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Flagstaff Trip Diary Survey of Community Travel Patterns
2018 Report of Results

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Executive Summary

Study Background

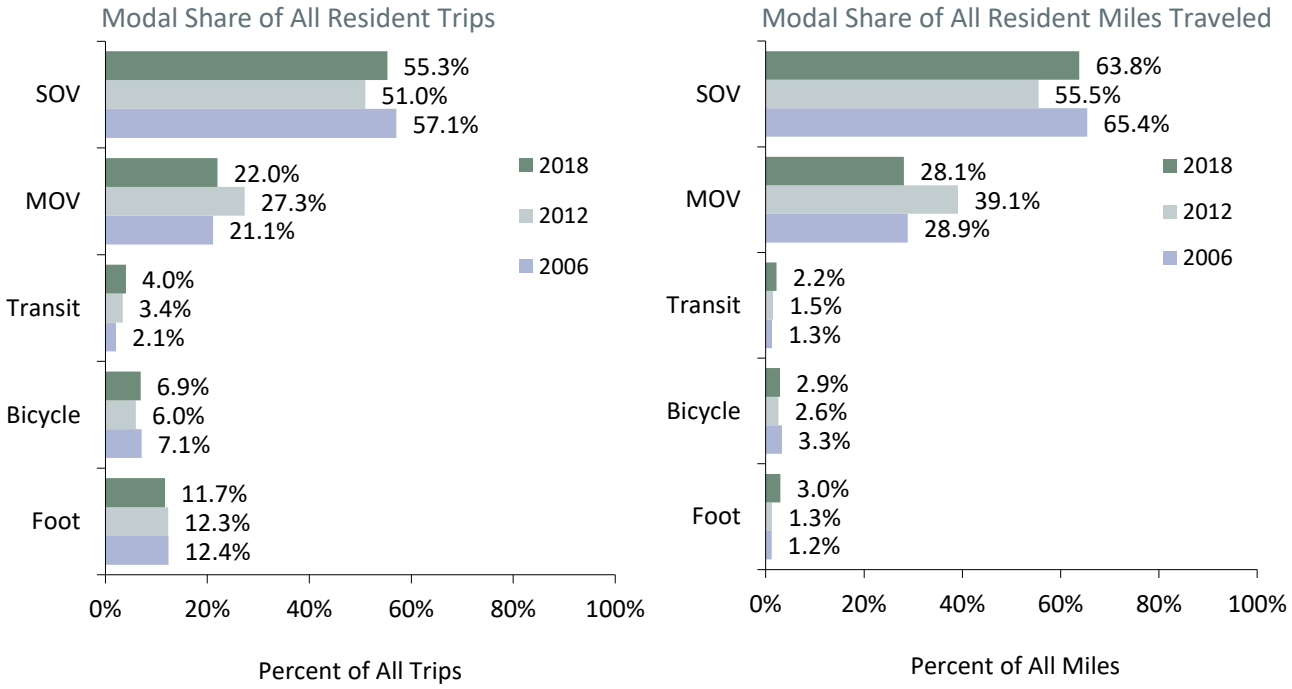
- The Trip Diary Study is a periodic survey of the Flagstaff Metropolitan Planning Organization (FMPO) area residents' travel patterns and mode selection. The Flagstaff trip diary study was first implemented in 2006; the 2018 diary is the third iteration of the study. The study is designed to provide information on current travel patterns to measure changes and inform future transportation planning.
- Thirty-six hundred households and 400 students living in campus housing were randomly selected to receive invitations to participate in the study. Households were contacted via mail and students were contacted through an existing online study of NAU students. Of the 3,600 mailed study packets, about 9% (320) were undeliverable because the housing unit was vacant or the postal service was unable to deliver the survey as addressed. This is a fairly typical vacancy rate. Of the 4,000 households and dormitory students who did receive the packet, 338 completed the survey, providing a response rate of 9%.
- The households were divided into three areas: the "Core" area of the City of Flagstaff, the rest of the City, and the rest of the Flagstaff area.
- Participants in the study were asked to keep a log or "diary" of their travel for one randomly assigned day during the week (Monday-Friday) of October 15, 2018. If participants were out of town or forgot to complete the diary on the assigned day, they were asked complete the diary on the same day of the next week (the week of October 22, 2018). For every trip made during the 24-hour period, they recorded the origin and destination of the travel, the travel mode used, the time of day, the number of people in the vehicle (if applicable), and the number of miles or blocks traversed during the 24-hour period. A trip was defined as any "one-way travel from one point to another that takes you farther than one city block (about 200 yards) from the original location."
- The participants were also asked to complete a survey regarding their adult household members' attitudes towards the quality of local transportation, alternative transportation options provided by employers, number of vehicles in their household, and general socioeconomic demographics.
- Transportation mode choice or "modal share" is a method of dividing travel into transportation modes and can refer to the number of modes, number of trips or number of miles traveled. This study uses the number of trips and number of miles when calculating modal share, and classifies the modes as single-occupancy vehicle (SOV, an automobile, van, truck or motorcycle which has only one occupant), multiple-occupancy vehicle (MOV, an automobile, truck or motorcycle with more than one occupant), transit (including school bus), pedestrian (foot), and bicycle.

Highlights of Study Results

Private vehicle use remained the dominant mode of transportation.

- The percentage of trips made by single occupancy vehicles had declined from 57.1% to 51.0% from 2006 to 2012 but returned to close to 2006 levels in 2018. Multiple occupancy trips showed the opposite pattern, with an increase in 2012 and return to 2006 levels in 2018.
- Overall, private vehicles were used for 77.3% of all trips in 2018, which is unchanged from the 78.2% observed in 2006 and 78.3% in 2012.
- Private vehicles (SOV and MOV) accounted for a greater share of **miles** traveled (92%) compared to **trips** traveled (77%), as walking and biking modes are generally used only for shorter trips.
- The share of **miles** traveled by SOV in 2018 (64%) was similar to the initial study in 2006 (65%), as was the share of MOV miles (29% in 2006 and 28% in 2012).

Figure 1: Modal Share of All Resident Trips and Miles Traveled



Alternatives to private vehicles continues to be used for about one in every fifth trip.

- Transit mode share continued to increase slightly; from 2.1% to 4.0% of trips.
- Bicycle use was similar; 7.1% in 2006 and 6.9% in 2018.
- Walking trips were unchanged at about 12% in all years.
- Overall, transit, bicycling, and walking comprised 22.6% of all trips in 2018, similar to past years (21.7% in 2012 and 21.6% in 2006).

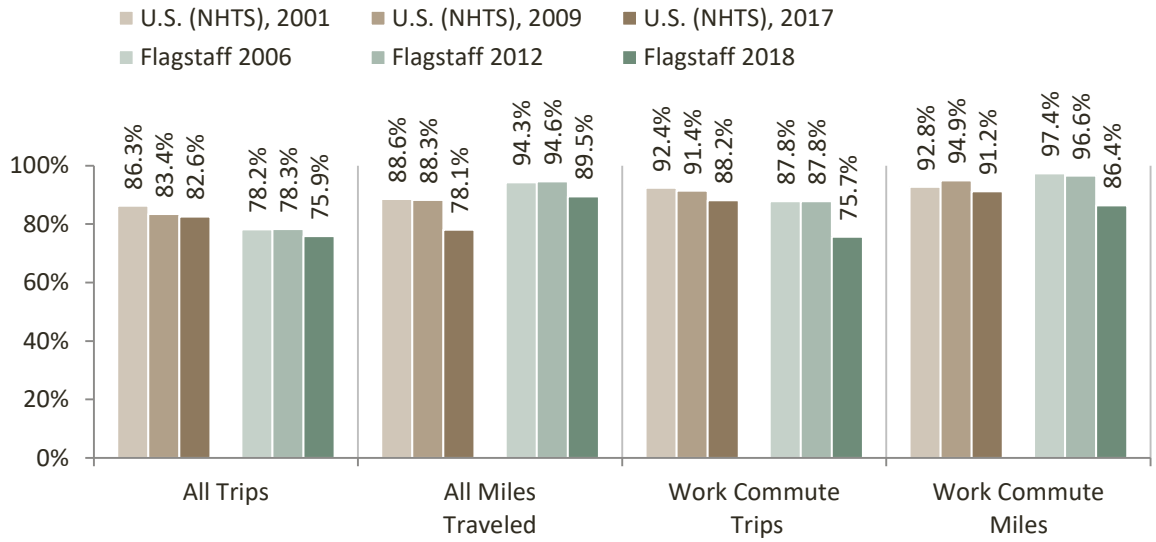
Transit continued a slight upward trend as access to bus passes increased.

- About 48% of employed respondents indicated that their employer provided subsidized or free bus passes, nearly twice what had been observed in 2012 (25%) and a large increase over 2006, when only 1% of employed respondents said their employer provided a free or subsidized bus pass. About 4 in 10 of those offered the pass chose to use it (about 18% of all employed respondents).
- The proportion of all trips made by transit was only 4.0% in 2018, statistically similar to the 2.1% observed in 2006, but indicative of a continued uptick. While few of the work commute trips were made by transit, this did increase from only 0.1% in 2006 to 3.0% in 2018.

Flagstaff area residents drive less often but go farther than observed nationally.

- The 2001, 2009 and 2017 National Household Transportation Surveys (NHTS), commissioned by the U.S. Department of Transportation, studied the travel patterns of the nation as a whole using a diary methodology similar to the one used in this research project. Although the NHTS data were collected in years different than the Flagstaff area trip diary data, the comparisons may be helpful in understanding how Flagstaff travel patterns and trends may differ from those seen nationally.
- The proportion of private vehicle (SOV or MOV) **trips** made by Flagstaff residents for any purpose was lower compared to the proportion of all trips and work commute trips made via private vehicle observed nationally.
- The proportion of **miles** traveled by private vehicle by Flagstaff respondents was similar to NHTS respondents for the work commute, but greater for all trips.
- Nationally all private vehicle trips stayed flat over time, but declined slightly for Flagstaff, and nationally a slight decline was seen for work commute tips and miles, but a bigger decrease was seen for Flagstaff.

Figure 2: Proportion of Trips and Miles Traveled by Private Vehicle, Flagstaff Area Compared to the Nation

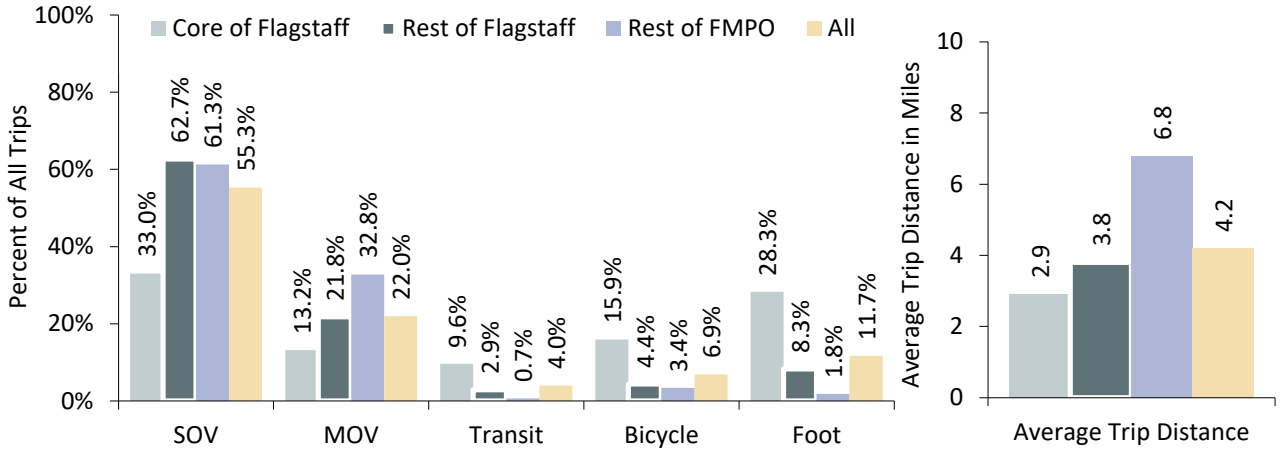


*2017 NHTS sample was address-based and among other changes included more urban and CPO households than prior years.

Changes in the Core area seem to affect travel patterns among its residents.

- Enrollment at Northern Arizona University climbed from about 11,000 students in 2006 to 17,800 in 2012; to 27,000 in 2018.
- Residents who lived in the core tended to walk and bike more than those who lived in outlying areas. Their average trip distance was also much shorter.
- The share of walking trips made by Core area residents increased from 19% to 33%, 2006 to 2012 and declined a little to 28% in 2018. Other areas stayed the same or saw small declines from 2006 to 2018.
- The average estimated trip length and the average number of miles traveled per person per day both declined dramatically for residents of the Core between 2006 and 2018. Average estimated trip length dropped from 4.8 to 2.9 miles, and miles per person per day dropped from 24 to 16.
- Single occupancy vehicles use declined sharply in the Core area, from 50.5% in 2006 to 26.0% in 2012, but increased a little to 33% in 2018.

Figure 3: 2018 Modal Share and Trip Distance by Area of Residence within FMPO, 2018



Transit use increased with the launch of Mountain Link but did not sustain initial levels.

- Comparing 2006 to 2012 and 2018, transit mode share in the Core area increased from 1.4% to 11.3% and dropped to 9.6%, but for the work commute increased from 0% to 2.5%to 7.5%. Among NAU students, transit share increased from 0.6% to 7.1% and then dropped to 2.6% for all trips, and from 3.1% to 12.0% to 9.0% for school commutes. This volatility is likely at least partly due to the small number of student respondents in 2018 and past years.

SOV use fell and walking replaced some cycling trips for NAU students

- Mode share for single occupancy vehicles for NAU students was 3% lower in 2018 than 2006 for all trips, and 18% lower for the school commute.
- Comparing 2006 to 2018, bicycling dropped by 7 percent for all trips, but increased 8% for the school commute, while walking increased 4% for all trips and 1% for trips to school.
- Bicycle and walking trips accounted for 43% of all trips made by NAU students, a much higher proportion than among the general population (18%).

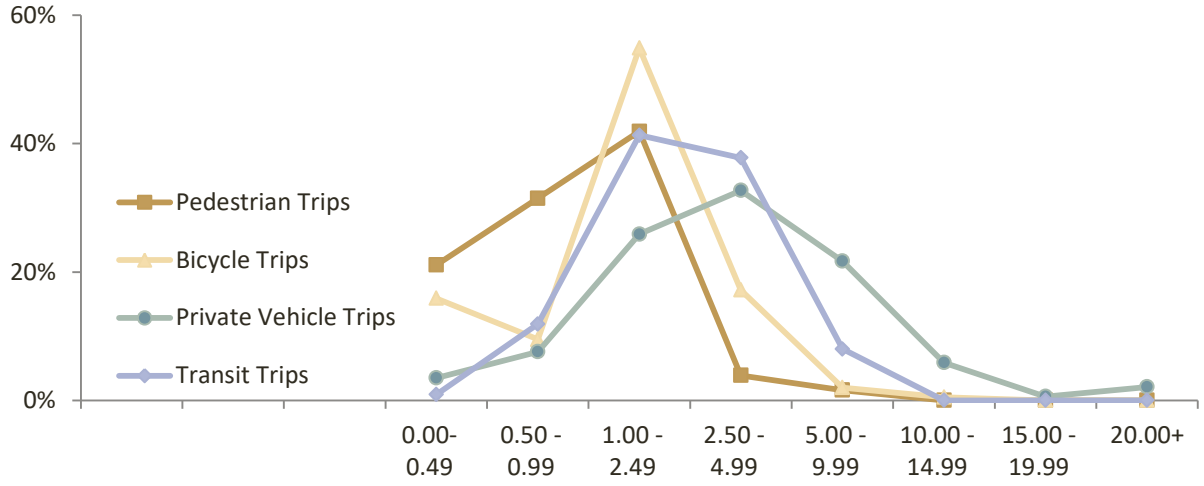
The average trip distance was shorter for Flagstaff area residents than for U.S. residents.

- The average distance of trips made by Flagstaff area residents in all survey years was about 5 miles; much shorter than the 10 to 11 miles average trip distance observed nationally by NHTS (2001 to 2017).
- The total miles traveled per day by Flagstaff area residents was also less (21 miles in 2018) than for U.S. residents (36.1 miles in 2017).

Walking or biking were reserved for shorter trips.

- The average distance of a private vehicle (SOV or MOV) trip was 5 miles, while the average distance of a bicycle trip was 1.8 miles and of a walking trip was 1 mile.
- Almost all walking trips (94.5%) were less than 2.5 miles in length. Trips of this distance comprised about 37 percent of trips made by private vehicle
- The large majority of bicycle trips (70.3%) and transit trips (54.1%) were less than 2.5 miles in length. About 37.5%of private vehicle trips were also less than 2.5 miles in length.

Figure 4: Trip Distance by Mode of Travel (2018)



Resident were concerned about traffic flow, but happy with transportation planning.

- When asked about the overall transportation system, 85% felt it did “very well” or “somewhat well” in meeting their travel needs. This was higher than the 77% observed in 2006.
- Respondents evaluated 12 aspects of the transportation system. In general, ratings were higher in 2012 than in 2006; and similar between 2012 and 2018. Highest rated were FUTS trails, bus stops and bus routes. Lowest rated was traffic flow.

Report of Results

Survey Background

The Trip Diary Study is a periodic survey of the Flagstaff Metropolitan Planning Organization (FMPO) area residents' travel patterns and mode selection. The Flagstaff trip diary study was first implemented in 2006; the 2018 diary is the third iteration of the study. The study is designed to provide feedback to FMPO staff on current travel patterns to measure changes and inform future transportation planning.

Thirty-six hundred households and 400 students living in campus housing were randomly selected to receive invitations to participate in the study. The households were divided into three areas: the "Core" area of the City of Flagstaff, the rest of the City, and then the rest of the Flagstaff area. The figure on page 8 shows the division of the Flagstaff area into these three subareas.

Selected households were mailed a pre-notification postcard informing them they had been randomly selected to participate in the Trip Diary Study, One week after their pre-notification, the full travel study packets were sent to all those selected for the study. Additionally, a reminder postcard was sent to residents one week after the travel study packets were sent. Selected students in University group quarters were recruited through a separate survey the University was already conducting; at the end of that survey they were asked to access the Trip Diary Study at a new URL link.

Of the 3,600 mailed study packets, about 9% (320) were estimated to be undeliverable because the housing unit was vacant or the postal service was unable to deliver the survey as addressed, a typical undeliverable rate. Of the 4,000 households and dormitory students who did receive the packet, 338 completed the survey, providing a response rate of 9%. While lower than a typical resident opinion survey response rate (which usually ranges from 20% to 35%), this response rate is not untypical for a trip diary study of this type, which places a greater burden on respondents. Typical response rates for these types of studies range from 8% to 15%. The 95% confidence interval is a measure of the precision of the results yielded from this sample, and is based purely on the number of completed surveys. The confidence interval (or "margin of error") for this study is ±5.3% around results. This response rate was lower than past years (13% in 2012 and 14% in 2006) but response level and therefore margins of error were similar (353 completed surveys in 2012 for a margin of error of ±5.2%)

Participants in the study were asked to keep a log or "diary" of their travel for one randomly assigned day during the week (Monday-Friday) of October 15, 2018. If participants were out of town or forgot to complete the diary on the assigned day, they were asked to complete the diary on the same day of the next week (the week of October 22, 2018). For every trip made during the 24-hour period, they recorded the origin and destination of the travel, the travel mode used, the time of day, the number of people in the vehicle (if applicable), and the number of miles or blocks traversed during the 24-hour period. A trip was defined as any "one-way travel from one point to another that takes you farther than one city block (about 200 yards) from the original location."

The participants were also asked to complete a survey regarding their adult household members' attitudes towards the quality of local transportation, alternative transportation options provided by employers, number of vehicles, and general socioeconomic information about the household and the study participant (see *Appendix D: 2018 Survey* Materials for copies of the survey materials). Results of the survey and trip diary were statistically weighted so that demographics of respondents matched population demographics. More information about the study methodology is contained in *Appendix C: 2018 Study* Methods.

study Limitations

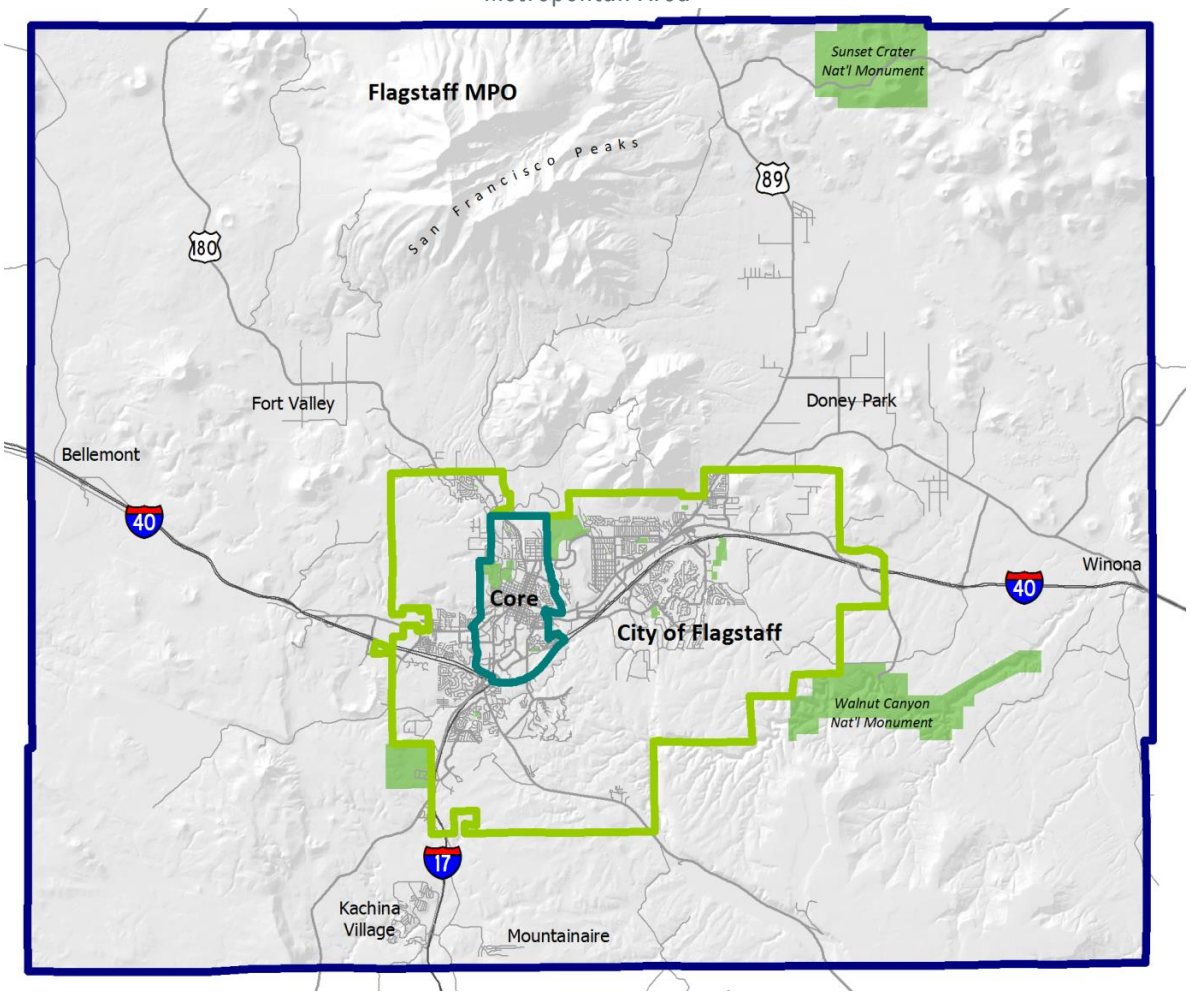
Several methodological limitations of the research should be considered when interpreting these results. First, the self-report nature of the data collection meant the data could be influenced by social desirability bias, i.e., the tendency to respond to questions in a manner that is socially acceptable or preferred. Asking people to record each trip they made helps to limit this bias in reporting trip-making behavior, but other questions may have been influenced by this type of bias. For example, people may report having voted in an election, or having voted in a certain way, if they perceive that a certain answer would be considered "more acceptable."

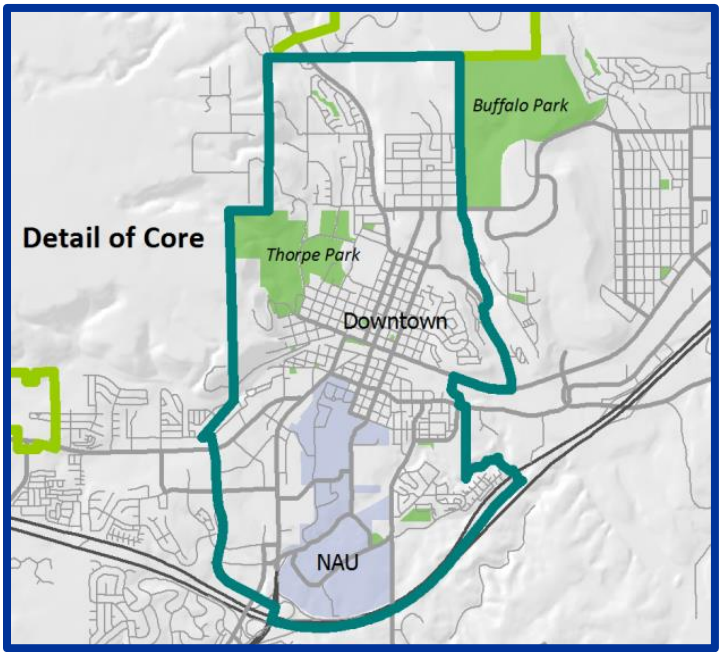
Second, selection bias may have influenced the results due to the fact that participants were not required to participate in the survey. Of those who were invited to do so, only 9% chose to complete a trip diary. The type of respondent who was interested in participating may have different travel behaviors or opinions than those who ignored the invitation, or forgot to complete their survey. It is assumed that those with an interest in transportation issues are more likely to be traveling by modes other than driving alone. Selection bias is a limitation with which most studies of this type have to contend. By replicating the same survey methods over time, changes observed in the trend line can be deemed accurate, although the point estimates for each year may underestimate the proportion of trips traveled by driving alone.

Third, the weather may have influenced travel behavior. Weather during the 2018 travel diary week was colder than in past years and there was one day with precipitation, which had not occurred in 2006 and 2012 (see Table 99 on page 81 in *Appendix C: 2018 Study* Methods).

Finally, the relatively small sample size limits the ability to examine travel behavior by subgroups. For example, investigation of the characteristics of transit trips and those who used transit is limited by the fact that only 5% of respondents made any trips via transit, and only 3% of all the trips recorded were made using transit.

Figure 5: Map of the Study Area Showing "Core," the "Rest of the City" and the "Rest of the Flagstaff Metropolitan Area"





Modal Share

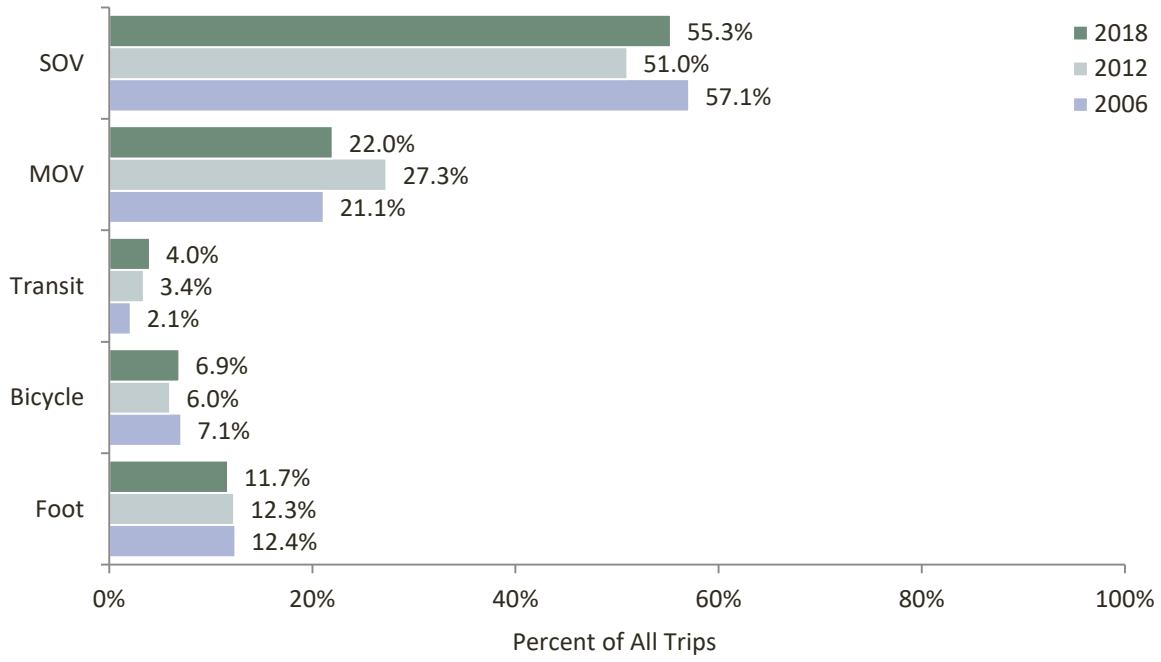
Transportation mode choice or "modal share" can be defined as a method of dividing travel into all available transportation modes and can refer to the number of modes, number of trips or number of miles traveled. This study uses the number of trips and number of miles when calculating modal share, and classifies the modes as single-occupancy vehicle (SOV), multiple-occupancy vehicle (MOV),[1] transit (including school bus), foot, bicycle and other motorized vehicles such as motorcycles and trucks.[2]

Modal Share of All Trips

As shown in Figure 6, just over half of all the **trips** made by respondents in 2018 were made by driving alone. About 1 in 5 trips were made in multiple-occupant vehicles, while 12% of trips were made by walking, 7% by biking, and 4% via transit.

A 2% shift away from SOV trips was observed from 2006 (57%) to 2018 (55%), this is not a statistically significant change.

Figure 6: Modal Share of All Trips, by Year



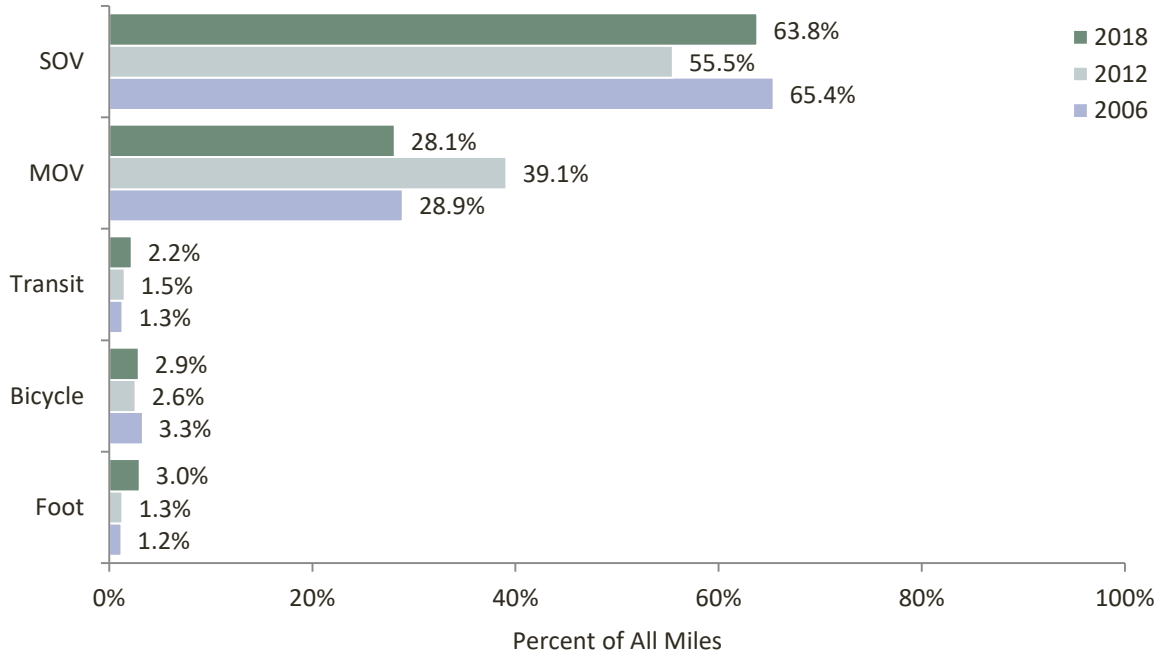
[1] A single-occupancy vehicle refers to an automobile, van, truck or motorcycle which has only one occupant; a multiple-occupancy vehicle is an automobile, truck or motorcycle with more than one occupant.

[2] These modes were recoded into the SOV and MOV categories, based on the number of occupants in the vehicle. Truck and motorcycle trips make up a very small proportion of the trips made.

When examining the proportion of miles traveled by the various modes (see Figure 7 below), a greater proportion of ***miles*** were traveled by private vehicle (SOV and MOV) than the proportion of ***trips*** traveled by these modes, while a smaller proportion of miles were traveled using other modes compared to the proportion of trips by these other modes. Motorized vehicles can be expected to account for a greater share of miles traveled compared to trips traveled, as walking and biking modes are generally used only for shorter trips.

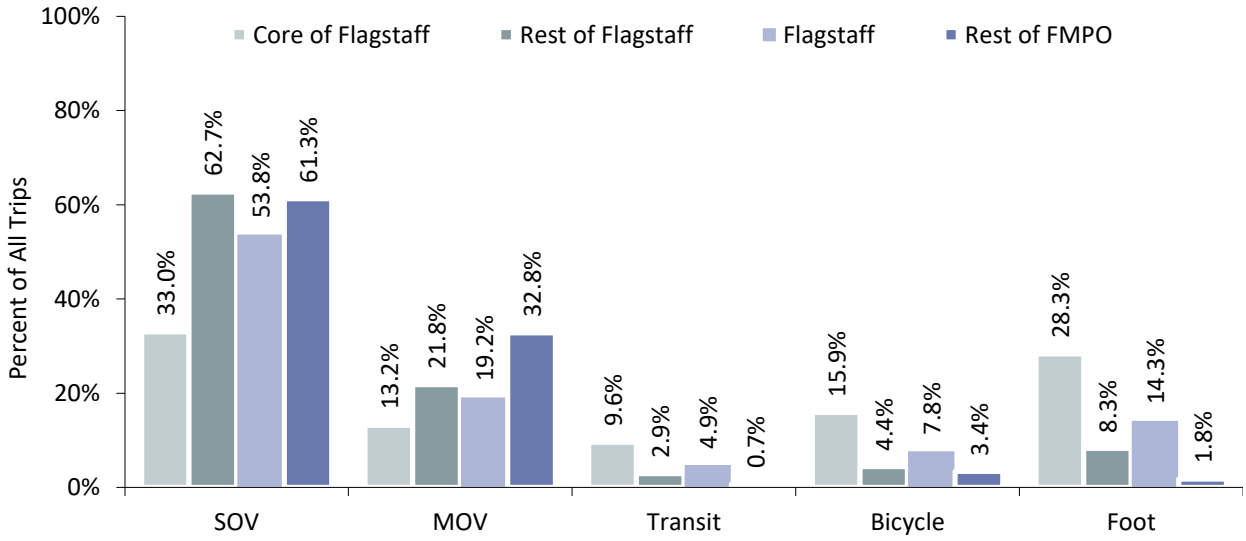
A decrease was seen in the proportion of miles traveled by SOV in 2012 compared to 2006; from 65% to 55% but this increased to 64% in 2018. An increase in the proportion of MOV miles was observed, from almost 30% to almost 40% in 2012, but this decreased in 2018 to 2006 levels. Other modes increased slightly (but not statistically significantly) from 2006; with 2% by transit, 3% by bicycle, and 3% by walking in 2018 (see Figure 7).

Figure 7: Modal Share of All Miles Traveled, by Year



Examination of modal share by area of residence showed that those who lived in the "core" area of the city of Flagstaff were less likely to have made trips by driving alone (33%) than were those who lived in the rest of the city (63%) or in the remainder of the Flagstaff Metropolitan Planning Organization (FMPO) area (61%, see Figure 8). Likewise, those who lived in the core were more likely to have made trips by biking or walking than those who lived outside the core area.

Figure 8: Modal Share of All Trips by Area of Residence, 2018



When examining the modal shift since 2006 within the geographic areas, it was observed that there was a greater shift away from SOV trips within the core of Flagstaff, while the rest of the city saw an increase (albeit one that was likely not statistically significant). There was also a shift away from SOV trips in the area outside of the city. Transit and walking trips increased in the core, but not in the rest of the city.

Table 1: Modal Share of All Trips by Area of Residence, by Year

Travel Mode		SOV	MOV	Transit	Bicycle	Walk	TOTAL
Core of Flagstaff	2018	33.0%	13.2%	9.6%	15.9%	28.3%	100%
	2012	26.0%	16.1%	11.3%	14.0%	32.5%	100%
	2006	50.5%	18.7%	1.4%	10.0%	19.4%	100%
Rest of Flagstaff	2018	62.7%	21.8%	2.9%	4.4%	8.3%	100%
	2012	60.8%	28.6%	0.4%	4.2%	5.9%	100%
	2006	56.3%	20.4%	3.4%	8.1%	11.8%	100%
Flagstaff	2018	53.8%	19.2%	4.9%	7.8%	14.3%	100%
	2012	48.7%	24.3%	4.3%	7.6%	15.1%	100%
	2006	54.4%	19.8%	2.8%	8.7%	14.2%	100%
Rest of FMPO	2018	61.3%	32.8%	0.7%	3.4%	1.8%	100%
	2012	57.4%	38.0%	0.5%	1.0%	3.1%	100%
	2006	67.7%	26.6%	0.0%	0.6%	5.0%	100%

The National Household Transportation Surveys (NHTS), commissioned by the U.S. Department of Transportation, studied the travel patterns of the nation as a whole using a diary methodology similar to the one used in this research project. Although the NHTS data were collected in years different than the Flagstaff area trip diary data, the comparisons are helpful in understanding how Flagstaff travel patterns and trends may differ from those seen nationally.

As shown in Table 2, Flagstaff area residents were more likely to make trips by walking or transit compared to residents nationwide, while Flagstaff area residents' use of private vehicles (both SOVs and MOVs) was somewhat lower compared to the U.S.

In examining the proportion of miles traveled, however, a greater proportion of the miles traveled by private vehicle was observed among Flagstaff area residents than U.S. residents (see Table 3). In both the Flagstaff area and nationally, a decrease in miles traveled by private vehicle has been observed over time. The reduction at the national level may be somewhat attributed to a change in methodology in 2017; more urban and CPO households were included than prior years.

Table 2: Modal Share of All Trips, Flagstaff Compared to the U.S., by Year

Travel Mode	Flagstaff Area						NHTS*				
	2018		2012		2006		2017*	2009	2001	1995	1990
SOV	55.1%	75.9%	51.0%	78.3%	57.1%	78.2%	82.6%	83.4%	86.3%	86.4%	87.7%
MOV	20.7%		27.3%		21.1%						
Transit	4.0%		3.4%		2.1%		2.5%	1.9%	1.6%	1.8%	1.8%
Walk	11.7%		12.3%		12.4%		10.5%	10.4%	8.6%	5.4%	7.2%
Other	8.4%		6.0%		7.1%		4.4%	4.2%	3.4%	3.2%	3.2%
Total	100%	100%	100%		100%		100%	100%	100%	100%	100%

**National Household Transportation Survey.*
**2017 NHTS sample was address-based and among other changes included more urban and CPO households than prior years.*

Table 3: Modal Share of All Trip Miles, Flagstaff Compared to the U.S., by Year

Travel Mode	Flagstaff Area						NHTS*				
	2018		2012		2006		2017*	2009	2001	1995	1990
SOV	63.6%	89.5%	55.5%	94.6%	65.4%	94.3%	78.1%	88.3%	88.2%	91.2%	88.4%
MOV	25.9%		39.1%%		28.9%						
Transit	2.2%		1.5%		1.3%		2.6%	1.5%	1.2%	2.1%	2.1%
Other	8.3%		3.9%		4.5%		21.0%	10.2%	10.2%	5.7%	9.5%
Total	100%	100%	100%		100%		100%	100%	100%	100%	100%

**National Household Transportation Survey.*
**2017 NHTS sample was address-based and among other changes included more urban and CPO households than prior years.*

Modal Share of the Work Commute

In 2018, about 66% of study participants were employed full-time, with another 16% employed part time. This was a higher proportion than in 2006, when 52% were employed full-time and an additional 26% were employed part time. Trips made as part of the work commute were identified for special analysis, including trips directly between home and work and trips linked during the work commute.[3]

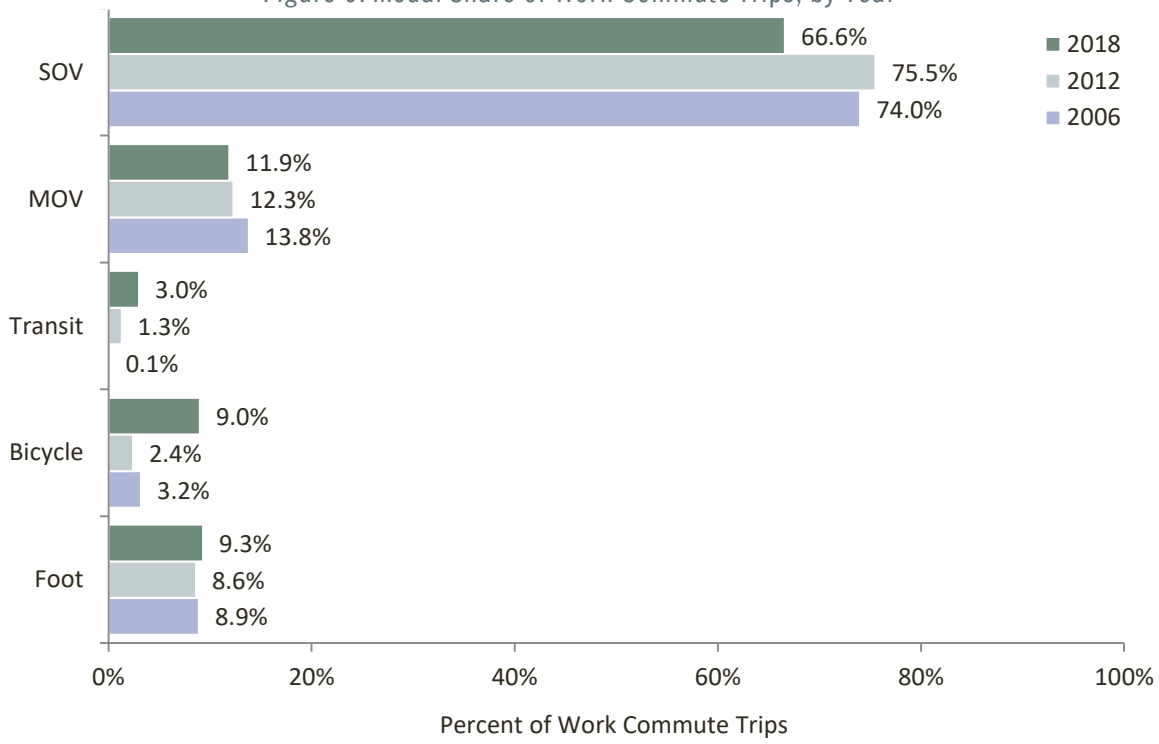
Table 4: Employment Status by Area of Residence and Student Status, by Year

Are you employed?		No	Yes, part-time	Yes, full-time	TOTAL
Core of Flagstaff	2018	8.3%	16.2%	75.6%	100%
	2012	27.6%	39.1%	33.3%	100%
	2006	20.2%	32.1%	47.6%	100%
Rest of Flagstaff	2018	19.9%	15.7%	64.4%	100%
	2012	25.8%	21.9%	52.3%	100%
	2006	22.2%	24.1%	53.8%	100%
Flagstaff	2018	17.0%	15.8%	67.2%	100%
	2012	24.5%	30.2%	45.3%	100%
	2006	21.1%	28.5%	50.4%	100%
Rest of FMPO	2018	24.0%	15.8%	60.3%	100%
	2012	34.0%	15.1%	50.9%	100%
	2006	23.1%	16.9%	60.0%	100%
Entire FMPO Area	2018	18.6%	15.8%	65.5%	100%
	2012	25.9%	27.1%	47.0%	100%
	2006	21.5%	26.0%	52.4%	100%
Non-NAU/CCC Student	2018	21.9%	13.0%	65.1%	100%
	2012	27.1%	18.8%	54.1%	100%
	2006	23.3%	15.0%	61.7%	100%
NAU Student	2018	27.2%	32.0%	40.9%	100%
	2012	22.2%	53.1%	24.7%	100%
	2006	10.7%	75.0%	14.3%	100%
CCC Student	2018	0.0%	8.0%	92.0%	100%

3 See page 38 for a description of how trips were categorized. Using this trip classification scheme as displayed in Figure 24, the "home-based work" commute trips could be determined. Still, a small percentage of the work commute would not be accounted for when a work trip was "linked," that is, a trip where the person makes a stop on the way to or from work. For example, if the participant stopped at the post office on the way to work, the first trip would be classified as "home-based other" and the second trip would be categorized as "non-home based." Neither of these legs of the trip would be counted as the work commute. Similarly, if a participant picked up a child from school on the way home, neither trip would be classified as "home-based other." To be sure trips were identified as part of the work commute, another code was created which allowed the trips to be distinguished as "linked." All the linked trips are included in the analysis of "work commute" trips.

About two-thirds of work commute trips were made by driving alone in 2018 (see Figure 9), which was a drop from 2012. Transit accounted for a very small but growing proportion of the work commute trips (3%) and bicycle trips increased significantly from about 3% to 9%. Walking trips remained steady at about 9%.

Figure 9: Modal Share of Work Commute Trips, by Year



When the modal share of work commute **miles** is examined, the proportion traveled by driving alone was about 79% (see Figure 10), while about 8% were made by using the bus, biking or walking.

Asked about their typical work commute, 20% of respondents did not work, 7% worked from home and 73% commuted to a work site. Those whose work was away from home most often drove 5 miles or less to work (57%), but 29% drove 6-10 miles and 14% drove further.

Figure 10: Modal Share of Work Commute Miles Traveled, by Year

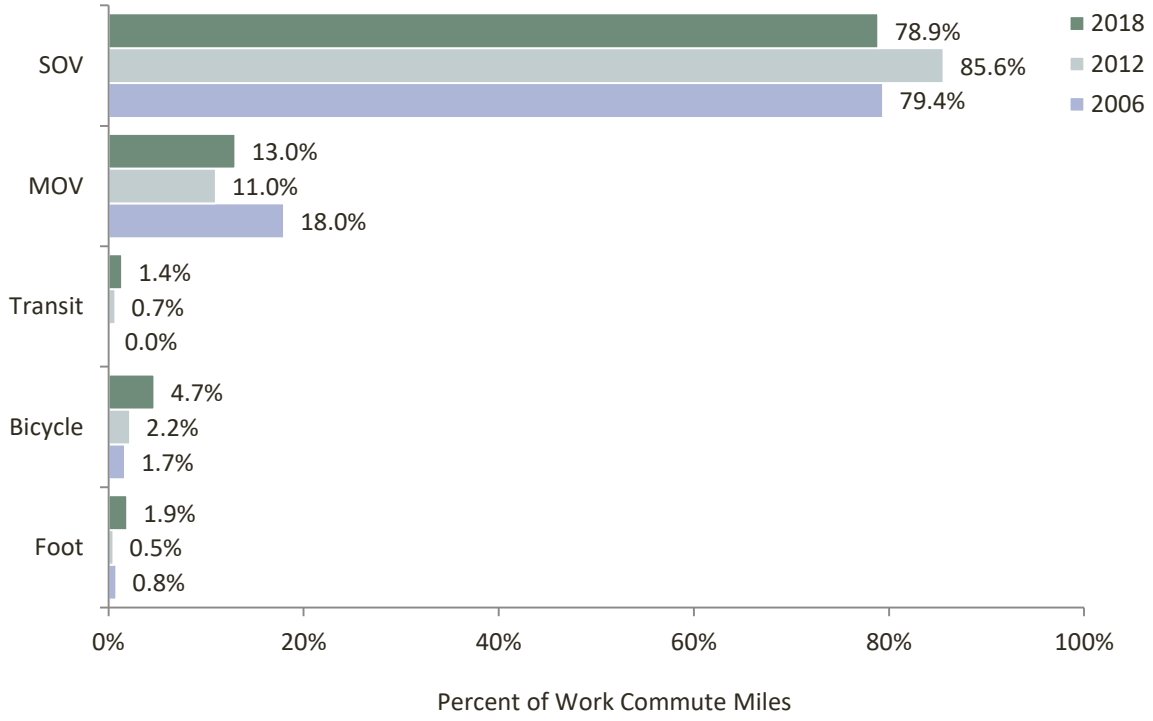
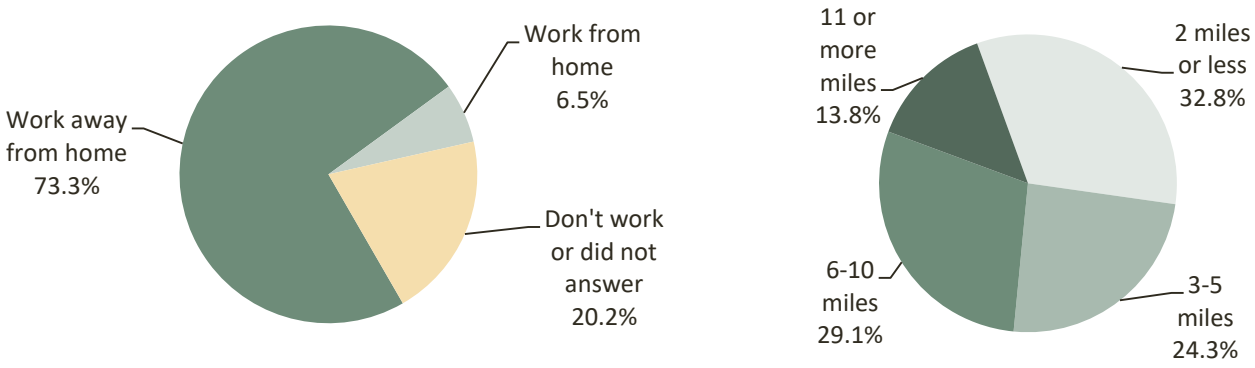


Figure 11: Typical Commute Status and Distance, 2018



The household survey that accompanied the travel diary asked respondents to report on the usual work commute transportation mode used by every person 16 years of age or older in the household. While the travel diary does not capture telecommuting or working from home as a work commute trip (since no travel is required away from the home), according to the household survey, about 19% of households have adult workers who telecommute or work from home(see Table 5).

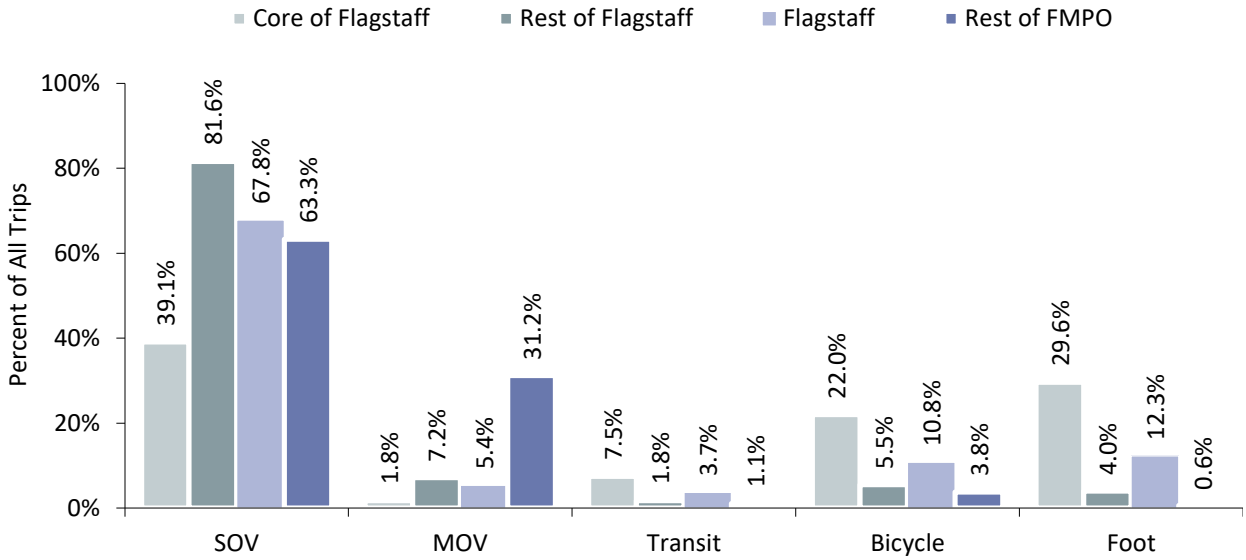
Respondents reported that about two-thirds had someone in the household who typically drove alone to work. Walking to work was practiced in about 17% of homes and bicycling in 15%. These represent higher shares than had been observed on the 2018 trip diary. This may be because people tend to over-represent how much they actually use alternate modes when asked about their "typical" use versus recording actual behavior.

Table 5: Modal Share of Employed Adults' Work Commute in Respondents' Households (2018)

For the people 16 or older living in your household, please check the box that indicates their most frequently used travel mode to work or school.	Percent of Households
Drive alone	66.5%
Telecommute/work from home	18.5%
Bicycle	16.9%
Walk	14.5%
Drive with adult from household	9.2%
Take Mountain Line bus	6.8%
Drive with children from household	5.2%
Take school bus	4.9%
Drive with adult NOT from household	2.9%
Drive with children NOT from household	0.6%

The modal share of work commute trips made by those living in the three different areas of the FMPO is displayed in Figure 12. Those who lived in the core area (see Figure 5 for a map of the area) were more likely to have made work commute trips by walking (30% of their work commute trips) than those who lived in the rest of the city or the rest of the FMPO (1% to 12%). Those who lived in the core area were also less likely to have made their commute by driving alone (39%) than those who lived in the rest of the city (82%) or in the rest of the FMPO (63%). While SOV trips in the rest of the FMPO decreased about 20% from 2006 to 2018, MOV trips increased by about 15%.

Figure 12: Modal Share of Work Commute Trips by Area of Residence, 2018



As was observed with all trips, there was a shift away from SOV use for the work commute in the core area of Flagstaff and in the non-city part of the FMPO compared to 2006 and 2012, but an increase in SOV share in the rest of the city (see Table 6).

Table 6: Modal Share of Work Commute Trips by Area of Residence, by Year

Travel Mode		SOV	MOV	Transit	Bicycle	Walk	TOTAL
Core of Flagstaff	2018	39.1%	1.8%	7.5%	22.0%	29.6%	100%
	2012	50.6%	9.9%	2.5%	2.5%	34.6%	100%
	2006	72.2%	7.0%	0.0%	1.7%	19.1%	100%
Rest of Flagstaff	2018	81.6%	7.2%	1.8%	5.5%	4.0%	100%
	2012	86.3%	9.5%	0.9%	1.4%	1.9%	100%
	2006	71.4%	17.6%	0.0%	4.9%	6.0%	100%
Flagstaff	2018	67.8%	5.4%	3.7%	10.8%	12.3%	100%
	2012	76.6%	9.6%	1.0%	1.7%	11.0%	100%
	2006	71.7%	13.5%	0.0%	3.7%	11.1%	100%
Rest of FMPO	2018	63.3%	31.2%	1.1%	3.8%	0.6%	100%
	2012	71.1%	21.1%	2.2%	4.4%	1.1%	100%
	2006	82.2%	16.4%	0.0%	1.4%	0.0%	100%

The NHTS also analyzed trip-making behavior for the work commute. When the modal share of work commute trips was compared, Flagstaff area residents made a slightly smaller proportion of trips by private vehicle compared to residents of the U.S. as a whole, with a larger proportion of work commute trips made by walking, but a smaller proportion made via transit. While the nation saw a slight increase in usage of "other" modes, Flagstaff saw a large increase from about 3% in 2006 to 12% in 2018 (mainly bicycle travel in Flagstaff). In examining the trends over time, little change was observed nationally but Flagstaff saw a decrease in the proportion of work commute trips made by private vehicle.

Table 7: Modal Share of Work Commute Trips, Flagstaff Compared to the U.S., by Year

Travel Mode	Flagstaff Area						NHTS*				
	2018		2012		2006		2017*	2009	2001	1995	1990
SOV	66.5%	75.7%	75.5%	87.8%	74.0%	87.8%	88.2%	91.4%	92.4%	92.8%	91.2%
MOV	9.3%		12.3%		13.8%						
Transit	3.0%		1.3%		0.1%		5.5%	3.7%	3.7%	3.6%	4.0%
Walk	9.3%		8.6%		8.9%		3.9%	3.0%	2.8%	2.3%	4.0%
Other	11.9%		2.4%		3.2%		2.4%	1.9%	1.0%	1.3%	0.8%
Total	100%	100%	100%		100%		100%	100%	100%	100%	100%

National Household Transportation Survey.
**2017 NHTS sample was address-based and among other changes included more urban and CPO households than prior years.*

When the modal share of work commute miles traveled was examined a similar pattern was seen, the proportion of work commute miles traveled by private vehicle in Flagstaff decreased and was lower than other U.S. residents. The proportion of miles traveled by transit for the work commute by Flagstaff area residents was less than that of U.S. residents, but the proportion of other modes (mainly bicycle) was higher.

Table 8: Modal Share of Work Commute Miles, Flagstaff Compared to the U.S., by Year

Travel Mode	Flagstaff Area						NHTS*				
	2018		2012		2006		2017*	2009	2001	1995	1990
SOV	78.9%	86.4	85.6%	96.6%	79.4%	97.4%	91.2%	94.5%	92.8%	93.1%	94.8%
MOV	7.5%		11.0%		18.0%						
Transit	1.4%		0.7%		0.0%		5.8%	2.6%	3.1%	3.5%	4.2%
Other	12.2%		2.7%		2.5%		3.0%	2.9%	4.0%	3.5%	1.1%
Total	100%	100%	100%		100%		100%	100%	100%	100%	100%

National Household Transportation Survey.
**2017 NHTS sample was address-based and among other changes included more urban and CPO households than prior years.*

Data from Census and American Community Survey include information on modal share estimates for the "Journey to Work". The data were derived by asking residents about their usual mode of travel to work. These results are displayed below for Flagstaff area residents and all U.S. residents. Similar results are seen comparing the Census data of Flagstaff area residents to the U.S. as a whole as were observed in comparing the Flagstaff Trip Diary Survey data to the NHTS; Flagstaff area residents were more likely to have made work commute trips by bicycling or walking than was the U.S. employed population as a whole, but less likely to have made work commute trips via transit.

From 1990 to 2000, the proportion of employed Flagstaff area residents getting to work by driving alone remained constant, with a small decrease then observed from 2000 to 2011. In the city of Flagstaff, a slightly larger decline in the proportion of work commute trips made by driving alone was also observed from 2000 to 2011. Nationally, however, a small increase in drive alone work commute trips was observed.

As with all U.S. residents, walking trips for the work commute decreased for employed Flagstaff area residents from 1990 to 2000, but for the Flagstaff area there was a small rebound from 2000 to 2011 that was not seen nationally. In the city of Flagstaff, walking trips also increased from 2000 to 2011.

In the Flagstaff area, small gains were seen in bicycling from 1990 through 2011, and in the city of Flagstaff from 2000 to 2011, while nationally these proportions remained relatively constant.

In the city of Flagstaff, the Flagstaff area and nationally, the proportion of employees working from home has been increasing over time.

Table 9: Census Journey to Work Data, Flagstaff Compared to the U.S., by Year

	Percent of Employed Residents Using Each Mode								
	Flagstaff			Flagstaff Area**			U.S.		
Travel Mode	**2011***	**2000**	**1990**	**2011***	**2000**	**1990**	**2010**	**2000**	**1990**
Drive alone	61.7%	69.4%	na	67.6%	71.1%	71.0%	76.4%	75.7%	73.2%
Carpooled	14.7%	14.7%	na	12.7%	14.7%	12.8%	9.7%	12.2%	13.4%
Transit	2.4%	0.6%	na	1.4%	0.6%	0.5%	5.0%	4.6%	5.1%
Bicycle	5.3%	3.7%	na	3.7%	2.8%	2.3%	0.6%	0.4%	0.4%
Walk	10.3%	7.2%	na	7.6%	5.8%	9.2%	2.8%	2.9%	3.9%
Other	1.0%	0.9%	na	1.0%	0.8%	1.1%	1.2%	1.0%	1.1%
Worked at home	4.6%	3.5%	na	5.9%	4.2%	3.1%	4.3%	3.3%	3.0%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%

**2011=2007-2011 American Community Survey, 2000 and 1990 from Dicennial Census SF3*
***Coconino CCD (subdivision of Coconino County) for 1990 and 2000, Flagstaff CCD for 2011*

Alternative Work Commute Options Offered by Employers

On the two page household survey that accompanied the trip diary, respondents were asked a few questions about transportation in the Flagstaff area. Those who were employed were asked whether their employer provided facilities or programs to encourage a variety of transportation options. Respondents were also asked whether they had ever availed themselves of these options, or if they would use these options if offered. Results are shown in the figures on the following pages. A few results are highlighted below.

The most commonly employer-provided transportation options were bike parking, flexible hours and safe and comfortable biking and walking route; offered by about two-thirds of respondents' employers or more (see Figure 13 on the next page). Of those who had bike parking, 42% said they had used it, while 23% of those who did not have bike parking thought they would use it if available. Most employees who had the ability to work flexible hours or a compressed work week had done so (73%), while 85% of those without the option would use it if available.

Many employees reported taking advantage of the programs or facilities offered by their employers. In addition to the flexible hours, half or more of employees whose employers offered options used safe and comfortable access/routes to their workplace, telecommuting and information about alternative transportation options.

About half of respondents reported their employer offered a subsidized or free bus pass, a large increase from 2006 (1%) and 2012 (25%, see Figure 15 on page 23). Nearly 40% of these employees reported using their bus pass. If it was offered, about 35% of those without this option said they would take advantage of it. Increases were also seen in the proportion of employed respondents saying their employer offered telecommuting options, and lockers and shower facilities.

Figure 13: Employed Respondents Access to, Use of and Willingness to Use Employer-Provided Transportation Options, 2018

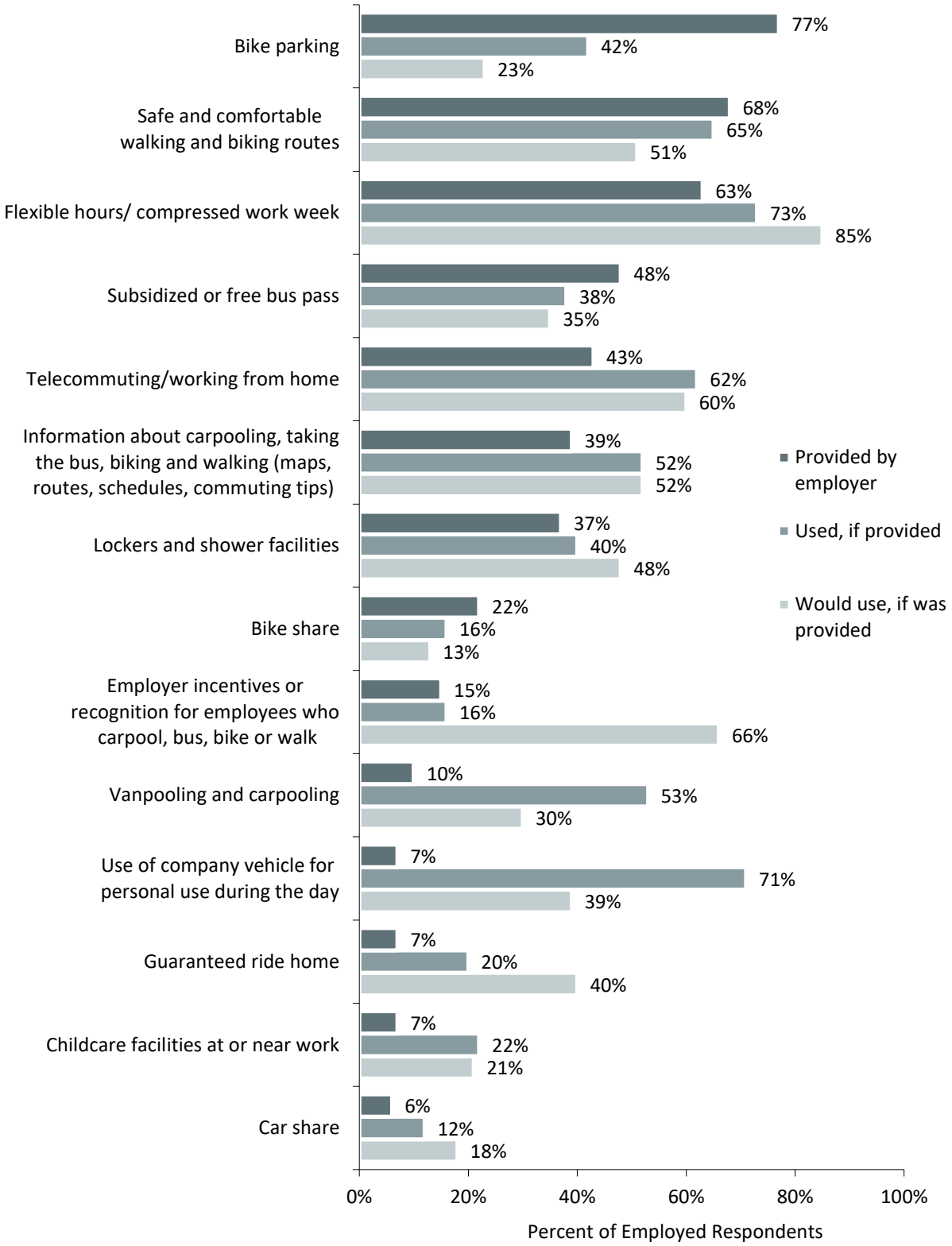
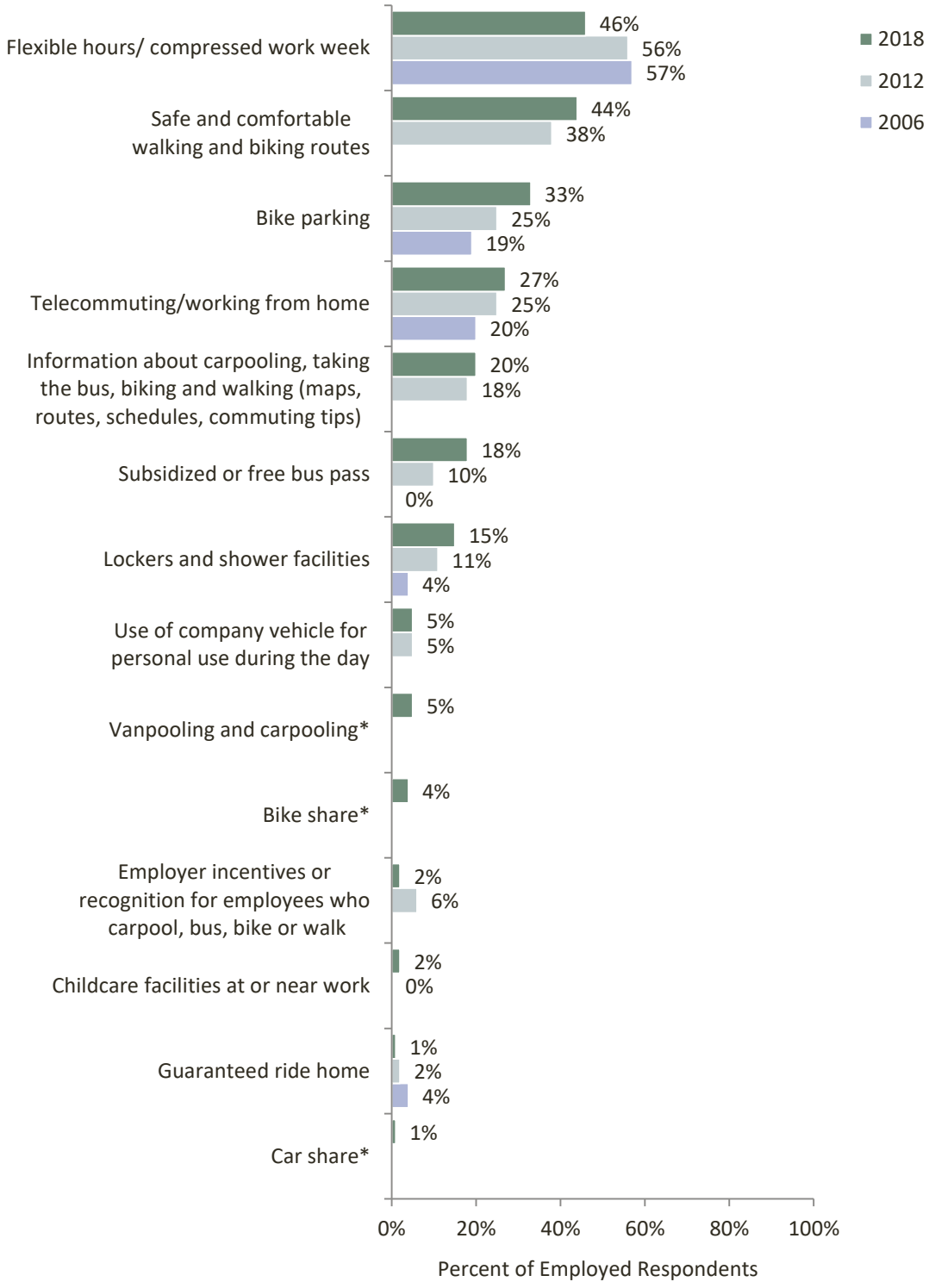
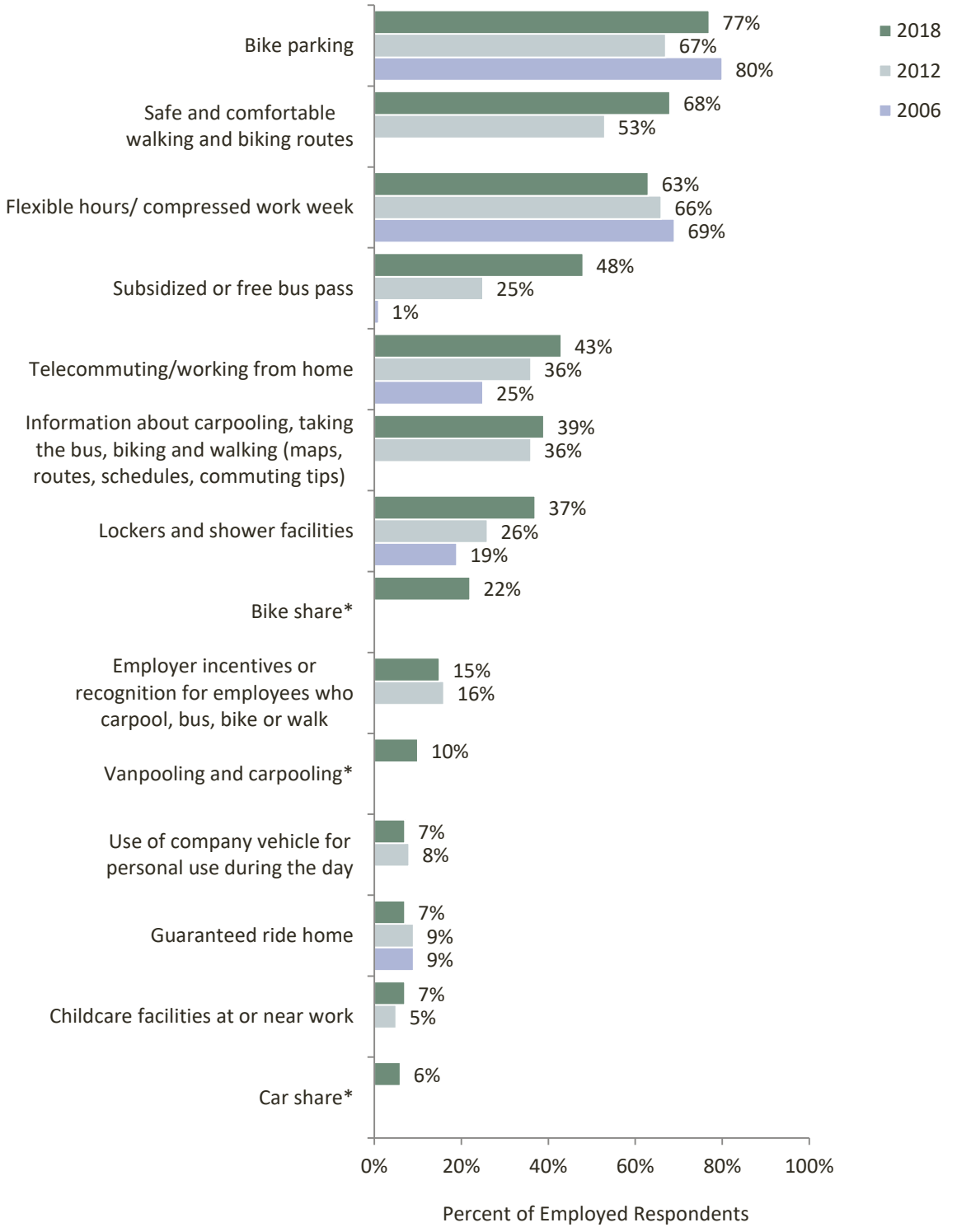


Figure 14: *All Employed Respondents* Use of Employer-Provided Transportation Options, by Year



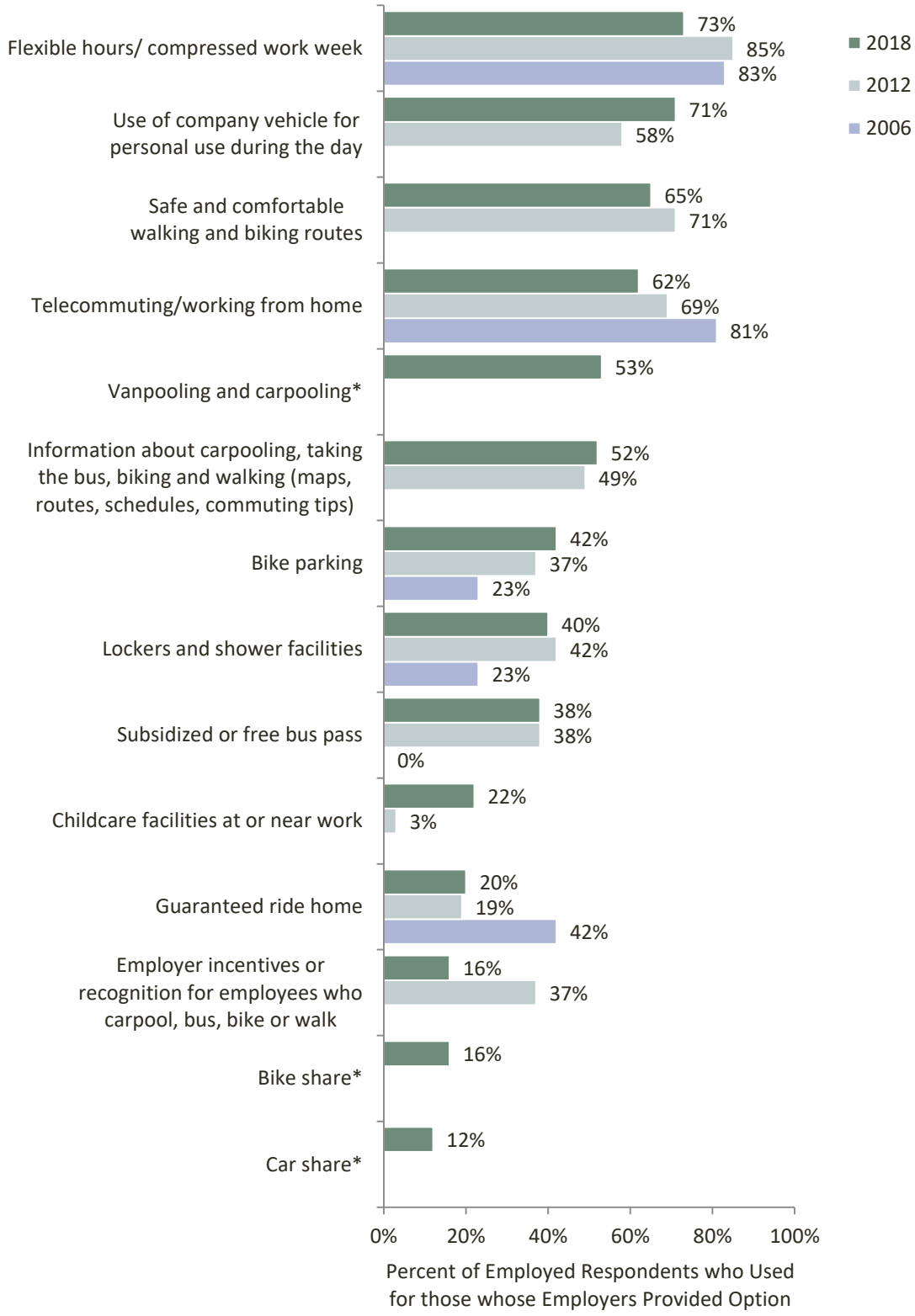
**In 2006 and 2012 items were combined "Ridesharing, car or vanpooling, car sharing" (5% in 2006 and 7% in 2012)*

Figure 15: Employer-Provided Transportation Options for Employed Respondents, by Year



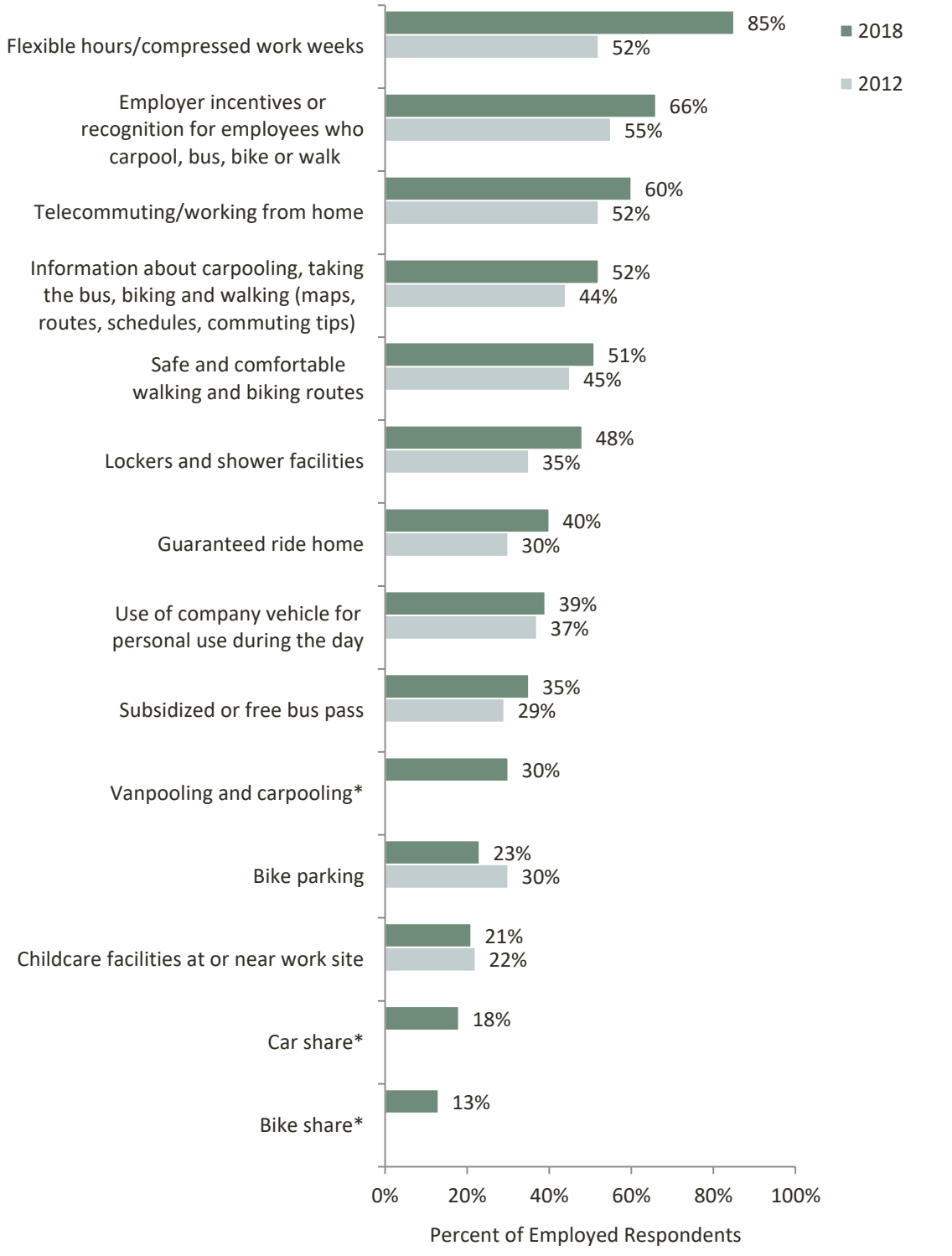
**In 2006 and 2012 items were combined "Ridesharing, car or vanpooling, car sharing" (12% in 2006 and 16% in 2012)*

Figure 16: Employed Respondents Use of *Employer-Provided* Transportation Options, by Year



**In 2006 and 2012 items were combined "Ridesharing, car or vanpooling, car sharing" (42% in 2006 and 43% in 2012)*

Figure 17: Employed Respondents Willingness to Use Transportation Options, *if they were Provided*, by Year



**In 2012 items were combined "Ridesharing, car or vanpooling, car sharing" (7% in 2012). This part of the question was not included in 2006.*

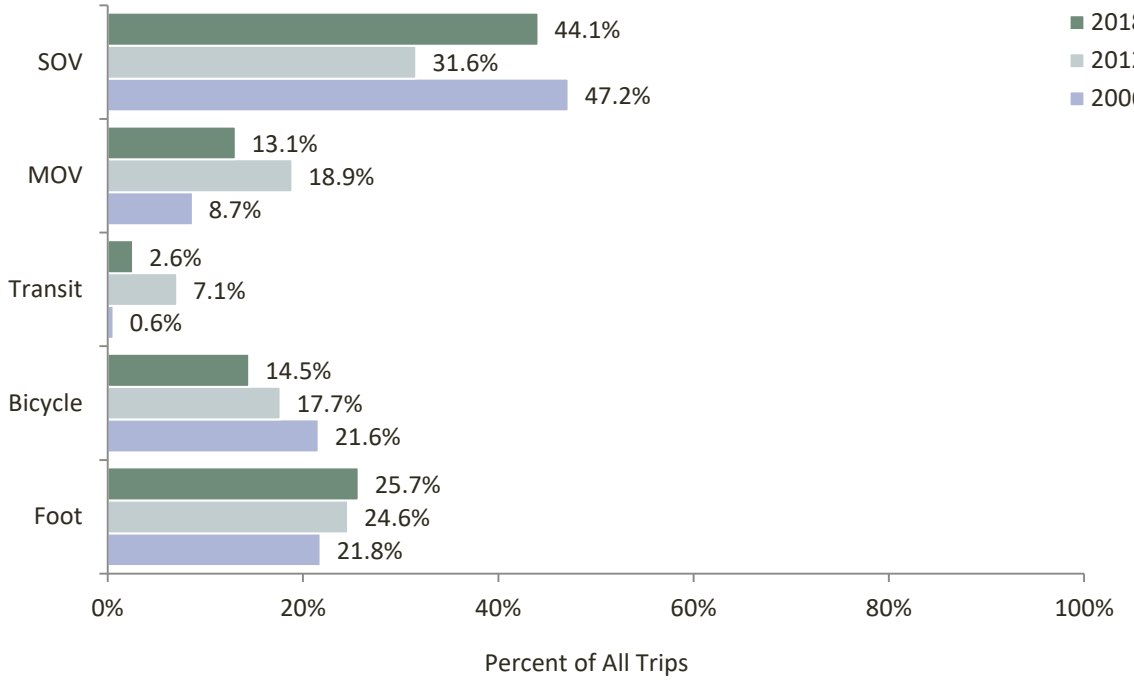
Modal Share of Northern Arizona University Students' Travel

Student enrollment at the Northern Arizona University (NAU) Flagstaff campus was about 23,140 in fall 2018, a significant increase in enrollment compared to the past survey years (18,341 in fall 2012). The transportation choices made by the students for all trips are displayed in Figure 18, and for the school commute trips in Figure 19 on the next page.[4]

The modal share for this group was somewhat different than the rest of the population due to the students' high use of alternate modes; 44% of all trips made by University students were made by driving alone (see Figure 18), compared to 55% of all respondents' trips (see Figure 6). Bicycle and walking trips accounted for 40% of all trips made by NAU students, a much higher proportion than among the general population (19%).

SOV use decreased among NAU students from 2006 (47%) to 2012 (32%), but increased in 2018 to 44%. This level of volatility is likely at least partly due to the small number of student respondents in 2018 (26 total; only 4 of which were in dorms) and past years. Use of transit increased from 1% in 2006 to 3% in 2018.

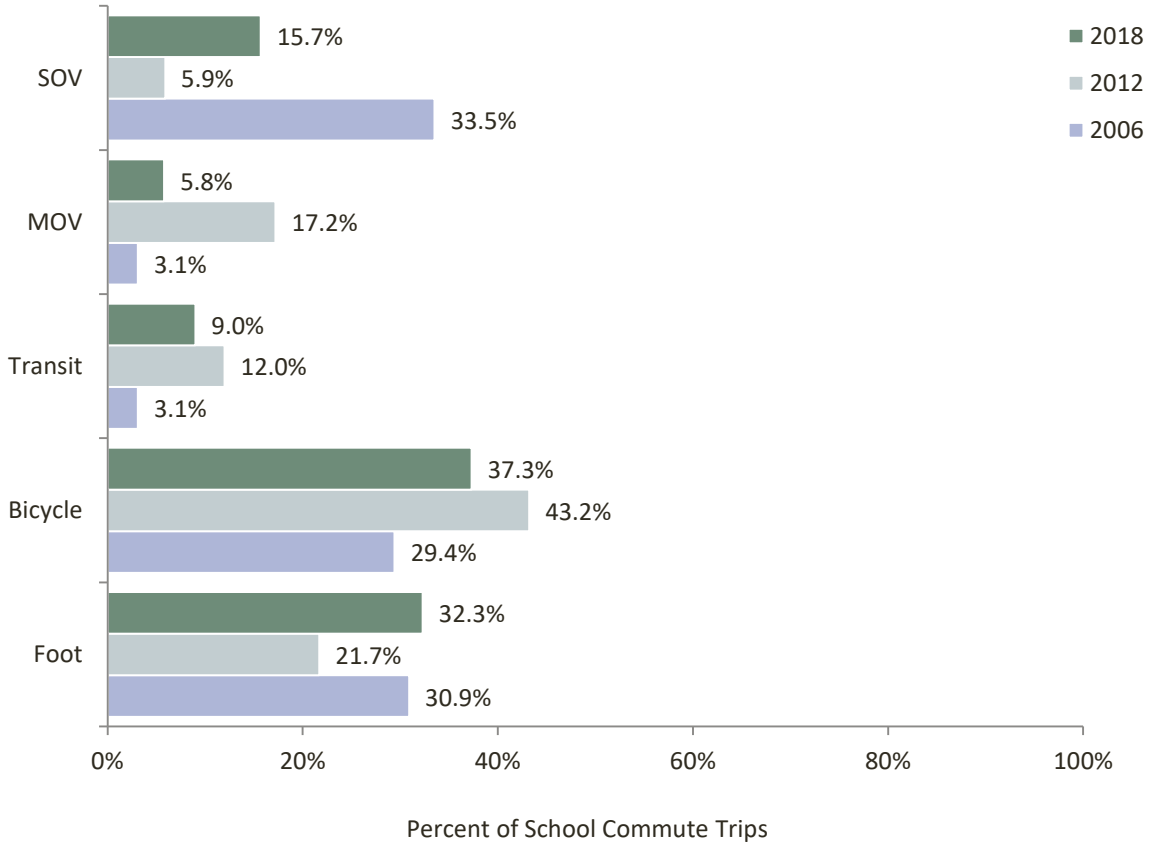
Figure 18: Modal Share of All Trips Made by NAU Students, by Year



[4] Included in this figure are trips for which the recorded purpose was "school". School trips were not linked as work commute trips were, so parts of the trip that were linked would not be included. For example, if a student walked 2 blocks to the bus, rode the bus for 1 mile, and then walked 3 blocks to school, only the last leg of that trip would be recorded as "school". The other two legs would be recorded as "change travel mode."

A smaller proportion of the school commute trips of University students in 2018 (16%) compared to 2006 (34%) were made by driving alone, while a greater proportion were made by other modes. Biking and walking trips accounted for two-thirds of the school commute trips (37% by bicycle and 32% by foot). As observed for all trips by NAU students, SOV use for the school commute decreased over the study period. However, transit, bicycle and MOV trips increased.

Figure 19: Modal Share of NAU Students' School Commute, by Year



Modal Share of Children's School Commute

About one in five of those participating in the trip diary survey reported their household included one or more child under age 16 (22% in 2006, 20% in 2012 and 19% in 2018). Those with school-age children were asked how their children got to and from school. As shown in Table 10, most children were driven to school; either with one child in the car (31%) or with several children (29%). The next most common transportation method was a school bus, used by 33% of children. Few or no children biked to school, but 9% did walk to school.

Table 10: Modal Share of Respondents' Children's School Commute, by Year

For all children (under the age of 16) living in your household, please… check the box that indicates their most frequently used travel mode to school	Percent of Respondent's Children		
	2018 (N=50)	2012 (N=70)	2006 (N=70)
Walk	9%	20%	10%
Bicycle	0%	1%	1%
School bus	33%	27%	14%
Mountain Line bus	0%	1%	0%
Driven alone	31%	27%	38%
Driven with other children	29%	24%	37%

**Percents may add to more than 100% as children in same household may use different modes.*

When examining the school commute modes of children by their age, it can be seen that a greater proportion of the children aged 6 to 10 rode a school bus while those older or younger were more likely to be driven to school. Results were fairly similar to results from student tallies conducted by Coconino County's Safe Routes to School Coordinator (based on tallies from 12 classrooms at 4 schools in spring 2012), although those tallies showed a greater percent of children being driven in a family vehicle, and a smaller proportion using a school bus.

Table 11: Modal Share of Respondents' Children's School Commute by Age of Child, 2018

'For all children (under the age of 16) living in your household, please indicate their age and then check the box that indicates their most frequently used travel mode to school.	Percent of Respondents' Children				Coconino County's Safe Routes to School Coordinator Tallies Spring 2012
	Aged 0 to 5	Aged 6 to 10	Aged 11 to 15	All Children	
Walk	2%	13%	10%	10%	18%
Bicycle	0%	0%	0%	0%	3%
School bus	20%	44%	12%	30%	19%
Mountain Line bus	0%	0%	0%	0%	0%
Driven alone	43%	41%	39%	31%	
Driven with other children	39%	6%	45%	31%	60%

Trip Characteristics

This section of the report explores the characteristics of the trips made by Flagstaff area residents. Table 12, below, displays summary trip characteristics for all trips, regardless of mode of travel. On average, respondents took about 5 trips each during the 24-hour period assigned to them, with an average trip length of 4 miles. The average trip took about 15 minutes to complete. Average total miles traveled per person was 22 miles in a 24-hour period. Approximately 4% of respondents made no trips on their assigned travel day.

Compared to past years, respondents made a similar number of trips in a day but traveled a shorter total distance.

Table 12: Summary Trip Characteristics of Trips Made Via All Modes, by Year

Trip Characteristics	2018	2012	2006
Percent of people who did not leave the house on assigned travel day	4.3%	2.5%	5.5%
Average number of trips per day per person	5.0 trips	5.2 trips	5.3 trips
Average number of trips per day per person who made at least one trip	5.2 trips	5.3 trips	5.6 trips
Average number of miles traveled per day per person[5]	21.0 miles	26.9 miles	27.5 miles
Average number of miles traveled per day per person who made at least one trip[5]	22.0 miles	27.0 miles	29.1 miles
Average estimated trip length in miles[5]	4.2 miles	5.1 miles	5.3 miles
Average estimated trip time in minutes	15 minutes	15 minutes	17 minutes
Average miles per hour	17.0 mph	17.5 mph	17.0 mph

[5] Trip Diary Study participants are asked to record the estimated distance in miles or blocks of every trip they make. Thus, trip distance is not measured objectively, but is determined by the respondents' self-report.

Comparisons of Trip Characteristics of U.S. Residents to Flagstaff Area Adult Residents

Table 13 below compares the trip characteristics of travel completed by Flagstaff area residents to trips made by residents across the U.S. The average number of trips made per day was somewhat higher for Flagstaff area residents than what was observed nationally. The average trip distance, however, was shorter.

Table 13: Travel Characteristics, Flagstaff Compared to the U.S., by Year

	Flagstaff Area			NHTS*				
Characteristic	2018	2012	2006	2017	2009	2001	1995	1990
Average number of trips (Trips per person per day)	5.0	5.2	5.3	3.4	3.8	4.1	4.3	3.8
Average trip distance, all trips in miles	5.2	5.1	5.3	10.7	9.8	10.0	9.1	9.5
Average daily distance traveled in miles	21	26.9	27.5	36.1	36.1	40.3	38.7	34.9
Average work-related trip distance in miles	5.0	6.2	6.5	11.5	11.8	12.1	11.6	10.7

** National Household Transportation Study*

Those who lived in the "core" area of the city traveled fewer miles per day and made trips of shorter distances than did those who lived in the rest of the city (see Table 14). Those who lived outside of the city had fewer trips on average, but an even greater number of miles per day and had trips of greater length.

In the core area, a decrease was observed in the average trip length and in the total miles traveled in a day in 2018 compared to 2006. This is likely due to the increased number of students in the core area.

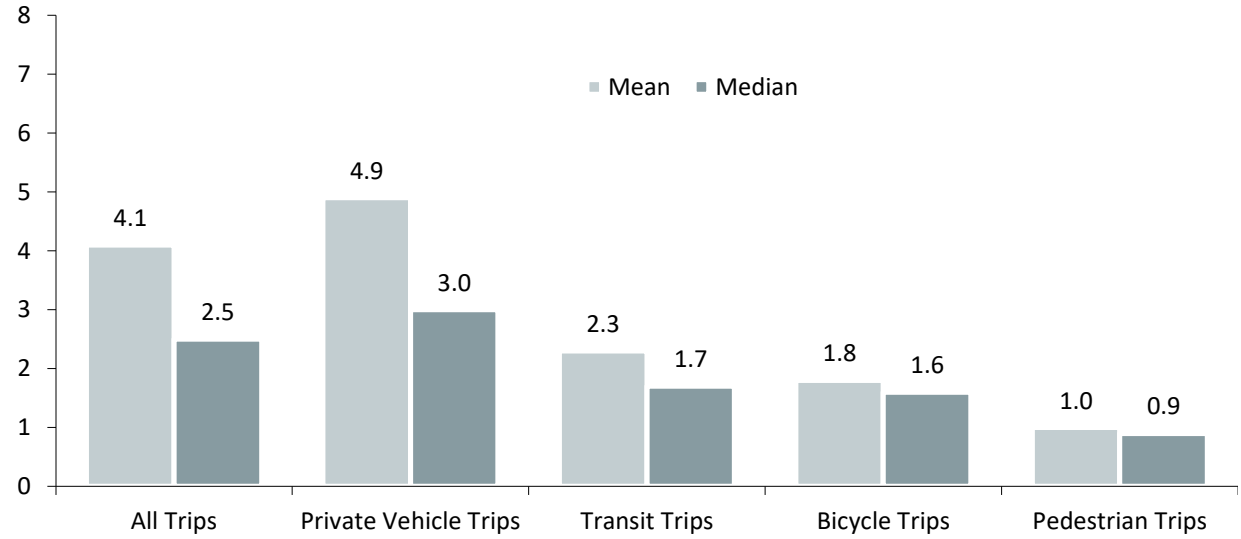
Table 14: Summary Trip Characteristics of Trips Made Via All Modes by Area of Residence, by Year

	Core of Flagstaff			Rest of Flagstaff			Flagstaff			Rest of FMPO		
Trip Characteristics	2018	2012	2006	2018	2012	2006	2018	2012	2006	2018	2012	2006
Percent of people who did not leave the house on assigned travel day	4.4%	0.0%	4.8%	4.5%	2.8%	6.6%	4.5%	1.9%	6.0%	4.5%	5.3%	3.0%
Average number of trips per day per person	4.8	5.6	5.2	5.4	5.1	5.5	5.3	5.1	5.4	4.4	5.4	4.9
Average number of trips per day per person who made at least one trip	5.0	5.6	5.5	5.7	5.0	5.9	5.5	5.2	5.7	4.6	5.7	5.1
Average number of miles traveled per day per person[5]	16.2	14.5	23.5	19.9	26.1	27.6	19.0	22.4	26.2	30.6	43.8	34.1
Average number of miles traveled per day per person who made at least one trip[5]	17.0	14.6	24.6	21.0	27.0	29.6	20.0	22.9	27.9	32.0	46.5	35.4
Average estimated trip length in miles[5]	2.9	2.2	4.8	3.8	5.3	5.1	3.5	4.2	5.0	6.8	8.0	6.9
Average estimated trip time in minutes	14	14	14	14	15	17	14	15	16	18	17	17

Trip Distance

In Figure 20 trip distances are exhibited by mode of travel. As would be expected, trips made by walking or biking tended to be of shorter distance than were trips made in private vehicles. The median trip length (indicating the trip distance at which half the trips are of that length or longer and half are shorter) of private vehicles was 3.0 miles, compared to a median trip length of 1.6 miles for bicycle trips and 0.9 miles for trips made by foot. The median length of a transit trip was 1.7 miles, indicating most transit trips were made for relatively short distances.

Figure 20: Trip Distance by Travel Mode, 2018



The large majority of bicycle (80.3%) trips and virtually all pedestrian trips (94.5%) were less than 2.5 miles in distance. Trips of this distance comprised about 37% of trips made via private vehicle.

Table 15: Trip Distance by Mode of Travel, 2018

	Percent of Trips				
Trip Distance	**Private Vehicle**	**Transit**	**Bicycle**	**Pedestrian**	**All Modes**
0 - 0.49 miles	3.5%	0.9%	15.9%	21.1%	6.3%
0.5 thru 0.99 miles	7.6%	11.9%	9.5%	31.5%	10.7%
1.00 thru 2.49 miles	25.9%	41.3%	54.9%	41.9%	30.4%
2.50 thru 4.99 miles	32.7%	37.8%	17.2%	3.9%	28.4%
5.00 thru 9.99 miles	21.7%	8.0%	2.0%	1.6%	17.4%
10.00 thru 14.99 miles	5.9%	0.0%	0.5%	0.0%	4.6%
15.00 thru 19.99 miles	0.6%	0.0%	0.0%	0.0%	0.5%
20.00 or more miles	2.1%	0.0%	0.0%	0.0%	1.6%
Total	100%	100%	100%	100%	100%

The modal share of trips can be examined by trip distance. Private vehicles account for a smaller, but still significant, share of trips of less than one-half mile (42%) and trips of one-half to one mile in length (54%) and a large majority of longer trips.

Table 16: Mode of Travel by Trip Distance, 2018

Travel Mode	0.00 - 0.49 miles	0.50 thru 0.99 miles	1.00 thru 2.49 miles	2.50 thru 4.99 miles	5.00 thru 9.99 miles	10.00 thru 14.99 miles	15.00 thru 19.99 miles	20.00 or more miles	Total
Private Vehicle	42.2%	54.4%	65.5%	88.7%	96.2%	99.2%	100.0%	100.0%	77.1%
Transit	0.6%	4.5%	5.5%	5.4%	1.9%	0.0%	0.0%	0.0%	4.0%
Bicycle	17.7%	6.3%	12.7%	4.3%	0.8%	0.8%	0.0%	0.0%	7.0%
Pedestrian	39.5%	34.9%	16.3%	1.6%	1.1%	0.0%	0.0%	0.0%	11.8%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Trip Start Times

Trip start and end times were recorded by respondents as they kept track of their travel throughout the day. The graph in Figure 21 shows when travel activity took place in 2018. Most travel occurred between 6:00 am and 7:00 pm, with larger spikes during the morning and afternoon commute times and mid-day or a lunch hour. Similar patterns with less pronounced spikes occurred in 2006 and 2012.

Figure 21: Trip Start Time, 2018

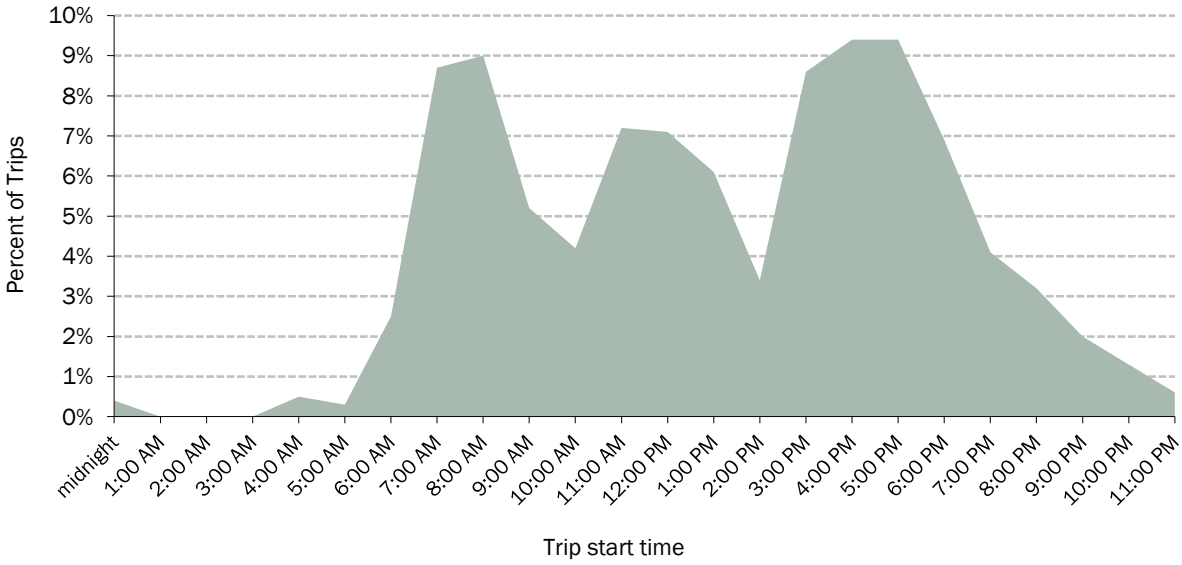


Figure 22: Trip Start Time, 2012

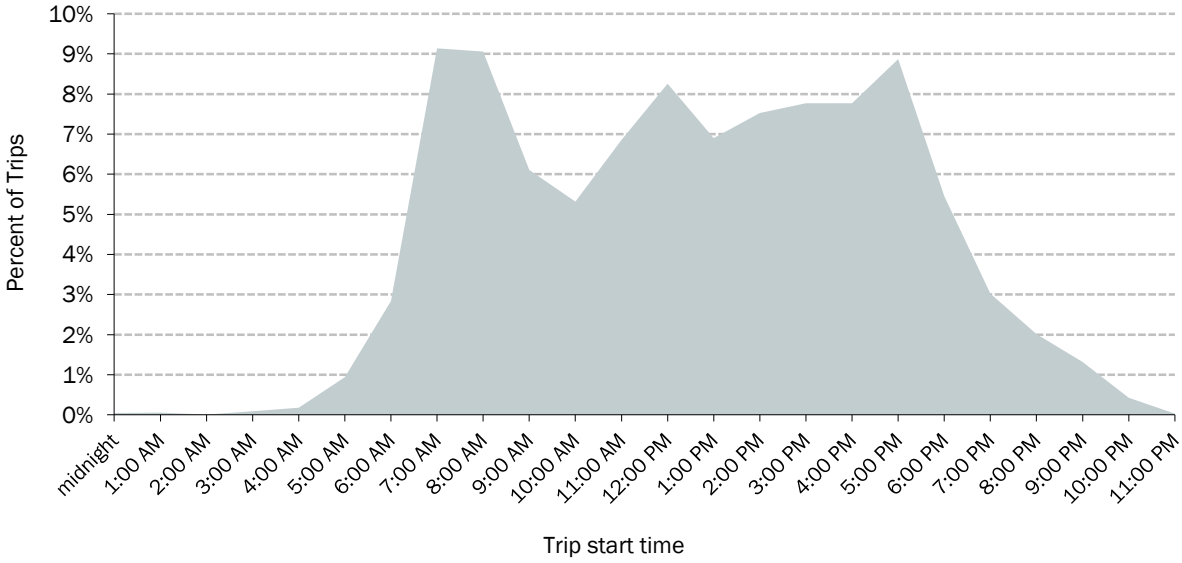
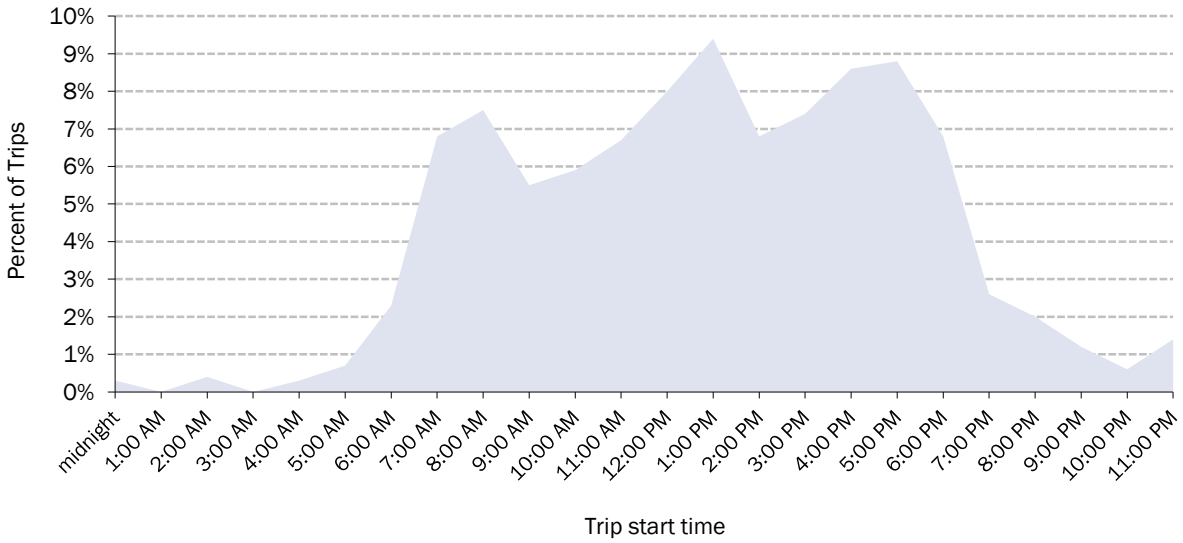


Figure 23: Trip Start Time, 2006



Purpose of Travel

In addition to recording information about the time of day and mode of transportation used for each trip, respondents were also asked to document the purpose of each trip they made. Table 17 shows the reasons for travel by trips made, and by miles traveled, while Table 18 and Table 19 show the modal share by trip purpose and the purpose of trips by the mode of travel used to make the trip.

Note that the trip purpose "school" is for respondents who completed the trip diary and are attending a college or university as a student. It is different from the proportion of respondents' children using various modes to get to school that is discussed on page 28. Additionally, respondents who work at a university or college would choose "work commute" if they went to the university or college to work.

Aside from the "go home" trips (about 1 in 3 of all trips), work trips accounted for one of the largest proportion of trip purposes; 20% of trips and 22% of miles.

Table 17: Trip Purpose, by Year

	Percent of Trips			Percent of Miles		
Purpose of Trip	**2018**	**2012**	**2006**	**2018**	**2012**	**2006**
Go home	32%	31%	30%	33%	29%	35%
Work commute	12%	11%	12%	14%	14%	13%
Other work/business	8%	10%	10%	8%	14%	13%
Shopping	12%	11%	9%	8%	7%	5%
Drive passenger	9%	8%	6%	10%	10%	11%
Social/recreation	8%	8%	9%	11%	14%	8%
Personal business	6%	9%	11%	8%	7%	10%
Eat a meal	5%	6%	5%	3%	2%	2%
Change travel mode	5%	1%	3%	2%	0%	1%
School	3%	5%	5%	1%	3%	2%
Other	0%	<1%	<1%	0%	<1%	<1%
Total	100%	100%	100%	100%	100%	100%

Trips made for the work commute, personal business, shopping and social/recreation purposes were most likely to have been made by single-occupancy vehicles, while trips made to eat a meal or drive a passenger were least likely to have been made by driving alone.

Table 18: Mode of Travel for Each Trip Purpose, by Year

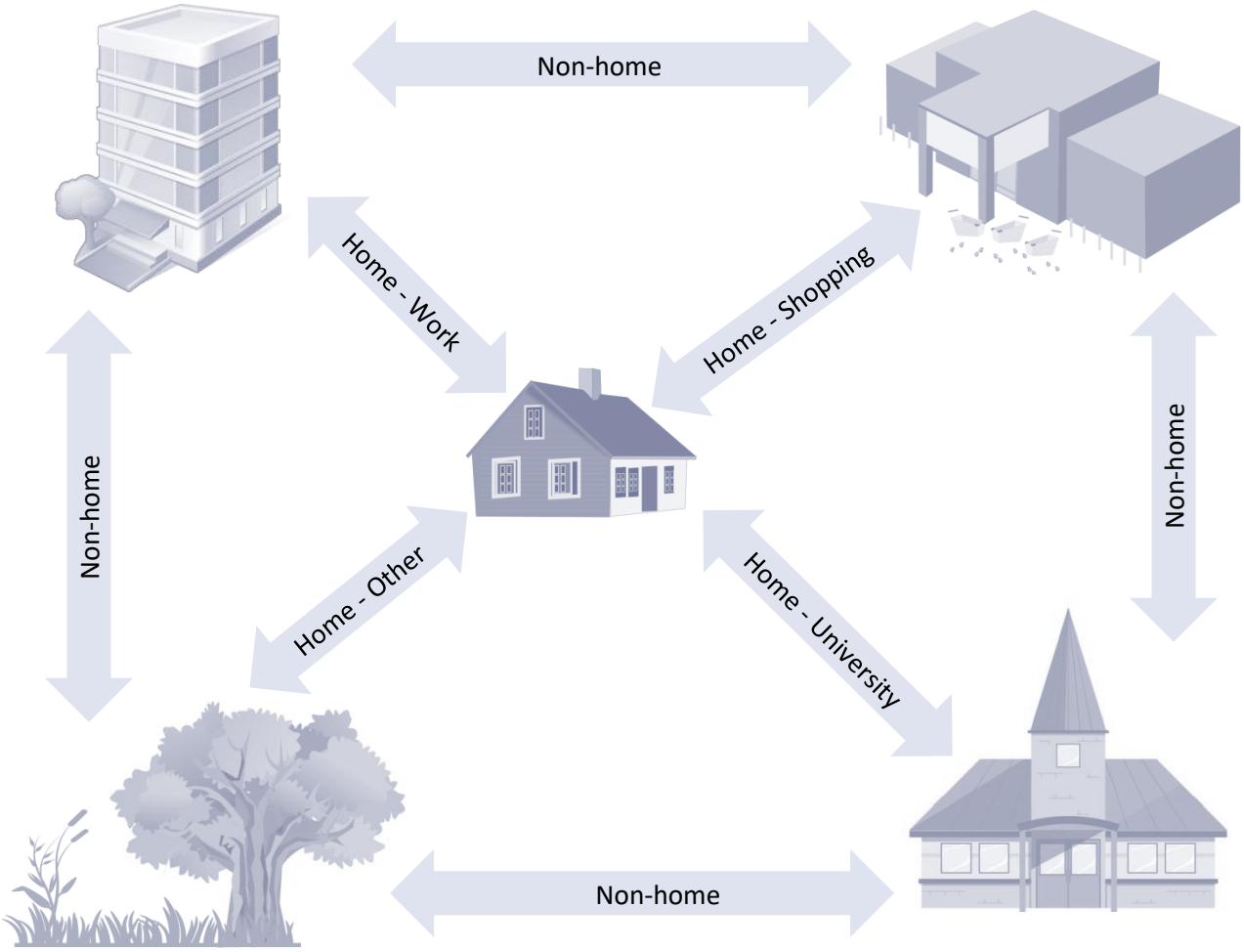
	Percent of Trips														
	SOV			MOV			Transit			Bicycle			Foot		
Purpose of Trip	2018	2012	2006	2018	2012	2006	2018	2012	2006	2018	2012	2006	2018	2012	2006
Go home	34.5%	33.4%	29.6%	28.7%	22.9%	33.2%	14.5%	27.7%	32.8%	28.7%	37.3%	27.6%	33.5%	33.5%	28.1%
Work commute	16.7%	17.0%	15.7%	1.3%	3.9%	5.4%	1.3%	4.4%	0.0%	23.3%	6.0%	6.3%	10.1%	8.4%	8.8%
Other work/ business	9.3%	8.7%	13.2%	6.3%	14.2%	4.6%	2.7%	0.0%	0.0%	14.3%	9.2%	7.4%	3.0%	9.3%	8.1%
Shopping	13.0%	13.6%	9.2%	14.8%	12.8%	12.4%	4.2%	5.0%	5.7%	4.6%	0.5%	14.8%	7.9%	6.1%	1.2%
Personal business	8.2%	12.0%	12.0%	6.5%	7.6%	10.1%	0.0%	11.2%	0.0%	4.1%	0.5%	19.2%	1.1%	5.4%	6.7%
Social/recreation	6.1%	7.1%	6.3%	8.4%	8.1%	9.2%	11.7%	0.0%	32.8%	2.7%	3.3%	6.3%	19.5%	12.8%	17.2%
Eat a meal	5.0%	3.5%	4.0%	5.0%	8.9%	6.8%	0.0%	0.0%	5.7%	0.8%	6.8%	2.2%	7.3%	13.4%	7.0%
Drive passenger	4.9%	3.8%	4.0%	26.6%	18.6%	17.6%	0.0%	15.8%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	1.0%
School	1.6%	0.7%	3.2%	1.0%	2.8%	0.6%	4.1%	23.7%	5.4%	18.2%	36.4%	16.2%	7.2%	7.8%	10.7%
Change travel mode	0.8%	0.0%	2.4%	1.3%	0.2%	0.1%	61.4%	12.2%	17.6%	3.4%	0.0%	0.0%	10.5%	1.5%	10.5%
Other	0.0%	0.1%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 19: Modal Share by Trip Purpose, by Year

Modal Share of All Trips		SOV	MOV	Transit	Bicycle	Foot	Total
Go home	2018	59.8%	19.8%	1.8%	6.2%	12.3%	100%
	2012	55.6%	20.4%	3.1%	7.4%	13.5%	100%
	2006	56.2%	23.3%	2.5%	6.5%	11.6%	100%
Personal business	2018	71.3%	22.2%	0.0%	4.5%	2.0%	100%
	2012	66.0%	22.3%	4.1%	0.3%	7.2%	100%
	2006	61.3%	19.0%	0.0%	12.2%	7.4%	100%
Shopping	2018	60.6%	27.5%	1.4%	2.7%	7.8%	100%
	2012	61.0%	30.7%	1.5%	0.3%	6.6%	100%
	2006	57.0%	28.4%	1.4%	11.5%	1.6%	100%
School	2018	26.0%	6.3%	4.9%	37.6%	25.2%	100%
	2012	6.9%	15.1%	15.8%	43.2%	19.1%	100%
	2006	40.0%	2.7%	2.7%	25.4%	29.2%	100%
Work commute	2018	74.6%	2.3%	0.4%	13.1%	9.6%	100%
	2012	76.9%	9.4%	1.3%	3.2%	9.2%	100%
	2006	77.0%	9.8%	0.0%	3.9%	9.4%	100%
Other work/ business	2018	64.5%	17.5%	1.4%	12.4%	4.3%	100%
	2012	44.4%	38.6%	0.0%	5.5%	11.4%	100%
	2006	75.0%	9.7%	0.0%	5.3%	10.0%	100%
Social/ recreation	2018	41.3%	22.5%	5.8%	2.3%	28.1%	100%
	2012	47.5%	29.1%	0.0%	2.7%	20.7%	100%
	2006	40.6%	21.9%	8.3%	5.1%	24.1%	100%
Eat a meal	2018	57.7%	23.2%	0.0%	1.1%	18.1%	100%
	2012	28.2%	38.8%	0.0%	6.5%	26.5%	100%
	2006	47.0%	29.3%	2.7%	3.2%	17.8%	100%
Drive passenger	2018	31.9%	68.1%	0.0%	0.0%	0.0%	100%
	2012	24.8%	65.5%	6.9%	0.0%	2.8%	100%
	2006	37.1%	60.9%	0.0%	0.0%	2.1%	100%
Change travel mode	2018	9.0%	6.0%	53.3%	5.1%	26.5%	100%
	2012	3.6%	8.1%	60.4%	0.0%	27.9%	100%
	2006	44.2%	0.9%	12.9%	0.0%	42.1%	100%

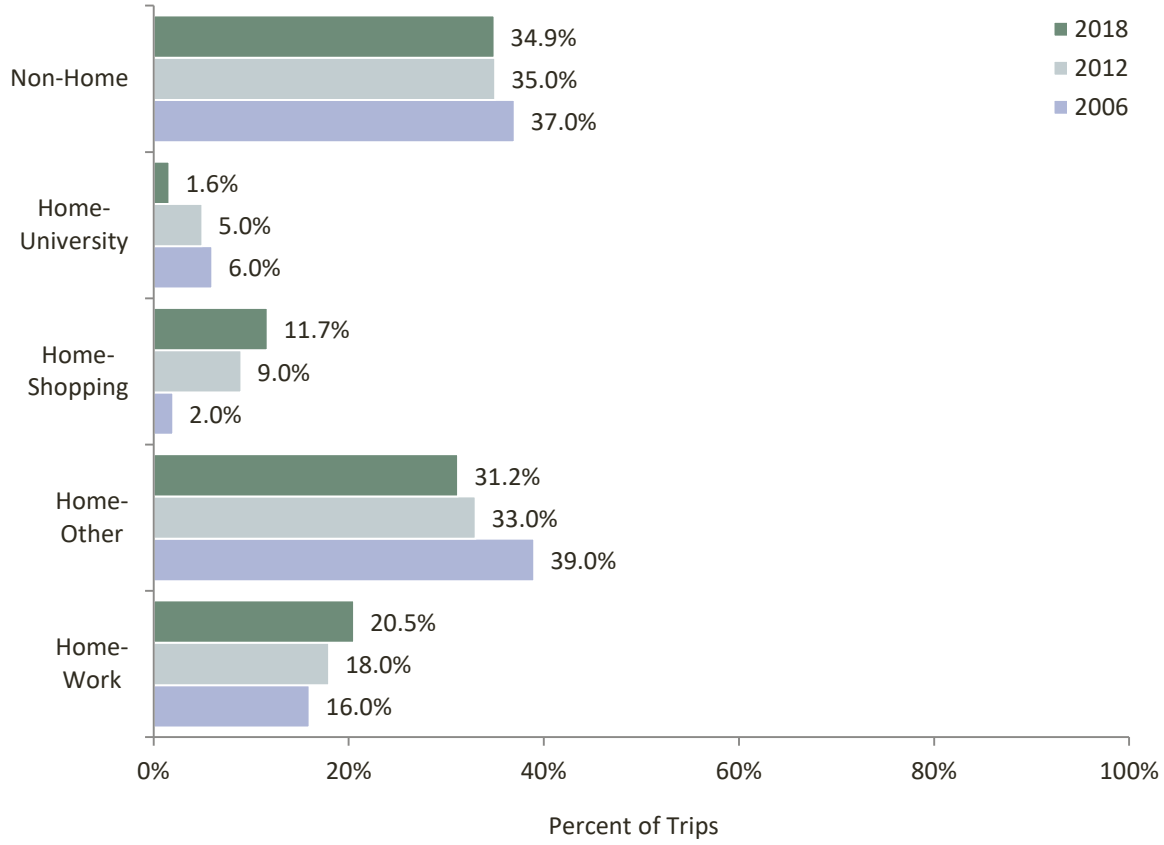
Traditional transportation planning has often focused on origins and destinations of trips, particularly those based at home or work, to study trends regarding trip purpose. Thus trips have often been classified in more aggregated categories depicting "home-based work" trips, "home-based other" trips and "non-home" trips. For the purposes of the Flagstaff Trip Diary Survey, two additional trip purposes were added to the classification scheme, as shown in the Figure below.

Figure 24: Trip Typology



Nearly two-thirds of respondents' trips were made directly to or from home (see Figure 25), while one third were made between non-home origins and destinations (meaning these trips both started **and** ended somewhere other than the respondent's home). The percent of all trips made between home and shopping increased (2% in 2006 to 12% in 2018) as did home to work (16% in 2006 to 21% in 2018) while trips between home and the university decreased (6% in 2006 to 2% in 2018) as did home to other places (39% in 2006 to 31% in 2018). A decrease in trips from home to University may be an artifact of having few students in the sample.

Figure 25: Trip Type, by Year



The longest average trip length was for home-work trips, which were about 5 miles on average (see Table 20). Trips between home and the University were the shortest (3.2 miles), Trips between home and shopping were also relatively short, with an average distance of 3.4 miles. Home-other and non-home trips were about 4 miles on average.

About three-quarters (76.2%) of trips made directly between home and work were made by driving alone, while the other trip types were less likely to be made via SOV; most other origin-destination pairs were driven alone about half of the time.

Table 20: Average Trip Length and Duration by Trip Type, 2018

Trip Characteristics	Home-Other	Home-Work	Home-Shopping	Home-University	Non-Home
Average estimated trip length in miles[5]	4.3	5.3	3.4	3.2	3.8
Average estimated trip time in minutes	14	18	13	13	14

Table 21: Modal Share by Trip Type, by Year

Modal Share of All Trips		SOV	MOV	Transit	Bicycle	Foot	Total
Home-Other	2018	48.9%	33.7%	3.2%	2.3%	12.0%	100%
	2012	47.5%	27.5%	2.6%	4.4%	17.9%	100%
	2006	51.2%	29.6%	1.0%	5.8%	12.4%	100%
Home-Work	2018	76.2%	3.7%	0.5%	10.5%	9.1%	100%
	2012	78.2%	9.1%	1.0%	1.9%	9.8%	100%
	2006	78.8%	8.9%	0.0%	3.0%	9.3%	100%
Home-Shopping	2018	52.8%	18.9%	1.6%	9.1%	17.6%	100%
	2012	43.4%	38.9%	0.8%	10.8%	6.2%	100%
	2006	64.6%	28.6%	0.0%	3.9%	2.9%	100%
Home-University	2018	49.7%	10.1%	0.0%	8.6%	31.6%	100%
	2012	7.6%	16.0%	5.6%	46.3%	24.6%	100%
	2006	41.1%	5.0%	26.8%	17.0%	10.1%	100%
Non-Home	2018	50.1%	23.7%	7.8%	8.2%	10.2%	100%
	2012	48.3%	34.7%	5.7%	2.8%	8.6%	100%
	2006	55.4%	19.9%	0.8%	9.0%	15.0%	100%

Table 22: Trip Type by Mode of Travel, by Year

Modal Share of All Trips		Home-Other	Home-Work	Home-Shopping	Home-University	Non-Home	Total
SOV	2018	27.6%	27.9%	11.2%	1.5%	31.8%	100%
	2012	30.2%	27.4%	8.1%	0.7%	33.6%	100%
	2006	34.6%	22.3%	2.8%	4.3%	35.9%	100%
MOV	2018	47.8%	3.4%	10.1%	0.8%	37.9%	100%
	2012	32.6%	5.9%	13.5%	2.8%	45.1%	100%
	2006	53.8%	6.7%	3.4%	1.4%	34.6%	100%
Transit	2018	24.5%	2.6%	4.7%	0.0%	68.2%	100%
	2012	24.9%	5.3%	2.1%	7.9%	59.8%	100%
	2006	16.4%	0.0%	0.0%	71.0%	12.6%	100%
Bicycle	2018	10.2%	30.7%	15.4%	2.1%	41.6%	100%
	2012	23.8%	5.7%	17.1%	36.9%	16.5%	100%
	2006	31.4%	6.7%	1.4%	14.3%	46.3%	100%
Foot	2018	31.9%	15.7%	17.6%	4.4%	30.4%	100%
	2012	46.9%	14.1%	4.7%	9.6%	24.7%	100%
	2006	38.3%	12.1%	0.6%	4.9%	44.2%	100%

Trip Chaining

Trip chaining refers to "strings" of trips that are linked; for example, combining a trip to the post office with a trip to the grocery store. Trips recorded by study participants were coded as "chains" if the time spent at the destination was less than 20 minutes. Not all trip chains are chaining of errands; trips to pick up or drop off a passenger usually are chained (e.g., dropping off a child at school on the way to work) as are trips made via multiple modes (e.g., walking to a bus stop and then riding the bus to work).

About 23% of respondents made at least one trip chain on the day they recorded their travel for the study (see Table 23 below). About one-quarter of respondents' trips were considered a segment of a "chained" trip; 5% as part of a work commute chain and 22% as part of a chain not associated with the work commute (see Figure 26). Compared to 2006, fewer trips were considered part of a chain in 2018.

Figure 26: Trip Chaining, by Year

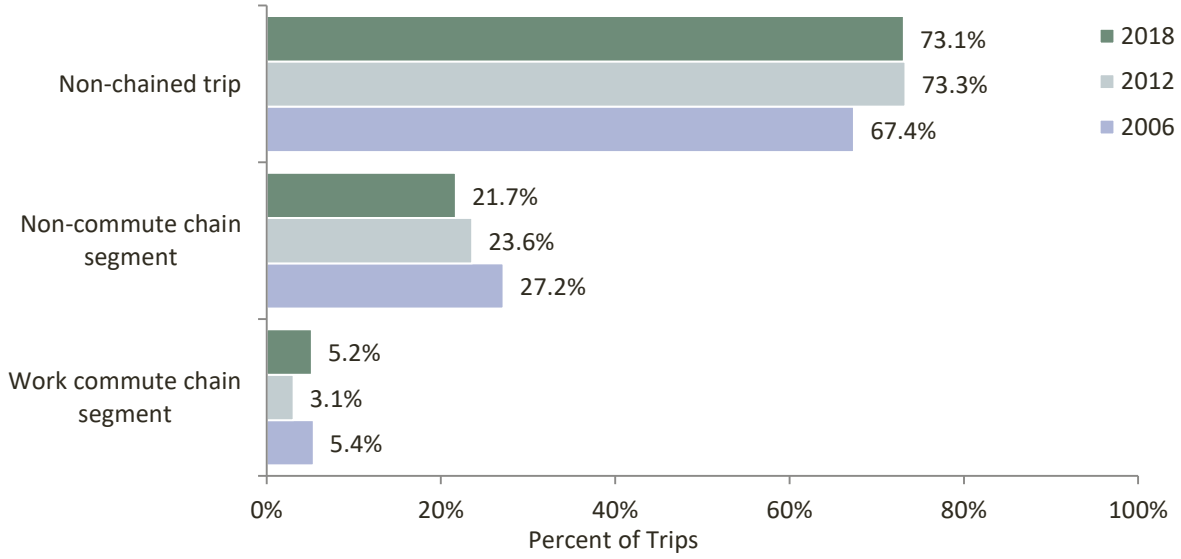


Table 23: Number of Trip Chains Made by Respondents, by Year

	Percent of Respondents		
Number of Trip Chains Made	**2018**	**2012**	**2006**
None	77.1%	69.0%	47.9%
1	6.8%	26.1%	24.8%
2	12.7%	4.4%	19.8%
3	2.1%	0.5%	5.8%
4	0.6%	0.0%	1.5%
5	0.7%	0.0%	0.3%
Total	100%	100%	100%

Table 24 through Table 28 display additional information about trip chaining. Work commute chained segments were most likely to be by MOV or transit while other trained trips or non-chained trips were most often by SOV (see Table 24). Trips made by residents who lived outside of the city were more likely to be chained (34%) than were trips made by residents within Flagstaff (about 25%, see Table 26).

Table 24: Modal Share by Trip Chaining, 2018

	Percent of Trips		
Modal Share of All Trips	**Non-chained trip**	**Non-commute chain segment**	**Work commute chain segment**
SOV	57.1%	55.2%	36.1%
MOV	18.7%	26.4%	38.2%
Transit	2.0%	7.6%	11.2%
Bicycle	8.7%	3.1%	4.3%
Foot	13.5%	7.6%	10.2%
Total	100%	100%	100%

Table 25: Trip Chaining by Mode of Travel, 2018

	Percent of Trips				
Trip Chaining	**SOV**	**MOV**	**Transit**	**Bicycle**	**Foot**
Non-chained trip	69.7%	57.5%	33.0%	84.2%	77.5%
Non-commute chain segment	26.2%	31.5%	49.5%	11.9%	17.0%
Work commute chain segment	4.1%	11.0%	17.5%	3.9%	5.5%
Total	100%	100%	100%	100%	100%

Table 26: Trip Chaining by Area of Residence, by Year

Trip Chaining		**Non-chained trip**	**Non-commute chain segment**	**Work commute chain segment**	**Total**
Core of Flagstaff	2018	78.2%	17.8%	4.0%	100%
	2012	78.9%	19.4%	1.8%	100%
	2006	80.2%	16.0%	3.8%	100%
Rest of Flagstaff	2018	73.5%	22.8%	3.6%	100%
	2012	72.9%	23.5%	3.5%	100%
	2006	63.5%	30.6%	5.9%	100%
Flagstaff	2018	75.0%	21.3%	3.7%	100%
	2012	75.0%	22.1%	2.9%	100%
	2006	68.9%	25.9%	5.2%	100%
Rest of FMPO	2018	65.9%	23.1%	11.0%	100%
	2012	67.0%	29.4%	3.6%	100%
	2006	61.0%	32.9%	6.2%	100%

Table 27: Modal Share by Trip Chaining by Area of Residence, 2018

Mode Share of All Trips	Core of Flagstaff			Rest of Flagstaff			Flagstaff			Rest of FMPO		
	Non-chained trip	Non-commute chain segment	Work commute chain segment	Non-chained trip	Non-commute chain segment	Work commute chain segment	Non-chained trip	Non-commute chain segment	Work commute chain segment	Non-chained trip	Non-commute chain segment	Work commute chain segment
SOV	34.5%	33.7%	6.8%	64.1%	58.8%	63.4%	54.9%	52.4%	45.3%	68.0%	65.3%	24.3%
MOV	12.0%	19.1%	5.1%	19.5%	27.0%	24.7%	17.1%	25.0%	18.4%	26.3%	31.3%	63.7%
Transit	4.6%	19.0%	42.7%	1.2%	6.6%	5.9%	2.2%	9.7%	17.7%	0.6%	0.0%	2.7%
Bicycle	17.9%	12.1%	2.6%	6.4%	0.1%	1.0%	10.0%	3.1%	1.5%	2.4%	3.2%	7.9%
Foot	31.1%	16.0%	42.7%	8.8%	7.6%	5.1%	15.8%	9.7%	17.1%	2.6%	0.2%	1.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 28: Trip Chaining by Trip Purpose, 2018

Trip Chaining	Go home	Personal business	Shopping	School	Work commute	Other work/ business	Social/recreation	Eat a meal	Drive passenger	Change travel mode
Non-chained trip	80.2%	61.0%	44.2%	84.3%	89.1%	79.5%	71.8%	61.5%	36.2%	17.0%
Non-commute chain segment	16.8%	35.5%	54.2%	14.7%	0.5%	20.0%	28.2%	29.5%	40.2%	59.4%
Work commute chain segment	3.1%	3.6%	1.6%	1.0%	10.3%	0.5%	0.0%	9.0%	23.5%	23.6%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Deliveries to the Home or Work

Study participants were asked whether they had any goods or services delivered to their work or home, as receipt of deliveries might reduce the need to make certain kinds of trips. About 8% of respondents had received at least one delivery on their assigned travel day (see Table 29). About 40% of these respondents felt that the delivery took the place of a travel trip (see Table 30). Slightly fewer respondents in 2006 received deliveries, and they were slightly more likely to feel that these trips replaced a trip. The net effect was that in all study years about 3% of all respondents received a delivery that they felt replaced a trip.

Table 29: Deliveries Received by Respondents, by Year

On the day you completed the travel diary, did you have any goods or services delivered to your work or home, such as a meal (pizza, etc.), groceries, haircuts or other goods and services? (Please include deliveries for items you ordered by phone, through a mail order catalogue, or via modem or Internet.)	Percent of Respondents		
	2018	2012	2006
No, did not receive deliveries	92%	91%	94%
Yes, received deliveries	8%	9%	6%
Total	100%	100%	100%

Table 30: For Respondents who had a Delivery, Percent that Replaced a Trip, by Year

Did the delivery substitute for a travel trip you might have made to seek the good or service?	Percent of Respondents		
		2012	2006
Yes	39%	39%	44%
No	61%	61%	56%
Total	100%	100%	100%

Figure 27: Percent of Respondents for whom a Delivery that Replaced a Trip, by Year

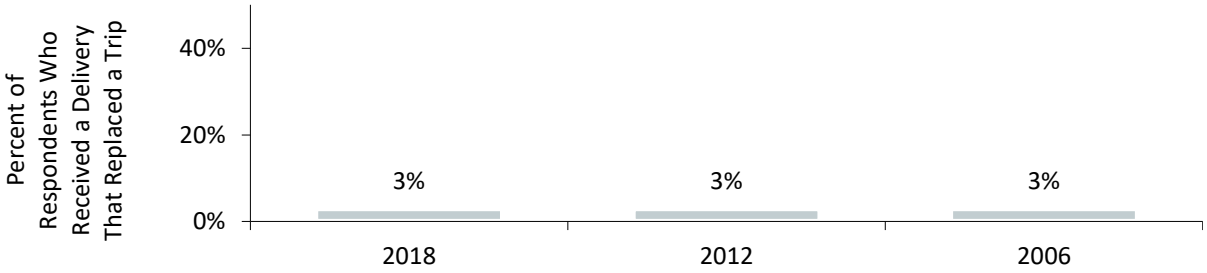


Table 31: Number of Trips Replaced by Receipt of Deliveries, for those with a Delivery

If deliveries substituted for a trip, how many trips were replaced?	2018
One	71%
Two or more	29%
Total	100%

Trip Characteristics of the Work Commute

The average commute distance of Flagstaff area residents in 2018 was 5 miles, a bit less than was observed in 2006 and 2012. However, the average duration of the work commute was similar, 17 minutes in 2018 compared to 16 minutes observed in 2012.

Table 32: Summary Trip Characteristics of All Work Commute Trips, by Year

Work Commute Trip Characteristics	2018	2012	2006
Average estimated trip length in miles	5.0 miles	6.2 miles	6.5 miles
Average estimated trip time in minutes	17 minutes	16 minutes	17 minutes
Average miles per hour	19.1 mph	20.6 mph	20.6 mph

Personal Motorized Vehicle Trip Characteristics

Table 33 and Table 34 summarize the trip characteristics for automobile trips. About three-quarters of respondents made at least one SOV trip on their assigned travel day. The average number of SOV trips per person per day was 2.7. About a third of respondents had made at least one MOV trip on their assigned travel day. The average trip distance was about 5 miles for SOV and MOV trips. The average trip duration in minutes was about 19 minutes for SOV trips, and about 14 minutes for MOV trips.

Table 33: Summary Trip Characteristics of Single Occupancy Vehicle Trips, by Year

Trip Characteristics	2018	2012	2006
Average number of SOV trips per day per person	2.7 trips	2.6 trips	3.0 trips
Percent of people making at least one SOV trip	73.0 %	71.4%	75.5%
Average number of SOV trips per day per person who made at least one SOV trip	3.8 trips	3.7 trips	4.0 trips
Average estimated trip length in miles	4.8 miles	5.6 miles	6.2 miles
Average estimated trip time in minutes	14 minutes	14 minutes	16 minutes
Average miles per hour of SOV trips	19.9 mph	21.1 mph	20.0 mph

Table 34: Summary Trip Characteristics of Multiple Occupancy Vehicle Trips, by Year

Trip Characteristics	2018	2012	2006
Average number of MOV trips per day per person	1.1 trips	1.4 trips	1.1 trips
Percent of people making at least one MOV trip	34.0 %	37.3%	32.5%
Average number of MOV trips per day per person who made at least one MOV trip	3.2 trips	3.8 trips	3.3 trips
Average estimated trip length in miles	5.4 miles	7.3 miles	7.2 miles
Average estimated trip time in minutes	14 minutes	18 minutes	20 minutes
Average miles per hour of MOV trips	19.3 mph	20.2 mph	20.5 mph

The National Household Transportation Study does not distinguish between personal vehicle trips made by driving alone or with others, so the characteristics of both SOV and MOV trips combined were examined. The average number of private vehicle trips per person per day was 4 trips (see Table 35). Just over 80% of respondents had made at least one private vehicle trip on the day they logged their travel. The average private vehicle trip length was 5 miles.

Table 35: Summary Trip Characteristics of Private Vehicle Trips, by Year

Trip Characteristics	2018	2012	2006
Average number of private vehicle trips per day per person	3.8 trips	4.0 trips	4.1 trips
Percent of people making at least one private vehicle trip	82.1%	82.7%	82.3%
Average number of private vehicle trips per day per person who made at least one such trip	5.5 trips	4.8 trips	5.0 trips
Average estimated trip length in miles	5.0 miles	6.2 miles	6.4 miles
Average estimated trip time in minutes	14 minutes	15 minutes	17 minutes
Average miles per hour of private vehicle trips	19.7 mph	20.8 mph	20.1 mph

Compared to the nation, Flagstaff area residents made about two more trips per day on average, but each trip was of a shorter distance. The number of personal vehicles per household was similar in the Flagstaff area compared to the U.S.

Table 36: Travel Characteristics for Personal Vehicles, Flagstaff Compared to the U.S. , by Year

	Flagstaff Area			NHTS*				
Characteristic	2018	2012	2006	2017	2009	2001	1995	1990
Average number of personal vehicle trips (Vehicle trips per person per day)	3.8	4.0	4.1	2.7	3.0	3.4	3.6	3.3
Average trip distance, personal vehicle trips in miles	5.0	6.2	6.4	9.6	9.7	9.9	9.1	8.9
Personal vehicles per household	1.80	1.92	1.86	1.88	1.86	1.89	1.78	1.77

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Vehicle Occupancy

The average vehicle occupancy for all automobile trips was about 1.4 persons per vehicle in all diary years. For MOV trips the average vehicle occupancy was about 2.4 persons per vehicle. Of all personal vehicle trips, 72% were made with just a single occupant in 2012, a somewhat higher proportion than in 2012,but similar to 2006.

Table 37: Vehicle Occupancy, by Year

	Percent of Trips		
Number of Occupants	**2018**	**2012**	**2006**
1	72%	64.6%	72.4%
2	23%	27.0%	19.1%
3	4%	6.8%	5.6%
4 or more	1%	1.6%	2.9%
Total	100%	100%	100%
Average vehicle occupancy for all automobiles	1.36 persons	1.46 persons	1.41 persons
Average vehicle occupancy for autos with at least two passengers	2.37 persons	2.30 persons	2.47 persons

Respondents specified whether the occupants in vehicle trips included other adults from the household, other adults, children from the household, or other children. When looking across all SOV and MOV trips, about 4% of trips included non-household adults. About 13% of trips included children; 12% included children from the household, and 1% included other children. When examining just those vehicle trips with multiple occupants, 15% included non-household adults. About 44% of MOV trips included children; 42% included children from the household, and 3% included other children.

Table 38: Percent of Trips with Various Occupants, 2018

	Percent of Trips that Included Each Occupant Type*	
Type of Occupant	**All Personal Vehicle Trips**	**MOV Trips**
Any adult	100%	100%
An adult from the household	100%	100%
More than one adult from household	13.2%	46.3%
Other adult(s), not from household	4.3%	15.3%
Child(ren)	12.5%	44.1%
Child(ren) from household	12.0%	42.1%
Other child(ren)	0.9%	3.1%

** Percents add to more than 100% as each trip could have multiple types of occupants.*

The average number of occupants per vehicle is shown below, by the type of occupant. On average, an MOV contained 1.62 adults and 0.62 children.

Table 39: Average Number of Type of Occupants per Vehicle, 2018

	Average Number of People in Vehicle	
Type of Occupant	**All Personal Vehicle Trips**	**MOV Trips**
Persons in vehicle	1.36	2.27
Adults in vehicle	1.18	1.62
Children in vehicle	0.18	0.65
Adults from HH in vehicle	1.13	1.46
Other adults in vehicle	0.05	0.16
Children from HH in vehicle	0.18	0.62
Other children in vehicle	0.01	0.03

Transit Trip Characteristics

Few of the trips made by those participating in the trip diary survey were made via transit. About 7% of respondents had made at least one transit trip on their assigned travel day in 2018, slightly more than the 5% who had done so in 2006 (see Table 40). Of those who had made at least one trip, the average number of transit trips per day was about 3 trips. The average transit trip distance and duration were similar in 2012 and 2018.

Table 40: Summary Trip Characteristics of Transit Trips, by Year

Trip Characteristics	2018	2012	2006
Average number of transit trips per day per person	0.20 trips	0.17 trips	0.12 trips
Percent of people making at least one transit trip	7.4%	7.2%	5.3%
Average number of transit trips per day per person who made at least one transit trip	2.7 trips	2.4 trips	2.2 trips
Average estimated trip length in miles	2.3 miles	2.3 miles	3.1 miles
Average estimated trip time in minutes	14 minutes	14 minutes	22 minutes
Average miles per hour of transit trips	10.0 mph	9.3 mph	8.4 mph

Study participants were asked how far their home and their workplace were from a bus stop. Half of employed respondents who could estimate the distance to their nearest bus stop ***worked*** less than a block from a bus stop (see Table 42), while 23% of respondents who could make an estimate ***lived*** less than a block from a bus stop (see Table 41). About half of respondents said they lived within a quarter mile of a bus stop, and 80% of employed respondents said they worked within a quarter mile of a bus stop. These proportions were a little higher in 2018 compared to past years.

Table 41: Distance from Home to Bus Stop, by Year

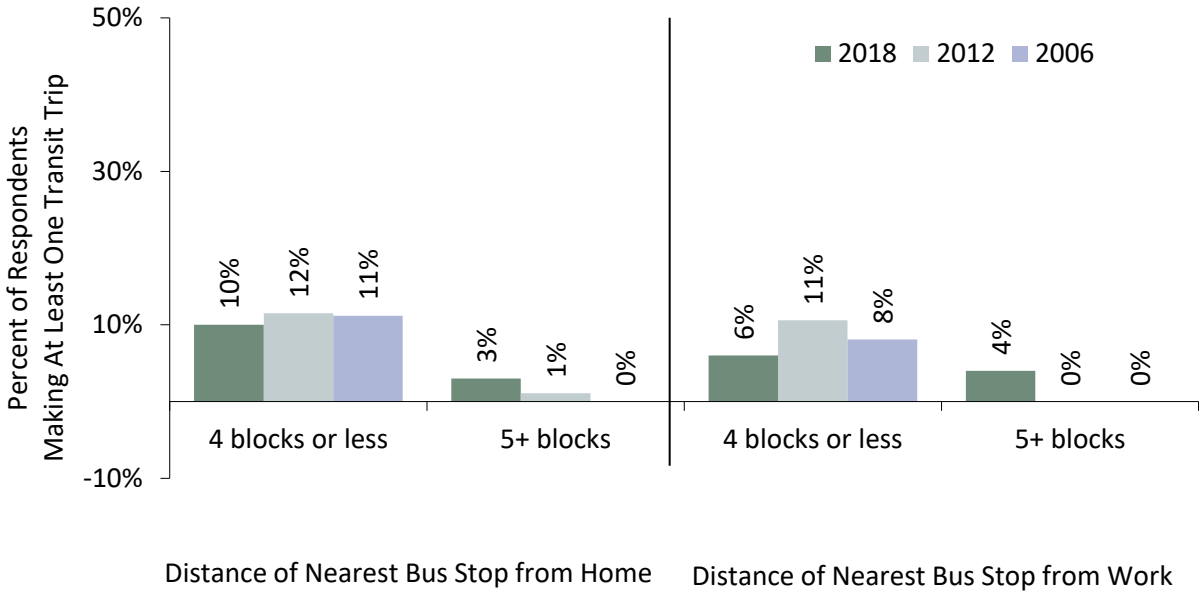
	Percent of Respondents					
	2018		2012		2006	
About how close is the nearest bus stop to your residence?	Excluding "Don't know"	All	Excluding "Don't know"	All	Excluding "Don't know"	All
less than 1 block	23%	20%	18%	17%	15%	13%
1-4 blocks (about 330 feet to a quarter-mile)	31%	28%	31%	30%	35%	30%
4-8 blocks (quarter-mile to a half-mile)	13%	12%	12%	12%	12%	10%
8-16 blocks (half-mile to a mile)	8%	7%	13%	13%	13%	11%
More than 16 blocks (more than a mile)	25%	22%	26%	25%	25%	21%
Don't Know	---	12%	---	3%	---	15%
Total	100%	100%	100%	100%	100%	100%

Table 42: Distance from Work to Bus Stop, by Year

	Percent of Employed Respondents					
	2018		2012		2006	
About how close is the nearest bus stop to your primary work place?	Excluding "Don't know"	All	Excluding "Don't know"	All	Excluding "Don't know"	All
less than 1 block	50%	42%	42%	37%	49%	40%
1-4 blocks (about 330 feet to a quarter-mile)	30%	25%	39%	35%	28%	23%
4-8 blocks (quarter-mile to a half-mile)	10%	9%	4%	4%	9%	7%
8-16 blocks (half-mile to a mile)	3%	3%	6%	5%	5%	4%
More than 16 blocks (more than a mile)	6%	5%	9%	8%	10%	8%
Don't Know	---	17%	---	12%	---	18%
Total	100%	100%	100%	100%	100%	100%

As can be seen in Figure 28, distance from a bus stop is associated with using the bus. Those who lived or worked within 4 blocks of a stop were more likely than those who lived further to make at least one bus ride on their assigned travel day.

Figure 28: Bus Ridership by Distance from a Bus Stop, 2018



Non-Vehicle Trip Characteristics: Walking and Biking

About one-fifth of study participants had made at least one walking trip on their assigned travel day (see Table 43) and 11% had made at least one bike trip (see Table 44). Those who had walked made 3 walking trips during the 24-hour period they recorded their travel on average; those who had biked made about 3 bike trips on average during their assigned travel day. These findings were similar to those observed in past.

Table 43: Summary Trip Characteristics of Walking Trips, by Year

Trip Characteristics	2018	2012	2006
Average number of walking trips per day per person	0.6 trips	0.6 trips	0.6 trips
Percent of people making at least one walking trip	22.0%	20.4%	25.2%
Average number of walking trips per day per person who made at least one walking trip	2.7 trips	3.1 trips	2.6 trips
Average estimated trip length in miles	1.0 miles	0.5 miles	0.5 miles
Average estimated trip time in minutes	17minutes	12 minutes	13 minutes
Average miles per hour of walking trips	4.2 mph	3.0 mph	2.4 mph

Table 44: Summary Trip Characteristics of Bicycle Trips, by Year

Trip Characteristics	2018	2012	2006
Average number of bicycle trips per day per person	0.3 trips	0.3 trips	0.4 trips
Percent of people making at least one bicycle trip	10.6%	8.4%	9.1%
Average number of bicycle trips per day per person who made at least one bicycle trip	3.2 trips	3.7 trips	4.1 trips
Average estimated trip length in miles	1.8 miles	2.2 miles	2.4 miles
Average estimated trip time in minutes	15 minutes	21 minutes	14 minutes
Average miles per hour of bicycle trips	7.6 mph	7.3 mph	9.6 mph

Walking and Biking for the Work Commute and for Recreation

In 2018, about 9 in 10 respondents reported walking for recreation at least once in the last month (see Table 45). Three in ten did so 5 or more times a week. Walking for the commute was less common, but about one-third said they did so at least once or twice in the previous month.

Table 45: Walking for the Work Commute and for Recreation, 2018

In the last month, about how frequently have you walked:	Percent of Respondents		
	For Recreation	For Commuting	For Recreation OR Commuting
Five or more times a week	29%	13%	38%
2 to 4 times a week	31%	9%	30%
Once a week	14%	6%	13%
Twice a month or less	12%	7%	7%
Never	13%	65%	12%
Total	100%	100%	100%

More than half of respondents reported they had ***not*** ridden a bicycle at all for recreation trips in the past month, while about one-fifth (18%) said they had ridden once a week or more. About 7 in 10 had ***not*** ridden a bicycle for the work commute in the past month, while 24% had done so once a week or more.

Table 46: Bicycle Use for the Work Commute and for Recreation, by Year

In the last month, about how frequently have you ridden a bicycle:	Percent of Respondents								
	For Recreation			For Commuting			For Recreation OR Commuting		
	2018	2012	2006	2018	2012	2006	2018	2012	2006
Five or more times a week	4%	4%	1%	12%	9%	7%	13%	9%	8%
2 to 4 times a week	4%	19%	16%	9%	7%	6%	10%	22%	14%
Once a week	10%	14%	10%	3%	1%	2%	6%	11%	8%
Twice a month or less	21%	14%	17%	7%	11%	5%	16%	12%	19%
Never	62%	49%	57%	69%	73%	80%	55%	47%	51%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Most respondents (73%) never used the bus, but 22% had used a bus at least once in the past months for errands or other trips and 16% had used a bus for their commute. Use of ride-sharing was even less frequent (only 9% had used Uber or Lyft) and no one have used a bike share. It should be noted that at the time of the 2018 survey, the City was at the very end of its 6-month bike share pilot with Spin (the pilot was April to October). By the end of the pilot the number of deployed bicycles was fewer than half the starting number.

Table 47: Transit Use for the Work Commute and Other Trips, 2018

	For Errands or other trips	For Commuting	For Errands or other trips OR Commuting
Five or more times a week	1%	6%	6%
2 to 4 times a week	3%	6%	6%
Once a week	7%	0%	5%
Twice a month or less	11%	4%	10%
Never	78%	84%	73%
Total	100%	100%	100%

Table 48: Ride and Bike Share Use, 2018

	Uber or Lyft rideshare	SPIN bike share
Five or more times a week	0%	0%
2 to 4 times a week	0%	0%
Once a week	0%	0%
Twice a month or less	9%	0%
Never	91%	100%

Vehicle and Bicycle Ownership and Availability

Households can be classified according to the ratio of number of vehicles to eligible drivers. If the ratio is 1 or greater, this household can be considered to have "high vehicle availability."[6] Persons in households with high vehicle availability tend to drive alone more often. A great majority of households participating in the trip diary study had 1 or more vehicles per household member age 16 or older (80%, see Table 49). The average number of vehicles per household was 1.83. Household vehicle ownership was similar in past years, and was similar to national comparisons.

Bicycle availability was also measured through the survey. Over two-thirds of the households studied had 1 or more bikes per household member of any age. The average number of bicycles per household was 1.9, with just a little more than one bicycle per household member, on average.

Table 49: Vehicle and Bicycle Ownership and Availability, by Year

	Flagstaff Area			NHTS*				
Number of Occupants	**2018**	**2012**	**2006**	**2017**	**2009**	**2001**	**1995**	**1990**
Average vehicle availability (per person in household 16 or older)	0.98	1.02	1.03	1.00	0.99	1.06	1.00	1.01
Average number of motorized vehicles per household (HH)	1.83	1.92	1.86	1.88	1.86	1.89	1.78	1.77
Percent of households with 1 or more vehicles per household member age 16 or older	80%	82%	84%					
Average bicycle availability (per person in household of any age)	1.07	1.15	0.88					
Average number of bicycles per household	1.90	2.25	1.62					
Percent of households with 1 or more bikes per household member	71%	63%	56%					

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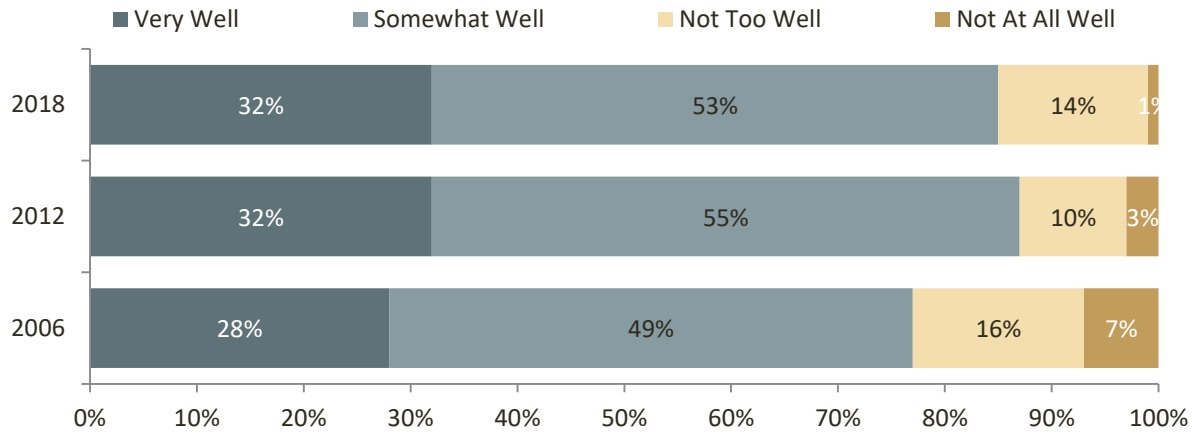
[6] Puget Sound Council of Governments: "Household Travel Surveys, 1985-1988 Puget Sound Region"; June 1990.

Resident Perceptions of Travel in the Flagstaff Area

In addition to measuring travel behaviors, respondents were asked to rate various aspects of the regional transportation system. Over 80% felt the overall transportation system does "very well" or "somewhat well" in meeting their travel needs (see Figure 29). Ratings of the overall transportation system were higher in 2018 than in 2006.

Figure 29: Rating of the Region's Transportation System, by Year

The transportation system in our region consists of roads, buses, sidewalks, Flagstaff Urban Trails System (FUTS) trails, and bike facilities. How well do you feel the transportation system meets your travel needs?



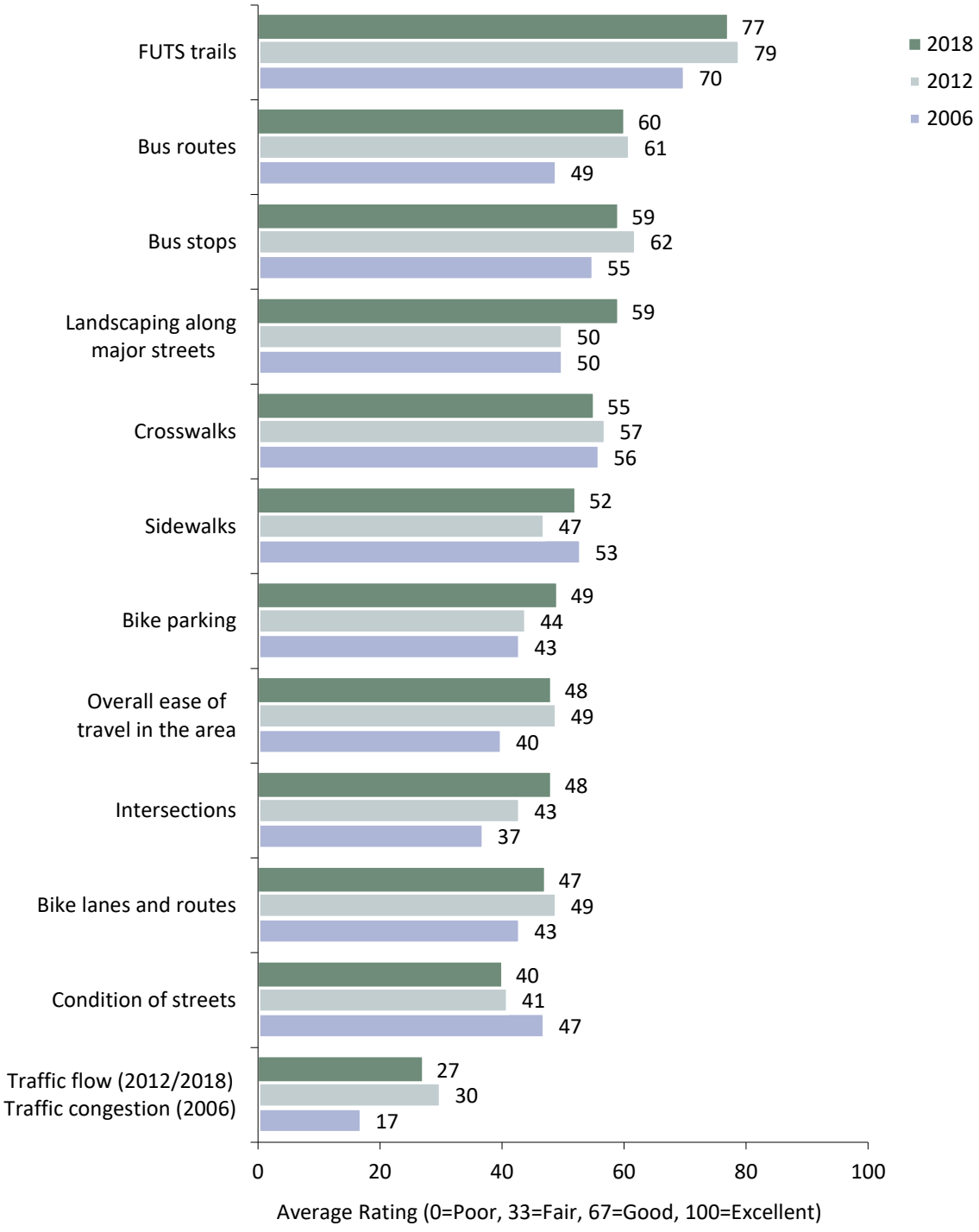
Residents' ratings of the different features of the transportation system were converted into an average rating on the 100-point scale where 0 represents the worst possible rating and 100 the best possible rating. If everyone rated a particular characteristic as "excellent," then the result would be 100 on the 100-point scale. Likewise, if all respondents gave a "poor" rating, the result would be 0 on the 100-point scale. If the average rating was "good," then the result would be 67 on the 100-point scale; "fair" would be 33 on the 100 point scale. Use of this converted scale allows for comparison to other jurisdictions, where different question wording and response scales may have been used. The average ratings of the aspects of the transportation system are shown in Figure 30 on the next page.

The average rating for overall ease of travel was at about the midpoint of the range; 48 on the 100-point scale (see Figure 30). This represented a statistically significant increase compared to 2006. The highest rated aspect of the transportation system was the Flagstaff Urban Trails System (FUTS) trails (77 on the 100-point scale), which also increased from 2006.

In general, ratings were similar in 2012 and 2018, but higher than in 2006; comparing 2006 to 2018 7 of the 12 aspects of the system rated were higher, four were similar, and only one was lower. Condition of streets received lower ratings in 2012 and 2018 than it had in 2006.

Trails, bus stops, bus routes and crosswalks had average ratings above the midpoint of the scale. Landscape/streetscaping, bike lanes/routes, sidewalks and bike parking received average ratings close to the midpoint of the scale. Condition of streets, intersections and traffic flow received ratings below the midpoint of the scale. Traffic flow received an especially low rating of 27 on the 100-point scale, but that represented an increase compared to 2006, when traffic congestion received an average rating of 17.

Figure 30: Transportation Ratings, by Year



Appendix A: 2018 Household Survey Results

Results from the household survey, including respondent demographic characteristics, are presented in this appendix. Data are weighted, as they are in the body of the report. For more information about the weighting, see *Appendix C: 2018 Study* Methods.

Table 50: Question 1

On the day you completed the travel diary, did you have any goods or services delivered to your work or home?	No	Yes	Total
On the day you completed the travel diary, did you have any goods or services delivered to your work or home, such as a meal (pizza, etc.), groceries, online orders or other goods and services?	92%	8%	100%

Table 51: Question 1a

From how many different sources did you receive deliveries?	Percent of respondents*
One	88%
Two or more	12%
Total	100%
*Responses only from those reporting receiving a delivery on diary day.	

Table 52: Question 2

Did delivery or deliveries substitute for a travel trip you might have made to seek the good or service?	No	Yes	Total
Did the delivery or deliveries substitute for a travel trip you might have made to seek the good or service?	80%	20%	100%

Table 53: Question 3

Please rate each of the following aspects of transportation in Flagstaff.	Excellent	Good	Fair	Poor	Don't know
Sidewalks	7%	48%	30%	11%	5%
Intersections	3%	47%	41%	8%	0%
Bike lanes and routes	8%	34%	30%	15%	13%
Bus stops	7%	46%	17%	3%	26%
Condition of streets	3%	37%	37%	22%	1%
Traffic flow	6%	13%	37%	44%	0%
Landscaping along major streets	12%	50%	29%	3%	6%
Crosswalks	10%	50%	25%	9%	6%
Bike parking	5%	25%	26%	6%	38%
Flagstaff Urban Trails System	33%	31%	9%	1%	26%
Bus routes	8%	28%	14%	2%	48%
Overall ease of travel in the area	10%	37%	40%	13%	0%

Table 54: Question 4

How well do you feel the transportation system meets your travel needs?	Very well	Somewhat well	Not too well	Not at all	Total
The transportation system in our region consists of roads, buses, sidewalks, Flagstaff Urban Trails System (FUTS) trails, and bike facilities. How well do you feel the transportation system meets your travel needs?	32%	53%	14%	1%	100%

Table 55: Question 5

Are you employed?	Percent of respondents
No	22%
Yes, part-time	16%
Yes, full-time	61%
Total	100%

Table 56: Question q7a

About how close is the nearest bus stop to your home?	Percent of respondents
Less than 1 block	23%
1-4 blocks (about 330 feet to a quarter-mile)	31%
4-8 blocks (quarter-mile to a half-mile)	13%
8-16 blocks (half-mile to a mile)	8%
More than 16 blocks (more than a mile)	25%
Total	100%

Table 57: Question q7b

About how close is the nearest bus stop to your primary work place?	Percent of respondents
Less than 1 block	50%
1-4 blocks (about 330 feet to a quarter-mile)	30%
4-8 blocks (quarter-mile to a half-mile)	10%
8-16 blocks (half-mile to a mile)	3%
More than 16 blocks (more than a mile)	6%
Total	100%

Table 58: Question q8a (Commute Status)

How long is your typical work or school commute?	Percent of respondents
Work away from home	73.3%
Work from home	6.5%
Don't work or didn't answer	20.2%

Table 59: Question q8b (Typical Commute Distance)

How long is your typical work or school commute?	Percent of Commuters
2 miles or less	32.8%
3-5 miles	24.3%
6-10 miles	29.1%
11 or more miles	13.8%

Table 60: Question 9a (made available to you)

For each of the following, please indicate which is made available to you, which you have used in the past 6 months and which you would use if made available.	Yes	No	Don't know	Total
Flexible hours/ compressed work week	48%	46%	6%	100%
Telecommuting/working from home	33%	64%	4%	100%
Vanpooling and carpooling	8%	67%	25%	100%
Bike parking	59%	35%	6%	100%
Car share	5%	65%	31%	100%
Lockers and shower facilities	28%	62%	10%	100%
Bike share	17%	60%	24%	100%
Guaranteed ride home	5%	69%	26%	100%
Subsidized or free bus pass	36%	53%	11%	100%
Use of company vehicle for personal use during the day	5%	84%	11%	100%
Childcare facilities at or near work	5%	69%	26%	100%
Safe and comfortable walking and biking routes	51%	41%	7%	100%
Employer incentives or recognition for employees who carpool, bus, bike or walk	12%	65%	23%	100%
Information about carpooling, taking the bus, biking and walking (maps, routes, schedules, commuting tips)	29%	51%	19%	100%

Table 61: Question 9b (used in the past 6 months)

For each of the following, please indicate which is made available to you, which you have used in the past 6 months and which you would use if made available.	Yes	No	Total
Flexible hours/ compressed work week	35%	65%	100%
Telecommuting/working from home	20%	80%	100%
Vanpooling and carpooling	4%	96%	100%
Bike parking	25%	75%	100%
Car share	1%	99%	100%
Lockers and shower facilities	11%	89%	100%
Bike share	3%	97%	100%
Guaranteed ride home	1%	99%	100%
Subsidized or free bus pass	14%	86%	100%
Use of company vehicle for personal use during the day	4%	96%	100%
Childcare facilities at or near work	1%	99%	100%
Safe and comfortable walking and biking routes	33%	67%	100%
Employer incentives or recognition for employees who carpool, bus, bike or walk	2%	98%	100%
Information about carpooling, taking the bus, biking and walking (maps, routes, schedules, commuting tips)	15%	85%	100%

Table 62: Question 9c (would use if made available)

For each of the following, please indicate which is made available to you, which you have used in the past 6 months and which you would use if made available.	Yes	No	Total
Flexible hours/ compressed work week	62%	38%	100%
Telecommuting/working from home	50%	50%	100%
Vanpooling and carpooling	24%	76%	100%
Bike parking	29%	71%	100%
Car share	15%	85%	100%
Lockers and shower facilities	39%	61%	100%
Bike share	10%	90%	100%
Guaranteed ride home	31%	69%	100%
Subsidized or free bus pass	36%	64%	100%
Use of company vehicle for personal use during the day	35%	65%	100%
Childcare facilities at or near work	17%	83%	100%
Safe and comfortable walking and biking routes	52%	48%	100%
Employer incentives or recognition for employees who carpool, bus, bike or walk	53%	47%	100%
Information about carpooling, taking the bus, biking and walking (maps, routes, schedules, commuting tips)	47%	53%	100%

Table 63: Question 10

In the last month, about how frequently have you ridden a bicycle for recreation or for commuting:	Biked for recreation	For commuting (work/school)	Bike for Work OR Recreation
Five or more times a week	4%	12%	13%
2 to 4 times a week	4%	9%	10%
Once a week	10%	3%	6%
Twice a month or less	21%	7%	16%
Never	62%	69%	55%

Table 64: Question 11

In the last month, about how frequently have you walked for recreation or for commuting:	Walked for recreation	For commuting (work/school)	Walk for Work OR Recreation
Five or more times a week	29%	13%	38%
2 to 4 times a week	31%	9%	30%
Once a week	14%	6%	13%
Twice a month or less	12%	7%	7%
Never	13%	65%	12%

Table 65: Question 12

In the last month, about how frequently have you taken the bus for:	Errands and other trips	For commuting (work/school)	Bus for Work OR Other trips
Five or more times a week	1%	6%	6%
2 to 4 times a week	3%	6%	6%
Once a week	7%	0%	5%
Twice a month or less	11%	4%	10%
Never	78%	84%	73%

Table 66: Question 13

In the last month, about how frequently have you used rideshare or bike share services:	Uber or Lyft rideshare	SPIN bike share
Five or more times a week	0%	0%
2 to 4 times a week	0%	0%
Once a week	0%	0%
Twice a month or less	9%	0%
Never	91%	100%

Table 67: Question 14a (Under 16)

Please record the number of household members in each of the following age categories.	Percent of respondents
None	81%
One	7%
Two	10%
Three or more	2%
Total	100%

Table 68: Question 14a (16 or older)

Please record the number of household members in each of the following age categories.	Percent of respondents
One	29%
Two	51%
Three	18%
Four or more	3%
Total	100%

Table 69: Question 15a (Age)

For all children (under the age of 16) living in your household, please indicate their age and then check the box that indicates their most frequently used travel mode to school	Percent of respondents with children
Aged 0 to 5	44.2%
Aged 6 to 10	45.9%
Aged 11 to 15	35.6%

Table 70: Question 15b (Mode)

For all children (under the age of 16) living in your household, please indicate their age and then check the box that indicates their most frequently used travel mode to school	Percent of respondents with children
Walk	9.2%
Bicycle	0.0%
School bus	32.7%
Mountain Line bus	0.0%
Driven alone	30.1%
Driven with other children	28.6%
Homeschooled	7.0%

Table 71: Question 16

For the people 16 or older living in your household, please check the box that indicates their most frequently used travel mode to work or school.	Percent of adults
Drive alone	66.5%
Telecommute/work from home	18.5%
Bicycle	16.9%
Walk	14.5%
Drive with adult from household	9.2%
Take Mountain Line bus	6.8%
Drive with children from household	5.2%
Take school bus	4.9%
Drive with adult NOT from household	2.9%
Drive with children NOT from household	0.6%

Table 72: Question 17

How many usable passenger cars, vans and light trucks does your household own or normally have use of?	Percent of respondents
One	35.7%
Two	34.5%
Three or more	24.6%
None	5.1%

Table 73: Question 17

How many usable passenger cars, vans and light trucks does your household own or normally have use of?	
Average vehicle availability (per person in household 16 or older)	0.98
Average number of motorized vehicles per household (HH)	1.83
Percent of households with 1 or more vehicles per household member age 16 or older	80%

Table 74: Question 18

How many usable bicycles does your household have?	Percent of respondents
None	29.2%
Three or more	27.0%
Two	23.0%
One	20.8%

Table 75: Question 18

How many usable bicycles does your household have?	
Average bicycle availability (per person in household of any age)	1.07
Average number of bicycles per household	1.90
Percent of households with 1 or more bikes per household member	71%

Table 76: Question 19

About how much was the TOTAL 2017 income before taxes for your household as a whole? In the total, please include income before taxes as well as money from all sources for all persons living in your household.	Percent of respondents
$75,000 to $99,999	26.3%
$50,000 to $74,999	18.4%
$25,000 to $49,999	17.1%
less than $14,999	13.1%
$100,000 to $149,999	11.1%
$150,000 or more	8.4%
$15,000 to $24,999	5.5%

Table 77: Question 20

Please check the one choice below which best describes the kind of residence in which you live.	Percent of respondents
A detached single family home	55.0%
A multi-family unit (e.g., apartments or condominiums)	21.0%
A duplex or triplex	7.8%
Group quarters (dormitory, fraternity/sorority, nursing home)	7.0%
A mobile home	4.8%
A townhouse	3.2%
Other:	1.2%

Table 78: Question 21

Do you rent or own your residence?	Percent of respondents
Own	59.7%
Rent	40.3%

Table 79: Question 22

How many years have you lived in or near Flagstaff?	Percent of respondents
One year or less	20.0%
2 to 5 years	18.2%
More than 30 years	13.9%
6 to 10 years	11.6%
26 to 30 years	10.2%
16 to 20 years	9.9%
11 to 15 years	8.9%
21 to 25 years	7.3%

Table 80: Question 23

Are you a student at the Northern Arizona University?	Percent of respondents
No	80.0%
Yes	20.0%

Table 81: Question 24

Are you a student at the Coconino Community College?	Percent of respondents
No	95.9%
Yes	4.1%

Table 82: Question 25

What is your gender?	Percent of respondents
Female	53.6%
Male	46.4%

Table 83: Question 26

What is your age?	Percent of respondents
18 to 34	39.8%
35 to 54	31.9%
55+	28.2%

Table 84: Question 27

Which category best describes your ethnicity?	Percent of respondents
Non-Hispanic	89.6%
Hispanic	10.4%

Table 85: Question 28

Which category best describes your race?	Percent of respondents
Caucasian/white	71.8%
Other	15.9%
Native American	6.4%
Asian or Pacific Islander	6.0%
African American/black	3.1%

Table 86: Question 29

How much education have you completed?	Percent of respondents
Bachelor's degree	37.6%
Graduate/professional degree	29.3%
Some college or associate's degree	26.9%
High school	6.2%
0 to 11 years of school	0.0%

Appendix B: 2018 Selected Study Results Compared by Respondent Characteristics

Selected survey results are compared by demographics in this appendix.

Statistical Comparisons between Subgroups

Chi-square or ANOVA tests of significance were applied to these breakdowns of survey questions. A "p-value" of 0.05 or less indicates that there is less than a 5% probability that differences observed between groups are due to chance; or in other words, a greater than 95% probability that the differences observed in the selected categories of the sample represent "real" differences among those populations.

For each pair of subgroups that has a statistically significant difference, an upper case letter denoting significance is shown in the category with the larger column proportion. The letter denotes the category with the smaller column proportion from which it is statistically different. Differences were marked as statistically significant if the probability that the differences were due to chance alone were less than 5%. Categories were not used in comparisons when a column proportion was equal to zero or one.

Items that have no upper case letter denotation in their column and that are also not referred to in any other column were not statistically different.

For example, in *Table 87: Modal Split of All Trips by Respondent Characteristics* on the following page, men (B) were more likely than women (A) to drive alone, so an A appears under the percent of men for SOV (under the larger percent). Women (A) were more likely than men (B) to carpool, so a B appears under the percent of women for MOV.

Further, those aged 35 to 54 (B) and aged 55+ (C) were more likely than those aged 18 to 34 (A) to drive alone, so an A appears under the percent of those aged 35 to 54 (B) and aged 55+ (C) who used a SOV for their trips. However, *no* Bs or Cs appear under the SOV proportions by age, indicating that the proportions of those aged 35 to 54 (B) and those aged 55+ (C) using SOV were not statistically different from each other.

Table 87: Modal Split of All Trips by Respondent Characteristics

	Respondent's Gender		Respondent's Age			Student at NAU?		Are you employed?		
	Female	Male	18 to 34	35 to 54	55+	No	Yes	No	Yes, part-time	Yes, full-time
	(A)	(B)	(A)	(B)	(C)	(A)	(B)	(A)	(B)	(C)
SOV	51.6%	60.1% A	42.0%	61.0% A	68.2% A	57.7% B	44.1%	37.3%	32.8%	67.8% A B
MOV	24.4% B	17.5%	26.9% B C	17.5%	17.9%	23.6% B	13.1%	34.5% B C	22.4%	17.0%
Transit	4.9%	3.2%	2.2%	6.5% A	4.1%	4.5%	2.6%	5.7% C	11.9% A C	1.4%
Bicycle	5.3%	9.5% A	11.3% B C	6.9% C	1.0%	5.4%	14.5% A	5.2%	11.7% A C	6.3%
Foot	13.8% B	9.7%	17.6% B C	8.1%	8.8%	8.8%	25.7% A	17.3% C	21.2% C	7.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 88: Modal Split of All Trips by Respondent Characteristics

	Tenure		Household Type		Annual Household Income		Children under 16 in household	
	Own	Rent	Detached units	Attached units	Under $50,000	$50,000+	No children	Have children
	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)
SOV	60.7% B	47.6%	63.0% B	44.1%	44.6%	60.9% A	58.1%	54.8%
MOV	22.8%	19.5%	24.2% B	17.4%	21.5%	19.9%	16.1%	39.9% A
Transit	5.3% B	2.6%	0.4%	9.5% A	7.3% B	2.7%	5.1% B	0.6%
Bicycle	3.4%	12.2% A	7.4%	6.7%	6.8%	7.9%	8.4% B	0.3%
Foot	7.8%	18.1% A	4.9%	22.3% A	19.7% B	8.6%	12.4% B	4.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 89: Modal Split of All Trips by Respondent Characteristics

	Ratio of Autos to Drivers		Bikes in household?		Area		
	< 1 vehicle per driver	1 + vehicles per driver	No	Yes	Core of Flagstaff	Rest of Flagstaff	Rest of FMPO
	(A)	(B)	(A)	(B)	(A)	(B)	(C)
SOV	22.8%	65.2% A	65.9% B	51.9%	38.2%	62.7% A C	52.8% A
MOV	24.9%	20.5%	18.6%	22.2%	15.3%	21.8% A	28.3% A B
Transit	16.0% B	0.9%	2.4%	4.7%	9.5% B C	2.9%	2.0%
Bicycle	7.0%	6.0%	0.0%	9.4%	13.7% B C	4.4%	7.1%
Foot	29.3% B	7.4%	13.1%	11.8%	23.3% B C	8.3%	9.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 90: Modal Split of Work Commute Trips by Respondent Characteristics

	Respondent's Gender		Respondent's Age			Student at NAU?		Are you employed?		
	Female	Male	18 to 34	35 to 54	55+	No	Yes	No	Yes, part-time	Yes, full-time
	(A)	(B)	(A)	(B)	(C)	(A)	(B)	(A)	(B)	(C)
SOV	57.3%	74.7% A	54.6%	67.4%	89.6% A B	69.1% B	50.6%	22.1%	40.2%	72.7% A B
MOV	20.0% B	4.5%	19.8% B C	9.3% C	0.5%	13.5% B	3.5%	65.7% B C	0.8%	12.6% B
Transit	5.5% B	0.9%	0.0%	6.0%	3.3%	3.7%	0.0%	0.0%	11.5% C	1.6%
Bicycle	3.5%	14.5% A	13.6% C	7.6%	3.0%	8.3%	14.2%	12.2%	16.7%	7.4%
Foot	13.8% B	5.4%	12.0%	9.6%	3.6%	5.5%	31.7% A	0.0%	30.8% C	5.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 91: Modal Split of Work Commute Trips by Respondent Characteristics

	Tenure		Household Type		Annual Household Income		Children under 16 in household	
	Own	Rent	Detached units	Attached units	Under $50,000	$50,000+	No children	Have children
	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)
SOV	67.9%	63.8%	67.9%	64.0%	57.7%	68.2%	69.9% B	55.6%
MOV	17.2% B	3.4%	18.3% B	3.1%	4.4%	14.6% A	2.1%	41.2% A
Transit	4.0%	1.7%	0.7%	6.5% A	7.6% B	1.7%	3.8%	1.2%
Bicycle	4.5%	16.1% A	12.5% B	4.6%	4.9%	10.8%	11.9% B	1.0%
Foot	6.3%	14.9% A	0.7%	21.8% A	25.5% B	4.6%	12.4% B	1.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 92: Modal Split of Work Commute Trips by Respondent Characteristics

	Ratio of Autos to Drivers		Bikes in household?		Area		
	<1 vehicle per driver	1 + vehicles per driver	No	Yes	Core of Flagstaff	Rest of Flagstaff	Rest of FMPO
	(A)	(B)	(A)	(B)	(A)	(B)	(C)
SOV	19.4%	77.6% A	87.8% B	59.7%	39.1%	81.6% A C	63.3% A
MOV	24.0% B	8.9%	4.6%	14.2% A	1.8%	7.2%	31.2% A B
Transit	11.7% B	1.1%	1.0%	3.7%	7.5% B	1.8%	1.1%
Bicycle	6.0%	9.9%	0.0%	12.0%	22.0% B C	5.5%	3.8%
Foot	39.0% B	2.5%	6.6%	10.4%	29.6% B C	4.0%	0.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 93: Proportion of Respondents Making at Least ONE Trip Via Each Mode

	Respondent's Gender		Respondent's Age			Student at NAU?		Are you employed?		
	Female	Male	18 to 34	35 to 54	55+	No	Yes	No	Yes, part-time	Yes, full-time
	(A)	(B)	(A)	(B)	(C)	(A)	(B)	(A)	(B)	(C)
SOV	65.1%	82.2% A	68.5%	79.4%	72.4%	76.5% B	57.3%	51.5%	50.1%	86.5% A B
MOV	41.8% B	24.3%	37.0%	38.3%	23.6%	36.2%	22.5%	36.8%	40.6%	30.9%
Transit	10.2%	4.6%	9.2%	9.1%	4.2%	6.2%	14.1%	11.7% C	20.3% C	2.7%
Bicycle	7.8%	14.5%	18.3% C	11.1%	1.4%	8.1%	24.1% A	8.6%	21.4% C	8.7%
Foot	27.9% B	16.4%	37.8% B C	15.5%	10.7%	15.8%	54.1% A	24.1%	47.1% A C	15.5%

Table 94: Proportion of Respondents Making at Least ONE Trip Via Each Mode

	Tenure		Household Type		Annual Household Income		Children under 16 in household	
	Own	Rent	Detached units	Attached units	Under $50,000	$50,000+	No children	Have children
	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)
SOV	76.1%	69.9%	76.9%	67.0%	56.5%	82.1% A	74.0%	89.3% A
MOV	34.3%	32.9%	35.4%	30.7%	39.2%	30.8%	26.2%	72.4% A
Transit	6.4%	9.3%	0.8%	18.4% A	14.9% B	4.4%	7.6%	1.0%
Bicycle	5.5%	18.1% A	11.5%	10.0%	9.3%	12.8%	11.9% B	0.8%
Foot	13.2%	35.2% A	10.5%	41.5% A	37.1% B	16.2%	21.7%	13.7%

Table 95: Proportion of Respondents Making at Least ONE Trip Via Each Mode

	Ratio of Autos to Drivers		Bikes in household?		Area		
	< 1 vehicle per driver	1+ vehicles per driver	No	Yes	Core of Flagstaff	Rest of Flagstaff	Rest of FMPO
	(A)	(B)	(A)	(B)	(A)	(B)	(C)
SOV	39.9%	82.6% A	72.9%	73.3%	70.7%	76.5%	67.3%
MOV	46.1% B	31.2%	20.2%	38.9% A	26.1%	37.4%	32.4%
Transit	33.2% B	1.9%	9.5%	6.9%	1.3%	9.8%	6.6%
Bicycle	8.9%	9.5%	0.0%	15.3% A	25.8% B C	6.5%	9.2%
Foot	58.1% B	14.7%	18.4%	24.3%	33.6% C	21.7%	15.1%

Table 96: Quality of Transportation by Respondent Characteristics

	Respondent's Gender		Respondent's Age			Student at NAU?		Are you employed?		
	Female	Male	18 to 34	35 to 54	55+	No	Yes	No	Yes, part-time	Yes, full-time
	(A)	(B)	(A)	(B)	(C)	(A)	(B)	(A)	(B)	(C)
How well do you feel the transportation system meets your travel needs?	73	71	74	73	68	70	78 A	69	84 A C	70
Sidewalks	55 B	47	57 B	47	50	50	57	53	62 C	48
Intersections	50	47	49	51	45	48	48	47	55	47
Bike lanes and routes	51 B	43	51	44	45	45	54 A	47	58 C	43
Bus stops	56	62	59	64 C	54	60	52	45	70 A	61 A
Condition of streets	40	40	46 C	42 C	31	38	50 A	40	48	38
Traffic flow	27	27	24	37 A C	21	27	27	26	23	29
Landscaping along major streets	62 B	55	63	57	55	57	63	58	61	58
Crosswalks	58 B	52	64 B C	53	46	53	65 A	54	61	54
Bike parking	48	49	53 C	49	39	50	44	37	61 A C	48
Flagstaff Urban Trails System	75	78	81 C	81 C	67	77	76	74	81	76
Bus routes	62	58	63	57	60	59	64	58	67	58
Overall ease of travel in the area	48	48	48	55 C	41	48	50	47	51	48

Table 97: Quality of Transportation by Respondent Characteristics

	Tenure		Household Type		Annual Household Income		Children under 16 in household	
	Own	Rent	Detached units	Attached units	<$50,000	$50,000+	No children	Have children
	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)
How well do you feel the transportation system meets your travel needs?	67	78 A	65	82 A	74	71	71	72
Sidewalks	51	52	51	52	61 B	45	48	60 A
Intersections	44	53 A	45	53 A	51	47	46	55 A
Bike lanes and routes	46	47	49	44	53 B	44	42	58 A
Bus stops	55	63 A	60	58	59	61	60	62
Condition of streets	33	49 A	35	47 A	50 B	35	38	46
Traffic flow	21	34 A	22	34 A	27	28	24	39 A
Landscaping along major streets	54	65 A	55	63 A	64 B	55	55	62
Crosswalks	47	65 A	49	64 A	60 B	52	52	61 A
Bike parking	48	49	46	52	50	48	49	56
Flagstaff Urban Trails System	69	89 A	68	92 A	77	77	77	76
Bus routes	55	67 A	55	66 A	72 B	52	59	57
Overall ease of travel in the area	40	59 A	42	57 A	51	47	46	55 A

Table 98: Quality of Transportation by Respondent Characteristics

	Ratio of Autos to Drivers		Bikes in household?		Area		
	<1 vehicle per driver	1+ vehicles per driver	No	Yes	Core of Flagstaff	Rest of Flagstaff	Rest of FMPO
	(A)	(B)	(A)	(B)	(A)	(B)	(C)
How well do you feel the transportation system meets your travel needs?	76	71	74	71	79 C	73 C	65
Sidewalks	58 B	50	40	56 A	52	49	56
Intersections	53	47	48	48	40	51 A	48
Bike lanes and routes	53	45	37	51 A	43	44	57 A B
Bus stops	61	60	49	63 A	62	62 C	52
Condition of streets	55 B	37	36	42	51 C	42 C	32
Traffic flow	24	28	38 B	23	19	31 A	24
Landscaping along major streets	65 B	56	59	58	60	54	68 B
Crosswalks	67 B	52	58	54	62 B	52	57
Bike parking	48	50	33	52 A	51	51	41
Flagstaff Urban Trails System	90 B	74	74	78	84 C	78 C	67
Bus routes	71 B	56	57	61	58	63	57
Overall ease of travel in the area	54	47	55 B	46	51	51	42

Appendix C: 2018 Study Methods

This study was funded by the Flagstaff Metropolitan Planning Organization. For more information on the study please contact Martin Ince at 928-213-2685.

Study Design

Sample Selection

Approximately 3,600 households within the boundaries of the Flagstaff Metropolitan Planning Organization area were selected to participate in the survey using a stratified, systematic sampling method on addresses within carrier routes. (Systematic sampling is a method that closely approximates random sampling by selecting every Nth address until the desired number of households are chosen. Carrier routes are mail carrier delivery zones defined by the USPS.) Attached housing units (e.g., apartment, condominiums) were over-sampled to compensate for detached housing unit residents' tendency to return surveys at a higher rate. An individual within each household was randomly selected to complete the survey using the birthday method. (The birthday method selects a person within the household by asking the "person whose birthday has most recently passed" to complete the questionnaire. The underlying assumption in this method is that day of birth has no relationship to the way people respond to surveys.)

An additional 400 students were selected from student group quarters, that is, the dorms at the Northern Arizona University. An online survey was already being conducted of NAU students, so the University did not wish to have another separate survey effort of students undertaken at the same time. However, the study investigators were willing to include an invitation to the Travel Diary study at the end of their survey. This invitation was included for 400 randomly selected students living in the dormitory.

Recruitment

Selected households were mailed a pre-notification postcard informing them they had been randomly selected to participate in the Trip Diary Study, while the selected students in University group quarters were sent a postcard and an e-mail pre-notification. One week after their pre-notification, the full travel study packets were sent to all those selected for the study. Additionally, a reminder postcard was sent to residents one week after the travel study packets were sent.

The Travel Diaries

The 2018 diary materials and Household Survey were based on the 2012 materials, with a few questions removed or modified for the 2018 effort (see *Appendix D: 2018 Survey* Materials) The materials were mailed to the participants in households a week in advance of the diary date. The cover letter and instructions described the study, explained the materials and assigned a travel day. The subjects were instructed to call the research staff if they had any questions or problems. Assigned travel days came from the week of October 15-19, 2018 (Monday through Friday). If a respondent was unable to complete the diary on their assigned day (e.g., they would be out of town) they were instructed to complete the diary exactly one week from their originally assigned day.

Response Rates

Just over 9% of the trip diary surveys mailed to households (320) were estimated to be undeliverable because the housing unit was vacant or the postal service was unable to deliver the survey as addressed. Of the 3,680 eligible households and dormitory students, 338 completed the survey, providing a response rate of 9%.

Weather Conditions During the Study Period

The weather conditions during the weeks of October 15th, 2018, October 1st, 2012 and October 2nd, 2006 are shown in Table 99 below. Temperatures were lower in 2018 than other years, with precipitation on Tuesday. It is typical for Flagstaff to be fairly dry in October with an average rainfall of 1.5" (worldclimate.com). The temperatures observed in 2018 were lower than expected during this time frame; the average daily high temperature in September is 73 ºF and in October is 63 ºF, while the average daily low temperature is 41 ºF in September and 31 ºF in October. Temperatures in past years were typical of the season.

Table 99: Weather Conditions During the 2012 Study Period (Compared to the 2006 Study Period)

Flagstaff Weather*		Monday	Tuesday	Wednesday	Thursday	Friday
2018	High Temperature	43 ºF	36 ºF	43 ºF	53 ºF	53 ºF
	Low Temperature	30 ºF	29 ºF	29 ºF	26 ºF	35 ºF
	Inches of Precipitation	---	0.23	---	---	---
2012	High Temperature	74 ºF	78 ºF	76 ºF	73 ºF	71 ºF
	Low Temperature	29 ºF	34 ºF	31 ºF	35 ºF	NA
	Inches of Precipitation	---	---	---	---	---
2006	High Temperature	72 ºF	69 ºF	72 ºF	72 ºF	70 ºF
	Low Temperature	41 ºF	39 ºF	35 ºF	38 ºF	48 ºF
	Inches of Precipitation	---	---	---	trace	0.8"

**From the NOAA National Data Centers, as recorded at the FLAGSTAFF 4 SW station*

Analysis of Results

Cleaning and Coding of Data

Once received, the diaries were prepared for the analysis. Every diary was examined to ensure that it was filled out correctly with accurate trip descriptions. A very common mistake was to count round trips as one trip rather than two. For ease in keypunching the diary, data were transferred to coding sheets. Three other variables were coded at this time: 1) the type of trip made – see Figure 24 on page 39 for the categories coded, 2) if the trip was a "link" in the work commute, and 3) if the trip had both origin and destination outside the Flagstaff area. In addition, if the respondent had not reported the distance of the trip, Google maps was used to fill in an estimate of the trip distance. Motorcycle and taxi trips were recoded into SOV or MOV trips, based on the number of people in the vehicle. These categories comprised a very small number of trips, and have not proven useful for transportation planning purposes.

Data Entry, Weighting and Analysis

The data from the travel diary coding sheets and household travel surveys were data entered into electronic datasets using a key and verify methodology. This means that the data were entered twice and the two datasets compared. Where there were discrepancies, the results were compared to the hard copy survey and keyed correctly. These plain-text datasets were then imported into SPSS®, a statistical software package, for analysis. For the most part, simple descriptive statistics were presented in the body of the report.

Using the assigned unique identifier, the household travel survey responses were matched with the travel diary information. Two types of datasets were created: a trip-level dataset, where every record in the dataset represented a single trip, and a person-level dataset, where every record in the dataset represented a single person.

Due to the differences in travel behavior by various socioeconomic groups, the participants' responses were statistically weighted. Using the data for Coconino County from the 2010 Census and 2017 American Community Survey when available, the results were adjusted to give more weight to the travel of those who were under represented in the sample. Table 100 displays the socioeconomic breakdown of the unweighted and weighted data along with the population norms. Rows which are shaded indicate the variables used for the weighting. In all residential studies, people who live in attached or rented housing, are younger or male respond at a lower rate than do those who live in detached or owned housing, are older or are female. In communities that include a University, the under-response by younger males is often quite large compared to the other age/gender groups.

Table 100: Weighting Table

	Population Norm*	Unweighted Data	Weighted Data
Tenure (Households)			
Own home	59.3%	75%	60%
Rent home	40.7%	25%	40%
Ethnicity - Adults only (in Households)			
Hispanic	11%	2%	10%
Not Hispanic	89%	98%	90%
Race - Adults only (in Households)			
White	66%	94%	69%
Non-white	34%	6%	31%
Gender and Age (in Households)			
Males 18-34	19%	6%	17%
Males 35-54	17%	12%	15%
Males 55+	14%	24%	15%
Females 18-34	18%	8%	23%
Females 35-54	18%	18%	16%
Females 55+	15%	33%	14%
Area without Dorms			
Core of Flagstaff in Households	19%	20%	19%
Rest of Flagstaff in Households	58%	52%	57%
Rest of FMPO in Households	23%	28%	25%
Households and College Dormitories			
Adults in Households	93%	98%	93%
Adults in College Dormitories	7%	2%	7%

**2010 Census, and 2017 ACS when available*

Appendix D: 2018 Survey Materials

This Appendix contains the instruments and materials used for the data collection of the 2018 Trip Diary Study. Included are:

Pre-notification postcard

Diary packet cover letter to Flagstaff area residents (Monday only)

Travel Diary instructions (Monday only)

Travel Diary card

Travel Diary Overflow sheet

Household Survey

Reminder postcard

Dear Flagstaff-area resident,

Traveling around Flagstaff is something we all do and it can be frustrating at times. The Flagstaff Metropolitan Planning Organization wants to improve travel in the area and we need your input. We are inviting a small group of residents to keep a simple travel log for a single day during the week of October 15, 2018. The log will show us how you get where you're going and how long it takes you to get there. This will help the City and County better understand existing travel patterns and work to improve your travel experience.

Your household was chosen at random and your participation will be completely confidential. We are only mailing travel logs to a small number of Flagstaff area residents, so your participation is extremely important. We conducted this study previously in 2006 and 2012, so we can compare those results with the information you provide. This will provide essential information for the transportation planner to improve our community and your travel experience.

Your travel log will arrive on or before the week of October 15, at which time you'll receive your assigned log day. Many thanks in advance for your help on this important project.

Sincerely,

Art Babbott, Chairman

Coral Evans, Mayor

Dear Flagstaff-area resident,

Traveling around Flagstaff is something we all do and it can be frustrating at times. The Flagstaff Metropolitan Planning Organization wants to improve travel in the area and we need your input. We are inviting a small group of residents to keep a simple travel log for a single day during the week of October 15, 2018. The log will show us how you get where you're going and how long it takes you to get there. This will help the City and County better understand existing travel patterns and work to improve your travel experience.

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Your household was chosen at random and your participation will be completely confidential. We are only mailing travel logs to a small number of Flagstaff area residents, so your participation is extremely important. We conducted this study previously in 2006 and 2012, so we can compare those results with the information you provide. This will provide essential information for the transportation planner to improve our community and your travel experience.

Your travel log will arrive on or before the week of October 15, at which time you'll receive your assigned log day. Many thanks in advance for your help on this important project.

Sincerely,

Art Babbott, Chairman

Coral Evans, Mayor

Flagstaff Metropolitan Planning Organization

City of Flagstaff
Coconino County
Arizona Department of Transportation
211 West Aspen Avenue
Flagstaff AZ 86001

Presorted
First Class Mail
US Postage
PAID
Boulder, CO
Permit NO. 94

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FLAGSTAFF METROPOLITAN PLANNING ORGANIZATION

CITY OF FLAGSTAFF
COCONINO COUNTY
ARIZONA DOT
NAIPTA

Office: 211 West Aspen Avenue
Flagstaff, Arizona 86001

www.flagstaffmpo.org

Phone: (928) 213-2651

"PARTNERS IN TRANSPORTATION ENHANCING OUR COMMUNITY"

Dear Flagstaff-area resident,

We need your help to improve travel and transportation in Flagstaff! The City of Flagstaff and Coconino County, with the Flagstaff Metropolitan Planning Organization (FMPO), work to make your travel better by making transportation improvements based on studies and planning. To meet your travel needs, we've built and repaired roads, added bicycle and pedestrian paths, and enhanced bus service in the area. Periodically we also turn to our residents for help so that we can better understand existing travel patterns and work to improve your transportation experience.

We are inviting a member of your household to be a part of a small group of residents who will keep a simple travel log for a single day during the week of October 15, 2018. It's similar to one of the Nielson diaries for logging television viewing but it has a different purpose. Basically, the log will show us how you get where you're going and how long it takes you to get there. We collect this information periodically so we can understand existing travel patterns and work to improve your travel experience. We conducted this study previously in 2006 and 2012, and updating this data will allow us to compare to previous years and help plan for the future. Your household was chosen at random and your participation will be completely confidential.

Because we want to understand travel patterns for the entire Flagstaff area, we need a diverse and representative sample of residents in our community. **That's why it's so important that the person in your household who completes the travel diary be a household member who is in town on that day, age 16 or older, and who most recently had a birthday**. Year of birth should not be considered.

If that person (the one who's at least 16 and most recently had a birthday) is willing to help with this simple but very important project, he or she should complete the enclosed household survey, read the enclosed instructions and complete the travel diary on **MONDAY, OCTOBER 15, 2018**. The survey and travel diary should be mailed to National Research Center, Inc. (the company conducting the study on behalf of the FMPO) using the enclosed postage-paid envelope. If you have questions about the project or your participation, call Erin with National Research Center toll-free at 1-877-467-2462 (dial 102 for Erin).

Thank you in advance for participating and your help in improving transportation in Flagstaff!

Sincerely,

Art Babbott
Chairman, Coconino County
Board of Supervisors

Coral Evans
Mayor, City of Flagstaff

2018 Travel Diary Study
TRAVEL SURVEY INSTRUCTIONS

Please review the materials briefly before continuing to read the instructions. If any materials are missing, please call Erin of National Research Center, Inc. toll-free at 1-877-467-2462 (dial x102 to reach her or leave a message), and materials will be mailed to you. This packet contains:

☐ Cover letter & these instructions ☐ Travel Diary ☐ Travel Diary overflow sheet
☐ Household Travel Survey ☐ Postage paid return envelope

COMPLETE THE TRAVEL DIARY ON YOUR ASSIGNED DAY

- Complete the travel diary on **MONDAY, OCTOBER 15, 2018**, regardless of the weather or the number and type of activities planned for that day.
- Take the Travel Diary with you on your assigned day. It is the 8½" x 11" card included in this packet.
- If you will be out of town or forgot to complete the diary on assigned day, you may complete the diary on the same day of the next week (Monday, October 15).
- Report every trip you make that is longer than a city block:
  - Whether you are a passenger, driver or pedestrian.
  - Whether it is recreational (going for a run) or has a specific destination.
- Start the diary after 12:01 am (right after midnight) and continue until 12:00 midnight on your assigned day.
- Do not change your travel behavior because you are keeping this diary.

WHAT IS A "TRIP"?

- **A trip is a one-way journey.**
- **Round-trips count as two trips**. If you drive to the grocery store and back, record two trips on your diary.
- In addition to round trips, you may need to record one journey as more than one trip if:
  - **You make multiple stops.** For example, if you walk your child to school, then catch the bus outside the school to the grocery store, and then return home, stopping to pick up a prescription at the drugstore, this would count as four trips with the following destinations: the school, the grocery store, the drugstore and then home.
  - **You change travel method** (not including bus transfers). For instance, you walk more than one block to a bus stop to take the bus to work, count the bus stop as the first destination and the purpose of that trip as "change travel mode." The next trip destination is work and the purpose is "work commute."
  - **You pick up or drop off a passenger.** This should be treated as two trips. The purpose of the first trip is "drive passenger."
  - If you are on a recreational loop (walk, run or bike ride) then your "destination" is the half-way point.

QUICK TIPS

- For your destination, you may **use an address, nearest intersection or commonly recognized buildings**, stores or other specific and unique locations (e.g. "Buffalo Park").
- Keep good estimates of the **start and end times**. Use the start and end times of the TRIP and don't include the time you spend at the destination. For example, if you go to the store, don't count the time you are in the store. When you arrived is the end of the first trip and when you left the store is the start of the second trip.
- If using a car or light truck for your trip, don't forget to **mark if you were a passenger or driver** and fill in the number of adults (include yourself, 16 or 17 year olds with drivers licenses and those over age 18) and the number of children in the vehicle.
- To **record mileage**, use a vehicle odometer if possible at the beginning and end of each trip. If you wish, you can record the number of blocks instead of miles if it is easier, but PLEASE write in "blocks" on your form, so we don't mistake it for miles.

(continued on reverse side)

HOW DO I DESCRIBE THE TRIP TYPE?

Go Home	A trip from some other location to your usual place of residence.
Personal Business	Travel which is made to obtain services, not products. (E.g. bank, post office, doctor, auto repair.)
Shopping	Travel to shop or to purchase products.
School	Travel by a student to college or school. Travel to school by a teacher or other school employee is a work commute trip. If you are driving a student to school, the trip should be classified as "drive a passenger."
Work Commute	Travel to or from your workplace.
Other Work/ Business	Travel done for work, to someplace other than the workplace. (E.g., sales calls, trips to purchase office supplies for work.)
Social/ Recreation	Trips made when no business is transacted. (E.g., parties, participatory sports, cultural or athletic events, church activities, visits to friends.)
Eat a Meal	Examples include going to a restaurant, going to a friend's house for dinner, or home from work for lunch. Stops for snacks or refreshments should be classified as "social/recreation."
Drive a Passenger	Use this category for trips or stops to pick up or deliver someone to a specific location. (E.g., taking a friend to the store, picking up a child from school.)
Change Travel Mode	If you drive your car, walk more than one block, or ride your bike to catch the bus, this is a "change travel mode" trip. However, if you transfer from one bus to another, it should not be included in this category because you traveled in buses without changing travel modes. (Be sure to record all the routes you used to make the trip.)
Other	Any trip you make which does not seem to fit in the categories listed should be put in the "other" category. Please list what the trip purpose was in the blank provided. Also, if you have a question as to where to put a certain trip because you can't decide between two categories, list it in the "other" category.

SPECIAL CIRCUMSTANCES

What if you don't make any trips during the day assigned to you? On the travel diary, fill out your name, address and the assigned diary date, check the box to indicate that you made no trips. Please continue on to the Household Survey. It is important that we get an accurate picture of travel patterns within Flagstaff, including the number of people who make no trips.

What if you make more than nine trips during the day assigned to you? The Travel Diary has space to record up to nine trips. If you take more than nine trips on your assigned day, please use the overflow sheet. If you make more than the 21 trips than can be recorded on the Diary and overflow sheet, call Athena and she will record your trips over the phone or send you more overflow sheets, or you can make a copy of the overflow sheet and use that.

What if you work a job that requires frequent travel on the day assigned to you? If you work a job that requires you to make many trips during the 24-hour period (e.g., cab driver, pizza delivery driver, sales person), please call National Research Center. Athena will give you special instructions for completing your Travel Diary.

The **EXAMPLE OF A COMPLETED TRAVEL DIARY** on the following page, gives a detailed example that may help you in completing your form.

If you have ANY questions, please contact Erin at National Research Center, Inc. toll-free at 1-877-467-2462
Thank you very much for your participation in this study.

EXAMPLE OF A COMPLETED TRAVEL DIARY

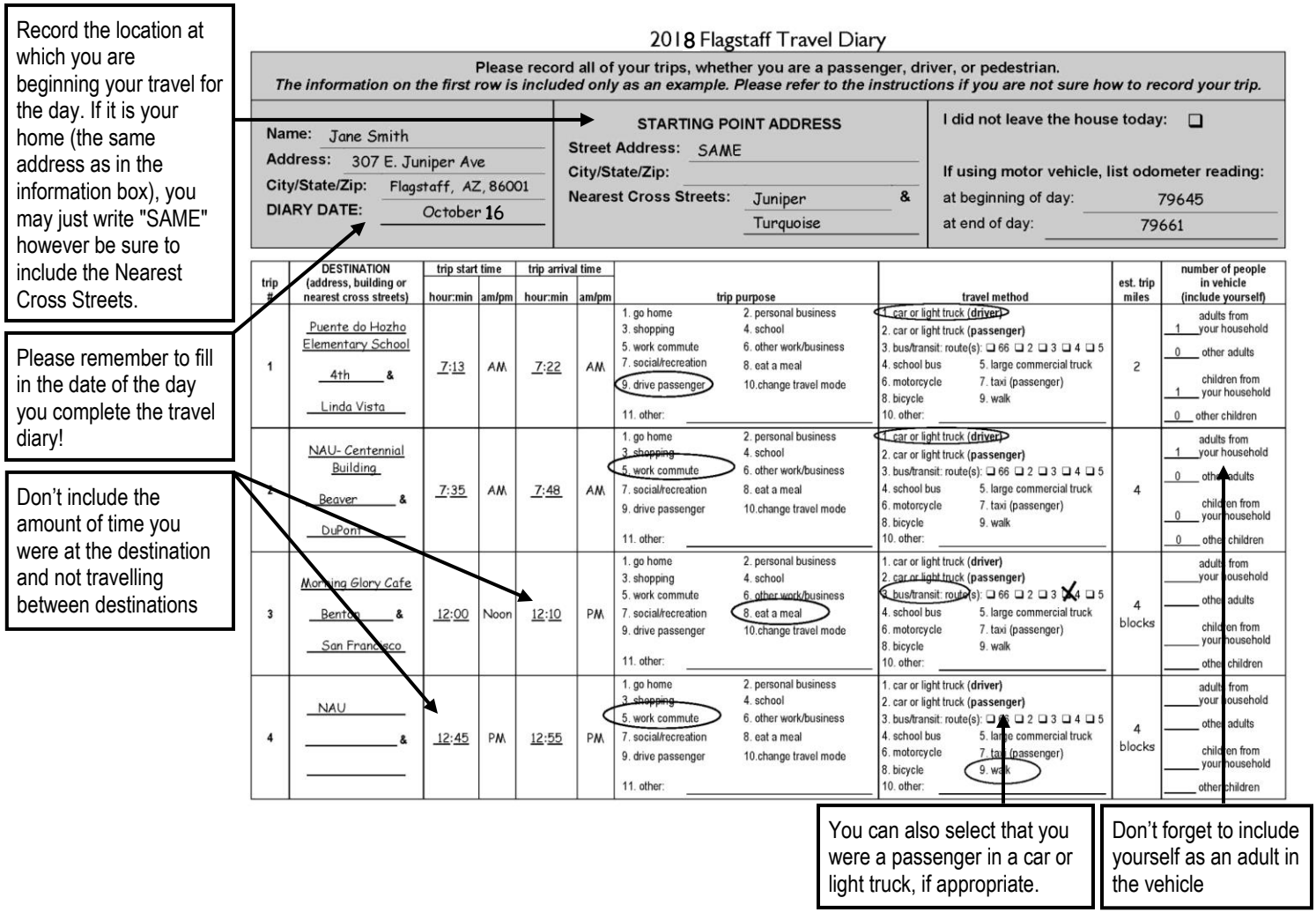
Jane Smith drove from her home at 307 East Juniper Avenue to work at NAU, first dropping her 9 year old daughter at Puente de Hozho Elementary School.

At noon, Jane walked to South San Francisco Street for lunch (4 blocks from the building on campus where she works).

The Travel Diary example shows how Jane's form would be completed. Please note the following:

1. Jane's travel to work with her daughter is counted as **two** trips; the first is with her daughter to the elementary school – this trip is designated as "drive a passenger"; the second is from the school to work.
2. Although Jane is going to a "school" (NAU), it is for the purpose of work, and is designated as a "work commute" trip.
3. Jane records her trip (walking) **to** lunch as well as her trip **from** lunch back to work (two trips). Her trip back to the school is recorded as "work commute," because she is returning to her workplace, although she did not come straight from home.

EXAMPLE OF A COMPLETED TRAVEL DIARY, Page 1



2018 Flagstaff Travel Diary

Please record all of your trips, whether you are a passenger, driver, or pedestrian.
The information on the first row is included only as an example. Please refer to the instructions if you are not sure how to record your trip.

Name: Jane Smith
Address: 307 E. Juniper Ave
City/State/Zip: Flagstaff, AZ, 86001
DIARY DATE: October 16

STARTING POINT ADDRESS
Street Address: SAME
City/State/Zip:
Nearest Cross Streets: Juniper & Turquoise

I did not leave the house today: ❑
If using motor vehicle, list odometer reading:
at beginning of day: 79645
at end of day: 79661

trip #	DESTINATION (address, building or nearest cross streets)	trip start time hour:min	am/pm	trip arrival time hour:min	am/pm	trip purpose	travel method	est. trip miles	number of people in vehicle (include yourself)
1	Puente do Hozho Elementary School 4th & Linda Vista	7:13	AM	7:22	AM	9. drive passenger	1. car or light truck (driver)	2	1 adults from your household; 0 other adults; 1 children from your household; 0 other children
2	NAU- Centennial Building Beaver & DuPont	7:35	AM	7:48	AM	5. work commute	1. car or light truck (driver)	4	1 adults from your household; 0 other adults; 0 children from your household; 0 other children
3	Morning Glory Cafe Benton & San Francisco	12:00	Noon	12:10	PM	8. eat a meal	1. car or light truck (driver); 2. car or light truck (passenger); 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5	4 blocks	adults from your household; other adults; children from your household; other children
4	NAU &	12:45	PM	12:55	PM	5. work commute	9. walk	4 blocks	adults from your household; other adults; children from your household; other children

Record the location at which you are beginning your travel for the day. If it is your home (the same address as in the information box), you may just write "SAME" however be sure to include the Nearest Cross Streets.

Please remember to fill in the date of the day you complete the travel diary!

Don't include the amount of time you were at the destination and not travelling between destinations

You can also select that you were a passenger in a car or light truck, if appropriate.

Don't forget to include yourself as an adult in the vehicle

(example continued on reverse side)

In the second part of Jane's day, she finished work, picked up her daughter and drove home.

She jogged for two miles around Buffalo Park before dinner.

When dinner was over, Jane and her family rode their bikes downtown for ice cream.

On the example form, note the following:

1. After work, Jane's trip to pick up her daughter (even though the daughter is not in the car) is designated as a trip to "drive a passenger."
2. Jane counts her jog around Buffalo Park as **two** trips, even though she made no stops between leaving home and returning home. "Jogging" and "running" are considered "walking" for the purposes of this travel diary.
3. When the family rides their bikes downtown for an ice cream, this is a "snack" and is designated as "social/recreation" rather than eating a meal.

EXAMPLE OF A COMPLETED TRAVEL DIARY, Page 2

trip #	DESTINATION (address, building or nearest cross streets)	trip start time hour:min	am/pm	trip arrival time hour:min	am/pm	trip purpose	travel method	est. trip miles	number of people in vehicle (include yourself)
5	Puente de Hozho E.S. 4th & Linda Vista	4:05	PM	4:20	PM	1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal **9. drive passenger** 10.change travel mode 11. other:	**1. car or light truck (driver)** 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other:	4	adults from your household: 1; other adults: 0; children from your household: 0; other children: 0
6	Home &	4:25	PM	4:36	PM	**1. go home** 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10.change travel mode 11. other:	**1. car or light truck (driver)** 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other:	2	adults from your household: 1; other adults: 0; children from your household: 1; other children: 0
7	Buffalo Park &	4:50	PM	5:06	PM	1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business **7. social/recreation** 8. eat a meal 9. drive passenger 10.change travel mode 11. other:	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) **9. walk** 8. bicycle 10. other:	1	adults from your household: ; other adults: ; children from your household: ; other children:
8	Home &	5:06	PM	5:24	PM	**1. go home** 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10.change travel mode 11. other:	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) **9. walk** 8. bicycle 10. other:	1	adults from your household: ; other adults: ; children from your household: ; other children:
9	Downtown Aspen & Leroux	6:15	PM	6:40	AM	1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business **7. social/recreation** 8. eat a meal 9. drive passenger 10.change travel mode 11. other:	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) **8. bicycle** 9. walk 10. other:	1.5	adults from your household: ; other adults: ; children from your household: ; other children:
10	Home &	7:05	PM	7:30	PM	**1. go home** 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10.change travel mode 11. other:	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) **8. bicycle** 9. walk 10. other:	1.5	adults from your household: ; other adults: ; children from your household: ; other children:

If you have ANY questions, please contact Erin at National Research Center, Inc. toll-free at 1-877-467-2462
Thank you very much for your participation in this study.

2018 Flagstaff Travel Diary

Please record all of your trips, whether you are a passenger, driver, or pedestrian.
The information on the first row is included only as an example. Please refer to the instructions if you are not sure how to record your trip.

Name: _____

Address: _____

City/State/Zip: _____

DIARY DATE: _____

STARTING POINT ADDRESS

Street Address: _____

City/State/Zip: _____

Nearest Cross Streets: _____ **&** _____

I did not leave the house today: ❑

If using motor vehicle, list odometer reading:

at beginning of day: _____

at end of day: _____

trip #	DESTINATION (address, building or nearest cross streets)	trip start time hour:min	trip start time am/pm	trip arrival time hour:min	trip arrival time am/pm	trip purpose	travel method	est. trip miles	number of people in vehicle (include yourself)
example	Puente de Hozho Elementary School Fourth & Linda Vista	7:13	AM	7:22	AM	1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal **(9. drive passenger)** 10. change travel mode 11. other:	**(1. car or light truck (driver))** 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other:	2 miles	adults from **1** your household **0** other adults children from **2** your household **0** other children
1	_____ _____ & _____	__ : __		__ : __		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other:	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other:		adults from ____ your household ____ other adults children from ____ your household ____ other children
2	_____ _____ & _____	__ : __		__ : __		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other:	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other:		adults from ____ your household ____ other adults children from ____ your household ____ other children
3	_____ _____ & _____	__ : __		__ : __		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other:	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other:		adults from ____ your household ____ other adults children from ____ your household ____ other children

trip #	DESTINATION (address, building or nearest cross streets)	trip start time		trip arrival time		trip purpose	travel method	est. trip miles	number of people in vehicle (include yourself)
		hour:min	am/pm	hour:min	am/pm				
4	_____ & _____	___ : ___		___ : ___		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other: _____	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other: _____		____ adults from your household ____ other adults ____ children from your household ____ other children
5	_____ & _____	___ : ___		___ : ___		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other: _____	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other: _____		____ adults from your household ____ other adults ____ children from your household ____ other children
6	_____ & _____	___ : ___		___ : ___		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other: _____	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other: _____		____ adults from your household ____ other adults ____ children from your household ____ other children
7	_____ & _____	___ : ___		___ : ___		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other: _____	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other: _____		____ adults from your household ____ other adults ____ children from your household ____ other children
8	_____ & _____	___ : ___		___ : ___		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other: _____	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other: _____		____ adults from your household ____ other adults ____ children from your household ____ other children
9	_____ & _____	___ : ___		___ : ___		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other: _____	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other: _____		____ adults from your household ____ other adults ____ children from your household ____ other children

2018 Flagstaff Travel Diary – OVERFLOW SHEET

trip #	DESTINATION (address, building or nearest cross streets)	trip start time hour:min	trip start time am/pm	trip arrival time hour:min	trip arrival time am/pm	trip purpose	travel method	est. trip miles	number of people in vehicle (include yourself)
10	_____ _____ & _____	___ : ___		___ : ___		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other: _____	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other: _____		____ adults from your household ____ other adults ____ children from your household ____ other children
11	_____ _____ & _____	___ : ___		___ : ___		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other: _____	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other: _____		____ adults from your household ____ other adults ____ children from your household ____ other children
12	_____ _____ & _____	___ : ___		___ : ___		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other: _____	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other: _____		____ adults from your household ____ other adults ____ children from your household ____ other children
13	_____ _____ & _____	___ : ___		___ : ___		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other: _____	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other: _____		____ adults from your household ____ other adults ____ children from your household ____ other children
14	_____ _____ & _____	___ : ___		___ : ___		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other: _____	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other: _____		____ adults from your household ____ other adults ____ children from your household ____ other children

trip #	DESTINATION (address, building or nearest cross streets)	trip start time		trip arrival time		trip purpose	travel method	est. trip miles	number of people in vehicle (include yourself)
		hour:min	am/pm	hour:min	am/pm				
15	_____ & _____	___ : ___		___ : ___		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other: _____	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other: _____		____ adults from your household ____ other adults ____ children from your household ____ other children
16	_____ & _____	___ : ___		___ : ___		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other: _____	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other: _____		____ adults from your household ____ other adults ____ children from your household ____ other children
17	_____ & _____	___ : ___		___ : ___		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other: _____	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other: _____		____ adults from your household ____ other adults ____ children from your household ____ other children
18	_____ & _____	___ : ___		___ : ___		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other: _____	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other: _____		____ adults from your household ____ other adults ____ children from your household ____ other children
19	_____ & _____	___ : ___		___ : ___		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other: _____	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other: _____		adults from your household other adults children from your household other children
20	_____ & _____	___ : ___		___ : ___		1. go home 2. personal business 3. shopping 4. school 5. work commute 6. other work/business 7. social/recreation 8. eat a meal 9. drive passenger 10. change travel mode 11. other: _____	1. car or light truck (**driver**) 2. car or light truck (**passenger**) 3. bus/transit: route(s): ❑ 66 ❑ 2 ❑ 3 ❑ 4 ❑ 5 4. school bus 5. large commercial truck 6. motorcycle 7. taxi (passenger) 8. bicycle 9. walk 10. other: _____		adults from your household other adults children from your household other children

HOUSEHOLD TRAVEL SURVEY **2018 Flagstaff Travel Diary Study**

Please complete the below questions regarding your household travel and return it with your Travel Diary in the enclosed postage-paid envelope. This survey should take less than ten minutes. Your answers are important to helping the City better understand travel in Flagstaff. Your answers to this survey will be strictly confidential and only used in group form. **Thank you for your time and help!**

GENERAL TRAVEL INFORMATION

1. **On the day you completed the travel diary**, did you have any goods or services delivered to your work or home, such as a meal (pizza, etc.), groceries, online orders, or other goods and services?
   - ❑ No ➔ *Go to question #3*
   - ❑ Yes ➔ **From how many different sources did you receive deliveries?** _____*sources*

2. Did the delivery or deliveries substitute for a travel trip you might have made to seek the good or service?
   ❑ No ❑ Yes How many trips were replaced _____

3. Please rate each of the following aspects of transportation in Flagstaff.

	Excellent	Good	Fair	Poor	Don't know
Sidewalks	1	2	3	4	5
Intersections	1	2	3	4	5
Bike lanes and routes	1	2	3	4	5
Bus stops	1	2	3	4	5
Condition of streets	1	2	3	4	5
Traffic flow	1	2	3	4	5
Landscaping along major streets	1	2	3	4	5
Crosswalks	1	2	3	4	5
Bike parking	1	2	3	4	5
Flagstaff Urban Trails System	1	2	3	4	5
Bus routes	1	2	3	4	5
Overall ease of travel in the area	1	2	3	4	5

4. The transportation system in our region consists of roads, buses, sidewalks, Flagstaff Urban Trails System (FUTS) trails, and bike facilities. How well do you feel the transportation system meets your travel needs?
   ❑ Very well ❑ Somewhat well ❑ Not too well ❑ Not at all

5. Are you employed?
   ❑ No ❑ Yes, part-time ❑ Yes, full-time

6. Please write in the address, building and/or nearest cross streets of your primary work place.
   Work address: _____
   City: _____

7. About how close is the nearest bus stop to your home and to your primary work place? *(Check one box for home and one for work)*

	Home	*Work*
Less than 1 block	❑	❑
1-4 blocks (about 330 feet to a quarter-mile)	❑	❑
4-8 blocks (quarter-mile to a half-mile)	❑	❑
8-16 blocks (half-mile to a mile)	❑	❑
More than 16 blocks (more than a mile)	❑	❑
Don't know	❑	❑
Not employed	❑	❑

8. How long is your typical work or school commute
   _____ miles ❑ I work from home

9. For each of the following, please indicate which is made available to you, which you have used in the past 6 months and which you would use if made available.

(DK=don't know)	***Employer provides or is available***			***Used in Last 6 months***		***Would use if available***	
	Yes	*No*	*DK*	*Yes*	*No*	*Yes*	*No*
Flexible hours/ compressed work week	❑	❑	❑	❑	❑	❑	❑
Telecommuting/working from home	❑	❑	❑	❑	❑	❑	❑
Vanpooling and carpooling	❑	❑	❑	❑	❑	❑	❑
Bike parking	❑	❑	❑	❑	❑	❑	❑
Car share	❑	❑	❑	❑	❑	❑	❑
Lockers and shower facilities	❑	❑	❑	❑	❑	❑	❑
Bike share	❑	❑	❑	❑	❑	❑	❑
Guaranteed ride home	❑	❑	❑	❑	❑	❑	❑
Subsidized or free bus pass	❑	❑	❑	❑	❑	❑	❑
Use of company vehicle for personal use during the day	❑	❑	❑	❑	❑	❑	❑
Childcare facilities at or near work site	❑	❑	❑	❑	❑	❑	❑
Safe and comfortable walking and biking routes	❑	❑	❑	❑	❑	❑	❑
Employer incentives or recognition for employees who carpool, bus, bike or walk	❑	❑	❑	❑	❑	❑	❑
Information about carpooling, taking the bus, biking and walking (maps, routes, schedules, commuting tips)	❑	❑	❑	❑	❑	❑	❑

HOUSEHOLD INFORMATION

10. In the last month, about how frequently have you ridden a bicycle for recreation or for commuting:

Biked for recreation	For commuting (to work/school
❑ Five or more times a week	❑ Five or more times a week
❑ 2 to 4 times a week	❑ 2 to 4 times a week
❑ Once a week	❑ Once a week
❑ Twice a month or less	❑ Twice a month or less
❑ Never	❑ Never

11. In the last month, about how frequently have you walked for recreation or for commuting:

Walked for recreation	For commuting (to work/school
❑ Five or more times a week	❑ Five or more times a week
❑ 2 to 4 times a week	❑ 2 to 4 times a week
❑ Once a week	❑ Once a week
❑ Twice a month or less	❑ Twice a month or less
❑ Never	❑ Never

12. In the last month, about how frequently have you taken the bus for :

Errands and other trips	For commuting (to work/school
❑ Five or more times a week	❑ Five or more times a week
❑ 2 to 4 times a week	❑ 2 to 4 times a week
❑ Once a week	❑ Once a week
❑ Twice a month or less	❑ Twice a month or less
❑ Never	❑ Never

13. In the last month, about how frequently have you used rideshare or bike share services:

Uber or Lyft rideshare	SPIN bike share
❑ Five or more times a week	❑ Five or more times a week
❑ 2 to 4 times a week	❑ 2 to 4 times a week
❑ Once a week	❑ Once a week
❑ Twice a month or less	❑ Twice a month or less
❑ Never	❑ Never

14. Please record the number of household members in each of the following age categories.
(**Please remember to include yourself.**)
How many are under 16? _____
How many are 16 or older? _____

15. For all children (under the age of 16) living in your household, please indicate **their age and** then check the box that indicates their **most frequently used travel mode to school**.
(*If no children live in your household, or none that attend school, please go to question #16)*

Most frequent travel mode to school	example	Child 1	Child 2	Child 3	Child 4
Age of child	8				
Walk					
Bicycle					
School bus	✓				
Mountain Line bus					
Driven alone					
Driven with other children					
Homeschooled					

16. For the people 16 or older living in your household, please check the box that indicates their **most frequently used travel mode to work or school**.

Most frequent travel mode to work/school	You (1)	Person 2	Person 3	Person 4
Telecommute/work from home				
Walk				
Bicycle				
Take school bus				
Take Mountain Line bus				
Drive alone				
Drive with adult from household				
Drive with adult NOT from household				
Drive with children from household				
Drive with children NOT from household				

17. How many usable passenger cars, vans and light trucks does your household own or normally have use of? _____ *vehicles*

18. How many usable bicycles does your household have? _____ *bicycles*

19. About how much was the TOTAL 2017 income before taxes for your household as a whole? In the total, please include income before taxes as well as money from all sources for all persons living in your household.
❑ less than $14,999
❑ $15,000 to $24,999
❑ $25,000 to $49,999
❑ $50,000 to $74,999
❑ $75,000 to $99,999
❑ $100,000 to $149,999
❑ $150,000 or more

20. Please check the one choice below which best describes the kind of residence in which you live.
❑ A detached single family home
❑ A duplex or triplex
❑ A multi-family unit (e.g., apartments or condominiums)
❑ A townhouse
❑ A mobile home
❑ Group quarters (dormitory, fraternity/sorority, nursing home)
❑ Other: _____

21. Do you rent or own your residence?
❑ Rent ❑ Own

INDIVIDUAL INFORMATION

22. How many years have you lived in or near Flagstaff? _____ *years*
(Please mark "0" if less than 6 months.)

23. Are you a student at the Northern Arizona University?
❑ No ❑ Yes

24. Are you a student at the Coconino Community College?
❑ No ❑ Yes

25. What is your gender?
❑ Male ❑ Female

26. What is your age? _____ *years*

27. Which category best describes your ethnicity?
❑ Hispanic ❑ Non-Hispanic

28. Which category best describes your race?
❑ African American/black
❑ Caucasian/white
❑ Asian or Pacific Islander
❑ Native American
❑ Other

29. How much education have you completed?
❑ 0 to 11 years of school
❑ High school
❑ Some college or associate's degree
❑ Bachelor's degree
❑ Graduate/professional degree

Flagstaff Metropolitan Planning Organization
City of Flagstaff - Coconino County - Arizona Department of Transportation
211 West Aspen Avenue
Flagstaff AZ 86001

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Dear Flagstaff-area resident,
This is a friendly reminder:
Please complete your travel diary!

You are part of only a small group of residents who will keep a simple travel log for a single day this week.

Study results will help the City of Flagstaff and Coconino County better understand existing travel patterns and work to improve your travel experience.

If you have questions, or did not receive your packet, please call National Research Center, Inc., the organization conducting the study, toll-free at 1-877-467-2462. Dial extension 102 for Erin.

Sincerely,

Art Babbott, Chairman
Coconino County Board of Supervisors

Coral Evans, Mayor
City of Flagstaff

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