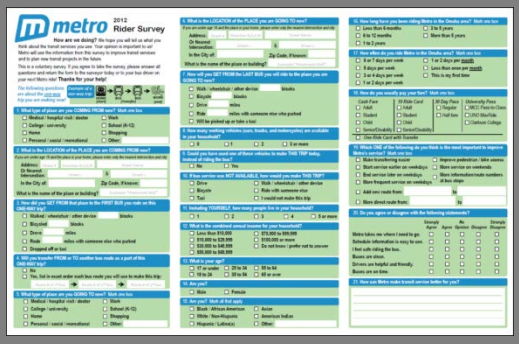
2012

Omaha Metro On-Board Survey

Executive Summary

March 2013



Texas A&M Transportation Institute

in partnership with

HDR Engineering, Inc.

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This executive summary documents planning activities sponsored by Transit Authority of the City of Omaha (Metro), Metropolitan Area Planning Agency (MAPA), and the Federal Transit Administration (FTA). The contents reflect the views of the authors, who are responsible for the facts and the accuracy of the information presented herein. The contents do not necessarily reflect the official views or policies of Metro, MAPA, or FTA.

Overview of Survey Process

Metro conducted an on-board transit passenger survey on seven Monday-Thursday weekdays from Monday, October 1 to Wednesday October 10, 2012. The survey gathered information about bus passengers and their one-way transit trips across the entire Metro network of local and express bus routes. Metro will use the information gathered in service planning and market analysis; as well as for regional visioning and outreach efforts.

Description of Responsibilities

Metro sponsored the on-board survey, and HDR, Inc. (HDR) was the lead consultant, responsible for overall project management. HDR contracted with Texas A&M Transportation Institute (TTI) to provide technical assistance to complete the on-board survey. MAPA geocoded and mapped all addresses returned by survey respondents.

Survey Instrument

The survey consisted of 21 questions designed to gather enough information to follow a person's trip origin to destination. In addition, the survey gathered several types of demographic information useful for transportation planning and travel demand-modeling efforts, such as household size, household income, age, gender, and race/ethnicity. A serial number marked each survey; so TTI staff could identify the survey's bus route, direction, day and time (amongst other related information). The survey instrument was English on one side of the form and translated in Spanish on the opposite side of the form.

Summary of Survey Participation

The survey resulted in a successful response rate from participating Metro transit riders. Surveyors completed 102 assignments on 33 bus routes resulting in an overall system sample of 600 bus trips. Metro's October average weekday ridership in 2012 was 16,191. Surveyors counted 8,474 total passenger boardings during assignments and collected 4,415 surveys—meaning that 52 percent of all passengers who offered a survey accepted and returned the survey. In addition, more than 3,000 respondents included origin and destination addresses in their response—36 percent of average weekday ridership. The average number of returned surveys per on-vehicle surveyor hour was about 9.7 surveys (double the expected rate); and about 90% of all returned surveys contained responses to most questions.

The target final survey sample size was 1,449 survey responses with origin and destination location information. The total number of surveys in the final "All Responses Database" is 4,391 – 303 percent of the target. The number of surveys in the "OD Responses Database" is 2,328 – 161 percent of the target. The high response rate is indicative of both surveyor effort and the interest of Metro riders in providing information in hopes of protecting service levels and improving service.

Data Processing

Data processing refers to the process by which transportation planners prepare data for analysis. Metro riders provided 4,415 raw survey responses. TTI used a five-step process to prepare the responses for use by Metro and other stakeholders in the Omaha, NE region:

1. Data entry
2. Geocode addresses

3. Create databases
4. Clean survey responses
5. Create unlinked and linked trip factors

TTI created two final databases using the cleaned and factored survey responses: "All Responses Database" includes 4,391 responses with and without geocoded locations and "OD Responses Database" contains 2,328 survey responses with both origin and destination geocoded as well as responses to questions one through seven (critical trip information). TTI created unlinked and linked trip factors for each database. The factors in each database are based on October average weekday ridership of 16,191. Analysis of transfers by riders resulted in the "All Responses Database" representing 16,191 unlinked trips and 11,978 linked trips average each weekday. The "OD Responses Database" factors result in 16,191 unlinked trips and 11,777 linked trips average each weekday.

Summary of Survey Results

The result values described in this section are based on analysis of survey responses in the "All Responses Database".

Statistical Confidence and Accuracy

The survey response is valid within a margin-of-error plus or minus 1.32 percent for local routes, 3.95 percent for express routes, and 1.26 percent system-wide based on a 95 percent statistical confidence level. The margin-of-error of individual routes varies from zero percent (meaning sample exceeded average ridership) on the low end to 22.51 percent on the high end. Margins-of-error for routes with lower average ridership are higher due to the smaller population—regardless of whether or not the sample is a large compared to ridership.

Language of Survey Responses

The total number of surveys returned by respondents using the Spanish side of the instrument was 72 (1.6 percent) representing 230 unlinked trips (1.4 percent). One of the Spanish survey responses was riding an express route; the other 71 were from riders utilizing local routes. Five local bus routes received more than 3 percent of responses in Spanish: Route 32 (8 percent), Route 7 (8 percent), Route 34 (6 percent), Route 11 (5 percent), and Route 9 (4 percent).

Trip Purpose

Work was the purpose for 42 percent of all non-home trips. The other 58 percent of unlinked trips were almost evenly split between the other answer choices: college/university (13 percent), personal/social/recreational (12 percent), other (9 percent), shopping (8 percent), medical/hospital/doctor (8 percent), and school (8 percent).

Home Location

Survey respondents voluntarily provided two locations—trip origin and destination. TTI analyzed responses to identify all locations described as "home". Figure 1 depicts with black dots the relative home location in the survey response. The blue color variant underneath indicates the relative concentration of home sites based on the response factor for unlinked trips.

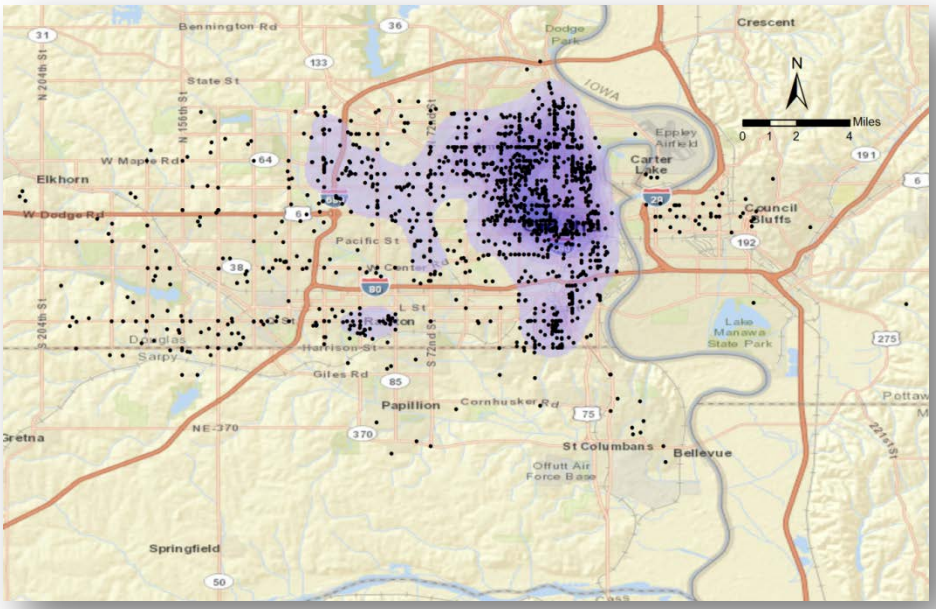

Figure 1. Map of Relative Home Locations

Non-home Locations

Figure 2 depicts all locations not listed as home by respondents. In other words, the black dots indicate locations where Metro riders are traveling to from their home. Again, the blue variant underneath indicates non-home destinations are more concentrated than home locations (depicted in map above).

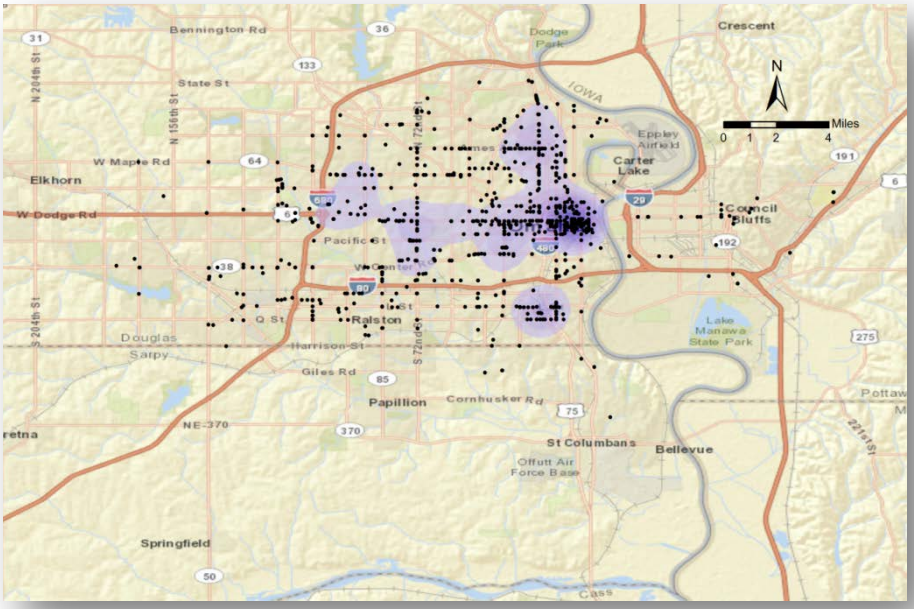

Figure 2. Map of Non-Home Destinations

Travel Mode, Transfers, and Distance

The most common travel mode before and after a trip was walking—over 87 percent and 91 percent respectively. About half of riders used only one route to complete their one-way trip (48 percent). Another 45 percent of riders made one transfer to another bus route. Seven percent of riders made two transfers. Walkers traveled an average 3.1 blocks to use Metro – or about 0.26 miles. Bicyclists rode an average 10.8 blocks to use Metro – or about 0.9 miles. Metro riders driving or riding with someone else traveled about 6 miles to access Metro services at either their origin or destination.

Vehicle Availability

A majority, 58 percent, of riders lived in households with zero vehicles. Approximately 21 percent of riders chose to ride Metro even when a household vehicle was available to use for the same trip. The three most common travel alternatives for respondents to use if Metro service was not available were "I would not make this trip" (27 percent), "Ride with someone else" (25 percent), and "walking" (22 percent).

Metro Rider Demographics

Overall, the age of Metro riders is split relatively smoothly between age cohorts; with 89 percent of riders between 18 and 64 years of age. Gender responses indicate equal ridership by men and women (taking into account the margin-of-error of +/- 1.26 percent). The race / ethnicity of Metro riders varies, but is primarily "Black / African American" (47 percent) and "White / Non-Hispanic" (39 percent). A majority of Metro riders live in households on their own or with one other person (51 percent): the other 49 percent live in a variety of household sizes. Most Metro riders live in households with incomes of $29,999 or less per year (57 percent). Please note that the on-board survey sampled only fixed route transit services provided by Metro (local and express routes). Metro provides complimentary paratransit for qualifying residents. This report only documents the characteristics of fixed-route riders in Omaha.

Rider Experience with Metro

More than 40 percent of riders have used Metro for more than 5 years; the other 60 percent of riders are split between the remaining categories (18 percent are recent adopters of Metro service). About 70 percent of riders use Metro 5 to 7 days each week. Half of riders pay their fare with cash, another 25 percent pay with a 10 Ride Card, 13 percent use a 30 Day Pass, 8 percent use University Passes, and about 4 percent use a transfer card.

Customer Satisfaction

Figure 3 documents Metro riders preferred system improvements. The standout response was "more service on weekends", marked by 33 percent of riders. About 29 percent marked a response related to improving service on weekdays via ending service later (16 percent) or offering more frequent service on existing routes during the weekday (14 percent).

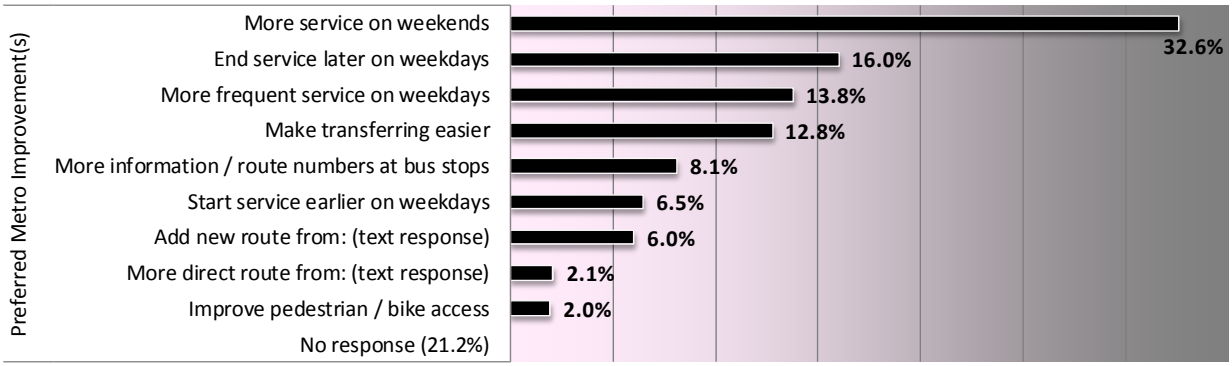

Figure 3. Preferred Metro Improvements

Riders were asked to rate how much they agreed with each of six statements. A majority of riders either strongly agreed or agreed with each of the six statements. Nearly 90 percent of riders agree that Metro takes them where they need to go. Safety, schedule information, and bus cleanliness also received highly positive marks – more than 70 percent of riders agreed or strongly agreed. A majority of riders agreed that drivers are helpful and friendly, but less so in comparison with the previous four aspects of customer satisfaction. The least favorably rated category was on-time performance; where 25 percent of riders indicated they disagree or strongly disagree and 15 percent had no opinion.

Although scores for these types of questions are typically high, understanding customer satisfaction levels assists Metro prioritizing service improvements that best meet the needs of its customers.

Written Comments

More than 1,800 riders provided comments in response to question 21 "How can Metro make transit service better for you?" – 43 percent of respondents representing nearly 7,000 of the 16,191 average weekday unlinked trips. The bulleted list below lists five common themes mentioned by responding Metro passengers:

- Gratitude for Metro service
- Request for more evening service
- Request for more weekend service
- Comment regarding customer service quality (mix of positive and negative comments)
- Request to improve on-time performance and transfers between routes