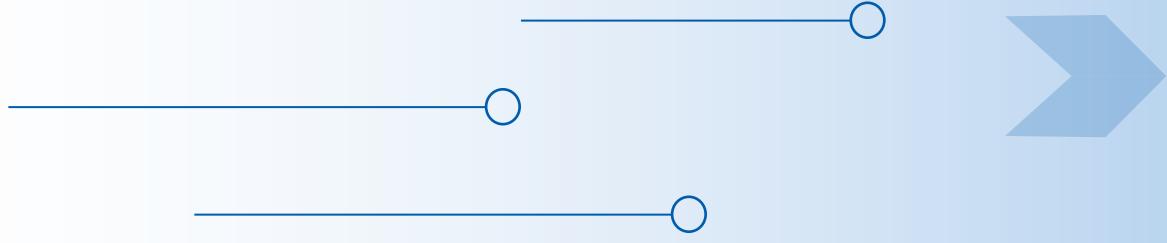




# TRAVEL BEHAVIOR

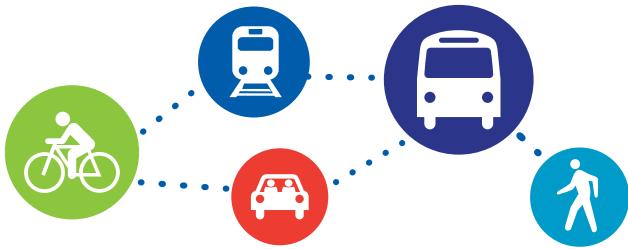
THE 2010 MSP REGION TRAVEL BEHAVIOR INVENTORY (TBI) REPORT  
HOME INTERVIEW SURVEY

A Summary of Resident Travel in the Twin Cities Region



## WHAT IS THE TBI?

The Travel Behavior Inventory (TBI) is a comprehensive survey conducted every 10 years by the Metropolitan Council (Council) to assess how and how much people in the Minneapolis-St. Paul (MSP) region and surrounding counties travel, including what mode of transportation they use, where they go, and when.



## KEY FINDINGS FROM THE 2010 SURVEY

- Driving remains the dominant mode of transportation in the Twin Cities metropolitan area, but it is down slightly from 2000. The number of vehicle miles traveled and trips per person was also down.
- Transit mode share has increased in the last decade.
- Commuting to work accounts for a significant amount of all travel in the region, 18 percent, but it's not the primary reason for traveling. Forty percent of all trips in the region are for social and recreational purposes.



## WHY IS THIS STUDY IMPORTANT?

Studying the way people travel in the region helps the Council plan transportation service and infrastructure for the future. The TBI, along with other data — such as the census and regional development trends — help to paint a picture about how travel trends have changed and evolved. It is a tool used by the Council to help plan and fund future transportation projects and develop the region's travel forecast models.

Thrive MSP 2040 will be the metropolitan development guide for the Twin Cities region, including land use and transportation, affordable housing, water resources, parks, and regionally significant economic places. The Transportation Policy Plan 2040 (TPP) will flow out of the Thrive MSP 2040 plan and be consistent with the broad goals set forth in it. The TPP will lay out goals and sets objectives and strategies to meet goals. The TPP will include summary information from this report.

## ABOUT THE DATA

More than 30,000 people in 14,000 households from the seven-county metro area and 19 surrounding counties participated in the most recent regional travel survey, which was conducted from 2010-12. This report contains information from the household travel survey component of the TBI. It concentrates on the seven-county region that makes up the Metropolitan Council's planning area, as well as impacts on the seven-county area from surrounding counties. The TBI report summarizes the findings, compares past travel behavior with today's, and makes some guesses about future trends.

## How Were the Data Collected?\*

### Household survey

- Each member of more than 14,000 households kept a travel diary for a single day
- 285 of those households agreed to have each member of their household carry a GPS unit on their person for one week

### Other focused surveys

- Transit riders
- Mall of America and Minneapolis-St. Paul International Airport visitors
- Those outside the region who travel into the region

### Speed and traffic data

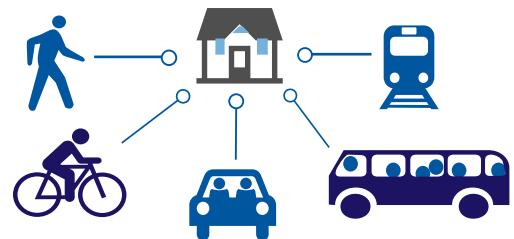
- To gain specific information about highway and transit system performance and for travel modeling

\*This report focuses only on the Household Survey data

## WHAT DO WE MEAN BY...

**Trip:** one leg of a journey; for example, going from home to the supermarket, bank, dry cleaner, and back home counts as four trips.

**Mode:** the way a trip is made; for example, walking, biking, driving, or public transit.



# WHAT DID WE MEASURE?\*

## 4 Types of Travel Based on Purpose:



**Work Commute:** travel from home to work and back.



**School and Within Work:** travel from home to school and back; and travel during the workday, for example, going to a meeting in another location.



**Shopping/Errand:** travel for shopping, banking, doctor visits and other personal business; and dropping off and picking up others for the same types of trips.



**Social/Recreational:** travel for social, recreational, entertainment, community, and religious destinations.

## 5 Major Modes of Travel:

- Walking                  • Taking public transit
- Biking                  • Riding a school bus
- Driving: driving alone, driving with passengers, riding as a passenger

## Type of Household:

- Adult/non-student/non-worker
- Adult/non-student/worker
- Adult student
- Adults with children

## Age Groups:

- under 18
- 18 - 64 / non-working
- 18 - 64 / working
- 65 - 84
- 85 and over

## Origins and Destinations of Travelers:

- Central City — includes Minneapolis and St. Paul
- Developed (first ring) suburb — includes communities such as Columbia Heights, Golden Valley, Richfield, and Roseville
- Developing (second ring) suburb — includes communities such as Blaine, Plymouth, Savage and Woodbury
- Rural includes townships and communities with low development density.

## Household Incomes (annual):

- \$30,000 and under
- \$30,000 to \$60,000
- \$60,000 to \$125,000
- \$125,000 to \$250,000
- \$250,000 and over

## Other Things Considered:

- Gender
- Time of travel (helps in planning for greatest travel demand on the transportation system)
- Travel distance (to document influences on time spent traveling, and effects on emissions and resulting air quality)

\*Note: The survey collected all of this information in much greater detail than is presented in this report. The categories described above have been simplified for clarity.

# NATIONAL TRENDS: COULD THE DRIVING BOOM BE OVER?

(Public Interest Research Group Report, A New Direction, Spring 2013)

The driving boom in the United States — from the end of WWII to the late 1990s — was fueled by a rise in income, the building of the highway system, the affordability of cars, the development of low-density suburbs, and more women entering the workforce. Gas tax revenues and relatively cheap gas continued a cycle of building more roads to accommodate more cars. This trend is slowing down and even reversing for a number of reasons.

## A Shrinking Workforce

Workers drive more than non-workers. The population of workers has a significant effect on the number of cars on the road. From 1970 to 2000, the portion of Americans in the workforce increased from 60 percent to more than 67 percent. Even before the recession the American labor force began declining, largely due to baby boomers retiring. The Congressional Budget Office has estimated that by 2021, the workforce will drop to 63 percent of the population.



## Car Ownership and Number of Licenses

In 2006 the total number of vehicles in the US was greater than the number of licensed drivers, with a peak of 1.24 vehicles per licensed driver. Since then, vehicle ownership per licensed driver has declined by 4 percent.

Also decreasing is the percentage of the population holding a driver's license. From 1992 to 2011 there was a 4 percent decline in the number of people holding a driver's license, from 90 percent to 86 percent of those within the driving age (16 and older). Many young people are postponing getting their licenses for a variety of reasons, including, decreased disposable income largely due to the recession, and a desire to live in denser communities with access to transit and the options of walking and biking.



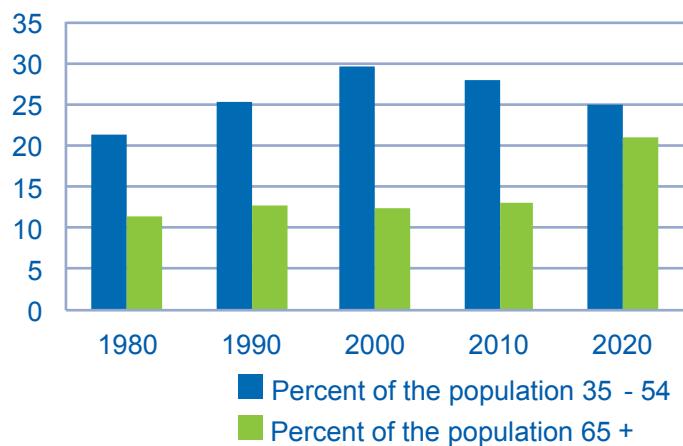
## An Aging Population

The peak driving age — between 35 and 54 — coincides with the average peak-earning and child-rearing years. This population hit a peak in 2000, reaching 29.5 percent of the population, then began declining. By 2010 this population had decreased by 1.6 percent, and it is expected to decrease again to 24.8 percent by 2020, reaching numbers that have not been seen since the late 1980s.

At the same time, the percent of the population 65 years of age and older—those likely to drive less because of retirement, health, and other life changes—has been growing and is projected to keep growing. This group went from 11 percent of the total population in 1980 to 13 percent in 2010, and is expected to jump to 21 percent in 2020. In other words, this population increased by 20 percent over three decades, but will grow by a staggering 62 percent in just one decade, from 2010 to 2020.

Looking ahead, if the millennial generation—those born between 1983 and 2000—continue their trend of driving less throughout their peak-earning, child-rearing years and into their golden years, there will be fewer drivers, fewer cars on the road, fewer trips taken, and fewer miles driven than we see today.

### PEAK DRIVING AGE AND 65+



From 2005 - 2011 telecommuting rose by



## **Technological Advances Equal Fewer Trips**

More people are accomplishing their professional, social and shopping needs online than ever before and that number is expected to increase.

### **Telecommuting nationwide**

Telecommuting — whether a few days a week or working from home exclusively — is on the rise. Telecommuting rose by 73 percent from 2005 to 2011, with 2.5 percent of the American workforce considering their home their primary place of work.

#### **Telecommuting in the Twin Cities region**

Workers in the Twin Cities region have a much higher telecommuting rate than the national average. Thirty-three percent of workers in the region report telecommuting at least monthly. This can perhaps be attributed to a workforce that has a higher education rate than the national average. Workers in the region with a bachelor's degree are 70 percent more likely to telecommute, and those with a post-bachelor degree are 90 percent more likely to telecommute. Also, workers with children are 25 percent more likely to telecommute than workers without children.

Of telecommuters in the region, 15 percent (or 5 percent of the workforce) telecommute four to five times a week; 31 percent (or 10 percent of the workforce) telecommute one to three times a week; and 36 percent (or 12 percent of the workforce) telecommute less frequently but at least a few times a month.

### **Online commerce**

Shopping online has been steadily increasing. The U.S. Department of Commerce has been tracking retail e-commerce sales since 2004. From 2004 to 2013, online retail sales rose steadily from 2 percent to 5.5 percent of all retail sales, or \$61.2 billion (adjusted for seasonal variation). The result of more goods and services being acquired online instead of making physical trips has been fewer cars on the road.

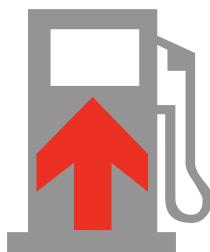
### **Social media and online entertainment**

Americans are not just buying more products online, they are also socializing more on their computers and hand-held devices, and downloading entertainment media. Today, people are more likely to walk to their mailboxes to catch a movie than go to a movie theater.

A 2012 survey by the computer-networking company Cisco found that two-thirds of college students and young professionals spend at least as much time with friends online as they do in person.

### **Higher Gas Prices**

Between 2002 and 2011 gas prices doubled. This has implications for both short- and long-term driving habits and decisions. In the short term, people may choose to reduce discretionary trips, such as for leisure or social purposes, and take care of some of their shopping and errand trips online. Long-term, people may make bigger life decisions such as moving closer to work, moving closer to a transit line, or buying a fuel-efficient vehicle.



## **Gas Prices 2002 - 2011 gas prices doubled**

## Rise of the ‘Millennials’

The millennial generation, or Generation Y — those born between 1983 and 2000 — is the largest generation the US has ever seen, more than 77 million strong. This generation surpasses baby boomers, those born between 1946 and 1964, by about 1 million.

But even with millennials entering the workforce, driving and car ownership is likely to continue to decline. Millennials are driving less for several reasons:

- They have less income as a result of the economic downturn starting with the 2008 recession.
- They are more environmentally conscious, and more willing to lead a lifestyle that doesn't require owning a car.
- They are postponing getting their driver's licenses.
- They want to live in walkable, transit-oriented urban centers, near the amenities they seek, and also near the workplace.
- They are choosing to live in closer-knit communities.

## Cities Are Making a Comeback

Cities are growing again. Many young families are not following in their parents' footsteps and moving to the suburbs to raise their kids; they are choosing denser urban centers for easier access to schools, shopping, and a greater sense of community. Middle age and older people are downsizing and choosing smaller, more affordable homes in cities. Twenty-three percent of the population growth in the region occurred in Minneapolis and Saint Paul between 2010 and 2012, compared to just 5 percent between 1990 and 2010. Generally, with urban living comes a reduction in the number of cars per household, and less overall driving.

## A BRIEF LOOK BACK

TBI reports have been conducted every 10 years starting in 1949. The Twin Cities region has been mirroring trends of metropolitan areas of the same size around the country.

In this region, as well as nationally, the number of households has increased at a greater rate than the population, with the average household size decreasing. From 1970 to 2010, the average household size in the region has decreased from 3.27 to 2.47 people, a decrease of almost 25 percent. These changes have affected travel habits and trends, and could have implications for how transportation projects are funded and prioritized in the future.

## What Has Decreased

- The number of licensed drivers per household has decreased from an average of 1.97 in 1970 to 1.73 in 2010.
- The average number of vehicles per household was on a steady rise from 1.25 in 1970 to 1.80 in 2000, but between 2000 and 2010, there has been a slight decrease to 1.78 vehicles per household.
- The average motorized trips per household has also decreased, this time to 1970 levels. In 1970, there were 8.02 motorized trips per household, rising steadily to a high of 10.3 trips in 2000; by 2010 this number was back down to 8.05.
- The average trips per household for all modes (including biking and walking) decreased from 11.1 to 8.8 trips from 2000 to 2010.
- The number of motorized (including transit) trips per person in 2010 has gone back down almost to 1980 levels, 3.3 trips per person. In 1970 there was an average of 2.7 motorized trips per person, reaching a high of 4.2 trips in 2000.
- The total number of car trips decreased from 7.7 million trips to 6.3 million trips from 2000 to 2010.
- Total number of trips by all modes (including walking and biking) has decreased from 2000 to 2010 from 11.6 million trips to 9.8 million trips per day.
  - Driving alone decreased by 9 percent as a percentage of all trips.
  - Riding as a passenger decreased by almost 30 percent.

## What Has Increased

- The average trip length (calculated for all modes) has increased steadily from 6.5 miles in 2000 to 6.9 miles in 2010.
- The average trip time (calculated for all modes) has also increased, from 17 minutes in 2000 to 22 minutes in 2010.
- While the number of trips decreased for many modes, leading to an overall decrease in trips taken from 2000 to 2010, some mode trips increased:
  - Transit trips increased by 25 percent as a percentage of all trips.
  - Driving with a passenger increased by 4 percent as a percentage of all trips.
  - Riding a bicycle increased by 13 percent as a percentage of all trips.
  - Walking increased by 16 percent as a percentage of all trips.

# TRAVEL IN THE TWIN CITIES REGION TODAY

## Where Is this Region Going?

Of all the trips taken in the region, the largest group, 40 percent, were for social and recreational purposes. Work, school, and errands all tied for second place, at about 20 percent each.

## Who Is Traveling the Most?

### Household type

By far, households with children are making the most trips per day, almost 14, with adult student households coming in second at about 8, then working adult households not in school at 6 trips a day. Households composed of adults who are neither in school or working are making about 4 trips a day, the least of any group.

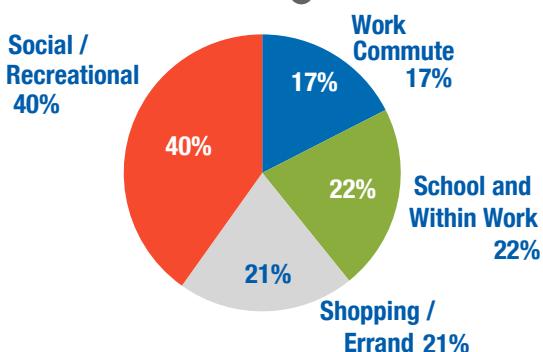
Adult non-students drive alone the most at 62 percent. Adult students and adults who neither work nor go to school drive alone 50 percent and 46 percent, respectively. Not surprisingly, households with children take the most car trips with passengers and as passengers, 23 percent and 27 percent, respectively. Working adults not attending school drove with passengers the least, and rode as passengers the least, as well — 14 percent and 11 percent, respectively.

Adult students and adults who neither work nor go to school walk the most, 9 percent and 9 percent, respectively. Adult students also take transit the most at 7 percent. Households with children tend to walk the least at just 5 percent of their trips.

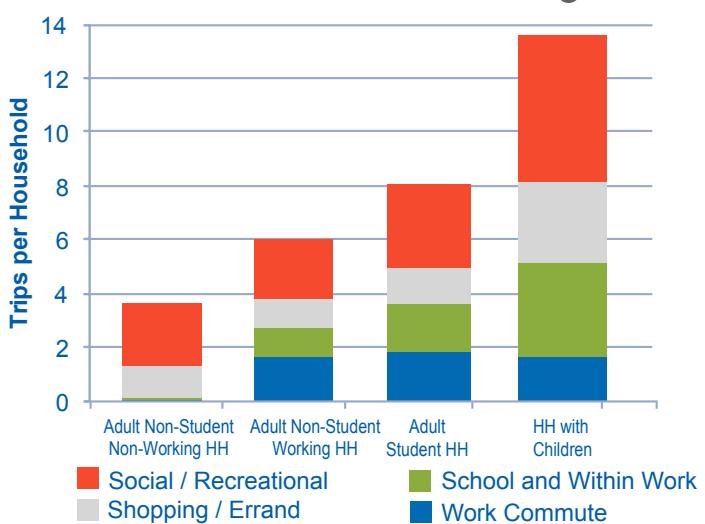
### Working adults

Workers between the ages of 18 and 65 make the most trips, averaging slightly more than four per day; seniors, non-workers, and those age 18 and younger make about three trips a day; and seniors 85 and older make the fewest trips per day, about 1.5.

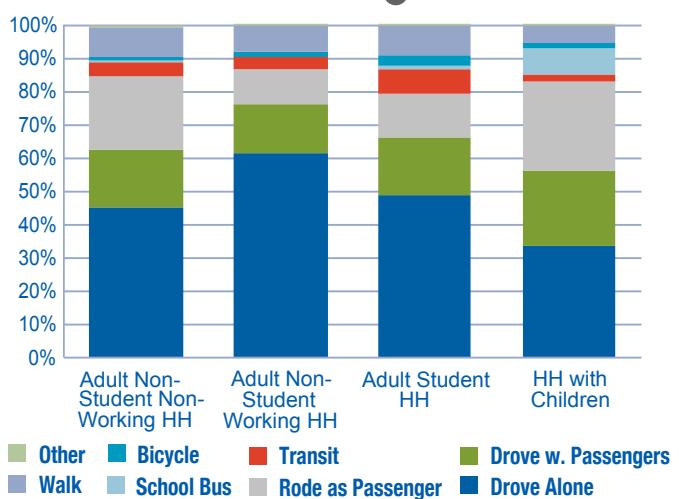
## WHY DO WE TRAVEL?



## WHO IS TRAVELING? WHY? BY HOW MUCH?



## MODE BY HOUSEHOLD TYPE



## Earn more, drive more

Households earning between \$125,000 and \$250,000 annually make an average of 12 trips a day, the most of any income group. Households earning the least, \$30,000 and under, make five trips a day, the least of any income group.

Conversely, those who earn the most ride transit the least, and those who earn the least, ride transit the most, .3 percent versus 13 percent, respectively.

## How Do We Get There?

### Cars and buses and bikes, oh my!

Driving is still the way most trips are made in the region. Whether driving alone, with a passenger, or riding as a passenger—driving accounted for 84 percent of the way trips are made. Taking transit and riding a school bus account for 3 percent and 5 percent, respectively. Of all trips made in the region, 6 percent are made by walking, and 2 percent by biking.

### Commuting to work

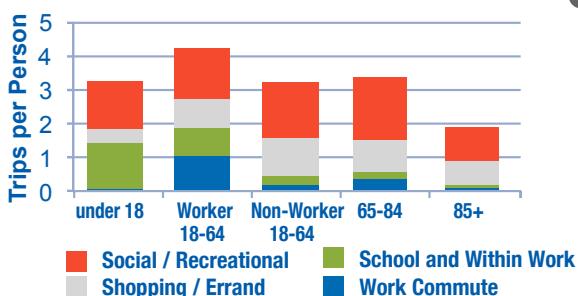
Almost 90 percent of commutes to work are made by car, with 75 percent driving alone. Transit accounts for 6 percent of commute trips, with biking and walking both coming in at 3 percent each.

### Shopping, errands, social, and recreational trips

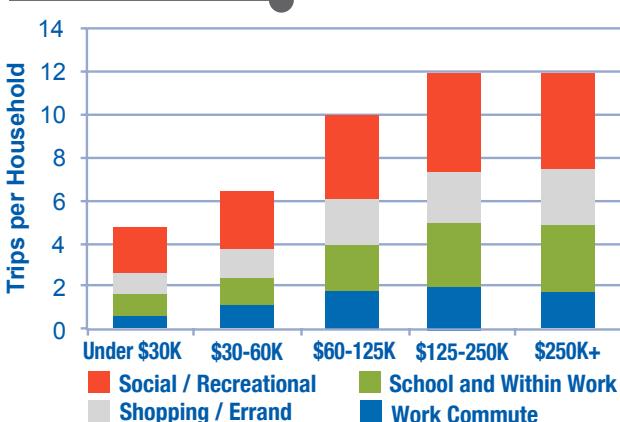
Residents in the region ride more often with passengers and as passengers for non-commute trips such as shopping, errands, and for social and recreational reasons; and they take transit less for these purposes, as well.

Fifty-four percent of shopping and errand trips, and 52 percent of social and recreational trips are made with passengers or by those riding as a passenger.

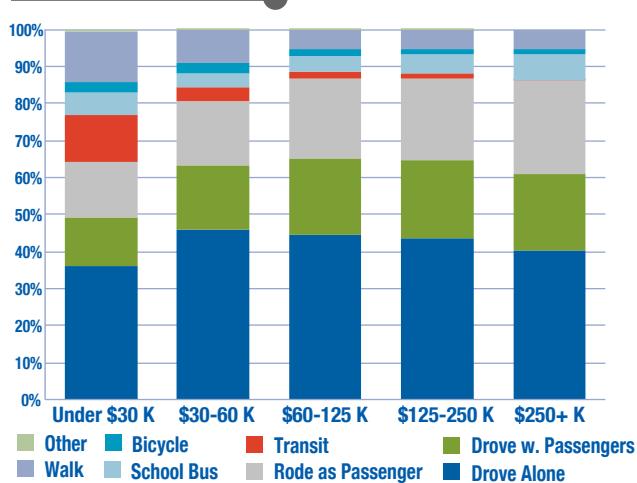
## TRAVEL BY AGE AND EMPLOYMENT STATUS



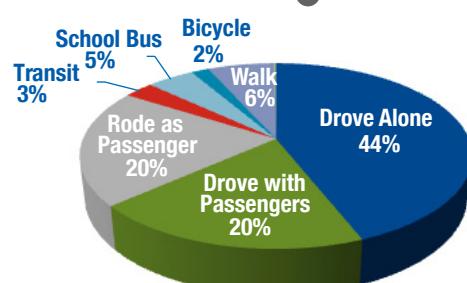
## TRAVEL BY INCOME



## MODE BY INCOME



## HOW DO WE TRAVEL?



## Walking

Walking is used as often to get to school and for within work trips, as well as for social and recreational trips, with each purpose coming in at about 8 percent. Walking is only used 3 percent of the time when going to work or for shopping and errands.

## Transit trips rise

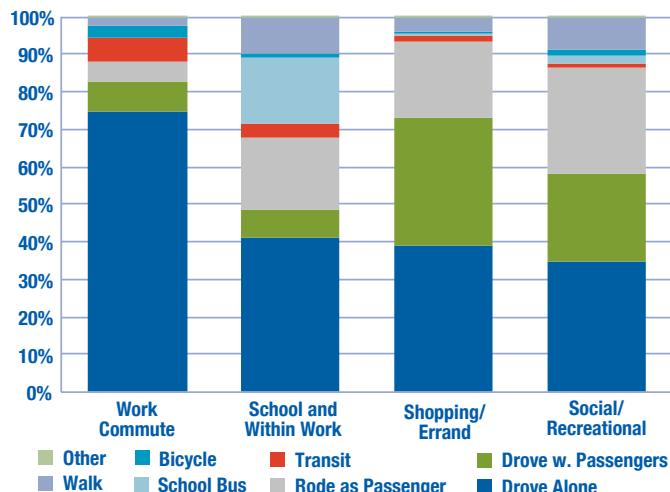
Transit is growing in the region. Transit use increased to 3.2 percent of all motorized trips in 2010, up from 2.5 percent in 2000.

Of those who ride transit, more than half live in urban centers, about 31 percent live in developed suburbs, 15 percent in developing suburbs, and just slightly more than 1 percent are in rural areas.

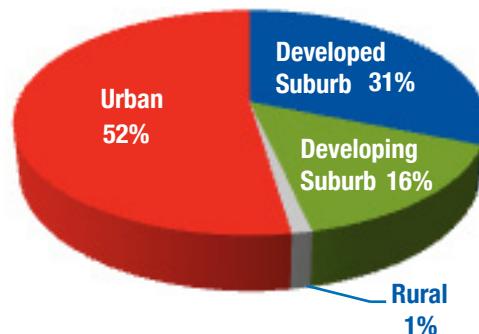
Transit riders in the region are predominantly workers between 18 and 64 years of age, at more than 75 percent. The second highest group riding transit are non-workers between 18 and 64 years of age, at 13 percent. Seniors between 65 and 84 years of age make up 7.5 percent of transit riders; children under 18 are 3.1 percent of riders, and seniors 85 and older are .5 percent of all transit riders.

Transit riders in the Twin Cities region have a wide range of incomes. Those who earn between \$60,000 and \$125,000 make up the most riders at 36 percent; those earning \$30,000 and less make up 32 percent of riders; between \$30,000 and \$60,000 are almost 19 percent of riders; and almost 13 percent of riders earn \$125,000 to \$250,000 a year.

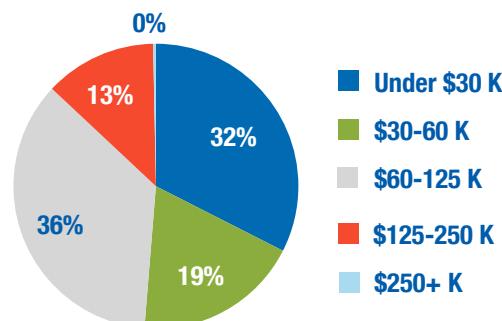
## MODE BY PURPOSE



## TRANSIT BY GEOGRAPHIC AREA



## TRANSIT RIDERSHIP BY INCOME



## From where do you hail?

Mode of travel is influenced by where someone lives. Those living in more urban areas are less likely to drive, and more likely to take transit, walk, and bike. Living in a rural area means the predominant way to reach destinations is by car. Urban dwellers use transit 7 percent of the time while rural dwellers ride transit only .5 percent of the time. Suburban and rural dwellers travel by car 88 percent and 89 percent of the time respectively, while urban dwellers travel by car 71 percent of the time.

Urban dwellers make the most trips by walking, while rural dwellers use this mode the least to reach their destinations, 15 percent versus 3 percent, respectively. Rural dwellers make the smallest share of trips by bicycle, only 1 percent, while urbanites will use a bicycle 4 percent of the time.

## Age matters

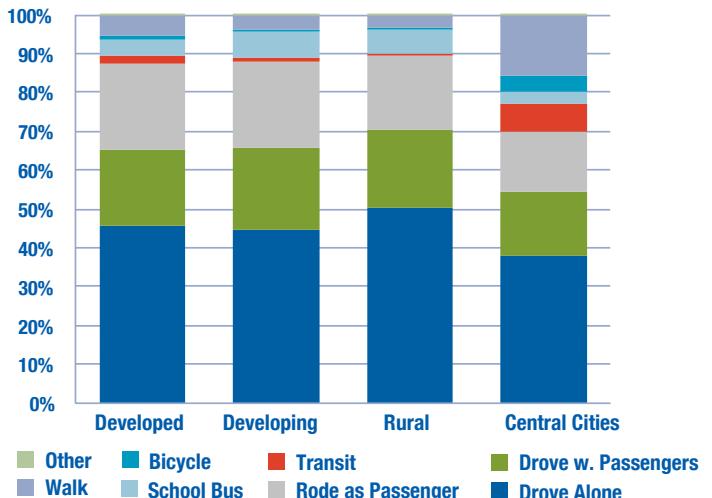
Age plays an important role in transportation choice. The young and the elderly ride as passengers in a car predominantly, 61 and 41 percent, respectively. Adults between 18 and 64 who do not work ride transit the most, 5 percent, compared to children younger than age 18 who ride transit the least at less than .5 percent.

Adults 85 and older walk 11 percent of the time, as much as they drive with passengers. Non-working adults between 18 and 64 years of age walk at the second highest rate, 10 percent of the time.

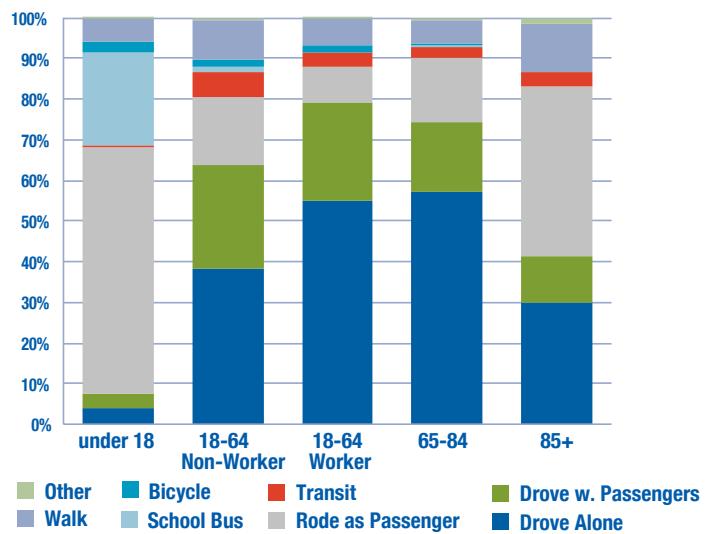
Non-student adults between 35 and 64 make the most trips alone by car. Younger non-student adults, those between 18 and 34, take transit the most. Younger adults between 25 and 34 walk the most of any other age group at 12 percent of the time.

In households with children, adults 35 to 44 years old use transit the least at just 1 percent of the time, while younger adults between 18 and 24 use transit the most at 4 percent. These younger adults also

## MODE BY GEOGRAPHIC AREA



## MODE BY AGE AND EMPLOYMENT STATUS



walk the most — 9 percent of their trips are made on foot. Of all households with children, adults 55 to 64 made the most trips alone by car, 59 percent. Adults between 35 and 44 with children drove with passengers 37 percent of the time, the most of any other age group in this category.

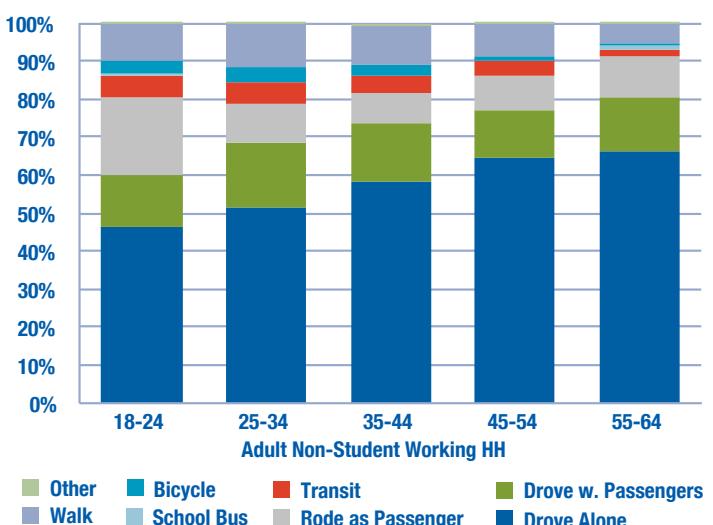
## When Do We Get There?

### Time of travel

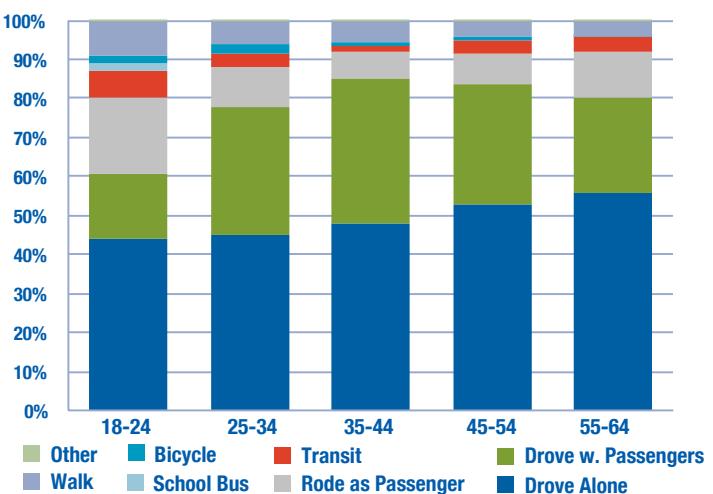
For all types of trips, two peaks emerge: 7 a.m. to 8 a.m. and 4 p.m. to 6 p.m. These peaks are partially the result of the work commute. Children have similar peak travel times as working adults, with their afternoon peak occurring a little earlier, between 3 p.m. and 4 p.m. Seniors do most of their traveling midday, between 11 a.m. and 3 p.m.

The work commute, and shopping and errands, tend to follow the two dominant peak times mentioned above. Social and recreational trips peak at about 7 p.m., with a secondary peak occurring around noon.

### MODE BY AGE: WORKING ADULTS



### MODE BY AGE: HH WITH CHILDREN



### Footnotes

<sup>i</sup> GlobalWorkplaceAnalytics.com/telecommuting-statistics

<sup>ii</sup> U.S. Census Bureau News, U.S. Department of Commerce, May 15, 2013. [http://www.census.gov/retail/mrts/www/data/pdf/ec\\_current.pdf](http://www.census.gov/retail/mrts/www/data/pdf/ec_current.pdf)

<sup>iii</sup> <http://uspirg.org/reports/usp/new-direction>. A New Direction, Our Changing Relationship with Driving and the Implications for America's Future, page 25. U.S. Public Interest Research Group, Spring 2013.

<sup>iv</sup> [http://www1.eere.energy.gov/vehiclesandfuels/facts/m/2012\\_fotw741.html](http://www1.eere.energy.gov/vehiclesandfuels/facts/m/2012_fotw741.html)

<sup>v</sup> <http://uspirg.org/reports/usp/new-direction>, page 15.

## ABOUT THE METROPOLITAN COUNCIL

The Metropolitan Council is the regional planning agency serving the Twin Cities seven-county metropolitan area and providing essential services to the region. The Council works with local communities to provide these critical services:

- operates the region's [largest bus system](#)
- collects and treats [wastewater](#)
- engages communities and the [public](#) in planning for future growth
- provides [forecasts](#) of the region's population and household growth
- provides affordable [housing](#) opportunities for low- and moderate-income individuals and families
- provides planning, acquisitions and funding for a regional system of [parks and trails](#)
- provides a [framework](#) for decisions and implementation for regional systems including aviation, transportation, parks and open space, water quality and water management

The Council is committed to [environmental stewardship, sustainable solutions, and reduced energy use](#).

The 17-member [Metropolitan Council](#) has 16 members who each represent a [geographic district](#) and one chair who serves at large. They are all appointed by and serve at the pleasure of the governor. The State Senate confirms Council member appointments.



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