

2015 Metro Transit Onboard Survey



November 2015

This report is a summary by Madison Area Transportation Planning Board (MPO) staff on the Metro Transit 2015 onboard transit survey. A full report provided by the consultant, Cambridge Systematics, is also available. Additional data refinement was completed after the full report was published, which is reflected in this summary, but not in the full report. In addition, this summary adds information provided by staff as well as conclusions and implications for future surveys.

Introduction

Transit onboard surveys are generally completed every five years. The 2015 Metro Transit onboard survey updates the last onboard survey completed in 2008. The onboard survey will be primarily used for two purposes:

- General purpose transit planning – The onboard survey will help planners better understand the demographics and travel patterns of transit users. It helps identify trips that are difficult to make due to excessive transferring and out-of-direction travel. It assists in Title VI planning, assuring that Metro Transit can continue to provide equitable service to Madison area residents.
- Bus Rapid Transit planning – The onboard survey will be used to update the MPO's mode choice component of the regional travel model, which will in turn be used to provide ridership estimates for the planned bus rapid transit system.

The onboard survey was led by Cambridge Systematics, who consulted with Dikita and the UW TOPS lab to assist with the survey work and data entry. The project was overseen by the Madison Area Transportation Planning Board (MPO) with assistance from Metro Transit staff.

Survey Methodology

The survey was conducted in Spring 2015, primarily in February and March on weekdays, generally Monday through Thursday. Service included in the onboard survey included Metro Transit Routes 1 through 75. It did not include UW circulator routes (which would be difficult to survey given the short trips), supplemental school day service (whose riders' demographics and trip patterns are already well understood), and paratransit service.

Surveys were distributed on select bus trips between 6:00 am and 9:00 pm. This span includes four time periods, morning peak, mid day, afternoon peak, and evening. A sampling plan was assembled representing a distributed sample of bus trips throughout the day.

The survey includes four sections:

- ABOUT YOUR RIDE collects journey travel patterns, including:
 - » Origin – where the person started their trip
 - » Boarding – where the person boarded the current route
 - » Route sequence – list of transfers and routes used on the journey
 - » Alighting – where the person left the current route
 - » Destination – where the person will end their trip
 - » Access method – whether the person walked, drove, or biked to and from the bus stops
- ABOUT YOURSELF collects individual demographic information such as age, gender, employment status, and race.
- ABOUT YOUR HOUSEHOLD collects household demographic information, such as income and vehicle availability.
- WHAT DO YOU THINK asks riders to rate aspects of Metro Transit service and provide comments.

The survey was distributed using a combination of methods. Traditionally, onboard surveys have been done with pencil and paper, but the industry now supports personal interviews using handheld tablet devices. The move to personal interviews is intended to reduce bias by engaging people with lower English proficiency, as well as produce more reliable data by catching errors in real time. However, personal interviews are much more expensive because paid staff must administer each survey one by one. Both methods offer the option of filling out the survey later and mailing it in or completing it online. Survey teams were assigned runs on a single bus where they would survey multiple routes as the bus traversed the system, taking advantage of Metro Transit's extensive interlining. Some routes were chosen for paper surveying while others were targeted for personal interviews, although several received a combination. Other advantages of the two approaches are summarized below.

- **Paper surveys** provide a larger sample size at a lower cost. They perform better in crowded situations and high ridership routes. They maintain a paper trail, so that when surveys are reviewed, the original document can be recovered and investigated by office staff. There is usually no problem collecting quality information from riders on simple non-transfer trips. They likely appeal to riders who prefer to avoid interactions with people on the bus, and they improve confidentiality because other riders cannot listen in or read the tablet screen.
- **Personal interview (tablet)** surveys reportedly reduce bias by actively engaging riders. Riders can be lightly persuaded to complete the survey if told that it will be used to help improve service. The application can list bus stops and provide a map interface to improve accuracy. Surveyors can detect responses that are unlikely or inconsistent and ask for clarification. Lastly, there is no risk of a rider failing to turn the survey over to complete the back side.

More information on the outcomes of these methods is provided in the **Implications for Future Onboard Surveys** section.

The consultant team reviewed about 7,800 collected surveys and tabulated 5,914 surveys deemed complete and valid, representing about 800 bus trips out of about 1,850 bus trips scheduled on a typical weekday on Routes 1 through 75. The remaining substantially incomplete or otherwise unacceptable surveys were discarded. The effort was highly successful in engaging riders and collecting surveys; the goal of collecting about 10% of daily ridership was easily exceeded and completed on fewer trips than planned.

MPO staff then reviewed and further refined the records, identifying those that were internally inconsistent, correcting geocoding errors for origins and destinations, changing bus stops, and correcting route sequences based on knowledge of the Madison area and the Metro Transit system. An MPO staff-developed web application used to visualize journeys aided this effort. 5,763 valid surveys remained: 3,958 paper and 1,805 tablet. The review by MPO staff found that about 15% of paper surveys and 22% of tablet surveys contained internal logic errors.

Two routes were under-sampled: Route 33, a peak-period-only commuter route serving the far east side, and Route 36, an all-day route serving the area northeast of East Towne Mall. Route 33 was not surveyed in the afternoon peak period and only three Route 36 trips were sampled out of 19 – two trips in the morning peak period and one in the evening period. However, both of these routes are relatively low-ridership routes and the under sampling is not expected to significantly skew results.

The metro area was divided into 25 zones and each origin, boarding, alighting, and destination was assigned a zone. The boarding zones assisted in validating the survey expansion. The origin and destination zones may be used for travel modeling and demographics analysis.

MPO staff estimated trip duration for walk access trips by planning each trip from origin to destination using Google Maps Transit Directions. It is not possible to determine the actual travel time without analyzing each survey record individually; many trips do not exactly match the route sequence recommended by Google because there are often many ways to make the same trip. However, the trip duration provided by Google Maps is likely a reasonable estimate.

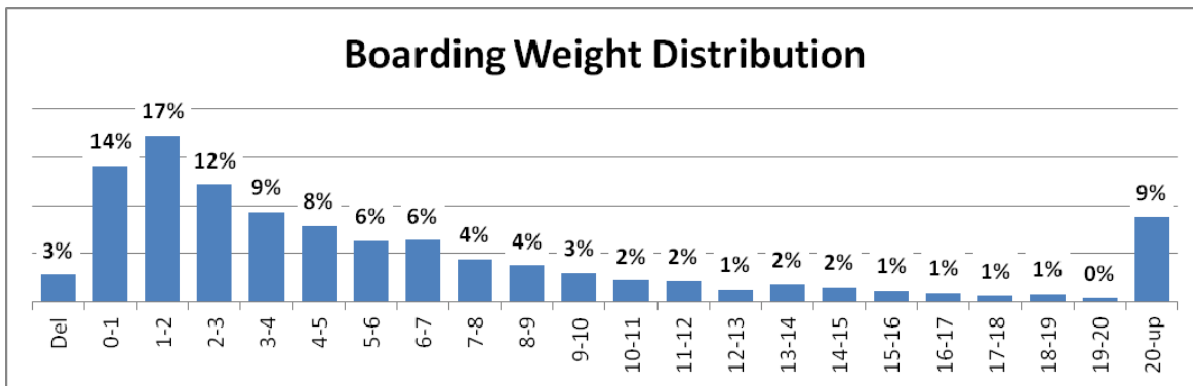
Survey Expansion

The surveys collected represent about 13% of daily ridership for Metro Transit on the routes surveyed on weekdays in March 2015. The sample can be expanded by multiplying each record by a factor in order to represent the full daily ridership. However, like any survey, riders were not surveyed uniformly, so each survey record is assigned a unique expansion weight.

The expansion process matches survey results with known system attributes to produce **boarding weights**, which are essentially consistent with the definition of an unlinked passenger trip. It attempts to reconcile two dimensions:

- Daily ridership by route, direction, and time of day, based on farebox boarding data
- Passenger flows and/or bus stop boardings/alightings based on a separate on-to-off survey and boarding counts completed as part of the project

The 151 (3% of total) surveys with geography errors that could not be repaired were retained in the dataset but given a boarding weight of 0. The distribution of boarding weights is shown below. The average weight is 7.5, reflecting an overall expansion of 5,763 surveys to represent 43,270 daily riders.



Boarding weights are then divided by (1 + the number of transfers) to produce **trip weights**. Unlike boarding weights, trip weights represent the number of actual journeys by accounting for transfers. In theory, riders who transfer on any particular journey are more likely to be surveyed than riders who do not transfer. For this calculation, the number of “true” transfers was used, which excludes interline transfers where the person stays on the bus as it changes route number. An interline transfer would not be counted twice in the farebox data and does not significantly increase the likelihood of being surveyed.

Boarding weights represent the approximately 45,000 boardings that take place on Metro Transit throughout the day, while trip weights represent the approximately 38,000 linked journeys by accounting for transfers. Unique individuals typically make two trips during the day, but some take only one and some make more than two. The results presented below primarily use trip weights. For analysis of individual routes, it is appropriate to use boarding weights.

Summary of Results

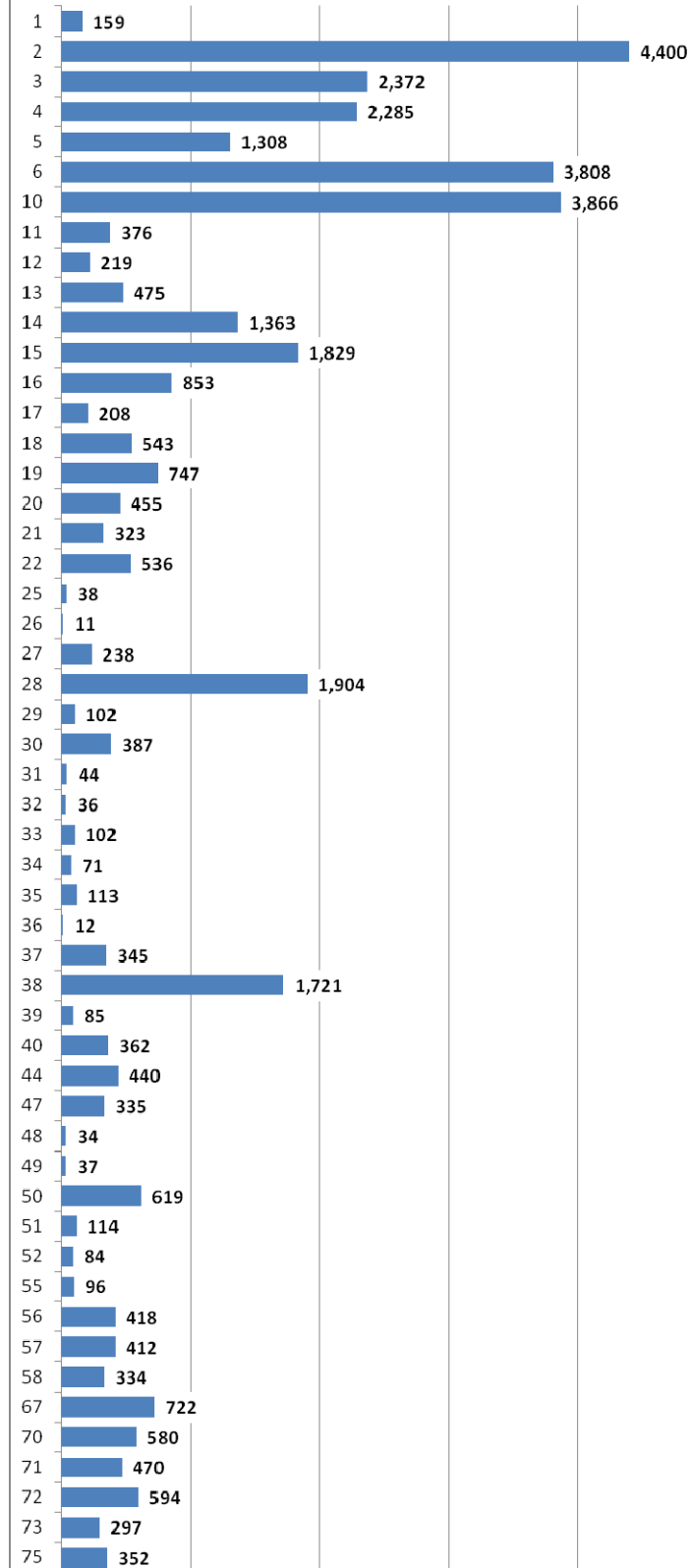
MPO staff developed a spreadsheet to quickly and easily query specific results and cross tabulate data. For instance, it is possible to create charts showing not only the distribution of fare payment methods system-wide but also the distribution for non-students, those aged 35 years or older, or those who have household incomes less than \$50,000. This is particularly useful for student status and household statistics such as income.

A summary of the results is below.

Route

Route	Weighted *		Unweighted	
1	159	0.4%	28	0.5%
2	4,648	10.7%	592	10.0%
3	2,550	5.9%	385	6.5%
4	2,754	6.4%	247	4.2%
5	1,701	3.9%	199	3.4%
6	4,253	9.8%	446	7.5%
10	3,953	9.1%	497	8.4%
11	438	1.0%	77	1.3%
12	234	0.5%	49	0.8%
13	552	1.3%	98	1.7%
14	1,390	3.2%	211	3.6%
15	1,895	4.4%	319	5.4%
16	1,138	2.6%	127	2.1%
17	419	1.0%	39	0.7%
18	1,031	2.4%	105	1.8%
19	762	1.8%	218	3.7%
20	670	1.5%	55	0.9%
21	627	1.4%	87	1.5%
22	911	2.1%	61	1.0%
25	46	0.1%	14	0.2%
26	20	0.0%	5	0.1%
27	250	0.6%	76	1.3%
28	1,933	4.5%	274	4.6%
29	102	0.2%	43	0.7%
30	591	1.4%	43	0.7%
31	68	0.2%	19	0.3%
32	59	0.1%	11	0.2%
33	132	0.3%	8	0.1%
34	104	0.2%	29	0.5%
35	132	0.3%	16	0.3%
36	16	0.0%	4	0.1%
37	356	0.8%	31	0.5%
38	1,763	4.1%	182	3.1%
39	131	0.3%	27	0.5%
40	592	1.4%	57	1.0%
44	440	1.0%	134	2.3%
47	366	0.8%	88	1.5%
48	38	0.1%	7	0.1%
49	58	0.1%	9	0.2%
50	788	1.8%	38	0.6%
51	157	0.4%	11	0.2%
52	143	0.3%	23	0.4%
55	164	0.4%	38	0.6%
56	460	1.1%	107	1.8%
57	463	1.1%	89	1.5%
58	347	0.8%	87	1.5%
67	924	2.1%	61	1.0%
70	618	1.4%	67	1.1%
71	493	1.1%	146	2.5%
72	622	1.4%	126	2.1%
73	451	1.0%	74	1.3%
75	361	0.8%	130	2.2%

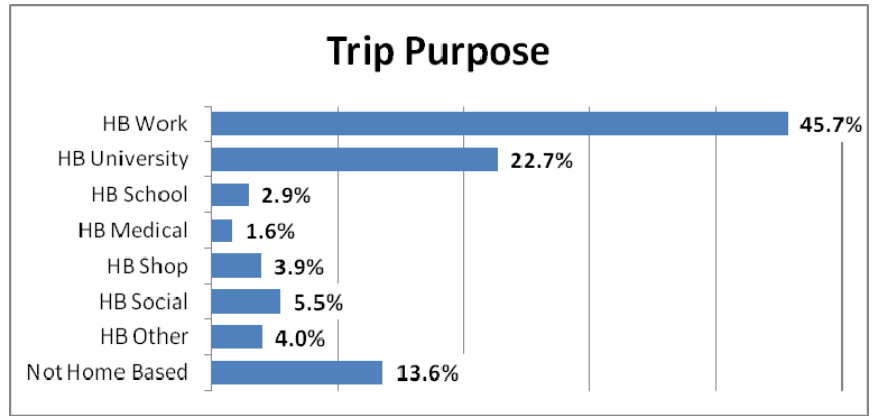
Route



* Boarding weights

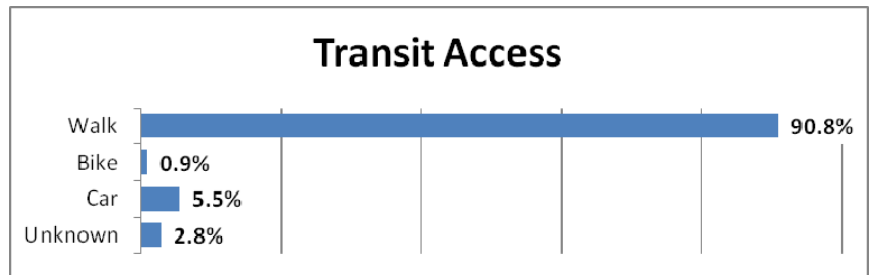
Trip Purpose

Purpose	Weighted	Unweighted
HB Work	17,208	3,040
HB University	8,540	1,262
HB School	1,091	160
HB Medical	621	99
HB Shop	1,483	188
HB Social	2,059	304
HB Other	1,522	200
Not Home Based	5,112	661



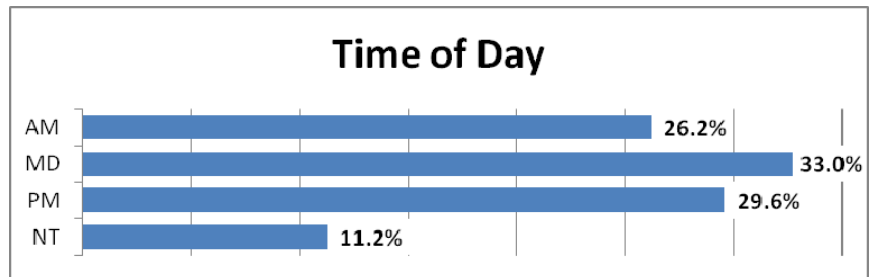
Transit Access

Access	Weighted	Unweighted
Walk	34,188	5,410
Bike	327	37
Car	2,066	300
Unknown	1,053	167



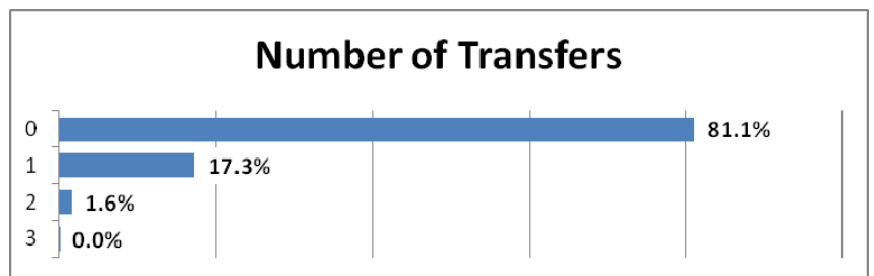
Time of Day

Time Period	Weighted	Unweighted
6:00 am - 9:00 am	9,856	1,765
9:00 am - 3:00 pm	12,419	1,524
3:00 pm - 6:00 pm	11,126	1,784
6:00 pm - 9:00 pm	4,233	829



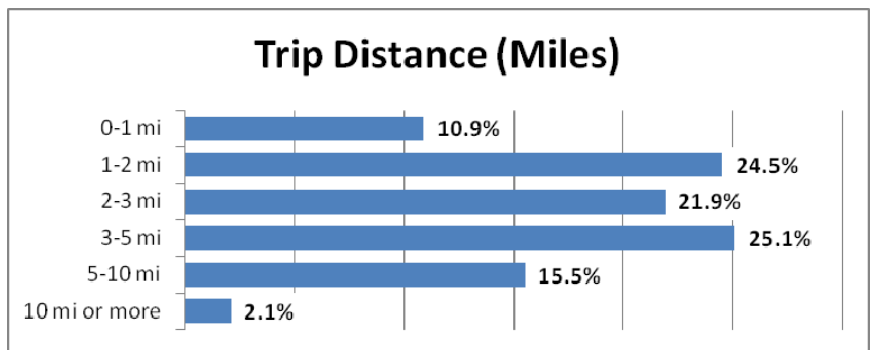
Number of Transfers

Transfers	Weighted	Unweighted
None	30,530	4,392
One	6,506	1,297
Two	594	217
Three or more	5	8



Trip Distance, Miles *

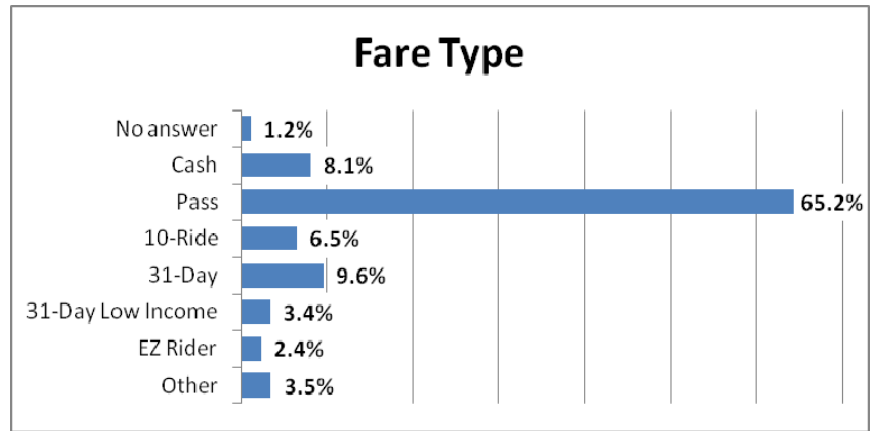
Distance	Weighted	Unweighted
0-1 mi	4,099	429
1-2 mi	9,221	1214
2-3 mi	8,237	1254
3-5 mi	9,443	1732
5-10 mi	5,836	1109
10 mi or more	799	176



* Direct geodesic distance from origin to destination

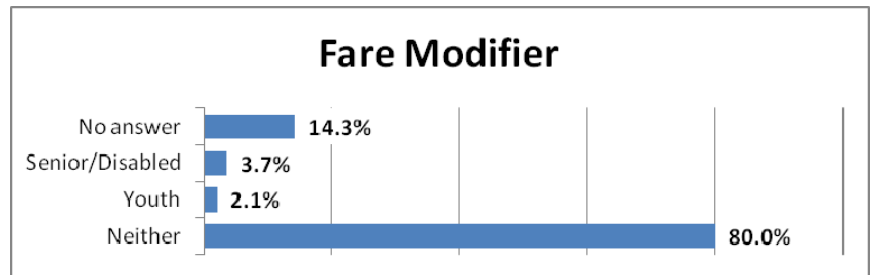
Fare Payment Type

Fare Type	Weighted	Unweighted
No answer	453	65
Cash	3,048	494
Pass	24,528	3,751
10-Ride	2,461	438
31-Day	3,619	640
31-Day Low Income	1,294	178
EZ Rider	906	135
Other	1,325	213



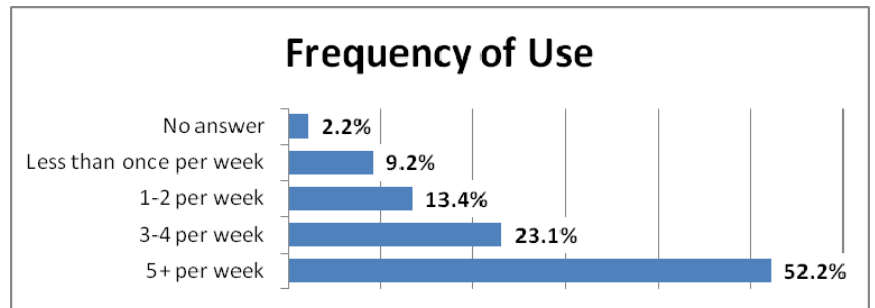
Fare Modifier

Modifier	Weighted	Unweighted
No answer	5,367	757
Senior/Disabled	1,375	179
Youth	779	141
Neither	30,114	4,837



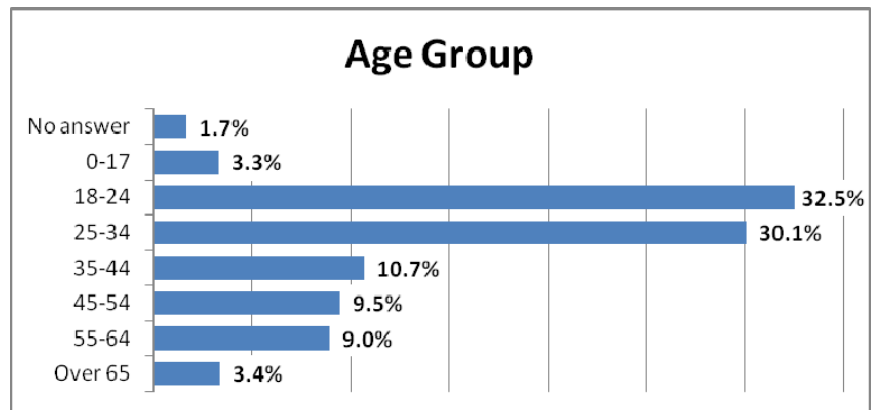
Frequency of Use

Frequency	Weighted	Unweighted
No answer	812	106
<1 x per week	3,452	502
1-2 x per week	5,046	735
3-4 x per week	8,682	1,338
5+ x per week	19,643	3,233



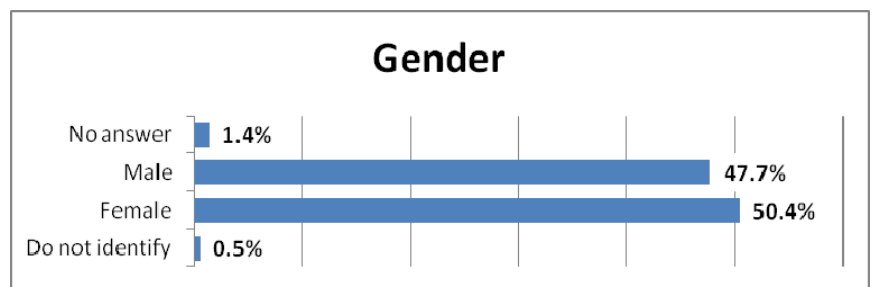
Age

Age Group	Weighted	Unweighted
No answer	634	93
0-17	1,247	191
18-24	12,228	1,721
25-34	11,309	1,812
35-44	4,023	690
45-54	3,557	618
55-64	3,371	614
Over 65	1,266	175



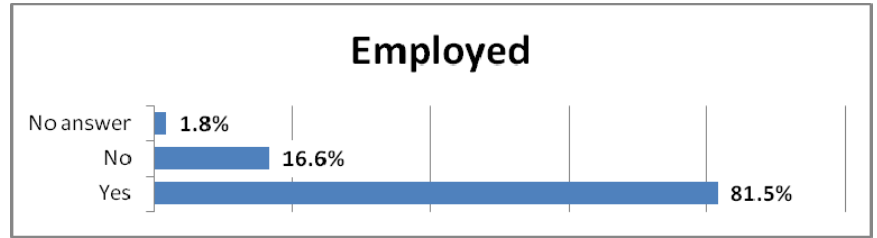
Gender

Gender	Weighted	Unweighted
No answer	513	75
Male	17,954	2,861
Female	18,972	2,948
Do not identify	195	30



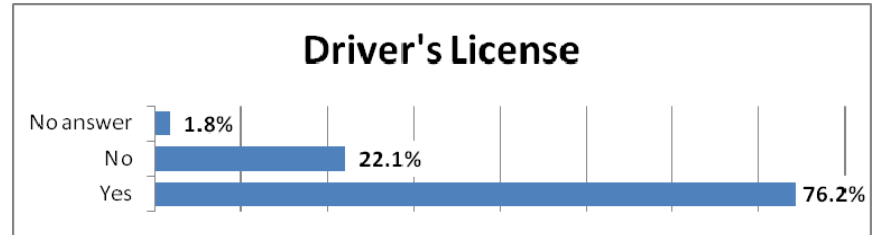
Employment Status

Employed	Weighted	Unweighted
No answer	696	86
No	6,262	902
Yes	30,677	4,926



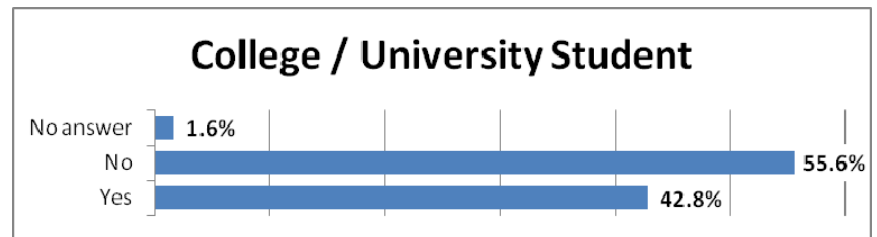
Possession of Driver's License

Driver's License	Weighted	Unweighted
No answer	664	63
No	8,308	1,329
Yes	28,663	4,522



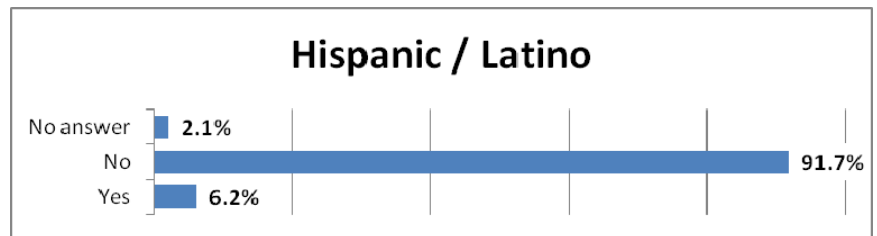
College/University Student

Col/Univ Student	Weighted	Unweighted
No answer	601	74
No	20,934	3,533
Yes	16,100	2,307



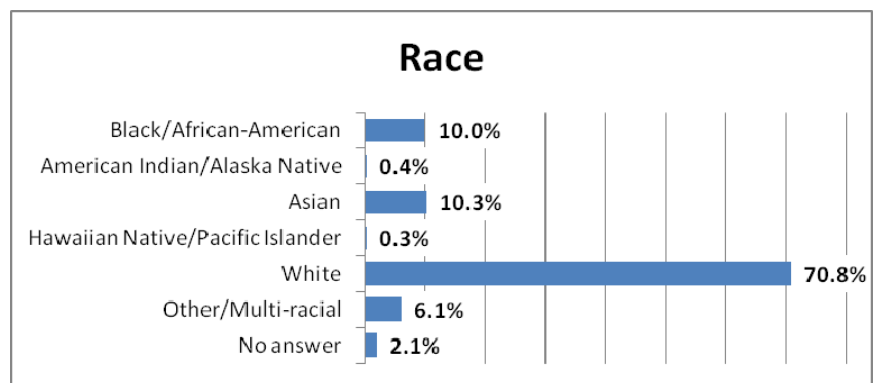
Hispanic/Latino

Hispanic/Latino	Weighted	Unweighted
No answer	796	105
No	39,518	5,402
Yes	2,321	407



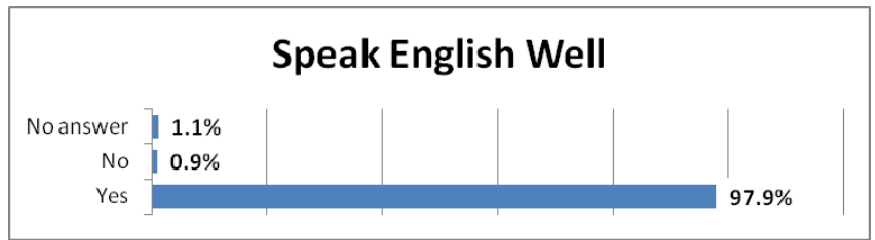
Race

Race	Weighted	Unweighted
Black/African-American	3,772	630
American Indian/Alaska Native	143	28
Asian	3,894	606
Hawaiian Native/Pacific Islander	106	8
White	26,647	4,145
Other/Multi-racial	2,301	378
No answer	772	119



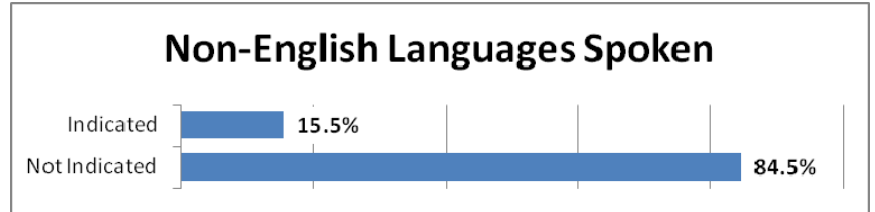
English Proficiency

Speak English Well	Weighted	Unweighted
No answer	422	33
No	337	61
Yes	36,093	5,693



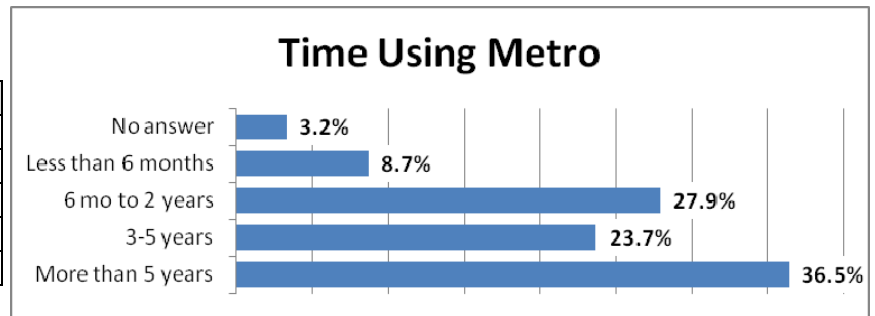
Other Languages Spoken at Home

Other Languages	Weighted	Unweighted
Indicated	5,830	914
Not Indicated	31,805	5,000



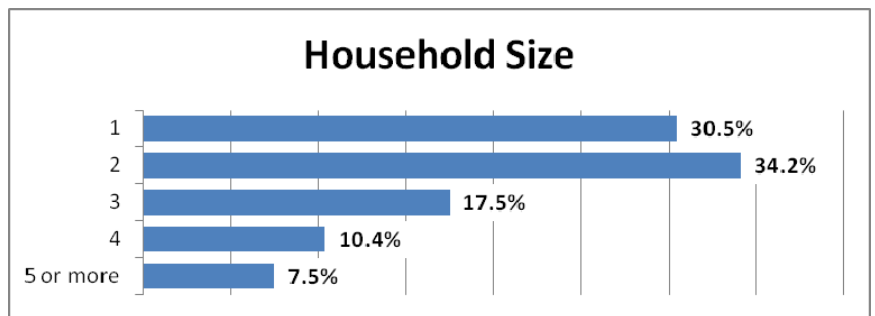
Length of Time Using Metro Transit

Length of Time	Weighted	Unweighted
No answer	1,221	148
Less than 6 months	3,265	548
6 mo to 2 years	10,506	1,606
3-5 years	8,919	1,351
More than 5 years	13,724	2,261



Household Size *

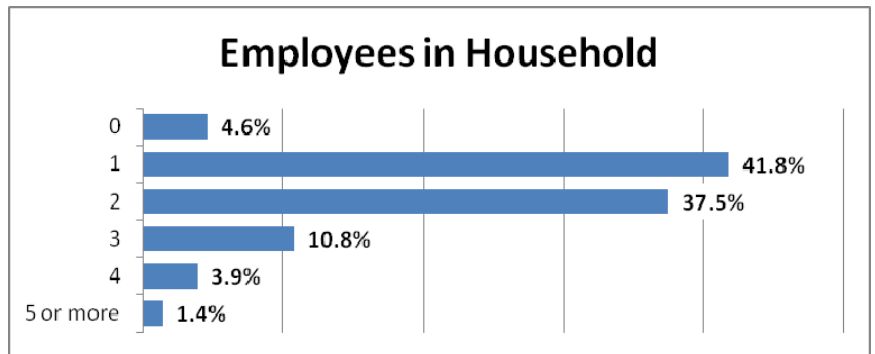
Household Size *	Weighted	Unweighted
1	6,563	1,007
2	7,352	1,357
3	3,767	612
4	2,239	378
5 or more	1,614	253



* Totals exclude college/university students. Surveys that did not fill out household information were discarded.

Employees in Household *

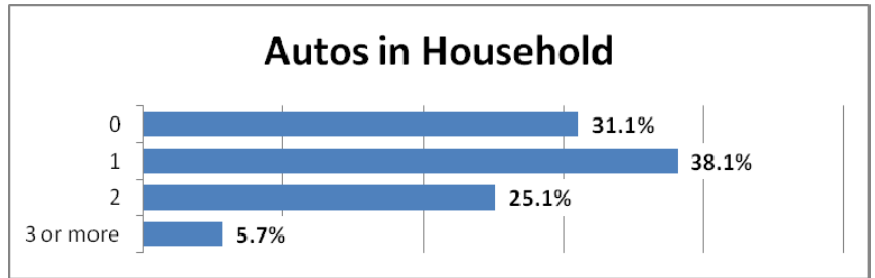
Employees in HH *	Weighted	Unweighted
0	999	173
1	8,996	1,386
2	8,074	1,518
3	2,317	365
4	832	110
5 or more	308	51



* Totals exclude college/university students. Surveys that did not fill out household information were discarded.

Autos in Household *

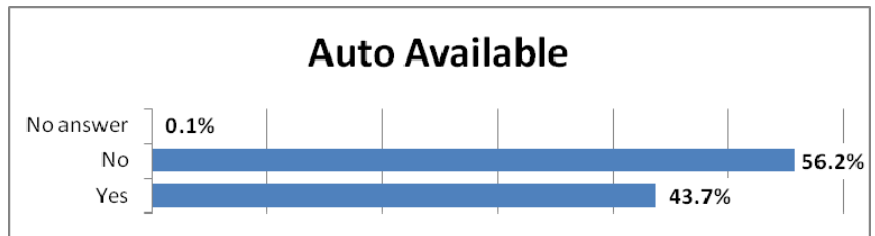
Autos in HH *	Weighted	Unweighted
0	6,694	1,000
1	8,210	1,410
2	5,412	952
3 or more	1,218	245



* Totals exclude college/university students.
Surveys that did not fill out household information were discarded.

Auto Availability for Trip *

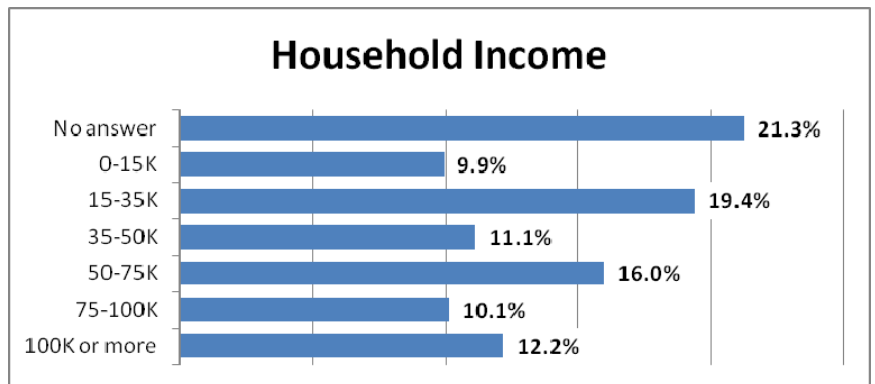
Auto Available	Weighted	Unweighted
No answer	23	5
No	12,099	1,921
Yes	9,413	1,681



* Totals exclude college/university students.
Surveys that did not fill out household information were discarded.

Household Income *

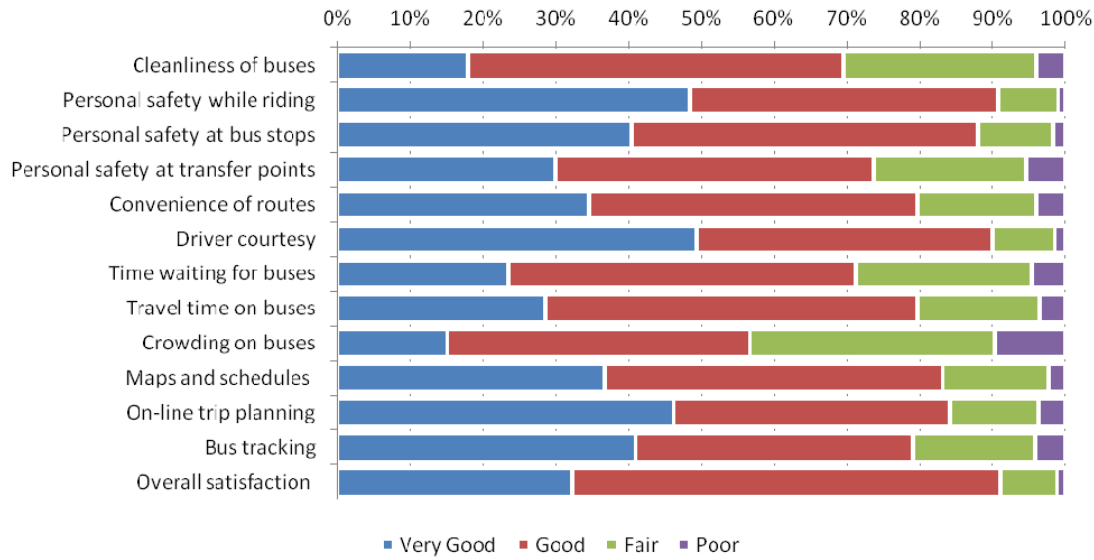
HH Income *	Weighted	Unweighted
No answer	4,577	678
0-15K	2,138	370
15-35K	4,178	577
35-50K	2,397	422
50-75K	3,440	645
75-100K	2,181	418
100K or more	2,624	497



Satisfaction

Category	Weighted Results					
	No answer	NA	Poor	Fair	Good	Very Good
Cleanliness of buses	4,063	288	1,351	8,804	17,149	5,980
Personal safety while riding	4,071	269	331	2,730	14,085	16,149
Personal safety at bus stops	4,074	403	597	3,430	15,748	13,383
Personal safety at transfer points	4,214	6,389	1,439	5,647	11,857	8,089
Convenience of routes	4,147	302	1,329	5,404	15,005	11,446
Driver courtesy	4,190	346	481	2,837	13,460	16,322
Time waiting for buses	4,307	298	1,515	8,022	15,773	7,721
Travel time on buses	4,188	362	1,180	5,528	16,952	9,425
Crowding on buses	4,265	461	3,194	11,059	13,706	4,951
Maps and schedules	4,309	1,395	759	4,602	14,816	11,755
On-line trip planning	4,402	5,499	1,015	3,367	10,524	12,826
Bus tracking	4,324	8,121	1,060	4,207	9,591	10,331
Overall satisfaction	4,409	374	376	2,583	19,309	10,585

Satisfaction (Excluding N/A and No Answers)

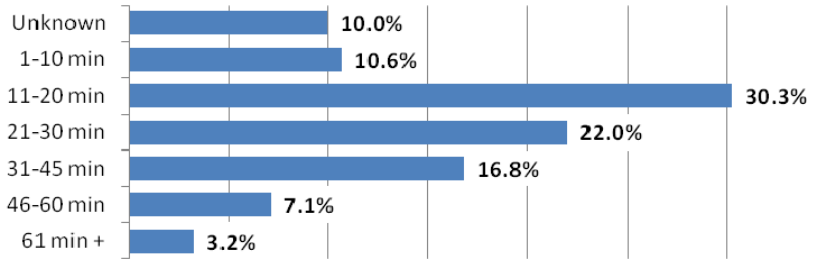


Estimated Travel Time

Travel Time	Weighted	Unweighted
Unknown *	3,747	578
1-10 min	4,005	358
11-20 min	11,392	1,555
21-30 min	8,269	1,361
31-45 min	6,324	1,193
46-60 min	2,675	562
61 min or more	1,221	307

* Includes non-walk access trips

Estimated Travel Time

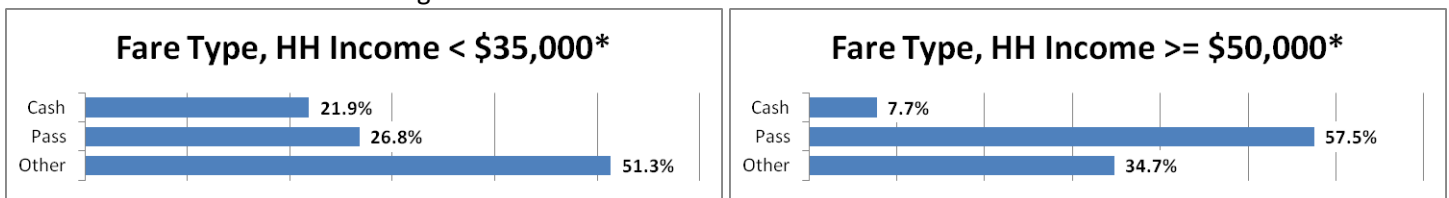


Conclusions

The **trip purpose** for transit riders is dominated by trips to or from work. However, many university trips are also made as well as shopping, recreation, and other trips.

Transit access is primarily by walking, although a significant number of people drive, mainly for work trips. Madison's relative lack of park-and-ride lots, particularly on the west side, likely results in people parking on the street or in retail lots. One observed problem is that several people likely indicated that they "will be picked up" if they planned to transfer to a different route. This problem was corrected using an algorithm by MPO staff but the option should be eliminated from future surveys due to its similarity to "Drive/ride in a vehicle". Supposedly, about 5% of non-home-based trips were "picked up" or "dropped off", which is not logical and is likely the result of confusion. For this reason any remaining picked up or dropped off responses were coded as "unknown".

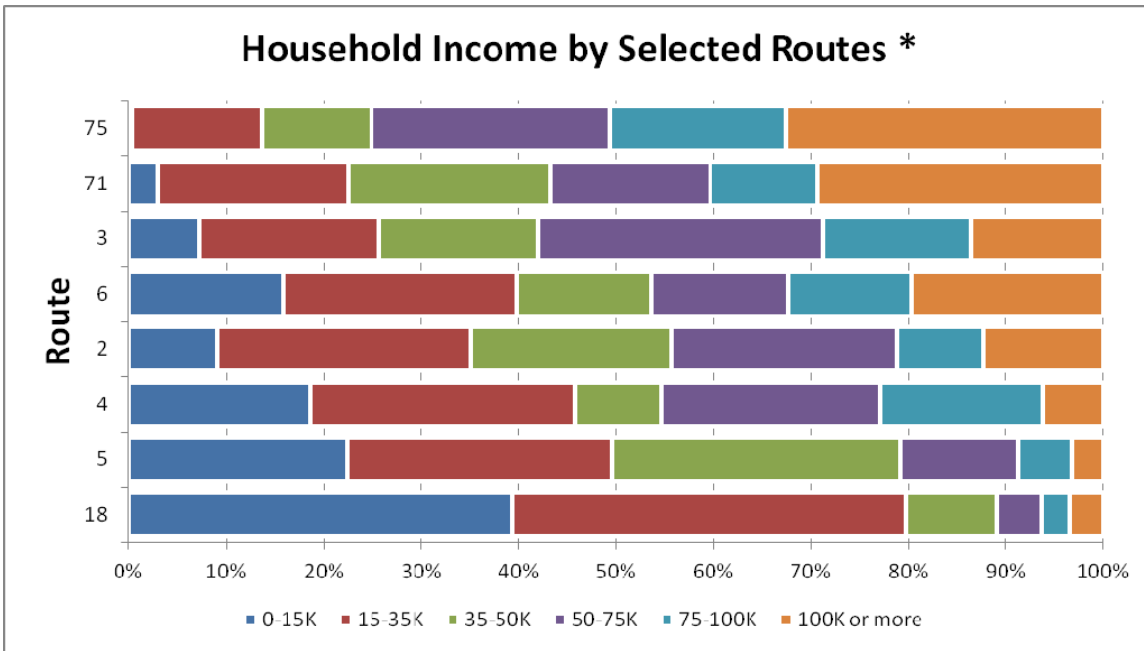
The dominant **fare type** used was the unlimited ride pass. Riders would indicate that they used an unlimited ride pass if they used a student pass from the UW or another college, or if they used a pass provided by an employer such as the City of Madison, UW, Dane County, or Meriter Hospital. Cash fares, at \$2.00 per trip, are generally the most expensive fare category. People from low income households (less than \$35,000 per year) are more likely to pay cash compared to the system as a whole. 10-ride cards are a much more economical fare method at \$15.00 for 10 rides. Comparing these two options, low-income people are much less likely to utilize the 10-ride cards (27%) than their higher income (households making \$50,000 per year or more) counterparts (62%). This inequity may be due to the lack of sales outlets for 10-ride cards in low-income neighborhoods.



* College/university students excluded

The majority of riders do not **transfer** in order to complete their trip. "One-seat rides" are generally preferred because they are faster and more convenient than trips that involve transfers. However, minorities are much more likely than white riders to transfer. Black riders are about three times as likely to transfer as their white counterparts. This may be due to the location of many diverse neighborhoods in peripheral Madison on the southwest, south, east, and north sides outside of the four transfer points. Black riders also make longer trips on average (8.8 miles vs. 7.0 miles direct geodesic distance) and have longer average travel times (31.6 minutes vs. 22.4 minutes).

College/university students were excluded from analyses of **household income** as well as other household questions because they typically live with unrelated roommates and may receive financial support from their families. Household incomes on Metro are relatively evenly distributed with very low incomes (0 to \$15,000 per year) to high incomes (\$100,000 and above). This wide range of incomes can be seen throughout the Metro system, but concentrations exist. For instance, the majority of riders on Route 75 have household incomes of \$75,000 or more while about 80% of Route 18 riders have household incomes of less than \$35,000.



* Boarding weights, excluding college/university students and no answers for household income

Rider **satisfaction** is high with over 90% of riders reporting general satisfaction levels as good or very good. Categories that performed the best were personal safety while riding and driver courtesy. Categories that could use improvement were crowding on buses, cleanliness of buses, and time waiting for buses. Riders generally rated safety well, although 80% of males indicated that safety at transfer points is good or very good compared to 67% of females.

Implications for Future Onboard Surveys

Overall, staff found that the paper surveys performed well compared to the personal interview (tablet) survey results. Based on a few observations, riders were willing and in many cases eager to complete the paper surveys and filled them out accurately; there was little evidence that the personal interviews were substantially more effective at engaging riders. The personal interview surveys appeared to bias long trips because riders who spent more time on the bus were more likely to be surveyed compared to the paper survey method where everybody was handed a survey. Most importantly, however, is the observation that the geography data recorded in the tablets was not better than the paper survey data and was in fact substantially worse. More personal interview survey records needed cleaning and more were discarded compared to the paper surveys. To compound the issue, the personal interview survey records were much more difficult to correct due to the lack of a paper trail and staff had to primarily guess at how to make the records self-consistent. In contrast, most paper surveys that could be found could be easily and accurately fixed.

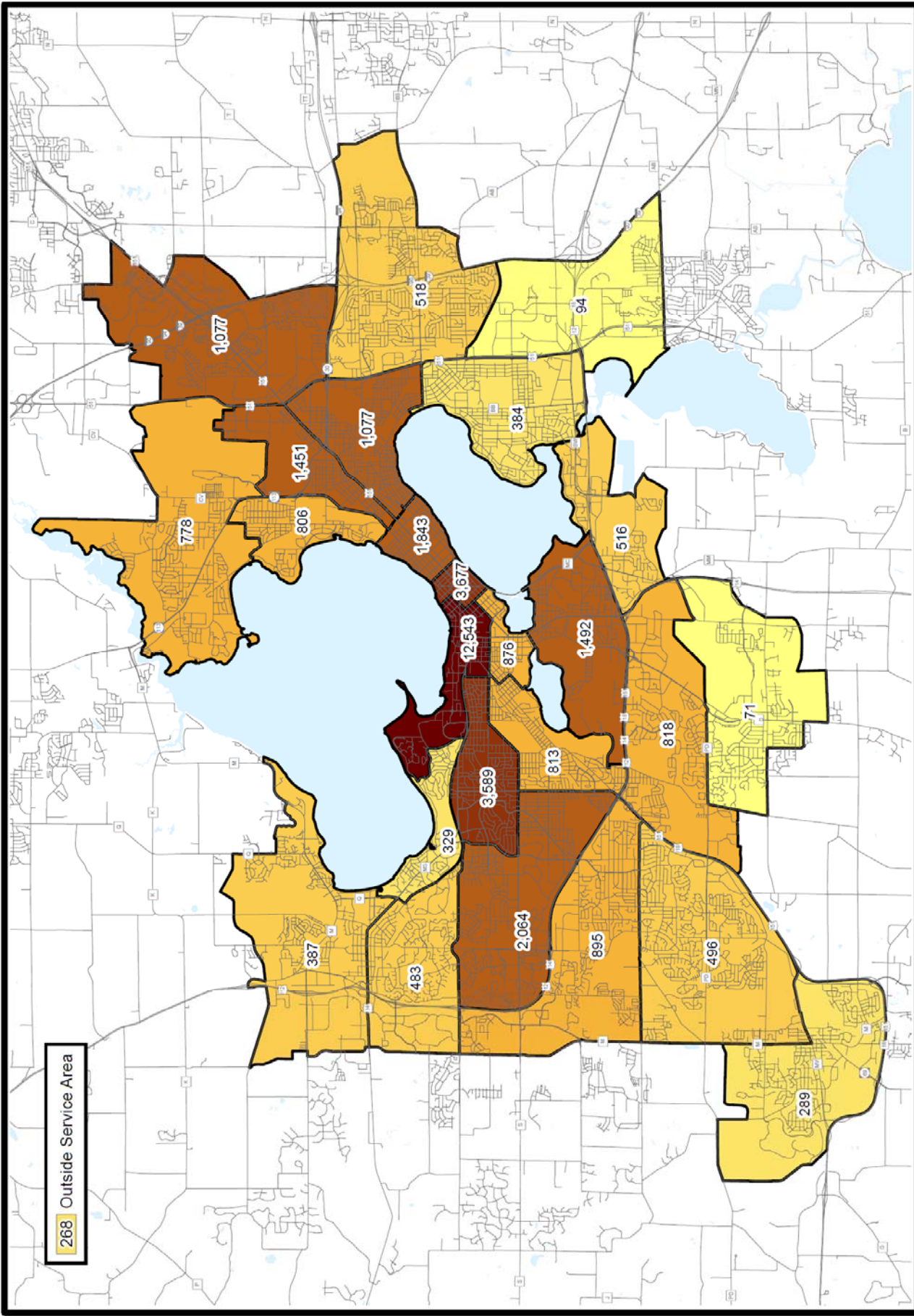
The reasons for the inaccurate tablet data are likely fairly simple. First, survey subjects are responding to the same questions regardless of the survey method but they have to communicate through the surveyor during personal interviews. The surveyor represents a link in the information flow that may add error by misinterpreting their response. The surveyor may know relatively little about Madison and the Metro Transit system, so they may not be able to interpret acronyms and place names correctly and cannot immediately recognize routes, stops, and transfers that do not make sense. Second, the software was apparently unable to identify basic problems with journeys. For instance, journeys were found where the origin and destination were reversed, the origin and boarding were far apart even though the subject indicated that they had walked a short distance, or the boarding/alighting location was not on the surveyed route.

Two routes, Routes 2 and 6, were surveyed with a combination of paper surveys and personal interviews, and can be used to compare the two methods. Unweighted survey results are shown below.

Route	Method	Surveys Returned	Total Minority Responses	Black / African Americans	Asians	Average B-A Distance
2	Paper	327	34%	2%	22%	1.8 mi
2	Tablet	265	30%	12%	10%	2.3 mi
6	Paper	99	29%	12%	6%	3.0 mi
6	Tablet	347	28%	14%	5%	4.0 mi

Given the cost of the personal interviews and potentially reduced data quality and bias towards long trips, along with the effectiveness of the paper surveys, staff recommend that future surveys be completed using exclusively traditional pencil and paper instruments. The paper surveys were distributed on stiff stock so that a clipboard was unnecessary, which worked well. As an alternative to the personal interviews, several steps may be taken to address the potential bias of future surveys:

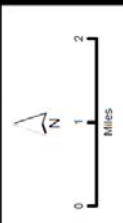
- Train surveyors to look for people who are having trouble with the survey and ask if they would like help and/or a personal interview; increase the survey staff if necessary.
- Improve training for surveyors so that they can accurately answer questions and eliminate common errors. Increase involvement by MPO or Metro Transit staff so that surveyors have a person to call if they have a specific question.
- Use Optical Character Recognition (OCR) software to reduce data entry costs and improve quality.
- Build staff review time into the schedule to allow for the cleaning of the data by individuals who know the system and geography.
- Supplement on-to-off survey with automated passenger counts and other available data.
- Optimize the survey instrument to make it as clear as possible. Consult the UW survey laboratory and others.
- If tablets are used for personal interviews, review and refine the software to make sure it is catching errors as effectively as possible.

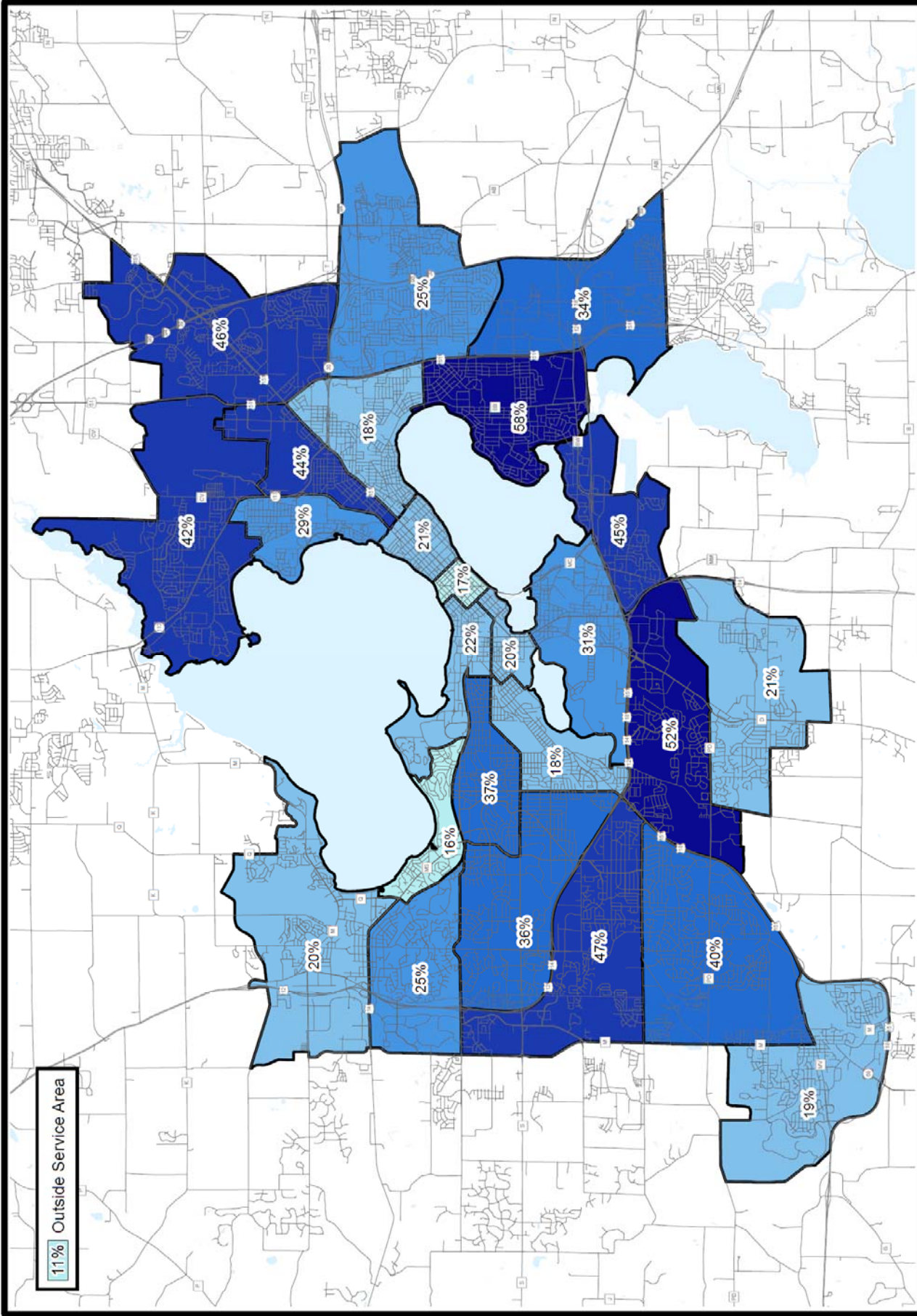


**2015 Metro Transit Onboard Survey
Zone Origin and Destination Totals**


Prepared by staff to the:

 Metropolitan Planning Board
 Transportation Planning Board
 Date Revised: 11/17/2015





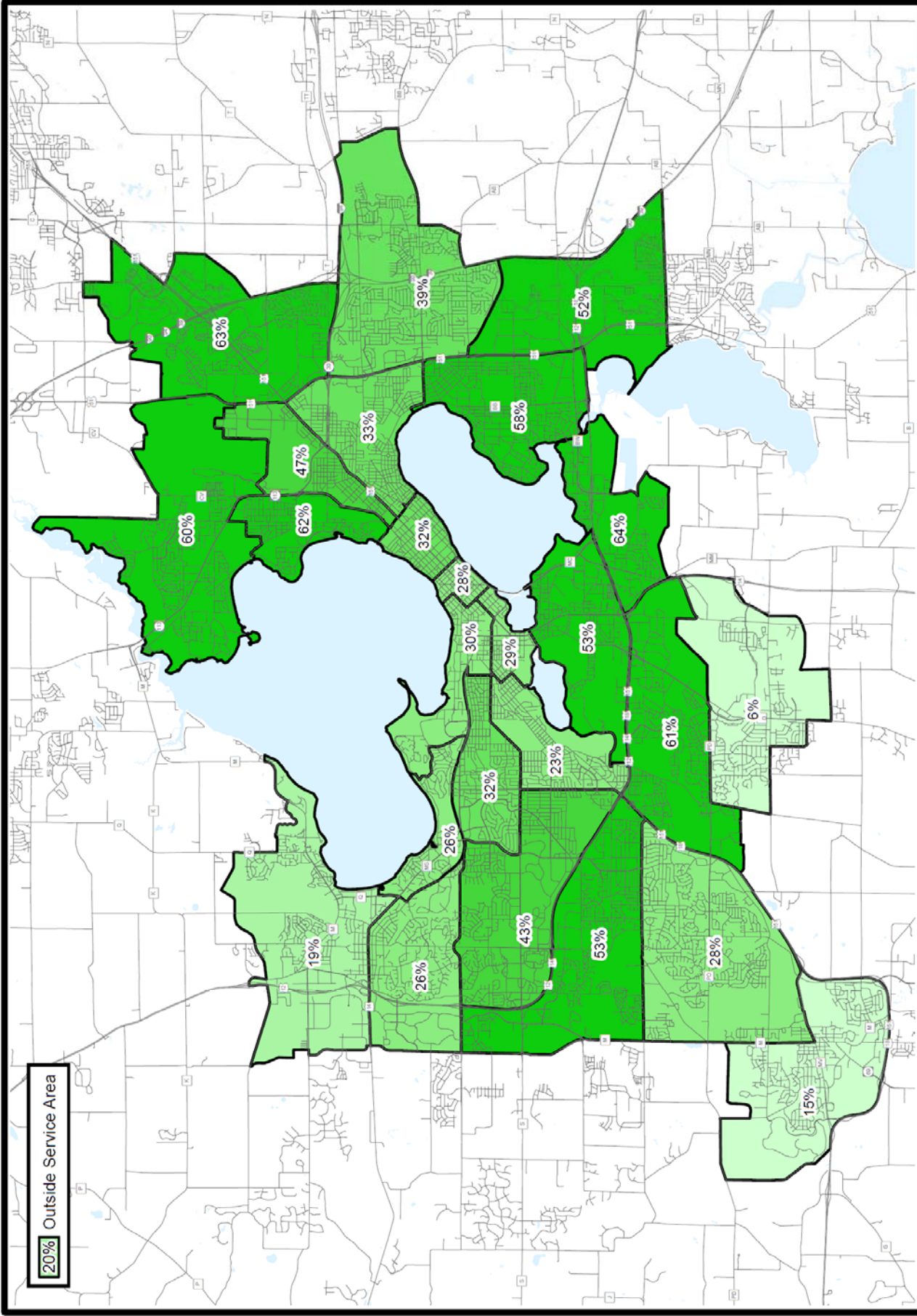
**2015 Metro Transit Onboard Survey
Minority Proportion of Zone Origins
and Destinations**

Prepared by staff to the:

 Transportation Planning Board
 A Metropolitan Planning Organization

Date Revised: 12/11/2015

17% 58%

0 1 2 Miles

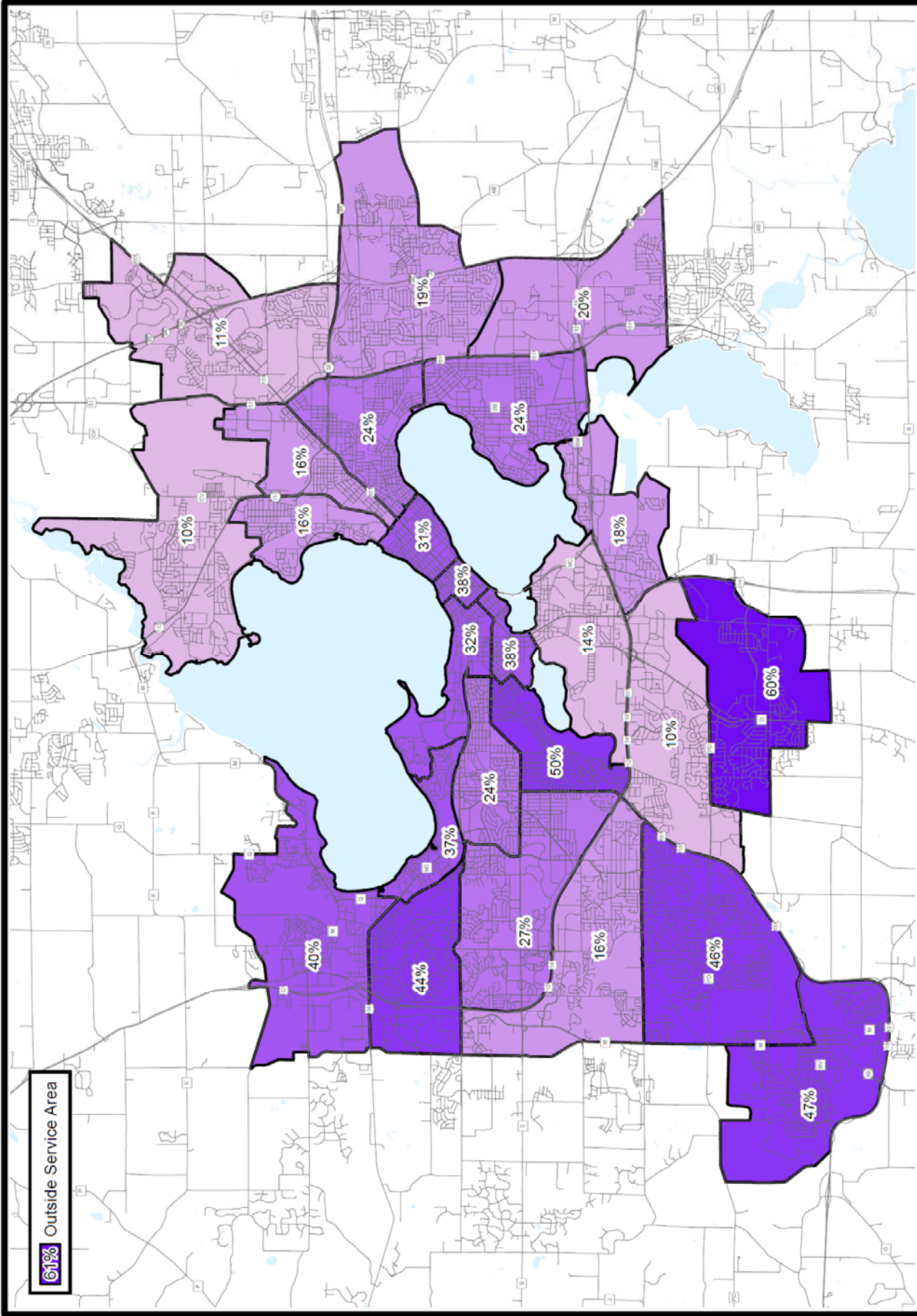


2015 Metro Transit Onboard Survey
Low Income* Proportion of Zone Origins and Destinations (College/University Students Excluded)

Prepared by staff to the:
T.P.B.
 Transportation Planning Board
 A Metropolitan Agency Representative Body
 Date Revised: 12/1/2015

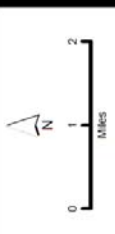
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 Author: pljg

* Riders with a household income less than \$35,000 per year



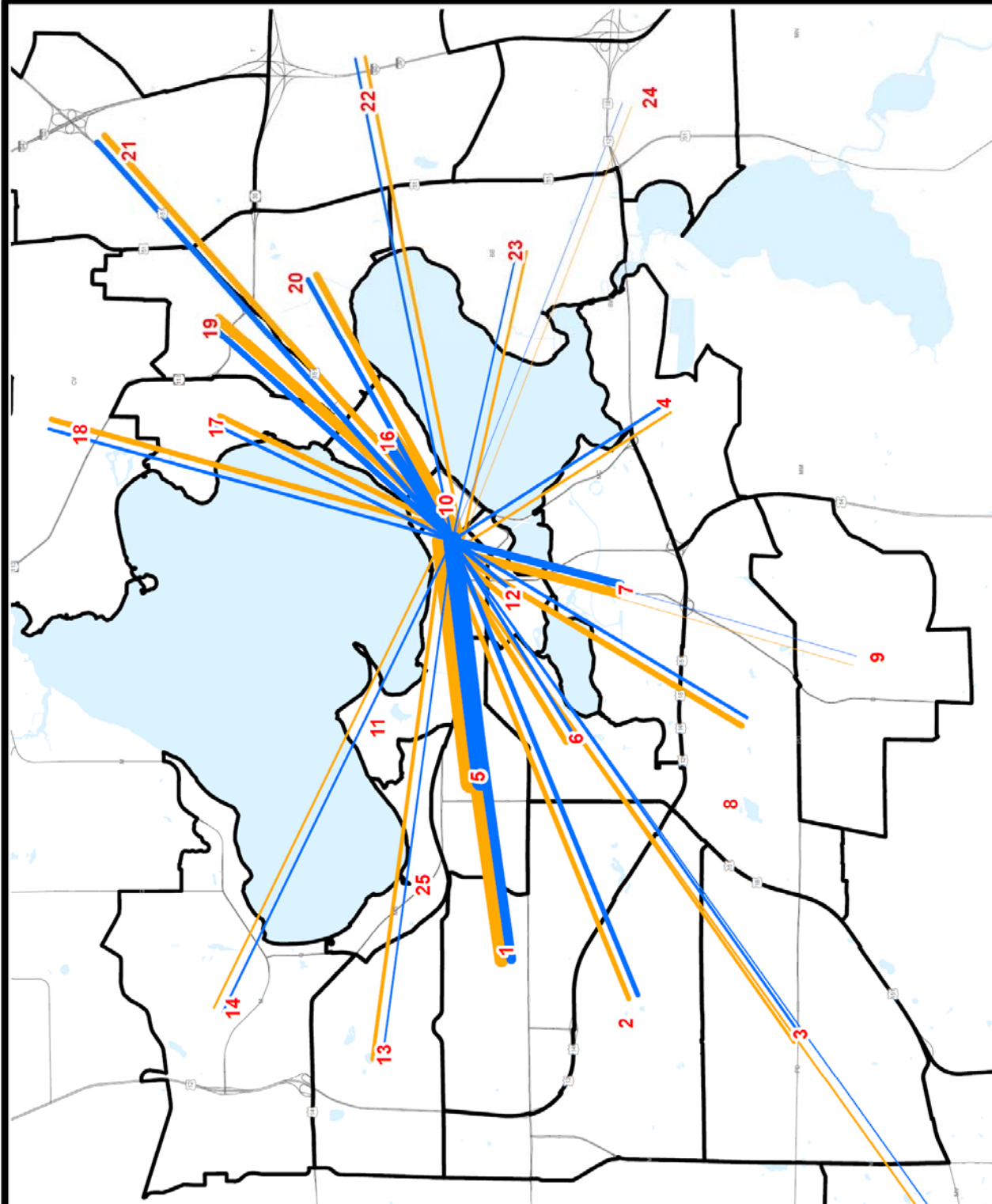
**2015 Metro Transit Onboard Survey
High Income* Proportion of Zone Origins
and Destinations (College/University Students Excluded)**

Prepared by staff to the:
T.P.B.
 Transportation Planning Board
 A Metropolitan Planning Organization
 Date Revised: 12/11/2015



* Riders with a household income of \$75,000 per year or more

Zone	Trips from	
	Downtown	Downtown
1	1,970	2,158
2	1,000	791
3	520	473
4	623	408
5	3,781	3,397
6	722	903
7	1,588	1,396
8	685	950
9	80	62
10	4,077	3,277
11	12,370	12,717
12	874	878
13	386	580
14	445	329
15	265	312
16	2,049	1,637
17	710	903
18	676	881
19	1,245	1,657
20	1,043	1,111
21	1,143	1,012
22	518	519
23	363	405
24	92	95
25	234	423
Outer	176	359



2015 Metro Transit Onboard Survey Downtown/UW Passenger Flows

Prepared by staff to the:

 Madison Area Transportation Planning Board
 11/18/2015
 Date Revised: 11/18/2015

