A Report from the University of Vermont Transportation Research Center

Intercity Travel in Northeastern Rural Regions of the U.S.

TRC Report 15-007

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UVM Transportation Research Center

Report 13-001

June 28, 2015

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Acknowledgments

This research was funded by the United States Department of Transportation through the University Transportation Center program at the University of Vermont. Work summarized in this report benefited from the travel survey expertise of Resource Systems Groups (RSG Inc.). Project conception originated with Matthew Coogan of the New England Transportation Institute (NETI) and contributions by Thomas Adler and others of RSG are gratefully acknowledged.

Disclaimer

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1. Introduction

Much research exists on intercity travel behavior between large metropolitan centers. There is an opportunity for more research on travel from less populated areas to large metropolitan ones. When planning a trip from Northern New England to major cities in the Northeast, there are often several transportation options to consider. This work considers the relationship between information access and attitudes about transportation options for this type of travel, using automobile, intercity bus, and passenger rail. The report explores relationships between access to information and attitudes about traveling from Northern New England to major cities in the Northeast United States by automobile, intercity bus and passenger rail, taking into account gender, education level, and age group.

The primary research question is: What can we learn about the relationship between access to trip planning information, and people's attitudes about traveling from Northern New England to major cities in the Northeast by automobile, bus, and passenger rail?

Study Objective: The primary objective of this research is to examine the intersections between access to information, personal technology use, and intercity travel where public ground transportation is a viable option.

Study Goals:

- First, little is known about intercity travel behavior outside of travel between major metropolitan areas; this work considers travel originating from Northern New England (Vermont, New Hampshire, Main, and Massachusetts - excluding the Boston-Cambridge-Quincy Metropolitan Statistical Area) and going to Boston, New York, Philadelphia, and Washington, DC.
- Second, there has been limited research on the role that access to information, about travel options, could play in the trip-making decision process of intercity travelers. This study explores that role and provides a dataset that can be used to further examine the relationship between information, technology, and intercity travel behavior.
- Third, this research incorporates attitudinal and behavioral components, captured from the survey data. This can be used for future research considering the travel demand analysis process.
- Fourth, this work included developing a multimodal network dataset covering the study region. The dataset can be used for future research examining multimodal accessibility from throughout the study region, to large metropolitan areas.

Section 2 of this report will introduce and describe the survey instrument and survey sample from the Intercity Travel, Information, and Technology Survey Questionnaire, a primary component of the research described in this report. Section 3 of this report presents the preliminary analysis of the survey data, describing significant differences in responses identified between the control and test groups of the survey respondents. Differences are presented overall, and broken down by gender, education level, and age group, for each section of the survey. Changes in attitudes about mode choice, identified during the course of the survey, are also presented. Section 4 of this report describes a multimodal network dataset that was assembled for the study region as part of this project. Section 5 of this report discusses future research opportunities, based on the results of the work presented here.

2. Intercity Travel, Information, and Technology Survey Questionnaire

Resource Systems Group (RSG) conducted a travel survey on behalf of the University of Vermont's Transportation Research Center (UVM TRC) and the New England Transportation Institute (NETI) in 2014. This survey concerned trips from Northern New England to four major cities in the Northeast: Boston, New York City, Philadelphia, and Washington DC. Surveying took place from May 1 through May 16. Respondents were recruited via email by Research Now, an online research firm based in Plano, Texas, and directed to RSG's survey platform.

2.1. Survey Instrument

The survey had questions on actual trips taken, a hypothetical trip to New York City, and attitudes about traveling by automobile, intercity bus, and passenger rail. There were a total of 98 questions plus a home zip code question that determined respondent eligibility for inclusion in the survey. At approximately halfway through the survey, the respondents were split into two groups. The test group had access to an intercity travel planning web tool, designed with this survey. The tool had scheduling options for traveling to New York City by intercity bus and rail. The control group did not have access to the planning tool. There were five questions, specific to the travel planning web tool, that only members of the test group, but not members of the control group, were asked. The survey instrument can be found in Appendix A.

The travel survey sampling protocol relied on respondent panels from Research Now to recruit residence from four New England states: Maine, New Hampshire, Vermont, and Massachusetts, outside of the Boston metropolitan area [Boston-Cambridge-Quincy Metropolitan Statistical Area (MSA)]. The survey was developed by the UVM TRC, NETI, and RSG. The intercity travel planning web tool was developed by RSG. A total of 2,560 valid survey responses were collected.

The survey was organized into four parts:

Part 1: Recent intercity travel trips and general travel preferences

Section 1-A: Questions about recent trips

Section 1-B: Questions about the survey respondent's most recent trip to Boston, New York City, Philadelphia, or Washington DC

Section 1-C: General travel and communication questions about the survey respondent and their household

Part 2: Travel preferences

Part 3: An imaginary situation

Part 4: Other information about the survey respondent and their household

Part 1 of the survey asked 13 questions about recent intercity travel trips and general travel preferences. For many questions, respondents were able to select all relevant answers from a list. For example, selecting which modes of transportation they have used for recent trips. Other questions allowed respondents to choose a relevant frequency or quantity (e.g., the number of trips to each city in the last twelve months, or the number of people and licensed drivers living in their household).

Part 2 included what is known in the Theory of Planned Behavior (TPB) as an elicitation. A list of 35 statements about intercity travel preferences was provided, many regarding a specific utility or disutility pertaining to a certain mode. Respondents were asked to select how much they agree or disagree with each statement on a Likert scale from 1 (completely agree) to 7 (completely disagree). Statements were randomized for each respondent, and shown ten at a time.

Part 3 presented a fictional scenario, in which someone has asked the respondent to travel from their home to Manhattan, in New York City (NYC), for an important appointment during the following month, and the respondent has decided to go. They would stay one night at a hotel and travel alone. The host would pay for the hotel costs, but not for travel. The respondent would be responsible for all costs of gas, parking, or any fares. The respondent was asked to assume that, for one reason or another, they had already decided that they would not take any part of the trip by plane. They would then need to choose between taking the entire trip by car (whether or not it was their own vehicle) and taking at least part of the trip by intercity bus or train.

All respondents were asked to select what mode(s) of transportation they thought were available to them for this trip to NYC, how likely they would choose to take a bus or train for a trip like this to NYC, and whether learning that no WiFi or electrical outlets were available on the bus or train would make them less likely to choose a bus or a train for this trip.

At this point, respondents were randomly selected to be in the control group or the test group. Random bias was checked to select an even split within each state of residence. The test group was then provided a link to review an intercity travel planning web tool related to their imaginary trip to NYC. The website showed respondents scheduling options from their home location to Times Square, New York City, by combinations of bus and rail. After having reviewed the web tool, respondents were asked to close the web tool and proceed with the remainder of the survey. The control group did not have access to the web planning tool. The test group was then provided with four statements about travel options and information availability, and asked to select how much they agree or disagree with each statement on a similar Likert scale as earlier. Next, both groups were asked to continue imagining the trip to NYC, and were given another series of 35 statements about attitudes related to intercity travel, to select their level of agreement on the same scale.

Respondents were then asked how likely they were, on the seven-point Likert scale, to choose a bus or train for a trip to NYC the next month, like the one described in the imaginary situation. For test group members who gave a different level of likeliness to take the train or bus to NYC, than they had earlier, they were asked to comment on the reasons why, and were provided an open-ended comment field. Respondents were then asked how seriously they would consider taking a bus or train to NYC, in real life.

Part 4 included five questions about what personal technology devices respondents own, and their demographics: age group, gender, level of education, and annual household income level.

A data dictionary showing all questions and response options for the survey questionnaire is available in Appendix B.

2.2. Survey Sample

The figure below (Figure 1) shows the study area, made up of zip code locations for survey respondents, and the four destination cities.

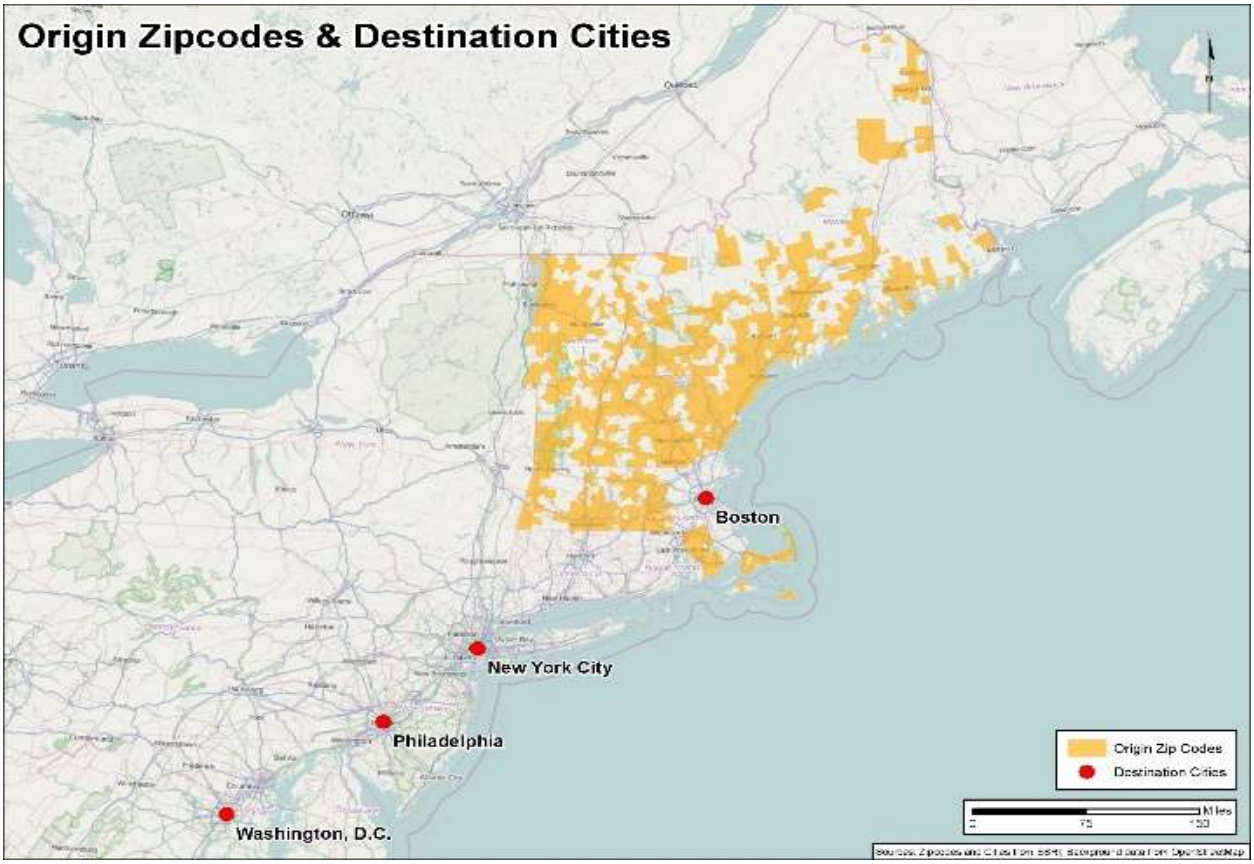

Figure 1. Survey Sample: Home (Origin) Zip Codes & Destination Cities

Table 1 and Figure 2 below show the number of respondents from each state, for both the control and test groups. Massachusetts had the highest number of respondents, followed by New Hampshire, Maine, and Vermont, respectively.

Table 1 Responses by State and Control/Test Groups

Residence	Control	Test
ME	260	261
NH	363	364
VT	187	188
MA	468	469

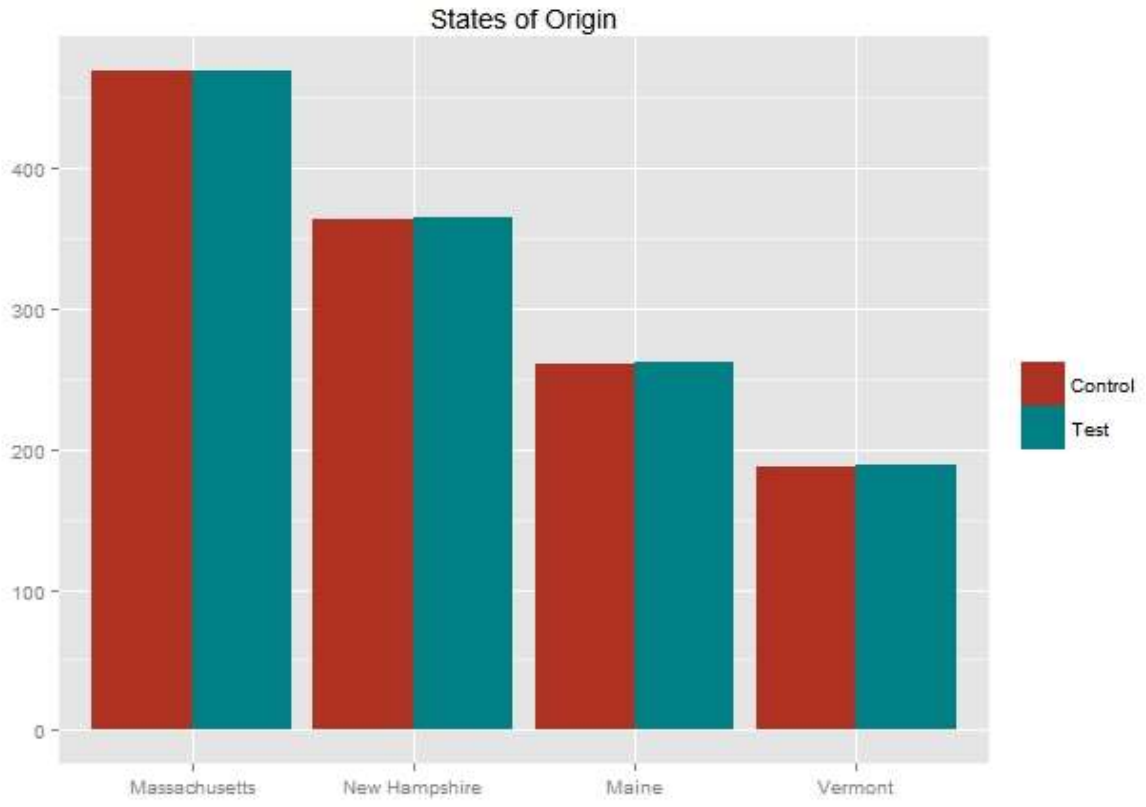

Figure 2. Responses by State and Control/Test Groups

Differences between control and test groups were examined by each age category except for ages 18-24, 75-84, and 85 or older, based on the respective sample sizes shown in

Table 2 and Figure 3 below. The distribution of ages between the control and test groups were not all the same, with marked differences for ages 45-54 and 65-74. The test group had more respondents in the 45-54 group, while the control group had more respondents in the 65-74 group.

Table 2 Responses by Age and Control/Test Groups

Age	Control	Test
18-24	30	35
25-34	176	183
35-44	178	198
45-54	263	300
55-64	353	342
65-74	236	195
75-84	36	28
85 or older	6	1

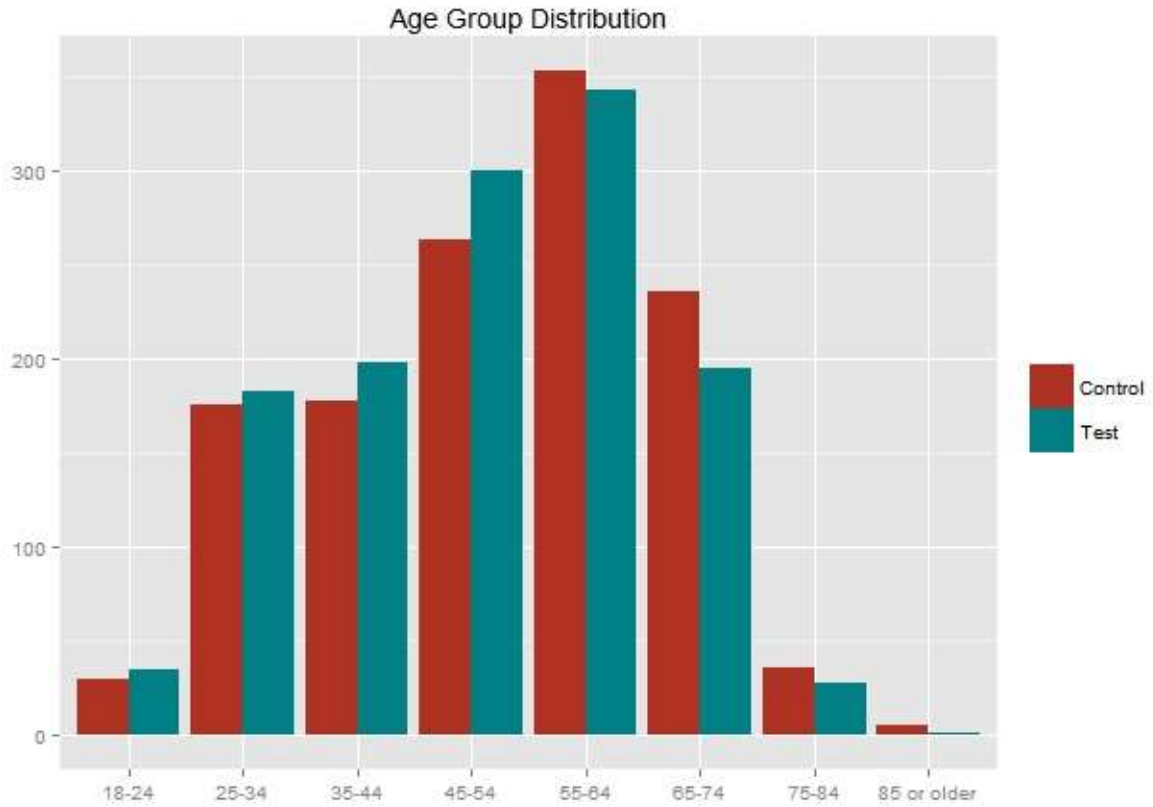

Figure 3. Responses by Age and Control/Test Groups

Differences between control and test groups were examined by each education category, grouping the first two into one, as "High school or less", based on the respective sample sizes shown in Table 3 and Figure 4 below. The distribution of education levels between the control and test groups were not all the same. There were more respondents with graduate or professional degrees in the test group, and more with associate degrees or some college, no degree, in the control group.

Table 3 Responses by Education and Control/Test Groups

	Education	Control	Test
1	Less than high school diploma	7	8
2	High school diploma or equivalen	124	126
3	Some college, no degree	240	215
4	Associate degree	137	104
5	Bachelor's degree	423	440
6	Graduate or professional degree	347	389

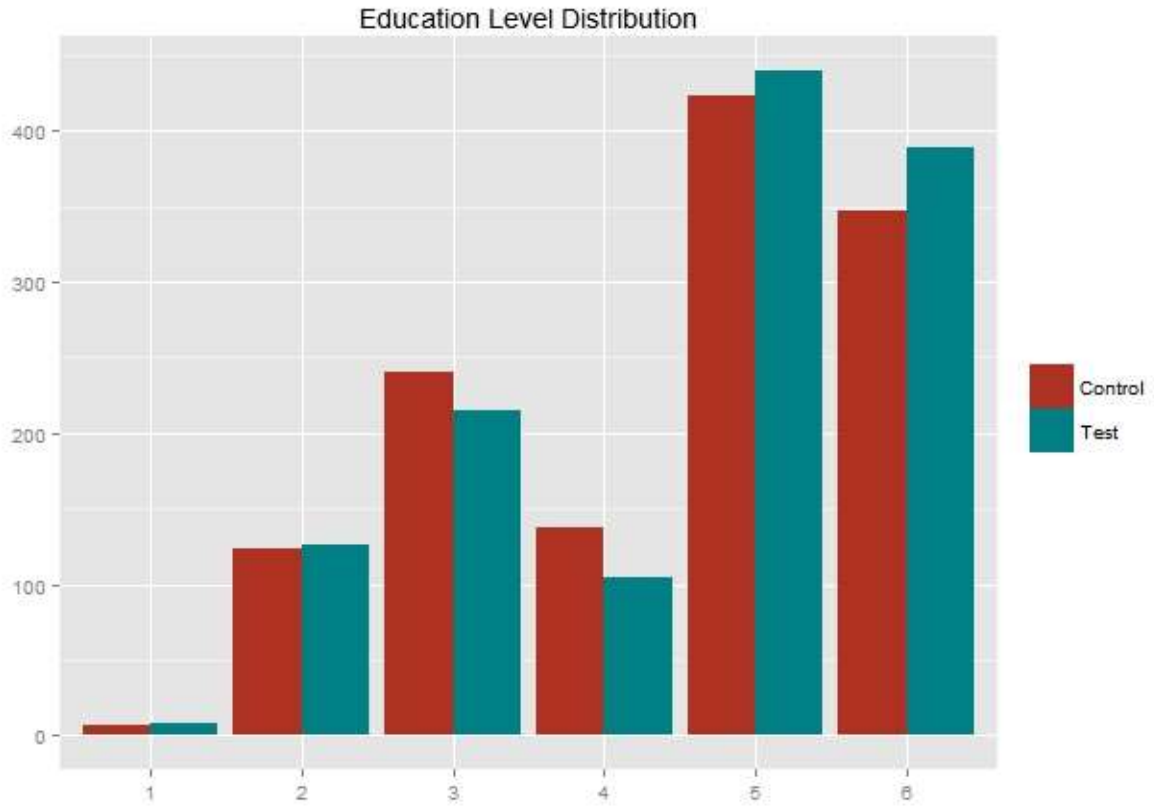

Figure 4. Responses by Education and Control/Test Groups

In addition to the information obtained from the survey data, several additional attributes were added, using available data and geographic information systems (GIS), for each zip code. These attributes included demographic information, land use, distances to destination cities, distances to the nearest urbanized areas within a metropolitan area, and distances to airports, rail stations, and bus stations of different sizes and types.

3. Preliminary Analysis

The survey data was first validated prior to analysis. Data validation included checking for the number of responses for each question, missing values, unique values, assessing the frequency distributions of the data set, and screening the amount of time taken to complete the survey, for each respondent. The survey data descriptive summary can be found in Appendix C.

The survey response data was analyzed, using the R statistical package, for overall differences in responses between the control and test groups. Differences in responses between the control and test groups were also examined by gender, age group, and education level. The responses were tested for differences using the Wilcoxan rank sum test, which does not assume a normal distribution, and compares the median between the two groups. Survey questions that showed a p-value of 0.1 or less, from the Wilcoxan rank sum tests, were flagged for review. The p-value threshold of 0.1 was chosen to be more inclusive, at this stage of analysis, than would have resulted from a more traditional p-value of 0.05.

3.1. Part 1: Recent Intercity Travel Trips and General Travel Preferences

3.1.1. Testing for Overall Differences

Table 4 below shows significant differences overall in the responses provided by the control and test groups, based on the results of the Wilcoxan rank sum tests.

Table 4 Statistical Differences between the Control and Test Groups

Survey Question		
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	
1	How many times have you visited one of the following cities in the past 12 months?	
	Visits to Boston in past year	
	Visits to New York in past year	
	Visits to Philadelphia in past year	
	Visits to Washington DC in past year	
2	What mode(s) of transportation have you used for your trip(s) to each city in the past twelve months?	
	Boston: Personal Auto/Car	○

Survey Question		
Significance:	**** 0.0001	*** 0.001	** 0.01	* 0.05	○ 0.1	
	Boston: Rental Car (including car share) or borrowed car	
	Boston: Intercity bus (e.g., Greyhound, Peter Pan, Megabus)	
	Boston: Intercity rail (e.g., Amtrak)	
	Boston: Airplane	
	Boston: Other	
	New York City: Personal Auto/Car	
	New York City: Rental Car (including car share) or borrowed car	
	New York City: Intercity Bus (e.g., Greyhound, Peter Pan, Megabus)	
	New York City: Intercity Rail (e.g., Amtrak)	
	New York City: Airplane	
	New York City: Other	
	Philadelphia: Personal Auto/Car	
	Philadelphia: Rental Car (including car share) or borrowed car	
	Philadelphia: Intercity bus (e.g., Greyhound, Peter Pan, Megabus)	
	Philadelphia: Intercity rail (e.g., Amtrak)	
	Philadelphia: Airplane	
	Philadelphia: Other	
	Washington DC: Personal Auto/Car	
	Washington DC: Rental Car (including car share) or borrowed car	
	Washington DC: Intercity bus (e.g., Greyhound, Peter Pan, Megabus)	
	Washington DC: Intercity rail (e.g., Amtrak)	
	Washington DC: Airplane	
	Washington DC: Other	
3	3. *[If intercity bus or intercity rail selected for ANY city]* How do you usually get information about routes and schedules for bus or rail trips?	
	Use pamphlets or other printed material	
	Ask a friend or family member	○
	Visit the station	
	Call the bus or rail company	
	Search the internet	
	Use smart phone or tablet apps	
	Other, please specify	
4	*[if # of cities visited > 1]* Which city did you visit most recently?	
5	*[Skip if frequency to # cities visited = 1]* What mode(s) of transportation did you use for your MOST RECENT trip to <recent city>?	
	Personal auto/car	
	Rental car (including car share) or a borrowed car	
	Intercity bus (e.g., Greyhound, Peter Pan, Megabus)	
	Mode(s) used on most recent trip -Intercity rail (e.g., Amtrak)	
	Airplane	
	Other, please specify	
6	What was the purpose of your most recent trip to <recent city>?	
	Leisure/vacation	
	Visit friends	
	Business	○
	Family event	

Survey Question		
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	
	Other, please specify	
7	How many people travelled with you on your most recent trip to <recent city>?	
	Other adults (18 and over) on most recent trip	
	Children (under 18) on most recent trip	
8	*[if bus, rail, or plane trip]* How did you plan this trip and book your tickets?	
	Went to the airline, bus, or train website	
	Went to a travel website (e.g., Expedia.com, Kayak.com)	
	Called the airline, bus company, or train line	
	Through a travel agency	
	A friend or family member booked it for me	
	Other, please specify	
9	How many nights did you stay for your most recent trip to < recent city >?	
10	How many registered vehicles (in working order) are available to your household?	○
11	Do you have a driver's license?	
12	How many people live in your household? How many of you are licensed drivers?	
	# of adults in HH (18 and over)	○
	# of adults in HH: Licensed drivers	
	# of children in HH (under 18)	**
	# of children in HH: Licensed drivers	
13	How do you access the internet? *Please select all that apply.*	
	Internet service at home	*
	Internet service at school	
	Internet service at work	
	Public internet service (e.g., at the library, community center)	*
	Mobile device with a cellular data plan (e.g., smart phone, enabled tablet)	
	Other, please specify	

There are three statements shown to have differences, between the control and test groups, with a p-value of 0.05 or less. One of these statements shows a difference between these two groups with a p-value of 0.01. This statement indicates that members of the test group were more likely to have indicated there being more than one child (under 18 years old) in the household. The other two statements show a difference in response between those in the control and test groups at the traditional level of significance, with a p-value of 0.05. Both of these statements are related to how respondents access the internet. The first of these statements indicates that more respondents from the control group, than from the test group, selected having internet access at home. The second of these statements indicates that more respondents from the test group selected accessing the internet from public internet service (e.g., at the library, community center).

3.1.2. Testing by Gender

Table 5 below shows significant differences, in response tendencies between control and test groups by gender, based on the results of the Wilcoxan rank sum tests.

Table 5 Statistical Differences by Gender between the Control and Test Groups

Survey Question										**Gender**	
Significance:	****	0.0001	***	0.001	**	0.01	*	0.05	○	0.1	**F**	**M**
1	How many times have you visited one of the following cities in the past 12 mo?											
	Visits to Boston in past year											
	Visits to New York in past year											
	Visits to Philadelphia in past year											
	Visits to Washington DC in past year											
2	What mode(s) of transportation have you used for your trip(s) to each city in the past twelve months?											
	Boston: Personal Auto/Car											
	Boston: Rental Car (including car share) or borrowed car											
	Boston: Intercity bus (e.g., Greyhound, Peter Pan, Megabus)											
	Boston: Intercity rail (e.g., Amtrak)											
	Boston: Airplane											**
	Boston: Other											
	New York City: Personal Auto/Car											
	New York City: Rental Car (including car share) or borrowed car											
	New York City: Intercity Bus (e.g., Greyhound, Peter Pan, Megabus)											
	New York City: Intercity Rail (e.g., Amtrak)											
	New York City: Airplane											
	New York City: Other											
	Philadelphia: Personal Auto/Car											
	Philadelphia: Rental Car (including car share) or borrowed car											
	Philadelphia: Intercity bus (e.g., Greyhound, Peter Pan, Megabus)											
	Philadelphia: Intercity rail (e.g., Amtrak)											
	Philadelphia: Airplane											
	Philadelphia: Other										○	
	Washington DC: Personal Auto/Car											
	Washington DC: Rental Car (including car share) or borrowed car											
	Washington DC: Intercity bus (e.g., Greyhound, Peter Pan, Megabus)											
	Washington DC: Intercity rail (e.g., Amtrak)											
	Washington DC: Airplane											
	Washington DC: Other											*
3	3. *[If intercity bus or intercity rail selected for ANY city]* How do you usually get information about routes and schedules for bus or rail trips?											
	Use pamphlets or other printed material										○	*
	Ask a friend or family member										*	
	Visit the station											
	Call the bus or rail company											

Survey Question		Gender	
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	F	M
	Search the internet		
	Use smart phone or tablet apps		
	Other, please specify		
4	*[if # of cities visited > 1]* Which city did you visit most recently?		
5	*[Skip if frequency to # cities visited = 1]* What mode(s) of transportation did you use for your MOST RECENT trip to <recent city>?		
	Personal auto/car		
	Rental car (including car share) or a borrowed car		
	Intercity bus (e.g., Greyhound, Peter Pan, Megabus)		
	Mode(s) used on most recent trip -Intercity rail (e.g., Amtrak)		
	Airplane	*	
	Other, please specify		
6	What was the purpose of your most recent trip to <recent city>?		
	Leisure/vacation		
	Visit friends		
	Business		
	Family event		
	Other, please specify		
7	How many people travelled with you on your most recent trip to <recent city>?		
	Other adults (18 and over) on most recent trip		
	Children (under 18) on most recent trip		
8	*[if bus, rail, or plane trip]* How did you plan this trip and book your tickets?		
	Went to the airline, bus, or train website		
	Went to a travel website (e.g., Expedia.com, Kayak.com)		
	Called the airline, bus company, or train line		
	Through a travel agency		
	A friend or family member booked it for me		
	Other, please specify	○	
9	How many nights did you stay for your most recent trip to < recent city >?		
10	How many registered vehicles (in working order) are available to your household?		
11	Do you have a driver's license?		
12	How many people live in your household? How many of you are licensed drivers?		
	# of adults in HH (18 and over)	○	
	# of adults in HH: Licensed drivers		
	# of children in HH (under 18)	*	○
	# of children in HH: Licensed drivers		*
13	How do you access the internet? *Please select all that apply.*		
	Internet service at home		○
	Internet service at school		○
	Internet service at work		
	Public internet service (e.g., at the library, community center)		○
	Mobile device with a cellular data plan (e.g., smart phone, enabled tablet)		
	Other, please specify		*

Looking at differences in responses between female members of the control and test groups, there are differences shown between female respondents in control and test groups for three statements, with a p-value of 0.05, the traditional level of significance. The first of these statements indicates that more female respondents from the test group, than from the control group, usually ask a friend or family member to get information about routes or schedules for bus or rail trips. The second of these statements indicates that more female respondents from the control group, than from the test group, selected airplane as the mode of transportation used for their most recent trip to one of the study destination cities. The third of these statements indicates that more female respondents from the test group, than from the control group, were more likely to have indicated there being more than one child (under 18 years old) in the household.

Looking at differences in responses between male members of the control and test groups, there are differences shown between male respondents in control and test groups for six statements, with a p-value of 0.05 or less. The first of these statements shows a difference with a p-value of 0.01. This statement indicates that more males from the test group, than from the control group, selected taking an airplane to Boston in the past twelve months.

The remaining five statements show a difference between male respondents from the control and test groups, with a p-value of 0.05, the traditional level of significance. The first of these statements indicates that more males from the control group, than from the test group, selected 'other' as a transportation mode taken to Washington DC. The second of these statements indicates that more males from the test group, than from the control group, usually use pamphlets or other printed material to get information about routes and schedules for bus or rail trips. The third of these statements indicates that more males from the test group, than from the control group, were more likely to have indicated there being more than one licensed child in their household. The fourth and fifth of these statements indicates more males from the test group, than from the control group, selected 'other' as a way they access the internet.

3.1.3. Testing by Education Level

Table 6 below shows significant differences, in response tendencies between control and test groups by education level, based on the results of the Wilcoxan rank sum tests.

Table 6 Statistical Differences by Education Level between the Control and Test Groups

Survey Question										**Education Level**				
Significance:	****	0.0001	***	0.001	**	0.01	*	0.05	○ 0.1	**H[1]**	**C[1]**	**A[1]**	**B[1]**	**G[1]**
1	How many times have you visited one of the following cities in the past													

[1] H = high school or less, C = some college, A = associate degree, B = bachelor's degree, G = grad./prof. degree

Survey Question		Education Level				
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	H[1]	C[1]	A[1]	B[1]	G[1]
	12 months?					
	Visits to Boston in past year					
	Visits to New York in past year					
	Visits to Philadelphia in past year					
	Visits to Washington DC in past year					*
2	What mode(s) of transportation have you used for your trip(s) to each city in the past twelve months?					
	Boston: Personal Auto/Car				○	
	Boston: Rental Car (including car share) or borrowed car					
	Boston: Intercity bus (e.g., Greyhound, Peter Pan, Megabus)				**	
	Boston: Intercity rail (e.g., Amtrak)					
	Boston: Airplane					
	Boston: Other					
	New York City: Personal Auto/Car	*			○	
	New York City: Rental Car (including car share) or borrowed car	*				
	New York City: Intercity Bus (e.g., Greyhound, Peter Pan, Megabus)					
	New York City: Intercity Rail (e.g., Amtrak)					
	New York City: Airplane					
	New York City: Other					
	Philadelphia: Personal Auto/Car					
	Philadelphia: Rental Car (including car share) or borrowed car					
	Philadelphia: Intercity bus (e.g., Greyhound, Peter Pan, Megabus)					
	Philadelphia: Intercity rail (e.g., Amtrak)					
	Philadelphia: Airplane					
	Philadelphia: Other					
	Washington DC: Personal Auto/Car					
	Washington DC: Rental Car (including car share) or borrowed car					○
	Washington DC: Intercity bus (e.g., Greyhound, Peter Pan, Megabus)					
	Washington DC: Intercity rail (e.g., Amtrak)					
	Washington DC: Airplane					
	Washington DC: Other					
3	3. *[If intercity bus or intercity rail selected for ANY city]* How do you usually get information about routes and schedules for bus or rail trips?					
	Use pamphlets or other printed material			○		
	Ask a friend or family member					
	Visit the station					
	Call the bus or rail company		*			*
	Search the internet			*		
	Use smart phone or tablet apps					
	Other, please specify					
4	*[if # of cities visited > 1]* Which city did you visit most recently?					
5	*[Skip if frequency to # cities visited = 1]* What mode(s) of transportation did you use for your MOST RECENT trip to <recent city>?					
	Personal auto/car				*	
	Rental car (including car share) or a borrowed car					
	Intercity bus (e.g., Greyhound, Peter Pan, Megabus)	*			**	

Survey Question		Education Level				
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	H[1]	C[1]	A[1]	B[1]	G[1]
	Mode(s) used on most recent trip -Intercity rail (e.g., Amtrak)					
	Airplane		*			
	Other, please specify					*
6	What was the purpose of your most recent trip to <recent city>?					
	Leisure/vacation		○			
	Visit friends				*	
	Business					
	Family event					
	Other, please specify					
7	How many people travelled with you on your most recent trip to <recent city>?					
	Other adults (18 and over) on most recent trip					
	Children (under 18) on most recent trip					
8	*[if bus, rail, or plane trip]* How did you plan this trip and book your tickets?					
	Went to the airline, bus, or train website				○	
	Went to a travel website (e.g., Expedia.com, Kayak.com)					
	Called the airline, bus company, or train line					
	Through a travel agency					*
	A friend or family member booked it for me					
	Other, please specify				○	
9	How many nights did you stay for your most recent trip to < recent city >?				*	
10	How many registered vehicles (in working order) are available to your household?					
11	Do you have a driver's license?					
12	How many people live in your household? How many of you are licensed drivers?					
	# of adults in HH (18 and over)				*	
	# of adults in HH: Licensed drivers					
	# of children in HH (under 18)					
	# of children in HH: Licensed drivers					
13	How do you access the internet? *Please select all that apply.*					
	Internet service at home					○
	Internet service at school					
	Internet service at work			*		
	Public internet service (e.g., at the library, community center)					
	Mobile device with a cellular data plan (e.g., smart phone, enabled tablet)		○			
	Other, please specify					

Looking at differences in response between members of the control and test groups by education level, there are differences for multiple statements for each education level. There are two statements that were shown to have significant differences, with a p-value of

0.05 or less, for two education levels each. The first of these statements shows a difference, between members of the control and test groups, with a p-value of 0.05, for those with a Graduate or Professional Degree, and for those with Some College. The statement indicates that, of respondents with a Graduate or Professional Degree, more from the test group, than from the control group, usually call the bus or rail company to get information about routes and schedules for bus or rail trips. However, the statement indicates that, of respondents with Some College, more from the control group, than from the test group, usually call the bus or rail company to get information about routes and schedules for bus or rail trips. The second of these statements shows a difference, between members of the control and test groups, with a p-value of 0.01, for those with a Bachelor's Degree. It shows a difference, significant at the traditional level, with a p-value of 0.05, for those with an education level of High School or Less. This statement indicates that, of respondents with a Bachelor's Degree, more from the test group, than from the control group, used intercity bus (e.g., Greyhound, Peter Pan, Megabus) for their most recent trip to one of the destination cities. However, the statement indicated that, of respondents with an education level of High School or Less, more from the control group, than from the test group, chose intercity bus from their most recent trip to one of the destination cities.

There are two more statements indicating a significant difference, with a p-value of 0.05, the traditional level of significance, for those with an education level of High School or Less. The first of these statements indicates that, of those with this level of education, more from the test group, than from the control group, used a personal automobile for a trip to NYC in the past twelve months. The second of these statements indicates that, of those with this level of education, more from the control group, than from the test group, used a rental car (including car share) or a borrowed car, for a trip to NYC in the past twelve months.

There is one more statement indicating a significant difference, with a p-value of 0.05, for those with Some College. This statement indicates that, of those with this level of education, more from the control group, than from the test group, used an airplane on their most recent trip to one of the destination cities.

There are two statements, indicating a significant difference, with a p-value of 0.05, for respondents with an Associate Degree. The first of these statements indicates that, of those with this level of education, more from the test group, than from the control group, usually search the internet to get information about routes and schedules for bus or rail trips. The second of these statements indicates that, of those with this level of education, more from the test group, than from the control group, selected internet service at work as one way they access the internet.

There are five additional statements indicating a significant difference, with a p-value of 0.05 or less, for respondents with a Bachelor's Degree. One of these statements was shown to have a difference between those from the control and test groups, with a p-value of 0.01. This statement indicates that, of those with this level of education, more from the test group, than from the control group, used intercity bus for a trip to Boston within the past twelve months. Four more statements indicate a difference, with a p-value of 0.05, for respondents with a Bachelor's Degree, between those in the control and test groups. The

first of these statements indicates that, of those with this level of education, more from the control group, than from the test group, used a personal automobile on their most recent trip to one of the destination cities. The second of these statements indicates that, of those with this level of education, more from the control group, than from the test group, selected 'visiting friends' as the purpose of their most recent trip to one of the destination cities. The third of these statements indicates that, of those with this level of education, more from the control group, than from the test group, specified planning their most recent trip to one of the destination cities, using another method than those listed. The fourth of these statements indicated that, of those with this level of education, respondents from the test group indicated having more adults in their household, than those from the control group.

There are three additional statements indicating a significant difference, with a p-value of 0.05, for respondents with a Graduate or Professional Degree. The first of these statements indicates that, of those with this level of education, members from the control group, travelled to Washington DC more than members from the test group, in the past twelve months. The second of these statements indicates that, of those with this level of education, more from the test group, than from the control group, used a mode other than personal automobile, rental car, intercity bus, intercity rail, or airplane, for their most recent trip to one of the destination cities. The third of these statements indicates that, of those with this level of education, more from the control group, than from the test group, used a travel agency to plan their most recent trip to one of the destination cities.

3.1.4. Testing by Age Group

Table 7 below shows significant differences, in response tendencies between control and test groups by age group, based on the results of the Wilcoxan rank sum tests.

Table 7 Statistical Differences by Age Group between the Control and Test Groups

Survey Question							**Age Group**				
Significance:	**** 0.0001	*** 0.001	** 0.01	* 0.05	○ 0.1		25-34	35-44	45-54	55-64	65-75
1	How many times have you visited one of the following cities in the past 12 months?										
	Visits to Boston in past year										
	Visits to New York in past year										
	Visits to Philadelphia in past year										
	Visits to Washington DC in past year										
2	What mode(s) of transportation have you used for your trip(s) to each city in the past twelve months?										
	Boston: Personal Auto/Car										
	Boston: Rental Car (including car share) or borrowed car										
	Boston: Intercity bus (e.g., Greyhound, Peter Pan, Megabus)									*	
	Boston: Intercity rail (e.g., Amtrak)						*				
	Boston: Airplane										

Survey Question		Age Group				
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	25-34	35-44	45-54	55-64	65-75
	Boston: Other					○
	New York City: Personal Auto/Car					
	New York City: Rental Car (including car share) or borrowed car					
	New York City: Intercity Bus (e.g., Greyhound, Peter Pan, Megabus)					
	New York City: Intercity Rail (e.g., Amtrak)		○			
	New York City: Airplane					
	New York City: Other	○				
	Philadelphia: Personal Auto/Car				*	
	Philadelphia: Rental Car (including car share) or borrowed car					
	Philadelphia: Intercity bus (e.g., Greyhound, Peter Pan, Megabus)	○				
	Philadelphia: Intercity rail (e.g., Amtrak)	○				
	Philadelphia: Airplane		*			
	Philadelphia: Other					
	Washington DC: Personal Auto/Car					
	Washington DC: Rental Car (including car share) or borrowed car					
	Washington DC: Intercity bus (e.g., Greyhound, Peter Pan, Megabus)					
	Washington DC: Intercity rail (e.g., Amtrak)					
	Washington DC: Airplane					
	Washington DC: Other					
3	3. *[If intercity bus or intercity rail selected for ANY city]* How do you usually get information about routes and schedules for bus or rail trips?					
	Use pamphlets or other printed material		*			
	Ask a friend or family member					
	Visit the station		○			
	Call the bus or rail company			*		
	Search the internet					
	Use smart phone or tablet apps			○		
	Other, please specify					
4	*[if # of cities visited > 1]* Which city did you visit most recently?					**
5	*[Skip if frequency to # cities visited = 1]* What mode(s) of transportation did you use for your MOST RECENT trip to <recent city>?					
	Personal auto/car		○		○	
	Rental car (including car share) or a borrowed car					
	Intercity bus (e.g., Greyhound, Peter Pan, Megabus)					
	Mode(s) used on most recent trip -Intercity rail (e.g., Amtrak)					**
	Airplane					
	Other, please specify					
6	What was the purpose of your most recent trip to <recent city>?					
	Leisure/vacation					
	Visit friends					
	Business				○	○
	Family event					*
	Other, please specify					
7	How many people travelled with you on your most recent trip to <recent city>?					
	Other adults (18 and over) on most recent trip					

Survey Question		Age Group				
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	25-34	35-44	45-54	55-64	65-75
	Children (under 18) on most recent trip					
8	*[if bus, rail, or plane trip]* How did you plan this trip and book your tickets?					
	Went to the airline, bus, or train website					
	Went to a travel website (e.g., Expedia.com, Kayak.com)					
	Called the airline, bus company, or train line					
	Through a travel agency				*	
	A friend or family member booked it for me					
	Other, please specify					
9	How many nights did you stay for your most recent trip to < recent city >?					
10	How many registered vehicles (in working order) are available to your household?					***
11	Do you have a driver's license?					
12	How many people live in your household? How many of you are licensed drivers?					
	# of adults in HH (18 and over)					○
	# of adults in HH: Licensed drivers					○
	# of children in HH (under 18)					*
	# of children in HH: Licensed drivers					○
13	How do you access the internet? *Please select all that apply.*					
	Internet service at home			○		*
	Internet service at school					
	Internet service at work			○		
	Public internet service (e.g., at the library, community center)		○			
	Mobile device with a cellular data plan (e.g., smart phone, enabled tablet)					
	Other, please specify					

Looking at differences in response between members of the control and test groups by age group, there are differences for multiple statements for respondents ages 35-44, 55-64, and 65-74. There are no statements that were shown to have significant differences, with a p-value of 0.05 or less, the traditional level of significance, for multiple age groups.

There is only one statement indicating a difference, between control and test groups, for ages 25-34, with a p-value of 0.05. This statement indicates that, of those in this age group, more from the test group, than from the control group, took intercity rail to a recent trip to Boston.

There are two statements indicating a difference, between control and test groups, for ages 35-44, with a p-value of 0.05. The first of these statements indicates that, of those in this age group, more from the test group, than from the control group, took an airplane to Philadelphia, in the past twelve months. The second of these statements indicates that, of those in this age group, more from the control group, than from the test group, usually use

pamphlets or other printed material to get information about routes and schedules for bus or rail trips.

There is only one statement indicating a difference, between control and test groups, for ages 45-44, with a p-value of 0.05. This statement indicates that, of those in this age group, more from the control group, than from the test group, usually call the bus or rail company to get information about routes and schedules for bus or rail trips.

There are three statements indicating a difference, between control and test groups, for ages 54-65, with a p-value of 0.05. The first of these statements indicates that, of those in this age group, more from the test group, than from the control group, used intercity bus for a trip to Boston in the past twelve months. The second of these statements indicates that, of those in this age group, more from the test group, than from the control group, took a personal automobile for a trip to Philadelphia in the past twelve months. The last of these three statements indicates that, of those in this age group, more from the control group, than from the test group, used a travel agency to plan their most recent trip to one of the destination cities.

There are six statements indicating a difference, between control and test groups, for ages 65-74, with a p-value of 0.05 or less. One of these statements shows a difference with a p-value of 0.001. This statement indicates that, of those in this age group, respondents from the control group have more registered vehicles available to their household, than do respondents from the test group. Two of these statements show a difference with a p-value of 0.01. The first of these statements indicates that, of those in this age group, respondents from the control group took more trips to Boston in the past year, than did those from the test group. The second of these statements indicates that, of those in this age group, more respondents from the control group, than from the test group, took intercity rail for their most recent trip to one of the destination cities. The remaining three statements show a difference with a p-value of 0.05, the traditional level of significance. The first of these statements indicates that, of those in this age group, more from the control group, than from the test group, made their most recent trip to one of the destination cities for the purpose of a family event. The second of these statements indicates that, of those in this age group, respondents from the test group have more children in their household, than do respondents from the control group. The third of these statements indicates that, of those in this age group, more from the control group, than from the test group, access the internet from home.

3.2. Part 2: Travel Preferences

3.2.1. Testing for Overall Differences

Table 8 below shows significant differences overall, in response tendencies between control and test groups, based on the results of the Wilcoxan rank sum tests.

Table 8 Statistical Differences between the Control and Test Groups

Survey Question		
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	
14	I feel I am less dependent on cars than my parents are/were.	
15	I need to drive my car to get where I need to go.	
16	I love the freedom and independence I get from owning one or more cars.	
17	It would be hard for me to reduce my driving mileage.	
18	For me to be able to leave the driving to someone else would be desirable.	
19	It would be desirable for my household to be able to have fewer cars.	*
20	Being able to freely perform tasks, including using a laptop, tablet, or smartphone is an important reason for me to choose bus or train travel.	
21	Having reliable WiFi internet access while I travel on a bus or train is important to me.	○
22	When taking a bus or train, being able to plan my trip and buy tickets online is important to me.	
23	It would be important to me to receive email or text message updates about my bus or train trip.	
24	I find tablet or smartphone apps for travel and trip planning to be helpful.	
25	When the government tries to improve things, it never works.	
26	If everyone works together, we could improve the environment and future for the earth.	
27	People like me take the bus or the train.	○
28	I would be willing to pay more when I travel if it would help the environment.	
29	I tend to use the fastest form of transportation, regardless of cost.	
30	For me, the whole idea of being on a bus or train with other people I do not know seems uncomfortable.	
31	I enjoy being out and about and observing people.	
32	I don't mind traveling with people I do not know.	
33	Having my privacy is important to me when I travel.	
34	When I choose a home, I value having adequate space for parking two or more cars.	
36	Living in a multiple family building (e.g., apartment, condo) wouldn't give me enough privacy.	
37	I like living in a neighborhood where there is a lot going on.	
38	I am confident that if I want to, I can do things that I have never done before.	
39	I worry about crime or other disturbing behavior on buses and trains, or while walking in and around the stops/stations.	
40	It is important to me to control the radio and the air conditioning in the car.	
41	I feel really stressed when driving for a long time in congestion in and around big cities.	
42	I prefer to use the most comfortable transportation mode regardless of cost or time.	
43	Having a low-stress trip is more important than reaching my destination quickly.	
44	I get very annoyed being stuck behind a slow driver.	
45	I am usually in a hurry when I make a trip.	
46	With my schedule, minimizing time spent traveling is very important to me.	
47	I would use the bus or train more often if it were cheaper to ride.	
48	Rather than owning a car, I would prefer to borrow, share, or rent a car just for when I need it.	

There is one statement showing a difference in response, between control and test groups overall, with a p-value of 0.05. This statement indicates that more people, from the control group, disagreed that it would be desirable for their household to have fewer cars.

3.2.2. Testing by Gender

Table 9 below shows significant differences, in response tendencies between control and test groups by gender, based on the results of the Wilcoxan rank sum tests.

Table 9 Statistical Differences by Gender between the Control and Test Groups

Survey Question										**Gender**	
Significance:	****	0.0001	***	0.001	**	0.01	*	0.05	○	0.1	**F**	**M**
14	I feel I am less dependent on cars than my parents are/were.											○
15	I need to drive my car to get where I need to go.											
16	I love the freedom and independence I get from owning one or more cars.											
17	It would be hard for me to reduce my driving mileage.											
18	For me to be able to leave the driving to someone else would be desirable.										*	
19	It would be desirable for my household to be able to have fewer cars.										○	
20	Being able to freely perform tasks, including using a laptop, tablet, or smartphone is an important reason for me to choose bus or train travel.											
21	Having reliable WiFi internet access while I travel on a bus or train is important to me.										○	
22	When taking a bus or train, being able to plan my trip and buy tickets online is important to me.											
23	It would be important to me to receive email or text message updates about my bus or train trip.											
24	I find tablet or smartphone apps for travel and trip planning to be helpful.											
25	When the government tries to improve things, it never works.										○	
26	If everyone works together, we could improve the environment and future for the earth.											
27	People like me take the bus or the train.										*	
28	I would be willing to pay more when I travel if it would help the environment.											○
29	I tend to use the fastest form of transportation, regardless of cost.											
30	For me, the whole idea of being on a bus or train with other people I do not know seems uncomfortable.											○
31	I enjoy being out and about and observing people.											
32	I don't mind traveling with people I do not know.											
33	Having my privacy is important to me when I travel.										*	
34	When I choose a home, I value having adequate space for parking two or more cars.											
36	Living in a multiple family building (e.g., apartment, condo) wouldn't give me enough privacy.											
37	I like living in a neighborhood where there is a lot going on.										*	
38	I am confident that if I want to, I can do things that I have never done before.											
39	I worry about crime or other disturbing behavior on buses and trains, or while										○	

Survey Question										Gender	
Significance:		****	0.0001	***	0.001	**	0.01	*	0.05	○ 0.1	**F**	**M**
	walking in and around the stops/stations.											
40	It is important to me to control the radio and the air conditioning in the car.											
41	I feel really stressed when driving for a long time in congestion in and around big cities.											
42	I prefer to use the most comfortable transportation mode regardless of cost or time.										*	
43	Having a low-stress trip is more important than reaching my destination quickly.											
44	I get very annoyed being stuck behind a slow driver.											
45	I am usually in a hurry when I make a trip.											
46	With my schedule, minimizing time spent traveling is very important to me.											
47	I would use the bus or train more often if it were cheaper to ride.											
48	Rather than owning a car, I would prefer to borrow, share, or rent a car just for when I need it.											

Looking at differences in responses between members of the control and test groups by gender, there are five statements indicating a difference in response, between females from the control and test groups, with a p-value of 0.05 or less. There are no statements indicating a difference in response, between males from the control and test groups, at this level of significance.

Of the five statements indicating a difference in response, between females from the control and test groups, at the traditional level of significance, the first statement indicates that females in the sample, from the test group, agree more that for them to be able to leave the driving to someone else (e.g., a bus driver), would be desirable. The second of these statements indicates that females in the sample, from the control group, disagree more that people like them take the bus or the train. The third of these statements indicates that females in the sample, from the control group, agree more that having privacy is important to them when they travel. The fourth of these statements indicates that females in the sample, from the test group, agree more that living in a multiple family unit wouldn't give them enough privacy. The fifth of these statements indicates that more females in the sample, from the test group, agree more that they feel really stressed when driving for a long time in congestion in and around big cities.

3.2.3. Testing by Education Level

Table 10 below shows significant differences, in response tendencies between control and test groups by education level, based on the results of the Wilcoxan rank sum tests.

Table 10 Statistical Differences by Education Level between the Control and Test Groups

Survey Question		Education Level				
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	H[2]	C[2]	A[2]	B[2]	G[2]
14	I feel I am less dependent on cars than my parents are/were.	*				
15	I need to drive my car to get where I need to go.					
16	I love the freedom and independence I get from owning one or more cars.					
17	It would be hard for me to reduce my driving mileage.					
18	For me to be able to leave the driving to someone else(e.g., a bus driver) would be desirable.		*			
19	It would be desirable for my household to be able to have fewer cars.		○			
20	Being able to freely perform tasks, including using a laptop, tablet, or smartphone is an important reason for me to choose bus or train travel.					
21	Having reliable WiFi internet access while I travel on a bus or train is important to me.					
22	When taking a bus or train, being able to plan my trip and buy tickets online is important to me.	*		*		
23	It would be important to me to receive email or text message updates about my bus or train trip.					
24	I find tablet or smartphone apps for travel and trip planning to be helpful.		○			
25	When the government tries to improve things, it never works.					*
26	If everyone works together, we could improve the environment and future for the earth.					
27	People like me take the bus or the train.					
28	I would be willing to pay more when I travel if it would help the environment.					
29	I tend to use the fastest form of transportation, regardless of cost.					
30	For me, the whole idea of being on a bus or train with other people I do not know seems uncomfortable.	*				
31	I enjoy being out and about and observing people.					
32	I don't mind traveling with people I do not know.	*				
33	Having my privacy is important to me when I travel.					
34	When I choose a home, I value having adequate space for parking two or more cars.				○	
35	When I choose a neighborhood to live in, I like to be able to walk to a commercial or village center.					
36	Living in a multiple family building (e.g., apartment, condo) wouldn't give me enough privacy.		*			
37	I like living in a neighborhood where there is a lot going on.					
38	I am confident that if I want to, I can do things that I have never done before.					
39	I worry about crime or other disturbing behavior on buses and trains, or while walking in and around the stops/stations.					

[2] H = high school or less, C = some college, A = associate degree, B = bachelor's degree, G = grad./prof. degree

40	It is important to me to control the radio and the air conditioning in the car.					
41	I feel really stressed when driving for a long time in congestion in and around big cities.		*	*		
42	I prefer to use the most comfortable transportation mode regardless of cost or time.					
43	Having a low-stress trip is more important than reaching my destination quickly.					
44	I get very annoyed being stuck behind a slow driver.		**	*	○	
45	I am usually in a hurry when I make a trip.	*			○	
46	With my schedule, minimizing time spent traveling is very important to me.					
47	I would use the bus or train more often if it were cheaper to ride.					
48	Rather than owning a car, I would prefer to borrow, share, or rent a car just for when I need it.					

Looking at differences in response between members of the control and test groups by education level, there are differences for multiple statements for each education level, except for Bachelor's Degree, and Graduate or Professional Degree. There are three statements that were shown to have significant differences, with a p-value of 0.05 or less, the traditional level of significance, for multiple education levels. The first of these statements indicates that, more respondents with an education level of High School or Less, or with an Associate Degree, and from the control group, agree more that when taking a bus or train, being able to plan their trip and buy tickets online is important to them. The second of these statements indicates that, more respondents with Some College, from the test group, agree more that they feel really stressed when driving for a long time in congestion in and around big cities. On the other hand, this statement also indicates that more respondents with an Associate Degree, from the control group, agree more with this statement. The third of these statements indicates that, more respondents with Some College, from the test group, agree more that they get very annoyed being stuck behind a slow driver. This difference has a p-value of 0.01. However, this statement also indicates that respondents with an Associate Degree, from the control group, agree more with this statement. This difference has a p-value of 0.05.

There are four more statements showing a difference in response, between control and test groups, for respondents with an education level of High School or Less, with a p-value of 0.05. The first of these statements indicates that, of those with this level of education, more respondents from the control group, than from the test group, disagree that they feel that they are less dependent on cars than their parents are/were. The second of these statements indicates that, of those with this level of education, more respondents from the control group, disagree that for them, the whole idea of being on a bus or train with other people they do not know seems uncomfortable. The third of these statements indicates that, for those with this level of education, more respondents from the test group, disagree that they don't mind traveling with people they do not know. The third of these statements

indicates that, for those with this level of education, more respondents from the control group, disagree that they are usually in a hurry when they make a trip.

There are two more statements showing a difference in response, between control and test groups, for respondents with Some College, with a p-value of 0.05. The first of these statements indicates that, of those with this level of education, more respondents from the test group, agree that for them to be able to leave the driving to someone else would be desirable. The second of these statements indicates that, of those with this level of education, more respondents from the test group agree that living in a multiple family building wouldn't give them enough privacy.

There are no statements showing a difference in response, between control and test groups, for respondents with a Bachelor's Degree, with a p-value of 0.05 or less.

There is one statement showing a difference in response, between control and test groups, for respondents with a Graduate or Professional Degree, with a p-value of 0.05 or less. This statement indicates that, of those with this level of education, more respondents from the control group agree that when the government tries to improve things, it never works.

3.2.4. Testing by Age Group

Table 11 below shows significant differences, in response tendencies between control and test groups by age group, based on the results of the Wilcoxan rank sum tests.

Table 11 Statistical Differences by Age Group between the Control and Test Groups

Survey Question							**Education Level**				
Significance:	**** 0.0001	*** 0.001	** 0.01	* 0.05	○ 0.1		25-34	35-44	45-54	55-64	65-75
14	I feel I am less dependent on cars than my parents are/were.						○			○	
15	I need to drive my car to get where I need to go.									*	
16	I love the freedom and independence I get from owning one or more cars.										
17	It would be hard for me to reduce my driving mileage.										
18	For me to be able to leave the driving to someone else(e.g., a bus driver) would be desirable.							**			
19	It would be desirable for my household to be able to have fewer cars.										*
20	Being able to freely perform tasks, including using a laptop, tablet, or smartphone is an important reason for me to choose bus or train travel.										
21	Having reliable WiFi internet access while I travel on a bus or train is important to me.								○		
22	When taking a bus or train, being able to plan my trip and buy tickets online is important to me.										
23	It would be important to me to receive email or text message updates about my bus or train trip.										

24	I find tablet or smartphone apps for travel and trip planning to be helpful.					
25	When the government tries to improve things, it never works.				*	
26	If everyone works together, we could improve the environment and future for the earth.					
27	People like me take the bus or the train.		○		*	
28	I would be willing to pay more when I travel if it would help the environment.		*			
29	I tend to use the fastest form of transportation, regardless of cost.					
30	For me, the whole idea of being on a bus or train with other people I do not know seems uncomfortable.					
31	I enjoy being out and about and observing people.			○		○
32	I don't mind traveling with people I do not know.					
33	Having my privacy is important to me when I travel.	○				
34	When I choose a home, I value having adequate space for parking two or more cars.	○				
35	When I choose a neighborhood to live in, I like to be able to walk to a commercial or village center.		○		○	*
36	Living in a multiple family building (e.g., apartment, condo) wouldn't give me enough privacy.					*
37	I like living in a neighborhood where there is a lot going on.					*
38	I am confident that if I want to, I can do things that I have never done before.	*				
39	I worry about crime or other disturbing behavior on buses and trains, or while walking in and around the stops/stations.					
40	It is important to me to control the radio and the air conditioning in the car.		*			
41	I feel really stressed when driving for a long time in congestion in and around big cities.	○			○	
42	I prefer to use the most comfortable transportation mode regardless of cost or time.					
43	Having a low-stress trip is more important than reaching my destination quickly.					
44	I get very annoyed being stuck behind a slow driver.					
45	I am usually in a hurry when I make a trip.					
46	With my schedule, minimizing time spent traveling is very important to me.					*
47	I would use the bus or train more often if it were cheaper to ride.	○				
48	Rather than owning a car, I would prefer to borrow, share, or rent a car just for when I need it.					

Looking at differences in response between members of the control and test groups by age group, there are differences for multiple statements for ages 35-44, 55-64, and 65-74, with a p-value of 0.05 or less.

There is one statement showing a difference in response, between control and test groups, for respondents ages 25-34, with a p-value of 0.05. This statement indicates that, of those in this age group, more respondents from the test group agree more that they are confident that if they wanted to, they can do things that they have never done before.

There is one statement showing a difference in response, between control and test groups, for respondents ages 35-44, with a p-value of 0.01. This statement indicates that, of those in this age group, more respondents from the test group agree that for them to be able to leave the driving to someone else would be desirable.

There are two statements showing a difference in response, between control and test groups, for respondents ages 35-44, with a p-value of 0.05. The first of these statements indicates that, of those in this age group, more respondents from the control group disagree that they would be willing to pay more when they travel if it would help the environment. The second of these statements indicates that, of those in this age group, more respondents from the test group agree that it is important for them to control the radio and the air conditioning in the car.

There are no statements showing a difference in response, between control and test groups, for respondents ages 45-54, with a p-value of 0.05 or less.

There are three statements showing a difference in response, between control and test groups, for respondents ages 55-64, with a p-value of 0.05. The first of these statements indicates that, of those in this age group, more respondents from the control group agree more that they need to drive their car to get where they need to go. The second of these statements indicates that, of those in this age group, more respondents from the control group agree more that when the government tries to improve things, it never works. The third of these statements indicates that, of those in this age group, more respondents from the control group disagree that people like them take the bus or the train.

There are five statements showing a difference in response, between control and test groups, for respondents ages 65-74, with a p-value of 0.05. The first of these statements indicates that, of those in this age group, more respondents from the control group disagree more that it would be desirable for their household to be able to have fewer cars. The second of these statements indicates that, of those in this age group, more respondents from the control group agree that when they choose a neighborhood to live in, they like to be able to walk to a commercial or village center. The third of these statements indicates that, of those in this age group, more respondents from the test group agree more that living in a multiple family building wouldn't give them enough privacy. The fourth of these statements indicates that, of those in this age group, more respondents from the test group disagree that they like living in a neighborhood where there is a lot going on. Finally, the last of these statements indicates that, of those in this age group, more respondents from the control group agree more that with their schedule, minimizing the time spent traveling is very important to them.

3.3. Part 3: An Imaginary Situation

3.3.1. Testing for Overall Differences

Table 12 below shows significant differences overall, in response tendencies between control and test groups, based on the results of the Wilcoxan rank sum tests.

Table 12 Statistical Differences between the Control and Test Groups

Survey Question		
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	
49	Knowing what you know right now, what mode(s) of transportation do you think are AVAILABLE to you for this trip to NYC? *Please select all that apply.*	
	Personal auto/car	
	Rental car (including car share) or a borrowed car	
	Intercity bus (e.g., Greyhound, Peter Pan, Megabus)	
	Intercity rail (e.g., Amtrack)	
	Other, please specify	
	Other, specified	
50	How likely are you to choose to take a bus or train for a trip like this to NYC next month?	
51	If you learned there would be no WiFi, and no electrical outlet on the bus or train for this trip, would that make to you less likely to choose a bus or train for this trip?	
52	There are more options than what I expected to travel to NYC by bus and train.	
53	After seeing the bus and train options for traveling to NYC, I just don't think there's a good way for me to get there by either bus or train.	
54	Having information like this on my smartphone or computer might make it easier for me to understand the kinds of bus and train services available to me.	
55	Having so many potential travel options by bus and train is confusing.	
56	When I drive long distances (like from my home area to NYC), I can get tired and stressed.	
57	I worry about the difficulty in finding a parking space at a reasonable cost when I get to NYC.	
58	I am concerned that the schedule of the bus or train only lets me travel a few times per day, and I need to be flexible.	****
59	I could deal with the limited schedules offered by a bus or train for this trip from my home to NYC.	
60	I like the idea that I might see and meet new people on a bus or train to NYC.	○
61	I don't like the idea of riding with a lot of people that I don't know on a bus or train.	
62	If I took a bus or train to NYC, I might have to be with people whose behavior I find unpleasant.	
63	I could be with other people who share my values when I take a bus or train on a trip like this.	
64	I think that taking a BUS to NYC would take a lot longer than driving.	*
65	I think that taking a TRAIN to NYC would take a lot longer than driving.	
66	Without thinking about it much, I would guess that the cost of taking the trip by BUS would be less than the cost of the car trip (including gas, tolls, and parking).	
67	Without thinking about it much, I would guess that the cost of taking the trip by TRAIN	

Survey Question		
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	
	would be less than the cost of the car trip (including gas, tolls, and parking.)	
68	It would be really important to me to minimize costs when I plan this trip to NYC next month.	
69	I really want to minimize the time I spend on the trip to NYC, even if that means more stress or higher costs.	
70	Being able to use my laptop, tablet, or smartphone when traveling makes me more interested in taking a bus or train to NYC.	*
71	I am the kind of person who would take my own car to NYC.	
72	Most people whose opinions I value would approve of my taking this trip by bus or train.	
73	My family would think that I should take this kind of trip by car or plane.	
74	My colleagues would likely think that it is strange not to go by a car or plane to NYC.	
75	When my friends go to NYC, they always take a bus or train.	
76	When my family members go to NYC, they always take a bus or train.	
77	It might be unsafe to make this trip by bus or train.	
78	The experience at the NYC bus or train station would be so unpleasant that I would try to avoid it.	
79	It would be easy for me to get the schedules for a bus or train between here and NYC, and I would understand them.	****
80	I like the idea of taking a bus or train instead of driving for this trip to NYC.	
81	I think that the most RATIONAL choice would be to take a bus or train instead of a car.	
82	I think that the most PLEASURABLE choice would be to take a bus or train instead of a car.	
83	I think that the most STRESSFUL choice would be to take a bus or train instead of a car.	
84	All other things being equal, if a bus was cheaper, but less reliable than a train, I would choose to take a bus.	
85	I am confident that if I wanted to, I could take a bus or train for such a trip to NYC next month.	
86	I would make an effort to choose a bus or train for such a trip to NYC next month.	
87	For me to take a bus or train for such a trip to NYC the next month would be impossible.	*
88	In this imaginary situation, I would plan to take a bus or train for this trip to NYC next month.	
89	I would trust the person who invited me to NYC to recommend how I should travel.	
90	I don't know all the things I NEED to do to make this trip work by bus or train.	
91	Given what you know about bus and train services to NYC, how likely are you to choose a bus or train for a trip to NYC next month (like the one described in the imaginary situation)?	
92	We noticed that you are now <more/less> likely to take the train or bus to NYC. Please tell us why you have changed your mind.	
93	Thank you for sharing your opinions about the imaginary trip to NYC. In your real life, how seriously would you consider taking a bus or train to NYC?	

There are two statements shown to have differences in answers, between the control and test groups overall, at the highest level of significance. The first of these statements indicates that there is some relationship between the planning tool and positive attitudes

about scheduling flexibility, with people who had access to the planning tool being less concerned about the frequency and flexibility of traveling by bus or train. The second of these statements indicates that more people, who did not have access to the planning tool, agreed that it would be easy to get and understand bus and train schedules from their home to NYC. That is, less people who did have access to the planning tool agreed that it would be easy to get and understand bus and train schedules from their home to NYC. There are also three statements with differences in answers, between the control and test groups overall, with p-values of 0.05, the traditional level of significance. The first of these statements indicates that more people, without access to the planning tool, agreed that taking a bus to NYC would take a lot longer than driving, than did those people with access to the planning tool. The second of these statements indicates that more people with access to the planning tool agreed that being able to use their personal technology devices when traveling makes them more interested in taking a bus or train to NYC. Finally, the third of these statements indicates that less people, who had access to the planning tool, disagreed that taking a bus or train to NYC the following month would be impossible. That is, there seems to be some relationship between having access to the planning tool, and agreeing that it would be impossible to take a bus or train for a trip to NYC in the next month.

The differences in responses discussed so far were observed between the control and test groups overall.

3.3.2. Testing by Gender

Table 13 below shows significant differences, in response tendencies between control and test groups by gender, based on the results of the Wilcoxan rank sum tests.

Table 13 Statistical Differences by Gender between the Control and Test Groups

Survey Question										**Gender**	
Significance:	****	0.0001	***	0.001	**	0.01	*	0.05	○ 0.1	**F**	**M**
49	Knowing what you know right now, what mode(s) of transportation do you think are AVAILABLE to you for this trip to NYC? *Please select all that apply.*										
	Personal auto/car										
	Rental car (including car share) or a borrowed car										
	Intercity bus (e.g., Greyhound, Peter Pan, Megabus)										
	Intercity rail (e.g., Amtrack)										
	Other, please specify										
	Other, specified										
50	How likely are you to choose to take a bus or train for a trip like this to NYC next month?										
51	If you learned there would be no WiFi, and no electrical outlet on the bus or train for this trip, would that make to you less likely to choose a bus or train for this trip?										
52	There are more options than what I expected to travel to NYC by bus and train.										
53	After seeing the bus and train options for traveling to NYC, I just don't think there's a										

Survey Question		Gender	
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	F	M
	good way for me to get there by either bus or train.		
54	Having information like this on my smartphone or computer might make it easier for me to understand the kinds of bus and train services available to me.		
55	Having so many potential travel options by bus and train is confusing.		
56	When I drive long distances (like from my home area to NYC), I can get tired and stressed.		
57	I worry about the difficulty in finding a parking space at a reasonable cost when I get to NYC.		
58	I am concerned that the schedule of the bus or train only lets me travel a few times per day, and I need to be flexible.	****	
59	I could deal with the limited schedules offered by a bus or train for this trip from my home to NYC.	*	
60	I like the idea that I might see and meet new people on a bus or train to NYC.		
61	I don't like the idea of riding with a lot of people that I don't know on a bus or train.		
62	If I took a bus or train to NYC, I might have to be with people whose behavior I find unpleasant.		
63	I could be with other people who share my values when I take a bus or train on a trip like this.		
64	I think that taking a BUS to NYC would take a lot longer than driving.	**	
65	I think that taking a TRAIN to NYC would take a lot longer than driving.	**	
66	Without thinking about it much, I would guess that the cost of taking the trip by BUS would be less than the cost of the car trip (including gas, tolls, and parking).		
67	Without thinking about it much, I would guess that the cost of taking the trip by TRAIN would be less than the cost of the car trip (including gas, tolls, and parking.)		
68	It would be really important to me to minimize costs when I plan this trip to NYC next month.		
69	I really want to minimize the time I spend on the trip to NYC, even if that means more stress or higher costs.		*
70	Being able to use my laptop, tablet, or smartphone when traveling makes me more interested in taking a bus or train to NYC.	*	
71	I am the kind of person who would take my own car to NYC.		
72	Most people whose opinions I value would approve of my taking this trip by bus or train.		
73	My family would think that I should take this kind of trip by car or plane.		
74	My colleagues would likely think that it is strange not to go by a car or plane to NYC.		
75	When my friends go to NYC, they always take a bus or train.		
76	When my family members go to NYC, they always take a bus or train.		
77	It might be unsafe to make this trip by bus or train.		
78	The experience at the NYC bus or train station would be so unpleasant that I would try to avoid it.		*
79	It would be easy for me to get the schedules for a bus or train between here and NYC, and I would understand them.	*	***
80	I like the idea of taking a bus or train instead of driving for this trip to NYC.		
81	I think that the most RATIONAL choice would be to take a bus or train instead of a car.		○
82	I think that the most PLEASURABLE choice would be to take a bus or train instead of		

Survey Question											Gender	
Significance:		****	0.0001	***	0.001	**	0.01	*	0.05	○ 0.1	F	M
	a car.											
83	I think that the most STRESSFUL choice would be to take a bus or train instead of a car.											*
84	All other things being equal, if a bus was cheaper, but less reliable than a train, I would choose to take a bus.											
85	I am confident that if I wanted to, I could take a bus or train for such a trip to NYC next month.											
86	I would make an effort to choose a bus or train for such a trip to NYC next month.											*
87	For me to take a bus or train for such a trip to NYC the next month would be impossible.											**
88	In this imaginary situation, I would plan to take a bus or train for this trip to NYC next month.											****
89	I would trust the person who invited me to NYC to recommend how I should travel.											
90	I don't know all the things I NEED to do to make this trip work by bus or train.											
91	Given what you know about bus and train services to NYC, how likely are you to choose a bus or train for a trip to NYC next month (like the one described in the imaginary situation)?											
92	We noticed that you are now <more/less> likely to take the train or bus to NYC. Please tell us why you have changed your mind.											
93	Thank you for sharing your opinions about the imaginary trip to NYC. In your real life, how seriously would you consider taking a bus or train to NYC?											

Looking at differences in responses between members of the control and test groups by gender, there are differences for many statements for each gender, but only one statement that was shown to have significant differences in levels of agreement from both females and males. This difference was shown to be more significant for males than for females, but still significant for females at the traditional level of significance. That statement indicates that, more of both females and males in the control group, than in the test group, agree that it would be easy for them to get the bus or train schedules between their home and NYC, and they would understand them. While both females and males without access to the planning tool agreed with this at the same level, and less of both females and males with access to the planning tool agreed with this, less males that had access to the tool agreed with this, than did females with access to the tool. So, there appears to be a greater relationship, for males, between having access to the planning tool, and being in less agreement that it would be easy to get, and understand, the schedules for a bus or a train to NYC. Overall though, both females and males, from both the control and test groups, tend to agree with the statement.

Earlier, there was an overall difference between control and test groups shown, for concern over frequency and flexibility, of bus or train schedules. When looking at this by gender, this difference in response tendency appears for females, at the highest level of significance, but no difference is shown for males. Females with access to the planning tool were close to neutral, while females without access to the planning tool agreed more, that

they were concerned about the flexibility of the bus or train schedule. There is a similar situation for thinking that a bus to NYC would take a lot longer than driving. More people overall, without access to the planning tool, agreed that taking a bus to NYC would take a lot longer than driving, than did those people with access to the planning tool. However, when breaking this down by gender, there is a difference shown in response to this statement for females, with a p-value of 0.01, but no difference is shown for males.

With a difference shown by a p-value of 0.01, it appears that more females, without access to the planning tool, are neutral about thinking that taking a train to NYC would take a lot longer than driving, while females with access to the tool disagreed more. No difference is seen for this statement by males in this sample, between those with and without access to the planning tool.

There are two additional survey statements showing differences in response for females, with and without access to the planning tool, having p-values of 0.05, the traditional level of significance. The first of these statements indicates that females in this sample, with access to the planning tool, agree more that they could deal with the limited schedules offered by a bus or train for the trip to NYC. The second of these statements indicates that females in this sample, with access to the planning tool, agree more, that being able to use their personal technology devices when traveling makes them more interested in taking a bus or train to NYC. This statement showed differences in response for those with and without access to the planning tool overall, but only by females, when breaking this down by gender.

There is one statement where a difference is shown, at the highest level of significance, for males in this sample, between the control and test groups. It indicates that males in the sample, without access to the planning tool, disagree more that in this imaginary situation, they would plan to take a bus or train for this trip to NYC next month. This statement showed differences in response for those with and without access to the planning tool overall, but only by males, when breaking this down by gender. Overall though, males in the sample tend to disagree with this statement.

There is one statement where a difference in response is shown for males with and without access to the planning tool, having a p-value of 0.01. It indicates that males in the sample, without access to the planning tool, disagree more that taking a bus or a train for the trip to NYC next month would be impossible.

There are four additional survey statements showing differences in response for males with and without access to the planning tool, having p-values of 0.05, the traditional level of significance. The first of these statements indicates that males in this sample, without access to the planning tool, disagree more that they really want to minimize the time spent on the trip to NYC, even if that means more stress or higher costs. The second of these statements indicates that males in this sample, without access to the planning tool, disagree more that the experience at the NYC bus or train station would be so unpleasant that they would try to avoid it. The third of these statements indicates that males in this sample, without access to the planning tool, agree more that the most stressful choice would be to

take a bus or train instead of a car. Finally, the fourth of these statements indicates that males in this sample, without access to the planning tool, agree more that they would make an effort to choose a bus or train for such a trip to NYC next month.

3.3.3. Testing by Education Level and Age Group

Next, significant differences are broken down between the control and test groups by education level and age group. Before considering the longer lists for each group, a few statements are selected that highlight some of the differences across education levels and age groups.

"I am concerned that the schedule of the bus or train only lets me travel a few times per day, and I need to be flexible."

The control group agreed more with this statement than the test group overall, for all age categories included, except for ages 65-75, and for any respondent with a post-secondary degree.

"I think that taking a BUS to NYC would take a lot longer than driving."

The control group agreed more with this statement than the test group overall, but only for those ages 25-44, with a bachelor's degree.

"It would be easy for me to get the schedules for a bus or train between here and NYC, and I would understand them."

The control group agreed more with this statement than the test group overall, but only for those ages 25-44, with a bachelor's, graduate or professional degree.

"When I drive long distances (like from my home area to NYC), I can get tired and stressed"

For respondents ages 55-64, the test group agreed with this statement more than the control group. For respondents ages 65-74, the control group agreed with this statement more than the test group.

3.3.3.1. Testing by Education Level

Table 14 below shows significant differences, in response tendencies between control and test groups by education level, based on the results of the Wilcoxan rank sum tests.

Table 14 Statistical Differences by Education Level between the Control and Test Groups

Survey Question		Education Level				
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	H[3]	C[3]	A[3]	B[3]	G[3]
49	Knowing what you know right now, what mode(s) of transportation do you think are AVAILABLE to you for this trip to NYC? *Please select all that apply.*					
	Personal auto/car				*	
	Rental car (including car share) or a borrowed car					
	Intercity bus (e.g., Greyhound, Peter Pan, Megabus)					
	Intercity rail (e.g., Amtrack)					**
	Other, please specify	○				
	Other, specified					
50	How likely are you to choose to take a bus or train for a trip like this to NYC next month?					
51	If you learned there would be no WiFi, and no electrical outlet on the bus or train for this trip, would that make to you less likely to choose a bus or train for this trip?					
52	There are more options than what I expected to travel to NYC by bus and train.					
53	After seeing the bus and train options for traveling to NYC, I just don't think there's a good way for me to get there by either bus or train.					
54	Having information like this on my smartphone or computer might make it easier for me to understand the kinds of bus and train services available to me.					
55	Having so many potential travel options by bus and train is confusing.					
56	When I drive long distances (like from my home area to NYC), I can get tired and stressed.		○			
57	I worry about the difficulty in finding a parking space at a reasonable cost when I get to NYC.			*		
58	I am concerned that the schedule of the bus or train only lets me travel a few times per day, and I need to be flexible.			***	****	*
59	I could deal with the limited schedules offered by a bus or train for this trip from my home to NYC.				*	
60	I like the idea that I might see and meet new people on a bus or train to NYC.					*
61	I don't like the idea of riding with a lot of people that I don't know on a bus or train.					
62	If I took a bus or train to NYC, I might have to be with people whose behavior I find unpleasant.	○				
63	I could be with other people who share my values when I take a bus or train on a trip like this.					
64	I think that taking a BUS to NYC would take a lot longer than driving.				**	
65	I think that taking a TRAIN to NYC would take a lot longer than driving.				*	
66	Without thinking about it much, I would guess that the cost of taking the					

[3] H = high school or less, C = some college, A = associate degree, B = bachelor's degree, G = grad./prof. degree

Survey Question		Education Level				
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	H[3]	C[3]	A[3]	B[3]	G[3]
	trip by BUS would be less than the cost of the car trip (including gas, tolls, and parking).					
67	Without thinking about it much, I would guess that the cost of taking the trip by TRAIN would be less than the cost of the car trip (including gas, tolls, and parking.)					
68	It would be really important to me to minimize costs when I plan this trip to NYC next month.				○	
69	I really want to minimize the time I spend on the trip to NYC, even if that means more stress or higher costs.	*				
70	Being able to use my laptop, tablet, or smartphone when traveling makes me more interested in taking a bus or train to NYC.				**	
71	I am the kind of person who would take my own car to NYC.					
72	Most people whose opinions I value would approve of my taking this trip by bus or train.			○		
73	My family would think that I should take this kind of trip by car or plane.				○	
74	My colleagues would likely think that it is strange not to go by a car or plane to NYC.	○				
75	When my friends go to NYC, they always take a bus or train.					
76	When my family members go to NYC, they always take a bus or train.		*			**
77	It might be unsafe to make this trip by bus or train.					
78	The experience at the NYC bus or train station would be so unpleasant that I would try to avoid it.					
79	It would be easy for me to get the schedules for a bus or train between here and NYC, and I would understand them.		○		*	*
80	I like the idea of taking a bus or train instead of driving for this trip to NYC.		○			
81	I think that the most RATIONAL choice would be to take a bus or train instead of a car.	*				
82	I think that the most PLEASURABLE choice would be to take a bus or train instead of a car.	*				*
83	I think that the most STRESSFUL choice would be to take a bus or train instead of a car.					*
84	All other things being equal, if a bus was cheaper, but less reliable than a train, I would choose to take a bus.	*				
85	I am confident that if I wanted to, I could take a bus or train for such a trip to NYC next month.					
86	I would make an effort to choose a bus or train for such a trip to NYC next month.	○		○		
87	For me to take a bus or train for such a trip to NYC the next month would be impossible.	***				
88	In this imaginary situation, I would plan to take a bus or train for this trip to NYC next month.					○
89	I would trust the person who invited me to NYC to recommend how I should travel.	*				
90	I don't know all the things I NEED to do to make this trip work by bus or train.			○		○
91	Given what you know about bus and train services to NYC, how likely	*		○		

Survey Question		Education Level									
Significance:		**** 0.0001	*** 0.001	** 0.01	* 0.05	○ 0.1	H[3]	C[3]	A[3]	B[3]	G[3]
	are you to choose a bus or train for a trip to NYC next month (like the one described in the imaginary situation)?										
92	We noticed that you are now <more/less> likely to take the train or bus to NYC. Please tell us why you have changed your mind.										
93	Thank you for sharing your opinions about the imaginary trip to NYC. In your real life, how seriously would you consider taking a bus or train to NYC?						○				

Looking at differences in response between members of the control and test groups by education level, there are differences for multiple statements for each education level, except for Some College, which only has a difference shown for one question. There are four statements that were shown to have significant differences, with a p-value of 0.05 or less, the traditional level of significance, for multiple education levels. One statement was shown to have significant differences in levels of agreement for three different education levels. This difference was shown to be significant at the highest level (p-value <0.0001) for those with a Bachelor's Degree. It was shown to be significant at the second highest level (p-value <0.001) for those with an Associate's Degree, and significant at the traditional level (p-value <0.05) for those with a Graduate or Professional Degree. That statement indicates that, more people with Associates, Bachelor's, Graduate or Professional Degrees in the control group, than in the test group, agree that they are concerned that the schedule of the bus or the train only lets them travel a few times per day, and they need to be more flexible. While respondents in these three education levels without access to the planning tool agree more with the statement, respondents in these three education levels with access to the planning tool are more neutral about the statement.

It appears that more respondents, with Some College, and without access to the planning tool, agree less that when their family members go to NYC, they always take a bus or train. However, it appears that more respondents, with a Graduate or Professional Degree, and with access to the planning tool, agree less with this.

It appears that more respondents, with a Bachelor's Degree or a Graduate or Professional Degree, without access to the planning tool, agree more, that it would be easy to for them to get the schedules for a bus or train between their home and NYC, and they would understand them. Overall though, respondents from these education levels, from both the control and test groups, tend to agree with the statement.

It appears that more respondents, with an education level of High School or Less, or with a Graduate or Professional Degree, and without access to the planning tool, think that the most pleasurable choice would be to take a bus or train instead of a car. While this is true for both of these education levels, the mean of responses for respondents with a Graduate or Professional Degree, with access to the planning tool, is very close to the mean of responses for respondents with an education level of High School or less. Overall, respondents from both education levels tend to agree with this statement.

With a difference shown by a p-value of 0.001, it appears that more respondents with an education level of High School or Less, and without access to the planning tool, agree more that, for them to take a bus or train for such a trip to NYC the next month would be impossible.

There are five survey statements showing differences in response, for respondents with an education level of High School or Less, with and without access to the planning tool, having p-values of 0.05, the traditional level of significance. The first of these statements indicates that respondents with this education level, without access to the planning tool, disagree more that they want to minimize the time they spend on the trip to NYC, even if that means more stress or higher costs. The second of these statements indicates that respondents with this education level, without access to the planning tool, agree more that they think the most rational choice would be to take a bus or train instead of a car. The third of these statements indicates that respondents with this education level, without access to the planning tool, disagree more that, all other things being equal, if a bus was cheaper, but less reliable than a train, they would choose to take a bus. The fourth of these statements indicates that respondents with this education level, without access to the planning tool, agree more that, in this imaginary situation, they would plan to take a bus or train for this trip to NYC next month. Finally, the fifth of these statements indicates that respondents, with an education level of High School or Less, and without access to the planning tool, are more likely to choose a bus or train for a trip to NYC next month, like the one described in the imaginary situation, given what they know about bus and train services to NYC.

There is one statement where a difference in response is shown for people with Some College, with and without access to the planning tool, having a p-value within 0.05, the traditional level of significance. The statement indicates that respondents with an Associate Degree, without access to the planning tool, agree more that they worry about the difficulty in finding a parking space at a reasonable cost when they get to NYC. Overall though, respondents with an Associate Degree, with and without access to the planning tool, agree with this.

There are two statements, where a difference is shown in response for respondents, with a Bachelor's Degree, with and without access to the planning tool, having a p-value of 0.01. The first of these statements indicates that respondents with a Bachelor's Degree, without access to the planning tool, agree more that they think that taking a bus to NYC would take a lot longer than driving. The second of these statements indicates that respondents with a Bachelor's Degree, with access to the planning tool, agree more that being able to use their laptop, tablet, or smartphone when traveling makes them more interested in taking a bus or train to NYC.

There are three additional survey statements showing differences in responses for people with a Bachelor's Degree, with and without access to the planning tool, having p-values of 0.05, the traditional level of significance. The first of these statements indicates that more respondents with a Bachelor's Degree, and without access to the planning tool, selected personal automobile as a mode of transportation they think is available to them for the trip to NYC, knowing what they knew at the time of answering the question. This question was

asked just prior to dividing the sample into the control and test groups. Overall though, respondents with a Bachelor's Degree, with and without access to the planning tool, selected personal automobile for this question. The second of these statements indicates that respondents with a Bachelor's Degree, with access to the planning tool, agree that they could deal with the limited schedules offered by a bus or a train for this trip from their home to NYC. Finally, the third of these statements indicates that respondents with a Bachelor's Degree, with access to the planning tool, agree more that they think taking a train to NYC would take a lot longer than driving. Overall though, respondents with a Bachelor's Degree, with and without access to the planning tool, agree with this statement.

There is another statement where a difference in response is shown for respondents with a Graduate or Professional Degree, having a p-value of 0.01. It indicates that more respondents with a Graduate or Professional Degree, and with access to the planning tool, selected intercity rail (e.g., Amtrak) as a mode of transportation they think is available to them for the trip to NYC, knowing what they knew at the time of answering the question. This question was asked just prior to dividing the sample into the control and test groups. Overall though, respondents with a Graduate or Professional Degree, with and without access to the planning tool, selected intercity rail for this question.

There are two other statements where a difference in response is shown for respondents with a Graduate or Professional Degree, with a p-value of 0.05, the traditional level of significance. The first of these statements indicates that more respondents with a Graduate or Professional Degree, with access to the planning tool, disagree more that they like the idea that they might see and meet new people on a bus or train to NYC. The second of these statements indicates that more respondents without access to the planning tool, agree more that they think the most stressful choice would be to take a bus or train instead of a car.

3.3.3.2. Testing by Age Group

Table 15 below shows significant differences, in response tendencies between control and test groups by age group, based on Wilcoxan rank sum tests.

Table 15 Statistical Differences by Age Group between the Control and Test Groups

Survey Question							**Age Group**				
Significance:	**** 0.0001	*** 0.001	** 0.01	* 0.05	○ 0.1		25-34	35-44	45-54	55-64	65-75
49	Knowing what you know right now, what mode(s) of transportation do you think are AVAILABLE to you for this trip to NYC? *Please select all that apply.*										
	Personal auto/car							***			
	Rental car (including car share) or a borrowed car										
	Intercity bus (e.g., Greyhound, Peter Pan, Megabus)						○				
	Intercity rail (e.g., Amtrack)									*	

Survey Question		Age Group				
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	25-34	35-44	45-54	55-64	65-75
	Other, please specify					
	Other, specified					
50	How likely are you to choose to take a bus or train for a trip like this to NYC next month?					
51	If you learned there would be no WiFi, and no electrical outlet on the bus or train for this trip, would that make to you less likely to choose a bus or train for this trip?					*
52	There are more options than what I expected to travel to NYC by bus and train.					
53	After seeing the bus and train options for traveling to NYC, I just don't think there's a good way for me to get there by either bus or train.					
54	Having information like this on my smartphone or computer might make it easier for me to understand the kinds of bus and train services available to me.					
55	Having so many potential travel options by bus and train is confusing.					
56	When I drive long distances (like from my home area to NYC), I can get tired and stressed.				*	*
57	I worry about the difficulty in finding a parking space at a reasonable cost when I get to NYC.					
58	I am concerned that the schedule of the bus or train only lets me travel a few times per day, and I need to be flexible.	**	**	*	**	○
59	I could deal with the limited schedules offered by a bus or train for this trip from my home to NYC.		*		*	○
60	I like the idea that I might see and meet new people on a bus or train to NYC.					
61	I don't like the idea of riding with a lot of people that I don't know on a bus or train.				*	
62	If I took a bus or train to NYC, I might have to be with people whose behavior I find unpleasant.					
63	I could be with other people who share my values when I take a bus or train on a trip like this.					
64	I think that taking a BUS to NYC would take a lot longer than driving.	**	*			
65	I think that taking a TRAIN to NYC would take a lot longer than driving.	**				
66	Without thinking about it much, I would guess that the cost of taking the trip by BUS would be less than the cost of the car trip (including gas, tolls, and parking).					
67	Without thinking about it much, I would guess that the cost of taking the trip by TRAIN would be less than the cost of the car trip (including gas, tolls, and parking.)					
68	It would be really important to me to minimize costs when I plan this trip to NYC next month.				○	
69	I really want to minimize the time I spend on the trip to NYC, even if that means more stress or higher costs.			*		
70	Being able to use my laptop, tablet, or smartphone when traveling makes me more interested in taking a bus or train to NYC.			○		
71	I am the kind of person who would take my own car to NYC.				*	
72	Most people whose opinions I value would approve of my taking this					

Survey Question		Age Group				
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	25-34	35-44	45-54	55-64	65-75
	trip by bus or train.					
73	My family would think that I should take this kind of trip by car or plane.				○	
74	My colleagues would likely think that it is strange not to go by a car or plane to NYC.					
75	When my friends go to NYC, they always take a bus or train.	○				*
76	When my family members go to NYC, they always take a bus or train.		*	○		○
77	It might be unsafe to make this trip by bus or train.					
78	The experience at the NYC bus or train station would be so unpleasant that I would try to avoid it.	○				
79	It would be easy for me to get the schedules for a bus or train between here and NYC, and I would understand them.	**	*			○
80	I like the idea of taking a bus or train instead of driving for this trip to NYC.	○			○	
81	I think that the most RATIONAL choice would be to take a bus or train instead of a car.				*	○
82	I think that the most PLEASURABLE choice would be to take a bus or train instead of a car.					○
83	I think that the most STRESSFUL choice would be to take a bus or train instead of a car.					
84	All other things being equal, if a bus was cheaper, but less reliable than a train, I would choose to take a bus.					○
85	I am confident that if I wanted to, I could take a bus or train for such a trip to NYC next month.					
86	I would make an effort to choose a bus or train for such a trip to NYC next month.					
87	For me to take a bus or train for such a trip to NYC the next month would be impossible.					**
88	In this imaginary situation, I would plan to take a bus or train for this trip to NYC next month.					***
89	I would trust the person who invited me to NYC to recommend how I should travel.				○	**
90	I don't know all the things I NEED to do to make this trip work by bus or train.					○
91	Given what you know about bus and train services to NYC, how likely are you to choose a bus or train for a trip to NYC next month (like the one described in the imaginary situation)?				○	
92	We noticed that you are now <more/less> likely to take the train or bus to NYC. Please tell us why you have changed your mind.					
93	Thank you for sharing your opinions about the imaginary trip to NYC. In your real life, how seriously would you consider taking a bus or train to NYC?					*

Looking at differences in response between members of the control and test groups by age group, there are differences for multiple statements for each age group. There are five statements that were shown to have significant differences, with a p-value of 0.05 or less,

the traditional level of significance, for multiple age levels. One statement was shown to have significant differences, with a p-value of 0.05 or less, in levels of agreement for four different education levels. This difference was shown to have a p-value of 0.01 for ages 25-34, 35-44, and 55-64, and a p-value of 0.05 for ages 45-54. This statement indicates that more people, from each age group except for ages 65-75, in the control group, are concerned that the schedule of the bus or train only lets them travel a few times per day, and they need to be flexible. While respondents in these four age groups without access to the planning tool agree more with the statement, respondents in these four age groups with access to the planning tool are more neutral about the statement.

It appears that more respondents, ages 55-64, with access to the planning tool, agree more that when they drive long distances (like from their home to NYC), they can get tired and stressed. However, it appears that more respondents, ages 65-74, without access to the planning tool, agree more with this.

It appears that, more respondents, ages 35-44, and 55-64, with access to the planning tool, agree more that they could deal with the limited schedules offered by bus or train for this trip from their home to NYC.

It appears that more respondents, ages 25-34 and 35-44, without access to the planning tool, agree more that they think that taking a bus to NYC would take a lot longer than driving.

It appears that more respondents, ages 25-34 and 35-44, without access to the planning tool, agree more that it would be easy for them to get the schedules for a bus or train between their home and NYC, and they would understand them.

There is one more statement showing differences in response, for respondents ages 25-34, with a p-value within 0.01. The statement indicates that more people, ages 25-34, without access to the planning tool, agree more that they think taking a train to NYC would take a lot longer than driving.

There is a statement showing a difference in response, for respondents ages 35-44, with and without access to the planning tool, with a p-value of 0.001, the second highest level of significance. The statement indicates that respondents, ages 35-44, without access to the planning tool, select the automobile more, as one of the modes of transportation they think are available to them, for this trip to NYC, knowing what they knew at the time of response.

With a p-value of 0.05, at the traditional level of significance, it appears that more respondents, ages 35-44, without access to the planning tool, agree less that, when their family members go to NYC, they always take a bus or train.

There is a statement showing difference in response, for ages 45-54, with and without access to the planning tool, at the traditional level of significance. It indicates that more respondents, ages 45-54, without access to the planning tool, agree less that they really want to minimize the time they spend on the trip to NYC, even if that means more stress or higher costs.

There are four more survey statements showing differences in response, for respondents ages 55-64, with and without access to the planning tool, having p-values of 0.05. The first of these statements indicates that respondents in this age group, with access to the planning tool, selected intercity rail more often, as one of the modes of transportation they think are available to them, for this trip to NYC, knowing what they knew at the time of response. The second of these statements indicates that, more respondents in this age group, with access to the planning tool, agree that they don't like the idea of riding with a lot of people they don't know on a bus or train. The third of these statements indicates that more people in this age group, with access to the planning tool, disagree that they are the kind of person who would take their own car to NYC. It appears that more respondents in this age group, without access to the planning tool, are more neutral about this statement. Finally, the last of these four statements indicates that more respondents in this age group, with access to the planning tool, agree more that they think the most rational choice would be to take the bus or train instead of a car. However, respondents in this age group, with and without access to the planning tool, agree with this statement.

There is a statement, with a p-value of 0.001, indicating that more respondents ages 65-74, without access to the planning tool disagree that in this imaginary situation, they would plan to take a bus or train for this trip to NYC in the next month.

There are two statements, where a difference is shown in response for ages 65-74, with and without access to the planning tool, having a p-value of 0.01. The first of these statements indicates that respondents in this age group, without access to the planning tool, agree more that for them to take a bus or train for such a trip to NYC the next month would be impossible. The second of these statements indicates that respondents in this age group without access to the planning tool, agree more that they would trust the person who invited them to NYC to recommend how they should travel.

There are three more statements, where a difference is shown in response for ages 65-74, with and without access to the planning tool, at the traditional level of significance. The first of these statements indicates that more respondents in this age group, without access to the tool, agree more that if they learned there would be no WiFi, and no electrical outlet on the bus or train for this trip, it would make them less likely to choose a bus or train for this trip. Overall all though, respondents in this age group, with and without access to the planning tool, agree with this statement. The second of these statements indicates that more respondents in this age group, with access to the planning tool, disagree more that, when their friends go to NYC, they always take a bus or train. Respondents in this age group, without access to the planning tool, are more neutral about this statement. The third of these statements indicates that respondents in this age group, without access to the planning tool, are more likely to consider taking a bus or a train to NYC.

3.4. Part 4: Other Information about the Respondents and Their Household

3.4.1. Testing for Overall Differences

Table 16 below shows significant differences overall, in response tendencies between control and test groups, based on the results of the Wilcoxan rank sum tests.

Table 16 Statistical Differences between the Control and Test Groups

Survey Question		
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	
94	Which of the following do you own? *Please select all that apply.*	
	Owns desktop computer	○
	Owns laptop	
	Owns smartphone	
	Owns tablet	
	Owns standalone GPS navigation device	
	Owns none of the listed devices	
95	What is your age?	**
96	What is your gender?	
97	What is your highest completed level of education?	*
98	What is your annual household income? If you are unsure of the answer, please give your best estimate.	

There are two statements shown to have significant differences in answers, between the control and test groups overall, with p-values of 0.05 or less. The first of these statements shows a difference in response, between control and test groups, with a p-value of 0.01. This statement indicates that, overall, respondents from the control group are older than respondents from the test group. The second of these statements shows a difference in response, between control and test groups, with a p-value of 0.05. This statement indicates that, overall, respondents from the test group have a higher education than those from the control group.

3.4.2. Testing by Gender

Table 17 below shows significant differences, in response tendencies between control and test groups by gender, based on the results of the Wilcoxan rank sum tests.

Table 17 Statistical Differences by Gender between the Control and Test Groups

Survey Question			**Gender**	
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1		**F**	**M**

Survey Question										Gender	
Significance:	****	0.0001	***	0.001	**	0.01	*	0.05	○	0.1	F	M
94	Which of the following do you own? *Please select all that apply.*											
	Owns desktop computer											
	Owns laptop											
	Owns smartphone											
	Owns tablet											
	Owns standalone GPS navigation device											
	Owns none of the listed devices											
95	What is your age?										○	
96	What is your gender?											
97	What is your highest completed level of education?										*	
98	What is your annual household income? If you are unsure of the answer, please give your best estimate.											

There is only one statement shown to have a significant difference in answers, between females from the control and test groups, with a p-value of 0.05. There are no statements shown to have a significant difference in answers, between males from the control and test groups. The statement showing a difference, between females from the control and test groups, indicates that females from the test group have a higher education than females from the control group. This difference is not seen between males from the control and test groups.

3.4.3. Testing by Education Level

Table 18 below shows significant differences, in response tendencies between control and test groups by education level, based on the results of the Wilcoxan rank sum tests.

Table 18 Statistical Differences by Education Level between the Control and Test Groups

Survey Question										Education Level				
Significance:	****	0.0001	***	0.001	**	0.01	*	0.05	○	0.1	H[4]	C[4]	A[4]	B[4]	G[4]
94	Which of the following do you own? *Please select all that apply.*														
	Owns desktop computer														
	Owns laptop											*			
	Owns smartphone														
	Owns tablet												*		
	Owns standalone GPS navigation device														*
	Owns none of the listed devices														

[4] H = high school or less, C = some college, A = associate degree, B = bachelor's degree, G = grad./prof. degree

Survey Question										Education Level				
Significance:	****	0.0001	***	0.001	**	0.01	*	0.05	○ 0.1	H[4]	C[4]	A[4]	B[4]	G[4]
95	What is your age?									**		**		
96	What is your gender?													
97	What is your highest completed level of education?													
98	What is your annual household income? If you are unsure of the answer, please give your best estimate.													

Looking at differences in response between members of the control and test groups by education level, there are differences for multiple statements for only one education level, those with an Associate Degree. There is one statement shown to have significant differences, with a p-value of 0.05 or less, the traditional level of significance, for multiple education levels. This statement indicates that, of those with an education level of High School or Less, or Associate Degree, respondents from the control group are older than respondents from the test group.

There is one statement showing a difference in response, between control and test groups, for respondents with Some College, with a p-value of 0.05 or less. This statement indicates that, of those with this level of education, more respondents from the test group own a laptop.

There is one more statement showing a difference in response, between the control and test groups, for respondents with an Associate Degree, with a p-value of 0.05 or less. This statement indicates that, of those with this level of education, more respondents from the control group own a tablet.

There are no statements showing a difference in response, between control and test groups, for respondents with a Bachelor's degree, with a p-value of 0.05 or less.

There is one statement showing a difference in response, between the control and test groups, for respondents with a Graduate or Professional Degree, with a p-value of 0.05 or less. This statement indicates that, of those with this level of education, more respondents from the control group own a standalone GPS navigation device.

3.4.4. Testing by Age Group

Table 19 below shows significant differences, in response tendencies between control and test groups by age group, based on the results of the Wilcoxan rank sum tests.

Table 19 Statistical Differences by Age Group between the Control and Test Groups

Survey Question										Age Group				
Significance:	****	0.0001	***	0.001	**	0.01	*	0.05	○ 0.1	25-34	35-44	45-54	55-64	65-75

Survey Question		Age Group				
Significance:	**** 0.0001 *** 0.001 ** 0.01 * 0.05 ○ 0.1	25-34	35-44	45-54	55-64	65-75
94	Which of the following do you own? *Please select all that apply.*					
	Owns desktop computer					
	Owns laptop					
	Owns smartphone					
	Owns tablet		○			
	Owns standalone GPS navigation device		○		*	*
	Owns none of the listed devices					
95	What is your age?					
96	What is your gender?					*
97	What is your highest completed level of education?					○
98	What is your annual household income? If you are unsure of the answer, please give your best estimate.					○

Looking at differences in response between members of the control and test groups by age group, there are differences for multiple statements for only one age group, 65-74, with a p-value of 0.05 or less. One of these statements was shown to have significant differences, for multiple age levels. This statement indicates that for those age 55-64, more respondents from the control group own a standalone GPS navigation device. However, this statement also indicates that for those age 65-74, more respondents from the test group own a standalone GPS navigation device.

The other statement showing a difference in response, for ages 65-74, between respondents from the control and test groups, indicates that the ratio of male to female respondents is larger in the test group than in the control group.

3.5. Changes in Mode Preference

Survey respondents were asked about their likelihood to choose a bus or a train for the imaginary trip to NYC, both at the beginning and end of Part 3, which covered this imaginary trip. Forty-three percent of respondents changed attitudes about choosing a bus or train for a trip to NYC. In Table 20 below, it is shown that more people, who did have access to the tool, were becoming more likely to choose a bus or a train, while more people, who did not have access to the tool, were becoming less likely to choose a bus or a train.

Table 20 Changes in Mode Preference by the Control and Test Groups

	Control	Test
1) More Likely	297	353
2) No Change	740	715
3) Less Likely	241	214

4. Multimodal Network Dataset for Study Region

In parallel to the work exploring and analyzing the survey data, a multimodal network dataset was created for the Northeast United States, which includes the survey data study area. Detailed information and metadata for the compilation of the network dataset is located in Appendix D. The dataset includes the road network, intercity rail network, and commercial service passenger airline network for New England states, plus New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and Washington, DC. Intercity bus is not represented in the current version of this multimodal dataset. The research team reached out to multiple intercity bus operators, but the data was not available. Creating and adding intercity bus network data to the network dataset is anticipated for future work. The network was compiled using the Caliper TransCAD 6.0 software system and finalized in TransCAD 7.0. Network data includes geometric nodes and links, in addition to route scheduling frequency, and travel times between nodes. This network dataset is more comprehensive than typical data from a Geographic Information System (GIS), which usually includes geometry and attributes in tabular form. The network dataset can be used for analysis related to travel time, passenger service frequency, and accessibility to geographic areas using multiple modes.

The road network portion came from the Environmental Systems Research Institute (Esri) road network dataset included with ArcGIS 10.1 desktop GIS software. The rail network data was compiled from General Transit Feed Specification (GTFS) data for each operator. GTFS evolved from the original Google Transit Feed Specification - a uniform formatting protocol developed to improve access to transit data - making transit data more readily accessible to the public by agencies and developers. Many transit agencies have adopted the formatting framework for their transportation networks, making the geographic and scheduling data available through exchanges or agency portals. GTFS data relevant to the region of study was acquired directly from the agencies when available. These agencies included passenger intercity rail (e.g. Amtrak), commuter rail (e.g. Metro-North), and light-rail transit (e.g. the “T” from MBTA). The data included rail stations, intercity passenger routes, route travel time, and frequency of service information. The commercial service passenger airline network was created using the Research and Innovative Technology Administration (RITA) Bureau of Transportation Statistics (BTS) Office of Airline Information T-100 Air Carrier Traffic and Capacity Data by Non-Stop Segment and On-Flight Market data and the Aviation Policy Domestic Airline Consumer Airfare Report, both from the US Department of Transportation (USDOT). Data used from these sources included airport pairs, airline information, air carrier group, travel time, service class, monthly departures scheduled, monthly departures performed, seats available, passengers per day, and average airfare.

The Esri Streets4 network dataset was imported into TransCAD. The GTFS files for each agency were imported into TransCAD following validation of the files with a transit feed validator and any necessary and identified data pre-processing. Data pre-processing included, when applicable, replacing delimiters with spaces, preserving quotations for headerlines, and adding line ends to headerlines with carriage returns. The data files generated from GTFS import include a route file (.rts), a geographic file (.dbd), and several

additional auxiliary files. The routes file contains all information about the line, node, route, physical stops, and transit stops. Caliper, the developers of TransCAD, provided technical support, as needed, for processing GTFS data. Airport node data points were created using latitude and longitude coordinates, obtained from the Federal Aviation Administration's (FAA) National Plan for Integrated Airport Systems (NPIAS) 2015-2019 report. The three letter airport identifier was used to join data to the airport node points, from the T-100 BTS and airfare data, referenced above. Only airports with Service Class F, and one or more scheduled flights per month were included. There are several ways this data can be filtered for use in future analysis.

The resulting dataset will be used for future research work, particularly to analyze the accessibility to large metropolitan areas by multiple modes from origins throughout the region. Future work, using this dataset, will include developing an accessibility index that provides a measurement for this type of multimodal accessibility, and exploring how this type of accessibility, to large metropolitan areas, originating from areas outside of large metropolitan areas, varies across the Northeast US. Part of the analysis will explore how multimodal accessibility might vary across the region in ways that aren't explained by distance alone.

5. Future Research

For traveling to NYC by bus or train, the planning tool was related to positive attitudes about scheduling flexibility and travel time for certain age and education groups. It was also related to negative attitudes about the ability to get and understand schedules for a bus or train to NYC.

The research work, survey dataset, and multimodal network dataset, presented in this report, will be used for future related research. Further analysis will aim to better quantify the impacts of access to trip planning information, on attitudes about intercity travel by automobile, bus, and passenger rail. Creating GTFS data for intercity bus operators, and incorporating it into the multimodal network dataset developed, and presented in this report,is anticipated for future work related to this research. The intermodal network dataset will contribute to future research examining multimodal intercity accessibility. This type of accessibility describes the ability and ease of traveling from origins across the region, to large metropolitan areas, by multiple modes of travel.

The multimodal network dataset will be used to develop an accessibility index across the study region. The index will incorporate measures, representing the level of accessibility, to large metropolitan areas, from outside of large metropolitan areas, by multiple modes of travel. The measures will incorporate the availability of each mode of travel, including the existence and frequency of service, number of transfers, and network travel time, calculated using the network dataset, for origins from across the region, going to the four destination cities (Boston, New York City, Philadelphia, and Washington, DC). Whether or not differences in measured accessibility values can be explained by network distance alone will be examined. The relationship between network-based accessibility measures, to revealed preferences and stated preferences for mode choice, taken from the survey dataset, and how this might vary with gender and age level, will also be explored.

Possible research questions, pertaining to the survey and network datasets presented in this report, to be addressed in future research include:

How does locational and/or individual accessibility to large metropolitan areas vary over space and time?

If accessibility to large metropolitan areas, from Northern New England, can be measured and mapped, can areas then be identified, with greater accessibility, in truth, than areas with the same measured score? If so, what is it that increases their accessibility?

How do attitudes among study participants, about traveling by multiple modes, to large metropolitan areas, compare with accessibility levels that are calculated, for their origin zipcodes, using the multimodal network?

How does accessibility to large metropolitan areas, by multiple travel modes, relate to population density and urban form?

What is a healthy relationship between the level of accessibility, by multiple travel modes, to population density and urban form?

The research and datasets presented in this report will provide the foundation for future research that will explore multimodal accessibility across the Northeast US, its relationship to population density and urban form, and address some of the possible research questions included here.

Appendix A – Survey Questionnaire

Intercity Travel, Information, and Technology Survey Questionnaire

1. This survey is about your transportation preferences and requires approximately 20 minutes to complete.

   What is your home ZIP Code?

   Home Zip Code: _____

Part 1: Recent intercity travel trips and general travel preferences

The following questions are about your recent trips.

2. How many times have you visited one of the following cities in the past twelve months? (Exclude trips where the city was not the primary destination and you only passed through it on the way to another destination)

   It may be helpful to refer to your calendar or daybook to recall your trips from the last twelve months.

   - Boston
   - New York City
   - Philadelphia
   - Washington DC

3. Which city did you visit most recently? **If you did not visit a city within the past year, please skip to question #11.**

Most recent city: _____

4. What mode(s) of transportation have you used for your trip(s) to each city in the past twelve months? Please select all mode(s) that apply for each city.

Boston	New York City	Philadelphia	Washington DC
Personal auto/car	Personal auto/car	Personal auto/car	Personal auto/car
Rental car (including car share) or a borrowed car	Rental car (including car share) or a borrowed car	Rental car (including car share) or a borrowed car	Rental car (including car share) or a borrowed car
Intercity bus (e.g., Greyhound, Peter Pan, Megabus)	Intercity bus (e.g., Greyhound, Peter Pan, Megabus)	Intercity bus (e.g., Greyhound, Peter Pan, Megabus)	Intercity bus (e.g., Greyhound, Peter Pan, Megabus)
Intercity rail (e.g.,	Intercity rail (e.g.,	Intercity rail (e.g.,	Intercity rail (e.g.,

Amtrak)	Amtrak)	Amtrak)	Amtrak)
Airplane	Airplane	Airplane	Airplane
Other, please specify: _____	Other, please specify: _____	Other, please specify: _____	Other, please specify: _____

5. **If you used intercity bus or rail for any city**, how do you usually get information about routes and schedules for intercity bus or rail trips? Please select all that apply:
   - Use pamphlets or other printed material
   - Ask a friend or family member
   - Visit the station
   - Call the bus or rail company
   - Search the internet
   - Use smart phone or tablet apps
   - Other, please specify: _____

The following questions are about your MOST RECENT trip to <recent city>.

6. What mode(s) of transportation did you use for your MOST RECENT trip to <recent city>? Please select all that apply:
   - Personal auto/car
   - Rental car (including car share) or a borrowed car
   - Intercity bus (e.g., Greyhound, Peter Pan, Megabus)
   - Intercity rail (e.g., Amtrak)
   - Airplane
   - Other, please specify: _____

7. What was the purpose of your most recent trip to <recent city>? Please select all that apply.
   - Leisure/vacation
   - Visit friends
   - Business
   - Family event
   - Other, please specify: _____

8. How many people traveled with you on your most recent trip to <RECENT CITY>? (Exclude those who did not make at least part of the journey with you.)

   - Adults (18 and over): 0 1 2 3 4 5 6 7 8 9 10 >10
   - Children (under 18): 0 1 2 3 4 5 6 7 8 9 10 >10

9. **[If bus, rail, or plane was selected]** How did you plan this most recent trip to <recent city> and book your tickets? Please select all that apply.
   - Went to the airline, bus, or train website
   - Went to a travel website (e.g., Expedia.com, Kayak.com)
   - Called the airline, bus company, or train line

- Through a travel agency
- A friend or family member booked it for me
- Other, please specify: _____

10. How many nights did you stay for your most recent trip to <recent city>?

0 1 2 3 4 5 6 >6

The following are general travel and communication questions about you and your household.

11. How many registered vehicles (in working order) are available to your household? Please include all cars, pickup trucks, minivans, and motorcycles/scooters to which your household has regular access, whether owned, leased, or a company vehicle.

0 1 2 3 4 5 6 7 8 9 10 >10

12. Do you have a driver's license?
    - Yes
    - No

13. Excluding yourself, how many others live in your household? And of those others, how many are licensed drivers?

	People (not including yourself)	**Licensed Drivers** (not including yourself)
Adults (18 and over)	0 1 2 3 4 5 6 7 8 9 10 >10	0 1 2 3 4 5 6 7 8 9 10 >10
Children (under 18)	0 1 2 3 4 5 6 7 8 9 10 >10	0 1 2 3 4 5 6 7 8 9 10 >10

14. How do you access the internet? Please select all that apply.
    - Internet service at home
    - Internet service at school
    - Internet service at work
    - Public internet service (e.g., at the library, community center)
    - Mobile device with a cellular data plan (e.g., smart phone, internet-enabled tablet)
    - Other, please specify: _____

Part 2: Travel preferences

In this section, consider the following statements and select how much you agree or disagree on a scale from 1 (completely agree) to 7 (completely disagree).

15. I feel I am less dependent on cars than my parents are/were.

1 2 3 4 5 6 7

16. I need to drive a car to get where I need to go.

1 2 3 4 5 6 7

17. I love the freedom and independence I get from owning one or more cars.

1 2 3 4 5 6 7

18. It would be hard for me to reduce my driving mileage

1 2 3 4 5 6 7

19. For me to be able to leave the driving to someone else (e.g., a bus driver, a friend) would be desirable.

1 2 3 4 5 6 7

20. It would be desirable for my household to be able to have fewer cars.

1 2 3 4 5 6 7

21. Being able to freely perform tasks, including stay connected using a laptop, tablet, or smartphone is an important reason for me to choose bus or train travel.

1 2 3 4 5 6 7

22. Having robust WiFi internet access while I travel on a bus or train is important to me.

1 2 3 4 5 6 7

23. Bus or train travel gives me valuable time to perform tasks, including stay connected using a laptop, tablet, or smartphone.

1 2 3 4 5 6 7

24. When taking a bus or train, being able to plan my trip and buy tickets online is important to me.

1 2 3 4 5 6 7

25. It would be important to me to receive email or text message updates about my bus or train trip.

1 2 3 4 5 6 7

26. I find tablet or smartphone apps for travel and trip planning to be helpful.

1 2 3 4 5 6 7

27. When the government tries to improve things, it never works.

1 2 3 4 5 6 7

28. If everyone works together, we could improve the environment and future for the earth.

1 2 3 4 5 6 7

29. People like me take the bus or the train.

1 2 3 4 5 6 7

30. I would be willing to pay more when I travel if it would help the environment.

1 2 3 4 5 6 7

31. I tend to use the fastest form of transportation, regardless of cost.

1 2 3 4 5 6 7

32. For me, the whole idea of being on a bus or train with other people I do not know seems uncomfortable.

1 2 3 4 5 6 7

33. I enjoy being out and about and observing people.

1 2 3 4 5 6 7

34. I don't mind traveling with people I do not know.

1 2 3 4 5 6 7

35. Having my privacy is important to me when I travel.

1 2 3 4 5 6 7

36. When I choose a home, I value having adequate space for parking two or more cars.

1 2 3 4 5 6 7

37. When I choose a neighborhood to live, I like to be able to walk to a commercial or village center.

1 2 3 4 5 6 7

38. Living in a multiple family building (e.g., apartment, condo) wouldn't give me enough privacy.

1 2 3 4 5 6 7

39. I like living in a neighborhood where there is a lot going on.

1 2 3 4 5 6 7

40. I am confident that if I wanted to, I can do things that I have never done before.

1 2 3 4 5 6 7

41. I worry about crime or other disturbing behavior on buses and trains, or while walking in and around the stops/stations.

1 2 3 4 5 6 7

42. It is important to me to control the radio and the air conditioning in the car.

1 2 3 4 5 6 7

43. I really feel stressed when driving for a long time in congestion in and around big cities.

1 2 3 4 5 6 7

44. I prefer to use the most comfortable transportation mode regardless of cost or time.

1 2 3 4 5 6 7

45. Having a lower stress trip is more important than reaching my destination quickly.

1 2 3 4 5 6 7

46. I get very annoyed being stuck behind a slow driver.

1 2 3 4 5 6 7

47. I am usually in a hurry when I go from one place to another.

1 2 3 4 5 6 7

48. With my schedule, minimizing time spent traveling is very important to me.

1 2 3 4 5 6 7

49. I would use the bus or train more often if it were cheaper to ride.

1 2 3 4 5 6 7

50. Rather than owning a car, I would prefer to borrow, share, or rent a car just for when I need it.

1 2 3 4 5 6 7

Part 3: An imaginary situation

Imagine that someone has asked you to travel from your home to Manhattan in New York City (NYC) for an important appointment next month and you have decided to go. You will stay one night at a hotel and travel alone. Your host will pay for your hotel costs but not for getting you there; you would be responsible for all costs of gas, parking, or any fares. Assume that, for one reason or another, you have already decided that you will not take any part of the trip by plane.

You now need to choose between taking the entire trip by car (whether yours or not) and taking at least part of the trip by intercity bus or train.

Please imagine the situation described as you answer the questions in the sections that follow.

51. Knowing what you know right now, what mode(s) of transportation do you think are AVAILABLE to you for this trip to NYC? Please circle all that apply.
    - Personal auto/car
    - Rental car (including car share) or a borrowed car
    - Intercity bus (e.g., Greyhound, Peter Pan, Megabus)
    - Intercity rail (e.g., Amtrak)
    - Other, please specify: _____

52. How likely are you to choose to take a bus or train for this trip to NYC next month?
    - Definitely
    - Very likely
    - Likely
    - Neutral
    - Unlikely
    - Very unlikely
    - Definitely not

53. If you learned there would be no WiFi, and no electrical outlet on the bus or train for this trip, would that make you less likely to choose a bus or train for this trip?
    - Much less likely

- Somewhat less likely
- No change
- Not applicable to me

TEST GROUP ONLY:

Now we would like you to review a website related to your imaginary trip to NYC. This website will show you some travel options from your home area to Times Square in NYC by combinations of bus and rail.

When you click on the link below, a second window with this website will open.

You can center the website within the pop-up screen using the up/down arrows on the right. You can ask to see more rail and bus services by using the down arrow in the center of your pop-up window.

When you are done reviewing the website, please close the second window and click "next" to continue.

Please click <here> to review this website.

Please continue to imagine the NYC trip situation described here, consider the following statements, and select how much you agree or disagree on a scale from 1 (completely agree) to 7 (completely disagree).

54. When I drive long distances (like from my home area to NYC), I can get tired and stressed.

    1 2 3 4 5 6 7

55. I worry about the difficulty in finding a parking space at a reasonable cost when I get to NYC.

    1 2 3 4 5 6 7

56. I am concerned that the schedule of the bus or train only lets me travel a few times per day, and I need to be flexible.

    1 2 3 4 5 6 7

57. I could deal with the limited schedules offered by a bus or train for this trip from my home to NYC.

1 2 3 4 5 6 7

58. I like the idea that I might see and meet new people on a bus or train to NYC.

1 2 3 4 5 6 7

59. I don't like the idea of riding with a lot of people that I don't know on a bus or train.

1 2 3 4 5 6 7

60. If I took a bus or train to NYC, I might have to be with people whose behavior I find unpleasant.

1 2 3 4 5 6 7

61. I could be with other people who share my values when I take a bus or train on a trip like this.

1 2 3 4 5 6 7

62. I think that taking a BUS to NYC would take a lot longer than driving.

1 2 3 4 5 6 7

63. I think that taking a TRAIN to NYC would take a lot longer than driving.

1 2 3 4 5 6 7

64. Without thinking about it much, I would guess that the cost of taking the trip by BUS would be less than the cost of the car trip (including gas, tolls, and parking).

1 2 3 4 5 6 7

65. Without thinking about it much, I would guess that the cost of taking the trip by TRAIN would be less than the cost of the car trip (including gas, tolls, and parking.)

1 2 3 4 5 6 7

66. It would be really important to me to minimize costs when I plan this trip to NYC next month.

1 2 3 4 5 6 7

67. I really want to minimize the time I spend on the trip to NYC, even if that means more stress or higher costs.

1 2 3 4 5 6 7

68. Being able to use my laptop, tablet, or smartphone when traveling makes me more interested in taking a bus or train to NYC.

1 2 3 4 5 6 7

69. I am the kind of person who would take my own car to NYC.

1 2 3 4 5 6 7

70. Most people whose opinions I value would approve of my taking this trip by bus or train.

1 2 3 4 5 6 7

71. My family would think that I should take this kind of trip by car or plane.

1 2 3 4 5 6 7

72. My colleagues would likely think that it is strange not to go by a car or plane to NYC.

1 2 3 4 5 6 7

73. When my friends go to NYC, they always take a bus or train.

1 2 3 4 5 6 7

74. When my family members go to NYC, they always take a bus or train.

1 2 3 4 5 6 7

75. It might be unsafe to make this trip by bus or train.

1 2 3 4 5 6 7

76. The experience at the NYC bus or train station would be so unpleasant that I would try to avoid it.

1 2 3 4 5 6 7

77. It would be easy for me to get the schedules for a bus or train between here and NYC, and I would understand them.

1 2 3 4 5 6 7

78. I know how to do all the things NEEDED to make this trip work by bus or train.

1 2 3 4 5 6 7

79. I like the idea of taking a bus or train instead of driving for this trip to NYC.

1 2 3 4 5 6 7

80. I think that the most RATIONAL choice would be to take a bus or train instead of a car.

1 2 3 4 5 6 7

81. I think that the most PLEASURABLE choice would be to take a bus or train instead of a car.

1 2 3 4 5 6 7

82. I think that the most STRESSFUL choice would be to take a bus or train instead of a car.

1 2 3 4 5 6 7

83. All other things being equal, if a bus was cheaper, but less reliable than a train, I would choose to take a bus.

1 2 3 4 5 6 7

84. I am confident that if I wanted to, I could take a bus or train for such a trip to NYC next month.

1 2 3 4 5 6 7

85. I would make an effort to choose a bus or train for such a trip to NYC next month.

1 2 3 4 5 6 7

86. For me to take a bus or train for such a trip to NYC the next month would be impossible.

1 2 3 4 5 6 7

87. In this imaginary situation, I would plan to take a bus or train for this trip to NYC next month.

1 2 3 4 5 6 7

88. I would trust the person who invited me to NYC to recommend how I should travel

1 2 3 4 5 6 7

TEST GROUP ONLY:

89. There are more options than what I expected to travel to NYC by bus and train.

1 2 3 4 5 6 7

90. After seeing the bus and train options for traveling to NYC, I just don't think there's a good way for me to get there by either bus or train.

1 2 3 4 5 6 7

91. Having information like this on my smartphone or computer might make it easier for me to understand the kinds of bus and train services available to me.

1 2 3 4 5 6 7

92. Having so many potential travel options by bus and train is confusing.

1 2 3 4 5 6 7

---

93. Given the information you have about bus and train services to NYC, how likely are you to choose a bus or train for a trip like this to NYC next month?
    - Definitely
    - Very likely
    - Likely
    - Neutral
    - Unlikely
    - Very unlikely
    - Definitely not

94. Thank you for sharing your opinions about the imaginary trip to NYC. In your real life, how seriously would you consider taking a bus or train to NYC?
    - Definitely would consider
    - Very likely would consider
    - Likely would consider
    - Neutral
    - Unlikely to consider
    - Very unlikely to consider
    - Definitely not consider

Part 4: Other information about you and your household.

95. Which of the following do you own? Please select all that apply.
- Desktop computer
- Laptop
- Smartphone
- Tablet (e.g., iPad, Windows 8 Tablet)
- GPS Navigation Device (e.g., Garmin, TomTom)
- None of the above

96. What is your age?
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65-74
- 75-84
- 85 or older

97. What is your gender?
- Female
- Male

98. What is your highest completed level of education?
- Less than high school diploma
- High school diploma or equivalent
- Some college, no degree
- Associate degree
- Bachelor's degree
- Graduate or professional degree

99. What is your annual household income? If you are unsure of the answer, please give your best estimate.
- Under $25,000
- $25,000 - $49,999
- $50,000 - $74,999
- $75,000 - $$99,999
- $100,000 - $149,999
- $150,000 - $199,999
- $200,000 - $249,999
- $250,000 or more

Appendix B – Survey Data Dictionary

Survey Question #	Survey Question	Variable Name	Variable Label	Response Type	Responses	N Missing	Legitimately Missing
		id	Unique Survey ID	Range	*Range:* 2028 - 22856	0	0
		password	Survey Password	Random		0	0
1	What is your home ZIP Code?	homezip_1_1	Home ZIP code	Range	*Range:* "01001" - "05906"	0	0
Part 1: Section 1-A: The following questions are about your recent trips.							
1	How many times have you visited one of the following cities in the past twelve months? *(Exclude trips where the city was not the primary destination and you only passed through it on the way to another destination)*	cityfreq_1_1	Visits to Boston in past year	Nominal	1- "0" 2- "1" 3- "2" 4- "3" 5- "4" 6- "5" 7- "6" 8- "7" 9- "8" 10- "9" 11- "10" 12- "11" 13- "12 or more"	0	0
		cityfreq_1_2	Visits to New York in past year	Nominal		0	0
		cityfreq_1_3	Visits to Philadelphia in past year	Nominal		0	0
		cityfreq_1_4	Visits to Washington DC in past year	Nominal		0	0
2	What mode(s) of transportation have you used for your trip(s) to each city in the past twelve months? *Please select all that apply.*	mode_1_1	Transportation Mode - Boston: Personal Auto/Car	Dummy	0- "Not Selected" 1- "Selected"	703	0
		mode_1_2	Transportation Mode - Boston: Rental Car (including car share) or borrowed car	Dummy		703	0
		mode_1_3	Transportation Mode - Boston: Intercity bus (e.g., Greyhound, Peter Pan, Megabus)	Dummy		703	0
		mode_1_4	Transportation Mode - Boston: Intercity rail (e.g., Amtrakk)	Dummy		703	0
		mode_1_5	Transportation Mode - Boston: Airplane	Dummy		703	0
		mode_1_6	Transportation Mode - Boston: Other	Dummy		703	0
		mode_2_1	Transportation Mode - New York City: Personal Auto/Car	Dummy		1768	0
		mode_2_2	Transportation Mode - New York City: Rental Car (including car share) or borrowed car	Dummy		1768	0
		mode_2_3	Transportation Mode - New York City: Intercity Bus (e.g., Greyhound, Peter Pan, Megabus)	Dummy		1768	0
		mode_2_4	Transportation Mode - New York City: Intercity Rail (e.g., Amtrak)	Dummy		1768	0
		mode_2_5	Transportation Mode - New York City: Airplane	Dummy		1768	0

Survey Question #	Survey Question	Variable Name	Variable Label	Response Type	Responses	N Missing	Legitimately Missing
		mode_2_6	Transportation Mode - New York City: Other	Dummy		1768	0
		mode_3_1	Transportation Mode - Philadelphia: Personal Auto/Car	Dummy		2291	0
		mode_3_2	Transportation Mode - Philadelphia: Rental Car (including car share) or borrowed car	Dummy		2291	0
		mode_3_3	Transportation Mode - Philadelphia: Intercity bus (e.g., Greyhound, Peter Pan, Megabus)	Dummy		2291	0
		mode_3_4	Transportation Mode - Philadelphia: Intercity rail (e.g., Amtrak)	Dummy		2291	0
		mode_3_5	Transportation Mode - Philadelphia: Airplane	Dummy		2291	0
		mode_3_6	Transportation Mode - Philadelphia: Other	Dummy		2291	0
		mode_4_1	Transportation Mode - Washington DC: Personal Auto/Car	Dummy		2102	0
		mode_4_2	Transportation Mode - Washington DC: Rental Car (including car share) or borrowed car	Dummy		2102	0
		mode_4_3	Transportation Mode - Washington DC: Intercity bus (e.g., Greyhound, Peter Pan, Megabus)	Dummy		2102	0
		mode_4_4	Transportation Mode - Washington DC: Intercity rail (e.g., Amtrak)	Dummy		2102	0
		mode_4_5	Transportation Mode - Washington DC: Airplane	Dummy		2102	0
		mode_4_6	Transportation Mode - Washington DC: Other	Dummy		2102	0
3	*[If intercity bus or intercity rail selected for ANY city]* How do you usually get information about routes and schedules for bus or rail trips? *Please select all that apply.*	information_1_1	Source of route/schedule information - Use pamphlets or other printed material	Dummy	0- "Not Selected" 1- "Selected"	1942	0
		information_1_2	Source of route/schedule information-Ask a friend or family member	Dummy		1942	0
		information_1_3	Source of route/schedule information-Visit the station	Dummy		1942	0
		information_1_4	Source of route/schedule information-Call the bus or rail company	Dummy		1942	0
		information_1_5	Source of route/schedule information-Search the internet	Dummy		1942	0
		information_1_6	Source of route/schedule information-Use smart phone or tablet apps	Dummy		1942	0
		information_1_7	Source of route/schedule information-Other, please specify	Dummy		1942	0
		information_1_7_x	Source of route/schedule information-Other, Specified	Open	*Open*	0	0
4	*[if # of cities visited > 1]* Which city did you visit most recently?	city_1_1	City most recently visited	Nominal	1- "Boston" 2- "New York City" 3- "Philadelphia"	564	0

Survey Question #	Survey Question	Variable Name	Variable Label	Response Type	Responses	N Missing	Legitimately Missing
					4- "Washington DC"		
Section 1-B: The following questions are about your MOST RECENT trip to <recent city>.							
5	*[Skip if frequency to # cities visited = 1]* What mode(s) of transportation did you use for your MOST RECENT trip to <recent city>? *Please select all that apply.*	modes_1_1	Mode(s) used on most recent trip - Personal auto/car	Dummy	0- "Not Selected" 1- "Selected"	564	0
		modes_1_2	Mode(s) used on most recent trip - Rental car (including car share) or a borrowed car	Dummy		564	0
		modes_1_3	Mode(s) used on most recent trip - Intercity bus (e.g., Greyhound, Peter Pan, Megabus)	Dummy		564	0
		modes_1_4	Mode(s) used on most recent trip -Intercity rail (e.g., Amtrack)	Dummy		564	0
		modes_1_5	Mode(s) used on most recent trip - Airplane	Dummy		564	0
		modes_1_6	Mode(s) used on most recent trip - Other, please specify	Dummy		564	0
		modes_1_6_x	Mode(s) used on most recent trip - Other, specified	Open	*Open*	0	0
6	What was the purpose of your most recent trip to <recent city>? *Please select all that apply.*	purpose_1_1	Purpose of most recent trip - Leisure/vacation	Dummy	0- "Not Selected" 1- "Selected"	564	0
		purpose_1_2	Purpose of most recent trip - Visit friends	Dummy		564	0
		purpose_1_3	Purpose of most recent trip - Business	Dummy		564	0
		purpose_1_4	Purpose of most recent trip - Family event	Dummy		564	0
		purpose_1_5	Purpose of most recent trip - Other, please specify	Dummy		564	0
		purpose_1_5_x	Purpose of most recent trip - Other, specified	Open	*Open*	0	0
7	How many people travelled with you on your most recent trip to <recent city>? *(Exclude those who did not make at least part of the journey with you)*	occ_1_1	Other adults (18 and over) on most recent trip	Nominal	1- "0"	564	0
		occ_1_2	Children (under 18) on most recent trip	Nominal	2- "1" 3- "2" 4- "3" 5- "4" 6- "5" 7- "6" 8- "7" 9- "8" 10- "9" 11- "10" 12- "11 or more"	564	0
8	*[if bus, rail, or plane trip]* How did you plan this trip and book your tickets? *Please select all that apply.*	plan_1_1	Planning of most recent trip: Went to the airline, bus, or train website	Dummy	0- "Not Selected" 1- "Selected"	2124	1560
		plan_1_2	Planning of most recent trip: Went to a travel website (e.g., Expedia.com, Kayak.com)	Dummy		2124	1560
		plan_1_3	Planning of most recent trip: Called the airline, bus company, or train line	Dummy		2124	1560
		plan_1_4	Planning of most recent trip: Through a travel agency	Dummy		2124	1560

Survey Question	Survey Question	Variable Name	Variable Label	Response Type	Responses	N Missing	Legitimately Missing
		plan_1_5	Planning of most recent trip: A friend or family member booked it for me	Dummy		2124	1560
		plan_1_6	Planning of most recent trip: Other, please specify	Dummy		2124	1560
		plan_1_6_x	Planning of most recent trip: OTHER Specified	Open	*Open*	0	0
9	How many nights did you stay for your most recent trip to < recent city >?	nights_1_1	Recent trip - # Nights	Nominal	1- "0" 2- "1" 3- "2" 4- "3" 5- "4" 6- "5" 7- "6" 8- "7 or more"	564	0
Section 1-C: The following are general travel and communication questions about you and your household.							
10	How many registered vehicles (in working order) are available to your household? *Please include all cars, pickup trucks, minivans, and motorcycles/scooters to which your household has regular access, whether owned, leased, or a company vehicle.*	vehicles_1_1	# of vehicles in household	Nominal	1- "0" 2- "1" 3- "2" 4- "3" 5- "4" 6- "5" 7- "6" 8- "7" 9- "8" 10- "9" 11- "10 or more"	0	0
11	Do you have a driver's license?	license_1_1	Respondent has driver's license	Nominal	1- "Yes" 2- "No"	0	0
12	How many people live in your household? How many of you are licensed drivers?	household_1_1	# of adults in HH (18 and over)	Nominal	1- "0" 2- "1" 3- "2" 4- "3" 5- "4" 6- "5" 7- "6" 8- "7" 9- "8" 10- "9" 11- "10 or more"	0	0
		household_1_2	# of adults in HH: Licensed drivers	Nominal		0	0
		household_2_1	# of children in HH (under 18)	Nominal		0	0
		household_2_2	# of children in HH: Licensed drivers	Nominal		0	0
13	How do you access the internet? *Please select all that apply.*	internet_1_1	Internet access: Internet service at home	Dummy	0- "Not Selected" 1- "Selected"	0	0
		internet_1_2	Internet access: Internet service at school	Dummy		0	0
		internet_1_3	Internet access: Internet service at work	Dummy		0	0
		internet_1_4	Internet access: Public internet service (e.g., at the library, community center)	Dummy		0	0

Survey Question	Survey Question	Variable Name	Variable Label	Response Type	Responses	N Missing	Legitimately Missing
		internet_1_5	Internet access: Mobile device with a cellular data plan (e.g., smart phone, Internet Access: enabled tablet)	Dummy		0	0
		internet_1_6	Internet access: Other, please specify	Dummy		0	0
		internet_1_6_x	Internet access: Other, specified	Open	*Open*	0	0
Part 2: Travel preferences							
14	I feel I am less dependent on cars than my parents are/were.	travelpreferences_1_1	Travel preferences - I feel I am less dependent on cars than my parents are/were.	Nominal	1- "1 - Completely Agree" 2- "2" 3- "3" 4- "4 - Neutral" 5- "5" 6- "6" 7- "7 - Completely Disagree"	0	0
15	I need to drive my car to get where I need to go.	travelpreferences_2_1	Travel preferences - I need to drive a car to get where I need to go.	Nominal		0	0
16	I love the freedom and independence I get from owning one or more cars.	travelpreferences_3_1	Travel preferences - I love the freedom and independence I get from owning one or more cars.	Nominal		0	0
17	It would be hard for me to reduce my driving mileage.	travelpreferences_4_1	Travel preferences - It would be hard for me to reduce my driving mileage.	Nominal		0	0
18	For me to be able to leave the driving to someone else(e.g., a bus driver) would be desirable.	travelpreferences_5_1	Travel preferences - For me to be able to leave the driving to someone else (e.g., a bus driver) would be desirable.	Nominal		0	0
19	It would be desirable for my household to be able to have fewer cars.	travelpreferences_6_1	Travel preferences - It would be desirable for my household to be able to have fewer cars.	Nominal		0	0
20	Being able to freely perform tasks, including using a laptop, tablet, or smartphone is an important reason for me to choose bus or train travel.	travelpreferences_7_1	Travel preferences - Being able to freely perform tasks, including using a laptop, tablet, or smartphone is an important reason for me to choose bus or train travel.	Nominal		0	0
21	Having reliable WiFi internet access while I travel on a bus or train is important to me.	travelpreferences_8_1	Travel preferences - Having reliable WiFi internet access while I travel on a bus or train is important to me.	Nominal		0	0
22	When taking a bus or train, being able to plan my trip and buy tickets online is important to me.	travelpreferences_9_1	Travel preferences - When taking a bus or train, being able to plan my trip and buy tickets online is important to me.	Nominal		0	0
23	It would be important to me to receive email or text message updates about my bus or train trip.	travelpreferences_10_1	Travel preferences - It would be important to me to receive email or text message updates about my bus or train trip.	Nominal		0	0
24	I find tablet or smartphone apps for travel and trip planning to be helpful.	travelpreferences_11_1	Travel preferences - I find tablet or smartphone apps for travel and trip planning to be helpful.	Nominal		0	0
25	When the government tries to improve things, it never works.	travelpreferences_12_1	Travel preferences - When the government tries to improve things, it never works.	Nominal		0	0
26	If everyone works together, we could improve the environment and future for the earth.	travelpreferences_13_1	Travel preferences - If everyone works together, we could improve the environment and future for the earth.	Nominal		0	0
27	People like me take the bus or the train.	travelprefere	Travel preferences - People like me take the	Nominal		0	0

Survey Question	Survey Question	Variable Name	Variable Label	Response Type	Responses	N Missing	Legitimately Missing
		nces_14_1	bus or the train.				
28	I would be willing to pay more when I travel if it would help the environment.	travelpreferences_15_1	Travel preferences - I would be willing to pay more when I travel if it would help the environment.	Nominal		0	0
29	I tend to use the fastest form of transportation, regardless of cost.	travelpreferences_16_1	Travel preferences - I tend to use the fastest form of transportation, regardless of cost.	Nominal		0	0
30	For me, the whole idea of being on a bus or train with other people I do not know seems uncomfortable.	travelpreferences_17_1	Travel preferences - For me, the whole idea of being on a bus or train with other people I do not know seems uncomfortable.	Nominal		0	0
31	I enjoy being out and about and observing people.	travelpreferences_18_1	Travel preferences - I enjoy being out and about and observing people.	Nominal		0	0
32	I don't mind traveling with people I do not know.	travelpreferences_19_1	Travel preferences - I don't mind traveling with people I do not know.	Nominal		0	0
33	Having my privacy is important to me when I travel.	travelpreferences_20_1	Travel preferences - Having my privacy is important to me when I travel.	Nominal		0	0
34	When I choose a home, I value having adequate space for parking two or more cars.	travelpreferences_21_1	Travel preferences - When I choose a home, I value having adequate space for parking two or more cars.	Nominal		0	0
35	When I choose a neighborhood to live in, I like to be able to walk to a commercial or village center.	travelpreferences_22_1	Travel preferences - When I choose a neighborhood to live in, I like to be able to walk to a commercial or village center.	Nominal		0	0
36	Living in a multiple family building (e.g., apartment, condo) wouldn't give me enough privacy.	travelpreferences_23_1	Travel preferences - Living in a multiple family building (e.g., apartment, condo) wouldn't give me enough privacy.	Nominal		0	0
37	I like living in a neighborhood where there is a lot going on.	travelpreferences_24_1	Travel preferences - I like living in a neighborhood where there is a lot going on.	Nominal		0	0
38	I am confident that if I want to, I can do things that I have never done before.	travelpreferences_25_1	Travel preferences - I am confident that if I want to, I can do things that I have never done before.	Nominal		0	0
39	I worry about crime or other disturbing behavior on buses and trains, or while walking in and around the stops/stations.	travelpreferences_26_1	Travel preferences - I worry about crime or other disturbing behavior on buses and trains, or while walking in and around the stops/stations.	Nominal		0	0
40	It is important to me to control the radio and the air conditioning in the car.	travelpreferences_27_1	Travel preferences - It is important to me to control the radio and the air conditioning in the car.	Nominal		0	0
41	I feel really stressed when driving for a long time in congestion in and around big cities.	travelpreferences_28_1	Travel preferences - I feel really stressed when driving for a long time in congestion in and around big cities.	Nominal		0	0
42	I prefer to use the most comfortable transportation mode regardless of cost or time.	travelpreferences_29_1	Travel preferences - I prefer to use the most comfortable transportation mode regardless of cost or time.	Nominal		0	0
43	Having a low-stress trip is more important than reaching my	travelprefere	Travel preferences - Having a low-stress trip is	Nominal		0	0

Survey Question	Survey Question	Variable Name	Variable Label	Response Type	Responses	N Missing	Legitimately Missing
	destination quickly.	nces_30_1	more important than reaching my destination quickly.				
44	I get very annoyed being stuck behind a slow driver.	travelpreferences_31_1	Travel preferences - I get very annoyed being stuck behind a slow driver.	Nominal		0	0
45	I am usually in a hurry when I make a trip.	travelpreferences_32_1	Travel preferences - I am usually in a hurry when I make a trip.	Nominal		0	0
46	With my schedule, minimizing time spent traveling is very important to me.	travelpreferences_33_1	Travel preferences - With my schedule, minimizing time spent traveling is very important to me.	Nominal		0	0
47	I would use the bus or train more often if it were cheaper to ride.	travelpreferences_34_1	Travel preferences - I would use the bus or train more often if it were cheaper to ride.	Nominal		0	0
48	Rather than owning a car, I would prefer to borrow, share, or rent a car just for when I need it.	travelpreferences_35_1	Travel preferences - Rather than owning a car, I would prefer to borrow, share, or rent a car just for when I need it.	Nominal		0	0
Part 3: An imaginary situation							
49	Knowing what you know right now, what mode(s) of transportation do you think are AVAILABLE to you for this trip to NYC? *Please select all that apply.*	modesavailable_1_1	Imaginary trip - Modes available: Personal auto/car	Dummy	0- "Not Selected" 1- "Selected"	0	0
		modesavailable_1_2	Imaginary trip - Modes available: Rental car (including car share) or a borrowed car	Dummy		0	0
		modesavailable_1_3	Imaginary trip - Modes available: Intercity bus (e.g., Greyhound, Peter Pan, Megabus)	Dummy		0	0
		modesavailable_1_4	Imaginary trip - Modes available: Intercity rail (e.g., Amtrak)	Dummy		0	0
		modesavailable_1_5	Imaginary trip - Modes available: Other, please specify	Dummy		0	0
		modesavailable_1_5_x	Imaginary trip - Modes available: Other, specified	Open	*Open*	0	0
50	How likely are you to choose to take a bus or train for a trip like this to NYC next month?	busortrain_1_1	Imaginary trip - Likely to choose bus or train	Nominal	1- "Definitely" 2- "Very likely" 3- "Likely" 4- "Neutral" 5- "Unlikely" 6- "Very unlikely" 7- "Definitely not"	0	0
51	If you learned there would be no WiFi, and no electrical outlet on the bus or train for this trip, would that make to you less likely to choose a bus or train for this trip?	wifi_1_1	Likeliness take bus/train if no wifi or outlet on bus/train	Nominal	1- "Much less likely" 2- "Somewhat less likely" 3- "No change" 4- "Not applicable to me"	0	0
	Control Group and Test Group	group	Test group assignment - Saw website	Nominal	1- "Control - Did not see Intercity Travel Website"	0	0

Survey Question	Survey Question	Variable Name	Variable Label	Response Type	Responses	N Missing	Legitimately Missing
					2- "Test - Saw Intercity Travel Website"		
52	There are more options than what I expected to travel to NYC by bus and train.	websitestatements_1_1	Website statements - There are more options than what I expected to travel to NYC by bus and train.	Nominal	1- "1 - Completely Agree" 2- "2" 3- "3" 4- "4 - Neutral" 5- "5" 6- "6" 7- "7 - Completely Disagree"	1278	0
53	After seeing the bus and train options for traveling to NYC, I just don't think there's a good way for me to get there by either bus or train.	websitestatements_2_1	Website statements - After seeing the bus and train options for traveling to NYC, I just don't think there's a good way for me to get there by either bus or train.	Nominal		1278	0
54	Having information like this on my smartphone or computer might make it easier for me to understand the kinds of bus and train services available to me.	websitestatements_3_1	Website statements - Having information like this on my smartphone or computer might make it easier for me to understand the kinds of bus and train services available to me.	Nominal		1278	0
55	Having so many potential travel options by bus and train is confusing.	websitestatements_4_1	Website statements - Having so many potential travel options by bus and train is confusing.	Nominal		1278	0
56	When I drive long distances (like from my home area to NYC), I can get tired and stressed.	tripstatements_1_1	Trip statements - When I drive long distances (like from my home area to NYC), I can get tired and stressed.	Nominal		0	0
57	I worry about the difficulty in finding a parking space at a reasonable cost when I get to NYC.	tripstatements_2_1	Trip statements - I worry about the difficulty in finding a parking space at a reasonable cost when I get to NYC.	Nominal		0	0
58	I am concerned that the schedule of the bus or train only lets me travel a few times per day, and I need to be flexible.	tripstatements_3_1	Trip statements - I am concerned that the schedule of the bus or train only lets me travel a few times per day, and I need to be flexible.	Nominal		0	0
59	I could deal with the limited schedules offered by a bus or train for this trip from my home to NYC.	tripstatements_4_1	Trip statements - I could deal with the limited schedules offered by a bus or train for this trip from my home to NYC.	Nominal		0	0
60	I like the idea that I might see and meet new people on a bus or train to NYC.	tripstatements_5_1	Trip statements - I like the idea that I might see and meet new people on a bus or train to NYC.	Nominal		0	0
61	I don't like the idea of riding with a lot of people that I don't know on a bus or train.	tripstatements_6_1	Trip statements - I don't like the idea of riding with a lot of people that I don't know on a bus or train.	Nominal		0	0
62	If I took a bus or train to NYC, I might have to be with people whose behavior I find unpleasant.	tripstatements_7_1	Trip statements - If I took a bus or train to NYC, I might have to be with people whose behavior I find unpleasant.	Nominal		0	0
63	I could be with other people who share my values when I take a bus or train on a trip like this.	tripstatements_8_1	Trip statements - I could be with other people who share my values when I take a bus or train on a trip like this.	Nominal		0	0
64	I think that taking a BUS to NYC would take a lot longer than driving.	tripstatements_9_1	Trip statements - I think that taking a BUS to NYC would take a lot longer than driving.	Nominal		0	0

Survey Question	Survey Question	Variable Name	Variable Label	Response Type	Responses	N Missing	Legitimately Missing
65	I think that taking a TRAIN to NYC would take a lot longer than driving.	tripstatements_10_1	Trip statements - I think that taking a TRAIN to NYC would take a lot longer than driving.	Nominal		0	0
66	Without thinking about it much, I would guess that the cost of taking the trip by BUS would be less than the cost of the car trip (including gas, tolls, and parking).	tripstatements_11_1	Trip statements - Without thinking about it much, I would guess that the cost of taking the trip by BUS would be less than the cost of the car trip (including gas, tolls, and parking).	Nominal		0	0
67	Without thinking about it much, I would guess that the cost of taking the trip by TRAIN would be less than the cost of the car trip (including gas, tolls, and parking.)	tripstatements_12_1	Trip statements - Without thinking about it much, I would guess that the cost of taking the trip by TRAIN would be less than the cost of the car trip (including gas, tolls, and parking).	Nominal		0	0
68	It would be really important to me to minimize costs when I plan this trip to NYC next month.	tripstatements_13_1	Trip statements - It would be really important to me to minimize costs when I plan this trip to NYC next month.	Nominal		0	0
69	I really want to minimize the time I spend on the trip to NYC, even if that means more stress or higher costs.	tripstatements_14_1	Trip statements - I really want to minimize the time I spend on the trip to NYC, even if that means more stress or higher costs.	Nominal		0	0
70	Being able to use my laptop, tablet, or smartphone when traveling makes me more interested in taking a bus or train to NYC.	tripstatements_15_1	Trip statements - Being able to use my laptop, tablet, or smartphone when traveling makes me more interested in taking a bus or train to NYC.	Nominal		0	0
71	I am the kind of person who would take my own car to NYC.	tripstatements_16_1	Trip statements - I am the kind of person who would take my own car to NYC.	Nominal		0	0
72	Most people whose opinions I value would approve of my taking this trip by bus or train.	tripstatements_17_1	Trip statements - Most people whose opinions I value would approve of my taking this trip by bus or train.	Nominal		0	0
73	My family would think that I should take this kind of trip by car or plane.	tripstatements_18_1	Trip statements - My family would think that I should take this kind of trip by car or plane.	Nominal		0	0
74	My colleagues would likely think that it is strange not to go by a car or plane to NYC.	tripstatements_19_1	Trip statements - My colleagues would likely think that it is strange not to go by a car or plane to NYC.	Nominal		0	0
75	When my friends go to NYC, they always take a bus or train.	tripstatements_20_1	Trip statements - When my friends go to NYC, they always take a bus or train.	Nominal		0	0
76	When my family members go to NYC, they always take a bus or train.	tripstatements_21_1	Trip statements - When my family members go to NYC, they always take a bus or train.	Nominal		0	0
77	It might be unsafe to make this trip by bus or train.	tripstatements_22_1	Trip statements - It might be unsafe to make this trip by bus or train.	Nominal		0	0
78	The experience at the NYC bus or train station would be so unpleasant that I would try to avoid it.	tripstatements_23_1	Trip statements - The experience at the NYC bus or train station would be so unpleasant that I would try to avoid it.	Nominal		0	0
79	It would be easy for me to get the schedules for a bus or train between here and NYC, and I would understand them.	tripstatements_24_1	Trip statements - It would be easy for me to get the schedules for a bus or train between here and NYC, and I would understand them.	Nominal		0	0
80	I don't know all the things I NEED to do to make this trip	tripstatement	Trip statements - I don't know all the things I	Nominal		0	0

Survey Question	Survey Question	Variable Name	Variable Label	Response Type	Responses	N Missing	Legitimately Missing
	work by bus or train.	s_25_1	NEED to do to make this trip work by bus or train.				
81	I like the idea of taking a bus or train instead of driving for this trip to NYC.	tripstatements_26_1	Trip statements - I like the idea of taking a bus or train instead of driving for this trip to NYC.	Nominal		0	0
82	I think that the most RATIONAL choice would be to take a bus or train instead of a car.	tripstatements_27_1	Trip statements - I think that the most RATIONAL choice would be to take a bus or train instead of a car.	Nominal		0	0
83	I think that the most PLEASURABLE choice would be to take a bus or train instead of a car.	tripstatements_28_1	Trip statements - I think that the most PLEASURABLE choice would be to take a bus or train instead of a car.	Nominal		0	0
84	I think that the most STRESSFUL choice would be to take a bus or train instead of a car.	tripstatements_29_1	Trip statements - I think that the most STRESSFUL choice would be to take a bus or train instead of a car.	Nominal		0	0
85	All other things being equal, if a bus was cheaper, but less reliable than a train, I would choose to take a bus.	tripstatements_30_1	Trip statements - All other things being equal, if a bus was cheaper, but less reliable than a train, I would choose to take a bus.	Nominal		0	0
86	I am confident that if I wanted to, I could take a bus or train for such a trip to NYC next month.	tripstatements_31_1	Trip statements - I am confident that if I wanted to, I could take a bus or train for such a trip to NYC next month.	Nominal		0	0
87	I would make an effort to choose a bus or train for such a trip to NYC next month.	tripstatements_32_1	Trip statements - I would make an effort to choose a bus or train for such a trip to NYC next month.	Nominal		0	0
88	For me to take a bus or train for such a trip to NYC the next month would be impossible.	tripstatements_33_1	Trip statements - For me to take a bus or train for such a trip to NYC the next month would be impossible.	Nominal		0	0
89	In this imaginary situation, I would plan to take a bus or train for this trip to NYC next month.	tripstatements_34_1	Trip statements - In this imaginary situation, I would plan to take a bus or train for this trip to NYC next month.	Nominal		0	0
90	I would trust the person who invited me to NYC to recommend how I should travel.	tripstatements_35_1	Trip statements - I would trust the person who invited me to NYC to recommend how I should travel	Nominal		0	0
91	Given what you know about bus and train services to NYC, how likely are you to choose a bus or train for a trip to NYC next month (like the one described in the imaginary situation)?	choosebusortrain_1_1	Post-experiment likelihood to choose bus or train to NYC	Nominal	1- "Definitely" 2- "Very likely" 3- "Likely" 4- "Neutral" 5- "Unlikely" 6- "Very unlikely" 7- "Definitely not"	0	0
92	We noticed that you are now <more/less> likely to take the train or bus to NYC. Please tell us why you have changed your mind.	whylikelihoodchanged_1_1	Comment on why likelihood to choose bus or train changed	Open	*Open*	0	0
93	Thank you for sharing your opinions about the imaginary trip to NYC. In your real life, how seriously would you	likelybustrain_1_1	Post-experiment	Nominal	1- "Definitely would consider"	0	0

Survey Question	Survey Question	Variable Name	Variable Label	Response Type	Responses	N Missing	Legitimately Missing
	consider taking a bus or train to NYC?				2- "Very likely would consider" 3- "Likely would consider" 4- "Neutral" 5- "Unlikely to consider" 6- "Very unlikely to consider" 7- "Definitely not consider"		
Part 4: Other information about you and your household.							
94	Which of the following do you own? *Please select all that apply.*	own_1_1	Owns desktop computer	Dummy	0- "Not Selected" 1- "Selected"	0	0
		own_1_2	Owns laptop	Dummy		0	0
		own_1_3	Owns smartphone	Dummy		0	0
		own_1_4	Owns tablet	Dummy		0	0
		own_1_5	Owns standalone GPS navigation device	Dummy		0	0
		own_1_6	Owns none of the listed devices	Dummy		0	0
95	What is your age?	age_1_1	Age	Nominal	1- "18-24" 2- "25-34" 3- "35-44" 4- "45-54" 5- "55-64" 6- "65-74" 7- "75-84" 8- "85 or older"	0	0
96	What is your gender?	gender_1_1	Gender	Nominal	1- "Female" 2- "Male"	0	0
97	What is your highest completed level of education?	education_1_1	Education	Nominal	1- "Less than high school diploma" 2- "High school diploma or equivalent" 3- "Some college, no degree" 4- "Associate degree" 5- "Bachelor's degree" 6- "Graduate or professional degree"	0	0
98	What is your annual household income? If you are unsure of the answer, please give your best estimate.	income_1_1	Income	Nominal	1- "Under $25,000" 2- "$25,000 - $49,999"	26	26

Survey Question	Survey Question	Variable Name	Variable Label	Response Type	Responses	N Missing	Legitimately Missing
					3- "$50,000 - $74,999" 4- "$75,000 - $99,999" 5- "$100,000 - $149,999" 6- "$150,000 - $199,999" 7- "$200,000 - $249,999" 8- "$250,000 or more"		
		state	State of residence	Nominal	1- "Massachusetts" 2- "New Hampshire" 3- "Maine" 4- "Vermont"	0	0
		duration	Total time to complete the survey	Continuous		0	
		drive_distance_miles	Driving distance to Times Square in miles	Continuous		1	
		drive_duration_minutes	Time to drive to Times Square in minutes	Continuous		1	
		bus_transfers	Number of transfers on bus route to Manhattan	Nominal		92	
		bus_duration_minutes	Time to take bus to Manhattan in minutes	Continuous		92	
		train_transfers	Number of transfers on train route to Manhattan	Nominal		65	
		train_duration_minutes	Time to take train to Manhattan in minutes	Continuous		65	
		modes_1_7	Mode(s) used on most recent trip - Commuter or Regional Transit	Dummy	0- "Not Selected" 1- "Selected"		
		purpose_1_6	Purpose of most recent trip - Medical	Dummy			
		plan_1_7	Planning of most recent trip: Planned and/or purchased tickets directly on site	Dummy			
		modesavailable_1_6	Imaginary trip - Modes available: Airplane Flight	Dummy			
		zip_UrbanRural	Zip Code centroid Census urbanized area, urban cluster or rural designation	Nominal	1- "Urbanized Area" 2-"Urban Cluster" 3- "Rural"		
		zip_RUCA	Zip Code centroid RUCA designation	Nominal			
		zip_pop	Zip Code area or location population according to the 2010 census	Continuous			

Survey Question	Survey Question	Variable Name	Variable Label	Response Type	Responses	N Missing	Legitimately Missing
	Straight Line Distance to Boston	**dist_bos**	Distance from Zip Code centroid to Boston (Faneuil Hall)	Continuous			
	Straight Line Distance to New York City	**dist_nyc**	Distance from Zip Code centroid to New York City (Times Square)	Continuous			
	Straight Line Distance to Philadelphia	**dist_phl**	Distance from Zip Code centroid to Philadelphia (Liberty Bell)	Continuous			
	Straight Line Distance to Washington, D.C.	**dist_was**	Distance from Zip Code centroid to Washington, D.C. (White House)	Continuous			
	Straight Line Distance to Urban Area Macro	**dist_uam**	Distance from Zip Code centroid to centroid of Urbanized Area within a Metropolitan Area	Continuous			
	Straight Line Distance to Urban Cluster Micro	**dist_ucm**	Distance from Zip Code centroid to centroid of Urban Cluster within Micropolitan Area	Continuous			
	Straight Line Distance to Airport Large	**dist_airl**	Distance from Zip Code centroid to large hub primary airport	Continuous			
	Straight Line Distance to Airport Medium	**dist_airm**	Distance from Zip Code centroid to medium hub primary airport	Continuous			
	Straight Line Distance to Airport Small	**dist_airs**	Distance from Zip Code centroid to small hub primary airport	Continuous			
	Straight Line Distance to Airport Non-Hub	**dist_airn**	Distance from Zip Code centroid to non-hub primary airport	Continuous			
		dist_Airport_MedOrGreater	Distance from Zip Code centroid to medium or greater primary airport	Continuous			
	Straight Line Distance to Railroad Intercity	**dist_rrint**	Distance from Zip Code centroid to intercity rail station	Continuous			
	Straight Line Distance to Railroad Commuter	**dist_rrcom**	Distance from Zip Code centroid to commuter rail station	Continuous			
	Straight Line Distance to Railroad City-Based	**dist_rrcity**	Distance from Zip Code centroid to city based rail stations (heavy and light rail)	Continuous			
		dist_Rail_ComCity	Distance from Zip Code centroid to commuter or city based rail stations	Continuous			
	Straight Line Distance to Bus Intercity	**dist_busint**	Distance from Zip Code centroid to Intercity bus station	Continuous			
	Straight Line Distance to Bus Transit	**dist_bustran**	Distance from Zip Code centroid to Transit bus station	Continuous			
	Network Distance to Boston	**dist_N_bos**	Network Distance from Zip Code centroid to Boston (Faneuil Hall)	Continuous			
	Network Distance to New York City	**dist_N_nyc**	Network Distance from Zip Code centroid to New York City (Times Square)	Continuous			
	Network Distance to Philadelphia	**dist_N_phl**	Network Distance from Zip Code centroid to Philadelphia (Liberty Bell)	Continuous			
	Network Distance to Washington, D.C.	**dist_N_was**	Network Distance from Zip Code centroid to	Continuo			

Survey Question	Survey Question	Variable Name	Variable Label	Response Type	Responses	N Missing	Legitimately Missing
			Washington, D.C. (White House)	us			
	Network Distance to Urban Area Macro	**dist_N_uam**	Network Distance from Zip Code centroid to centroid of Urbanized Area within a Metropolitan Area	Continuous			
	Network Distance to Urban Cluster Micro	**dist_N_ucm**	Network Distance from Zip Code centroid to centroid of Urban Cluster within Micropolitan Area	Continuous			
	Network Distance to Airport Large	**dist_N_airl**	Network Distance from Zip Code centroid to large hub primary airport	Continuous			
	Network Distance to Airport Medium	**dist_N_airm**	Network Distance from Zip Code centroid to medium hub primary airport	Continuous			
	Network Distance to Airport Small	**dist_N_airs**	Network Distance from Zip Code centroid to small hub primary airport	Continuous			
	Network Distance to Airport Non-Hub	**dist_N_airn**	Network Distance from Zip Code centroid to non-hub primary airport	Continuous			
		dist_N_Airport_MedOrGreater	Network Distance from Zip Code centroid to medium or greater primary airport	Continuous			
	Network Distance to Railroad Intercity	**dist_N_rrint**	Network Distance from Zip Code centroid to intercity rail station	Continuous			
	Network Distance to Railroad Commuter	**dist_N_rrcom**	Network Distance from Zip Code centroid to commuter rail station	Continuous			
	Network Distance to Railroad City-Based	**dist_N_rrcity**	Network Distance from Zip Code centroid to city based rail stations (heavy and light rail)	Continuous			
		dist_N_Rail_ComCity	Network Distance from Zip Code centroid to commuter or city based rail stations	Continuous			
	Network Distance to Bus Intercity	**dist_N_busint**	Network Distance from Zip Code centroid to Intercity bus station	Continuous			
	Network Distance to Bus Transit	**dist_N_bustran**	Network Distance from Zip Code centroid to Transit bus station	Continuous			

Appendix C – Survey Data Summary

Part 1:

Section 1-A:

The following questions are about your recent trips.

How many times have you visited one of the following cities in the past twelve months? (Exclude trips where the city was not the primary destination and you only passed through it on the way to another destination)

Variable	n	missing	unique
id	2560	0	2560
password	2560	0	2560
homezip_1_1	2560	0	676
cityfreq_1_1	2560	0	12
cityfreq_1_2	2560	0	12
cityfreq_1_3	2560	0	11
cityfreq_1_4	2560	0	12

Variable	Number of visits in the past year to…		0	1	2	3	4	5	6	7	8	9	10	12 or more
cityfreq_1_1	*Boston*	Frequency	703	552	361	221	167	110	112	24	43	3	48	216
		%	27	22	14	9	7	4	4	1	2	0	2	8
cityfreq_1_2	*New York*	Frequency	1768	484	148	58	39	15	14	6	9	1	7	11
		%	69	19	6	2	2	1	1	0	0	0	0	0
cityfreq_1_3	*Philadelphia*	Frequency	2291	181	47	14	11	8	3	1	2	0	1	1
		%	89	7	2	1	0	0	0	0	0	0	0	0
cityfreq_1_4	*Washington, D.C.*	Frequency	2102	328	81	21	13	5	3	1	1	1	1	3
		%	82	13	3	1	1	0	0	0	0	0	0	0

What mode(s) of transportation have you used for your trip(s) to each city in the past twelve months? Please select all that apply.

Variable	Destination	Mode	n	missing	unique	Not Selected Frequency	Not Selected Percent	Selected Frequency	Selected Percent
mode_1_1	***Boston***	***Personal Auto/Car***	1857	703	2	168	9%	1689	91%
mode_1_2		***Rental or borrowed car***	1857	703	2	1795	97%	62	3%
mode_1_3		***Intercity bus***	1857	703	2	1671	90%	186	10%
mode_1_4		***Intercity rail***	1857	703	2	1655	89%	202	11%
mode_1_5		***Airplane***	1857	703	2	1802	97%	55	3%
mode_1_6		***Other***	1857	703	2	1805	97%	52	3%
mode_2_1	***New York***	***Personal Auto/Car***	792	1768	2	341	43%	451	57%
mode_2_2		***Rental or borrowed car***	792	1768	2	745	94%	47	6%
mode_2_3		***Intercity bus***	792	1768	2	672	85%	120	15%
mode_2_4		***Intercity rail***	792	1768	2	588	74%	204	26%
mode_2_5		***Airplane***	792	1768	2	663	84%	129	16%
mode_2_6		***Other***	792	1768	2	762	96%	30	4%
mode_3_1	***Philadelphia***	***Personal Auto/Car***	269	2291	2	137	51%	132	49%
mode_3_2		***Rental or borrowed car***	269	2291	2	235	87%	34	13%
mode_3_3		***Intercity bus***	269	2291	2	258	96%	11	4%
mode_3_4		***Intercity rail***	269	2291	2	246	91%	23	9%
mode_3_5		***Airplane***	269	2291	2	166	62%	103	38%
mode_3_6		***Other***	269	2291	2	262	97%	7	3%
mode_4_1	***Washington, D.C.***	***Personal Auto/Car***	458	2102	2	277	60%	181	40%
mode_4_2		***Rental or borrowed car***	458	2102	2	414	90%	44	10%
mode_4_3		***Intercity bus***	458	2102	2	440	96%	18	4%
mode_4_4		***Intercity rail***	458	2102	2	408	89%	50	11%
mode_4_5		***Airplane***	458	2102	2	220	48%	238	52%
mode_4_6		***Other***	458	2102	2	449	98%	9	2%

[If intercity bus or intercity rail selected for ANY city] How do you usually get information about routes and schedules for bus or rail trips? Please select all that apply.

Variable	Source of route/schedule information	n	missing	unique	Not Selected Frequency	Not Selected Percent	Selected Frequency	Selected Percent
information_1_1	*Use pamphlets or other printed material*	618	1942	2	531	86%	87	14%
information_1_2	*Ask a friend or family member*	618	1942	2	555	90%	63	10%
information_1_3	*Visit the station*	618	1942	2	545	88%	73	12%
information_1_4	*Call the bus or rail company*	618	1942	2	563	91%	55	9%
information_1_5	*Search the internet*	618	1942	2	68	11%	550	89%
information_1_6	*Use smart phone or tablet apps*	618	1942	2	451	73%	167	27%
information_1_7	*Other, please specify*	618	1942	2	612	99%	6	1%
information_1_7_x	*Other, Specified*	2560	0	10				

[if # of cities visited > 1] Which city did you visit most recently?

Variable	n	missing	unique	City	Frequency	Percent
city_1_1	1996	564	4	Boston	1567	79%
				New York City	258	13%
				Philadelphia	46	2%
				Washington DC	125	6%

[Skip if frequency to # cities visited = 1] What mode(s) of transportation did you use for your MOST RECENT trip to <recent city>? Please select all that apply.

Variable	Mode(s) used on most recent trip	n	missing	unique	Not Selected Frequency	Not Selected Percent	Selected Frequency	Selected Percent
modes_1_1	*Personal auto/car*	1996	564	2	383	19%	1613	81%
modes_1_2	*Rental car or borrowed car*	1996	564	2	1937	97%	59	3%
modes_1_3	*Intercity bus*	1996	564	2	1865	93%	131	7%
modes_1_4	*Intercity rail*	1996	564	2	1802	90%	194	10%
modes_1_5	*Airplane*	1996	564	2	1881	94%	115	6%
modes_1_6	*Other, please specify*	1996	564	2	1957	98%	39	2%
modes_1_6_x	*Other, specified*	2560	0	44				

What was the purpose of your most recent trip to <recent city>? Please select all that apply.

Variable	Purpose of most recent trip	n	missing	unique	Not Selected Frequency	Not Selected Percent	Selected Frequency	Selected Percent
purpose_1_1	*Leisure/vacation*	1996	564	2	797	40%	1199	60%
purpose_1_2	*Visit friends*	1996	564	2	1609	81%	387	19%
purpose_1_3	*Business*	1996	564	2	1726	86%	270	14%
purpose_1_4	*Family event*	1996	564	2	1685	84%	311	16%
purpose_1_5	*Other, please specify*	1996	564	2	1904	95%	92	5%
purpose_1_5_x	*Other, specified*	2560	0	179				

How many people travelled with you on your most recent trip to <recent city>? (Exclude those who did not make at least part of the journey with you)

Variable	Number of...	n	missing	unique		0	1	2	3	4	5	6	7	8	10	11 or more
occ_1_1	*Other adults (18 and over) on most recent trip*	1996	564	11	Frequency	322	754	636	154	79	18	11	4	3	4	11
					%	16	38	32	8	4	1	1	0	0	0	1
occ_1_2	*Children (under 18) on most recent trip*	1996	564	10	Frequency	1624	195	116	38	9	3	1	0	1	1	8
					%	81	10	6	2	0	0	0	0	0	0	0

[if bus, rail, or plane trip] How did you plan this trip and book your tickets? Please select all that apply.

Variable	Planning of most recent trip:	n	missing	unique	Not Selected		Selected	
					Frequency	Percent	Frequency	Percent
plan_1_1	*Went to the airline, bus, or train website*	436	2124	2	166	38%	270	62%
plan_1_2	*Went to a travel website (e.g., Expedia.com, Kayak.com)*	436	2124	2	383	88%	53	12%
plan_1_3	*Called the airline, bus company, or train line*	436	2124	2	420	96%	16	4%
plan_1_4	*Through a travel agency*	436	2124	2	415	95%	21	5%
plan_1_5	*A friend or family member booked it for me*	436	2124	2	406	93%	30	7%
plan_1_6	*Other, please specify*	436	2124	2	396	91%	40	9%
plan_1_6_x	*OTHER Specified*	2560	0	80				

How many nights did you stay for your most recent trip to < recent city >?

					Number of Nights on Recent Trip							
Variable	n	missing	unique		0	1	2	3	4	5	6	7 or more
nights_1_1	1996	564	8	Frequency	1016	424	305	125	64	29	10	23
				%	51	21	15	6	3	1	1	1

How many registered vehicles (in working order) are available to your household? Please include all cars, pickup trucks, minivans, and motorcycles/scooters to which your household has regular access, whether owned, leased, or a company vehicle.

					Number of Vehicles in Household								
Variable	n	missing	unique		0	1	2	3	4	5	6	7	10 or more
vehicles_1_1	2560	0	9	Frequency	30	585	1244	495	150	30	18	7	1
				%	1	23	49	19	6	1	1	0	0

Do you have a driver's license?

Variable	n	missing	unique		Frequency	Percent
license_1_1	2560	0	2	**Yes**	2522	99%
				No	38	1%

How many people live in your household? How many of you are licensed drivers?

Variable	Description	n	missing	unique		0	1	2	3	4	5	6	7	8
household_1_1	*adults in HH (18 and over)*	2560	0	7	**Frequency**	0	424	1643	334	130	23	5	1	0
					%	0	17	64	13	5	1	0	0	0
household_1_2	*adults in HH: Licensed drivers*	2560	0	7	**Frequency**	23	475	1647	298	99	16	2	0	0
					%	1	19	64	12	4	1	0	0	0
household_2_1	*children in HH (under 18)*	2560	0	8	**Frequency**	1986	283	208	66	12	2	2	0	1
					%	78	11	8	3	0	0	0	0	0
household_2_2	*children in HH: Licensed drivers*	2560	0	5	**Frequency**	2448	95	13	3	1	0	0	0	0
					%	96	4	1	0	0	0	0	0	0

How do you access the internet? Please select all that apply.

					Not Selected		Selected	
Variable	Internet access	n	missing	unique	Frequency	Percent	Frequency	Percent
internet_1_1	*Internet service at home*	2560	0	2	59	2%	2501	98%
internet_1_2	*Internet service at school*	2560	0	2	2420	95%	140	5%
internet_1_3	*Internet service at work*	2560	0	2	1305	51%	1255	49%
internet_1_4	*Public internet service*	2560	0	2	2199	86%	361	14%
internet_1_5	*Mobile device with a cellular data plan*	2560	0	2	1157	45%	1403	55%
internet_1_6	*Other, please specify*	2560	0	2	2546	99%	14	1%
internet_1_6_x	*Other, specified*	2560	0	16				

Part 2: Travel preferences

Variable	n	missing	unique	Preference		Completely Agree 1	2	3	Neutral 4	5	6	Completely Disagree 7
travelpreferences_1_1	2560	0	7	I feel I am less dependent on cars than my parents are/were.	**Frequency**	90	126	172	502	444	527	699
					%	4	5	7	20	17	21	27
travelpreferences_2_1	2560	0	7	I need to drive my car to get where I need to go.	**Frequency**	1022	623	367	279	104	82	83
					%	40	24	14	11	4	3	3
travelpreferences_3_1	2560	0	7	I love the freedom and independence I get from owning one or more cars.	**Frequency**	1138	653	348	256	61	54	50
					%	44	26	14	10	2	2	2
travelpreferences_4_1	2560	0	7	It would be hard for me to reduce my driving mileage.	**Frequency**	567	670	428	454	260	102	79
					%	22	26	17	18	10	4	3
travelpreferences_5_1	2560	0	7	For me to be able to leave the driving to someone else(e.g., a bus driver) would be desirable.	**Frequency**	241	392	514	664	288	246	215
					%	9	15	20	26	11	10	8
travelpreferences_6_1	2560	0	7	It would be desirable for my household to be able to have fewer cars.	**Frequency**	122	175	217	643	308	395	700
					%	5	7	8	25	12	15	27
travelpreferences_7_1	2560	0	7	Being able to freely perform tasks, including using a laptop, tablet, or smartphone is an important reason for me to choose bus or train travel.	**Frequency**	271	346	431	678	247	268	319
					%	11	14	17	26	10	10	12
travelpreferences_8_1	2560	0	7	Having reliable WiFi internet access while I travel on a bus or train is important to me.	**Frequency**	515	521	485	494	170	169	206
					%	20	20	19	19	7	7	8
travelpreferences_9_1	2560	0	7	When taking a bus or train, being able to plan my trip and buy tickets online is important to me.	**Frequency**	788	646	438	446	105	70	67
					%	31	25	17	17	4	3	3
travelpreferences_10_1	2560	0	7	It would be important to me to receive email or text message updates about my bus or train trip.	**Frequency**	443	534	533	557	160	139	194
					%	17	21	21	22	6	5	8
travelpreferences_11_1	2560	0	7	I find tablet or smartphone apps for travel and trip planning to be helpful.	**Frequency**	446	496	443	637	166	135	237
					%	17	19	17	25	6	5	9
travelpreferences_12_1	2560	0	7	When the government tries to improve things, it never works.	**Frequency**	377	358	357	772	291	240	165
					%	15	14	14	30	11	9	6
travelpreferences_13_1	2560	0	7	If everyone works together, we could improve the environment and future for the earth.	**Frequency**	1020	663	421	284	72	52	48
					%	40	26	16	11	3	2	2
travelpreferences_14_1	2560	0	7	People like me take the bus or the train.	**Frequency**	120	183	287	768	344	375	483
					%	5	7	11	30	13	15	19
travelpreferences_15_1	2560	0	7	I would be willing to pay more when I travel if it would help the environment.	**Frequency**	119	266	543	890	335	213	194
					%	5	10	21	35	13	8	8
travelpreferences_16_1	2560	0	7	I tend to use the fastest form of transportation, regardless of cost.	**Frequency**	111	246	379	649	487	377	311
					%	4	10	15	25	19	15	12
travelpreferences_17_1	2560	0	7	For me, the whole idea of being on a bus or train with other people I do not know seems uncomfortable.	**Frequency**	107	190	302	593	433	493	442
					%	4	7	12	23	17	19	17
travelpreferences_18_1	2560	0	7	I enjoy being out and about and observing people.	**Frequency**	625	788	590	359	104	65	29
					%	24	31	23	14	4	3	1
travelpreferences_19_1	2560	0	7	I don't mind traveling with people I do not know.	**Frequency**	292	439	503	595	296	252	183
					%	11	17	20	23	12	10	7
travelpreferences_20_1	2560	0	7	Having my privacy is important to me when I travel.	**Frequency**	570	682	585	484	135	76	28
					%	22	27	23	19	5	3	1
travelpreferences_21_1	2560	0	7	When I choose a home, I value having adequate space for parking two or more cars.	**Frequency**	954	663	368	287	106	89	93
					%	37	26	14	11	4	3	4
travelpreferences_22_1	2560	0	7	When I choose a neighborhood to live in, I like to be able to walk to a commercial or village center.	**Frequency**	298	331	456	770	280	233	192
					%	12	13	18	30	11	9	8
travelpreferences_23_1	2560	0	7	Living in a multiple family building (e.g., apartment, condo) wouldn't give me enough privacy.	**Frequency**	759	456	337	387	218	190	213
					%	30	18	13	15	9	7	8
travelpreferences_24_1	2560	0	7	I like living in a neighborhood where there is a lot going on.	**Frequency**	185	275	421	721	405	314	239
					%	7	11	16	28	16	12	9
travelpreferences_25_1	2560	0	7	I am confident that if I want to, I can do things that I have never done before.	**Frequency**	859	796	494	282	67	45	17
					%	34	31	19	11	3	2	1
travelpreferences_26_1	2560	0	7	I worry about crime or other disturbing behavior on buses and trains, or while walking in and around the stops/stations.	**Frequency**	209	351	615	571	344	297	173
					%	8	14	24	22	13	12	7
travelpreferences_27_1	2560	0	7	It is important to me to control the radio and the air conditioning in the car.	**Frequency**	464	516	582	637	166	115	80
					%	18	20	23	25	6	4	3
travelpreferences_28_1	2560	0	7	I feel really stressed when driving for a long time in congestion in and around big cities.	**Frequency**	546	543	559	342	230	193	147
					%	21	21	22	13	9	8	6
travelpreferences_29_1	2560	0	7	I prefer to use the most comfortable transportation mode regardless of cost or time.	**Frequency**	158	270	486	769	452	254	171
					%	6	11	19	30	18	10	7
travelpreferences_30_1	2560	0	7	Having a low-stress trip is more important than reaching my destination quickly.	**Frequency**	414	605	611	579	221	95	35
					%	16	24	24	23	9	4	1
travelpreferences_31_1	2560	0	7	I get very annoyed being stuck behind a slow driver.	**Frequency**	553	595	704	413	173	76	46
					%	22	23	28	16	7	3	2
travelpreferences_32_1	2560	0	7	I am usually in a hurry when I make a trip.	**Frequency**	108	228	488	768	457	313	198
					%	4	9	19	30	18	12	8
travelpreferences_33_1	2560	0	7	With my schedule, minimizing time spent traveling is very important to me.	**Frequency**	310	453	547	730	227	168	125
					%	12	18	21	29	9	7	5
travelpreferences_34_1	2560	0	7	I would use the bus or train more often if it were cheaper to ride.	**Frequency**	297	329	401	747	279	228	279
					%	12	13	16	29	11	9	11
travelpreferences_35_1	2560	0	7	Rather than owning a car, I would prefer to borrow, share, or rent a car just for when I need it.	**Frequency**	59	68	116	195	253	457	1412
					%	2	3	5	8	10	18	55

Part 3: An imaginary situation

Knowing what you know right now, what mode(s) of transportation do you think are AVAILABLE to you for this trip to NYC? Please select all that apply.

Variable	Imaginary trip - Modes available:	n	missing	unique	Not Selected Count	Not Selected Percent	Selected Count	Selected Percent
modesavailable_1_1	*Personal auto/car*	2560	0	2	461	18%	2099	82%
modesavailable_1_2	*Rental car or borrowed car*	2560	0	2	973	38%	1587	62%
modesavailable_1_3	*Intercity bus*	2560	0	2	719	28%	1841	72%
modesavailable_1_4	*Intercity rail*	2560	0	2	590	23%	1970	77%
modesavailable_1_5	*Other, please specify*	2560	0	2	2530	99%	30	1%
modesavailable_1_5_x	*Other, specified*	2560	0	51				

How likely are you to choose to take a bus or train for a trip like this to NYC next month?

Variable	n	missing	unique		Definitely	Very likely	Likely	Neutral	Unlikely	Very unlikely	Definitely not
busortrain_1_1	2560	0	7	**Frequency**	340	688	528	328	309	206	161
				%	13	27	21	13	12	8	6

If you learned there would be no WiFi, and no electrical outlet on the bus or train for this trip, would that make to you less likely to choose a bus or train for this trip?

Variable	n	missing	unique		Much less likely	Somewhat less likely	No change	Not applicable to me
wifi_1_1	2560	0	4	**Frequency**	337	632	1429	162
				Percent	13%	25%	56%	6%

Control Group and Test Group

Variable	n	missing	unique		Control - Did not see Intercity Travel Website	Test - Saw Intercity Travel Website
group	2560	0	2	**Frequency**	1278	1282
				Percent	50%	50%

						Completely Agree			Neutral	Completely Disagree		
Variable	**n**	**missing**	**unique**	**Statement**		**1**	**2**	**3**	**4**	**5**	**6**	**7**
websitestatements_1_1	1282	1278	7	There are more options than what I expected to travel to NYC by bus and train.	**Frequency**	357	289	244	234	64	46	48
					%	28	23	19	18	5	4	4
websitestatements_2_1	1282	1278	7	After seeing the bus and train options for traveling to NYC, I just don't think there's a good way for me to get there by either bus or train.	**Frequency**	66	66	81	236	205	240	388
					%	5	5	6	18	16	19	30
websitestatements_3_1	1282	1278	7	Having information like this on my smartphone or computer might make it easier for me to understand the kinds of bus and train services available to me.	**Frequency**	349	337	246	216	47	42	45
					%	27	26	19	17	4	3	4
websitestatements_4_1	1282	1278	7	Having so many potential travel options by bus and train is confusing.	**Frequency**	104	127	211	245	191	201	203
					%	8	10	16	19	15	16	16

Variable	Statement	n	missing	unique		Completely Agree 1	2	3	Neutral 4	5	6	Completely Disagree 7
tripstatements_1_1	When I drive long distances (like from my home area to NYC), I can get tired and stressed.	2560	0	7	**Frequency**	389	438	597	439	304	216	177
					%	15	17	23	17	12	8	7
tripstatements_2_1	I worry about the difficulty in finding a parking space at a reasonable cost when I get to NYC.	2560	0	7	**Frequency**	1229	618	337	208	67	43	58
					%	48	24	13	8	3	2	2
tripstatements_3_1	I am concerned that the schedule of the bus or train only lets me travel a few times per day, and I need to be flexible.	2560	0	7	**Frequency**	174	368	576	640	377	252	173
					%	7	14	22	25	15	10	7
tripstatements_4_1	I could deal with the limited schedules offered by a bus or train for this trip from my home to NYC.	2560	0	7	**Frequency**	481	605	651	455	199	89	80
					%	19	24	25	18	8	3	3
tripstatements_5_1	I like the idea that I might see and meet new people on a bus or train to NYC.	2560	0	7	**Frequency**	145	219	402	917	357	278	242
					%	6	9	16	36	14	11	9
tripstatements_6_1	I don't like the idea of riding with a lot of people that I don't know on a bus or train.	2560	0	7	**Frequency**	129	158	336	670	440	453	374
					%	5	6	13	26	17	18	15
tripstatements_7_1	If I took a bus or train to NYC, I might have to be with people whose behavior I find unpleasant.	2560	0	7	**Frequency**	239	343	740	694	254	181	109
					%	9	13	29	27	10	7	4
tripstatements_8_1	I could be with other people who share my values when I take a bus or train on a trip like this.	2560	0	7	**Frequency**	169	258	431	1225	212	133	132
					%	7	10	17	48	8	5	5
tripstatements_9_1	I think that taking a BUS to NYC would take a lot longer than driving.	2560	0	7	**Frequency**	326	459	528	492	366	215	174
					%	13	18	21	19	14	8	7
tripstatements_10_1	I think that taking a TRAIN to NYC would take a lot longer than driving.	2560	0	7	**Frequency**	227	330	442	543	436	335	247
					%	9	13	17	21	17	13	10
tripstatements_11_1	Without thinking about it much, I would guess that the cost of taking the trip by BUS would be less than the cost of the car trip (including gas, tolls, and parking).	2560	0	7	**Frequency**	522	680	617	444	173	75	49
					%	20	27	24	17	7	3	2
tripstatements_12_1	Without thinking about it much, I would guess that the cost of taking the trip by TRAIN would be less than the cost of the car trip (including gas, tolls, and parking.)	2560	0	7	**Frequency**	333	522	559	538	316	163	129
					%	13	20	22	21	12	6	5
tripstatements_13_1	It would be really important to me to minimize costs when I plan this trip to NYC next month.	2560	0	7	**Frequency**	492	540	638	546	173	97	74
					%	19	21	25	21	7	4	3
tripstatements_14_1	I really want to minimize the time I spend on the trip to NYC, even if that means more stress or higher costs.	2560	0	7	**Frequency**	109	193	353	778	553	316	258
					%	4	8	14	30	22	12	10
tripstatements_15_1	Being able to use my laptop, tablet, or smartphone when traveling makes me more interested in taking a bus or train to NYC.	2560	0	7	**Frequency**	438	534	545	514	162	128	239
					%	17	21	21	20	6	5	9
tripstatements_16_1	I am the kind of person who would take my own car to NYC.	2560	0	7	**Frequency**	384	312	367	452	317	275	453
					%	15	12	14	18	12	11	18
tripstatements_17_1	Most people whose opinions I value would approve of my taking this trip by bus or train.	2560	0	7	**Frequency**	492	517	514	793	113	62	69
					%	19	20	20	31	4	2	3
tripstatements_18_1	My family would think that I should take this kind of trip by car or plane.	2560	0	7	**Frequency**	191	263	281	831	313	307	374
					%	7	10	11	32	12	12	15
tripstatements_19_1	My colleagues would likely think that it is strange not to go by a car or plane to NYC.	2560	0	7	**Frequency**	123	179	258	842	368	373	417
					%	5	7	10	33	14	15	16
tripstatements_20_1	When my friends go to NYC, they always take a bus or train.	2560	0	7	**Frequency**	137	231	336	1003	304	261	288
					%	5	9	13	39	12	10	11
tripstatements_21_1	When my family members go to NYC, they always take a bus or train.	2560	0	7	**Frequency**	107	191	277	887	306	313	479
					%	4	7	11	35	12	12	19
tripstatements_22_1	It might be unsafe to make this trip by bus or train.	2560	0	7	**Frequency**	69	118	298	622	457	520	476
					%	3	5	12	24	18	20	19
tripstatements_23_1	The experience at the NYC bus or train station would be so unpleasant that I would try to avoid it.	2560	0	7	**Frequency**	88	113	271	638	531	486	433
					%	3	4	11	25	21	19	17
tripstatements_24_1	It would be easy for me to get the schedules for a bus or train between here and NYC, and I would understand them.	2560	0	7	**Frequency**	854	636	521	336	117	56	40
					%	33	25	20	13	5	2	2
tripstatements_25_1	I don't know all the things I NEED to do to make this trip work by bus or train.	2560	0	7	**Frequency**	154	276	415	584	344	367	420
					%	6	11	16	23	13	14	16
tripstatements_26_1	I like the idea of taking a bus or train instead of driving for this trip to NYC.	2560	0	7	**Frequency**	756	551	468	370	186	110	119
					%	30	22	18	14	7	4	5
tripstatements_27_1	I think that the most RATIONAL choice would be to take a bus or train instead of a car.	2560	0	7	**Frequency**	629	579	474	443	184	117	134
					%	25	23	19	17	7	5	5
tripstatements_28_1	I think that the most PLEASURABLE choice would be to take a bus or train instead of a car.	2560	0	7	**Frequency**	539	530	480	491	231	145	144
					%	21	21	19	19	9	6	6
tripstatements_29_1	I think that the most STRESSFUL choice would be to take a bus or train instead of a car.	2560	0	7	**Frequency**	132	126	235	464	471	517	615
					%	5	5	9	18	18	20	24
tripstatements_30_1	All other things being equal, if a bus was cheaper, but less reliable than a train, I would choose to take a bus.	2560	0	7	**Frequency**	105	188	359	596	589	375	348
					%	4	7	14	23	23	15	14
tripstatements_31_1	I am confident that if I wanted to, I could take a bus or train for such a trip to NYC next month.	2560	0	7	**Frequency**	1089	662	428	238	60	35	48
					%	43	26	17	9	2	1	2
tripstatements_32_1	I would make an effort to choose a bus or train for such a trip to NYC next month.	2560	0	7	**Frequency**	604	571	519	446	180	100	140
					%	24	22	20	17	7	4	5
tripstatements_33_1	For me to take a bus or train for such a trip to NYC the next month would be impossible.	2560	0	7	**Frequency**	109	100	129	459	414	493	856
					%	4	4	5	18	16	19	33
tripstatements_34_1	In this imaginary situation, I would plan to take a bus or train for this trip to NYC next month.	2560	0	7	**Frequency**	706	572	459	387	163	113	160
					%	28	22	18	15	6	4	6
tripstatements_35_1	I would trust the person who invited me to NYC to recommend how I should travel.	2560	0	7	**Frequency**	237	433	633	770	198	133	156
					%	9	17	25	30	8	5	6

Part 4: Other information about you and your household.

Given what you know about bus and train services to NYC, how likely are you to choose a bus or train for a trip to NYC next month (like the one described in the imaginary situation)?

We noticed that you are now <more/less> likely to take the train or bus to NYC. Please tell us why you have changed your mind.

Thank you for sharing your opinions about the imaginary trip to NYC. In your real life, how seriously would you consider taking a bus or train to NYC?

Variable	n	missing	unique		Definitely	Very likely	Likely	Neutral	Unlikely	Very unlikely	Definitely not
choosebusortrain_1_1	2560	0	7	**Frequency**	370	740	495	361	258	188	148
				%	14	29	19	14	10	7	6
whylikelihoodchanged_1_1	2560	0	533								
likelybustrain_1_1	2560	0	7	**Frequency**	638	590	654	229	194	150	105
				%	25	23	26	9	8	6	4

Which of the following do you own? Please select all that apply.

					Not Selected		Selected	
Variable	**Owns:**	**n**	**missing**	**unique**	**Frequency**	**Percent**	**Frequency**	**Percent**
own_1_1	*desktop computer*	2560	0	2	963	38%	1597	62%
own_1_2	*laptop*	2560	0	2	439	17%	2121	83%
own_1_3	*smartphone*	2560	0	2	868	34%	1692	66%
own_1_4	*tablet*	2560	0	2	1150	45%	1410	55%
own_1_5	*standalone GPS navigation device*	2560	0	2	1276	50%	1284	50%
own_1_6	*none of the listed devices*	2560	0	2	2552	100%	8	0%

Part 4: Other information about you and your household.

Variable	n	missing	unique	Categories	Frequency	%
age_1_1	2560	0	8	18-24	65	3
				25-34	359	14
				35-44	376	15
				45-54	563	22
				55-64	695	27
				65-74	431	17
				75-84	64	2
				85 or older	7	0
gender_1_1	2560	0	2	Female	1491	58%
				Male	1069	42%
education_1_1	2560	0	6	Less than high school diploma	15	1%
				High school diploma or equivalent	250	10%
				Some college no degree	455	18%
				Associate degree	241	9%
				Bachelor's degree	863	34%
				Graduate or professional degree	736	29%
income_1_1	2534	26	8	Under $25,000	155	6%
				$25,000 - $49,999	422	17%
				$50,000 - $74,999	557	22%
				$75,000 - $99,999	517	20%
				$100,000 - $149,999	579	23%
				$150,000 - $199,999	195	8%
				$200,000 - $249,999	58	2%
				$250,000 or more	51	2%
state	2560	0	4	Massachusetts	937	37%
				New Hampshire	727	28%
				Maine	521	20%
				Vermont	375	15%

Appendix D – Network Data Dictionary

GTFS Data Sources:

Amtrak		
MBTA	Massachusetts Bay Transportation Authority	http://www.mbta.com/rider_tools/developers/default.asp?id=21895
WMATA	Washington Metropolitan Area Transit Authority	http://www.wmata.com/rider_tools/developer_resources.cfm
MTA	Metropolitan Transit Authority	http://web.mta.info/developers/
LIRR	Long Island Railroad (MTA)	http://web.mta.info/developers/developer-data-terms.html#data
Metro-North	Metro-North (MTA)	http://web.mta.info/developers/developer-data-terms.html#data
Maryland-MTA	Maryland Metropolitan Transit Authority	http://mta.maryland.gov/content/developer-resources
SEPTA	Southeastern Pennsylvania Transportation Authority	http://www2.septa.org/developer/
PATH	Port Authority of New York and New Jersey	http://www.panynj.gov/path/developers.html
NJ Transit	NJ Transit Rail	https://www.njtransit.com/mt/mt_servlet.srv?hdnPageAction=MTDevResourcesTo

GTFS Files:

Filename	Required	Defines
agency.txt	**Required**	One or more transit agencies that provide the data in this feed.
stops.txt	**Required**	Individual locations where vehicles pick up or drop off passengers.
routes.txt	**Required**	Transit routes. A route is a group of trips that are displayed to riders as a single service.
trips.txt	**Required**	Trips for each route. A trip is a sequence of two or more stops that occurs at specific time.
stop_times.txt	**Required**	Times that a vehicle arrives at and departs from individual stops for each trip.
calendar.txt	**Required**	Dates for service IDs using a weekly schedule. Specify when service starts and ends, as well as days of the week where service is available.
calendar_dates.txt	Optional	Exceptions for the service IDs defined in the calendar.txt file. If calendar_dates.txt includes ALL dates of service, this file may be specified instead of calendar.txt.
fare_attributes.txt	Optional	Fare information for a transit organization's routes.
fare_rules.txt	Optional	Rules for applying fare information for a transit organization's routes.
shapes.txt	Optional	Rules for drawing lines on a map to represent a transit organization's routes.
frequencies.txt	Optional	Headway (time between trips) for routes with variable frequency of service.
transfers.txt	Optional	Rules for making connections at transfer points between routes.
feed_info.txt	Optional	Additional information about the feed itself, including publisher, version, and expiration information.
Source: https://developers.google.com/transit/gtfs/reference		

GTFS Fields:

Field Name	Required	Description
agency.txt	Required	
agency_id	Optional	The agency_id field is an ID that uniquely identifies a transit agency. A transit feed may represent data from more than one agency. The agency_id is dataset unique. This field is optional for transit feeds that only contain data for a single agency.
agency_name	**Required**	The agency_name field contains the full name of the transit agency. Google Maps will display this name.
agency_url	**Required**	The agency_url field contains the URL of the transit agency. The value must be a fully qualified URL that includes http:// or https://, and any special characters in the URL must be correctly escaped. Seehttp://www.w3.org/Addressing/URL/4_URI_Recommentations.html for a description of how to create fully qualified URL values.
agency_timezone	**Required**	The agency_timezone field contains the timezone where the transit agency is located. Timezone names never contain the space character but may contain an underscore. Please refer tohttp://en.wikipedia.org/wiki/List_of_tz_zones for a list of valid values. If multiple agencies are specified in the feed, each must have the same agency_timezone.
agency_lang	Optional	The agency_lang field contains a two-letter ISO 639-1 code for the primary language used by this transit agency. The language code is case-insensitive (both en and EN are accepted). This setting defines capitalization rules and other language-specific settings for all text contained in this transit agency's feed. Please refer to http://www.loc.gov/standards/iso639-2/php/code_list.php for a list of valid values.
agency_phone	Optional	The agency_phone field contains a single voice telephone number for the specified agency. This field is a string value that presents the telephone number as typical for the agency's service area. It can and should contain punctuation marks to group the digits of the number. Dialable text (for example, TriMet's "503-238-RIDE") is permitted, but the field must not contain any other descriptive text.
agency_fare_url	Optional	The agency_fare_url specifies the URL of a web page that allows a rider to purchase tickets or other fare instruments for that agency online. The value must be a fully qualified URL that includes http:// orhttps://, and any special characters in the URL must be correctly escaped. Seehttp://www.w3.org/Addressing/URL/4_URI_Recommentations.html for a description of how to create fully qualified URL values.
stops.txt		
stop_id	**Required**	The stop_id field contains an ID that uniquely identifies a stop or station. Multiple routes may use the same stop. The stop_id is dataset unique.
stop_code	Optional	The stop_code field contains short text or a number that uniquely identifies the stop for passengers. Stop codes are often used in phone-based transit information systems or printed on stop signage to make it easier for riders to get a stop schedule or real-time arrival information for a particular stop.
		The stop_code field should only be used for stop codes that are displayed to passengers. For internal codes, use stop_id. This field should be left blank for stops without a code.
stop_name	**Required**	The stop_name field contains the name of a stop or station. Please use a name that people will understand in the local and tourist vernacular.
stop_desc	Optional	The stop_desc field contains a description of a stop. Please provide useful, quality information. Do not simply duplicate the name of the stop.
stop_lat	**Required**	The stop_lat field contains the latitude of a stop or station. The field value must be a valid WGS 84 latitude.
stop_lon	**Required**	The stop_lon field contains the longitude of a stop or station. The field value must be a valid WGS 84 longitude value from -180 to 180.
zone_id	Optional	The zone_id field defines the fare zone for a stop ID. Zone IDs are required if you want to provide fare information using fare_rules.txt. If this stop ID represents a station, the zone ID is ignored.
stop_url	Optional	The stop_url field contains the URL of a web page about a particular stop. This should be different from the agency_url and the route_url fields.
		The value must be a fully qualified URL that includes http:// or https://, and any special characters in the URL must be correctly escaped.

		Seehttp://www.w3.org/Addressing/URL/4_URI_Recommentations.html for a description of how to create fully qualified URL values.
location_type	Optional	The location_type field identifies whether this stop ID represents a stop or station. If no location type is specified, or the location_type is blank, stop IDs are treated as stops. Stations may have different properties from stops when they are represented on a map or used in trip planning.
		The location type field can have the following values:
		0 or blank - Stop. A location where passengers board or disembark from a transit vehicle.
		1 - Station. A physical structure or area that contains one or more stop.
parent_station	Optional	For stops that are physically located inside stations, the parent_station field identifies the station associated with the stop. To use this field, stops.txt must also contain a row where this stop ID is assigned location type=1.
		This stop ID represents...
		A stop located inside a station.
		A stop located outside a station.
		A station.
stop_timezone	Optional	The stop_timezone field contains the timezone in which this stop or station is located. Please refer to Wikipedia List of Timezones for a list of valid values. If omitted, the stop should be assumed to be located in the timezone specified by agency_timezone in agency.txt.
		When a stop has a parent station, the stop is considered to be in the timezone specified by the parent station's stop_timezone value. If the parent has no stop_timezone value, the stops that belong to that station are assumed to be in the timezone specified by agency_timezone, even if the stops have their own stop_timezone values. In other words, if a given stop has a parent_stationvalue, any stop_timezone value specified for that stop must be ignored.
		Even if stop_timezone values are provided in stops.txt, the times in stop_times.txt should continue to be specified as time since midnight in the timezone specified by agency_timezone in agency.txt. This ensures that the time values in a trip always increase over the course of a trip, regardless of which timezones the trip crosses.
wheelchair_boarding	Optional	The wheelchair_boarding field identifies whether wheelchair boardings are possible from the specified stop or station. The field can have the following values:
		0 (or empty) - indicates that there is no accessibility information for the stop
		1 - indicates that at least some vehicles at this stop can be boarded by a rider in a wheelchair
		2 - wheelchair boarding is not possible at this stop
		When a stop is part of a larger station complex, as indicated by a stop with a parent_station value, the stop's wheelchair_boarding field has the following additional semantics:
		0 (or empty) - the stop will inherit its wheelchair_boarding value from the parent station, if specified in the parent
		1 - there exists some accessible path from outside the station to the specific stop / platform
		2 - there exists no accessible path from outside the station to the specific stop / platform
routes.txt		
route_id	**Required**	The route_id field contains an ID that uniquely identifies a route. The route_id is dataset unique.
agency_id	Optional	The agency_id field defines an agency for the specified route. This value is referenced from theagency.txt file. Use this field when you are providing data for routes from more than one agency.
route_short_name	**Required**	The route_short_name contains the short name of a route. This will often be a short, abstract identifier like "32", "100X", or "Green" that riders use to identify a route, but which doesn't give any indication of what places the route serves. At least one of route_short_name or route_long_namemust be specified, or potentially both if appropriate. If the route does not have a short name, please specify a route_long_name and use an empty string as the value for this field.
		See a Google Maps screenshot highlighting the route_short_name.
route_long_name	**Required**	The route_long_name contains the full name of a route. This name is generally more

		descriptive than the route_short_name and will often include the route's destination or stop. At least one ofroute_short_name or route_long_name must be specified, or potentially both if appropriate. If the route does not have a long name, please specify a route_short_name and use an empty string as the value for this field.
		See a Google Maps screenshot highlighting the route_long_name.
route_desc	Optional	The route_desc field contains a description of a route. Please provide useful, quality information. Do not simply duplicate the name of the route. For example, "A trains operate between Inwood-207 St, Manhattan and Far Rockaway-Mott Avenue, Queens at all times. Also from about 6AM until about midnight, additional A trains operate between Inwood-207 St and Lefferts Boulevard (trains typically alternate between Lefferts Blvd and Far Rockaway)."
route_type	**Required**	The route_type field describes the type of transportation used on a route. Valid values for this field are:
		0 - Tram, Streetcar, Light rail. Any light rail or street level system within a metropolitan area.
		1 - Subway, Metro. Any underground rail system within a metropolitan area.
		2 - Rail. Used for intercity or long-distance travel.
		3 - Bus. Used for short- and long-distance bus routes.
		4 - Ferry. Used for short- and long-distance boat service.
		5 - Cable car. Used for street-level cable cars where the cable runs beneath the car.
		6 - Gondola, Suspended cable car. Typically used for aerial cable cars where the car is suspended from the cable.
		7 - Funicular. Any rail system designed for steep inclines.
		See a Google Maps screenshot highlighting the route_type.
route_url	Optional	The route_url field contains the URL of a web page about that particular route. This should be different from the agency_url.
		The value must be a fully qualified URL that includes http:// or https://, and any special characters in the URL must be correctly escaped. Seehttp://www.w3.org/Addressing/URL/4_URI_Recommentations.html for a description of how to create fully qualified URL values.
route_color	Optional	In systems that have colors assigned to routes, the route_color field defines a color that corresponds to a route. The color must be provided as a six-character hexadecimal number, for example, 00FFFF. If no color is specified, the default route color is white (FFFFFF).
		The color difference between route_color and route_text_color should provide sufficient contrast when viewed on a black and white screen. The W3C Techniques for Accessibility Evaluation And Repair Tools document offers a useful algorithm for evaluating color contrast. There are also helpful online tools for choosing contrasting colors, including the snook.ca Color Contrast Check application.
route_text_color	Optional	The route_text_color field can be used to specify a legible color to use for text drawn against a background of route_color. The color must be provided as a six-character hexadecimal number, for example, FFD700. If no color is specified, the default text color is black (000000).
		The color difference between route_color and route_text_color should provide sufficient contrast when viewed on a black and white screen.
routes.txt		
route_id	**Required**	The route_id field contains an ID that uniquely identifies a route. This value is referenced from theroutes.txt file.
service_id	**Required**	The service_id contains an ID that uniquely identifies a set of dates when service is available for one or more routes. This value is referenced from the calendar.txt or calendar_dates.txt file.
trip_id	**Required**	The trip_id field contains an ID that identifies a trip. The trip_id is dataset unique.
trip_headsign	Optional	The trip_headsign field contains the text that appears on a sign that identifies the trip's destination to passengers. Use this field to distinguish between different patterns of service in the same route. If the headsign changes during a trip, you can override the trip_headsign by specifying values for the the stop_headsign field in stop_times.txt.
		See a Google Maps screenshot highlighting the headsign.
trip_short_name	Optional	The trip_short_name field contains the text that appears in schedules and sign boards to identify the trip to passengers, for example, to identify train numbers for commuter rail trips. If riders do not commonly rely on trip names, please leave this field blank.

		A trip_short_name value, if provided, should uniquely identify a trip within a service day; it should not be used for destination names or limited/express designations.
direction_id	Optional	The direction_id field contains a binary value that indicates the direction of travel for a trip. Use this field to distinguish between bi-directional trips with the same route_id. This field is not used in routing; it provides a way to separate trips by direction when publishing time tables. You can specify names for each direction with the trip_headsign field.
		0 - travel in one direction (e.g. outbound travel)
		1 - travel in the opposite direction (e.g. inbound travel)
		For example, you could use the trip_headsign and direction_id fields together to assign a name to travel in each direction for a set of trips. A trips.txt file could contain these rows for use in time tables:
		trip_id,...,trip_headsign,direction_id
		1234,...,to Airport,0
		1505,...,to Downtown,1
block_id	Optional	The block_id field identifies the block to which the trip belongs. A block consists of two or more sequential trips made using the same vehicle, where a passenger can transfer from one trip to the next just by staying in the vehicle. The block_id must be referenced by two or more trips in trips.txt.
shape_id	Optional	The shape_id field contains an ID that defines a shape for the trip. This value is referenced from the shapes.txt file. The shapes.txt file allows you to define how a line should be drawn on the map to represent a trip.
wheelchair_accessible	Optional	0 (or empty) - indicates that there is no accessibility information for the trip
		1 - indicates that the vehicle being used on this particular trip can accommodate at least one rider in a wheelchair
		2 - indicates that no riders in wheelchairs can be accommodated on this trip
bikes_allowed	Optional	0 (or empty) - indicates that there is no bike information for the trip
		1 - indicates that the vehicle being used on this particular trip can accommodate at least one bicycle
		2 - indicates that no bicycles are allowed on this trip
trips.txt		
trip_id	**Required**	The trip_id field contains an ID that identifies a trip. This value is referenced from the trips.txt file.
arrival_time	**Required**	The arrival_time specifies the arrival time at a specific stop for a specific trip on a route. The time is measured from "noon minus 12h" (effectively midnight, except for days on which daylight savings time changes occur) at the beginning of the service date. For times occurring after midnight on the service date, enter the time as a value greater than 24:00:00 in HH:MM:SS local time for the day on which the trip schedule begins. If you don't have separate times for arrival and departure at a stop, enter the same value for arrival_time and departure_time.
		If this stop isn't a time point, use an empty string value for the arrival_time and departure_timefields. Stops without arrival times will be scheduled based on the nearest preceding timed stop. To ensure accurate routing, please provide arrival and departure times for all stops that are time points. Do not interpolate stops.
		You must specify arrival and departure times for the first and last stops in a trip.
		Times must be eight digits in HH:MM:SS format (H:MM:SS is also accepted, if the hour begins with 0). Do not pad times with spaces. The following columns list stop times for a trip and the proper way to express those times in the arrival_time field:
		Time
		08:10:00 A.M.
		01:05:00 P.M.
		07:40:00 P.M.
		01:55:00 A.M.
		Note: Trips that span multiple dates will have stop times greater than 24:00:00. For example, if a trip begins at 10:30:00 p.m. and ends at 2:15:00 a.m. on the following day, the stop times would be 22:30:00 and 26:15:00. Entering those stop times as22:30:00 and 02:15:00 would not produce the desired results.

departure_time	**Required**	The departure_time specifies the departure time from a specific stop for a specific trip on a route. The time is measured from "noon minus 12h" (effectively midnight, except for days on which daylight savings time changes occur) at the beginning of the service date. For times occurring after midnight on the service date, enter the time as a value greater than 24:00:00 in HH:MM:SS local time for the day on which the trip schedule begins. If you don't have separate times for arrival and departure at a stop, enter the same value for arrival_time and departure_time.
		If this stop isn't a time point, use an empty string value for the arrival_time and departure_timefields. Stops without arrival times will be scheduled based on the nearest preceding timed stop. To ensure accurate routing, please provide arrival and departure times for all stops that are time points. Do not interpolate stops.
		You must specify arrival and departure times for the first and last stops in a trip.
		Times must be eight digits in HH:MM:SS format (H:MM:SS is also accepted, if the hour begins with 0). Do not pad times with spaces. The following columns list stop times for a trip and the proper way to express those times in the departure_time field:
		Time
		08:10:00 A.M.
		01:05:00 P.M.
		07:40:00 P.M.
		01:55:00 A.M.
		Note: Trips that span multiple dates will have stop times greater than 24:00:00. For example, if a trip begins at 10:30:00 p.m. and ends at 2:15:00 a.m. on the following day, the stop times would be 22:30:00 and 26:15:00. Entering those stop times as22:30:00 and 02:15:00 would not produce the desired results.
stop_id	**Required**	The stop_id field contains an ID that uniquely identifies a stop. Multiple routes may use the same stop. The stop_id is referenced from the stops.txt file. If location_type is used in stops.txt, all stops referenced in stop_times.txt must have location_type of 0.
		Where possible, stop_id values should remain consistent between feed updates. In other words, stop A with stop_id 1 should have stop_id 1 in all subsequent data updates. If a stop is not a time point, enter blank values for arrival_time and departure_time.
stop_sequence	**Required**	The stop_sequence field identifies the order of the stops for a particular trip. The values forstop_sequence must be non-negative integers, and they must increase along the trip.
		For example, the first stop on the trip could have a stop_sequence of 1, the second stop on the trip could have a stop_sequence of 23, the third stop could have a stop_sequence of 40, and so on.
stop_headsign	Optional	The stop_headsign field contains the text that appears on a sign that identifies the trip's destination to passengers. Use this field to override the default trip_headsign when the headsign changes between stops. If this headsign is associated with an entire trip, use trip_headsign instead.
		See a Google Maps screenshot highlighting the headsign.
pickup_type	Optional	The pickup_type field indicates whether passengers are picked up at a stop as part of the normal schedule or whether a pickup at the stop is not available. This field also allows the transit agency to indicate that passengers must call the agency or notify the driver to arrange a pickup at a particular stop. Valid values for this field are:
		0 - Regularly scheduled pickup
		1 - No pickup available
		2 - Must phone agency to arrange pickup
		3 - Must coordinate with driver to arrange pickup
		The default value for this field is 0.
drop_off_type	Optional	The drop_off_type field indicates whether passengers are dropped off at a stop as part of the normal schedule or whether a drop off at the stop is not available. This field also allows the transit agency to indicate that passengers must call the agency or notify the driver to arrange a drop off at a particular stop. Valid values for this field are:
		0 - Regularly scheduled drop off
		1 - No drop off available
		2 - Must phone agency to arrange drop off
		3 - Must coordinate with driver to arrange drop off

		The default value for this field is 0.
shape_dist_traveled	Optional	When used in the stop_times.txt file, the shape_dist_traveled field positions a stop as a distance from the first shape point. The shape_dist_traveled field represents a real distance traveled along the route in units such as feet or kilometers. For example, if a bus travels a distance of 5.25 kilometers from the start of the shape to the stop, the shape_dist_traveled for the stop ID would be entered as "5.25". This information allows the trip planner to determine how much of the shape to draw when showing part of a trip on the map. The values used for shape_dist_traveled must increase along with stop_sequence: they cannot be used to show reverse travel along a route.
		The units used for shape_dist_traveled in the stop_times.txt file must match the units that are used for this field in the shapes.txt file.
timepoint	Optional	The timepoint field can be used to indicate if the specified arrival and departure times for a stop are strictly adhered to by the transit vehicle or if they are instead approximate and/or interpolated times. The field allows a GTFS producer to provide interpolated stop times that potentially incorporate local knowledge, but still indicate if the times are approximate. For stop-time entries with specified arrival and departure times, valid values for this field are:
		empty - Times are considered exact.
		0 - Times are considered approximate.
		1 - Times are considered exact.
		For stop-time entries without specified arrival and departure times, feed consumers must interpolate arrival and departure times. Feed producers may optionally indicate that such an entry is not a timepoint (value=0) but it is an error to mark a entry as a timepoint (value=1) without specifying arrival and departure times.
calendar.txt		
service_id	**Required**	The service_id contains an ID that uniquely identifies a set of dates when service is available for one or more routes. Each service_id value can appear at most once in a calendar.txt file. This value is dataset unique. It is referenced by the trips.txt file.
monday	**Required**	The monday field contains a binary value that indicates whether the service is valid for all Mondays.
		A value of 1 indicates that service is available for all Mondays in the date range. (The date range is specified using the start_date and end_date fields.)
		A value of 0 indicates that service is not available on Mondays in the date range.
		Note: You may list exceptions for particular dates, such as holidays, in thecalendar_dates.txt file.
tuesday	**Required**	The tuesday field contains a binary value that indicates whether the service is valid for all Tuesdays.
		A value of 1 indicates that service is available for all Tuesdays in the date range. (The date range is specified using the start_date and end_date fields.)
		A value of 0 indicates that service is not available on Tuesdays in the date range.
		Note: You may list exceptions for particular dates, such as holidays, in thecalendar_dates.txt file.
wednesday	**Required**	The wednesday field contains a binary value that indicates whether the service is valid for all Wednesdays.
		A value of 1 indicates that service is available for all Wednesdays in the date range. (The date range is specified using the start_date and end_date fields.)
		A value of 0 indicates that service is not available on Wednesdays in the date range.
		Note: You may list exceptions for particular dates, such as holidays, in thecalendar_dates.txt file.
thursday	**Required**	The thursday field contains a binary value that indicates whether the service is valid for all Thursdays.
		A value of 1 indicates that service is available for all Thursdays in the date range. (The date range is specified using the start_date and end_date fields.)
		A value of 0 indicates that service is not available on Thursdays in the date range.
		Note: You may list exceptions for particular dates, such as holidays, in thecalendar_dates.txt file.
friday	**Required**	The friday field contains a binary value that indicates whether the service is valid for all Fridays.
		A value of 1 indicates that service is available for all Fridays in the date range. (The

		date range is specified using the start_date and end_date fields.)
		A value of 0 indicates that service is not available on Fridays in the date range.
		Note: You may list exceptions for particular dates, such as holidays, in thecalendar_dates.txt file
saturday	**Required**	The saturday field contains a binary value that indicates whether the service is valid for all Saturdays.
		A value of 1 indicates that service is available for all Saturdays in the date range. (The date range is specified using the start_date and end_date fields.)
		A value of 0 indicates that service is not available on Saturdays in the date range.
		Note: You may list exceptions for particular dates, such as holidays, in thecalendar_dates.txt file.
sunday	**Required**	The sunday field contains a binary value that indicates whether the service is valid for all Sundays.
		A value of 1 indicates that service is available for all Sundays in the date range. (The date range is specified using the start_date and end_date fields.)
		A value of 0 indicates that service is not available on Sundays in the date range.
		Note: You may list exceptions for particular dates, such as holidays, in thecalendar_dates.txt file.
start_date	**Required**	The start_date field contains the start date for the service.
		The start_date field's value should be in YYYYMMDD format.
end_date	**Required**	The end_date field contains the end date for the service. This date is included in the service interval.
		The end_date field's value should be in YYYYMMDD format.
calendar_dates.txt		
The calendar_dates table allows you to explicitly activate or disable service IDs by date. You can use it in two ways.		
Recommended: Use calendar_dates.txt in conjunction with calendar.txt, where calendar_dates.txt defines any exceptions to the default service categories defined in the **calendar.txt** file. If your service is generally regular, with a few changes on explicit dates (for example, to accomodate special event services, or a school schedule), this is a good approach.		
Alternate: Omit calendar.txt, and include ALL dates of service in calendar_dates.txt. If your schedule varies most days of the month, or you want to programmatically output service dates without specifying a normal weekly schedule, this approach may be preferable.		
service_id	**Required**	The service_id contains an ID that uniquely identifies a set of dates when a service exception is available for one or more routes. Each (service_id, date) pair can only appear once in calendar_dates.txt. If the a service_id value appears in both the calendar.txt and calendar_dates.txt files, the information in calendar_dates.txt modifies the service information specified in calendar.txt. This field is referenced by the trips.txt file.
date	**Required**	The date field specifies a particular date when service availability is different than the norm. You can use the exception_type field to indicate whether service is available on the specified date.
		The date field's value should be in YYYYMMDD format.
exception_type	**Required**	The exception_type indicates whether service is available on the date specified in the date field.
		A value of 1 indicates that service has been added for the specified date.
		A value of 2 indicates that service has been removed for the specified date.
		For example, suppose a route has one set of trips available on holidays and another set of trips available on all other days. You could have one service_id that corresponds to the regular service schedule and another service_id that corresponds to the holiday schedule. For a particular holiday, you would use the calendar_dates.txt file to add the holiday to the holiday service_id and to remove the holiday from the regular service_id schedule.
fare_attributes.txt		
fare_id	**Required**	The fare_id field contains an ID that uniquely identifies a fare class. The fare_id is dataset unique.
price	**Required**	The price field contains the fare price, in the unit specified by currency_type.
currency_type	**Required**	The currency_type field defines the currency used to pay the fare. Please use the ISO 4217 alphabetical currency codes which can be found at the following

		URL:http://en.wikipedia.org/wiki/ISO_4217.
payment_method	**Required**	The payment_method field indicates when the fare must be paid. Valid values for this field are:
		0 - Fare is paid on board.
		1 - Fare must be paid before boarding.
transfers	**Required**	The transfers field specifies the number of transfers permitted on this fare. Valid values for this field are:
		0 - No transfers permitted on this fare.
		1 - Passenger may transfer once.
		2 - Passenger may transfer twice.
		(empty) - If this field is empty, unlimited transfers are permitted.
transfer_duration	Optional	The transfer_duration field specifies the length of time in seconds before a transfer expires.
		When used with a transfers value of 0, the transfer_duration field indicates how long a ticket is valid for a fare where no transfers are allowed. Unless you intend to use this field to indicate ticket validity,transfer_duration should be omitted or empty when transfers is set to 0.
fare_rules.txt		
The fare_rules table allows you to specify how fares in fare_attributes.txt apply to an itinerary. Most fare structures use some combination of the following rules:		
Fare depends on origin or destination stations.		
Fare depends on which zones the itinerary passes through.		
Fare depends on which route the itinerary uses.		
For examples that demonstrate how to specify a fare structure with fare_rules.txt and fare_attributes.txt, seeFareExamples in the GoogleTransitDataFeed open source project wiki.		
fare_id	**Required**	The fare_id field contains an ID that uniquely identifies a fare class. This value is referenced from thefare_attributes.txt file.
route_id	Optional	The route_id field associates the fare ID with a route. Route IDs are referenced from the routes.txt file. If you have several routes with the same fare attributes, create a row in fare_rules.txt for each route.
		For example, if fare class "b" is valid on route "TSW" and "TSE", the fare_rules.txt file would contain these rows for the fare class:
		b,TSW
		b,TSE
origin_id	Optional	The origin_id field associates the fare ID with an origin zone ID. Zone IDs are referenced from thestops.txt file. If you have several origin IDs with the same fare attributes, create a row in fare_rules.txt for each origin ID.
		For example, if fare class "b" is valid for all travel originating from either zone "2" or zone "8", the fare_rules.txt file would contain these rows for the fare class:
		b, , 2
		b, , 8
destination_id	Optional	The destination_id field associates the fare ID with a destination zone ID. Zone IDs are referenced from the stops.txt file. If you have several destination IDs with the same fare attributes, create a row in fare_rules.txt for each destination ID.
		For example, you could use the origin_ID and destination_ID fields together to specify that fare class "b" is valid for travel between zones 3 and 4, and for travel between zones 3 and 5, the fare_rules.txt file would contain these rows for the fare class:
		b, , 3,4
		b, , 3,5
contains_id	Optional	The contains_id field associates the fare ID with a zone ID, referenced from the stops.txt file. The fare ID is then associated with itineraries that pass through every contains_id zone.
		For example, if fare class "c" is associated with all travel on the GRT route that passes through zones 5, 6, and 7 the fare_rules.txt would contain these rows:
		c,GRT,,,5
		c,GRT,,,6
		c,GRT,,,7
		Because all contains_id zones must be matched for the fare to apply, an itinerary that passes through zones 5 and 6 but not zone 7 would not have fare class "c". For more

		detail, see FareExamples in the GoogleTransitDataFeed project wiki.
shapes.txt		
shape_id	**Required**	The shape_id field contains an ID that uniquely identifies a shape.
shape_pt_lat	**Required**	The shape_pt_lat field associates a shape point's latitude with a shape ID. The field value must be a valid WGS 84 latitude. Each row in shapes.txt represents a shape point in your shape definition.
		For example, if the shape "A_shp" has three points in its definition, the shapes.txt file might contain these rows to define the shape:
		A_shp,37.61956,-122.48161,0
		A_shp,37.64430,-122.41070,6
		A_shp,37.65863,-122.30839,11
shape_pt_lon	**Required**	The shape_pt_lon field associates a shape point's longitude with a shape ID. The field value must be a valid WGS 84 longitude value from -180 to 180. Each row in shapes.txt represents a shape point in your shape definition.
		For example, if the shape "A_shp" has three points in its definition, the shapes.txt file might contain these rows to define the shape:
		A_shp,37.61956,-122.48161,0
		A_shp,37.64430,-122.41070,6
		A_shp,37.65863,-122.30839,11
shape_pt_sequence	**Required**	The shape_pt_sequence field associates the latitude and longitude of a shape point with its sequence order along the shape. The values for shape_pt_sequence must be non-negative integers, and they must increase along the trip.
		For example, if the shape "A_shp" has three points in its definition, the shapes.txt file might contain these rows to define the shape:
		A_shp,37.61956,-122.48161,0
		A_shp,37.64430,-122.41070,6
		A_shp,37.65863,-122.30839,11
shape_dist_traveled	Optional	When used in the shapes.txt file, the shape_dist_traveled field positions a shape point as a distance traveled along a shape from the first shape point. The shape_dist_traveled field represents a real distance traveled along the route in units such as feet or kilometers. This information allows the trip planner to determine how much of the shape to draw when showing part of a trip on the map. The values used for shape_dist_traveled must increase along with shape_pt_sequence: they cannot be used to show reverse travel along a route.
		The units used for shape_dist_traveled in the shapes.txt file must match the units that are used for this field in the stop_times.txt file.
		For example, if a bus travels along the three points defined above for A_shp, the additionalshape_dist_traveled values (shown here in kilometers) would look like this:
		A_shp,37.61956,-122.48161,0,0
		A_shp,37.64430,-122.41070,6,6.8310
		A_shp,37.65863,-122.30839,11,15.8765
frequencies.txt		
This table is intended to represent schedules that don't have a fixed list of stop times. When trips are defined in frequencies.txt, the trip planner ignores the absolute values of the arrival_time and departure_time fields for those trips instop_times.txt. Instead, the stop_times table defines the sequence of stops and the time difference between each stop.		
trip_id	**Required**	The trip_id contains an ID that identifies a trip on which the specified frequency of service applies. Trip IDs are referenced from the trips.txt file.
start_time	**Required**	The start_time field specifies the time at which service begins with the specified frequency. The time is measured from "noon minus 12h" (effectively midnight, except for days on which daylight savings time changes occur) at the beginning of the service date. For times occurring after midnight, enter the time as a value greater than 24:00:00 in HH:MM:SS local time for the day on which the trip schedule begins. E.g. 25:35:00.
end_time	**Required**	The end_time field indicates the time at which service changes to a different frequency (or ceases) at the first stop in the trip. The time is measured from "noon minus 12h" (effectively midnight, except for days on which daylight savings time changes occur) at the beginning of the service date. For times occurring after midnight, enter the time as a value greater than 24:00:00 in HH:MM:SS local time for the day on which the trip schedule begins. E.g. 25:35:00.

headway_secs	**Required**	The headway_secs field indicates the time between departures from the same stop (headway) for this trip type, during the time interval specified by start_time and end_time. The headway value must be entered in seconds.
		Periods in which headways are defined (the rows in frequencies.txt) shouldn't overlap for the same trip, since it's hard to determine what should be inferred from two overlapping headways. However, a headway period may begin at the exact same time that another one ends, for instance:
		A, 05:00:00, 07:00:00, 600
		B, 07:00:00, 12:00:00, 1200
exact_times	Optional	The exact_times field determines if frequency-based trips should be exactly scheduled based on the specified headway information. Valid values for this field are:
		0 or (empty) - Frequency-based trips are not exactly scheduled. This is the default behavior.
		1 - Frequency-based trips are exactly scheduled. For a frequencies.txt row, trips are scheduled starting with trip_start_time = start_time + x * headway_secs for all x in (0, 1, 2, ...) where trip_start_time < end_time.
		The value of exact_times must be the same for all frequencies.txt rows with the same trip_id. Ifexact_times is 1 and a frequencies.txt row has a start_time equal to end_time, no trip must be scheduled. When exact_times is 1, care must be taken to choose an end_time value that is greater than the last desired trip start time but less than the last desired trip start time + headway_secs.
transfers.txt		
Trip planners normally calculate transfer points based on the relative proximity of stops in each route. For potentially ambiguous stop pairs, or transfers where you want to specify a particular choice, use transfers.txt to define additional rules for making connections between routes.		
from_stop_id	**Required**	The from_stop_id field contains a stop ID that identifies a stop or station where a connection between routes begins. Stop IDs are referenced from the stops.txt file. If the stop ID refers to a station that contains multiple stops, this transfer rule applies to all stops in that station.
to_stop_id	**Required**	The to_stop_id field contains a stop ID that identifies a stop or station where a connection between routes ends. Stop IDs are referenced from the stops.txt file. If the stop ID refers to a station that contains multiple stops, this transfer rule applies to all stops in that station.
transfer_type	**Required**	The transfer_type field specifies the type of connection for the specified (from_stop_id, to_stop_id) pair. Valid values for this field are:
		0 or (empty) - This is a recommended transfer point between two routes.
		1 - This is a timed transfer point between two routes. The departing vehicle is expected to wait for the arriving one, with sufficient time for a passenger to transfer between routes.
		2 - This transfer requires a minimum amount of time between arrival and departure to ensure a connection. The time required to transfer is specified by min_transfer_time.
		3 - Transfers are not possible between routes at this location.
min_transfer_time	Optional	When a connection between routes requires an amount of time between arrival and departure (transfer_type=2), the min_transfer_time field defines the amount of time that must be available in an itinerary to permit a transfer between routes at these stops. The min_transfer_time must be sufficient to permit a typical rider to move between the two stops, including buffer time to allow for schedule variance on each route.
		The min_transfer_time value must be entered in seconds, and must be a non-negative integer.
feed_info.txt		
The file contains information about the feed itself, rather than the services that the feed describes. GTFS currently has anagency.txt file to provide information about the agencies that operate the services described by the feed. However, the publisher of the feed is sometimes a different entity than any of the agencies (in the case of regional aggregators). In addition, there are some fields that are really feed-wide settings, rather than agency-wide.		
feed_publisher_name	**Required**	The feed_publisher_name field contains the full name of the organization that publishes the feed. (This may be the same as one of the agency_name values in agency.txt.) GTFS-consuming applications can display this name when giving attribution for a particular feed's data.
feed_publisher_url	**Required**	The feed_publisher_url field contains the URL of the feed publishing organization's

		website. (This may be the same as one of the agency_url values in agency.txt.) The value must be a fully qualified URL that includes http:// or https://, and any special characters in the URL must be correctly escaped. See http://www.w3.org/Addressing/URL/4_URI_Recommentations.html for a description of how to create fully qualified URL values.
feed_lang	**Required**	The feed_lang field contains a IETF BCP 47 language code specifying the default language used for the text in this feed. This setting helps GTFS consumers choose capitalization rules and other language-specific settings for the feed. For an introduction to IETF BCP 47, please refer tohttp://www.rfc-editor.org/rfc/bcp/bcp47.txt andhttp://www.w3.org/International/articles/language-tags/.
feed_start_date	Optional	The feed provides complete and reliable schedule information for service in the period from the beginning of the feed_start_date day to the end of the feed_end_date day. Both days are given as dates in YYYYMMDD format as for calendar.txt, or left empty if unavailable. The feed_end_datedate must not precede the feed_start_date date if both are given. Feed providers are encouraged to give schedule data outside this period to advise of likely future service, but feed consumers should treat it mindful of its non-authoritative status. If feed_start_date or feed_end_date extend beyond the active calendar dates defined in calendar.txt and calendar_dates.txt, the feed is making an explicit assertion that there is no service for dates within the feed_start_date orfeed_end_date range but not included in the active calendar dates.
feed_end_date		
feed_version	Optional	The feed publisher can specify a string here that indicates the current version of their GTFS feed. GTFS-consuming applications can display this value to help feed publishers determine whether the latest version of their feed has been incorporated.

AirNet Data:

Field Name	Parameter	Unit	Description
YEAR	Year		Year
QUARTER	Quarter		Quarter
MONTH	Month		Month
ORIGIN_CITY_MARKET_ID	Origin Airport - City Market ID		City Market ID is an identification number assigned by US DOT to identify a city market. Use this field to consolidate airports serving the same city market.
ORIGIN	Origin Airport		Origin Airport
ORIGIN_CITY_NAME	Origin City		Origin City
DEST_CITY_MARKET_ID	Destination Airport - City Market ID		City Market ID is an identification number assigned by US DOT to identify a city market. Use this field to consolidate airports serving the same city market.
DEST	Destination Airport		Destination Airport
DEST_CITY_NAME	Destination City		Destination City
UNIQUE_CARRIER	Unique Carrier Code		When the same code has been used by multiple carriers, a numeric suffix is used for earlier users, for example, PA, PA(1), PA(2). Use this field for analysis across a range of years.
AIRLINE_ID	Airline Identifier		An identification number assigned by US DOT to identify a unique airline (carrier). A unique airline (carrier) is defined as one holding and reporting under the same DOT certificate regardless of its Code, Name, or holding company/corporation.
UNIQUE_CARRIER_NAME	Carrier Name		Unique Carrier Name. When the same name has been used by multiple carriers, a numeric suffix is used for earlier users, for example, Air Caribbean, Air Caribbean (1).

UNIQUE_CARRIER_ENTITY	Carrier Operation Region		Unique Entity for a Carrier's Operation Region.
REGION	Carrier's Operation Region		Carriers Report Data by Operation Region
CARRIER	Carrier Code		Code assigned by IATA and commonly used to identify a carrier. As the same code may have been assigned to different carriers over time, the code is not always unique. For analysis, use the Unique Carrier Code.
CARRIER_NAME	Carrier Name		Carrier Name
CARRIER_GROUP	Carrier Group Code		Carrier Group Code. Used in Legacy Analysis
CARRIER_GROUP_NEW	Carrier Group New		Carrier Group New
DISTANCE_GROUP	Distance Intervals (n)	n x 500 miles	Distance Intervals, every 500 Miles, for Flight Segment
CLASS	Service Class		Service Class
AIRCRAFT_GROUP	Aircraft Group		Aircraft Group
AIRCRAFT_TYPE	Aircraft Type		Aircraft Type
AIRCRAFT_CONFIG	Aircraft Configuration		Aircraft Configuration
DEPARTURES_SCHEDULED	Departures Scheduled		Departures Scheduled
DEPARTURES_PERFORMED	Departures Performed		Departures Performed
PAYLOAD	Available Payload	pounds	Available Payload
SEATS	Available Seats	seats	Available Seats
PASSENGERS	Passengers Transported	passengers	Non-Stop Segment Passengers Transported
FREIGHT	Freight Transported	pounds	Non-Stop Segment Freight Transported
MAIL	Mail Transported	pounds	Non-Stop Segment Mail Transported
DISTANCE	Distance between airports	miles	Distance between airports
RAMP_TO_RAMP	Ramp to Ramp Time	minutes	Ramp to Ramp Time
AIR_TIME	Airborne Time	minutes	Airborne Time
tbl	Table1a		Name of the data table
Year	2014		Data Year
quarter	2		Data Quarter
citymarketid_1	30140		City market ID is an identification number assigned by US DOT to identify a city market. Use this field to consolidate airports serving the same city market
citymarketid_2	30194		City market ID is an identification number assigned by US DOT to identify a city market. Use this field to consolidate airports serving the same city market
City1	Albuquerque, NM		City1 is used to consolidate airports serving the same city market
City2	Dallas/Fort Worth, TX		City2 is used to consolidate airports serving the same city market

nsmiles	580	miles	Non-Stop Market Miles (Using Radian Measure)
airportid_1	10140		Airport ID is an identification number assigned by US DOT to identify a airport.
airportid_2	11259		Airport ID is an identification number assigned by US DOT to identify a airport.
airport_1	ABQ		Airport code
airport_2	DAL		Airport code
passengers	362.4175824	passengers	Passenger Per day
fare	189.9777744	Dollars	Overall average fare
carrier_lg	WN		carrier with the largest fare
large_ms	0.995148575		Market share for the largest carrier
fare_lg	189.7290067	Dollars	Average fare for the largest carrier
carrier_low	WN		carrier with the lowest fare
lf_ms	0.995148575		Market share for the lowest carrier
fare_low	189.7290067	Dollars	Average fare for the lowest carrier

AirNet Data Sources:

Data Description	Source Organization	Source URL	Source Original File
Quarterly Airfare Report	US DOT Aviation Policy Domestic Airline Consumer Airfare Report	http://www.transportation.gov/policy/aviation-policy/domestic-airline-consumer-airfare-report	V:\Intercity\Data\AirTravel\Original\Table 1a Domestic Airline Airfare Report - Second Quarter 2014_5.xlsx
Monthly Domestic Non-Stop Segment Data	Bureau of Transportation Statistics Air Carrier Statistics Database (T-100)	http://www.transtats.bts.gov/DatabaseInfo.asp?DB_ID=110&DB_URL=http://www.transtats.bts.gov/Fields.asp?Table_ID=259	V:\Intercity\Data\AirTravel\Original\10799535_T_T100D_SEGMENT_ALL_CARRIER\10799535_T_T100D_SEGMENT_ALL_CARRIER_2014_5.csv