THE I-81 CHALLENGE

The I-81 Challenge
Spring 2011 Questionnaire Summary

November 2011

Prepared for:

The Syracuse Metropolitan Transportation Council

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1.0 Executive Summary

As part of a larger public outreach effort to provide information and gather input on *The I-81 Challenge* facing the SMTC, the NYSDOT, and the residents of Syracuse, Resource Systems Group conducted a public opinion questionnaire of 990 residents of the greater Syracuse region in the spring of 2011. The primary purpose of this questionnaire was to collect information about how I-81 is currently used in Syracuse and to gauge residents' opinions regarding the future role of the highway in serving the needs of the community. Additional information regarding the administration and results of the questionnaire can be found in this report as well as the accompanying appendices.

A respondent was categorized as a frequent user of I-81 if he/she reported using I-81 at least daily (on weekdays and/or weekends). Therefore a respondent was categorized as an infrequent user of I-81 if they reported using the highway less than daily (on weekdays and/or weekends). A total of 475 infrequent users (48%) of I-81 and 515 frequent users (52%) completed the questionnaire.

1.1 I-81 Usage Questions

1. The top 3 reasons for how I-81 personally impacts residents' lives among all respondents :
    a. 93% reported driving on I-81 itself,
    b. 83% reported driving on streets under or near I-81, and
    c. 56% reported that their employer or school was located near I-81.
    d. Only 3% of respondents reported that I-81 does not impact their life on a regular basis.
2. Time required to travel anywhere in Syracuse region:
    a. Overall, 84% of respondents reported that they could travel anywhere they needed in less than 40 minutes and in fact, 22% of respondents reported that they could travel anywhere they needed to in the region in under 20 minutes.
    b. With regard to the future, 70% of respondents reported that they were willing to tolerate it taking additional time for them to travel anywhere they needed to in the region. However, about half of respondents (49%) were only willing to tolerate up to an additional 10 minutes over what they reported it currently takes them to travel anywhere in the Syracuse region.

1.2 Opinion Questions

1. I-81 Opinions:
    a. While only 23% of respondents felt unsafe traveling on I-81 itself, 41% of respondents felt unsafe using the ramps to enter and exit I-81.
    b. Overall, just over one-third (35%) of respondents agreed that they often drive on other roads in order to avoid congestion on I-81. Infrequent users of I-81 appear to be actively avoiding I-81, with 18% reporting that they often drive on other roads in order to avoid congestion on I-81.
    c. Overall, participants were divided in their knowledge with 41% of all respondents stating they didn't know how and 40% reporting that they did know how to find information about traffic conditions and planned highway construction on I-81. This was

consistent across usage with 43% of infrequent users and 39% of frequent users not knowing where to find information about traffic conditions and planned highway construction. Students were the least likely to know where to find information with 61% of full-time students and 62% of students who were also employed reporting that they did not know where to find information on traffic conditions and planned highway construction on I-81.

2. Transit Opinions: Respondents are amenable to using funds for non-highway projects, but very few regularly use transit.
    a. Two-thirds (66%) of all respondents support using transportation funds to help pay for non-highway projects. Only 16% oppose the idea and 18% were neutral as to whether to use transportation funds to help pay for non-highway projects.
    b. Almost as many respondents (56%) reported knowing how to get bus route and schedule information for Syracuse transit, while 30% reported not knowing how to get bus route and schedule information for the region.
    c. Only 11% of respondents reported regularly using transit in the Syracuse region.

3. Transportation Policy & Quality of Life Opinions: In summary, respondents felt that I-81 positively impacts the economy, but that as currently designed it has other significant negative impacts on the city.
    a. 49% of respondents felt that I-81 positively impacts the downtown Syracuse economy and 65% felt that I-81 positively impacts the central NY State economy.
    b. Similarly, 69% of respondents feel that I-81 allows them to travel to locations in the region quickly and easily.
    c. However, 64% of respondents felt that I-81 negatively impacts the region by both impacting the look of the city and by dividing downtown Syracuse from University Hill. Just over one-third (36%) of respondents stated that emissions from traffic on I-81 impacts their life.

4. Agency Planning Opinions: There is not a great deal of awareness or understanding among the general public regarding transportation decisions.
    a. 45% of respondents were unaware that the Syracuse region has a long-range transportation plan.
    b. 53% of respondents are unfamiliar with the role and function of SMTC.
    c. 61% of respondents do not know how transportation improvements are prioritized and funded in the Syracuse region.
    d. 66% of respondents do not regularly participate in the transportation planning process.

1.3 Benefits to the Syracuse Region from an Improved I-81

Among the 20 possible benefits that were presented to respondents that could result from an improved I-81, the five most important were:

1. A revitalized downtown Syracuse economy
2. Economic development with more businesses locating in the Syracuse region
3. An improved roadway network that is clearer and easier for traveling in the Syracuse region

4. A safer roadway network with fewer traffic accidents
5. Improved and safer highway interchanges/exits

Respondents are seeking the benefit of a safer, modern I-81 and the perceived benefits that such a highway would provide the regional economy. Other benefits such as emissions and noise reduction, transit improvements, and beautification efforts are of secondary importance.

2.0 Introduction

The Syracuse Metropolitan Transportation Council (SMTC) retained Resource Systems Group, Inc. (RSG) to conduct a public opinion questionnaire for residents of the greater Syracuse region regarding future options of the segment of Interstate 81 (I-81) that runs through downtown Syracuse. RSG served as a sub-consultant to the Howard/Stein-Hudson Associates, Inc team. RSG conducted the public opinion questionnaire as part of a larger public outreach effort to provide information and gather input on *The I-81 Challenge* facing the SMTC, the NYSDOT, and the residents of Syracuse.

The primary purpose of *The I-81 Challenge* questionnaire was to collect information about how I-81 is currently used in Syracuse and to gauge residents' opinions regarding the future role of the highway in serving the needs of the community.

RSG developed and implemented a questionnaire that collected information on current travel behaviors and traveler characteristics, opinions of a wide range of travel related topics, and prioritization of I-81 benefits. Maximum-Difference (Max-Diff) scaling experiments were used to collect inputs on the benefits of most and least importance to residents. These inputs were used to estimate models that provide prioritization of the attributes to consider when planning the future of I-81.

The questionnaire approach most broadly employed a computer-assisted self-interview (CASI) technique. The questionnaire instrument that RSG developed was customized for each respondent by presenting questions and modifying wording based on respondents' previous answers. These dynamic features provide an accurate and efficient means of data collection and allow presentation of realistic future conditions that correspond with the respondents' reported experiences. The customized, proprietary software was programmed for online and in-person administration to targeted audiences. Paper questionnaires were also provided to participants at the public workshops.

This report documents the development and administration of the questionnaire, presents results, and summarizes the findings. The full text of the questionnaire, screen captures, response tabulations, and respondents' comments about the project appear as appendices to this report.

3.0 Questionnaire

The questionnaire was designed to collect information about the current uses of I-81 in Syracuse and the opinions of the area's residents regarding the future design of the road. The questions were grouped into four main sections:

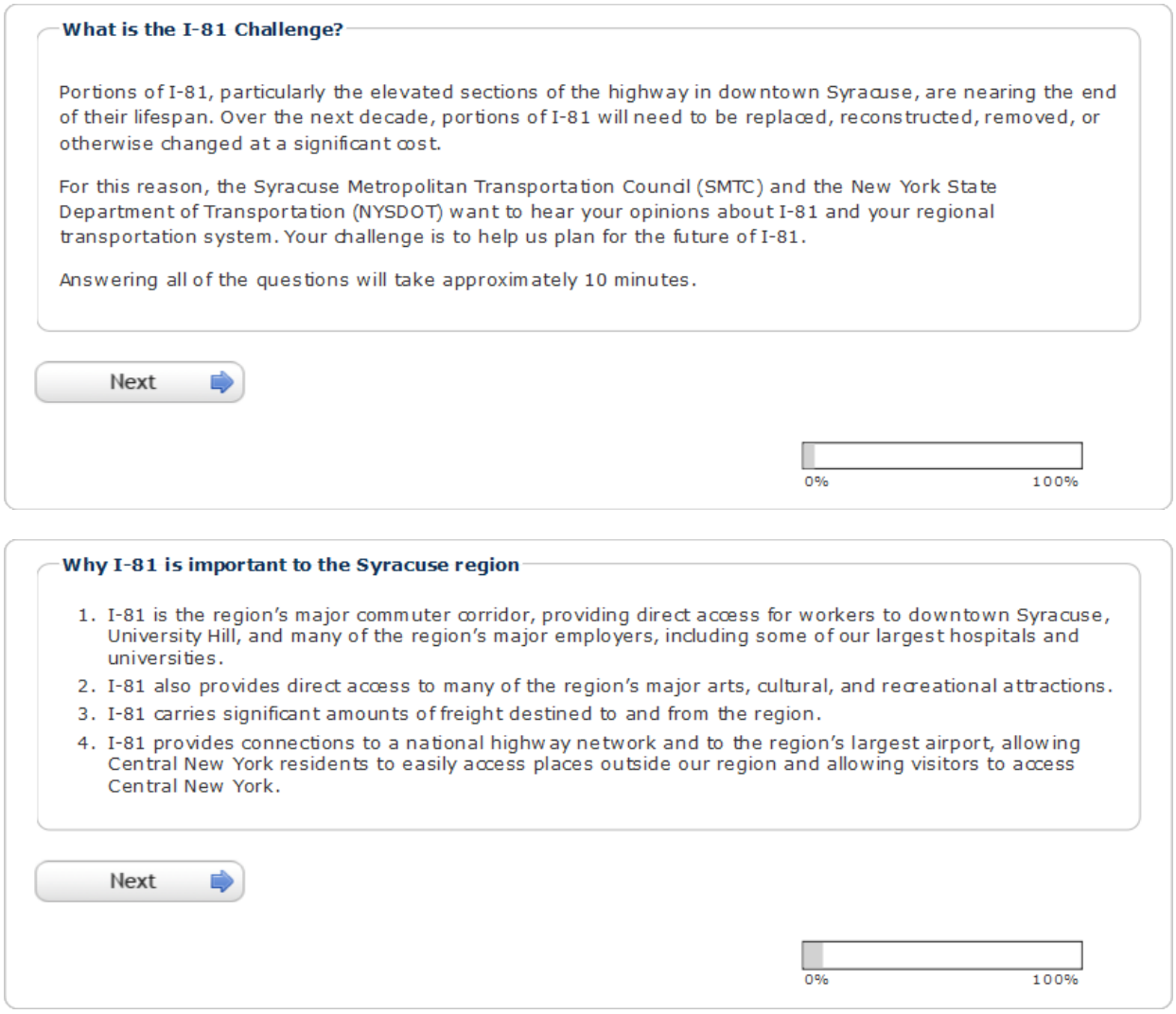
1. I-81 Usage
2. Opinions
3. Benefit Prioritization using a "Maximum Difference" exercise
4. Demographics

The complete text of the questionnaire is included in Appendix A and example screens are included in Appendix B.

3.1 I-81 Usage Questions

Respondents first were provided with background information regarding *The I-81 Challenge* (Figure 1).

Figure 1: Sample Questionnaire Screens—Background Information



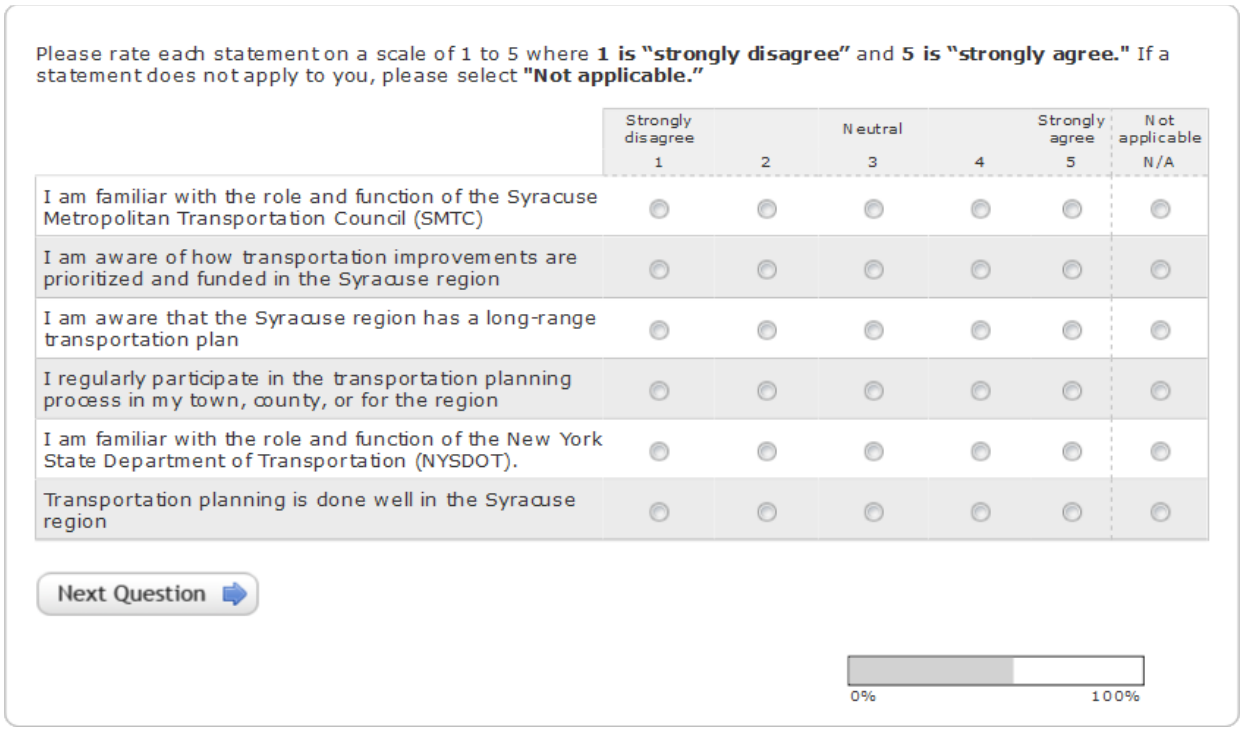
Then, respondents were asked to report how they use I-81 in the Syracuse area. Respondents indicated the ways that I-81 impacts their lives, how recently they used the highway, how often and for what purposes they use I-81 on weekends and weekdays, how long their travel takes and what travel time they could tolerate for their future travel in the region.

3.2 Opinion Questions

Respondents were asked to rate the degree to which they agree or disagree with statements regarding I-81, transit alternatives, policy and quality of life issues, and transportation planning. Six to ten statements per category addressed topics such as safety, convenience, congestion, funding, availability of information, awareness and use of options, participation, efficiency, aesthetics, emissions, and noise.

An example opinion screen is shown in Figure 2. For each category of opinion questions, the set of statements were shown in randomized order to each respondent thereby minimizing order bias across the sample.

Figure 2: Sample Questionnaire Screen—Transportation Planning Opinions



3.3 Benefits Prioritization Questions (Using Max-Diff)

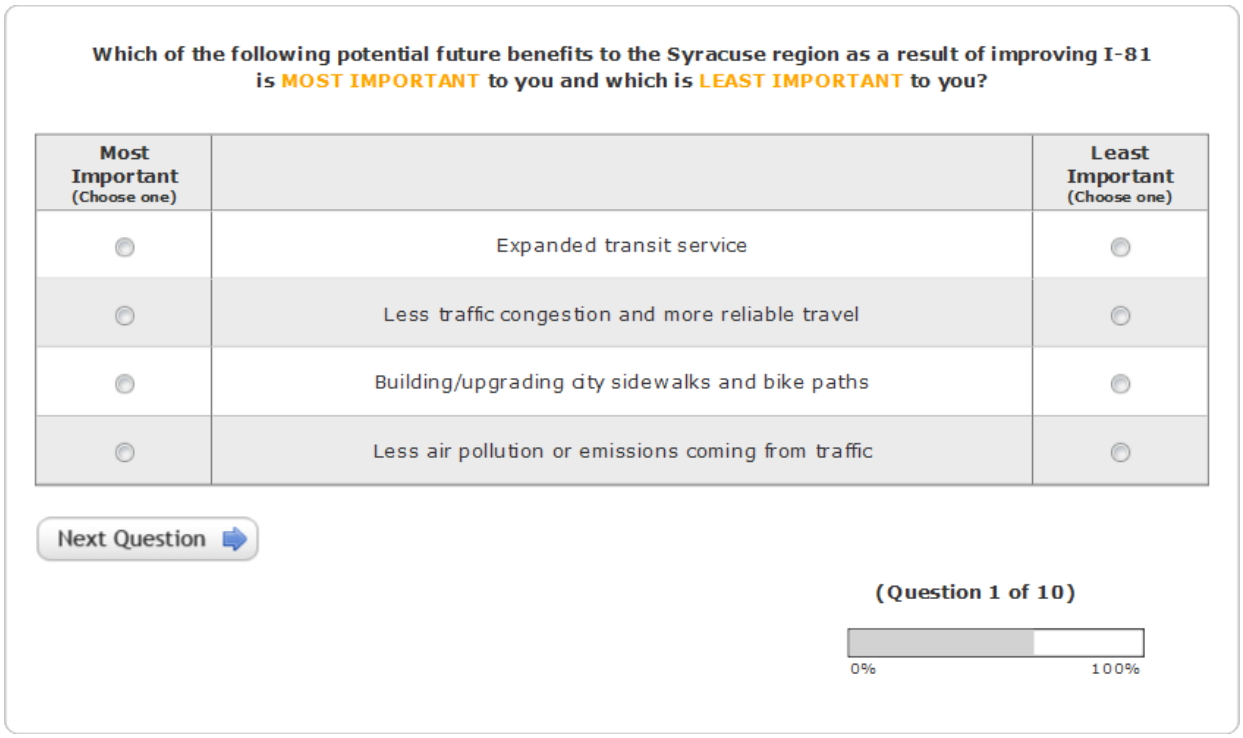
A list of potential benefits of improving I-81 was developed by the project team. The design that is ultimately determined for the future of I-81 has an impact on which of possible benefits and the extent of these benefits would be provided to the Syracuse region.

1. A revitalized downtown Syracuse economy
2. A safer roadway network with fewer traffic accidents
3. An improved roadway network that is clearer and easier for traveling around the Syracuse region
4. Beautifying downtown and University Hill
5. Building/upgrading city sidewalks and bike paths
6. Economic development with more businesses locating in the Syracuse region
7. Expanded transit service
8. Improved and safer highway interchanges/exits
9. Improved connectivity and integration of the downtown and University Hill
10. Improved development policies and land use planning for the region
11. Improved roadway access and travel times for emergency services (hospital, fire, & police)
12. Improved sense of pride and optimism for the community
13. Increased efficiency for delivering commercial goods/services
14. Increased frequency and number of hours per day buses run to downtown and University Hill

15. Less air pollution or emissions coming from traffic
16. Less noise from traffic in the downtown and on University Hill
17. Less traffic congestion and more reliable travel
18. More transportation options for young, elderly, disabled & low-income populations
19. Shorter time to travel to/from the downtown and University Hill
20. Shorter time to travel to/from work

To understand residents' prioritization of these 20 potential benefits, the questionnaire used a Maximum-Difference (Max-Diff) scaling approach to present a series of trade-off questions. Each respondent answered ten questions in which they chose the most and least important of four potential benefits. An example questionnaire screen for one of the ten benefit importance questions using Max-Diff is shown in Figure 3. Each of the ten questions included a different combination of four benefit statements. Across the ten questions, each respondent saw each benefit statement at least twice.

Figure 3: Sample Questionnaire Screen—Benefit Importance



MaxDiff is a statistical method pioneered by Jordan Louviere in the early 1990s. A series of MaxDiff questions are shown (such as Figure 3) so that respondents must make choices between the set of twenty I-81 benefits. Respondent answer choices are then analyzed to produce results that show the relative importance of the twenty I-81 benefits. This is useful because it avoids situations where respondents rate most or all statements as "important" making it more difficult to distinguish the most important statement or prioritize the set of statements. Instead, the raw utility (or the measure of preference) of each I-81 benefit is calculated revealing the relative differences in importance among the set of twenty I-81 statements.

3.4 Debrief and Demographic Questions

After the benefits prioritization questions, respondents provided information about their awareness of *The I-81 Challenge* study and how they heard about the study and the questionnaire. They were asked their opinion of the transparency and accessibility of *The I-81 Challenge* process. To finish the questionnaire, demographic questions were asked in order to classify respondents, identify differences in responses among traveler segments, and confirm that the sample contained a cross section of the traveling population that is served by I-81. All respondents were presented with the option of abstaining from providing their demographic information.

The questionnaire asked demographic questions relating to:

1. Gender
2. Zip code
3. Age
4. Employment status
5. Household size
6. Number of household vehicles
7. Annual household income

Respondents were also given the opportunity to leave open-ended comments and suggestions about how to improve I-81 for the future. These open-ended comments are provided in Appendix D.

4.0 Questionnaire Administration

RSG worked closely with the project team to design an administration plan to include a sufficient range of travelers to support the Max-Diff model. By collecting data from a range of traveler and trip types, it is possible to systematically identify elements that Syracuse residents would like to be considered in the I-81 planning process.

The questionnaire instrument was administered through:

1. An online questionnaire, which was available via a number of websites including:
    1. http://thei81challenge.org
    2. http://thei81challengeblog.org/
    3. http://legacy.rsgsurvey.com/syracuse/
2. As a link to the online questionnaire provided in *The I-81 Challenge* e-newsletter emails
3. At a series of public workshops on May 3, May 4, and May 7, 2011 in Syracuse where respondents could either complete a paper-based version of the questionnaire or take the questionnaire online using a laptop or an iPad.

RSG began administration on January 7, 2011 and concluded the administration for the purposes of this memo on May 30, 2011. A total of 990 respondents completed the questionnaire during this time. The web-based questionnaire administration yielded 926 completed responses. An additional 64 responses were collected via paper-based participation during the public workshops.

5.0 Questionnaire Results

A total of 990 respondents completed the questionnaire and these data are included in the descriptive analysis presented in this section. The descriptive analysis is provided in three categories: I-81 usage questions, opinion questions, and demographic questions.

It is important to note that for many of the questions, the total number of respondents does not total 990 because several respondents using the paper questionnaire abstained from answering certain questions. Therefore, these blank responses are not included in the analysis for the relevant question.

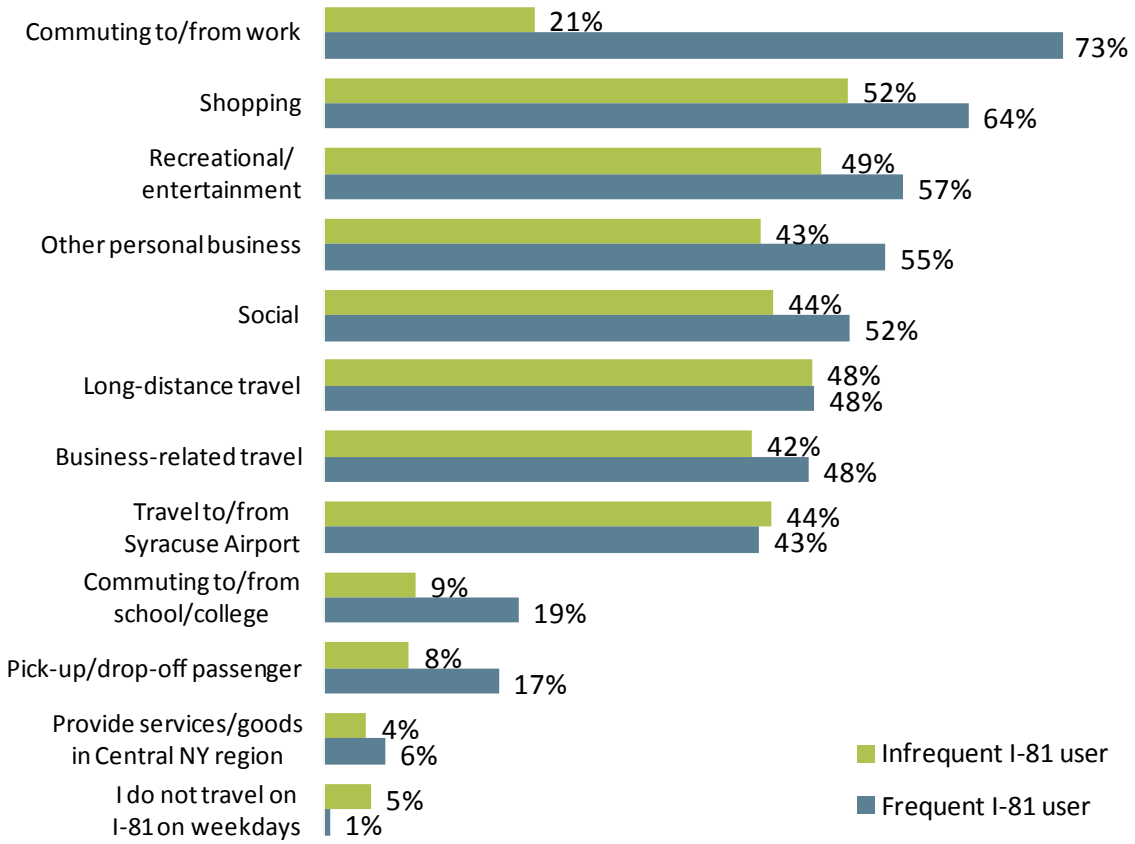
A number of the charts in this section segment the sample into two groups: frequent users and infrequent users of I-81. The reader will recall that all respondents were asked two sequential questions to begin the questionnaire. The first question asked how often (on average) the respondent traveled on I-81 on weekdays. For this question, 41% of respondents reported using I-81 one or more times per day. All respondents then answered a second question asking how often they used I-81 on the weekends. Overall, 33% of respondents reported that they use I-81 at least once on each weekend day. A respondent was then categorized as a "frequent" user of I-81 if they reported using I-81 at least once per day in either question resulting in a total of 475 infrequent users of I-81 and 515 frequent users completed the questionnaire.

A complete set of tabulations is presented in Appendix C.

5.1 I-81 Usage Questions

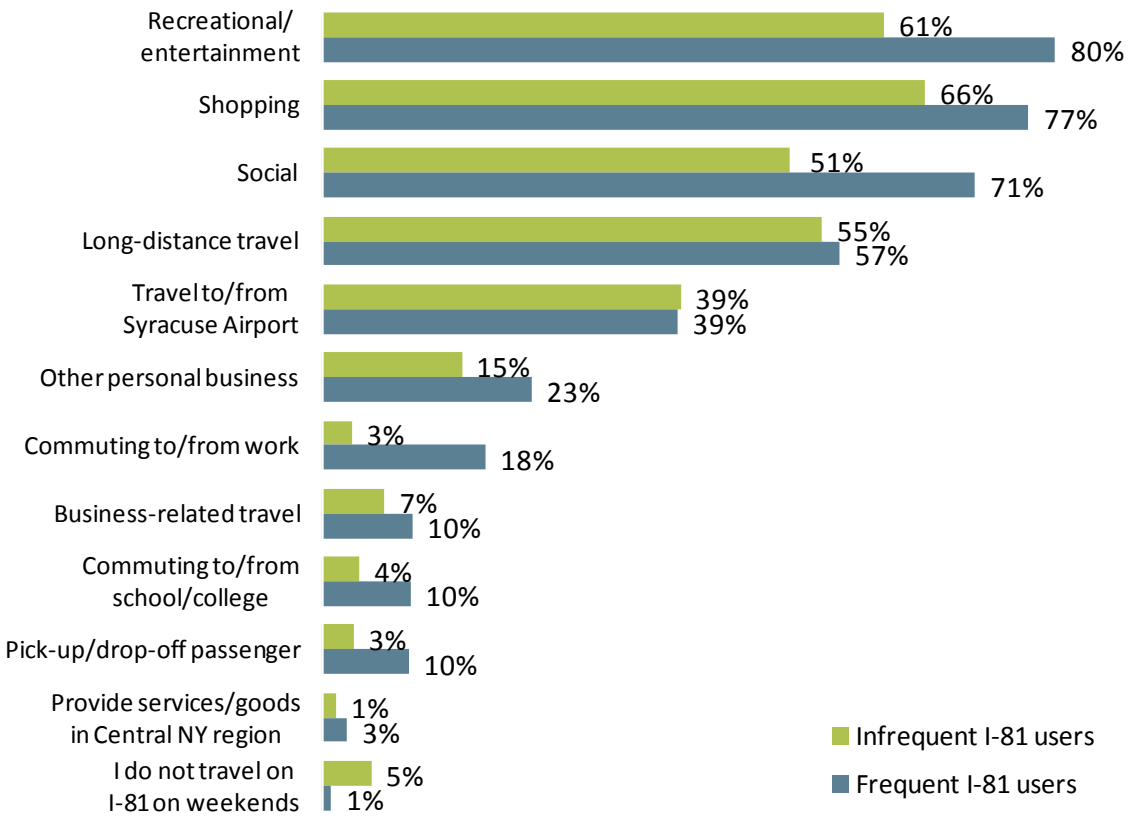
The reasons for using I-81 in Syracuse on weekdays differed when comparing frequent and infrequent users of the road. As is shown in Figure 4, frequent users are far more likely to report using I-81 for commuting to/from work or school. Infrequent weekday trips include a mix of business and personal travel purposes.

Figure 4: Reasons for Using I-81 on Weekdays by Frequency of I-81 Usage



Similarly, large differences in the reasons that weekend drivers use I-81 exist based on the frequency of their travel. While considerably fewer respondents reported using I-81 for work commutes on the weekend, frequent users were six times more likely to report this type of trip (18% vs. 3%). Frequent users of the road were most likely to report a recreational/entertainment trip (80%), whereas infrequent users were most likely to use the road for shopping on weekends (66%).

Figure 5: Reasons for Using I-81 on Weekends by Frequency of I-81 Usage



Respondents were asked to report the amount of time (from zero to 120 minutes) that they feel it currently takes them to travel to anywhere they want to go in the Syracuse region. Respondents were also asked to report the amount of time (from zero to 120 minutes) that they could tolerate it taking to travel from home to anywhere in the Syracuse region in the future. As shown in Figure 6, 59% of respondents report that they can currently travel to where they need to in less than 30 minutes. However, Figure 7 shows that 66% of respondents would be willing to tolerate a travel time of 30 minutes or more.

Figure 6: Amount of Time it Takes Now to Travel Anywhere Needed In Syracuse Region

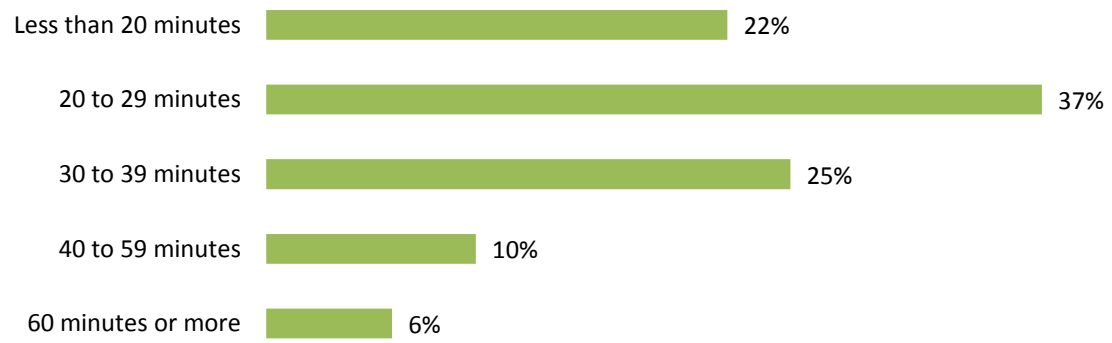
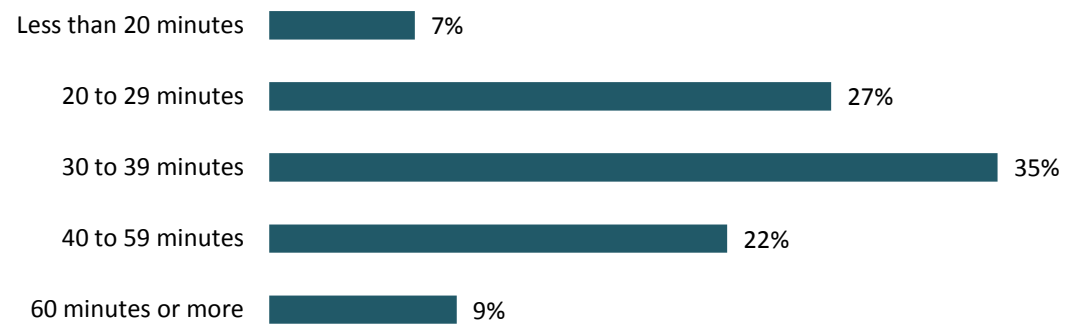
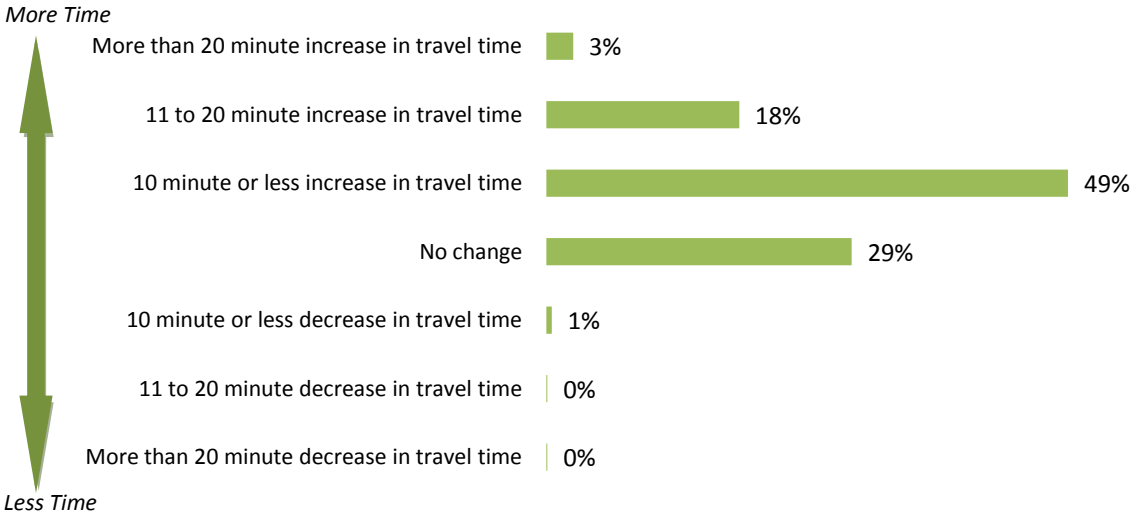


Figure 7: Amount of Time Respondents Would Tolerate to Travel Anywhere Needed in Syracuse Region



This data indicate there is some willingness to accept longer trips. Figure 8 breaks down the amount of additional travel time the survey respondents would tolerate. Twenty-nine percent reported that the time they were willing to tolerate was the same as the time they currently feel it takes to get anywhere in the Syracuse region. An additional 49% of respondents were willing to tolerate up to an additional 10 minutes and 21% were willing to tolerate more than 10 minutes over what they report it currently takes them to travel anywhere in the Syracuse region.

Figure 8: Change in travel time that individual respondents would tolerate to travel anywhere necessary in the Syracuse region

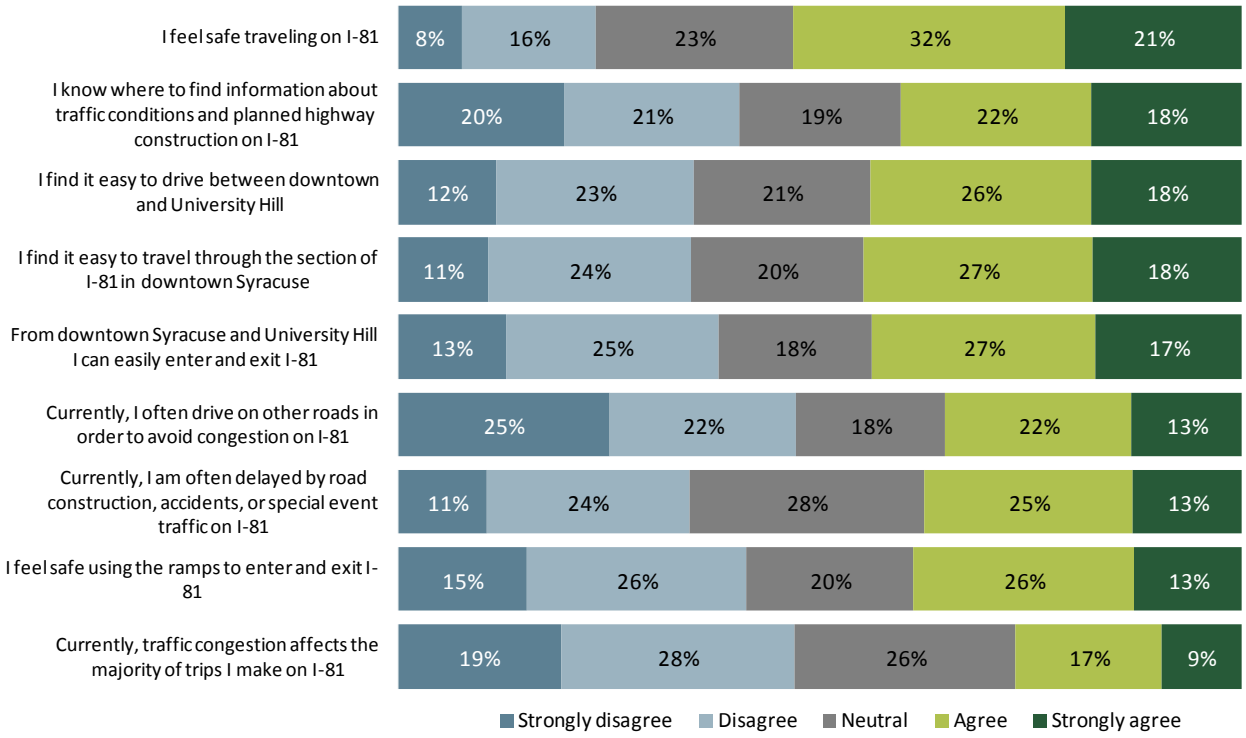


5.2 Opinion Questions

In this section, respondents were asked to disagree or agree with a number of statements about their opinions regarding various issues related to I-81.

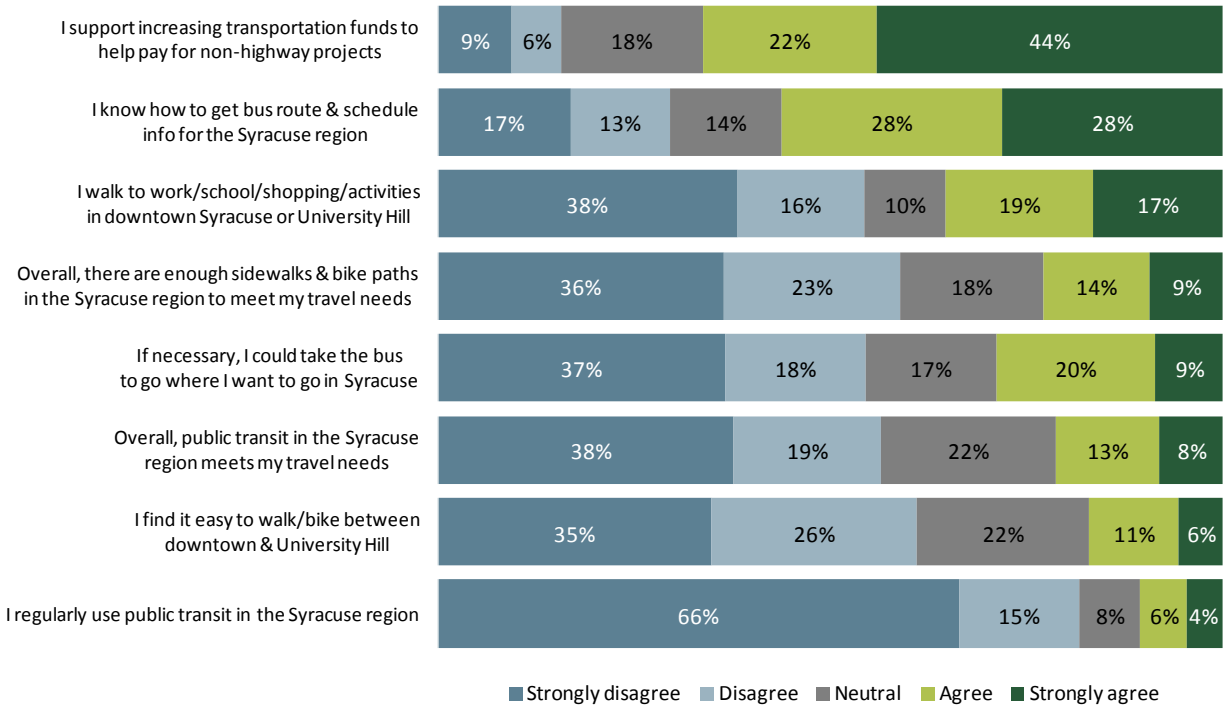
When presented with statements regarding the highway itself, respondents agreed most strongly with the statement "I feel safe traveling on I-81" (Figure 9). Respondents disagreed with the statements "Currently, I often drive on other roads in order to avoid congestion on I-81" and "Currently, traffic congestion affects the majority of my trips".

Figure 9: Highway Statement Opinions



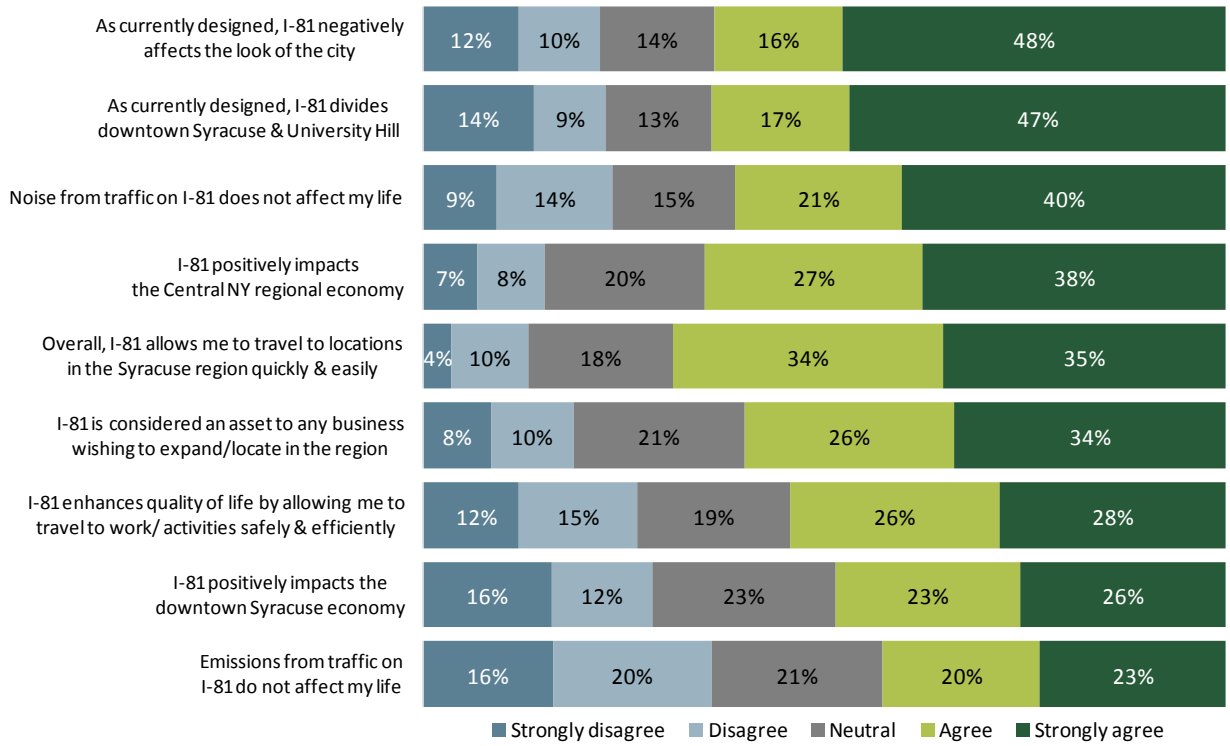
The questionnaire gauged respondents' opinions about transit in the Syracuse area. Eighty-one percent of respondents disagreed with the statement "I regularly use public transit in the Syracuse region"; however 66% of respondents agreed with the statement "I support increasing transportation funds to help pay for non-highway projects such as transit, sidewalks, and bike paths." More than half of respondents know how to find bus route and schedule information. Less than one fifth of respondents find it convenient to use walking, biking, bus, or other transit for their trips. Figure 10 shows these results in greater detail.

Figure 10: Transit Statement Opinions



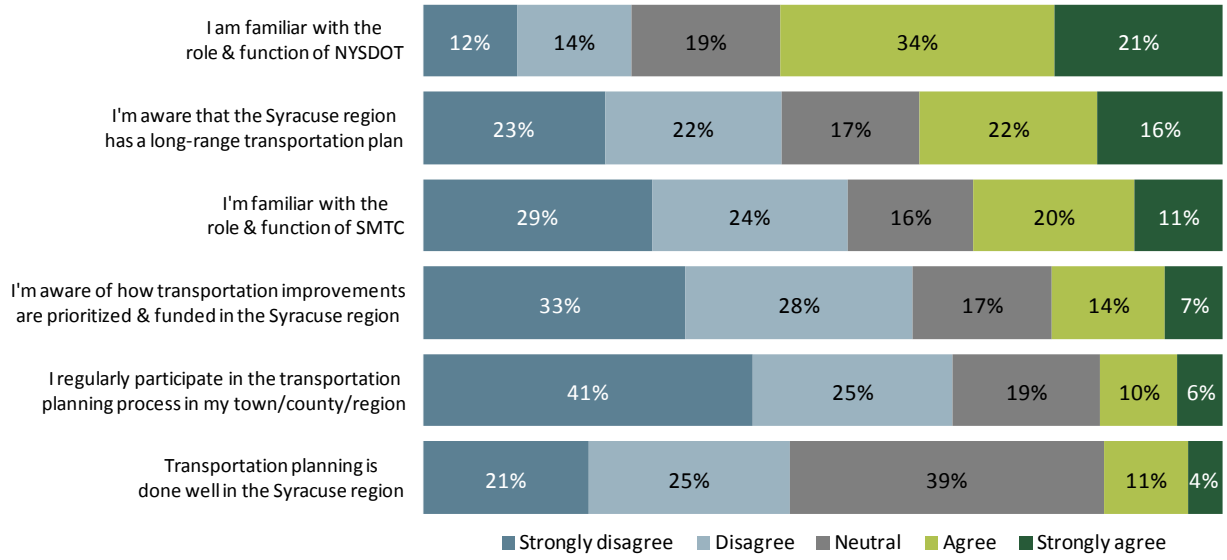
When asked to agree or disagree with a variety of policy and quality of life statements, respondents were most likely to agree or strongly agree with the statement that "Overall I-81 allows me to travel to most locations in the Syracuse region quickly and easily." Disagreement with the statement that "Emissions from traffic on I-81 do not affect my life" indicates that respondents do recognize the impacts of traffic emissions. These results are graphed below in Figure 11.

Figure 11: Policy and Quality of Life Statement Opinions



Finally, respondents provided their opinions about a number of transportation planning statements. Respondents were mainly neutral about the statement "Transportation planning is done well in the Syracuse region" only 16% of respondents agreed that "I regularly participate in the transportation planning process in my town, county, or for the region." A majority of respondents agreed or strongly agreed that they are familiar with the role and function of NYSDOT, and a much smaller proportion are familiar with the role and function of SMTC or the way transportation improvements are prioritized and funded in the region. These results are shown below in Figure 12.

Figure 12: Transportation Planning Statement Opinions

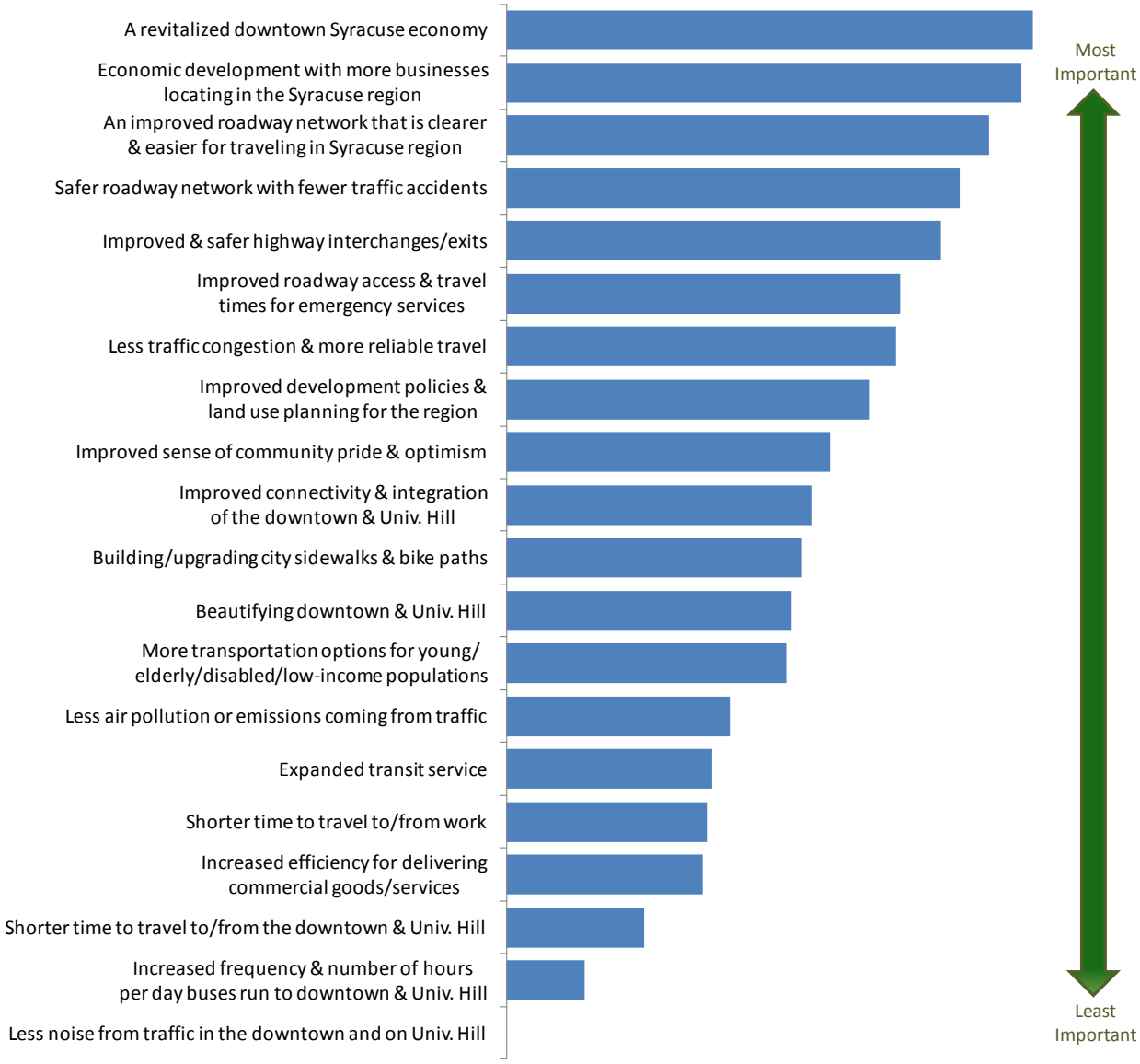


5.3 Benefit Prioritization using Max-Diff Modeling

Each respondent answered ten Max-Diff benefit importance questions. In each of these questions, a respondent chose which of four statements was most important and least important to them. Over the course of the ten experiments, each of the twenty statements was shown twice to the respondent. Responses to the questions were expanded into a dataset containing ten observations for each respondent. The analysis is based on the 972 respondents who provided complete Max-Diff choice data in the benefit importance questions. This generated a dataset of 9,720 records. Respondents who provided incomplete or missing data for the Max-Diff questions (on the paper version of the questionnaire), were excluded from this analysis. Missing responses were possible only for the respondents who used the paper-based version of the questionnaire.

In the MaxDiff exercise respondents made choices among the set of twenty I-81 benefit statements shown to them. Respondent answer choices were then analyzed to show the relative importance of the twenty I-81 benefit statements as explained above in section 3.3. Figure 13 shows the twenty I-81 benefit statements in order of highest measure of preference to lowest measure of preference. The length of the bar for each benefit represents the relative importance of each benefit compared to the other 19 benefit statements.

Figure 13: Prioritization of I-81 Benefits



Improving the Syracuse economy while improving the ease of traffic flow and roadway safety are important to the community. “A revitalized downtown Syracuse economy” and “Economic development with more businesses locating in the Syracuse region” generated the highest average utility among the respondents. Of the University Hill benefits, “Improved connectivity and integration of the downtown and University Hill” is most important and it is tenth most important overall.

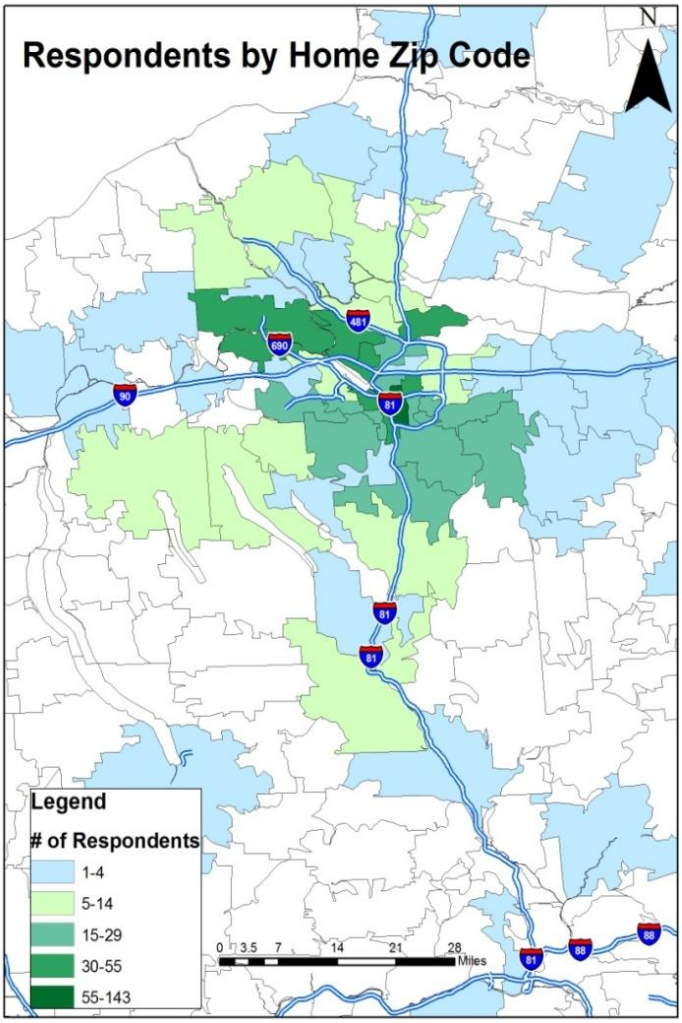
Noise, bus service, and travel times between downtown and the University Hill are the least important benefits for the respondents. Interestingly, statements regarding reducing travel time appear as two of the five least important statements.

5.4 Debrief and Demographics Questions

More than 80% of respondents were aware of *The I-81 Challenge* Study before participating in the questionnaire. Media including newspaper/magazines and televisions are the most common sources of information for respondents. Nearly one-third of respondents gathered information about the study through the project website (http://thei81challenge.org) and via word-of-mouth. The majority of respondents (86%) believe *The I-81 Challenge* process to be accessible and transparent.

RSG collected demographic information from questionnaire respondents to understand the profile of the sample of the Syracuse area population that was captured in the sample. Respondents entered their home zip code which allowed for the creation of Figure 14 showing the geographic distribution of respondents. Additionally, the sample contained responses from more male travelers than female travelers (64% vs. 36%). Complete tabulations of all of the demographics results can be found in Appendix C.

Figure 14: Respondents by Home Zip Code



6.0 Conclusion

RSG and HSH successfully developed and implemented a questionnaire that gathered information from 990 residents of the greater Syracuse region. The questionnaire collected data on the usage of I-81, opinions regarding important I-81 issues, and engaged the travelers in a series of benefit prioritization questions using - experiments.

Respondents are seeking the benefit of a safer, modern I-81 and the perceived benefits that such a highway would provide the regional economy. Other benefits such as emissions and noise reduction, transit improvements, and beautification efforts are of secondary importance.