**APPENDIX A: FOCUS GROUP GUIDE**

Community Needs Assessment Discussion Guide, Eugene

INTAKE SURVEY (5:30 - 6:00pm)

As people enter room, ask them to do a survey and make a nametag. Make sure they are finished the survey before starting the discussion.

INTRODUCTION [5 min, 6:00-6:05pm]

Discussion leader: Hello, my name is [] and I am a professor at [].

I will be your discussion leader today. Let me also introduce my colleagues [], who will be taking notes and assisting, and won’t be participating in our discussion.

We will also be audio recording today’s meeting so we can review your comments at a later date and make sure we understand and hear your comments correctly and thoroughly. The tape will only be used so that we can review our discussions to help me write my reports. The tapes will not be used for any other purpose, and what you say here is anonymous.

This discussion is part of a study of new transit fare technologies and how they will affect how transit users pay for fares, and any challenges they may face.

We are holding several discussions with a variety of groups this and last month. Some of what we discuss today will help us make recommendations to improve these new fare systems. We appreciate your willingness to help us out with this.

There are a few ground rules for the discussion.

1. We want you to feel free to speak your mind – there are no right answers or wrong answers, so please say what you think. We expect that there may be differences of opinion and that is okay, in fact, we want to bring those out.
2. We want all of you to express your views, so please speak up—you don’t have to raise your hand. From time to time, I may go around the room and ask each person to say a few words on the topic. If somebody is being quiet, I may ask that person to speak.
3. We have a short list of questions that we want to cover in the next hour, so I may occasionally have to end a discussion or comment and move onto another topic or ask a different person.
4. Finally, please treat what is said here today as private so don’t repeat what someone says in the meeting later on to others. That way, everyone will feel better about saying what they think. There will be no recording of anyone’s identity here - our only record of the discussion and the intake surveys are your badge letter.

So let’s get started.

Basic flow of the hour- 60 minutes

Some basic issue about transportation challenges

Review new fare technologies

Discussion of how you pay for transit

Will the elimination of cash be a challenge to you or someone you know?

How can the agency address this?

Will this still be convenient for you?

INTRODUCTIONS FROM THE GROUP [5 MIN, 6:05-6:10PM]

Ask people their first names generally where they live (city, general area), “your favorite season in Eugene/Portland”

GENERAL TRANSPORTATION CHALLENGES [20 MINS, 6:10-6:30]

General travel

Where do you normally travel?

How do you travel?

Why do you travel?

Time of day of travel

Transit use - Most commonly used bus routes

Biggest challenges - would you travel more if you could? What is your biggest challenge?

NEW FARE TECHNOLOGIES OVERVIEW [10 MINS, 6:30-6:40PM]

Review work Automated fare technologies – Mobile ticketing (apps), smart cards

Requires access to internet (smartphones, computer)

Require access to banking/credit

DISCUSSION [25 MINS, 6:40-7:00]

Initial impressions

Looking at challenges

Smartphones

Apps - how to use? download, configure?

Languages?

Connect to Credit Card - trust?

Credit cards and bank accounts - have them?

Internet at home, work?

Cell and data plans? Wifi?

Ideas to make the transition better? Training? Low-cost smart phones? Free Wifi?

FINAL INFO

The results of the study will be available in 2020 from the NITC website. Feel free to monitor the website for more info, or email me directly at abrown33@uoregon.edu and I can send you the report. [[Hand out business cards.]]

**APPENDIX B. INTERCEPT SURVEY QUESTIONNAIRE**

The survey questionnaire is included below in English; Spanish language surveys were also made available. The below survey is from Portland, OR; location-specific details were adjusted as needed for Eugene, OR and Denver, CO.

Introduction

Hello, we are conducting a research study about how new technologies will change how we pay for transit fares, and how that will affect transit riders. I am inviting you to take a brief survey with me – it will take about 5 minutes. If you don’t have time now, I can give you a paper copy and pre-paid envelope to mail back in to us. You have the right to skip any question and to stop participation at any time. There are no foreseeable risks from your participation. Your responses will be anonymous – we won’t need your name. The information gathered from your participation in this study will be used to inform recommendations on how to improve transit fare payment systems.

Should you have any additional questions or concerns, please reach out directly to my supervisor, [name, contact information].

Si le gustaría tomar este sondeo en Español, puede cambiar los ajustes de idioma por el botón en la esquina superior derecho.

Information About Your Transit Use

Q1 How often do you use public transportation (Bus, MAX, Streetcar)?

* Never
* Very rarely (a few times a year)
* Rarely (a few times a month)
* Once or twice a week
* Daily

Information About Phone, Data, Internet and Banking Access

Q2 Cell phones that use the internet and install new applications (apps) are called "smartphones". Is your phone a smartphone?

* Yes, it is a smartphone.
* No, it is not a smartphone.
* I don't know if my phone is a smartphone.
* I don't have a cell phone or smartphone.

Q3 How concerned are you about running out of monthly data on your phone?

* Very concerned
* Somewhat concerned
* Not very concerned
* I never need to save data
* N/A - I do not use the internet on my phone

Q4 How do you typically access the internet? (Check all that apply)

* Home internet
* Work internet
* Library
* Mobile internet/cell phone data plan
* No access to the internet
* Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q5 Which of the following do you have access to? (Check all that apply)

* Savings Account
* Checking Account
* Debit Card
* Credit Card
* Prepaid or Gift Card (with Mastercard / Visa logo)
* PayPal, Venmo, Cash App

Q6a How comfortable are you in using your credit, debit, prepaid cards or bank account information to purchase transit tickets or regularly load your transit cards (Hop cards):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Completely uncomfortable | Slightly Uncomfortable | Slightly Comfortable | Completely comfortable | Don’t know / Not applicable |
| Using your financial information on the TriMet website one time without allowing the website to store it | o | o | o | o | o |
| Storing your financial information in the TriMet website for regular payments | o | o | o | o | o |
| Storing your financial information in your smartphone connected to the Hop App for regular payments | o | o | o | o | o |
| Giving your financial information over the phone to TriMet | o | o | o | o | o |

Q6b If you are uncomfortable, what are your major concerns about linking your financial information?

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Information About How You Pay for Transit

Q7 How often do you use the following payment methods to pay for your transit fare?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Never (1) | Rarely (2) | Often (3) | Always (4) |
| Employer/School pays for a transit pass (9) | o | o | o | o |
| Cash on board (only on bus) (1) | o | o | o | o |
| Cash at a ticket vending machine (2) | o | o | o | o |
| Cash at TriMet ticketing office or retail store (6) | o | o | o | o |
| Credit/Debit through Apple/Android Pay on board (3) | o | o | o | o |
| Credit/Debit at a Ticket Vending Machine (4) | o | o | o | o |
| Credit/Debit through a smartphone app or computer (7) | o | o | o | o |
| Credit/Debit at a TriMet ticketing office or retail store (8) | o | o | o | o |

Q8 Imagine a situation where in the future, cash may not be accepted on board transit. Cash would still be accepted at TriMet Ticket Offices or retail stores like Plaid Pantry, 7 Eleven, Fred Meyers, Safeway, etc. to load onto HOP Cards or to buy paper tickets, as well as at ticket vending machines.

In the future, cash may not be accepted on board buses and streetcars. If this were the case, how would you primarily pay for your fare?

* Cash at a ticket vending machine (at Max stations)
* Cash at TriMet Office or Retail Store
* Credit/Debit contactless cards or smartphone wallet (Apple/Android Pay) on board
* Credit/Debit at a ticket vending machine
* Credit/Debit through a smartphone app or computer
* Credit/Debit at TriMet Office or Retail Store
* I would not be able to use the bus or streetcar

Q9 Are you aware there are discounted passes for low-income families and individuals (below $25,000/year for an individual or $50,000 for a family of four)?

* Yes- I’m aware of the Honored Citizen Pass
* Yes - I have applied or have a low-income honored citizen card already
* No

Questions About You and Your Household

Q10 What year were you born?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q11 Are you:

* Female
* Male
* Non-Binary / Third Gender
* Prefer to Self-Describe \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Prefer not to say

Q12 Do you experience some sort of mobility related challenge or disability?

* Visual Challenge
* Physical / Motor Challenge
* Cognitive Challenge
* I do not experience a mobility related challenge

Q13 Are you (select all that apply):

* Employed Full Time
* Employed Part Time
* Student
* Homemaker
* Unemployed
* Retired
* Unable to work due to a disability

Q14 What was your approximate annual household income last year?

* Less than $14,999
* $15,000 to $24,999
* $25,000 to $34,999
* $35,000 to $49,999
* $50,000 to $74,999
* $75,000 to $99,999
* 100,000 to $149,999
* $150,000 or more
* Prefer not to say

Q15 Are you Hispanic or Latino (of any race)?

* Yes
* No

Q16 What is your race? (please select all that apply)

* Black or African American
* White / Caucasian
* American Indian or Alaskan
* Asian
* Native Hawaiian or Other Pacific Islander
* Two or More Races
* Prefer to Self-Describe \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q17 What is your home zip code?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**APPENDIX C. EQUITY ANALYSIS TABLES**

**Table AC1 Breakdown of survey results by income**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Denver | | | Eugene | | | Gresham/Portland | | | Composite | | |
|  | Higher  >$50k | Low  <$50k | Miss. | Higher  >$50k | Low  <$50k | Miss. | Higher  >$50k | Low  <$50k | Miss. | Higher  >$50k | Low  <$50k | Miss. |
| N | 99 | 228 | 187 | 89 | 743 | 408 | 82 | 234 | 233 | 17 | 44 | 39 |
| *Share of riders (%) with current fare payment practice:* | | | | | | | | | | | | |
| Employer provided | 35 | 24 | 26 | 27 | 37 | 34 | **29** | **14** | **13** | **33** | **21** | **20** |
| Social service provider | 3 | 9 | 5 | 0 | 0 | 0 | **1** | **11** | **7** | **2** | **9** | **6** |
| Cash on bus | **21** | **36** | **36** | 28 | 30 | 28 | **9** | **27** | **27** | **16** | **32** | **31** |
| Cash at TVMs | 24 | 31 | 30 | **26** | **20** | **15** | **15** | **29** | **24** | 20 | 29 | 27 |
| Cash at retail/agency | 12 | 23 | 18 | **17** | **17** | **12** | **7** | **17** | **12** | **10** | **20** | **15** |
| Apple/Android Pay | NA | NA | NA | NA | NA | NA | **6** | **11** | **2** | 6 | 11 | 2 |
| Credit/debit at TVM | 26 | 21 | 18 | **16** | **12** | **5** | **23** | **18** | **10** | **25** | **19** | **13** |
| Smartphone app | **38** | **24** | **15** | **7** | **6** | **2** | **35** | **35** | **25** | **36** | **27** | **19** |
| Credit/debit at retail/agency | 16 | 14 | 12 | **19** | **16** | **10** | 12 | 13 | 9 | 15 | 14 | 10 |
| *Share of riders (%) lacking access to banking and internet:* | | | | | | | | | | | | |
| Unbanked (No savings, checking, credit, debit accounts) | **0** | **9** | **7** | **0** | **3** | **6** | **4** | **6** | **13** | **1** | **7** | **10** |
| Lacks smartphone | 5 | 14 | 14 | **16** | **17** | **24** | **2** | **15** | **17** | **4** | **14** | **16** |
| No Internet | **1** | **6** | **10** | **1** | **7** | **11** | 2 | 5 | 8 | **2** | **6** | **9** |
| Only Wi-Fi for internet | **19** | **35** | **26** | **26** | **41** | **35** | **16** | **29** | **31** | **18** | **32** | **29** |
| *Share of riders (%) experiencing phone data limitations:* | | | | | | | | | | | | |
| No data use on phone | **2** | **13** | **12** | **7** | **12** | **18** | **2** | **15** | **14** | **2** | **14** | **13** |
| Somewhat or very concerned about data limits | 17 | 19 | 20 | 25 | 27 | 25 | 29 | 19 | 20 | 22 | 20 | 20 |
| *Share of riders (%) completely or somewhat uncomfortable using the following payment practices:* | | | | | | | | | | | | |
| Website - One Time Payment | 19 | 27 | 29 | 30 | 28 | 32 | 15 | 20 | 26 | **18** | **24** | **28** |
| Website - Recurring payments | 33 | 36 | 38 | 44 | 48 | 42 | **20** | **27** | **33** | 28 | 33 | 36 |
| Smartphone - Recurring payments | 29 | 31 | 34 | NA | NA | NA | 16 | 24 | 28 | **24** | **28** | **31** |
| Purchase by phone | NA | NA | NA | 53 | 50 | 45 | 41 | 36 | 42 | **42** | **38** | **42** |
| *Share of current cash-on-board users (%) who will switch to the following practices:* | | | | | | | | | | | | |
| Some form of Credit/Debit (Online, Phone, etc.) | **62** | **34** | **24** | **28** | **42** | **26** | 43 | 37 | 40 | **57** | **36** | **31** |
| Some form of Cash (TVM, Retail, etc.) | 29 | 40 | 50 | 80 | 62 | 61 | 29 | 40 | 31 | 31 | 41 | 42 |
| Unable to Ride | 10 | 24 | 22 | 4 | 13 | 16 | 29 | 24 | 21 | 13 | 23 | 21 |

Notes: Bolded numbers show statistically significant differences at 0.05 level among the three percentages within each city, or composite, using a Chi-squared test. For example, the three values in the dotted-line box in the upper left are not significantly different at a 0.05 level, while other groups of numbers in boldface are. “Higher” income includes respondents living in households earning above $50k/year, “Low” are those earning below $50k/year, and “Miss.” are respondents who did not report income.

**Table AC2 Breakdown of survey results by race/ethnicity**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Denver | | | Eugene | | | Gresham/Portland | | | Composite | | |
|  | Non-  Hisp.White | Riders of Color | Miss. | Non-  Hisp.White HW | Riders of ColorPOC | Miss. | Non-  Hisp.White HW | Riders of ColorPOC | Miss. | Non-  Hisp.White HW | Riders of ColorPOC | Miss. |
| N | 184 | 279 | 51 | 785 | 322 | 133 | 240 | 217 | 92 | 41% | 46% | 13% |
| *Share of riders (%) with current fare payment practice:* | | | | | | | | | | | | |
| Employer provided | 25 | 29 | 22 | 36 | 35 | 32 | **17** | **18** | **7** | **22** | **25** | **13** |
| Social service provider | 5 | 8 | 0 | 0 | 0 | 0 | 7 | 10 | 3 | **6** | **9** | **2** |
| Cash on bus | **28** | **38** | **25** | **28** | **39** | **15** | **20** | **30** | **21** | **24** | **35** | **22** |
| Cash at TVMs | 25 | 34 | 22 | **19** | **24** | **8** | 24 | 29 | 17 | **24** | **32** | **19** |
| Cash at retail/agency | 16 | 23 | 12 | **15** | **19** | **8** | 15 | 12 | 10 | 16 | 19 | 10 |
| Apple/Android Pay | NA | NA | NA | NA | NA | NA | **6** | **9** | **1** | 6 | 9 | 1 |
| Credit/debit at TVM | **27** | **17** | **20** | **10** | **12** | **2** | 13 | 19 | 11 | 19 | 18 | 14 |
| Smartphone app | **26** | **24** | **8** | **4** | **7** | **1** | **36** | **29** | **22** | **29** | **26** | **16** |
| Credit/debit at retail/agency | 15 | 13 | 8 | 15 | 15 | 8 | 13 | 10 | 10 | 14 | 12 | 9 |
| *Share of riders (%) lacking access to banking and internet:* | | | | | | | | | | | | |
| Unbanked | 4 | 7 | 10 | 4 | 4 | 4 | 6 | 11 | 10 | 5 | 9 | 10 |
| Lacks smartphone | 13 | 13 | 10 | **19** | **15** | **27** | 14 | 11 | 20 | 14 | 12 | 16 |
| No Internet | 5 | 6 | 10 | **8** | **4** | **17** | **6** | **4** | **11** | 6 | 5 | 11 |
| Only Wi-Fi for internet | 28 | 31 | 16 | 37 | 42 | 34 | 28 | 27 | 29 | 29 | 30 | 24 |
| *Share of riders (%) experiencing phone data limitations:* | | | | | | | | | | | | |
| No data use on phone | 13 | 10 | 4 | **15** | **8** | **21** | 14 | 12 | 13 | 13 | 11 | 10 |
| Somewhat or very concerned about data limits | 15 | 20 | 25 | **24** | **34** | **25** | 18 | 24 | 21 | 17 | 22 | 23 |
| *Share of riders (%) completely or somewhat uncomfortable using the following payment practices:* | | | | | | | | | | | | |
| Website - One Time Payment | 26 | 26 | 29 | 31 | 25 | 33 | 20 | 22 | 24 | 24 | 24 | 26 |
| Website - Recurring payments | 38 | 36 | 35 | 47 | 41 | 47 | 28 | 28 | 32 | 34 | 33 | 34 |
| Smartphone - Recurring payments | 34 | 30 | 35 | NA | NA | NA | 24 | 25 | 26 | **28** | **28** | **30** |
| Purchase by phone | NA | NA | NA | 51 | 44 | 50 | 39 | 40 | 39 | **41** | **40** | **40** |
| *Share of current cash-on-board users (%) who will switch to the following practices:* | | | | | | | | | | | | |
| Some form of Credit/Debit (Online, Phone, etc.) | **47** | **26** | **38** | 39 | 32 | 20 | **34** | **48** | **16** | 41 | 34 | 26 |
| Some form of Cash (TVM, Retail, etc.) | 33 | 50 | 23 | **64** | **67** | **30** | 40 | 32 | 32 | 39 | 44 | 28 |
| Unable to Ride | 20 | 23 | 15 | 11 | 15 | 25 | 26 | 20 | 26 | 21 | 22 | 22 |

Notes: Bolded numbers show statistically significant differences at 0.05 level among the three percentages within each city, or composite, using a Chi-squared test. For example, the three values in the dotted-line box in the upper left are not significantly different at a 0.05 level, while other groups of numbers in boldface are. “Miss” declined to answer

**Table AC3 Breakdown of survey results by age**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Denver | | | | Eugene | | | | Gresham/Portland | | | | Composite | | | |
|  | Boomer  55+ | GenX 35-55 | Mill(<35 | Miss | Boomer (  55+) | GenX 35-55 | Mill(<35 | Miss | Boomer (  55+) | GenX 35-55 | Mill(<35 | Miss | Boomer (  55+) | GenX 35-55 | Mill(<35 | Miss |
| N | 73 | 132 | 237 | 72 | 263 | 315 | 492 | 170 | 86 | 140 | 225 | 98 | 15 | 26 | 43 | 16 |
| *Share of riders (%) with current fare payment practice:* | | | | |  | | | | |  | | | | |  | |
| Employer provided | **19** | **20** | **33** | **26** | **44** | **24** | **40** | **28** | **12** | **21** | **17** | **10** | **17** | **21** | **26** | **18** |
| Social service provider | 11 | 5 | 6 | 4 | 0 | 0 | 0 | 0 | **7** | **13** | **7** | **2** | 8 | 8 | 6 | 3 |
| Cash on bus | **25** | **32** | **38** | **28** | **17** | **38** | **32** | **24** | **27** | **17** | **31** | **15** | **25** | **25** | **35** | **21** |
| Cash at TVMs | **16** | **31** | **34** | **24** | **9** | **25** | **22** | **15** | **35** | **23** | **26** | **17** | **25** | **27** | **30** | **20** |
| Cash at retail/agency | 25 | 21 | 16 | 19 | **16** | **21** | **13** | **10** | **28** | **19** | **6** | **9** | **26** | **20** | **11** | **14** |
| Apple/Android Pay | NA | NA | NA | NA | NA | NA | NA | NA | 3 | 6 | 8 | 3 | 3 | 6 | 8 | 3 |
| Credit/debit at TVM | 19 | 23 | 20 | 21 | **5** | **13** | **13** | **4** | 15 | 12 | 19 | 11 | 16 | 18 | 19 | 15 |
| Smartphone app | **10** | **26** | **30** | **13** | 5 | 4 | 5 | 4 | **21** | **25** | **43** | **20** | **15** | **24** | **34** | **16** |
| Credit/debit at retail/agency | 14 | 17 | 12 | 11 | **17** | **17** | **12** | **9** | **26** | **19** | **2** | **9** | **20** | **18** | **8** | **10** |
| *Share of riders (%) lacking access to banking and internet:* | | | | |  | | | | |  | | | | |  | |
| Unbanked | 7 | 7 | 5 | 10 | 2 | 5 | 3 | 4 | 5 | 8 | 10 | 10 | 5 | 7 | 7 | 10 |
| Lacks smartphone | **41** | **8** | **5** | **17** | **40** | **18** | **6** | **25** | **37** | **11** | **5** | **17** | **39** | **10** | **5** | **17** |
| No Internet | **22** | **4** | **1** | **13** | **19** | **7** | **2** | **10** | **16** | **2** | **1** | **12** | **19** | **3** | **1** | **12** |
| Only Wi-Fi for internet | **26** | **36** | **27** | **22** | **28** | **43** | **40** | **39** | 30 | 30 | 26 | 27 | 28 | 34 | 27 | 25 |
| *Share of riders (%) experiencing phone data limitations:* | | | | |  | | | | |  | | | | |  | |
| No data use on phone | **38** | **8** | **4** | **8** | **32** | **13** | **4** | **15** | **33** | **10** | **7** | **12** | **35** | **9** | **5** | **11** |
| Somewhat or very concerned abt. data limits | **7** | **20** | **21** | **24** | **16** | **30** | **30** | **26** | 21 | 19 | 24 | 19 | 14 | 20 | 22 | 22 |
| *Share of riders (%) completely or somewhat uncomfortable using the following payment practices:* | | | | | | | | | |  | | | | |  | |
| Website - One Time Payment | **42** | **25** | **23** | **22** | **40** | **35** | **19** | **35** | **35** | **24** | **14** | **22** | **39** | **25** | **19** | **23** |
| Website - Recurring payments | **52** | **36** | **35** | **28** | **51** | **51** | **39** | **44** | **40** | **34** | **19** | **34** | **46** | **36** | **28** | **32** |
| Smartphone - Recurring payments | **47** | **32** | **28** | **28** | NA | NA | NA | NA | **35** | **28** | **16** | **30** | **41** | **30** | **23** | **29** |
| Purchase by phone | NA | NA | NA | NA | **56** | **52** | **44** | **46** | 43 | 45 | 36 | 37 | **45** | **46** | **37** | **37** |
| *Share of current cash-on-board users (%) who will switch to the following practices:* | | | | | | | | | | | | | | | | |
| Some form Credit/Debit (Online, Phone, etc) | 39 | 38 | 32 | 25 | **35** | **33** | **42** | **22** | **13** | **38** | **53** | **13** | **26** | **38** | **40** | **20** |
| Some form of Cash (TVM, Retail, etc.) | 44 | 43 | 43 | 40 | 72 | 66 | 60 | 56 | 52 | 42 | 27 | 33 | 50 | 44 | 38 | 38 |
| Unable to Ride | 17 | 19 | 24 | 20 | 9 | 14 | 15 | 12 | 35 | 21 | 20 | 20 | 25 | 19 | 22 | 20 |

Notes: Bolded numbers show statistically significant differences at 0.05 level among the three percentages within each city, or composite, using a Chi-squared test. For example, the three bolded values in the dotted-line box in the upper left are significantly different at a 0.05 level, while other groups of numbers not in boldface are. Millennials are those under 35, Generation X are 35 to 55 and Boomers are those over 55 years old, “Miss” declined to answer

**Appendix D. Factor Analysis**

The factor analysis revealed four significantly common rider types among those surveyed (accounting for 56.2% of the total variance in the data). The results of the analysis are shown in the Table below, where significant relationships (absolute value of correlation scores higher than 0.3) are highlighted in the bolded numbers.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table: Component Score Coefficient Matrix. | | | | |
| Rider type -> | 1 | 2 | 3 | 4 |
| Rides per month | -.027 | **-.610** | .227 | .058 |
| Smartphone ownership (Y/N) | -.184 | .168 | -.143 | **.561** |
| Only use public Wi-Fi (Y/N) | .223 | **-.328** | -.198 | .189 |
| Credit card access (Y/N) | .122 | .183 | **.308** | .021 |
| Ave comfort with online/phone payment score (Scale of 1-4, with 4 being highest comfort) | -.225 | -.009 | **.475** | -.121 |
| Age | .545 | -.055 | -.008 | -.118 |
| Income | .176 | .321 | .059 | .178 |
| Non-Hispanic White (Y/N) | **.440** | .071 | -.011 | .085 |
| Phone data limits not a concern (Y/N) | .128 | -.215 | -.004 | **.611** |
| Cash on board payment (always or often) (Y/N) | -.122 | .223 | **-.581** | .018 |