E-surveys and Virtual Meetings in the Public Involvement Process:
A Case Study at the New York State Department of Transportation

By Joel Kleinberg
Transportation Analyst
Planning and Program Management
New York State Department of Transportation, Region 10 - Long Island

Acknowledgements
Thanks to the entire consultant team, led by M. Gersten of PB America, Inc, as well NYSDOT staff P. Audinot, P. Bugala, M. Conklin, J. Mahoney, E. Peters, J. Wilson and summer intern E. Bilek for making this effort such a success. Special thanks to past study project managers, A. Mirsakov and W. Thornewell. Special thanks to W. Ugolik, retired NYSDOT regional planning director, who first suggested the use of online surveys in the study and who provided encouragement to write this paper.

This paper references information and experience learned through a study conducted by the New York State Department of Transportation that was financed in part through funding from the Federal Highway Administration, U.S. Department of Transportation. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

Any errors of fact or opinion are solely the responsibility of the author.

Abstract: The goal of public involvement is to actively encourage participation from those who use or are impacted by transportation facilities. Traditional transportation-related public involvement typically garners participation by certain constituencies and leaves planners to guess at or disregard the needs of other groups.

To reach a broader audience as part of a corridor planning study, the NYSDOT produced an online survey and followed it with a second survey, billed a "virtual meeting." The online survey engaged eight times and the virtual public meeting eleven times the participants compared to public meetings held a year prior. Beyond increases in participation, the surveys enabled involvement by those typically absent from traditional public meetings. For example, of the total, roughly one-third of the surveys were completed by those living outside the study area and participants in the virtual meeting were nearly evenly split between area residents and those living outside the study area. Further, the survey engaged a significant number of young people (25 years and under) who participated alongside a meaningful senior population (age 65+) and the survey engaged low-income and ethnic minorities as well.

The survey provided a wealth of information specific to the study area that was utilized in identifying transportation challenges, in developing and rating transportation improvement ideas, and in prioritizing these ideas. Information obtained by these online public involvement efforts challenged assumptions and made potentially significant impacts to the study process.

It is the experience of the NYSDOT that the internet allows many more voices to be heard in an equitable and highly cost-effective manner. It is an important tool that may help planners to better identify areas of general public agreement, and the use of online surveys should be highly encouraged in future public participation efforts.

Keywords: Public Involvement; Engagement; Participation; Survey; Meetings; Internet; Online.

Introduction

"Don't ruin my neighborhood just to get people from New York City to the Hamptons faster." This type of often-heard and loaded statement, expressed by a public meeting participant, highlights a conflict regularly faced by planning professionals. Local residents of a study area may view a roadway as part of their neighborhood or "Main Street", while those who use a road to travel through may not be interested in locales along the way. The traditional public meeting process can favor local residents since the participation of that constituency dominates these processes at the expense of those who live outside the local area being analyzed.

It is easier and more convenient for local residents to attend a public meeting held in their neighborhood than it is for a commuter rushing home from work or a weekend traveler who would not be in the vicinity for a weekday evening meeting. This results in only one side of the debate being heard at traditional public involvement meetings, as was evident at the April 2009 public meetings held by the New York State Department of Transportation (NYSDOT) as part of the Sunrise Highway Corridor Sustainable Transportation Study (NY 27 Study).

To address this issue, the NYSDOT developed and employed two online E-surveys, one of which was designed to not only ask questions, but also to provide information to participants as would be possible at a public meeting. The E-survey technique vastly expanded the important public-involvement component of the NY 27 Study by enabling many more voices to be heard.

The Study

At the request of elected officials, the NYSDOT undertook a roadway operation performance investigation of an 11.5 mile portion of the Sunrise Highway (NY 27). In the study area, which is within what is called the south shore of Long Island in Suffolk County, NY, Sunrise Highway is a limited access expressway. The study produced a plan with recommendations for a more appealing and modernized multi-modal transportation system within the study area, which also included the transportation system surrounding NY 27, including commuter rail, bus routes, local roads, and bicycle-pedestrian accommodations.

The study started like most others, focused on the collection of data including socio-economic realities and trends, the documenting of environmental and cultural assets, and traffic counts. To ensure the NYSDOT maintained contact with its customers, a website, project e-mail, mailing address, and phone-line were established and in April, 2009 the NYSDOT hosted public meetings to gather information from those who utilize the transportation network. One hundred fifty people attended the meetings, an excellent turn-out by agency standards. Attendees perused the data collected as summarized on "presentation boards", viewed a traffic model simulation, drew on maps as in an informal design charrette format, heard a formal presentation and provided a wealth of feedback. In addition to the taking of formal oral testimony,

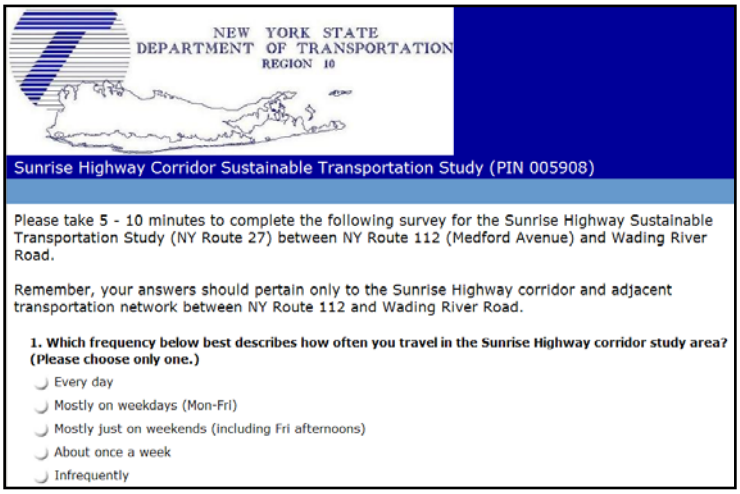
approximately one hundred participants completed questionnaires which included the addresses of many of the respondents.

Mapping the addresses that were collected revealed that nearly every identifiable neighborhood in the study area had sent at least one representative, but ninety eight percent of meeting attendees were study area residents. This clearly indicated the public meetings were not fully inclusive as they failed to give voice to those who travel through the study area but who do not live within it. This is an important constituency which includes: a large cohort of recreational travelers, as well as those who live outside the study area and work within it, those who both live and work outside the study area but travel through it, and other significant groups.

The E-Survey

As the study progressed, the study team developed general concepts to address the identified transportation challenges posed by the public. It was the desire of the team to learn from the public what they thought of these concepts. The initial public meetings were highly successful at identifying problems, but they did not identify attendees' values or priorities for improvements. The team explored ideas to reach a broader constituency of users in order to answer these questions. The use of surveys was considered; however, the costs and logistics involved with mail-back surveys were deemed too prohibitive. To avoid these hurdles, a creative "E-survey" approach was developed which employed the internet and on-line surveys.

To reach the broader audience, the study team initially produced a five-question online E-survey, which was posted on the study website. The E-survey also asked respondents to identify their respective home U.S. Postal Service zip-codes so a locational distribution of responses could be established. The following picture portrays the format of the questionnaire; some questions and highlights of the results are discussed in the section describing analysis of the E-survey, below.



The E-survey, which was conducted during January and February 2010, produced 1,421 completed responses. This was just over eight times the number of attendees at any one of the public meetings.

Advertising for the E-survey was threefold: flyers were placed at local businesses and offices, government facilities, and commuter rail stations; a mailing was sent to local civic groups and other stakeholders; and portable variable message signs were positioned along various roadways within the study area to inform pedestrians, bicyclists, and users of transit or private vehicles about the E-survey. The E-survey also received free publicity on at least one radio station and in a local weekly newspaper. These outreach approaches were staggered so that as the number of responses garnered by one outreach approach dropped to near zero, another form of advertising was released. Reviewing

the frequency of responses as each approach was implemented indicated that the roadside signage was the most effective.

Similar advertising campaigns were conducted for the traditional public meetings that were held during the study, including use of VMS, but they did not generate nearly as many public meeting participants. Clearly then, there were other reasons for the popularity of the E-survey approach.

The survey was live for seven weeks and the public had the opportunity to fill out the survey at any time, day or night, during that period. They could do so from the comfort of their home or office, avoiding the need to travel to a meeting and the possible need for child-care, etc. Further, the survey could be filled out anonymously so respondents might have been more genuine, without feeling influenced by neighbors or intimidated by "grandstanders" who can sometimes exert undue influence during public meetings.

The online survey had several limitations, however. The survey was a one-way conversation rather than a dialogue, as the format provided little opportunity to educate the public. Further, the NYSDOT could not respond immediately to questions or comments in the way that a face-to-face conversation at a public meeting could.

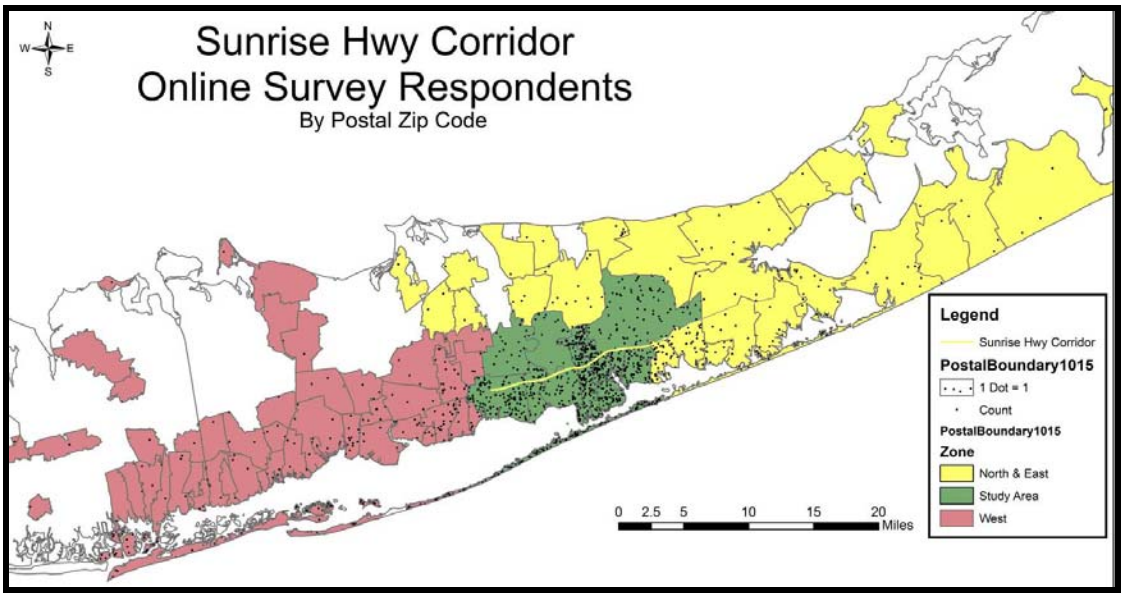
Additionally, the website accepted only one completed survey per computer so as to prevent one person from responding repeatedly with the intention of skewing results. This necessary precaution may have prevented some who wanted to participate from doing so, such as the case of a family sharing a single computer.

Finally, to help keep the survey questionnaire brief and possibly less troubling to potential respondents, no information about respondent education or income was requested. Therefore, it was impossible to determine whether there were differences in answering patterns based on socio-economic status, or whether survey participation represented the diverse population of Long Island, NY.

Thus, there may be inherent biases with the E-survey approach. Nevertheless, it provided an effective mechanism to greatly expand collection of useful information for the study that would not have been possible through the conduct of traditional public meetings alone.

Analysis of the E-Survey

The following map shows the distribution of survey-participants by major subareas on Long Island, NY, which were formed by aggregating zip codes. The major roadway (NY 27) in the study area is the longer curvilinear line highlighted in yellow within the area shaded in green, which depicts the study area. Given NY 27 is a major east-west limited-access expressway, it is not surprising that the survey garnered responses from those living in areas far to the east and west of the corridor.



Not mapped but included in the analysis are 26 responses to the survey including participants from as far as Texas as well as those that chose not to provide their zip code provided or who provided inaccurate or incomplete information.

It is clear the advertising campaign reached a significant audience that included both those living in the study area as well as those traveling through. Of the total 1,241 completed responses to the survey, 395 (32% of total) were completed by those living outside the study area. One might expect that had the E-survey been conducted in July rather than January, recreational travelers might have altered this ratio in that there may have been more respondents from outside the study area.

The E-survey provided a wealth of information specific to the study area that was utilized in identifying transportation challenges, developing and rating transportation improvement ideas, and in prioritizing these ideas. The E-survey technique also provided a means to discern similarities or differences of opinion among some groupings of respondents which was not possible with comments received during the traditional public meetings.

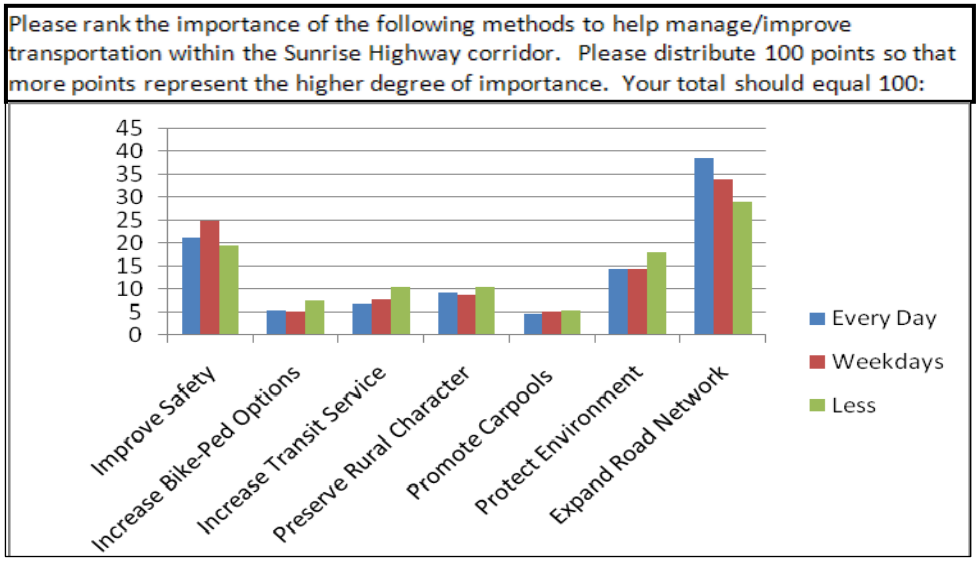
Comparing responses from study area residents to responses from non-study area residents revealed a consistency that may be relevant to other studies and may guide planners to consider the needs of those who travel to or through a study, including commuters, even when these constituents do not attend public meetings.

It would appear reasonable to assume that the main concern of those who live outside of an area would be their commute time, and thus that they would indicate support for added capacity in hopes of reducing congestion. Conversely, area residents, who would be more likely to have the additional concerns of quality of life and community character, might be more likely to oppose added capacity. Comments like the one noted at the beginning of the paper certainly make this seem plausible. Surprisingly, however, the responses favored roadway expansion regardless of area of residence. This suggests that assumptions made by members of the public, by elected

officials, and by planners can be false. It is important to note the study roadway is limited access and does not have main-street characteristics.

On the other hand, the E-survey indicated that how often a person travels in the study area (frequency-of-travel) is more important in discerning differences than where the traveler lives. For example, of those who self-identified as traveling almost everyday, 82% said that main roadway congestion was a recurring issue. Of those that travel on weekends or once a week or less, only 68% agreed that congestion was a recurring issue. This latter group focused on maintenance issues at a higher rate than more frequent corridor travelers.

The following chart summarizes how respondents rated the relative importance of possible transportation improvements. In general, expansion of the roadway network and improving roadway safety were identified as most important in relation to other types of improvements. Increasing bicycle and pedestrian options and promoting carpools were judged by the E-survey respondents as the least important. Grouping results by frequency-of-travel, however, revealed some differences in the degree of relative importance for the various types of transportation improvement options.



When survey respondents were asked in a separate question how they might prioritize transportation improvements, 83% of those who travel within the study area every day agreed or strongly agreed with the need to expand roadway capacity while only 71% of those who travel the area less frequently agreed. Those who travel less frequently were more supportive of bicycle and pedestrian facilities, increasing public transportation, protecting the natural environment, and preserving community character.

The E-survey also showed that commuters and others who regularly utilize the transportation network are most concerned with the speed of their travel, while recreational travelers and others who travel occasionally are more likely to be concerned with the quality of the ride.

The Virtual Meeting (2nd Online E-Survey)

As the study further progressed, the team developed the general ideas presented to the public in the first E-survey into refined transportation alternatives based on greater modeling data as well as the public input received via all outreach methods, and advice from the study's advisory committee, comprised of local-elected officials, representatives of advocacy groups, as well as local and county agencies.

Based on the perceived success of the first online E-survey coupled with the need of the agency to obtain additional information from the public, the study team prepared to again formally involve the public. After ruling out various other forms of mass-communication (video- or tele-conferencing, webinar, webcast, and internet voice call) for a variety of practical and technical reasons, the team decided to conduct a second online public involvement effort. The agency addressed limitations of the first E-survey, and in particular strove to make the online survey experience more like a two-way discussion. This resulted in changes to the survey format and the second E-survey being billed as a "virtual meeting."

The typical NYSDOT public meeting involves participants viewing informational display boards staffed by study-team personnel, followed by a "listening session" during which the public provides written and oral feedback for the official project record. To simulate this process, the virtual meeting website used "hot links" (text embedded into the survey that links participants to information provided by NYSDOT) to explain the transportation improvement concepts using text, graphics, pictures and maps in much the same way as the display boards would at a traditional meeting. For example, when a participant in the virtual meeting was asked to respond to a question about a conceptual shared-use path, that participant could query via a hot link to find a written explanation of the terminology, as well as a map showing where the concept might be applied and an artist rendering of the various forms this share-use path would take depending on the particular roadway conditions.

A comment box at the conclusion of the survey further approximated the testimonial section of the traditional public meeting. Project team contact information (e-mail address, phone and fax numbers, and mailing address) allowed survey participants to ask additional questions or provide particularly detailed or technical comments, drawings and sketches.

Great care was taken to ensure that the second E-survey would enable participation from as many people as possible, regardless of age, income level, race or ethnicity, or disability status. It was advertised using the same threefold approach as the public meeting and first E-survey, with expanded efforts to engage minority and limited-English-proficiency groups. A Spanish-language online survey was offered, and religious and community organizations were sought out to help encourage participation in all segments of the public.

In order to enable those without home access to the internet, computer use at community centers and libraries was promoted and respective staffs were given advanced notice that customers might utilize their computer equipment for this purpose. Based on IP address information collected, dozens of participants completed the survey using computer access at libraries and community centers, proving those without home net-access were able to participate.

For those living with visual impairment, the online survey form could easily be made "large font" with a push of a button. Further, the survey utilized a special template that made it possible for persons living with most common forms of color deficiency (commonly referred to as "color blind") to use the survey and be able to read all questions and responses.

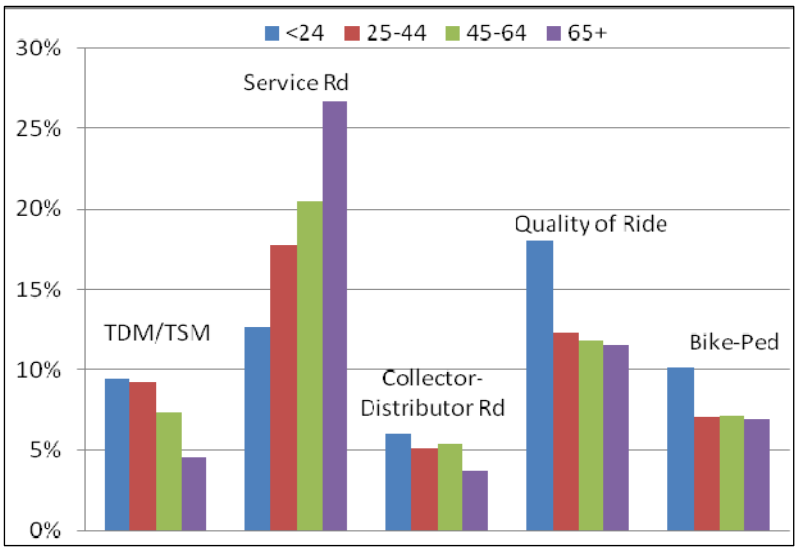
Analysis of the Virtual Meeting

As with the first online survey, the virtual public meeting was highly successful in eliciting participation. Completed surveys were received from 1,674 travelers who answered questions about their travel behavior at the time as well as how they might alter their behavior in reaction to potential improvements to the transportation network, their personal preferences, and in addition, it asked for more demographic information than the first E-survey.

Respondents reported living in 122 zip codes throughout the region, nearly evenly split between those living within the study area and those living outside. This was a significant change as compared to the original public meetings, where nearly all meeting attendees lived within or very near to the study area. Of particular interest was that the second E-survey garnered replies from zip codes identified as having concentrations of low-income households and/or identified as environmental justice zones, based on income as well as ethnic and racial identity. This suggests that the digital divide (difference in access to information technology based on socio-economic background) may not be a significant issue for those in this study area. Those who wished to participate but who did not have easy access to the internet or who were uncomfortable using the online resource were given the option to call the project phone line or complete a paper copy. A single respondent chose to use the paper survey form and no one chose to participate by phone.

One of the greatest deficiencies of a traditional public meeting is the lack of participation by young people (those under 25 years of age). It was hoped that the E-surveys would gain the participation of this key demographic. The team was also concerned that seniors (those 65 years and over) might shy-away from using the computer. Respondents to the second E-survey were asked limited questions regarding demographic status, including a question about respondent age using US Census designated age group categories. Results showed that young people and seniors participated in significant numbers, and though neither group received a high enough participation to be proportionally representative of their percentage of the population of Long Island, that five percent of total survey respondents were young people was a great improvement over the public meetings where the group was notably absent.

Cross-tabulating demographic information with the questions asking respondents to judge the relative importance of potential infrastructure improvements and respondents' values proved interesting. For example, the study team learned that seniors were far more supportive of the construction of lower-speed service road facilities that parallel the limited-access NY 27 within the study area than their younger counterparts. Young people were more supportive of bicycle and pedestrian facilities and travel demand and systems management strategies such as carpooling and transit, and they placed higher importance on maintaining community character and the quality of the ride. Such data are useful when making decisions about how to prioritize highly limited future infrastructure funding.



How a traveler utilizes the transportation system (ie, reason for travel, peak versus off peak-travel, etc) turned out to be the most important predictor of how a person responded to values questions. For example, commuters and other "peak" travelers were more supportive of capacity improvements than off-peak travelers. Off-peak travelers, including those who traveled for recreation, social or religious purposes, shopping, etc, were more likely to be supportive of an approach that included a managed use lane (in this case, a high occupancy vehicle lane) but it is worthy to note that majorities of all types of travelers supported capacity improvements for the study section of roadway.

Mapping respondent home address information using a geographic information system also proved highly useful in the analysis conducted by the study team. For example, maps generated from the survey responses enabled the study team to anticipate hot-button topics prior to speaking in certain communities. Further, overlaying congressional district boundaries over these maps enabled the NYSDOT to inform elected representatives of the desires of their constituents and could further aid the NYSDOT in responding to issues from those who hold a minority opinion or who claim to speak for the general public or in the public's interest.

These maps also enabled the NYSDOT to learn that a basic assumption held since the first public meeting was false. This paper started with a statement made by a study area resident who implored the NYSDOT not to consider capacity enhancements simply for the benefit of residents to the west of the study area who might want to drive through the study area to access the recreational opportunities of the Hamptons located to the east of the study area. The mapping effort made clear that those living west of the study area were least supportive of increasing capacity, and most supportive of maintaining the "quality of the ride". These respondents reported that they used the road for occasional recreational reasons at a higher rate and that they used the road to escape the busy and congested roadways for the relaxation of the offered by the rural communities located to the east. Those living in and east of the study area were most likely to use the road as their primary route to commute, and as such reported being highly concerned about eliminating perceived congestion and increasing their speed of travel.

This finding illuminated the fact that if one of the fundamental assumptions made by a study area resident early in the study process could turn out to be fundamentally false, other assumptions needed to be questioned as well. The online surveys provided the data necessary to do so thus improving the study process and the final study report.

Benefits of the Online E-Survey Technique

As previously noted, the online surveys were highly successful in garnering the participation of many groups of travelers who are typically absent from public meetings, primarily due to the convenience the E-survey technique offers. Those choosing to participate in one or both of the online surveys could do so at the time of their choosing, rather than having to attend a meeting at a specific time and in a specific place. This enabled people who might have been unable to attend, or reluctant to participate in a public meeting, to contribute in a meaningful way. Further, in-office pre-survey testing showed it took between 10 and 20 minutes to complete the survey questionnaire due to the judicial limiting of the number questions and use of skip-logic (questions asked of respondents changed based on their responses to key questions), as compared to the one-hour or more that the average person might spend in a traditional public meeting.

The E- survey technique also turned out to be highly convenient for the study team as well. Due to the electronic nature of the data-collection method, survey responses were automatically entered into database software, without concern of typos or human error. Further, the software enabled simple and rapid data analysis, and the creation of visual aids.

Finally, using the online surveys was relatively inexpensive as compared to conducting traditional public meetings. While the public meetings and both online surveys used similar advertising methodologies (and therefore costs), the public meetings required the rental of meeting space and information technology and sound equipment, staff costs, as well as consultant time and their travel expenses. Further, the advance preparation of materials for the public meetings was time and cost intensive. The online surveys required none of these additional expenses, though creating the online survey required staff effort and there was a nominal fee for the online survey software used by the agency.

While a detailed cost/benefit analysis of the various approaches was not done, a rough estimation suggests that it cost nearly $70 per attendee at the traditional public meetings. The cost per participant dropped to approximately $4 for the first online survey and $2 for the second.

Summary

It is the experience of the NYSDOT that E-surveys are a highly cost-effective method to conduct public involvement. Due to their highly convenient nature, the traveling public was very responsive, including those from often un- or under- represented groups.

It is clear that different constituencies may, at times, place differing demands on the transportation network. While internet surveys may not be the universal remedy needed to overcome barriers to public participation, it is the experience of the NYSDOT that the internet allows many more voices to be heard in an equitable and highly cost-effective manner. The E-survey technique proved to be an important tool to help planners find those opportunities where

there is general public agreement, and the use of online surveys should be encouraged in public participation efforts.