



# Assessing the Impacts of Student Transportation Using City Buses and Trains

Project Update: *Tue, August 11, 2015*





# Key Research Questions About the Program

## **What are its educational impacts?**

- Impacts at school
- Impacts away from school

## **What are its societal impacts?**

- Perceptions towards transit
- Benefits for the family
- Impacts on traffic congestion
- Impacts on the environment

## **What are its economic impacts?**

- Financial impact on Metro Transit
- Financial impact on Minneapolis Public Schools



# Focus of this Presentation

## **Does the program:**

- Provide students with scheduling flexibility and independence?
- Provide greater access to the wide variety of learning opportunities?
- Encourage student attendance?
- Improve academic achievement?



# Understanding Transit Use, Perspectives and Impacts

## Step 1

- Student Focus Groups

## Step 2

- Student and Parent Survey

## Step 3

- Incorporating data
  - Linking Student and Parent Surveys
  - MPS: Student Data
  - Metro Transit: Ridership

## Step 4

- Analyzing data

# Step 1: Student Focus Groups



## 48 participants, 5 meetings audio-recorded

### Benefits

- Scheduling flexibility and independence
- Ability to visit more places
- Saves money for the family
- Better attendance and after-school participation

### Issues

- Safety a big concern, for girls in particular
- 2 mile walk zone pass qualification
- Pass hours 5am-10pm





# Step 2: In-Class Student Survey



## Survey Design & Implementation

- Questions: Pass use behavior, Perceptions and changes in perceptions, Benefits and concerns, demographic background
- Online survey conducted in class at 8 MPS high schools between May 12 and June 5
- 30% (2,453 of 8,171) participation rate
- Final sample (73% pass users, of which 88% use the pass to get to/from school)

The screenshot shows a survey form titled "MPS Go-To Pass Student Survey" from the University of Minnesota. The form includes the following sections:

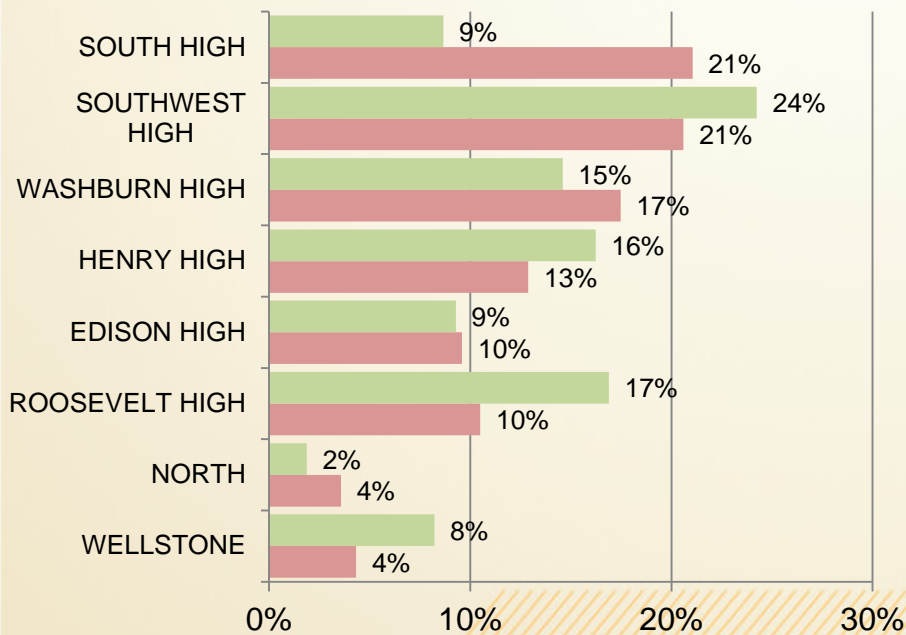
- Header:** UNIVERSITY OF MINNESOTA Driven to Discover™
- Title:** MPS Go-To Pass Student Survey
- Question 1:** "On a typical day, DURING YOUR TRANSIT TRIP TO/FROM SCHOOL do you have other students with you at any of the following times? (Check all that apply)"
  - Walking to/from bus/train stops
  - Waiting for bus/train at stops
  - On bus/train (while riding the bus/train)
- Question 2:** "On a typical day, how many minutes does it take you to complete the following parts of your ONE-WAY TRANSIT TRIP TO SCHOOL?"
  - Walking time to/from bus/train stops: [input field]
  - Waiting for bus/train at stops: [input field]
  - Travel time on bus/train (time spent riding the bus/train): [input field]
- Question 3:** "How many transfers between buses and/or trains do you typically make to complete a ONE-WAY TRANSIT TRIP to/from school? (Select one option)"
  - 0
  - 1
  - 2
  - 3 or more
- Question 4:** "How much do you agree with each of the following statements about using your GO-TO STUDENT PASS TO TRAVEL TO/FROM SCHOOL? (Select one answer for each row)"

# Step 2: Student Survey

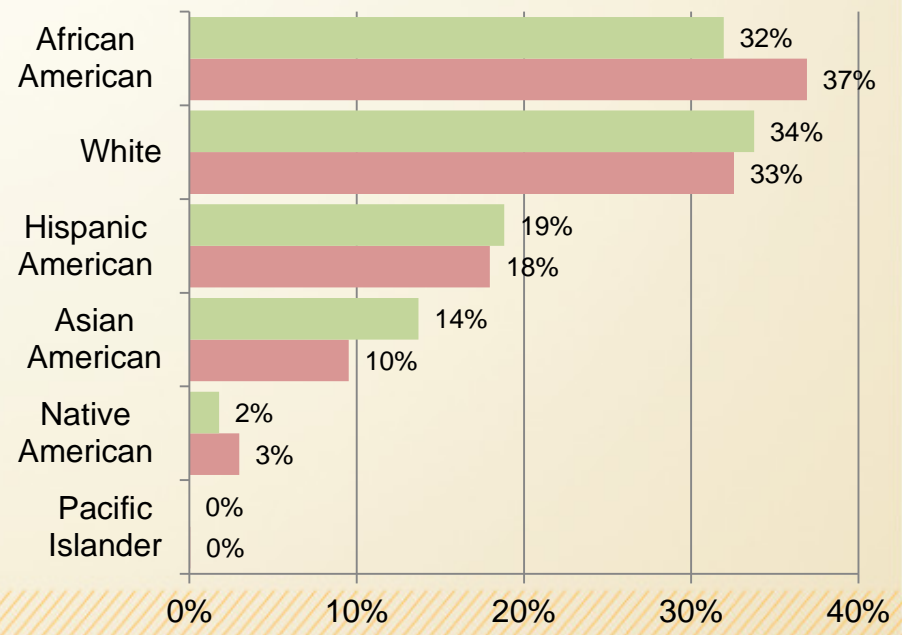


## Representativeness of Sample

### Enrolled students vs. Survey Participants



### Race/Ethnicity



■ Survey Participants ■ Total Enrolled Fall 2014

■ Survey Participants ■ MPS all students (Oct 2014)

# Step 2: Take Home Parent Survey



## Parent survey designed to capture:

- Parents' transit use and perceptions
- Benefits of the program for the family
- Demographics

## Survey Implementation:

- Initially paper survey in English and then online in 4 languages
- Dismal participation
  - Stage 1: With student survey (May 12 to June 5) – 216 participants
  - Stage 2: Media outreach (June 30 to July 15) – 264 participants



# Step 3: Incorporating existing data



## Additional Analysis Data

### **MPS student data (included):**

- Student demographics including GPA, attendance, free/reduced lunch eligibility, gender, grade and race/ethnicity

### **Parent survey data (to be included):**

- Parents' use and perceptions of transit, family benefits, etc.

### **Metro transit ridership data (to be included):**

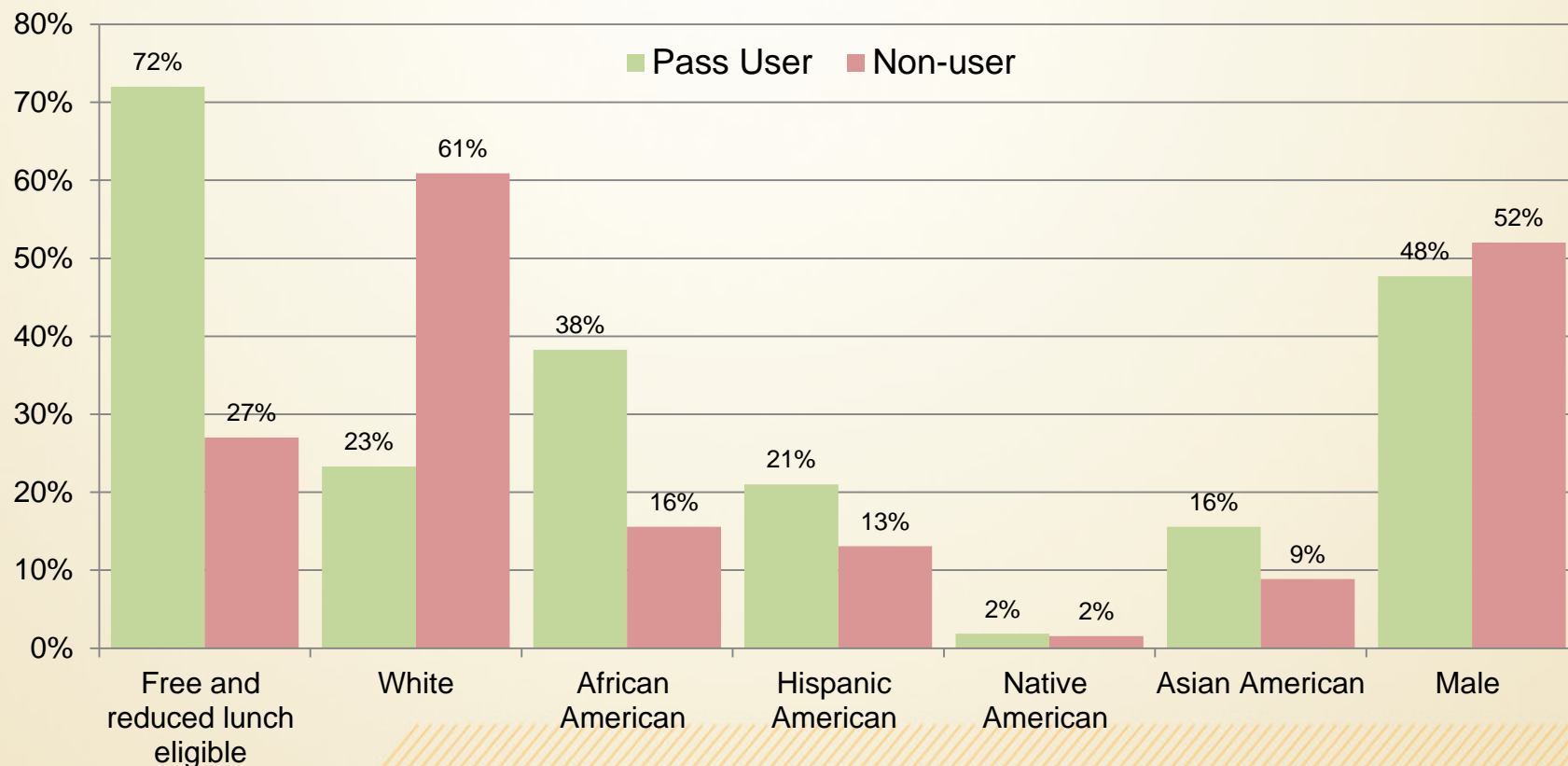
- Frequency of travel, time and day of travel, etc.

# Step 4: Data analysis



## Demographic profile of Pass users vs Non-users

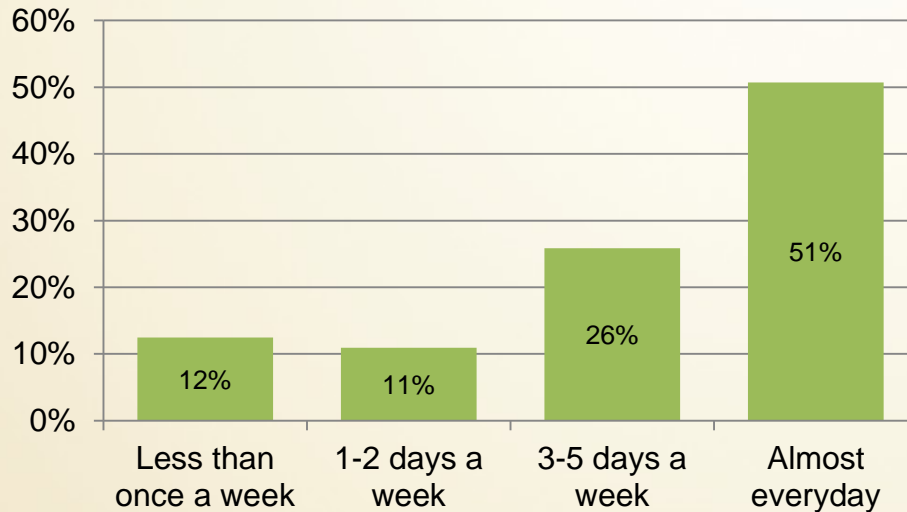
### Demographics



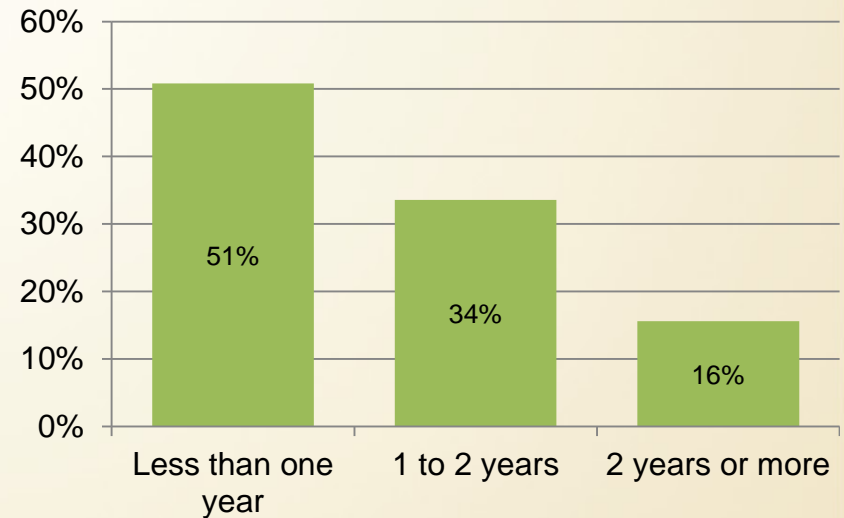


# Patterns of Pass Use (pass users only)

**Frequency of pass use (N=1780)**



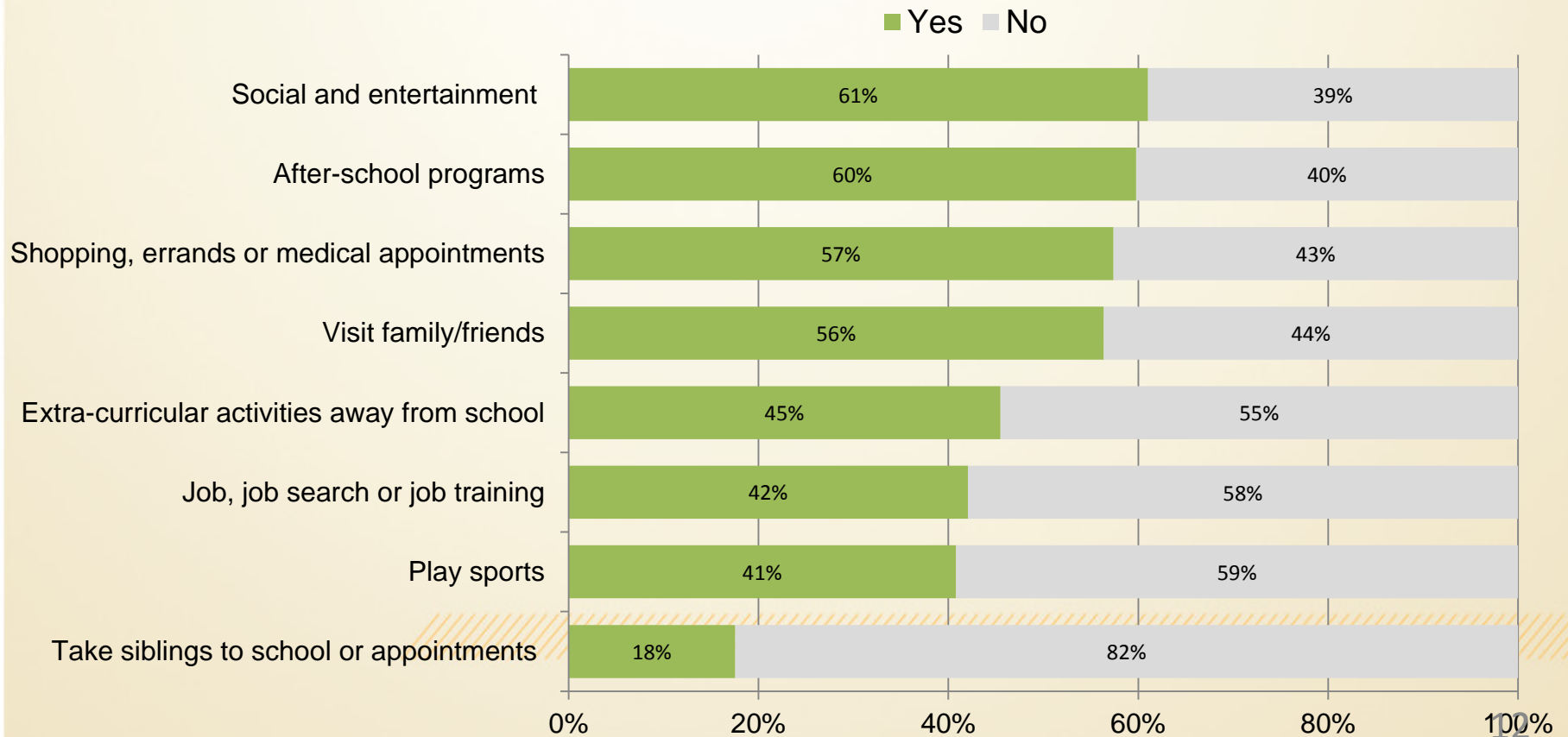
**Period of pass use (N=1780)**





# Activities and Pass Use (pass users only)

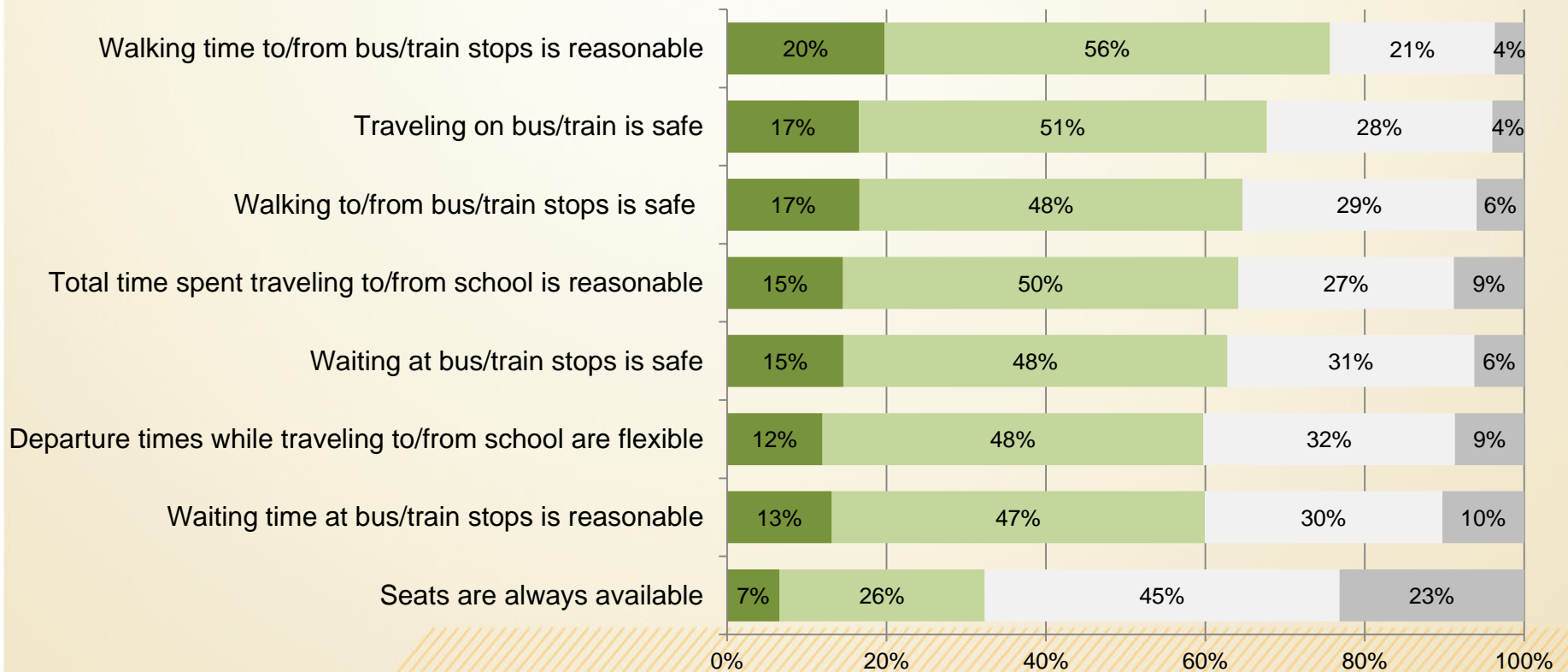
Do you use the Go-To pass for the following (N=1780):





# User Perceptions (pass users only)

Pass users perceptions (N=1780) ■ Strongly agree ■ Agree ■ Somewhat agree ■ Do not agree

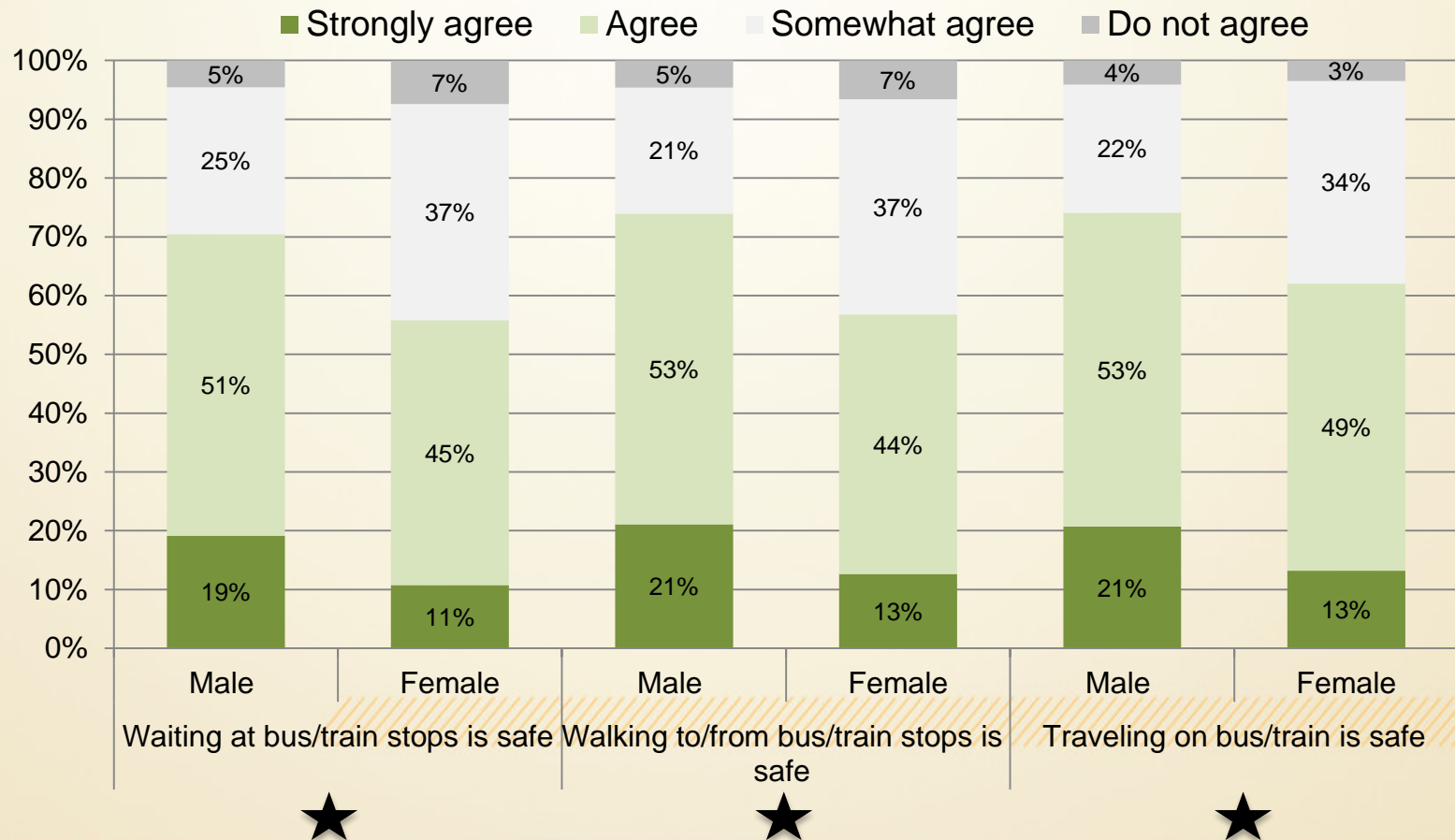






# Safety Perceptions, Male vs. Female (pass users only)

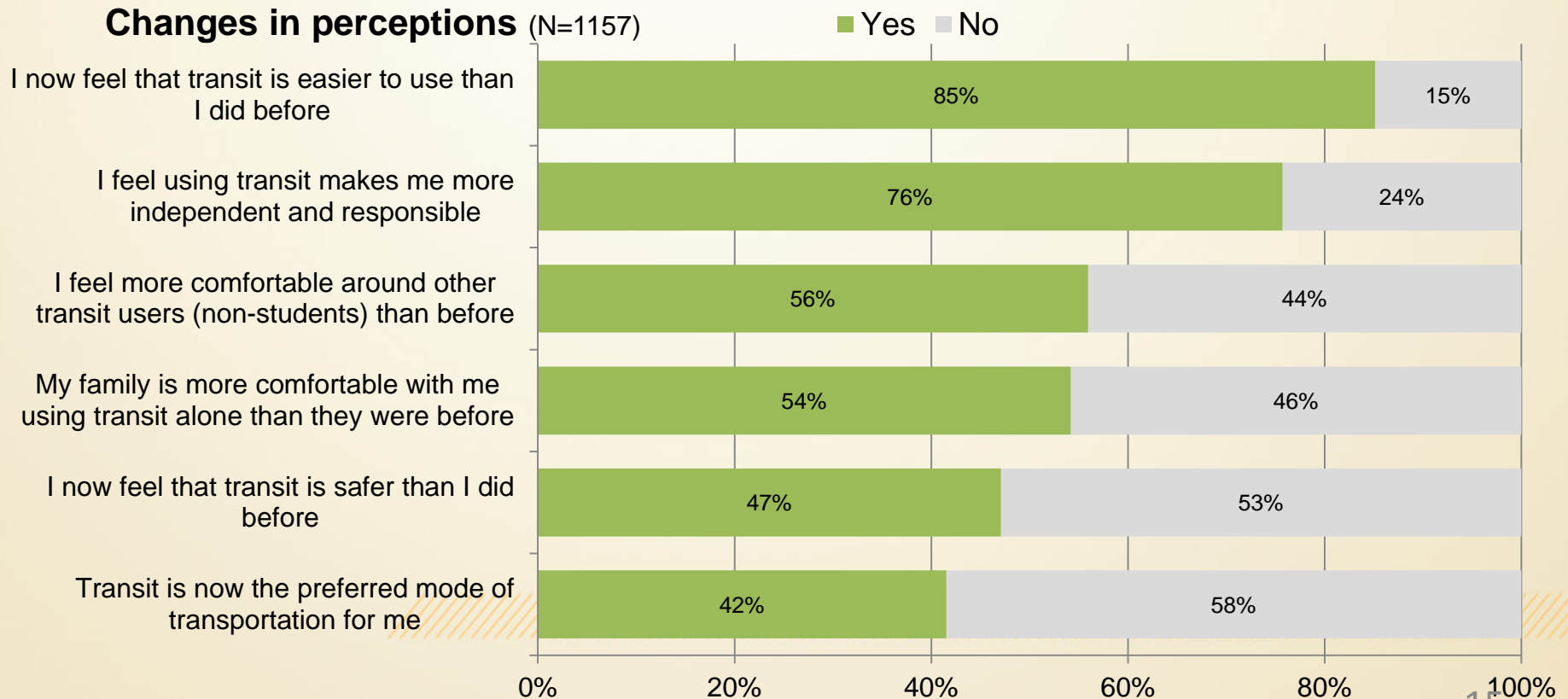
Pass users safety perceptions male vs. female participants (N=1780)





# Change in Perceptions (pass users only)

65% of pass users reported a change in their perception towards transit after using the Go-To Student Pass

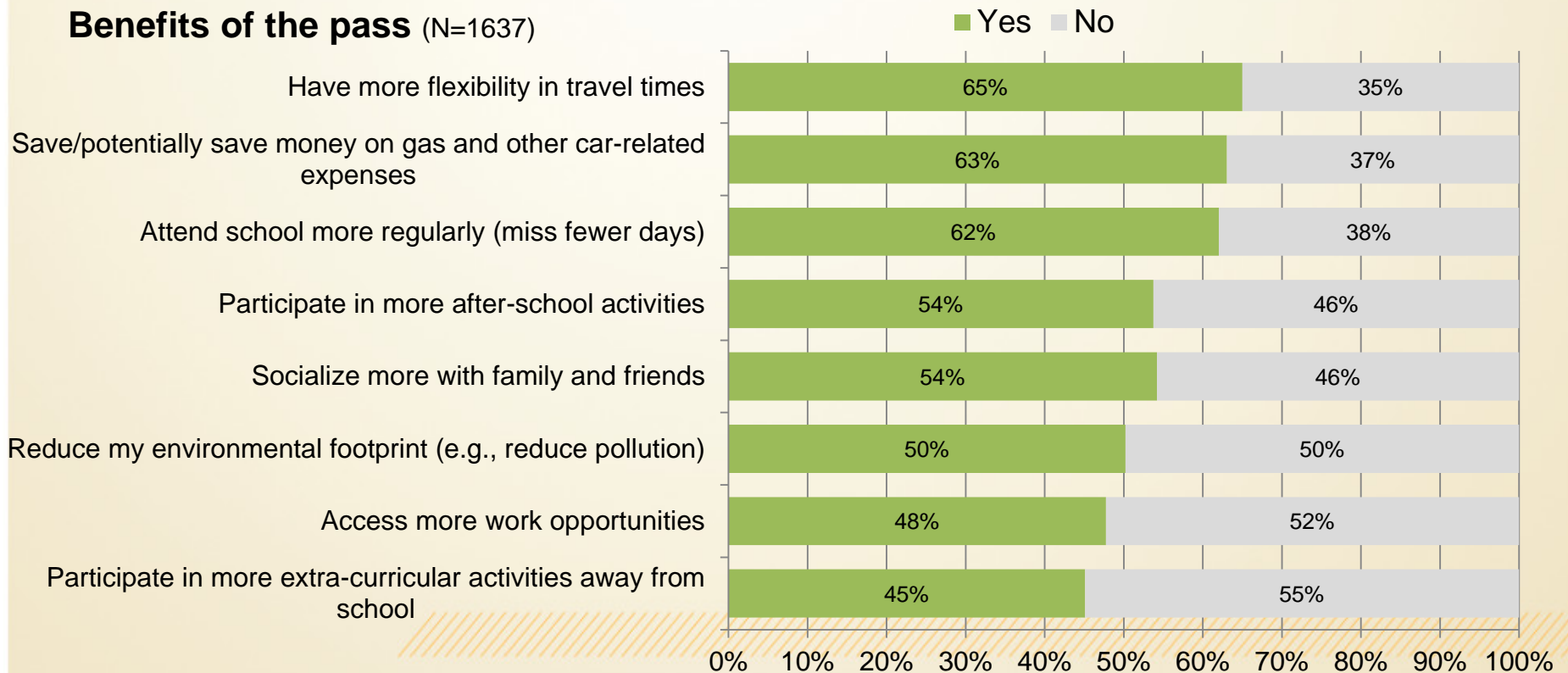




# Benefits of Pass Use (pass users only)

92% of pass users reported that the Go-To Student Pass benefitted them

## Benefits of the pass (N=1637)

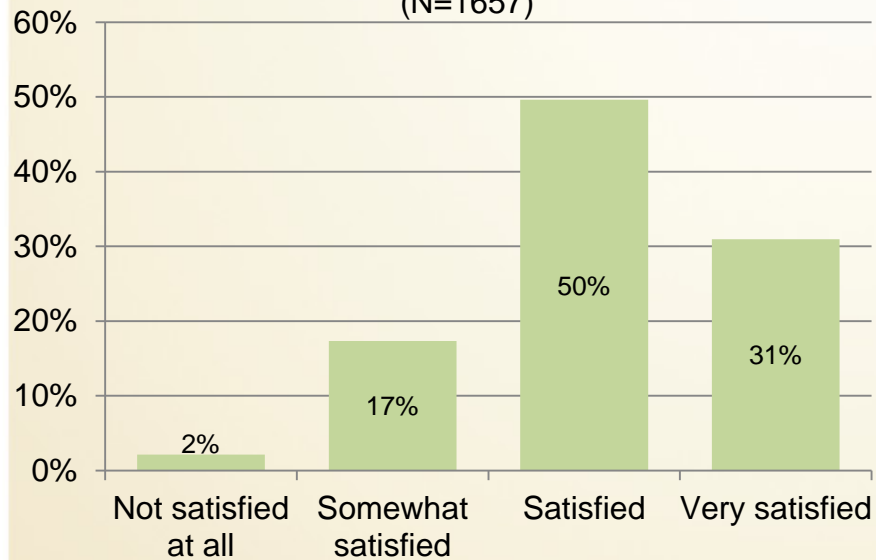




# Opinions About the Pass (pass users only)

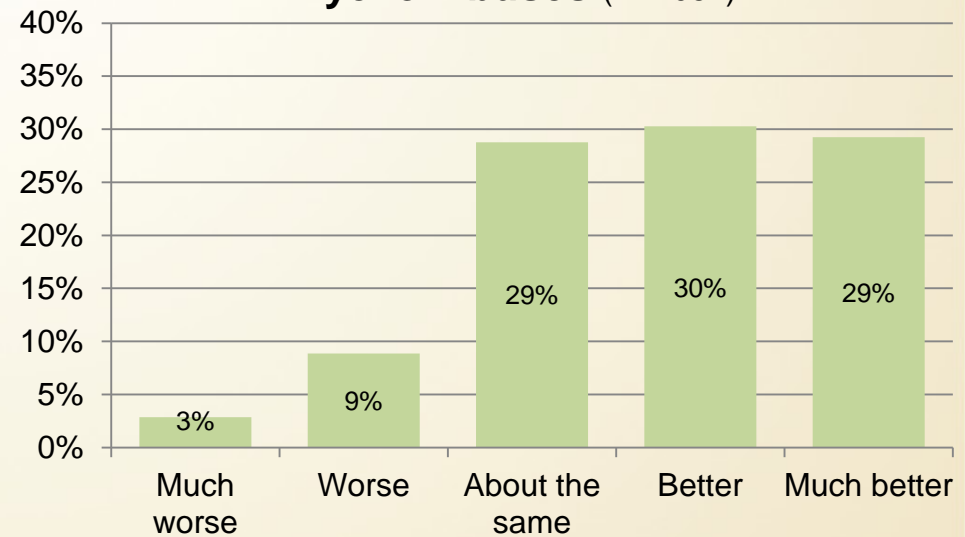
## Satisfaction with the Go-To pass

(N=1657)



## How is transit in comparison to yellow buses

(N=1084)





## General Transit Perceptions (all respondents, Users vs. Non Users)

Users have more  
**POSITIVE** perceptions  
than non-users

Waiting areas at stops are attractive and pleasant  
I can get everywhere I need to using transit  
I can get around quickly by transit  
Service is frequency at times I travel  
It's easy to find out where routes go and at what times  
Transit is good value for the fare paid  
Other passengers are courteous  
Transit costs less than driving

Insignificant

Bus drivers are courteous  
Buses and/or trains area comfortable, clean, and well  
maintained  
Transit is safe to use

Users have more  
**NEGATIVE** perceptions

Stops are close to my home and destinations  
Buses and/or trains are almost always on time





# Regression Analysis

- Absence 18% lower for pass users after control for other variables
- No significant association with GPA after control for other variables

	Student GPA	# of days absent
<b>Go-To Student Pass user</b>		<b>0.82**</b>
<b>Free/reduced lunch status</b>	-0.07**	
<b>Use pass to go or come back from school</b>		1.21**
<b>Total days absent Spring (2014)</b>		1.11***
<b>GPA Spring (2014)</b>	0.80***	
<b>Male respondent</b>	-0.05**	
<b>Age</b>		1.06*
<b>American Indian</b>	-0.35***	1.37*
<b>African American</b>	-0.07**	
<b>Asian</b>		0.78***
<b>Hispanic</b>	-0.12***	1.21**
<b>Foreign born- student</b>	0.10***	
<b>Foreign born- mother</b>		1.23**
<b>Foreign born- father</b>	0.08**	0.85**
<b>Constant</b>	0.95***	



# Conclusion

Does the program	Findings	Evidence
Provide students with scheduling flexibility?	+	Student survey + focus groups
Provide greater access to the wide variety of learning opportunities?	+	Student survey + focus groups
Help encourage student attendance?	+	Student survey
Help improve academic achievement?	?	GPA outcome empirically tested but no significant association



## Next steps

- Revision of survey data analysis (August 26)
  - Incorporate Metro Transit ridership data into analysis
  - Incorporate parent survey data into analysis
  - Additional regression modeling on transit perceptions
- Financial and remaining Societal impact analysis (August 31)
- Work with Metro Transit Staff to develop policy impacts of the study (September 7)
- Draft Final Report (September 7)
- Final Report (September 30)



# Thank You!

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Special thanks to:

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Jane Fields  
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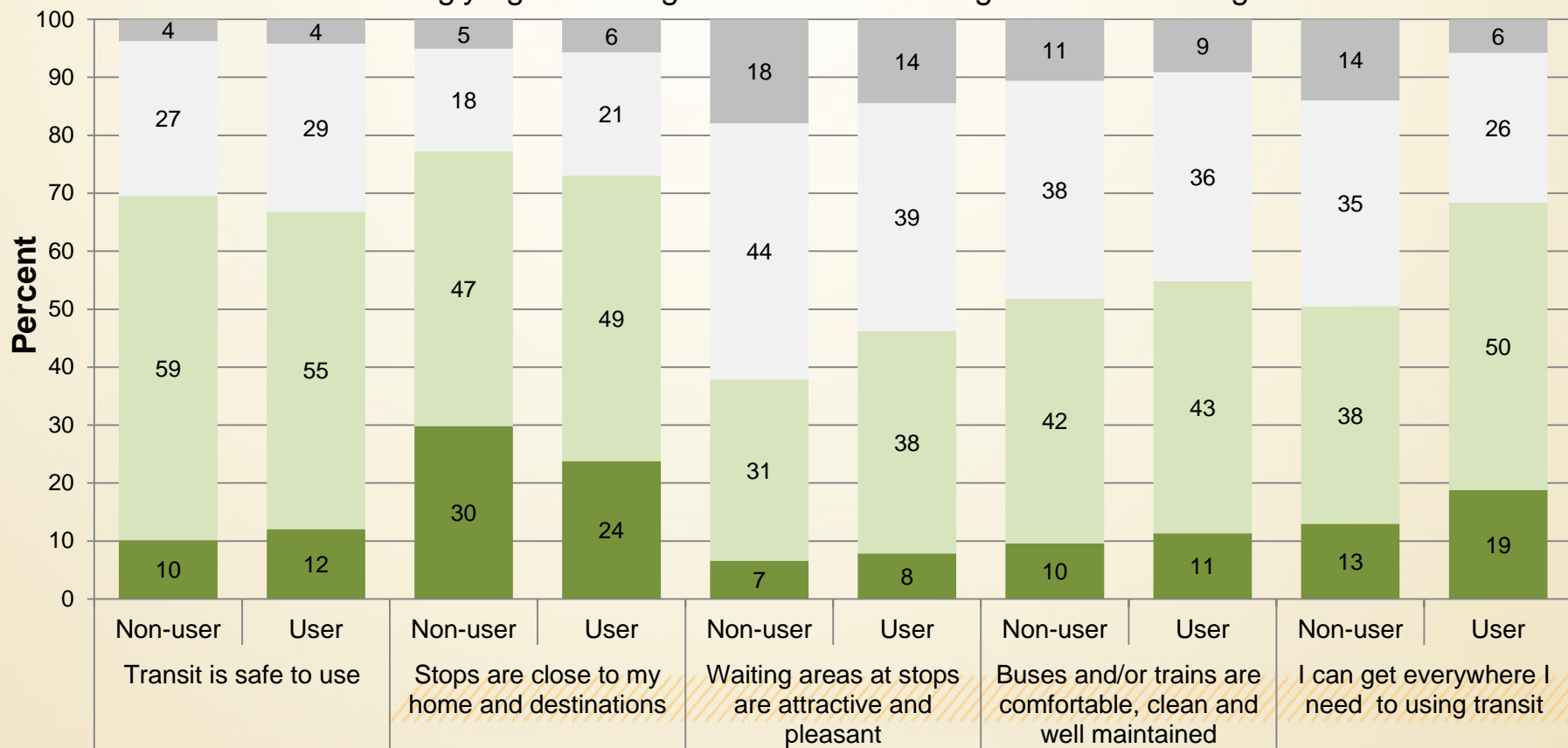
# Step 4: Data analysis



## General Transit Perceptions (all respondents, 1/3)

### General Perceptions of Transit Service User vs. Non-user (part 1)

■ Strongly agree   
 ■ Agree   
 ■ Somewhat agree   
 ■ Do not agree



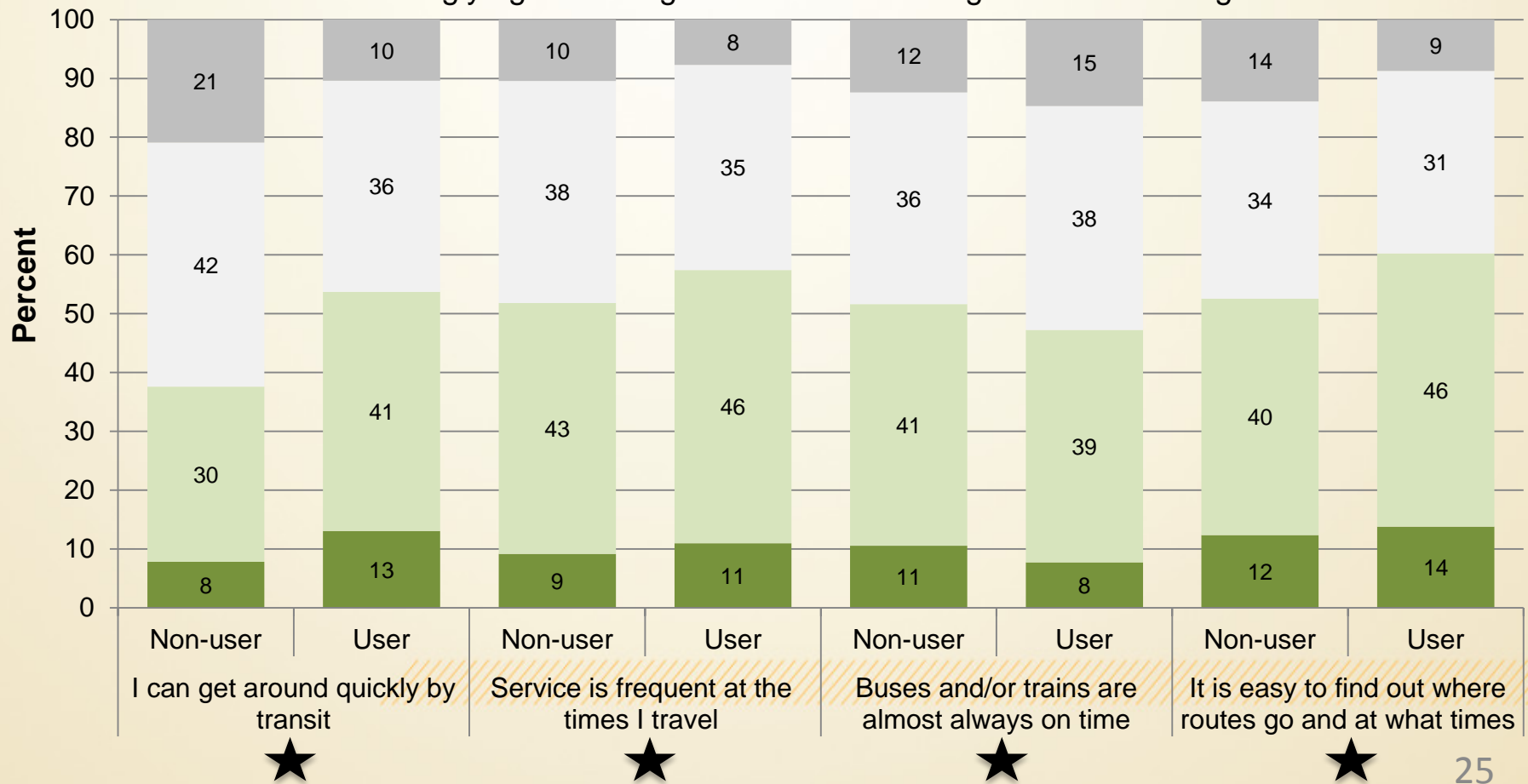
# Step 4: Data analysis



## General Transit Perceptions (all respondents, 2/3)

### General Perceptions of Transit Service User vs. Non-user (part 2)

■ Strongly agree   
 ■ Agree   
 ■ Somewhat agree   
 ■ Do not agree



# Step 4: Data analysis



## General Transit Perceptions (all respondents, 3/3)

### General Perceptions of Transit Service User vs. Non-user (part 3)

■ Strongly agree   
 ■ Agree   
 ■ Somewhat agree   
 ■ Do not agree

