7%
East. Eur. & Former U.S.S.R. Total	3,320,575,820	1,918,706,450	81,921,200,000	4.1%	2.3%
Middle East					
Bahrain	12,775,000	13,322,500	Not Separately Reported		
Cyprus	0	19,345,000	0		
Iran	1,257,169,865	491,290,000	100,060,000,000	1.3%	0.5%
Iraq	738,395,000	186,150,000	115,000,000,000	0.6%	0.2%
Israel	36,500	98,550,000	Not Separately Reported		
Jordan	14,600	36,865,000	Not Separately Reported		
Kuwait	691,368,400	114,245,000	98,850,000,000	0.7%	0.1%
Lebanon	0	37,595,000	0		
Oman	327,303,895	21,170,000	5,735,000,000	5.7%	0.4%
Qatar	247,875,150	13,505,000	19,558,900,000	1.3%	0.1%
Saudi Arabia	2,786,554,540	552,610,000	261,750,000,000	1.1%	0.2%
Syria	186,443,095	95,630,000	2,280,000,000	8.2%	4.2%
United Arab Emirates	759,928,175	132,495,000	63,010,000,000	1.2%	0.2%
Yemen	161,800,120	28,105,000	2,855,000,000	5.7%	1.0%
Other-Country Not Specified	12,826,100	148,737,500	658,300,000	1.9%	22.6%
Middle East Total	7,169,664,340	1,840,877,500	669,757,200,000	1.1%	0.3%
Africa					
Algeria	476,680,875	85,775,000	13,000,000,000	3.7%	0.7%
Angola	327,175,050	16,425,000	8,900,000,000	3.7%	0.2%
Benin	365,000	4,197,500	Not Separately Reported		
Botswana	0	4,380,000	0		
Burkina Faso	0	2,920,000	0		
Burundi	0	1,095,000	0		
Cameroon	25,483,935	8,395,000	Not Separately Reported		
Cape Verde	0	438,000	0		
Central African Republic	0	839,500	0		
Chad	0	547,500	0		
Comoros	0	255,500	0		
Congo (Brazzaville)	90,959,095	2,190,000	1,515,000,000	6.0%	0.1%
Congo (Kinshasa)	8,273,090	3,650,000	Not Separately Reported		

World Crude Oil Production, Consumption and Reserves, 2002
(Barrels Per Year)

	(Barrels/Year)	(Barrels/Year)	(Barrels)	Production as a	Consumption as
	Production	Consumption	Reserves	% of Reserves	a % of Reserves
Region/Country	2002	2002	2002	2002	2002
Africa					
Cote d'Ivoire (IvoryCoast)	6,710,890	7,300,000	Not Separately Reported		
Djibouti	0	4,234,000	0		
Egypt	230,447,130	207,320,000	3,525,000,000	6.5%	5.9%
Equatorial Guinea	77,585,130	547,500	1,095,000,000	7.1%	0.1%
Eritrea	0	1,642,500	0		
Ethiopia	0	8,577,500	Not Separately Reported		
Gabon	91,688,000	4,562,500	2,370,000,000	3.9%	0.2%
Gambia, The	0	730,000	0		
Ghana	2,555,000	13,505,000	Not Separately Reported		
Guinea	0	3,139,000	0		
Guinea-Bissau	0	912,500	0		
Kenya	0	19,345,000	0		
Lesotho	0	547,500	0		
Liberia	0	912,500	0		
Libya	481,260,165	81,395,000	30,000,000,000	1.6%	0.3%
Madagascar	0	4,015,000	Not Separately Reported		
Malawi	0	2,007,500	0		
Mali	0	1,460,000	0		
Mauritania	0	8,760,000	0		
Mauritius	0	8,395,000	0		
Morocco	182,500	60,955,000	Not Separately Reported		
Mozambique	0	3,650,000	Not Separately Reported		
Namibia	0	6,205,000	Not Separately Reported		
Niger	0	2,190,000	0		
Nigeria	773,019,995	113,880,000	32,000,000,000	2.4%	0.4%
Reunion	0	6,935,000	0		
Rwanda	0	2,080,500	Not Separately Reported		
Saint Helena	0	36,500	0		
Sao Tome and Principe	0	255,500	0		
Senegal	0	10,950,000	0		
Seychelles	0	1,460,000	0		
Sierra Leone	0	2,372,500	0		
Somalia	0	1,825,000	Not Separately Reported		
South Africa	7,116,040	169,360,000	Not Separately Reported		
Sudan	87,149,955	23,725,000	700,000,000	12.4%	3.4%
Swaziland	0	1,277,500	0		
Tanzania	0	7,300,000	Not Separately Reported		
Togo	0	2,920,000	0		
Tunisia	27,669,920	32,120,000	501,000,000	5.5%	6.4%
Uganda	0	3,467,500	0		
Western Sahara	0	657,000	0		
Zambia	0	4,562,500	0		
Zimbabwe	0	7,665,000	0		
Other-Country Not Specified	50,686,455	301,015,500	2,665,000,000	1.9%	11.3%
Africa Total	2,714,321,770	976,265,500	96,271,000,000	2.8%	1.0%
Asia & Oceania					
Afghanistan	0	2,190,000	Not Separately Reported		
American Samoa	0	1,387,000	0		

World Crude Oil Production, Consumption and Reserves, 2002
(Barrels Per Year)

	(Barrels/Year)	(Barrels/Year)	(Barrels)	Production as a	Consumption as
	Production	Consumption	Reserves	% of Reserves	a % of Reserves
Region/Country	2002	2002	2002	2002	2002
Asia & Oceania					
Australia	228,477,955	321,390,895	3,700,000,000	6.2%	8.7%
Bangladesh	2,190,000	30,295,000	Not Separately Reported		
Bhutan	0	438,000	0		
Brunei	59,495,000	4,380,000	1,100,000,000	5.4%	0.4%
Burma	5,475,000	11,680,000	308,000,000	1.8%	3.8%
Cambodia	0	1,350,500	0		
China	1,237,222,980	1,883,765,000	23,700,000,000	5.2%	7.9%
Cook Islands	0	146,000	0		
Fiji	0	2,190,000	0		
French Polynesia	0	1,733,750	0		
Guam	0	5,110,000	0		
Hong Kong	0	99,280,000	0		
India	242,634,845	797,525,000	4,595,000,000	5.3%	17.4%
Indonesia	462,464,855	397,120,000	5,945,000,000	7.8%	6.7%
Japan	1,946,180	1,934,721,920	Not Separately Reported		
Kiribati	0	69,350	0		
Korea, North	0	7,300,000	0		
Korea, South	0	795,593,055	0		
Laos	0	1,095,000	0		
Macau	0	4,197,500	0		
Malaysia	254,937,900	186,515,000	4,328,000,000	5.9%	4.3%
Maldives	0	1,277,500	0		
Mongolia	0	4,015,000	0		
Nauru	0	365,000	0		
Nepal	0	5,840,000	0		
New Caledonia	0	3,193,750	0		
New Zealand	11,091,985	49,115,130	78,000,000	14.2%	63.0%
Niue	0	7,300	0		
Pakistan	18,343,075	131,400,000	310,000,000	5.9%	42.4%
Papua New Guinea	20,130,845	5,475,000	395,000,000	5.1%	1.4%
Philippines	8,581,880	123,735,000	150,000,000	5.7%	82.5%
Samoa	0	365,000	0		
Singapore	0	265,355,000	0		
Solomon Islands	0	456,250	0		
Sri Lanka	0	27,375,000	0		
Taiwan	292,000	342,370,000	Not Separately Reported		
Thailand	46,414,130	307,695,000	516,000,000	9.0%	59.6%
Tonga	0	365,000	0		
U.S. Pacific Islands	0	730,000	0		
Vanuatu	0	219,000	0		
Vietnam	123,952,175	67,890,000	2,500,000,000	5.0%	2.7%
Wake Island	0	3,285,000	0		
Other-Country Not Specified	4,428,180	2,309,576,920	853,000,000	0.5%	270.8%
Asia & Oceania Total	2,723,650,805	7,830,001,900	48,478,000,000	5.6%	16.2%
World Total	24,397,419,500	28,545,278,695	1,034,673,100,000	2.4%	2.8%

World Crude Oil Production, Consumption and Reserves, 2002
(Barrels Per Year)

Appendix E: World Crude Oil Production, Consumption and Reserves (2002)					
	(Barrels/Year)	(Barrels/Year)	(Barrels)	Production as a	Consumption as
	Production	Consumption	Reserves	% of Reserves	a % of Reserves
Country	2002	2002	2002	2002	2002
Saudi Arabia	2,786,554,540	552,610,000	261,750,000,000	1.1%	0.2%
Iraq	738,395,000	186,150,000	115,000,000,000	0.6%	0.2%
Iran	1,257,169,865	491,290,000	100,060,000,000	1.3%	0.5%
Kuwait	691,368,400	114,245,000	98,850,000,000	0.7%	0.1%
United Arab Emirates	759,928,175	132,495,000	63,010,000,000	1.2%	0.2%
Russia	2,703,983,145	941,700,000	58,765,000,000	4.6%	1.6%
Venezuela	950,439,925	190,530,000	53,130,000,000	1.8%	0.4%
Nigeria	773,019,995	113,880,000	32,000,000,000	2.4%	0.4%
Libya	481,260,165	81,395,000	30,000,000,000	1.6%	0.3%
China	1,237,222,980	1,883,765,000	23,700,000,000	5.2%	7.9%
United States	2,097,124,000	7,212,874,500	22,677,000,000	9.2%	31.8%
Azerbaijan			Not seperately reported		
Belarus			Not seperately reported		
Estonia			Not seperately reported		
Georgia			Not seperately reported		
Kazakhstan			Not seperately reported		
Kyrgyzstan			Not seperately reported		
Latvia			Not seperately reported		
Lithuania			Not seperately reported		
Moldova			Not seperately reported		
Slovakia			Not seperately reported		
Tajikistan			Not seperately reported		
Turkmenistan			Not seperately reported		
Ukraine			Not seperately reported		
Uzbekistan			Not seperately reported		
Total	552,472,760	572,320,000	21,332,000,000	2.6%	2.7%
Qatar	247,875,150	13,505,000	19,558,900,000	1.3%	0.1%
Mexico	1,159,684,935	722,929,950	17,197,000,000	6.7%	4.2%
Algeria	476,680,875	85,775,000	13,000,000,000	3.7%	0.7%
Brazil	531,145,080	789,130,000	9,813,000,000	5.4%	8.0%
Norway	1,091,409,130	75,404,985	9,018,100,000	12.1%	0.8%
Angola	327,175,050	16,425,000	8,900,000,000	3.7%	0.2%
Indonesia	462,464,855	397,120,000	5,945,000,000	7.8%	6.7%
Oman	327,303,895	21,170,000	5,735,000,000	5.7%	0.4%
Canada	792,269,000	763,796,810	5,485,000,000	14.4%	13.9%
Ecuador	143,273,085	52,195,000	4,621,100,000	3.1%	1.1%
India	242,634,845	797,525,000	4,595,000,000	5.3%	17.4%
United Kingdom	836,479,990	619,145,850	4,476,200,000	18.7%	13.8%
Malaysia	254,937,900	186,515,000	4,328,000,000	5.9%	4.3%
Australia	228,477,955	321,390,895	3,700,000,000	6.2%	8.7%
Egypt	230,447,130	207,320,000	3,525,000,000	6.5%	5.9%
Yemen	161,800,120	28,105,000	2,855,000,000	5.7%	1.0%
Argentina	276,321,060	154,942,500	2,820,000,000	9.8%	5.5%
Benin			Not seperately reported		
Cameroon			Not seperately reported		
Congo (Kinshasa)			Not seperately reported		
Cote d'Ivoire (IvoryCoast)			Not seperately reported		
Ethiopia			Not seperately reported		
Ghana			Not seperately reported		
Madagascar			Not seperately reported		

World Crude Oil Production, Consumption and Reserves, 2002
(Barrels Per Year)

	(Barrels/Year)	(Barrels/Year)	(Barrels)	Production as a	Consumption as
	Production	Consumption	Reserves	% of Reserves	a % of Reserves
Country	2002	2002	2002	2002	2002
Morocco			Not seperately reported		
Mozambique			Not seperately reported		
Namibia			Not seperately reported		
Rwanda			Not seperately reported		
Somalia			Not seperately reported		
South Africa			Not seperately reported		
Tanzania			Not seperately reported		
Total	50,686,455	301,015,500	2,665,000,000	1.9%	11.3%
Vietnam	123,952,175	67,890,000	2,500,000,000	5.0%	2.7%
Gabon	91,688,000	4,562,500	2,370,000,000	3.9%	0.2%
Syria	186,443,095	95,630,000	2,280,000,000	8.2%	4.2%
Denmark	135,328,130	71,964,860	1,834,000,000	7.4%	3.9%
Colombia	210,583,100	96,725,000	1,632,000,000	12.9%	5.9%
Congo (Brazzaville)	90,959,095	2,190,000	1,515,000,000	6.0%	0.1%
Romania	43,800,000	94,900,000	1,131,000,000	3.9%	8.4%
Brunei	59,495,000	4,380,000	1,100,000,000	5.4%	0.4%
Equatorial Guinea	77,585,130	547,500	1,095,000,000	7.1%	0.1%
Trinidad and Tobago	44,470,870	10,767,500	990,000,000	4.5%	1.1%
Peru	35,355,725	60,225,000	963,000,000	3.7%	6.3%
Bolivia	11,739,860	17,155,000	929,800,000	1.3%	1.8%
Afghanistan			Not seperately reported		
Bangladesh			Not seperately reported		
Japan			Not seperately reported		
Taiwan			Not seperately reported		
Total	4,428,180	2,309,576,920	853,000,000	0.5%	270.8%
Italy	31,157,130	674,541,900	744,600,000	4.2%	90.6%
Sudan	87,149,955	23,725,000	700,000,000	12.4%	3.4%
Bahrain, Israel, Jordan	12,826,100	148,737,500	658,300,000	1.9%	22.6%
Thailand	46,414,130	307,695,000	516,000,000	9.0%	59.6%
Cuba	17,263,040	75,555,000	510,000,000	3.4%	14.8%
Tunisia	27,669,920	32,120,000	501,000,000	5.5%	6.4%
Barbados, Guatemala, Suriname	10,583,175	32,193,000	433,000,000	2.4%	7.4%
Albania	2,321,765	8,760,000	398,500,000	0.6%	2.2%
Papua New Guinea	20,130,845	5,475,000	395,000,000	5.1%	1.4%
Pakistan	18,343,075	131,400,000	310,000,000	5.9%	42.4%
Burma	5,475,000	11,680,000	308,000,000	1.8%	3.8%
Turkey	17,036,010	230,961,050	280,500,000	6.1%	82.3%
Germany	25,134,995	993,175,950	274,100,000	9.2%	362.3%
France	9,825,070	724,288,845	150,400,000	6.5%	481.6%
Philippines	8,581,880	123,735,000	150,000,000	5.7%	82.5%
Hungary	8,787,010	50,525,125	145,800,000	6.0%	34.7%
Poland	6,110,100	139,793,175	127,700,000	4.8%	109.5%
Croatia	8,030,000	31,755,000	93,000,000	8.6%	34.1%
Austria	6,782,065	96,677,185	83,500,000	8.1%	115.8%
New Zealand	11,091,985	49,115,130	78,000,000	14.2%	63.0%
Netherlands	16,910,085	328,174,055	56,600,000	29.9%	579.8%
Greece			Not seperately reported		
Ireland			Not seperately reported		
Spain			Not seperately reported		
Serbia			Not seperately reported		
Montenegro			Not seperately reported		
Total	8,664,005	800,720,940	22,000,000	39.4%	3639.6%

World Crude Oil Production, Consumption and Reserves, 2002
(Barrels Per Year)

	(Barrels/Year)	(Barrels/Year)	(Barrels)	Production as a	Consumption as
	Production	Consumption	Reserves	% of Reserves	a % of Reserves
Country	2002	2002	2002	2002	2002
Czech Republic	2,736,040	63,623,150	20,000,000	13.7%	318.1%
Chile	2,190,000	85,045,000	11,800,000	18.6%	720.7%
Bulgaria	365,000	33,215,000	1,200,000	30.4%	2767.9%
Bermuda	0	1,460,000	0		
Greenland	0	1,387,000	0		
Saint Pierre and Miquelon	0	182,500	0		
Antarctica	0	547,500	0		
Antigua and Barbuda	0	1,314,000	0		
Aruba	0	2,372,500	0		
Bahamas, The	0	8,030,000	0		
Belize	0	2,372,500	0		
Cayman Islands	0	912,500	0		
Costa Rica	0	14,052,500	0		
Dominica	0	292,000	0		
Dominican Republic	0	45,625,000	0		
El Salvador	0	14,235,000	0		
Falkland Islands	0	73,000	0		
French Guiana	0	2,336,000	0		
Grenada	0	547,500	0		
Guadeloupe	0	4,745,000	0		
Guyana	0	4,015,000	0		
Haiti	0	4,197,500	0		
Honduras	0	12,775,000	0		
Jamaica	0	24,455,000	0		
Martinique	0	4,927,500	0		
Montserrat	0	146,000	0		
Netherlands Antilles	0	26,280,000	0		
Nicaragua	0	9,307,500	0		
Panama	0	29,930,000	0		
Paraguay	0	8,760,000	0		
Puerto Rico	0	78,475,000	0		
Saint Kitts and Nevis	0	259,150	0		
Saint Lucia	0	912,500	0		
Saint Vincent/Grenadines	0	456,250	0		
Turks and Caicos Islands	0	40,150	0		
Uruguay	0	11,315,000	0		
Virgin Islands, U.S.	0	33,580,000	0		
Virgin Islands, British	0	153,300	0		
Belgium	0	220,004,845	0		
Bosnia and Herzegovina	0	7,300,000	0		
Faroe Islands	0	1,642,500	0		
Finland	0	76,973,025	0		
Gibraltar	0	8,395,000	0		
Iceland	0	6,440,060	0		
Luxembourg	0	18,820,860	0		
Macedonia, TFYR	0	6,935,000	0		
Malta	0	6,205,000	0		
Portugal	0	124,824,890	0		
Slovenia	7,300	18,250,000	0		
Sweden	0	125,956,025	0		
Switzerland	0	96,335,910	0		
Armenia	0	13,870,000	0		

World Crude Oil Production, Consumption and Reserves, 2002
(Barrels Per Year)

	(Barrels/Year)	(Barrels/Year)	(Barrels)	Production as a	Consumption as
	Production	Consumption	Reserves	% of Reserves	a % of Reserves
Country	2002	2002	2002	2002	2002
Cyprus	0	19,345,000	0		
Lebanon	0	37,595,000	0		
Botswana	0	4,380,000	0		
Burkina Faso	0	2,920,000	0		
Burundi	0	1,095,000	0		
Cape Verde	0	438,000	0		
Central African Republic	0	839,500	0		
Chad	0	547,500	0		
Comoros	0	255,500	0		
Djibouti	0	4,234,000	0		
Eritrea	0	1,642,500	0		
Gambia, The	0	730,000	0		
Guinea	0	3,139,000	0		
Guinea-Bissau	0	912,500	0		
Kenya	0	19,345,000	0		
Lesotho	0	547,500	0		
Liberia	0	912,500	0		
Malawi	0	2,007,500	0		
Mali	0	1,460,000	0		
Mauritania	0	8,760,000	0		
Mauritius	0	8,395,000	0		
Niger	0	2,190,000	0		
Reunion	0	6,935,000	0		
Saint Helena	0	36,500	0		
Sao Tome and Principe	0	255,500	0		
Senegal	0	10,950,000	0		
Seychelles	0	1,460,000	0		
Sierra Leone	0	2,372,500	0		
Swaziland	0	1,277,500	0		
Togo	0	2,920,000	0		
Uganda	0	3,467,500	0		
Western Sahara	0	657,000	0		
Zambia	0	4,562,500	0		
Zimbabwe	0	7,665,000	0		
American Samoa	0	1,387,000	0		
Bhutan	0	438,000	0		
Cambodia	0	1,350,500	0		
Cook Islands	0	146,000	0		
Fiji	0	2,190,000	0		
French Polynesia	0	1,733,750	0		
Guam	0	5,110,000	0		
Hong Kong	0	99,280,000	0		
Kiribati	0	69,350	0		
Korea, North	0	7,300,000	0		
Korea, South	0	795,593,055	0		
Laos	0	1,095,000	0		
Macau	0	4,197,500	0		
Maldives	0	1,277,500	0		
Mongolia	0	4,015,000	0		
Nauru	0	365,000	0		
Nepal	0	5,840,000	0		
New Caledonia	0	3,193,750	0		

World Crude Oil Production, Consumption and Reserves, 2002
(Barrels Per Year)

	(Barrels/Year)	(Barrels/Year)	(Barrels)	Production as a	Consumption as
	Production	Consumption	Reserves	% of Reserves	a % of Reserves
Country	2002	2002	2002	2002	2002
Niue	0	7,300	0		
Samoa	0	365,000	0		
Singapore	0	265,355,000	0		
Solomon Islands	0	456,250	0		
Sri Lanka	0	27,375,000	0		
Tonga	0	365,000	0		
U.S. Pacific Islands	0	730,000	0		
Vanuatu	0	219,000	0		
Wake Island	0	3,285,000	0		
Total		2,661,294,570			

World Crude Oil Production, Consumption and Reserves, 2002
(Barrels Per Year)

Appendix E: World Crude Oil Production, Consumption and Reserves (2002/2003)							
(Countries over 20 million population)	(Barrels/Year) Production	(Barrels/Year) Consumption	Population	(Barrels/Year) Per Person	Reserves (Barrels)	Production as a % of Reserves	Consumption as a % of Reserves
Region/Country	2002	2002	2003	2003	2002	2002	2002
United States	2,097,124,000	7,212,874,500	291,500,000	24.7	22,677,000,000	9.2%	31.8%
Canada	792,269,000	763,796,810	31,600,000	24.2	5,485,000,000	14.4%	13.9%
Saudi Arabia	2,786,554,540	552,610,000	24,100,000	22.9	261,750,000,000	1.1%	0.2%
Korea, South	0	795,593,055	47,900,000	16.6	0		
Japan	1,946,180	1,934,721,920	127,500,000	15.2	Not Separately Reported		
Taiwan	292,000	342,370,000	22,600,000	15.1	Not Separately Reported		
Spain	2,399,875	549,894,035	41,300,000	13.3	Not Separately Reported		
France	9,825,070	724,288,845	59,800,000	12.1	150,400,000	6.5%	481.6%
Germany	25,134,995	993,175,950	82,600,000	12.0	274,100,000	9.2%	362.3%
Italy	31,157,130	674,541,900	57,200,000	11.8	744,600,000	4.2%	90.6%
United Kingdom	836,479,990	619,145,850	59,200,000	10.5	4,476,200,000	18.7%	13.8%
Iraq	738,395,000	186,150,000	24,200,000	7.7	115,000,000,000	0.6%	0.2%
Malaysia	254,937,900	186,515,000	25,100,000	7.4	4,328,000,000	5.9%	4.3%
Venezuela	950,439,925	190,530,000	25,700,000	7.4	53,130,000,000	1.8%	0.4%
Iran	1,257,169,865	491,290,000	66,600,000	7.4	100,060,000,000	1.3%	0.5%
Mexico	1,159,684,935	722,929,950	104,900,000	6.9	17,197,000,000	6.7%	4.2%
Russia	2,703,983,145	941,700,000	145,500,000	6.5	58,765,000,000	4.6%	1.6%
Thailand	46,414,130	307,695,000	63,100,000	4.9	516,000,000	9.0%	59.6%
Brazil	531,145,080	789,130,000	176,500,000	4.5	9,813,000,000	5.4%	8.0%
Romania	43,800,000	94,900,000	21,600,000	4.4	1,131,000,000	3.9%	8.4%
Argentina	276,321,060	154,942,500	36,900,000	4.2	2,820,000,000	9.8%	5.5%
South Africa	7,116,040	169,360,000	44,000,000	3.8	Not Separately Reported		
Poland	6,110,100	139,793,175	38,600,000	3.6	127,700,000	4.8%	109.5%
Turkey	17,036,010	230,961,050	71,200,000	3.2	280,500,000	6.1%	82.3%
Ukraine	27,523,920	150,745,000	47,800,000	3.2	Not Separately Reported		
Egypt	230,447,130	207,320,000	72,100,000	2.9	3,525,000,000	6.5%	5.9%
Algeria	476,680,875	85,775,000	31,700,000	2.7	13,000,000,000	3.7%	0.7%
Uzbekistan	28,993,045	60,590,000	25,700,000	2.4	Not Separately Reported		
Peru	35,355,725	60,225,000	27,100,000	2.2	963,000,000	3.7%	6.3%
Colombia	210,583,100	96,725,000	44,200,000	2.2	1,632,000,000	12.9%	5.9%
Morocco	182,500	60,955,000	30,400,000	2.0	Not Separately Reported		

World Crude Oil Production, Consumption and Reserves, 2002
(Barrels Per Year)

(Countries over 20 million population)	(Barrels/Year) Production	(Barrels/Year) Consumption	Population	(Barrels/Year) Per Person	Reserves (Barrels)	Production as a % of Reserves	Consumption as a % of Reserves
Region/Country	2002	2002	2003	2003	2002	2002	2002
Indonesia	462,464,855	397,120,000	220,500,000	1.8	5,945,000,000	7.8%	6.7%
Philippines	8,581,880	123,735,000	81,600,000	1.5	150,000,000	5.7%	82.5%
China	1,237,222,980	1,883,765,000	1,288,700,000	1.5	23,700,000,000	5.2%	7.9%
Pakistan	18,343,075	131,400,000	149,100,000	0.9	310,000,000	5.9%	42.4%
Nigeria	773,019,995	113,880,000	133,900,000	0.9	32,000,000,000	2.4%	0.4%
Vietnam	123,952,175	67,890,000	80,800,000	0.8	2,500,000,000	5.0%	2.7%
India	242,634,845	797,525,000	1,068,600,000	0.7	4,595,000,000	5.3%	17.4%
Ghana	2,555,000	13,505,000	20,500,000	0.7	Not Separately Reported		
Sudan	87,149,955	23,725,000	38,100,000	0.6	700,000,000	12.4%	3.4%
Kenya	0	19,345,000	31,600,000	0.6	0		
Korea, North	0	7,300,000	22,700,000	0.3	0		
Burma (Myanmar)	5,475,000	11,680,000	49,500,000	0.2	308,000,000	1.8%	3.8%
Nepal	0	5,840,000	25,200,000	0.2	0		
Bangladesh	2,190,000	30,295,000	146,700,000	0.2	Not Separately Reported		
Tanzania	0	7,300,000	35,400,000	0.2	Not Separately Reported		
Uganda	0	3,467,500	25,300,000	0.1	0		
Ethiopia	0	8,577,500	70,700,000	0.1	Not Separately Reported		
Niger	0	2,190,000	21,100,000	0.1	0		
Afghanistan	0	2,190,000	28,700,000	0.1	Not Separately Reported		
Congo (Kinshasa)	8,273,090	3,650,000	56,600,000	0.1	Not Separately Reported		
Total	18,557,365,115	24,145,624,540	5,563,500,000	4.3	1,034,673,100,000	2.4%	2.8%
Energy Information Administration							
<i>International Energy Annual 2002</i>							
Table Posted: May 10, 2004							
Next Update: March 2005							

Appendix F: Committee Discussion Tool—Transportation Study Committee

