

# Metro Transit On-Board Survey of Passengers

(February – April 2008)



# Purposes for the Survey

- Support transit route and operations planning
- Improve understanding of public transit customers and receive feedback on service
- Provide data to improve the transit component of the MPO regional transportation model being used for the Transport 2020 Alternatives Analysis Study

# Survey Form

- Long form used for Metro mainline routes
  - Survey design generally consistent with previous surveys
  - Questions about origin/destination, access/egress, boarding/alighting stops, and routes used were revised to meet FTA requirements
- Short form used for UW Campus routes (80, 81, 82, 85)
- School routes not surveyed

# Sampling Plan

- Sampling plan developed based upon route ridership data to achieve confidence level of 90% (+/- 5%) (except for small number of low ridership routes)
  - 6,700 surveys collected on mainline routes and 4,500 on UW routes
  - Survey retrieval rate was 30-40%

# Sampling Plan (continued)

- Survey of mainline routes conducted during the weekday a.m. peak (6-9 a.m.) and midday (9 a.m.-2 p.m.) periods
  - This time period accounts for 60% of ridership; night-time ridership is around 11%
  - Previous surveys conducted throughout the entire service period, making comparisons of some data difficult

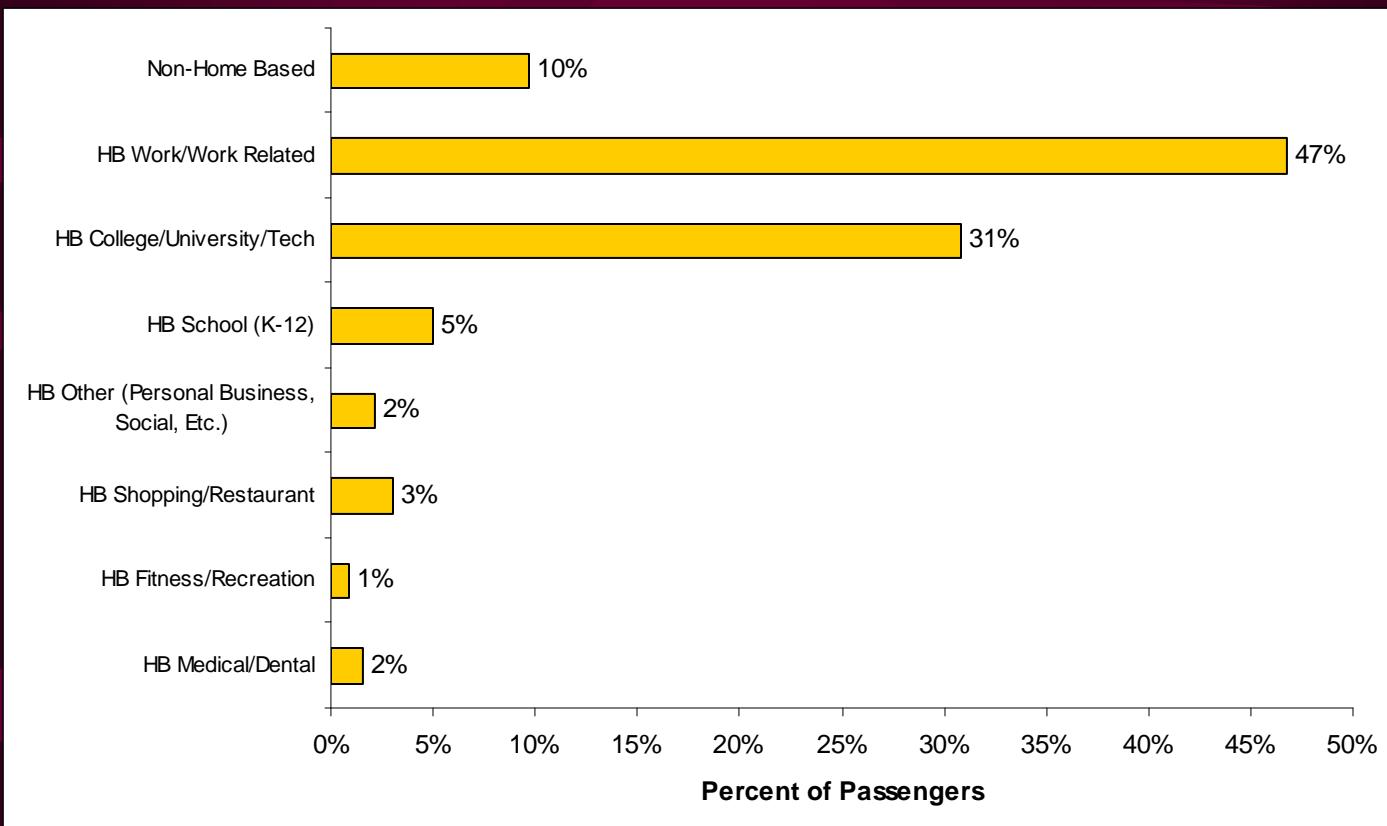
# Survey Data Retrieval

Consultants did an excellent job in maximizing data recovery and in geo-coding the origin/destination information

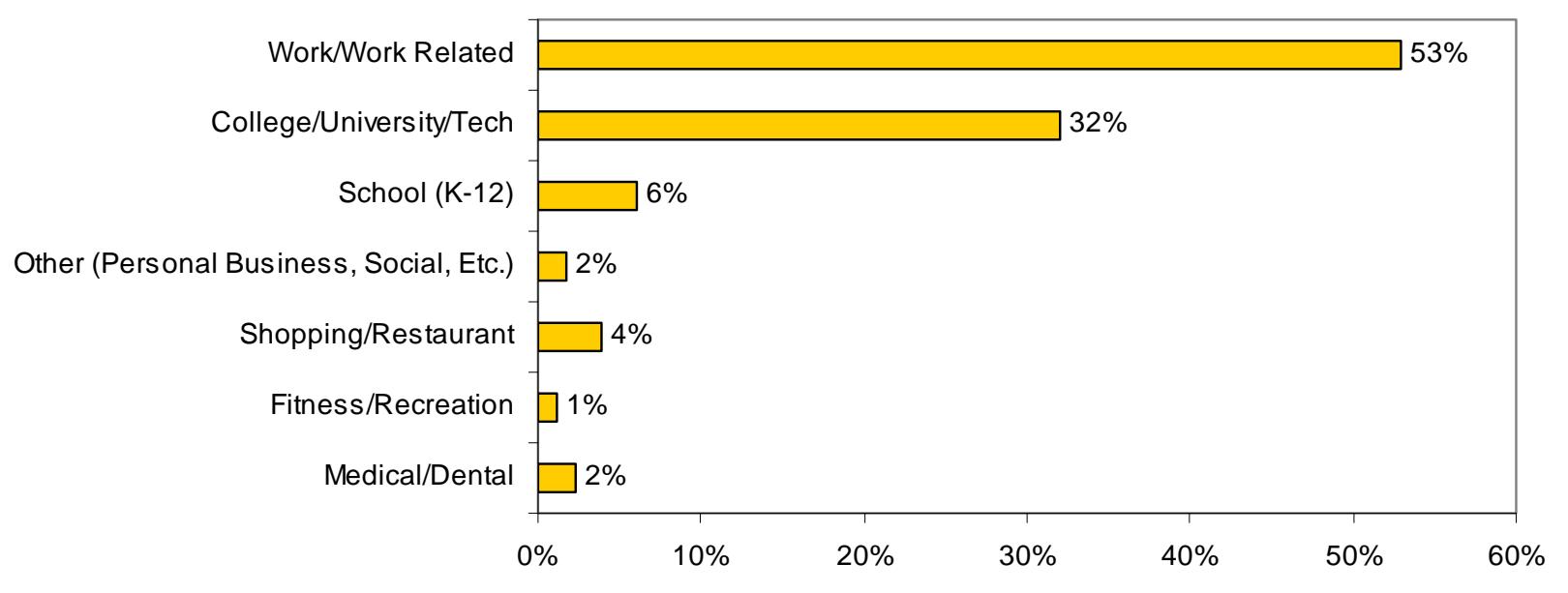
- 55% of records geo-coded through address, street names, place names, and bus-stop data
- Additional 15% were able to be geo-coded through imputation techniques
- Some problems with addresses being geo-coded to the wrong side of the street

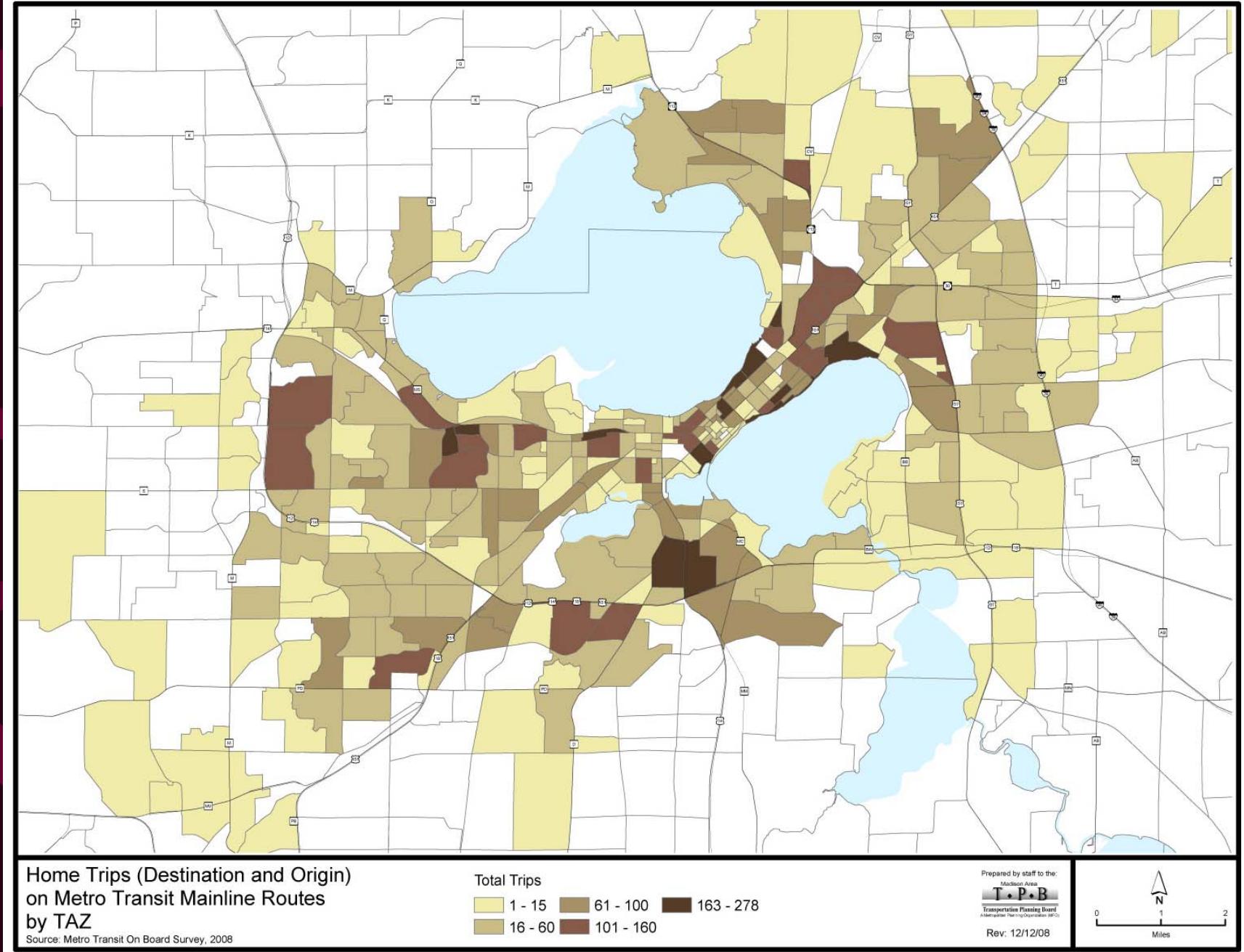
# Survey Results and Analysis

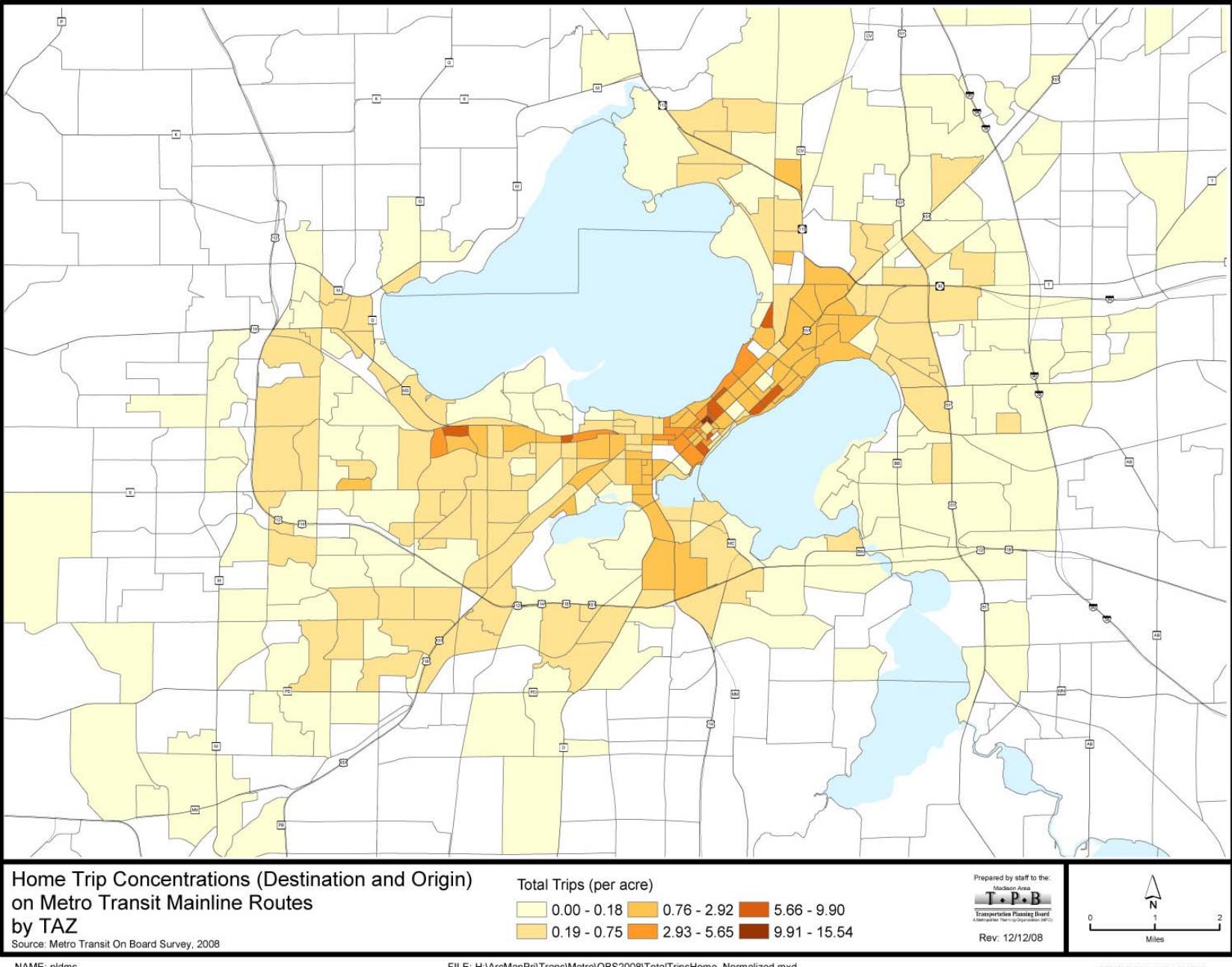
# Trip Purpose (Home-Based and Non-HB Trips) Distribution of Metro Mainline Passengers

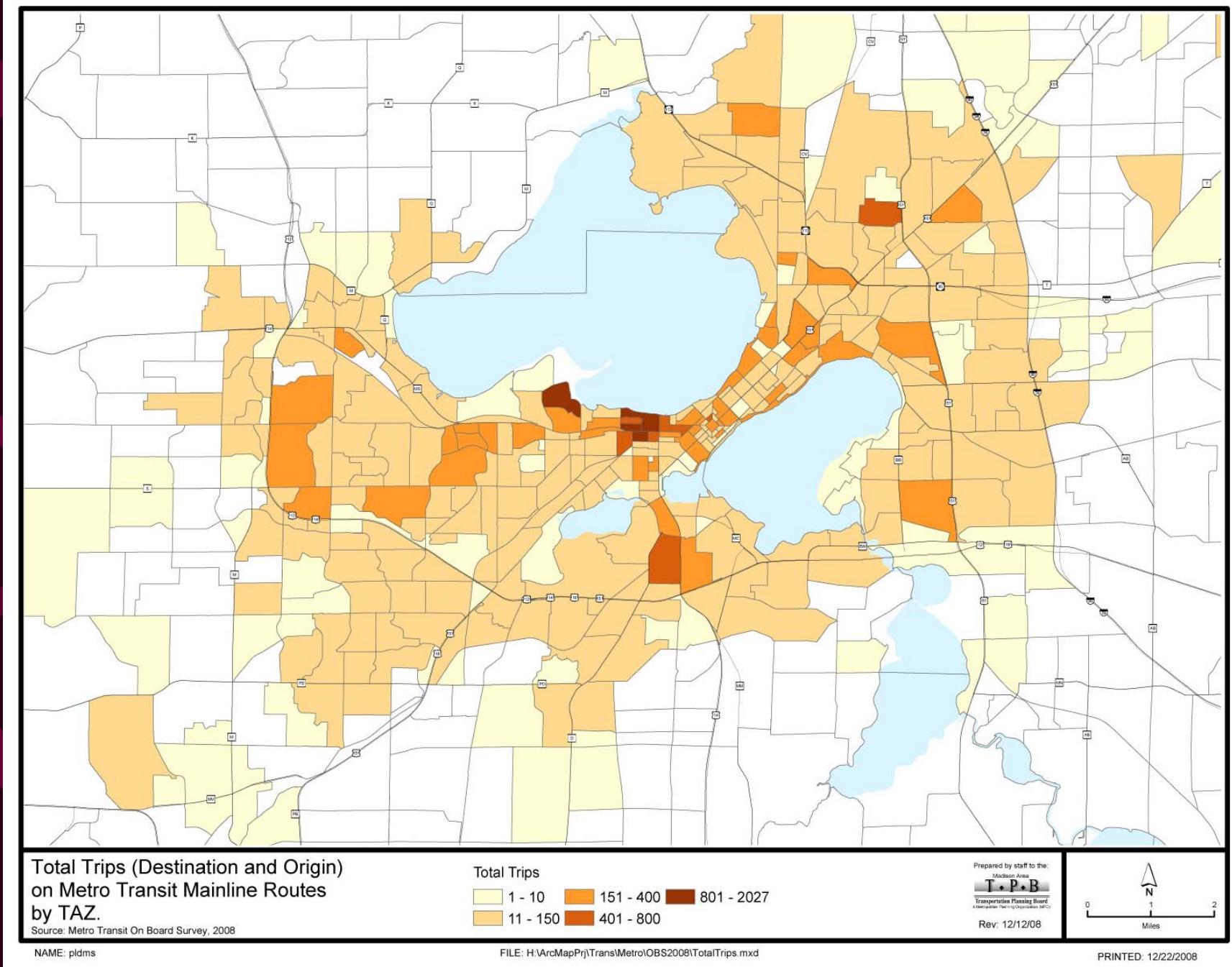


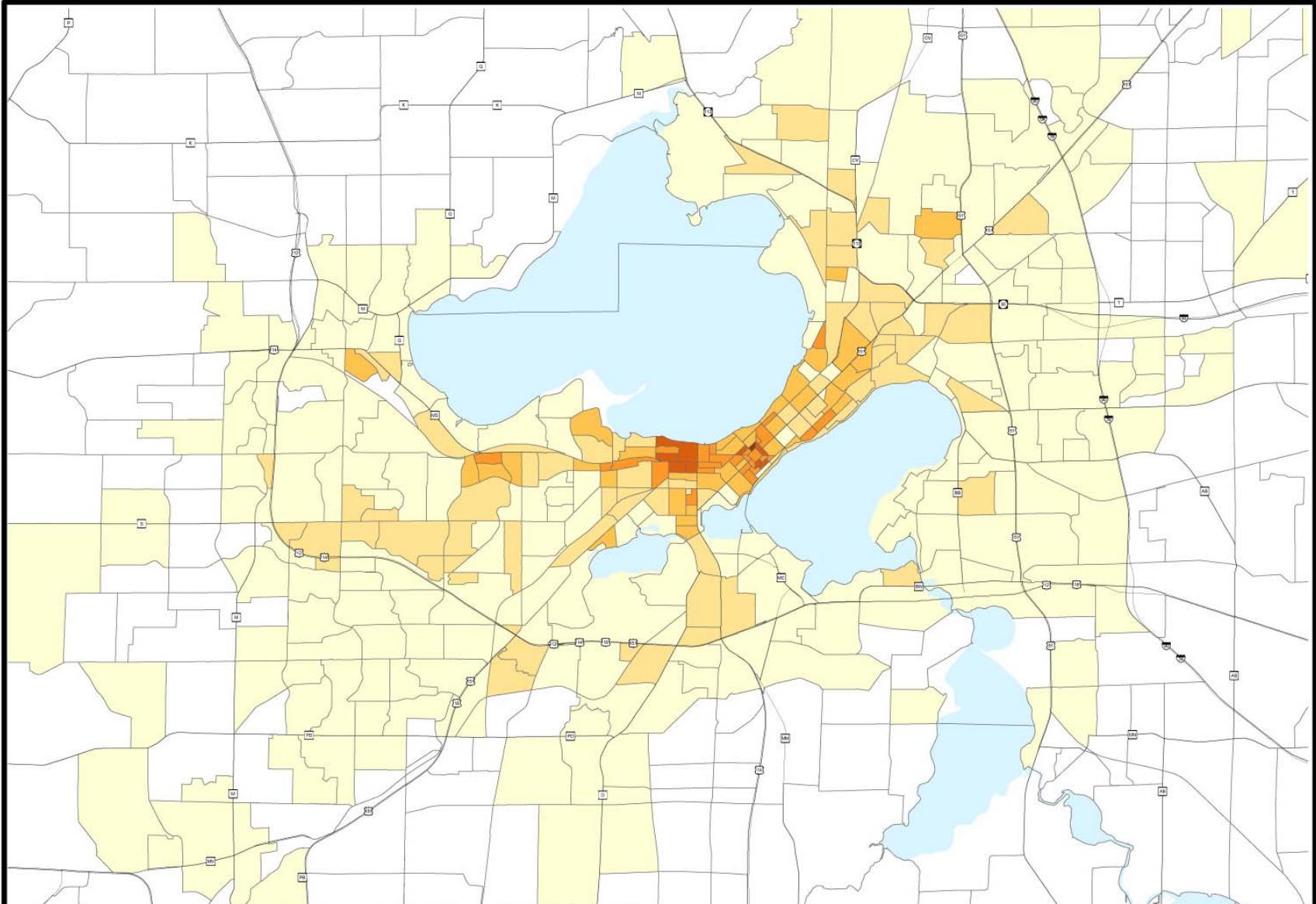
# Trip Purpose Distribution of Metro Mainline Passengers











Total Trip Concentrations (Destination and Origin)  
on Metro Transit Mainline Routes  
by TAZ

Source: Metro Transit On Board Survey, 2008

Total Trips (per acre)

0.00 - 0.54	2.04 - 6.61	21.04 - 46.10
0.55 - 2.03	6.62 - 21.03	46.11 - 100.84

Prepared by staff to the:



Rev. 12/12/08

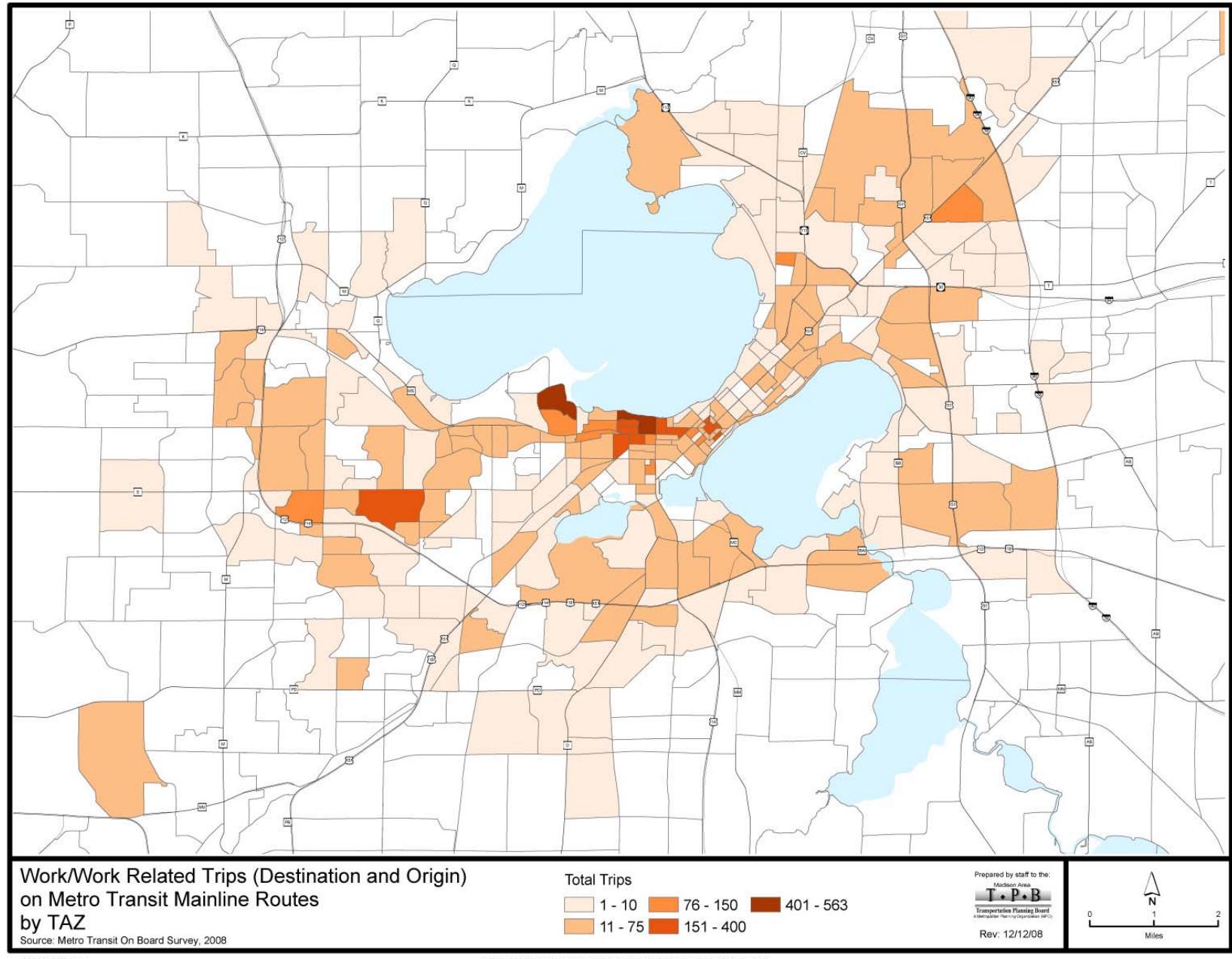


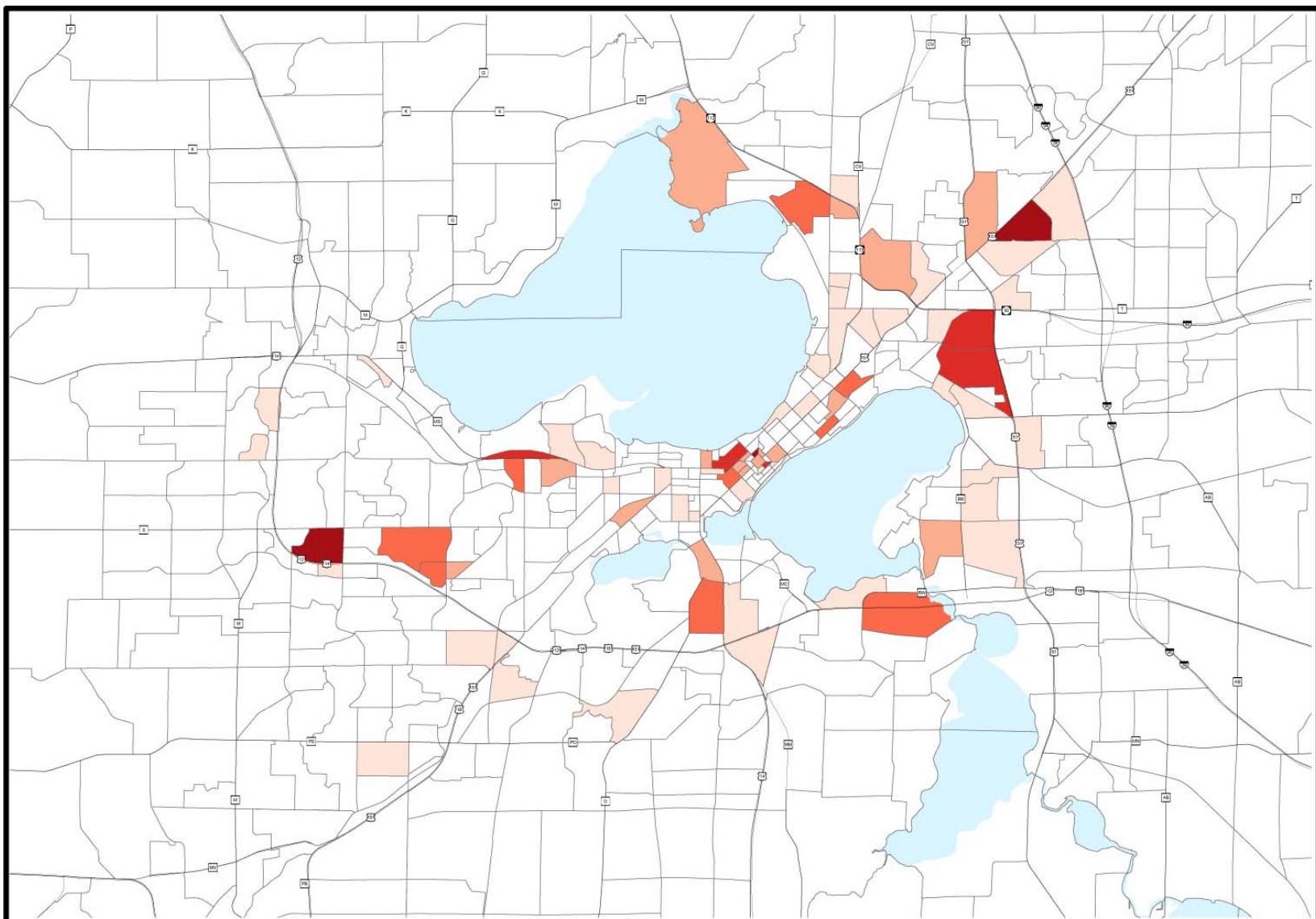
0 1 2  
Miles

NAME: pldms

FILE: H:\ArcMapPrj\TransitMetro\OBS2008\TotalTrips\_Normalized.mxd

PRINTED: 12/22/2008





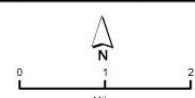
**Store/Shopping/Restaurant Trips (Destination and Origin)  
on Metro Transit Mainline Routes  
by TAZ**

Source: Metro Transit On Board Survey, 2008

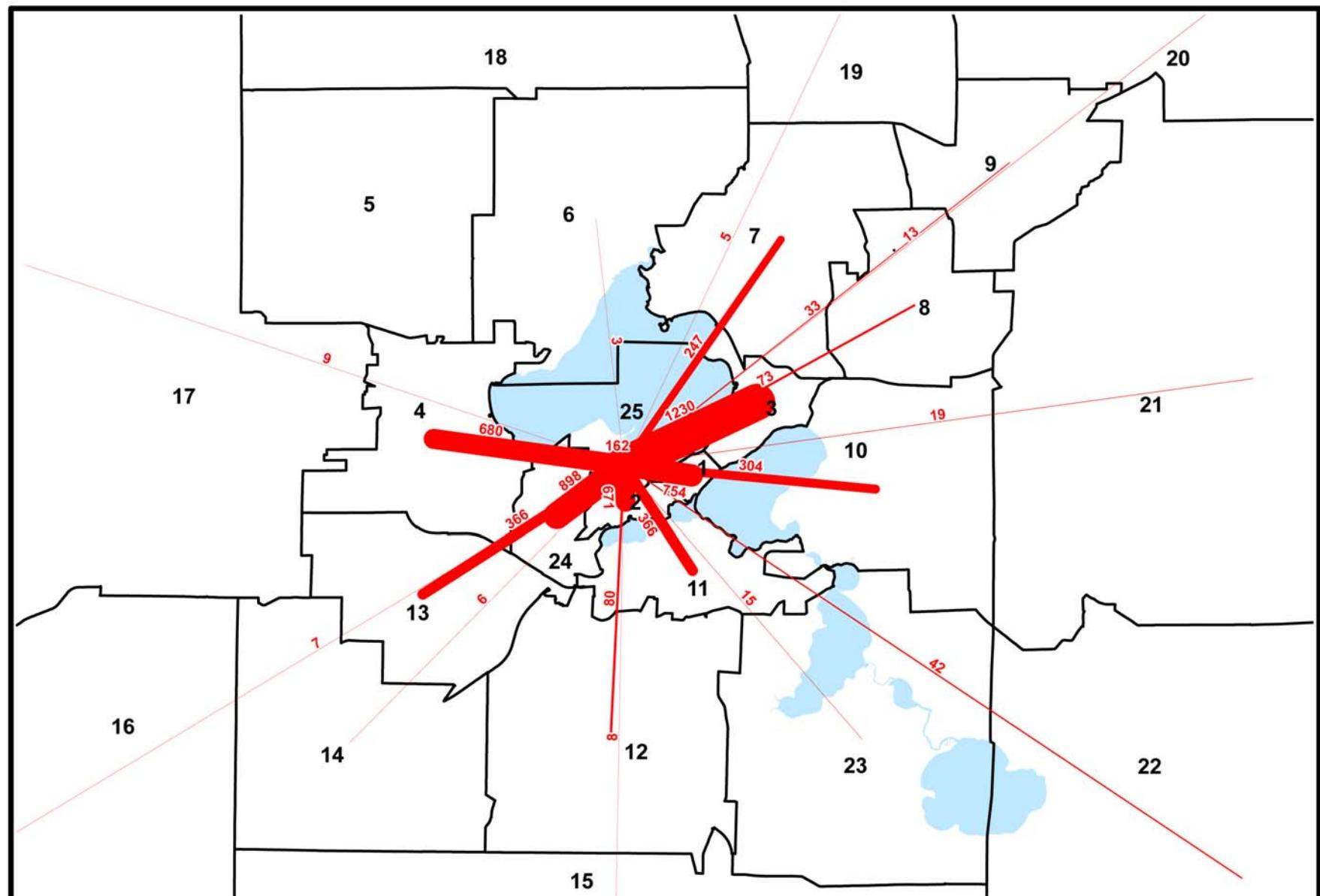
NAME: pldms

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Prepared by staff to the:  
Macomb Area  
Transportation Planning Board  
A Metropolitan Planning Organization (MPO)  
Rev: 12/12/08



PRINTED: 12/22/2008



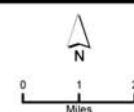
### Destination and Origin Trips on Metro Transit Mainline Routes by Super District

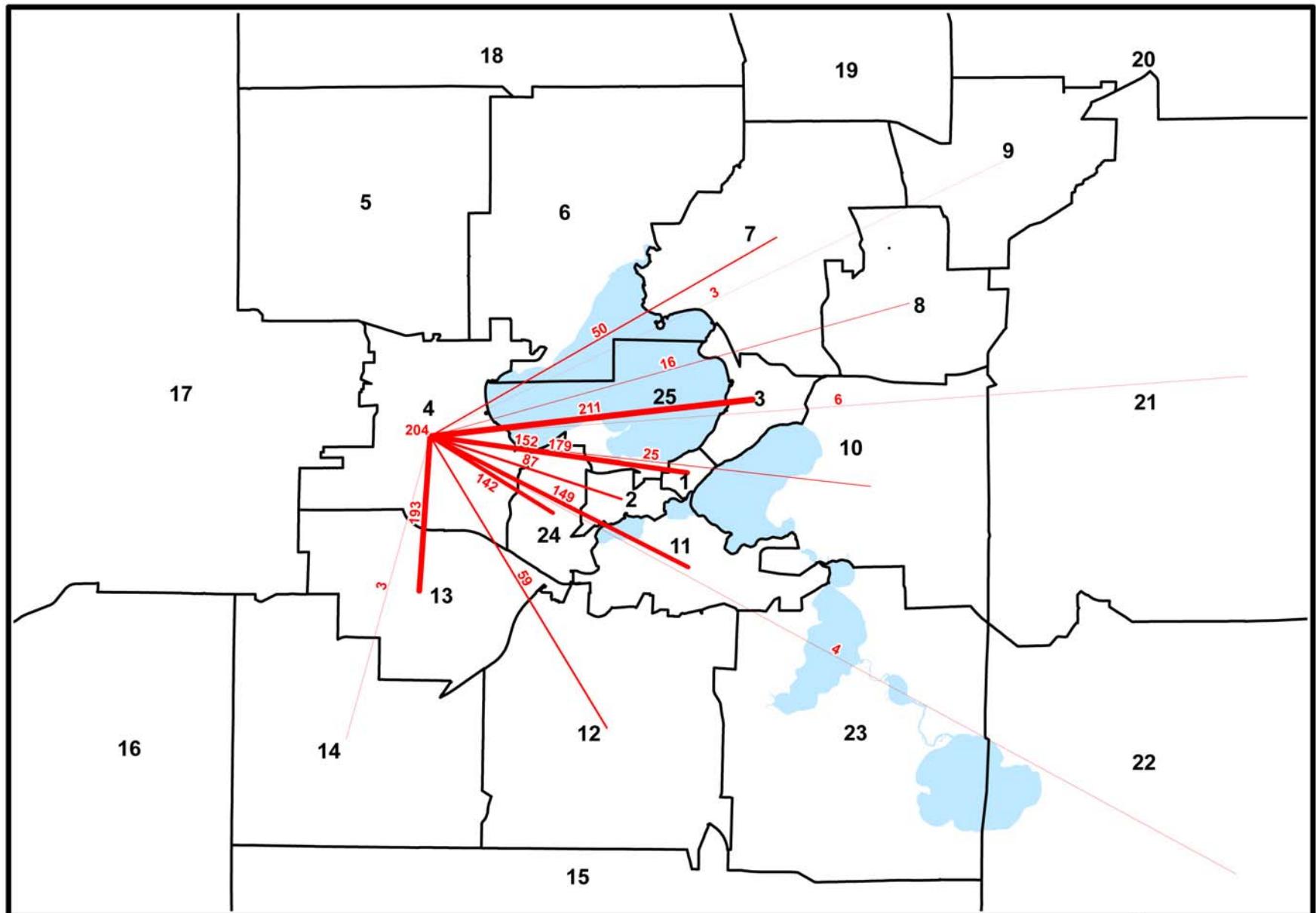
Source: Metro Transit On Board Survey, 2008.

Trips to Super District 25

— 1 — 10 — 100 — 1,000

Prepared by staff to the:





### Destination and Origin Trips on Metro Transit Mainline Routes by Super District

Source: Metro Transit On Board Survey, 2008.

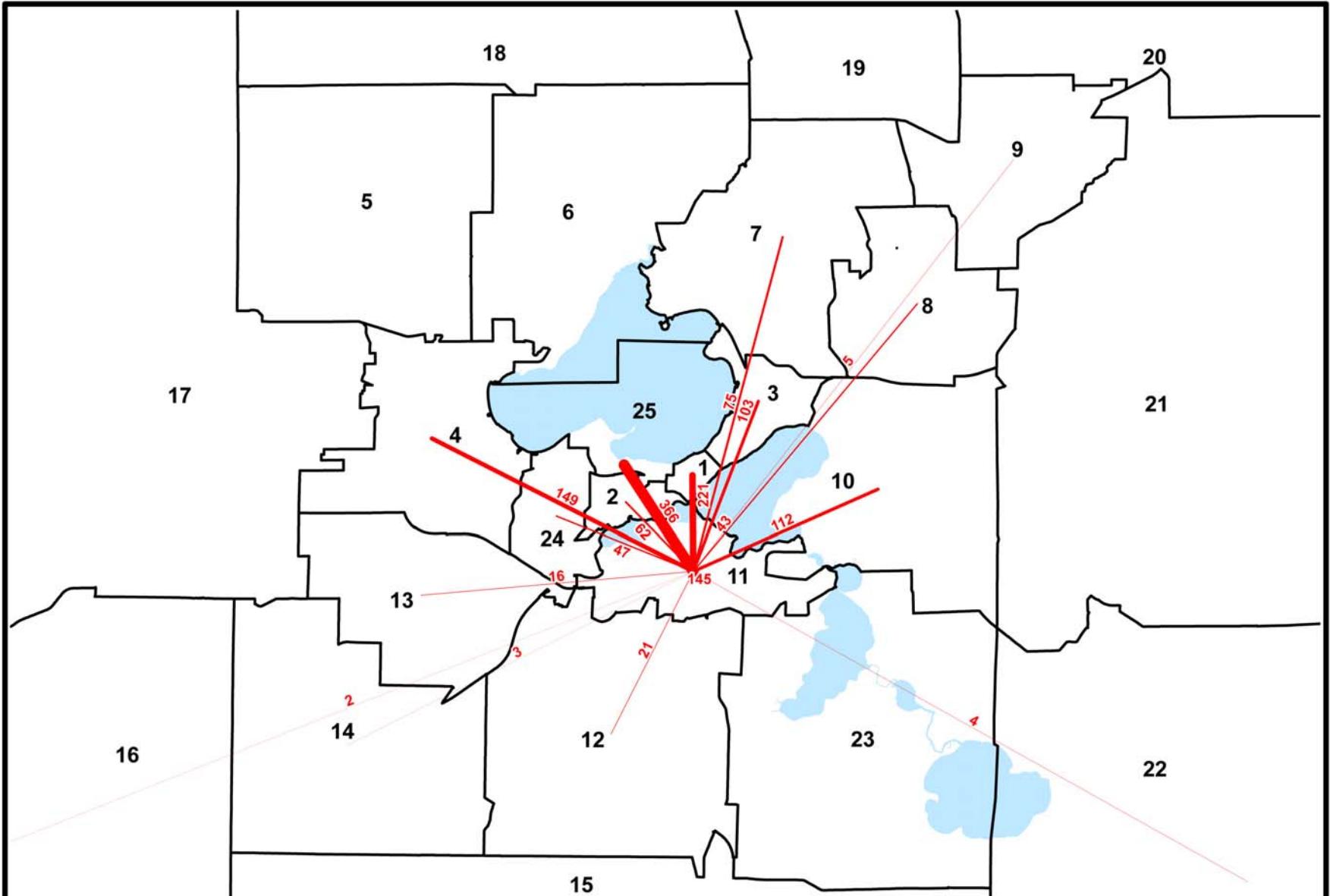
#### Trips to Super District 4



Prepared by staff to the:



0 1 2  
Miles



### Destination and Origin Trips on Metro Transit Mainline Routes by Super District

Source: Metro Transit On Board Survey, 2008.

Trips from Super District 11

1 10 100 1,000

Prepared by staff to the:



0 1 Miles

# Trip Purpose for Metro Mainline Passengers and Vehicle Availability

Trip Purpose	Vehicle Available for Trip	
	Yes	No
Non-Home Based	38%	62%
HB Work/Work Related	56%	44%
HB College/University/Tech	61%	39%
School (K-12)	28%	72%
HB Other (Personal Business, Social, Etc.)	23%	77%
HB Shopping/Restaurant	18%	82%
HB Fitness/Recreation	32%	68%
HB Medical/Dental	28%	72%
All Trips	52%	48%

# Metro Mainline Route Category Used and Vehicle Availability for Trip

Route Category	Vehicle Available for Trip	
	Yes	No
Core	43%	57%
Commuter	62%	38%
Peripheral	30%	70%
Connector	25%	75%
Circulator	61%	39%

# Access Mode to Bus Stop by Metro Mainline Passengers

Access Mode	Percent	
	All Trips	Trips from Home
Walked/Rode in wheelchair	91.9%	91.5%
Rode Bicycle	0.7%	0.5%
Drove (Total)	7.4%	8.0%
To park-and-ride lot	2.9%	3.3%
Parked car on street	2.6%	2.9%
Received ride to bus stop	1.9%	1.8%

# Distance Walked to/from Bus Stop By Metro Mainline Passengers

Distance	Percent
0 to 2 blocks	75%
3 to 4 blocks	19%
More than 4 blocks	6%

# Transferring Before/After Current Bus by Metro Mainline Passengers

Transferred	Percent
No	80%
Yes	20%

Of those that reported transferring,  
74% had 1 transfer, 26% had 2+ transfers

# Typical Number of Times Same ONE-WAY Bus Trip As That Surveyed Taken Per Week by Metro Mainline Bus Passengers

Frequency	Percent
Less than once a week	9%
1-3 trips a week	20%
4-5 trips a week	39%
5 or more trips a week	32%

# Length of Time Using Metro Transit by Mainline Passengers

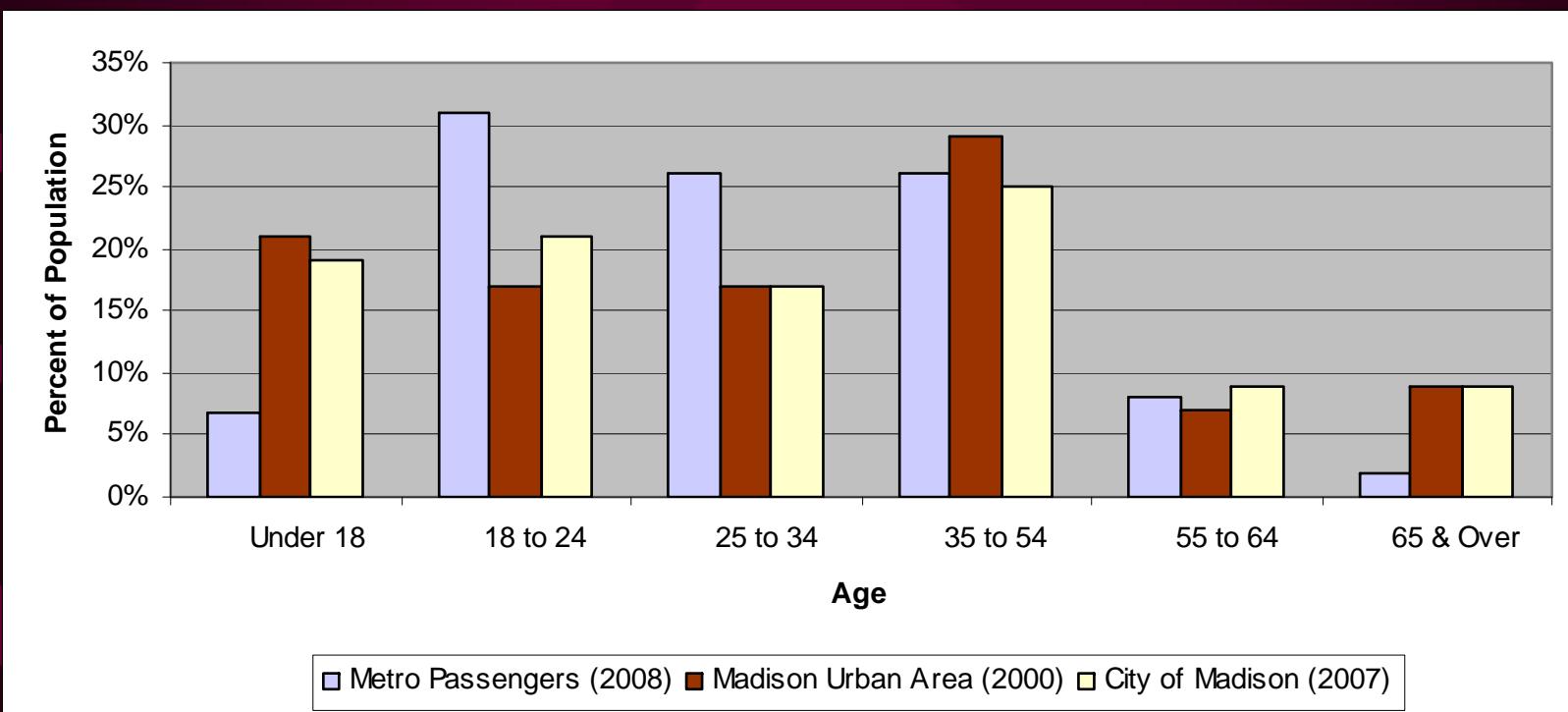
Length of Time	Percent
Less than 6 months	12%
6 months to 2 years	30%
3 years to 5 years	24%
More than 5 years	34%

# Method of Fare Payment of Metro Mainline Passengers

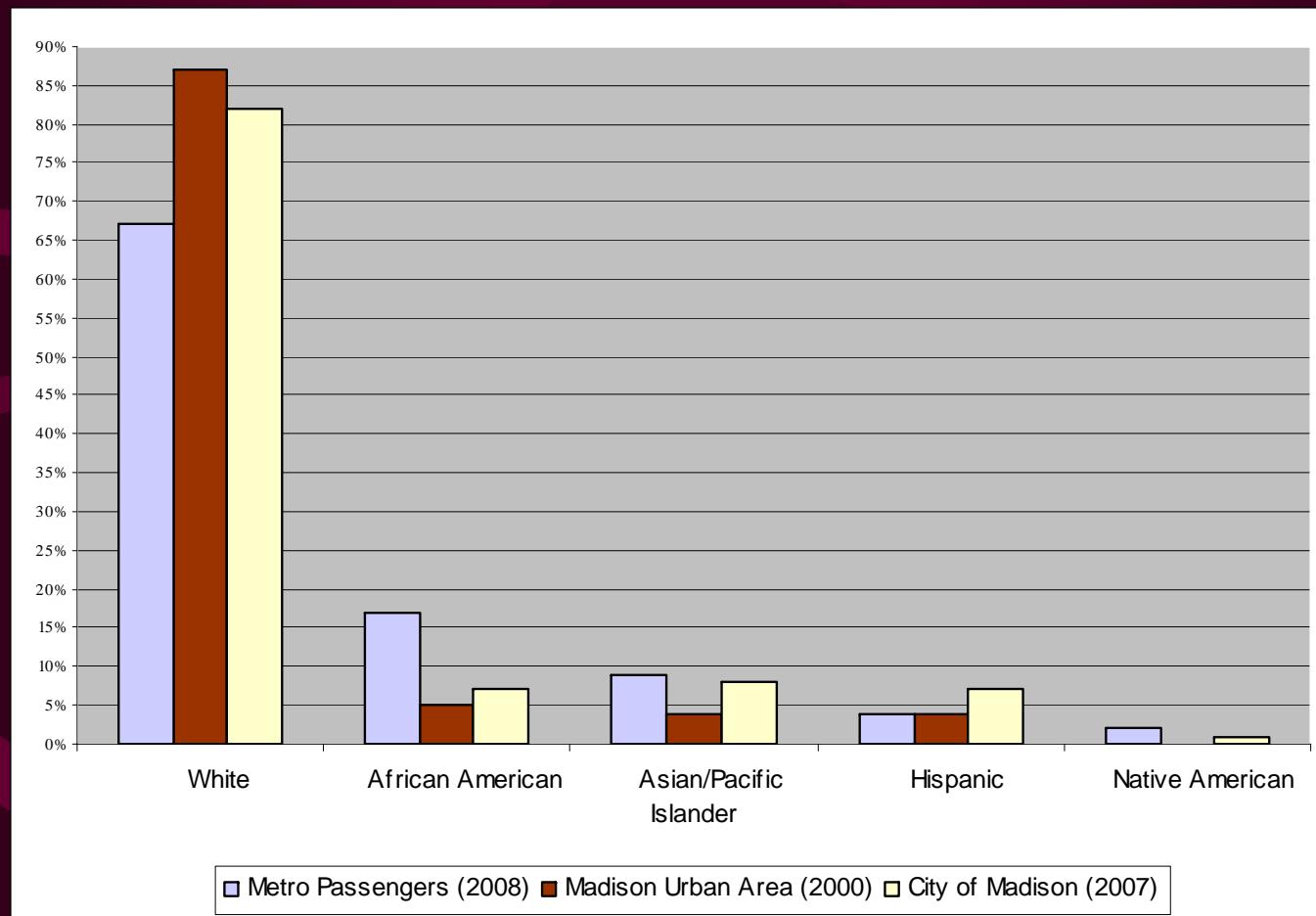
Fare Type	Percent
Cash	13%
10-Ride Card	13%
Unlimited Ride Pass/Monthly Pass	74%

Note: Metro farebox data indicates that around 50% of passengers use an unlimited ride pass.

# Comparison of Age Profile of Metro Mainline Passengers and Area Population



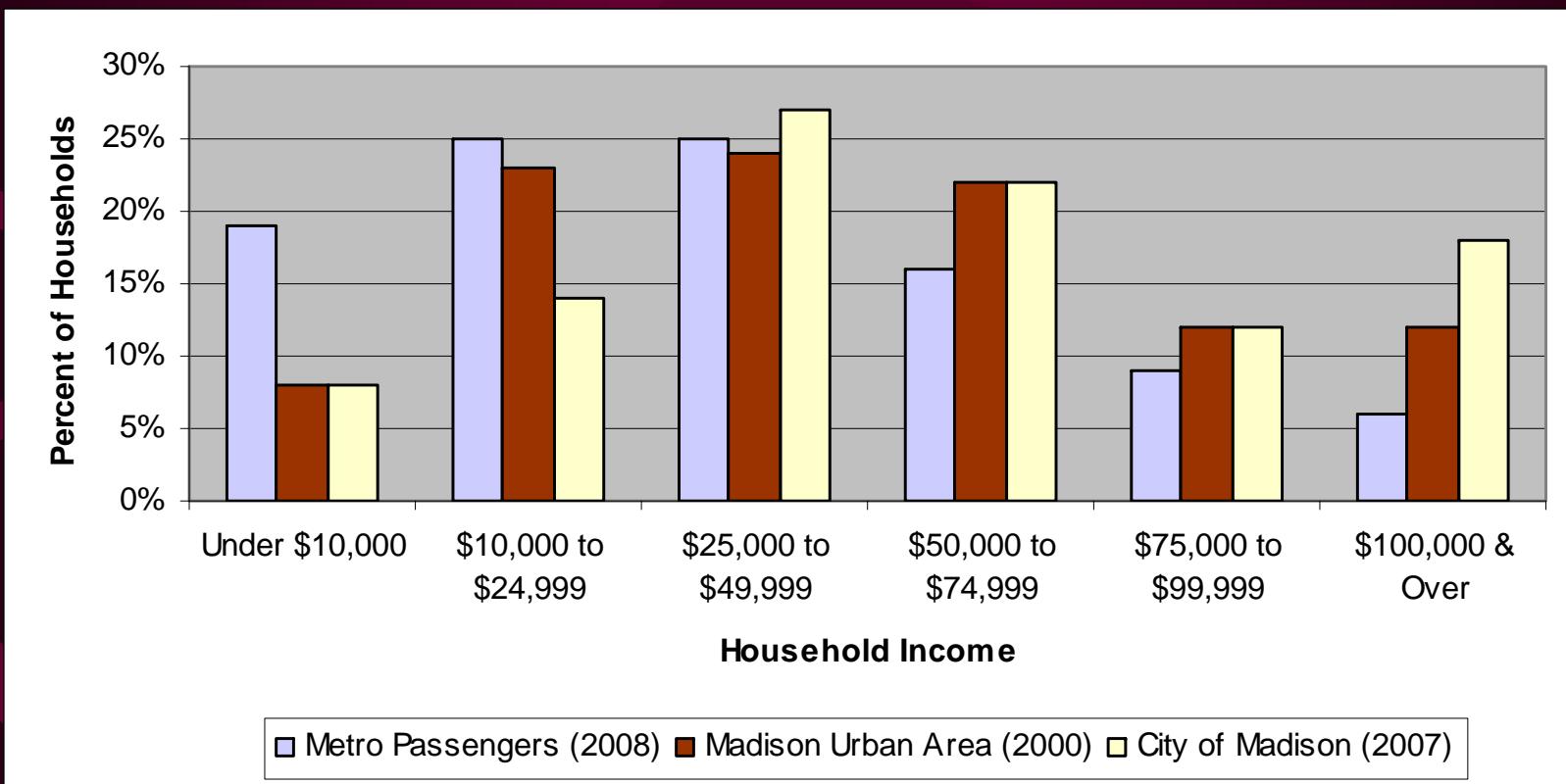
# Comparison of Race/Ethnicity Profile of Metro Mainline Passengers and Area Population



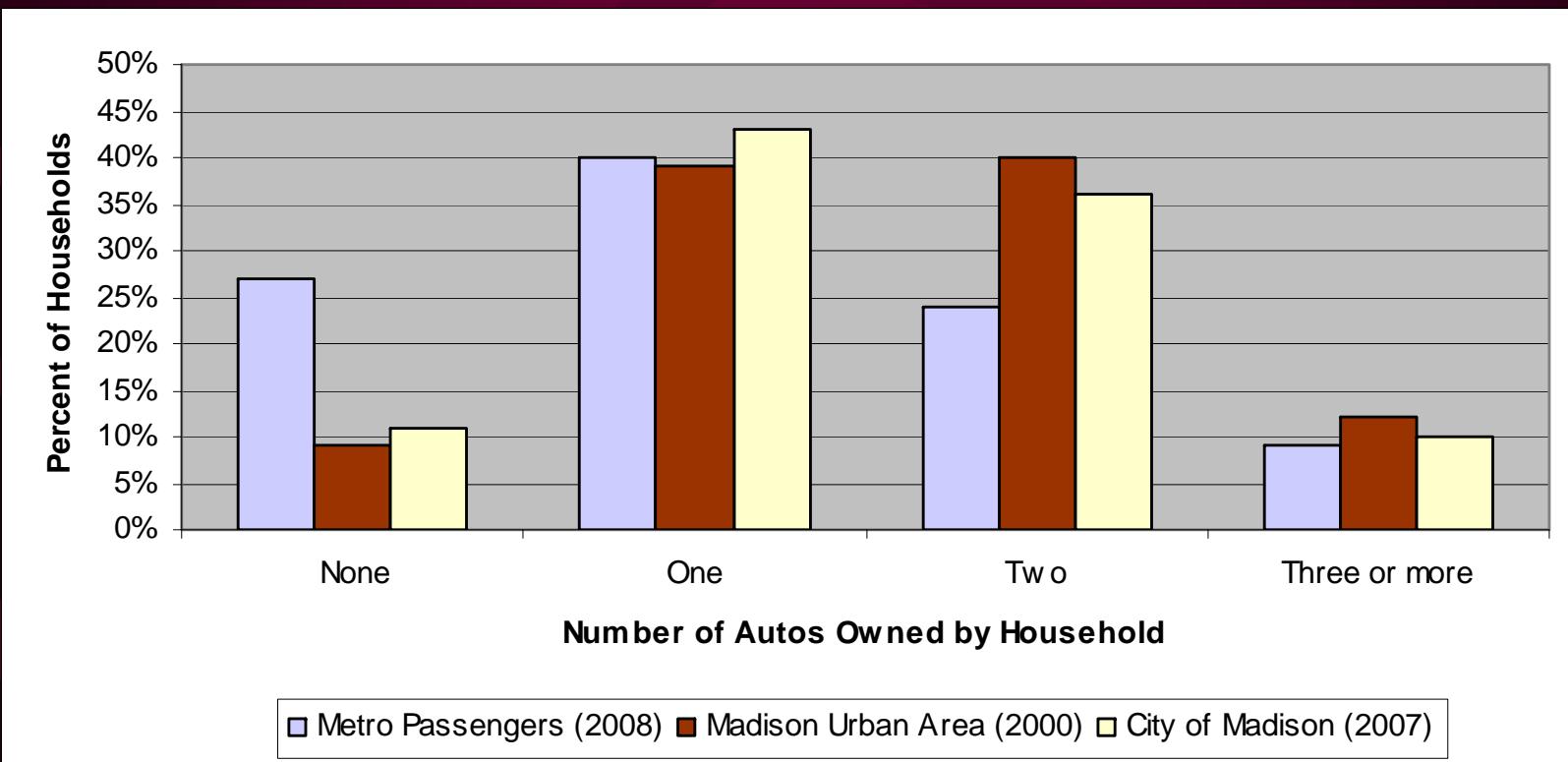
# Comparison of Race/Ethnicity Profile of Metro Mainline Passengers and Area Population

Race/Ethnicity	Vehicle Available for Trip	
	Yes	No
White	56%	44%
African/American	26%	74%
Asian/Pacific Islander	45%	55%
Native American	47%	53%
Hispanic	42%	58%
All Persons	51%	49%

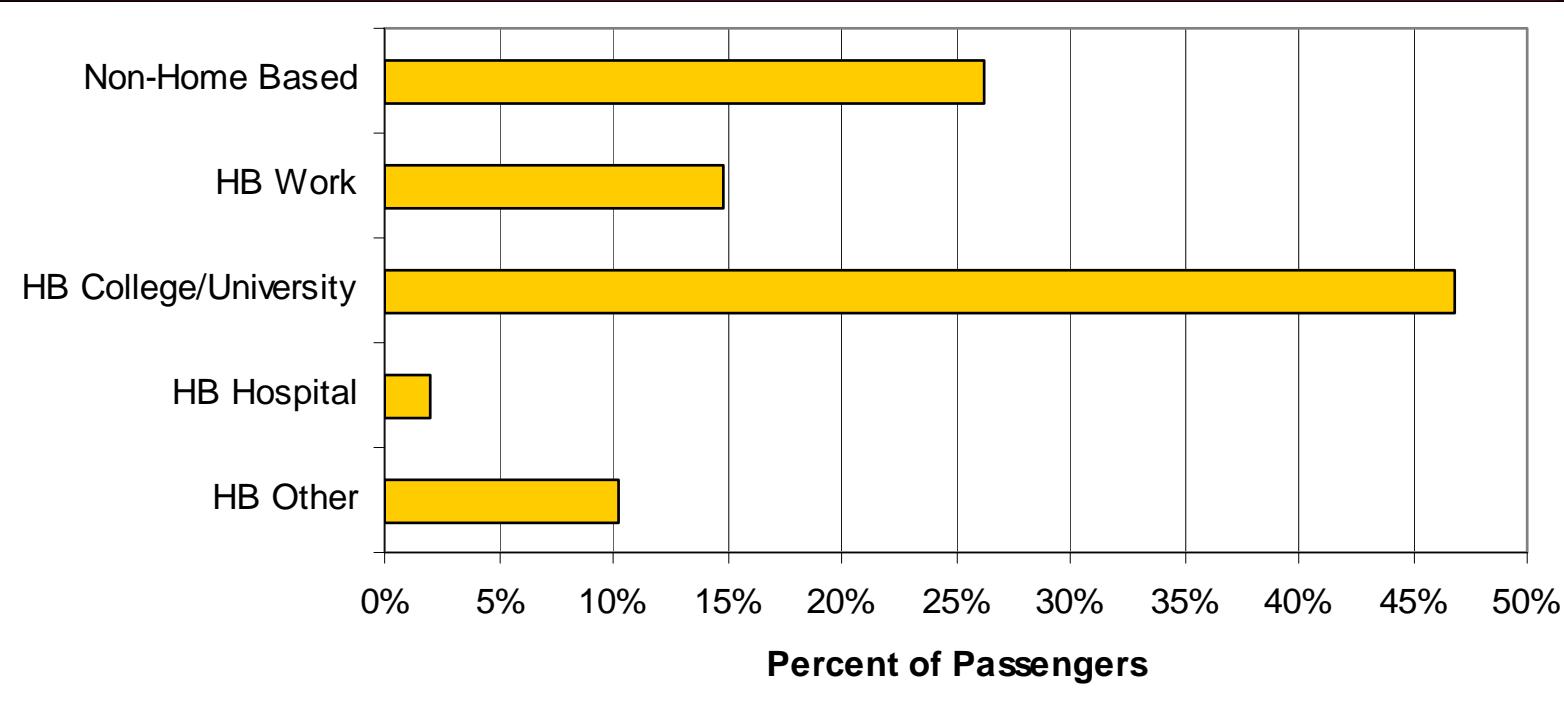
# Comparison of Household Income Distribution of Metro Mainline Passengers and Area Population



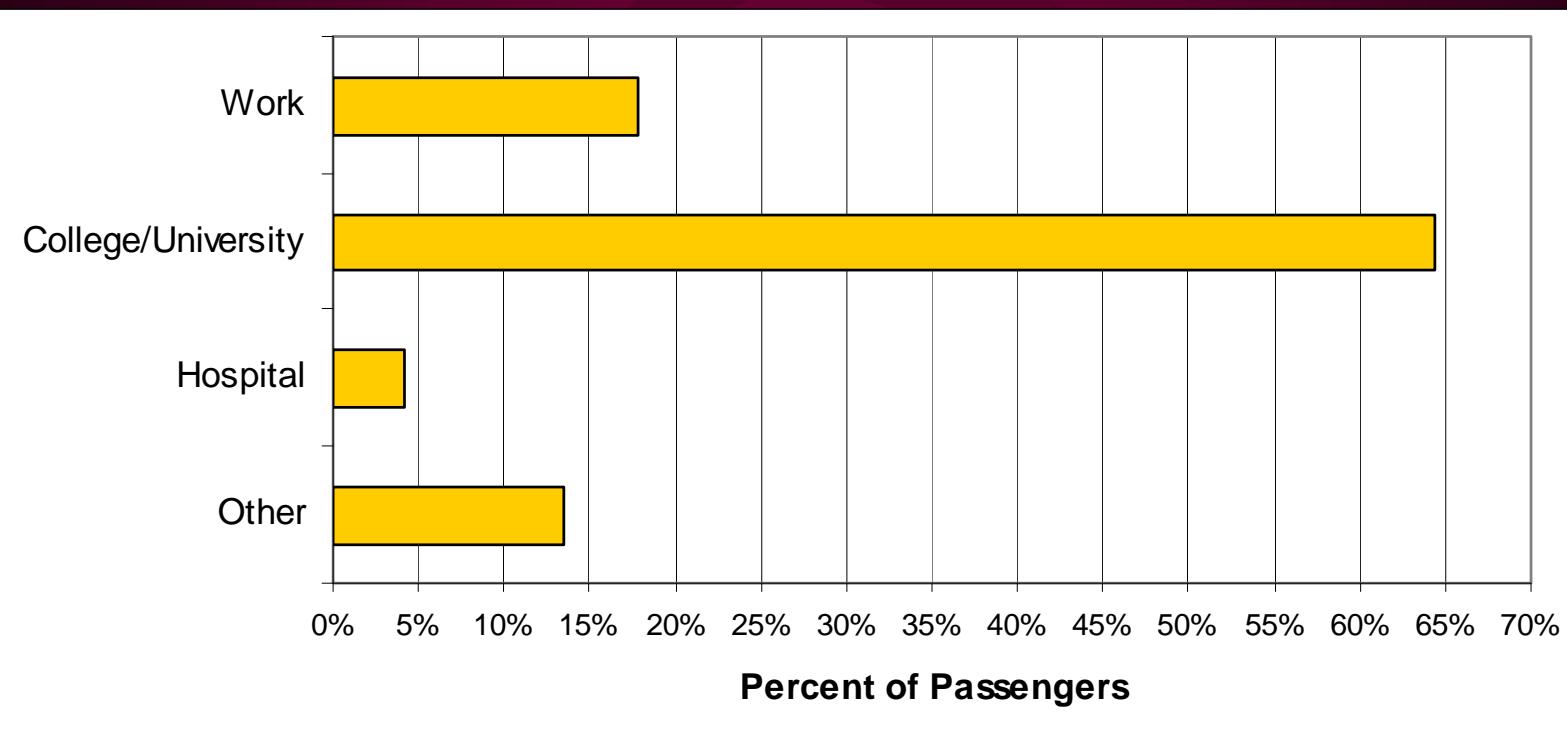
# Comparison of Household Auto Ownership of Metro Mainline Passengers and the Area Population

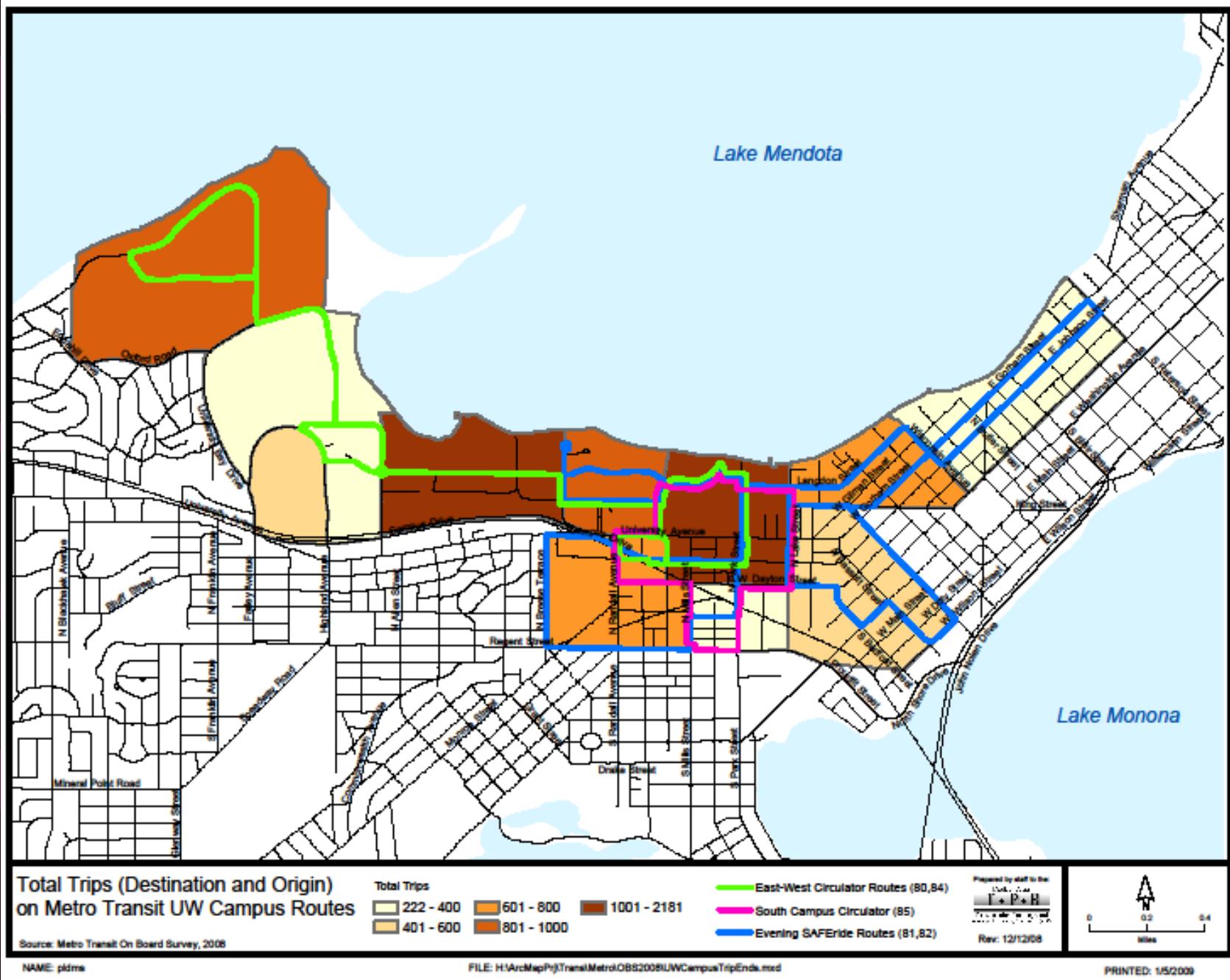


# Trip Purpose (Home-Based and Non-HB) Distribution for UW Campus Route Passengers



# Trip Purpose Distribution of UW Campus Route Passengers





# Metro Performance Ratings

## Level of Service

Performance Measure	Mainline Routes	UW Campus Routes
Convenience of Routes	2.9	2.0
Time waiting for bus	2.7	2.3
Travel time on bus	2.9	2.0

Almost 30% of mainline riders rated convenience of routes as very good (4). Numbers were slightly lower for travel time (25%) and wait time (21%).

Nearly 40% rated their experience as good (3) for all three categories

# Metro Performance Ratings (continued)

## Quality of Service

Performance Measure	Mainline Routes	UW Campus Routes
Cleanliness of bus	2.8	1.9
Driver courtesy	3.2	1.8
Crowding on bus	2.5	2.5

## Metro Performance Ratings (continued)

Over 75% of mainline riders rated their perception of safety on the bus and at a bus stop as a very good or good. Average ratings were 3.3 and 3.1 respectively.

Around 80% of mainline riders rated their overall satisfaction as a very good or good. Less than 3% gave a poor rating. Average rating was 3.

## 1991-2008 Trends Passenger Characteristics

- Male/Female ratio has increased from 42%/58% in 1991 to 49%/51% in 2008
- Greater percentage of passengers now with higher incomes
- Percentage of passengers with no auto available in household has dropped from 43% in 1991 to 27% in 2008
- Percentage of passengers who had vehicle available for their trip has increased from 41% in 1991 to 47% in 2008

# 1991-2008 Trends

## Trip Characteristics

- Percentage of HB College/University trips has increased from 21% to in 1991 to 31% in 2008, and HB Work trips increased from 45% to 51%
- Percentage of passengers who drove to access bus (park-n-ride, kiss-n-ride) has increased from 3.2% to 7.4%
- Walk distances to bus stop have increased somewhat