



APPENDIX B: Metro Transit 2016 Better Bus Stops Survey Report

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Executive Summary

Metro Transit initiated a community engagement process across the Twin Cities region to work with communities on issues related to bus stop improvements. One strategy of this process was to partner with community organizations to better hear from the underrepresented neighborhoods of the Better Bus Stops focus area. A 16 question survey was developed and administered to assess the importance of various bus stop attributes and the criteria Metro Transit should consider when identifying locations to place waiting shelters. This survey was designed as both a tool for community partners to use in their focused engagement, and to encourage broader involvement from transit riders beyond the project's focus neighborhoods.

Overall, 2,013 individuals completed the survey, and demographics of respondents are comparable to the age, gender, Hispanic/Latino status, and race of respondents of the 2014 customer survey. Results indicate clear priorities for bus stop attributes and location criteria, with negligible differences across demographic groups.

What are the most important features to include at bus stops?

When rating the importance of various bus stop attributes, respondents rated benches, posted schedules, safe street crossings, and shelters/canopies as the most essential items to have at a bus stop. When forced to rank their top three choices, shelter/canopy was the most often cited first choice, followed by posted schedules for buses that serve the stop. Top second choices were shelter/canopy, and heater inside the shelter.

What should Metro Transit consider in deciding where to place shelters?

The following criteria were most commonly rated as essential: Near hospitals, clinics, social service centers, and senior housing; in areas where many people do not own vehicles and rely on transit; and at stops where there is not very good lighting and riders are concerned about their personal safety. When asked to rank the top three choices, respondents chose where many people are waiting for the bus, and where buses stop less frequently and people have to wait longer most commonly for their first choice. Approximately 26% of respondents chose not to rank their top choices.

Differences across demographic groups

There were some statistically significant, but minor differences revealed in answers across demographic groups. Although statistically significant results are reported, there are no fundamental differences amid various demographic groups.

The Strategic Initiatives team recommends that Metro Transit:

- Continues to use ridership data as a factor in determining where to place shelters.
- Considers additional factors in shelter location placement based on the findings of this analysis, such as near hospitals, clinics, social service centers, and senior housing.
- Conducts further research to better understand respondents who ride transit infrequently and identify barriers to more regular transit use.
- Continues to partner with community organizations to get survey participations in focus areas and samples that are representative of Metro Transit customers as a whole.

Introduction

Metro Transit is committed to providing a safe, secure, and comfortable experience for all transit customers. A large part of this effort is in constructing new and updating existing shelters. In 2014, Metro Transit received a \$3.26 million Ladders of Opportunity Grant from the Federal Transit Administration to invest in bus stops and customer waiting shelter improvements that enhance access to employment and educational opportunities. This grant, along with federal and state money is being used to fund the Better Bus Stops Program.

Better Bus Stops' focus area is neighborhoods with areas of concentrated poverty where 50% or more of the residents are people of color. These neighborhoods including parts of north Minneapolis, south Minneapolis, St. Paul's East Side, West Side and central neighborhoods, and portions of Brooklyn Center, Brooklyn Park, and Richfield. Evaluation of ridership data in these areas is the main method in determining which bus stops are candidates for shelter improvements. Additional factors considered in deciding where to place bus shelters is site suitability, conditions, and proximity to the bus stop.

Metro Transit values the opinions and thoughts of its customers, and in an effort to include the community in bus stop improvements and shelter placement, a survey was distributed as one of several engagement tools to better understand what riders value most at bus stops and shelters. Metro Transit recognizes that what it considers most important may not be the same as what different communities find critical. Accordingly, a survey was administered to help Metro Transit make better decisions in bus stop improvements and shelter upgrades.

Analysis of the 2016 Better Bus Stops Survey conducted by the Strategic Initiatives department had the following objectives:

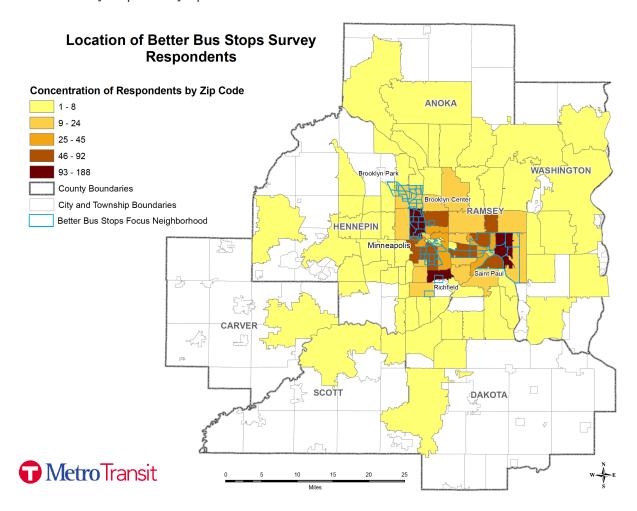
- 1. Determine the overall attitude toward existing features and potential upgrades to bus stops
- 2. Establish what the public thinks Metro Transit should consider regarding where to place shelters
- 3. Understand differences in responses between various groups of people
- 4. Evaluate whether what customers find important at a bus stop coincides with current standards for bus stop improvements and shelter placement

Survey Distribution and Participation

The Better Bus Stops Program at Metro Transit created a 16 question survey; the full list of survey questions can be seen in Appendix A. The survey was available online in English from April 11, 2016 to November 20, 2016 (223 days), and in Hmong, Spanish, and Somali from April 22, 2016 to November 20, 2016 (212 days). In addition, Metro Transit partnered with various community organizations in an effort to have the survey participation be as representative of the entirety of Metro Transit users as possible. These community organizations distributed and assisted participants in completing the survey either online or in paper form. 2,013 participants completed surveys, 57% of which heard about the survey through these community organizations, 13% from Metro Transit staff, 12% from Metrotransit.org, and 16% from other sources.

Figure 1 shows the concentration of survey responses by zip code. The Better Bus Stops focus neighborhoods are outlined in blue. The focus areas are very well represented, with the exception of portions of Brooklyn Park and Brooklyn Center. It is important to note that survey response zip codes are not entirely representative of the overall bus ridership at Metro Transit. Downtown Minneapolis is a high ridership zone but is not in the Better Bus Stops focus area. Collection efforts were concentrated in the previously identified neighborhoods.

FIGURE 1: Survey Responses by Zip Code



Participation

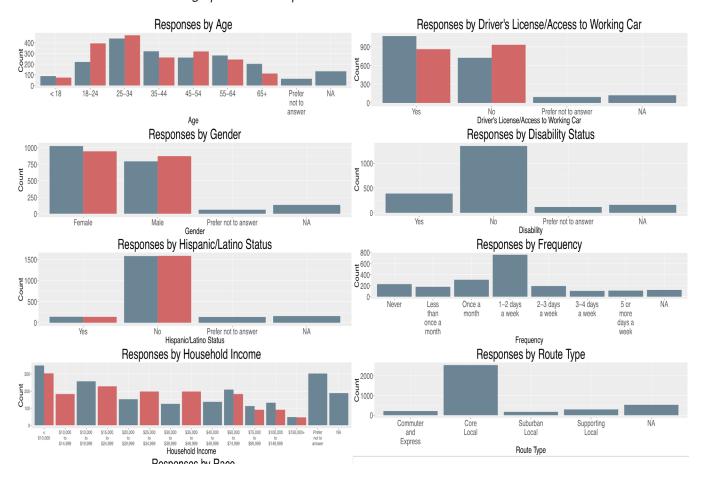
Demographic characteristics of respondents are further broken down in Figure 2 and compared to the demographic makeup of all Metro Transit bus riders in 2014 where data was available. Commonly, surveys posted online only, without an intentional community engagement strategy to target traditionally underrepresented demographics, would not get results that are representative of transit riders as a whole. Not only were surveys successfully collected in the Better Bus Stops focus area, but responses are also generally representative of the age, gender, Hispanic/Latino status, and race of the 2014 bus riders. This will help ensure that analysis results reflect the general attitude of transit riders, and not just a few, overrepresented, demographic groups.

With the help of the community organizations, responses from those with disability status were very high; nearly 20% of respondents indicated having a disability. 36% of respondents identified as being a person of color, 4% are youth under the age of 18, and 10% are seniors. 38% of participants ride five or more days a week and only 5% said they never ride the bus. The vast majority of bus routes taken by participants are core local rides (68%), and 36% of participants do not have a driver's license and access to a working car when needed.

Metro Transit conducted a customer survey in 2014 that provides the best available estimate of the demographic make-up of transit riders. According to this survey, more riders said they did not have a driver's license and access to a working car when needed, but the opposite effect is shown in the Better Bus Stops survey. This could be due to more people having access to cars in the past two years rather than the survey sample being unrepresentative of overall bus riders. Car ride share options such as Zipcar and car2go have become increasingly more popular and could be contributing to the differences we see in Figure 2.

Lastly, participants had the option to select 'prefer not to answer' for the more sensitive demographic questions. We see the highest frequency of these responses when individuals were asked about their annual household income. Nearly a quarter of participants answered with 'prefer not to answer' or left the question blank all together. Because of this, we don't know if annual household income is representative of the overall 2014 bus riders, but each income group is well represented.

FIGURE 2: Self-Identified Demographics of Participants



Methodology

Metro Transit approached the survey analysis with three methods:

- 1. Summary analysis summarizes how all participants responded to each survey question. This method focused on answering the following questions:
 - What are the most important features to have at a bus stop?
 - What is most important for Metro Transit to consider in determining where to place bus shelters?
 - Are there similarities/differences in demographics among respondents who answered these questions the same/differently?

The summary analysis quickly displays what respondents consider to be the most important features at a bus stop and where Metro Transit should consider placing them. Furthermore, this analysis breaks down each of the survey questions by the seven self-identified demographic traits: age, gender, race, Hispanic/Latino, disability status, household income, driver's license/ access to a working car, and frequency of transit use. Results are discussed below and all summary plots are displayed in Appendix B.

- 2. Regression analysis predicts how certain respondents will answer specific questions based on information about them, including their age, race, ethnicity, gender, household income, disability status, and driver's license/car status. Models were built for each survey question to help answer the following questions:
 - Who are the people who consistently mark bus stop features/locations as essential or unimportant?
 - How strong is the relationship between various demographic variables and responses to survey questions?
- 3. Factor analysis aims to describe the relationship among many variables in terms of a few underlying, unobserved, quantities called factors. Items are grouped so that variables that are similar to one another are in one group and variables very different from them are in another group. These new groups, or factors, are examined in context of the original survey questions to determine what they represent.

In terms of this survey, a factor analysis was done on the 12 questions of the bus stop feature questions, and another one was done on the 10 questions of the bus stop location criteria questions. We then predict which factor participants found most important at bus stops and shelter locations. This analysis will help answer the following questions:

- What are the overarching themes participants may have in mind while answering the survey questions?
- Of these themes, which is considered the most critical to incorporate at bus stops and shelters?

Results

Summary Analysis

Bus Stop Features

Figure 3 displays all responses to the question "how important are the following items at a bus stop?". Having a bench, posted schedules, safe street crossings near the bus stop, and shelter or canopy are among the most frequent features ranked as 'essential'. Lights and wide sidewalks around the shelter were less frequently ranked as 'essential' and were the most frequent features to be ranked as 'not important'.

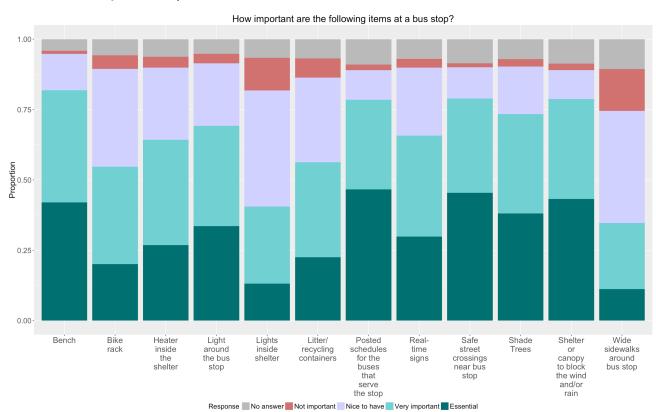
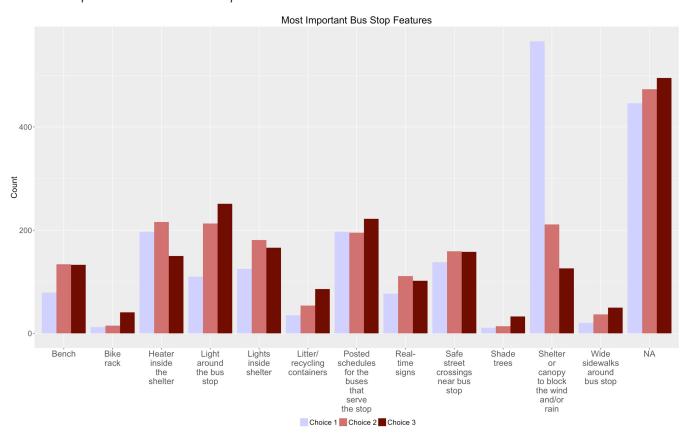


FIGURE 3: Summary of Bus Stop Feature Questions

When participants were asked to choose the most important feature to have at a bus stop, shelter or canopy to block the wind and/or rain was by far the most frequently chosen feature, followed by heaters inside the shelter and posted schedules for the buses that serve the stop, which is seen in Figure 4. Heater inside the shelter and shelter or canopy to block the wind and/or rain were also common as respondents' second choice of the most important bus stop feature, along with lights around the bus stop. Light around the shelter, and posted schedules were commonly marked as the third most important features at a bus stop. Bike racks, shade trees, and wide sidewalks around the bus stop were ranked low in all of the three choices.

It is also important to note the high frequency of respondents who chose not to answer these questions. Looking further into who the people that didn't respond are, we noticed that all demographic variables are present. This means we have no reason to believe the people who didn't answer are different from the people who did answer, with the exception of participants identifying as Hispanic or Latino. Hispanic or Latino participants chose not to answer these questions at a higher rate than those not of Hispanic or Latino status. Thought should be put into figuring out why these individuals left these questions blank at higher rates.

FIGURE 4: Top Three Choices of Bus Stop Features



Shelter Locations

Figure 5 shows answers to what Metro Transit should consider in determining where to place bus shelters. Near hospitals, clinics, social service centers, and senior housing were most frequently marked as essential, followed closely by areas where many people do not own vehicles and rely on transit. Items marked essential least frequently were at bus stops where riders transfer from one route to another, and where buses stop less frequently and people have to wait longer.

The most frequently selected first choice for most important bus stop location consideration was where many people are waiting for the bus, followed by where buses stop less frequently and people have to wait longer. The top second choice was near hospitals, clinics, social service centers, and senior housing, and the top choice for third most important location criteria is in communities that have no or few shelters. These responses are displayed in Figure 6. It is again important to note the high number of respondents that chose to leave these questions blank. Additionally, the assumption that people have to wait longer in areas where buses stop less frequently does not necessarily hold. Due to leading language, responses to this question may not accurately reflect the attitudes of participants.

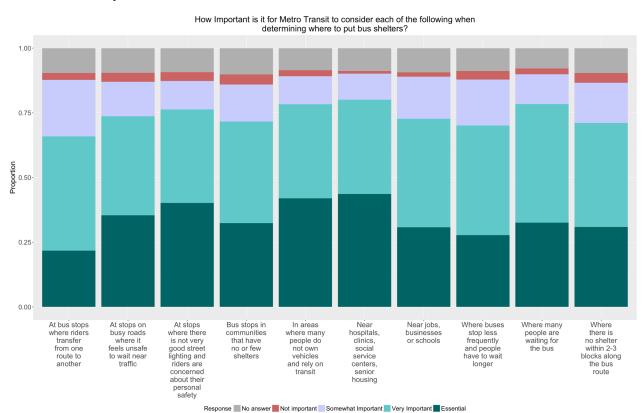
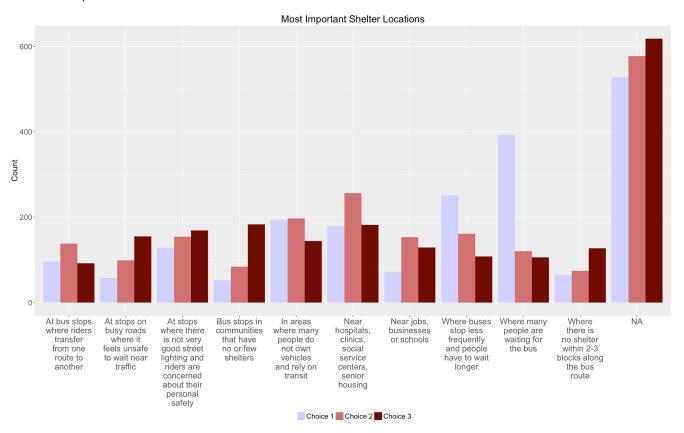


FIGURE 5: Summary of Bus Shelter Location Questions

FIGURE 6: Top Three Choices of Bus Shelter Locations



Regression Analysis

Models were built to identify if there were statistically significant differences for each survey question based on the provided demographic variables. We found significant differences between respondent gender, age, race, Hispanic/Latino status, disability status, frequency of transit use, and driver's license and access to a working car status. While these differences are deemed statistically significant, it is important to keep in mind that they are very small.

Bus Stop Features

Gender

- Female participants were generally more likely to rate bus stop features of higher importance than males.
- There was no difference in responses between males and females on the importance of posted schedules, real-time signs, or bike racks.

Race

- African American/Black respondents were more likely than Caucasian/White participants to rate the following as higher importance:
 - Litter or recycling receptacles
 - Shade trees
 - Real-time signs
 - Benches
 - Wide sidewalks around the bus stop
 - Heater inside the shelter
 - Lights inside the shelter
 - Bike racks
- White/Caucasian participants were more likely than Black/African American respondents to rate posted schedules and lights inside the shelter as important; nearly 84% and 83% of White/ Caucasian participants rated posted schedules and lights inside the shelter as essential or very important, respectively, while the same was true for 75% and 76% of Black/African American participants.
- Asian/Asian American participants were more likely to consider shade trees, real-time signs, and heaters inside shelters as more important than Caucasian/White participants. Asian/Asian American participants rated shade trees, Real-time signs, and heaters as essential or very important approximately 42%, 67%, and 73% of the time, respectively, while White/Caucasian participants rated these items as essential or very important 34%, 43%, and 57% of the time, respectively.

Hispanic/Latino Status

Participants not identifying as Hispanic or Latino were more likely than those identifying as Hispanic or Latino to rate posted schedules as more important; nearly 81% of non Hispanic/ Latino participants rated posted schedules as essential or very important, while only 69% of Hispanic/Latino participants rated posted schedules as essential or very important.

Disability Status

Compared to those without a disability, those identifying as having a disability are more likely to rate benches and heaters inside shelters as more important. Almost 83% of participants with a disability rated benches as essential or very important, while only 65% of participants without a disability rated benches as high. Heaters were rated essential or very important by 73% of participants with a disability, but only 64% of participants without a disability rated heaters as highly.

Frequency of transit use

- Respondents who use transit more than five times a week were more likely to rate heaters inside shelters as important; nearly 83% of riders who use transit five times or more per week rated heaters as essential or very important, while only 62% of riders that used transit only once a month rated heaters as essential or very important.
- Participants riding transit five or more days a week were more likely to rate lights inside the shelter as essential or very important than those who ride between once and four times a week. Almost 76% of participants riding transit five or more times a week rated lights inside the shelter as essential or very important, while those who use transit 3-4 days a week rated lights inside the shelter essential or very important 70% of the time.
- Those riding 2-3 times a month were more likely to rate litter and recycling receptacles, shade trees, posted schedules, benches, and bike racks as more important than those riding five or more days a week.
- Respondents riding once a month were more likely to find more value in shade trees, posted schedules, wide sidewalks, and bike racks than those riding five or more days a week.
- Respondents who never ride the bus were more likely than those who ride five or more days a week to find additional value in wide sidewalks. Almost 66% of respondents who never ride transit rated wide sidewalks around the bus stop as essential or very important, while only about half of respondents who use transit five or more days a week rated wide sidewalks as highly.

Driver's license and access to working car status

Participants without a driver's license and access to a working car when needed were more likely to want a heater than participants with a driver's license and access to a car. Nearly 72% of participants without a driver's license and car rated heaters as essential or very important, while only 62% of participants with a driver's license and car rated heaters as highly.

Shelter Location Criteria

Gender

Females were more likely to find importance than males in all shelter location criteria except where many are waiting for the bus and at bus stops where riders transfer from one route to another.

Race

- Caucasian/White respondents were more likely than African American/Black participants to want bus shelters in these locations:
 - Near hospitals, clinics, social service centers, and senior housing
 - At stops where there isn't very good street lighting and riders are concerned with their personal safety
 - At stops on busy roads where it feels unsafe to wait near traffic
- African American/Black respondents were more likely to want shelters near jobs, businesses, and schools than Caucasian/White participants. Approximately 78% of Black/African American respondents rated shelters near jobs, businesses, and schools as essential or very important, whereas 71% of White/Caucasian rated the same location as highly.

Hispanic/Latino Status

- Participants not identifying as Hispanic or Latino were more likely than those identifying as Hispanic or Latino to want waiting shelters
 - At bus stops where riders transfer from one route to another
 - At stops where there isn't very good street lighting and riders are concerned about their personal safety
 - Where there is no shelter within 2-3 blocks along the bus route
 - In areas where many people do not own vehicles and rely on transit

Disability Status

Respondents with a disability were more likely than those without a disability to want shelters near jobs, businesses, and schools. About 81% of respondents with a disability rated shelters near jobs, businesses, ands schools as essential or very important, while respondents without a disability rated this location as essential or very important only 72% of the time.

Frequency of transit use

- Respondents who use transit five or more days a week were more likely to want shelters at bus stops in communities that have no or few shelters, compared to those who use transit 3-4 days a week. Respondents who ride five or more days a week rated this shelter location as essential or very important 74% of the time, whereas, respondents riding transit 3-4 days a week rated this location the same importance 67% of the time.
- Participants riding 5 or more days a week were more likely than those riding 1-2 days a week to value shelters in areas where there isn't very good street lighting and riders are concerned with their personal safety. 79% of respondents who ride transit 5 or more days a week rated this location as essential or very important, while 71% of respondents who use transit 1-2 days a week rated this location as highly.
- Those riding once a month were more likely to want shelters in areas where many people do not own vehicles and rely on transit than those riding five or more days a week. Nearly 92% of respondents who ride transit once a month rated shelters where people rely on transit as essential or very important, while only 78% of respondents riding transit 5 or more days a week rated this location as highly.

Survey participants who never ride transit were more likely to want shelters at stops on busy roads where it feels unsafe to wait near traffic than those riding five or more days a week. Participants who never ride transit rated this shelter location essential or very important 82% of the time, while participants riding transit 5 or more days a week rated this location as essential or very important 75% of the time.

Factor Analysis

Bus Stop Features

Factor analysis revealed three distinct factors within the 12 questions (question 1, parts a-l) relating to what features respondents find most important to have at a bus stop. The three factors contain the following bus stop features:

- 1. shade trees, wide sidewalks around bus stop, litter and recycling receptacles, bench, Real-time signs, and bike racks
- 2. lights around the bus stop, safe street crossings near bus stop, posted schedules for the buses that serve that stop, and lights inside the shelter
- 3. heater inside shelter and shelter or canopy to block the wind and/or rain

Examining these factors, we might interpret them as convenience, safety, and shelter, respectively. The factor names are informal, that is to say, based on the questions that make up each factor, one could interpret them differently. We name them in order to simplify referencing the factors in further analysis.

Each bus stop feature fits to some degree in each factor, but how strongly it contributes to the factors determines which it is classified. Figure 7 displays how strongly each feature contributes to each factor. For example, looking across the top row corresponding to wide sidewalks, the bar in the convenience factor is the longer than those for safety and shelter. Thus, wide sidewalks belongs to the convenience factor.

Factor Decomposition of Bus Stop Features Convenience Safety Shelter Wide sidewalks Shelter or canopy Shade trees Safe street crossings Real-time signs Posted Schedules

Posted Schedules

Litter and recycling receptacles Lights inside shelter Light around the bus stop Heater inside the shelter -Bike rack

FIGURE 7: Summary of Bus Stop Feature Factor Analysis

Bench

0.0

0.2

0.4

0.6

After reclassifying the original 12 questions into these three factors, we tried to predict which factor respondents found most important based on the self-identified demographic variables. Results show no statistically significant difference in responses of those of different gender, Hispanic/Latino status, household income, disability status, driver's license/access to working car, or frequency of transit use. Minor significant results were found only within age groups and race.

0.2

0.4

Strength of Association

0.6

0.8 0.0

0.2

0.4

0.6

0.8

0.8 0.0

Age

Respondents in age group 18-24 were more likely to want shelter features rather than convenience features than respondents less than 18 years old. Approximately 61% of respondents aged 18-24 chose shelter features, while only 44% of respondents less than 18 years old also chose shelter features.

Race

African American/Black respondents were more likely to want shelter than convenience features compared to their Caucasian/White counterparts. About 52% of African American/ Black respondents chose shelter features as their top choice, whereas 45% of Caucasian/White respondents also chose shelter features.

Bus Stop Locations

The second factor analysis found four factors in the 10 questions (question 3, parts a-j) corresponding to what respondents think Metro Transit should consider in where to place bus shelters. The questions broke down into the following factors:

- 1. near hospitals, clinics, social service centers, or, senior housing, near jobs, businesses, or schools, in areas where many people do not own vehicles and rely on transit
- 2. at bus stops where riders transfer from one route to another, where many people are waiting for the bus, where buses stop less frequently and people have to wait longer
- 3. where there is no shelter within 2-3 blocks along the bus route, bus stops in communities that have no or few shelters
- 4. at stops where there isn't very good street lighting and riders are concerned about their personal safety, at stops on busy roads where it feels unsafe to wait near traffic

These factors could be interpreted as getting to daily activities, where many people wait/transfer, areas without shelters, and potentially dangerous areas. The breakdown of the four factors can also be seen in Figure 8.

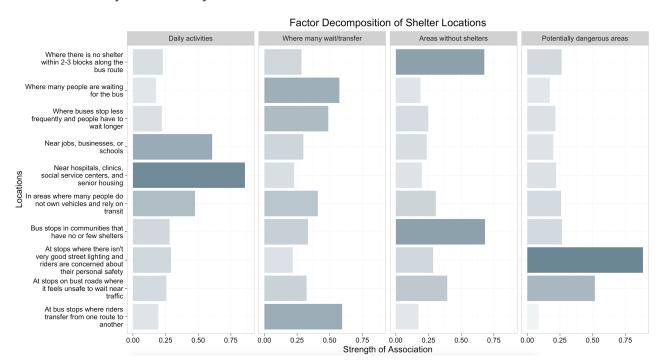


FIGURE 8: Summary of Factor Analysis of Shelter Locations

Similar to the analysis of the bus stop features, we reclassified the ten questions in to these four factors and tried to predict which factor respondents found most important in bus shelter placement. In some situations the number of respondents with a particular demographic within a factor is too low to make valid inferences for that demographic group. We considered each of these situations individually, and concluded there was no difference in how participants of separate household incomes, disability status, or driver's license status/access to a working car responded to these factors. There was, however, minimal significant results within age, race, gender, Hispanic/Latino status, and frequency of transit use.

Age

Participants over the age of 50 were more likely to favor shelters at stops where many people wait or transfer than near daily activities than their younger counterparts. About 59% of

participants in age group 60-64 chose shelters where many people wait or transfer as their top choice, whereas only 49% of participants in age group 18-24 also chose shelter where many people wait or transfer as their top choice.

Race

Caucasian/White participants were more likely than African American/Black participants to favor shelters in potentially dangerous areas rather than where many people wait or transfer. About 14% of Caucasian/White participants chose shelters in potentially dangerous areas as their top choice, whereas 8% of African American/Black participants chose the same location as their top choice.

Gender

- Male participants were more likely than females to want shelters where many people wait or transfer than near daily activities. Nearly 58% of male participants chose shelters where many people wait or transfer as their top choice, whereas 44% of females chose the same location as their top choice.
- Females were more likely than males to want shelters in potentially dangerous areas than where people wait or transfer. About 15% of females chose shelters in potentially dangerous areas as their first choice, whereas 8% of males chose the same location.

Hispanic/Latino Status

Respondents not identifying as Hispanic or Latino were more likely than their Hispanic or Latino counterparts to want shelters where many people wait or transfer verses near daily activities. About 51% of non Hispanic or Latino participants chose shelters where many people wait or transfer as their top choice, while 34% of Hispanic or Latino participants chose the same location as their top choice.

Frequency of Transit Use

Participants who use transit five or more days a week were more likely to favor shelters where many people wait or transfer than near daily activities compared to participants who ride transit one a month or less. About 53% of participants who use transit five or more days a week chose shelters where many people wait or transfer as their top choice, whereas 44% of participants who use transit one a month chose the same location as their top choice.

Survey Conclusions and Next Steps

The 2016 Better Bus Stops Survey was successful in getting a general idea of what features riders find most important at bus stops and where Metro Transit should consider putting bus shelters. The Strategic Initiatives Team was able to address the original objectives of the survey as follows:

- 1. Determine the overall attitude toward existing features and potential upgrades to bus stops
 - Participants found posted schedules, safe street crossings, shelter/canopy, and benches as the most essential features at a bus stop. When asked to rank their top three choices, shelter/canopy came in first.
- 2. Establish what the public thinks Metro Transit should consider in where to place bus shelters
 - Participants most value shelters:
 - » near hospitals, clinics, social service centers, and senior housing
 - where many people have to wait
 - in areas where many people do not own vehicles and rely on transit

When asked to rank their top choice, where many people are waiting and where riders transfer from one route to another were the most frequent responses.

3. Understand differences in responses between various groups of people

Survey results identified slight differences in responses across demographic groups, but ultimately reflect universal themes. Most differences were among race, Hispanic/Latino status, and frequency of use. Although statistically significant results are reported, there are no fundamental differences amid various demographic groups.

Factor analysis revealed a three factor structure within the bus stop feature questions and a four factor structure within the shelter location questions. 18 – 24 year olds and African American/Black respondents preferred shelter rather than convenience features. Participants over 50, African American/Black, or male were more likely to want shelter where many people wait or transfer than near daily activities. The opposite was true for Hispanic or Latino respondents and those riding transit once or less than once a month.

4. Evaluate whether what customers find important at a bus stop coincides with current standards for bus stop improvements and shelter placement

Metro Transit currently uses ridership data in determining where to update and install shelters, putting higher priority on bus routes that have greater ridership. This agrees with the top choice of survey respondents.

The Strategic Initiatives Team recommends that in the future Metro Transit should:

- Continue to use ridership data as a factor in determining where to place shelters.
- Consider additional factors in shelter location placement based on the findings of this analysis, such as where buses stop less frequently and near hospitals, clinics, social service centers, and senior housing.

Conduct further research with the aim of better understanding the attitudes of respondents who ride transit infrequently and identify barriers to more frequent transit use.

The Strategic Initiatives Team recommends the following to Metro Transit in conducting further surveys:

- Further surveys should reword questions so that a common Likert rating scale is used.
- Review survey tools for leading questions and untested assumptions.
- Continue to partner with community organizations to get survey participations in focus areas and samples that are representative of Metro Transit customers as a whole.
- Use the same demographic questions as the Transit Behavior Inventory survey to facilitate easy comparisons between survey participation and overall Metro Transit users.

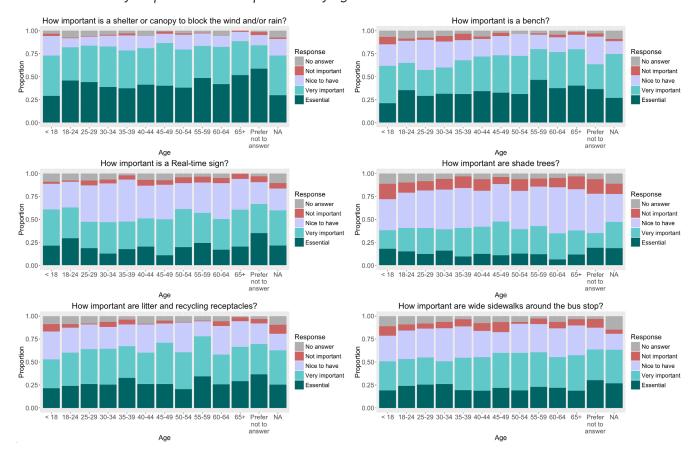
Appendix A – Survey Questions

- 1. How important are the following items at a bus stop? Rank each according to the following scale: Not important, Nice to have, Very important, Essential.
 - Shelter or canopy to block the wind and/or rain
 - Real-time signs (digital signs that show the number of minutes until the next bus will arrive
 - Litter and recycling receptacles
 - Bench
 - Shade trees
 - Wide sidewalks around bus stop
 - Posted schedules for the buses that serve that stop
 - Heater inside the shelter
 - Safe street crossings near bus stop
 - Lights inside shelter
 - Light around the bus stop
 - Bike rack
- 2. Of these features, which three (3) are the most important?
- 3. How important is it for Metro Transit to consider each of the following when determining where to put bus shelters? Rank each according to the following scale: Not important, Somewhat important, Very important, Essential.
 - Where many people are waiting for the bus
 - Where buses stop less frequently and people have to wait longer
 - At bus stops where riders transfer from one route to another
 - In areas where many people do not own vehicles and rely on transit
 - Near hospitals, clinics, social services centers, senior housing
 - Near jobs, businesses, or schools
 - At stops where there isn't very good street lighting and riders are concerned about their personal safety
 - At stops on busy roads where it feels unsafe to wait near traffic
 - Where there is no shelter within 2-3 blocks along the bus route
 - Bus stops in communities that have no or few shelters

- 4. Of the bus stop locations listed above, which three (3) are the most important?
- 5. How did you hear about this survey? [Community Organization, Metro Transit staff, Metrotransit.org, Other]
- 6. How often do you ride transit? [5 or more days a week, 3-4 days a week, 1-2 days a week, 2-3 days a month, Once a month, Less than once a month, Never
- 7. What routes do you ride most often (up to 3)?
- 8. Do you have a driver's license and access to a working car when needed? [Yes, No, Prefer not to answer]
- 9. What is your zip code?
- 10. What is your gender? [Male, Female, Prefer not to answer]
- 11. What best describes your race? [White/Caucasian, Black/African American, Asian/Asian American, American Indian, Native Hawaiian or other Pacific Islander, Prefer not to answer, Other
- 12. Approximately what was your annual household income last year before taxes? [Less than \$10,000, Between \$10,000 and \$19,999, Between \$20,000 and \$29,999, Between \$30,000 and \$39,999, Between \$40,000 and \$49,999, Between \$50,000 and \$74,999, Between \$75,000 and \$99,999, Between \$100,000 and \$149,000, Greater than \$150,000, Prefer not to answer]
- 13. What is your age? [18-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65 or over, Prefer not to answer]
- 14. Are you Hispanic or Latino? [Yes, No, Prefer not to answer]
- 15. Do you have a disability? [Yes, No, Prefer not to answer]
- 16. What else would you like us to know or consider (500-character limit)?

Appendix B – Summary Plots

FIGURE 9: All Survey Responses to Bus Stop Features by Age



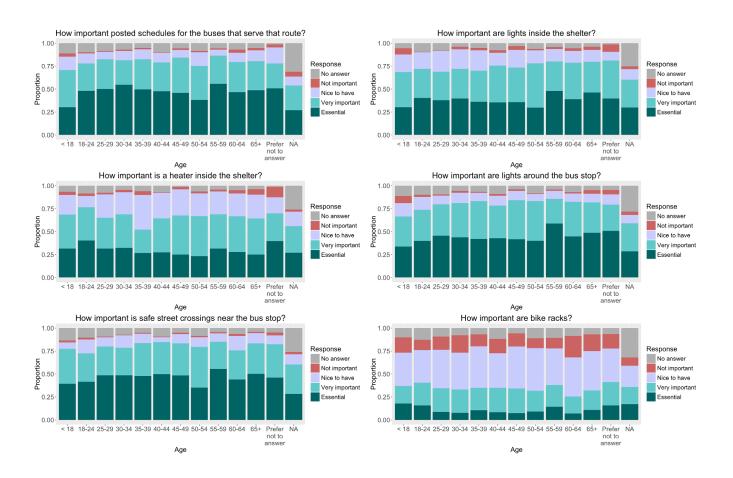


FIGURE 10: All Survey Responses to Bus Stop Features by Gender



FIGURE 11: All Survey Responses to Bus Stop Features by Race

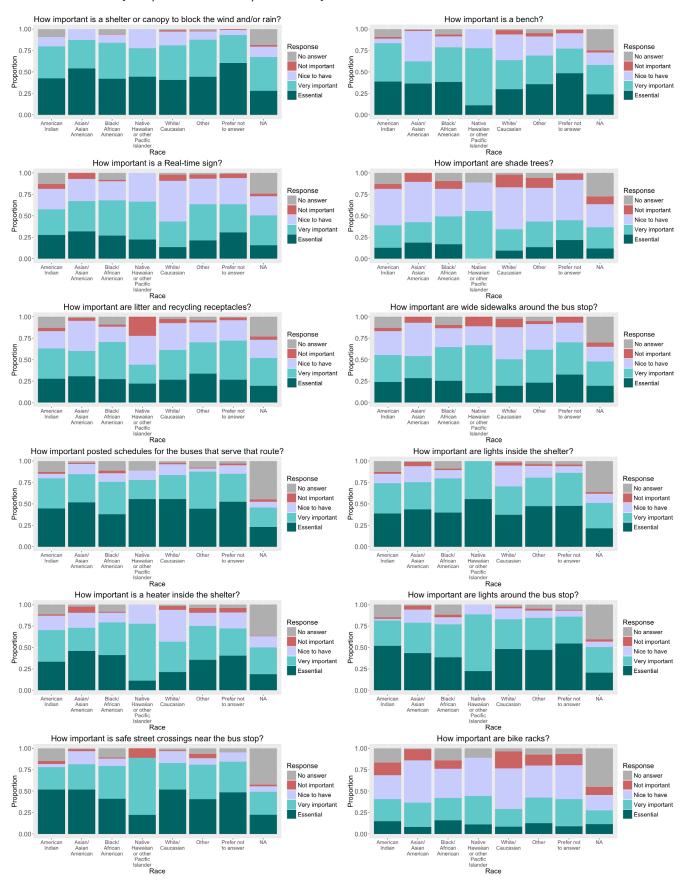


FIGURE 12: All Survey Responses to Bus Stop Features by Hispanic/Latino

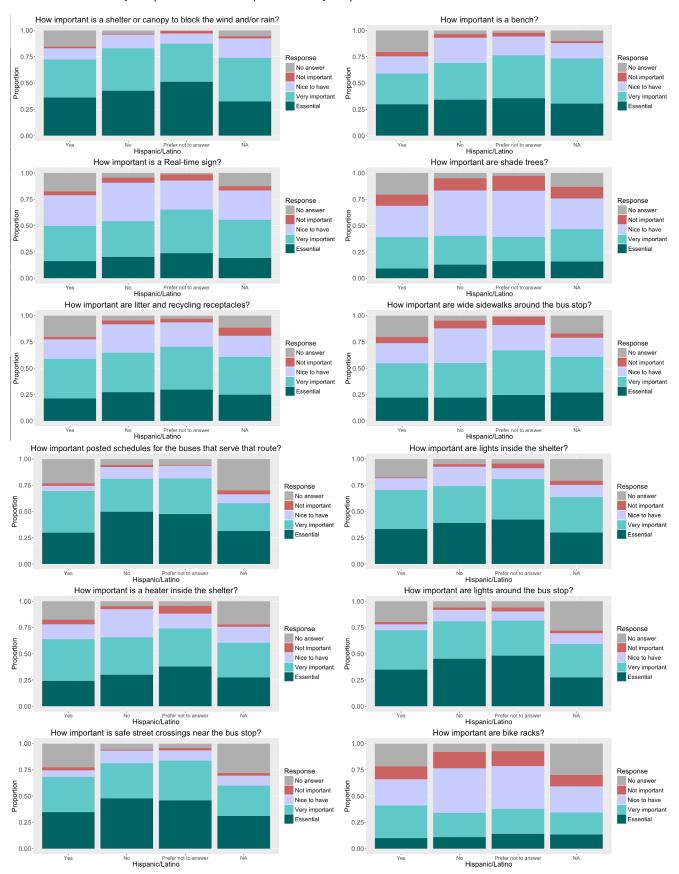


FIGURE 13: All Survey Responses to Bus Stop Features by Household Income

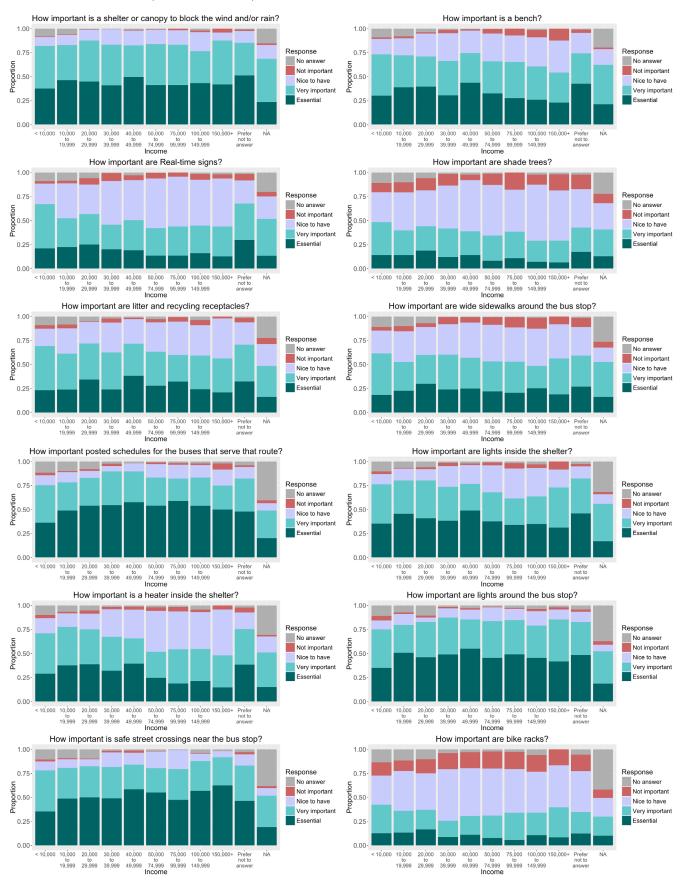


FIGURE 14: All Survey Responses to Bus Stop Features by Driver's License/Working Car Status

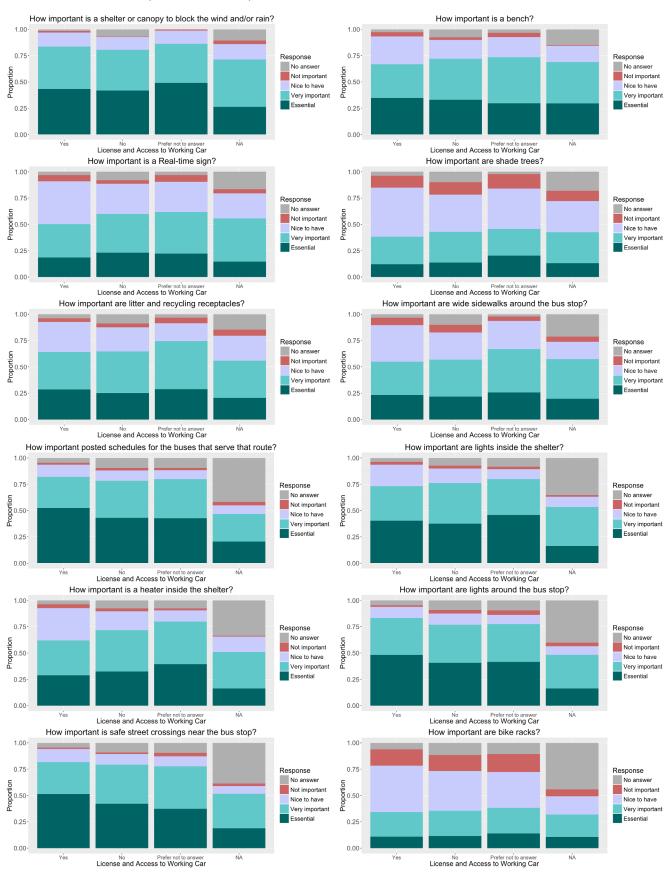


FIGURE 15: All Survey Responses to Bus Stop Features by Disability Status

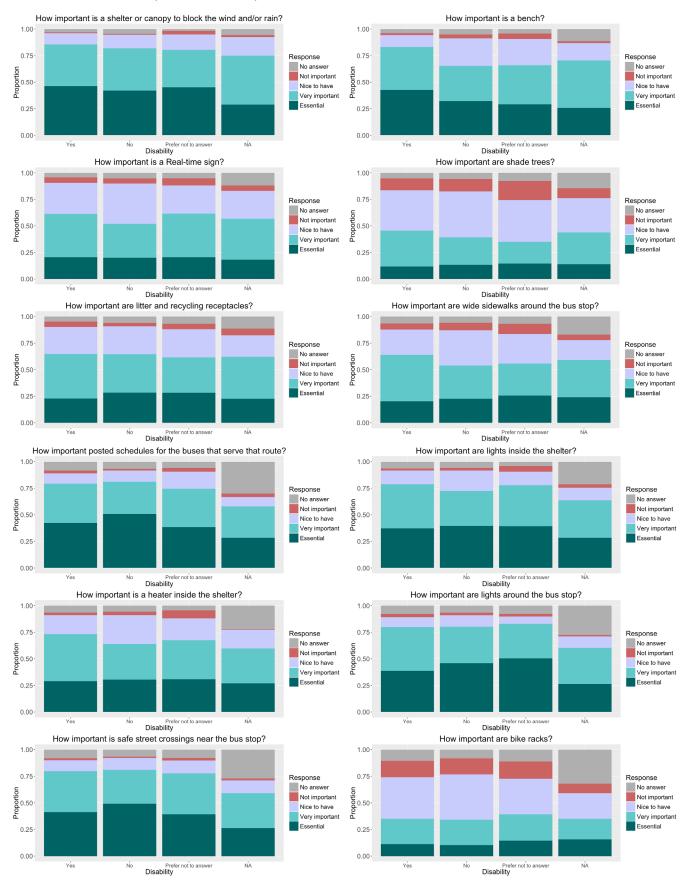


FIGURE 16: All Survey Responses to Bus Stop Features by Frequency of Transit Use

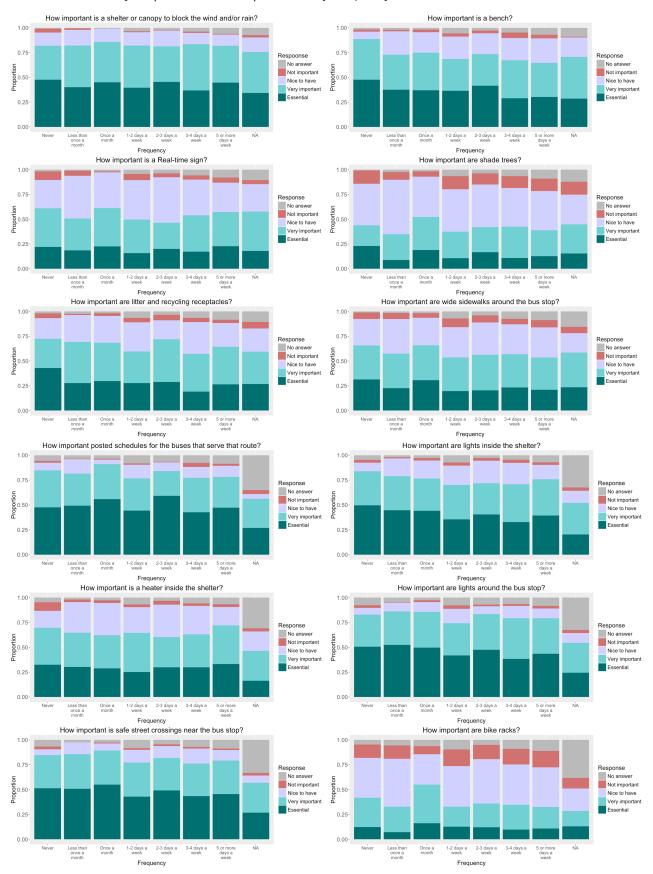


FIGURE 17: All Survey Responses to Shelter Location by Age

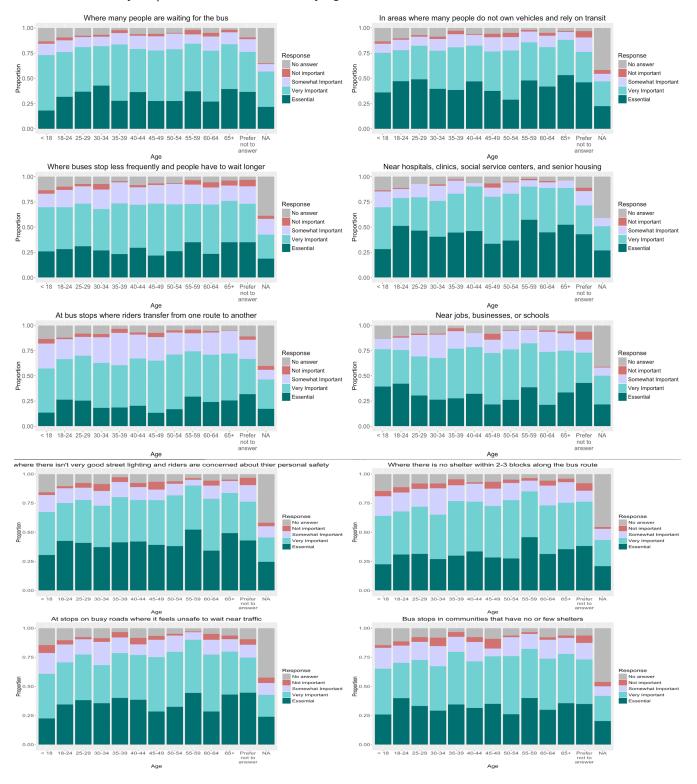


FIGURE 18: All Survey Responses to Shelter Location by Gender

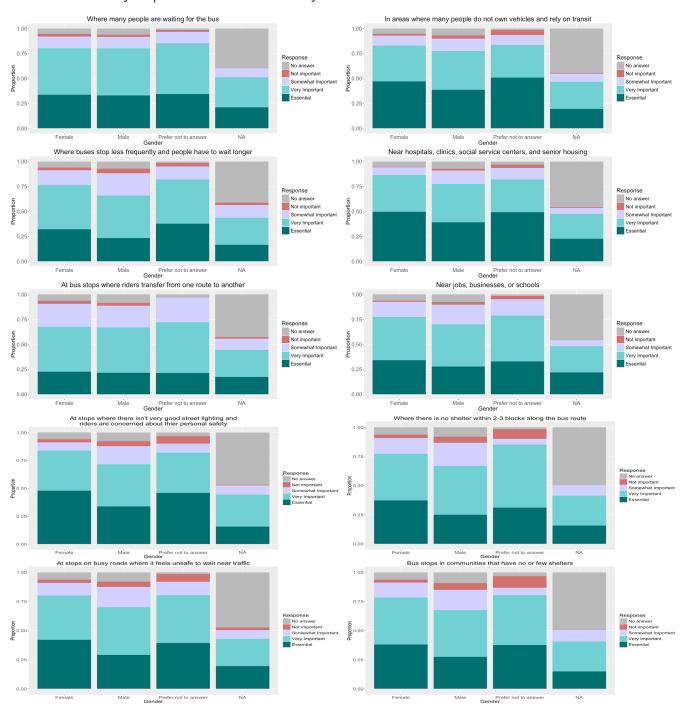


FIGURE 19: All Survey Responses to Shelter Location by Race

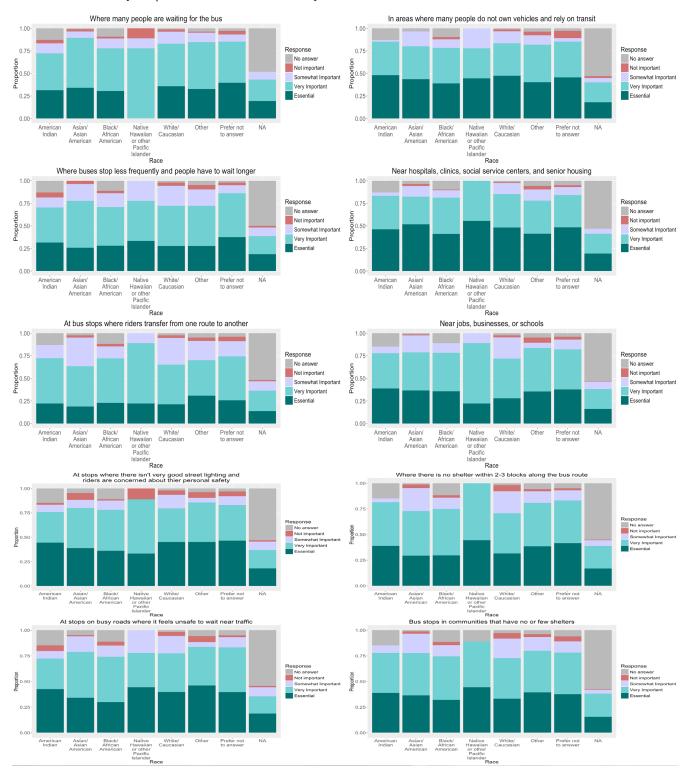


FIGURE 20: All Survey Responses to Shelter Location by Hispanic/Latino Status

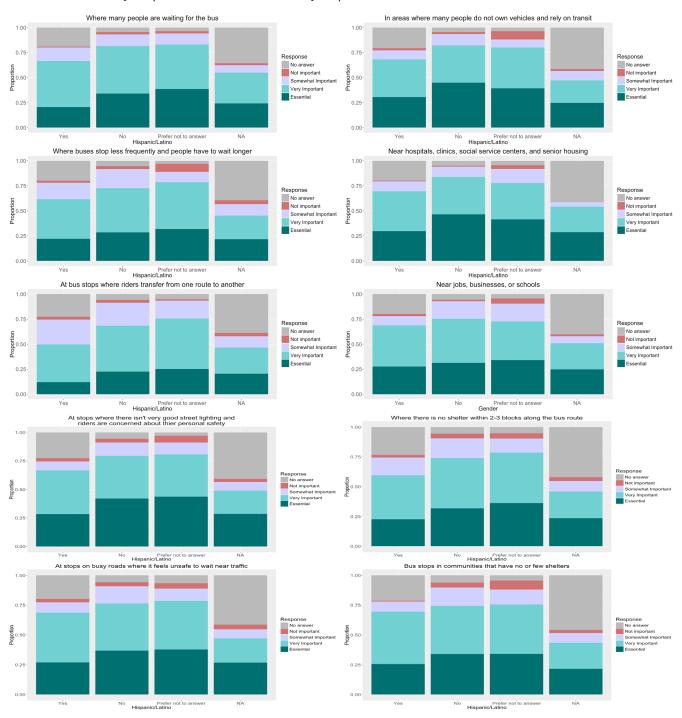


FIGURE 21: All Survey Responses to Shelter Location by Household Income

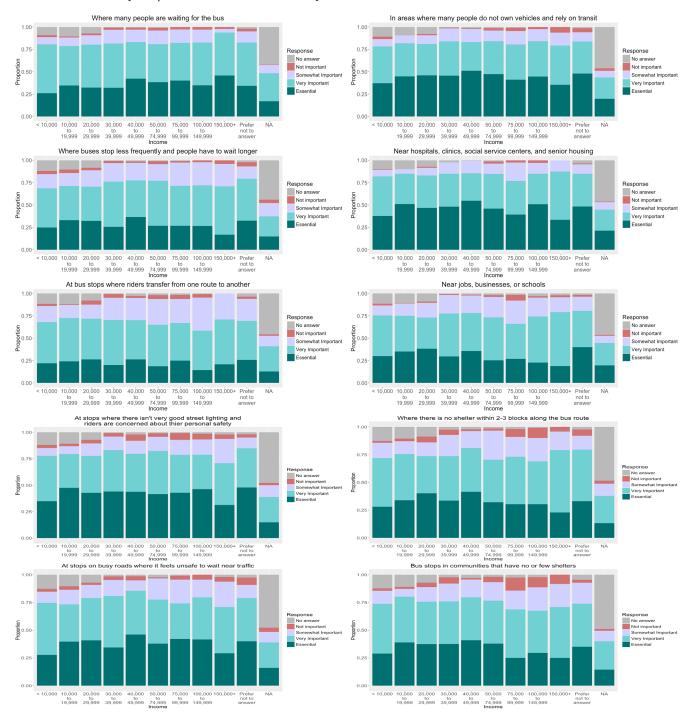


FIGURE 22: All Survey Responses to Shelter Location by Driver's License Status/Access to a Working Car



FIGURE 23: All Survey Responses to Shelter Location by Disability Status

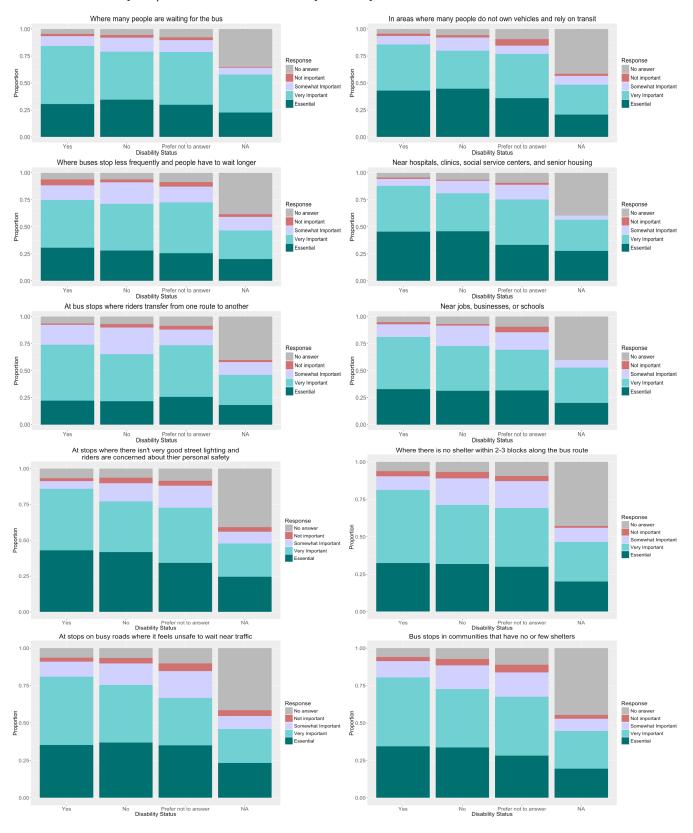
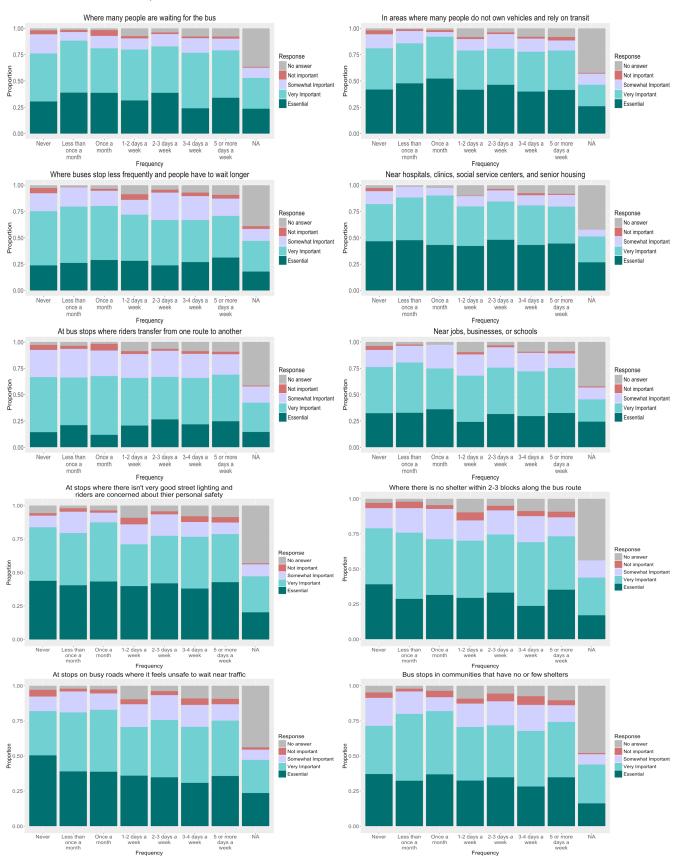


FIGURE 24: All Survey Responses to Shelter Location by Frequency of Transit Use



Appendix C – Survey in Alternative Languages

Spanish



Metro Transit Better Bus Stops Survey

Gracias por su participación en la encuesta Better Bus Stop. Su participación es valorada y sus respuestas serán anónimas. El objetivo de la encuesta es comprender mejor que características son importantes para la gente en las paradas de autobús de Metro Transit y comprender dónde la gente cree que las paradas de autobús son más importante.

1. ¿Qué tan importante son las siguientes características en una parada de autobús?				
	No importante	Poco importante	Muy importante	Esencial
Refugio o cubierta para parar el viento/lluvia	0	0	O	0
Carteles en tiempo real (digitales cuánto falta para la llegada del próximo autobús)	O	0	O	O
Recipientes para residuos y para reciclar	O	0	O	0
Banco	О	0	O	0
Arboles de sombra	О	О	O	0
Aceras anchas alrededor de la parada de autobús	0	O	O	O

Horarios colocados para los autobuses que se detienen en esa parada.	O	0	0	0
Calefactor dentro del refugio	0	0	0	O
Cruces de calle seguro cerca de la parada de autobús.	C	O	O	O
Luz dentro del refugio	O	0	0	O
Iluminación alrededor de la parada de autobús	C	O	О	C
Portabicicletas 2. De estas características, ¿Cuáles son las tres (3) más im		0	O	0
	portantes			
Choice 1				
Choice 2				
Choice 3				

A basic bus stop looks like this:





3. ¿Qué tan importante es para Metro Transit considerar cada una de las siguientes opciones para determinar dónde colocar los refugios para esperar los autobuses?

		No importante	Poco importante	Muy Importante	Esencial
Donde ha	y mucha gente esperando el autobús.	O	0	0	0
	detienen con menos frecuencia y la e que esperar más tiempo.	О	0	0	0
	donde mucha gente no posee y dependen del servicio.	О	0	С	O
	donde mucha gente no posee y dependen del servicio.	С	0	О	O
servicios s	hospitales, clínicas, centros de sociales, instalaciones de tos para mayores.	C	O	C	O
Cerca de	los trabajos, negocios o escuelas.	0	0	0	O
pública y l	es donde no hay buena iluminación os pasajeros están preocupados por lad personal.	0	O	0	O
	as en caminos concurridos donde se eguro esperar cerca del tráfico.	С	0	О	O
	hay refugio dentro de 2 o 3 calles a e la ruta del autobús.	C	0	С	O
Paradas e ningún ref	en comunidades que tienen pocos o lugio.	О	O	0	O
	ones de las paradas mencionada onsiderar la colocación de un ref		ente, ¿Cuáles	tres (3) son las	s más
Choice 1					
Choice 2					
Choice 3					

5. ¿Cómo se enteró de esta encuesta?	
Organización de la comunidad	
C el personnel Metro Transit	Otro
Organización de la comunidad:	
6. ¿Con qué frecuencia utiliza Metro Transit?	
5 o más días a la semana	G. Una voz par mas
3 o mas dias a la semana	Una vez por mesMenos de una vez por mes
C 1-2 días a la semana	Nunca
© 2-3 días por mes	Nullea
2 o dido por mos	
7. ¿Qué rutas toma más a menudo (hasta 3)?	
8. ¿Tiene licencia de conducir y acceso a un auto del tra	phoio quando os nocesario?
o. Eneme il centra de conducir y acceso a un auto dei tra	abajo cualido es necesario:
○ Si	
O No	
C Prefiero no contestar	
9. What is your zipcode?	
40 What is seein and down	
10. What is your gender?	
Masculino	
© Femenino	
 Prefiero no contestar 	
44 . Do sué made se describe maior su etnic?	
11. ¿De qué modo se describe mejor su etnia?	6 11 6 11 11 11 11 11 11 11 11 11 11 11
O Blanco/Caucásico	Nativo Hawaiano o de las Islas del Pacífico
Negro/Afro-americano A-i/t/los (A-i/t/los arganicano)	C Prefiero no contestar
Asiático/Asiático-americano	Otro
C Aborigen-americano	
Si 'otro', por favor indicar a continuación:	
12. Aproximadamente, ¿Cuáles fueron los ingresos tota de pagar sus impuestos?	les anuales de su hogar el año pasado antes
© Menos de \$10,000	© Entre \$50,000 y \$74,999
© Entre \$10,000 y \$19,999	© Entre \$75,000 y \$99,999
© Entre \$20,000 y \$29,999	© Entre \$100,000 y \$149,999
© Entre \$30,000 y \$39,999	Mayores de \$150,000
© Entre \$40,000 y \$49,999	C Prefiero no contestar

13. ¿Cuál es su edad?				
C Menos de 18	0	35-39	0	55-59
C 18-24	0	40-44	0	60-64
C 25-29	0	45-49	0	65 o más
C 30-34		50-54		Prefiero no contestar
14. Are you Hispanic or Latino?				
C Si				
C No				
C Prefiero no contestar				
15. Do you have a disability				
C Si				
C No				
 Prefiero no contestar 				
16. ¿Qué más le gustaría que nosot	tros sab	emos o consideramos? (5	00 (qui	nientos), limite de
caracteres)				•
Gracies per temare	20 ol t	iomno para complet	ar ac	ta anguasta
Gracias por tomars	של בו ל	iempo para complet	ai es	ia elicuesta.

Hmong



Metro Transit Better Bus Stops Survey

Ua tsaug rau koj txoj kev koom tes nrog rau ghov kev luj txog Better Bus Stops Survey. Koj txoj kev koom tes muaj nqis thiab koj cov lus teb yuav tiv thaiv kom tsis muaj leej twg paub hais tias yog koj teb hlo li. Lub hom phiaj rau gho kev luj zaum no yuav pab kom peb to taub zoo txog tej yam uas neeg pom los xav hais tias tseem ceeb rau Metro Transit cov chaw tos npav, thiab pab peb to taub seb neeg xav hais tias cov chaw twg tseem ceeb muaj cov tsev tos npav.

1. Tseem ceeb npaum li cas yuav tau muaj cov khoom no ntawm ib qho chaw tos npav?

in received in page in a case yaut tau maay eet kineen	Tsis tseem ceeb	Tseem ceeb me ntsis	Tseem ceeb heev	Tseem ceeb muai
Muaj ib lub tsev lossis ib lub tsev pheejsuab los mus thaiv cua/nag	О	0	O	0
Daim paib qhia sijhawm (daim paib qhia hais tias pestsawg feeb lub bus mas los txog)	0	О	С	0
Muaj thoob rau khoom pov tseg thiab thoob rau khoom zom ua dua tshiab	0	0	0	0
Lub rooj ntev zaum	0	О	O	0
Ntoo muaj ntxoov ntxoo	O	О	O	O
Muaj kev taug ko taw dav ncig qho chaw npav	0	O	O	O

mus ntawm	Daim paib qhia cov sijhawm txhua lub npav los qho chaw npav nres no	O	O	O	O
npav	Lub tshuab cua kub hauv lub tsev tos	0	С	O	C
npav nres	Muaj kev kaj huv hla kev tsheb ze qho	О	0	O	O
11	Muaj teeb hauv lub tsev tos npav	C	0	0	0
	Muaj teeb ncig qhov chaw npav nres	0	O	O	0
	9	0	0	0	0
	Muaj chaw thauj tsheb kauj vab				
2. Ntawm cov no	Muaj chaw thauj tsheb kauj vab o, peb qho twg tseem ceeb tshaj?				
2. Ntawm cov no Choice 1					
Choice 1					

A basic bus stop looks like this:



A basic bus shelt	er looks like this:
to the same of the	Oliver della De



3. Ho twg tseem ceeb rau Metro Transit coj mus xav txog thaum peb los mus txiav txim seb yuav muab cov tsev tos npav rau qho twg?

		Tsis tseem ceeb	Tseem ceeb me ntsis	Tseem ceeb heev	Tseem ceeb muai
Qho chaw mu	aj neeg coob tos npav	C	O	0	0
Qho chaw uas tos ntev	cov npav nres sib thiab neeg tau	0	0	O	0
	aw npav nres uas cov neeg caij is rau lwm lub npav	0	O	0	0
Ntawm cov ch tsheb thiab ca	aw uas ntau tus neeg tsis muaj ij npav xwb	0	0	0	0
	kho mob, tsev kuaj mob, tsoom pab neeg (social service laus	c	O	0	0
Ze haujlwm, la	g luam, lossis tsev kawm ntawv	C	0	0	0
tsheb ci zoo th	v nres uas tsis muaj teeb kev ilab cov neeg caij npav txhawj kev nyab xeeb	O	O	O	O
muaj tsheb kh	v nres ntawm cov kev tsheb uas iav ntau ntau es pom tau tias kev nyab xeeb tos bus ntawm	0	0	0	0
	tos npav nyob ntawm 2-3 blocks uas npav khiav	C	0	Ō	0
	v nres hauv cov zej zog uas tsis muaj tsawg lub tsev tos bus	0	0	0	0
	chaw npav nres sau saum toj s npav rau qho twg?	no, peb lub t	wg tseem cee	b tshaj thauı	m los mus xa
Choice 1					
Choice 2					
Choice 3					

5. Koj hnov txog qho kev luj no qhov twg los?	
C Community Organization	○ MetroTransit.org
Metro Transit cov neeg ua haujlwm	C lwm yam
If Community Organization?:	
6. Feem ntau koj caij npav heev npaum li cas?	
5 los sis ntau hnub tshaj ntawm ib lim tiam	C Ib zaug ntawm ib hli
© 3-4 hnub ntawm ib lim tiam	Tsawg tshaj ib zaug ntawm ib hli
1-2 hnub ntawm ib lim tiam	C Yeej tsis tau li
C 2-3 hnub ib hli	•
7. Feem ntau koj caij cov kev twg ntau tshaj (txog 3)?	
7. Feeli iliau koj calj cov kev twg litau tsilaj (txog 5):	
8. Koj puas muaj ib daim ntawv tso cai tsav tsheb thiab	ib lub tsheb ua hauj lwm thaum koj yuav siv?
O Muaj	
C Tsis muaj	
C Tsis xav teb	
O Kai tua ain aada wan dah taiQ	
9. Koj tus zip code yog dab tsi?	
10. Koj yog?	
C Txiv neej	
© Poj niam	
C Tsis xav teb	
44 Kaiwan haiwanan dah 4si0	
11. Koj yog haiv neeg dab tsi?	
White/Caucasian	Native Hawaiian or other Pacific Islander
O Black/African American	C Tsis xav teb
Asian/Asian AmericanAmerican Indian	C Lwm yam
Yog tias 'lwm', thov sau rau nram qab no:	
12. Xyoo tas no koj tsev neeg ua tau nyiaj ntau npaum	li cas ua ntej txiav se?
C Tsawg tshaj \$10,000	C Ntawm li \$50,000 thiab \$74,999
Ntawm li \$10,000 thiab \$19,999	Ntawm li \$75,000 thiab \$99,999
Ntawm li \$20,000 thiab \$29,999	Ntawm li \$100,000 thiab \$149,999
Ntawm li \$30,000 thiab \$39,999	C Tshaj ntawm \$150,000
Ntawm li \$40,000 thiab \$49,999	C Tsis xav teb

13. Koj muaj puas tsawg xyoo?	© 35-39 © 40-44 © 45-49 © 50-54	 55-59 60-64 65 los sis tshaj Tsos xav teb
14. Koj puas yog Hispanic los sis Yog Tsis yog Tsis xav teb	Latino?	
15. Koj puas muaj kev tsis taus (x Muaj Tsis muaj Tsis xav teb 16. Yuav ua li cas lwm tus neeg puas) ntau kawg nkaus ces tsil	ı yuav koj nyiam kom peb	paub los yog xav txog? (500 (tsib
Ua tsaug rau koj lub sij	hawm ua kom tiav n	no daim ntawv ntsuam xyuas.

Somali



Metro Transit Better Bus Stops Survey

Waad ku mahadsan tahay inaad ka qayb qaadatid aftida Hagaajinta boosteejooyinka basaska istaagaan. Ka qayb qaashadaadu waa qiimo badan tahay jawaabahaaguna qarsoodi bay noqon doonaan. Hadafka aftidani waa in si fiican loo fahmo sifooyinka joogsiyada baska Metro Transit dadku u arkaan muhiim, iyo in la fahmo meelaha dadku u arkaan inay ku haboonyihiin joogsiyada basku.

1. Sidee muhiim u	yahiin sifooyinka	soo socda ee	joogsiga baska?
-------------------	-------------------	--------------	-----------------

		Muhiim ma aha	Xoogaa waa muhiim	Aad muhiim ah	Daruuri
Dhisme hadoodilan oo dabaysha iyo roobka celiya	O	0	0	0	0
Calaamado waqtiga la joogo muujinaya inta daqiiqo oo ka hadhay baska soo socoda marka uu imaan doono	0	0	0	0	0
Lagu uruuriyry qashin	0	0	O	O	O
Kursi dheer	O	0	O	0	O
Geedaha Hooska	O	0	0	0	0

hinacyo la maro oo balaadhan agagaarka joogsiga baska	0	O	O	O	0
Calaamado leh macluumaad ku saabsan waddooyinka u adeega joogsiga baska	0	0	C	0	0
Kululeeyaha gudaha hoyga	O	0	Ō	O	0
isgoysyada jidadka u dhow joogsiga baska oo ammaan ah	0	0	0	0	0
Laydg gudaha hoyga	0	O	O	O	0
Laydh ku wareegsan halka basku istaago	0	0	0	0	0
Baaskiilka halka lagu xiro		0	O	O	0
2. Sifooyinkan ama qaababkan saddexdee ayaa ugu muhiimsan?					
Choice 1					
Choice 2					
Choice 3					

A basic bus stop looks like this:



Choice 3

A basic bus shelter looks like this:



3. Sidee bay muhiim ugu tahay Metro Transit marka ay eegayaan mid kasta oo ka mid ah kuwan soo socda in la go'aaminayo meesha laga dhigayo dugsiga baska?

	Muhiim ma aha	Xoogaa muhiim	Aad u muhiim ah	Daruuri
Meesha dad badani ku sugayaan baska	0	0	0	0
Meesha basku aad u marin dadkuna baska sugaan waqti dheer	0	0	0	0
Bas joogsiyada rakaabku basaska ugu kala wareegaan	C	0	0	0
Meelaha dad badani aanay lahayn gawaadhi oo ay ku tiirsanyihiin gaadiidka basaska	0	0	C	0
Meelaha u dhow isbitaalada, rugaha caafimaadka, xarumaha adeegyada bulshada, guryaha waayeelka	0	O	O	0
Meelaha u dhow shaqooyinka, ganacsiga ama dugsiyada	0	0	0	0
Joogsiyada ku yaala jidadka aan lahayn nalalka fiican oo dadka basaska raacaa ka walaacaan	0	0	O	0
Joogsiyada ku yaala jidadka taraafigu ki badan yahay dadkuna khatar dareemaan inay ku sugaan baska	0	0	0	0
Meelaha aanay jirin dugsiyada baska 2-3 baloog waddada basku maro	0	0	0	0
Joogsiyada ku yaala meela bulshooyinka aan lahayn dugsiyada baska ama ay ku yar yihiin	0	0	0	0
oobaha joogsiga baska ee kor ku qoran, saddexdee sameeyo?	e ugu muhiir	nsan mar	ka la tixgelinay	o in du
Choice 1				
Choice 2				

5. Sidee u maqashay aftidan la qaadayo? © Ururka Community © shaqaalaha Metro Transit Ururka Community?	C Metrotransit.org kale
 6. Imisa jeer baad raacdaa baska? 5 maalmood ama ka badan usbuucii 3-4 maalmood usbuucii 1-2 maalmood usbuucii 2-3 maalmood bishii 7. Inta badan khadkee baad raacdaa (ilaa 3 jeer)? 	Hal mar bishiiKa yar hal mar bishiiWeligay ma raacin
7. Ilita badali kiladkee baad raacdaa (ilaa 5 jeel):	
8. Ma leedahay laysanka darawalnimada ama ma heli karbaahatid?	taa baabuur shaqeynaya marka aad u
C lab Dheddig Waxaan jeclahay inaanan ka jawaabin	
9. Waa maxay zip code kaagu?	
10. Waa maxay jinsigaagu? C Haa C Maya C Waxaan jeclahay inaanan ka jawaabin	
11. Maxaa ugu fiican oo tilmaamaya jinsiyaddaada?	
Caddaan/CaucasianMadaw/Afrikaan AmerikaanAsiyaan/Asiyaan AmerikaanHindi Amerikaan	Native Hawaiian ama other Pacific IslanderWaxaan jeclahay inaanan ka jawaabinKale
Haddii 'kale', fadlan hoos ku qor:	
12. Qiyaastii muxuu ahaa dakhliga qoyskaaga sanadkii la C Ka yar \$10,000 C U dhexaysa \$10,000 iyo \$19,999 C U dhexaysa \$20,000 iyo \$29,999 C U dhexaysa \$30,000 iyo \$39,999 C U dhexaysa \$40,000 iyo \$49,999	a soo dhaafay canshuurta inttn laga jarin? U dhexaysa \$50,000 iyo \$74,999 U dhexaysa \$75,000 iyo \$99,999 U dhexaysa \$100,000 iyo \$149,999 Ka badan \$150,000 Waxaan jeclahay inaanan ka jawaabin

13. Waa imisa da'adaadu?		
C Ka yar 18	© 35-39	C 55-59
C 18-24	C 40-44	© 60-64
© 25-29	C 45-49	C 65 ama ka weyn
© 30-34	C 50-54	 Waxaan jeclahay inaanan ka
		jawaabin
44 Managard Ashara Historia	and Latin 2	
14. Ma waxaad tahay Hispanic	ama Latino?	
C Haa		
© Maya		
 Waxaan jeclahay inaana 	an ka jawaabin	
15. Naafo ma leedahay		
_		
○ Haa		
© Maya	I I EI	
 Waxaan jeclahay inaana 	an ka jawaadin	
16 Mayor kale or and inclared	shoud not ship is against ame known	a fiiraanayn2 (500 yay badaaan (aban
bogol) xavaf)	anayu 1100 an in la ogaado ama ka	a fiirsanayn? (500 ugu badnaan (shan
Waad ku mahadsan	tahay waqtiga qaadasha	da ay dhamaystiraan rayi
	ururinta this.	