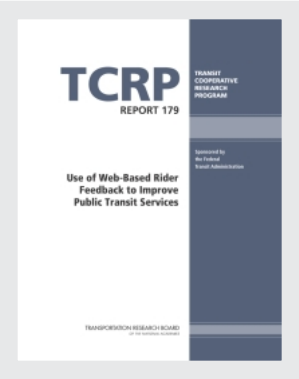

Use of Web-Based Rider Feedback to Improve Public Transit Services

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TRANSIT COOPERATIVE RESEARCH PROGRAM

TCRP REPORT 179

Use of Web-Based Rider Feedback to Improve Public Transit Services

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TRANSIT COOPERATIVE RESEARCH PROGRAM

The nation's growth and the need to meet mobility, environmental, and energy objectives place demands on public transit systems. Current systems, some of which are old and in need of upgrading, must expand service area, increase service frequency, and improve efficiency to serve these demands. Research is necessary to solve operating problems, to adapt appropriate new technologies from other industries, and to introduce innovations into the transit industry. The Transit Cooperative Research Program (TCRP) serves as one of the principal means by which the transit industry can develop innovative near-term solutions to meet demands placed on it.

The need for TCRP was originally identified in *TRB Special Report 213—Research for Public Transit: New Directions,* published in 1987 and based on a study sponsored by the Urban Mass Transportation Administration—now the Federal Transit Administration (FTA). A report by the American Public Transportation Association (APTA), Transportation 2000, also recognized the need for local, problem-solving research. TCRP, modeled after the longstanding and successful National Cooperative Highway Research Program, undertakes research and other technical activities in response to the needs of transit service providers. The scope of TCRP includes a variety of transit research fields including planning, service configuration, equipment, facilities, operations, human resources, maintenance, policy, and administrative practices.

TCRP was established under FTA sponsorship in July 1992. Proposed by the U.S. Department of Transportation, TCRP was authorized as part of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). On May 13, 1992, a memorandum agreement outlining TCRP operating procedures was executed by the three cooperating organizations: FTA, the National Academies, acting through the Transportation Research Board (TRB); and the Transit Development Corporation, Inc. (TDC), a nonprofit educational and research organization established by APTA. TDC is responsible for forming the independent governing board, designated as the TCRP Oversight and Project Selection (TOPS) Committee.

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The TCRP provides a forum where transit agencies can cooperatively address common operational problems. The TCRP results support and complement other ongoing transit research and training programs.

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FOREWORD

By Gwen Chisholm Smith
Staff Officer
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TCRP Report 179: Use of Web-Based Rider Feedback to Improve Public Transit Services provides a practical and easy-to-use toolkit of best practices, emerging platforms, and promising approaches for customer web-based and electronic feedback to help improve public transit services. The report is separated into two parts: Part I identifies best practices among transit agencies and other industries using in-house or third-party web-based and mobile platforms to engage customers and provides guidance on managing web-based feedback; and Part II includes a Tool Selection Guide that helps transit agencies select the most appropriate web-based feedback tool based on their needs. The results of this research may be used by a variety of transportation professionals, including policymakers, operations and maintenance managers, customer service managers, marketers, and safety and security personnel to assist with implementing structured feedback systems and utilizing the feedback both internally and externally with customers.

Transit customers are increasingly reporting transit-related issues using web-based tools and expecting both response and action. As a result, transit agencies must determine how they will best use these web-based tools. The challenge for many transit agencies is to collect input from various channels; respond online; create a dialogue with the public; prioritize reported problems; and act on them in a reasonable timeframe. While many aspects of this process do not differ from traditional means of communicating, web-based tools are often viewed as a more attractive form of communication.

This report identifies and catalogs the issues related to receiving and responding to customer feedback via web-based tools, and includes suggestions on how to categorize and organize unstructured feedback from social media outlets. Also, this report includes a menu of platforms available to manage structured feedback from customers incorporating various design choices and a menu of the specific kinds of feedback that will provide information in areas such as safety, security, maintenance, and customer service. The results of this research may help transit agencies when facing the challenges of collecting and managing web-based customer feedback.

Kari Edison Watkins, PhD, PE, Georgia Institute of Technology, in association with Ann Xu, PhD, Georgia Institute of Technology; Susan Bregman, Oak Square Resources, LLC; and Kathryn Coffel, Kathryn Coffel Consulting, LLC, prepared this report under TCRP Project B-43. The primary objective of this research was to create a toolkit for transit agencies to help with the implementation and management of a web-based feedback program. To achieve the project's objective, the research team performed a literature review, conducted industry surveys, performed interviews with software developers, and conducted case studies.

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SUMMARY

Use of Web-Based Rider Feedback to Improve Public Transit Services

Introduction

The emergence of Web 2.0 technologies over the past decade has empowered consumers to use web-based tools to comment on and rate goods and services ranging from hotels to health clubs. Increasingly, transit riders are joining their ranks. The widespread availability of web-based tools, mobile applications, and social media has made it easier for riders to report service, maintenance, and safety-related issues like late trains, missing bus stop signs, or broken escalators.

While web-savvy individuals are using electronic tools to make their opinions known, public- and private-sector organizations are also taking advantage of these options to learn more about their customers and their opinions and even to change the course of public opinion. Online feedback forms, mobile applications, social media channels, and web-based techniques, such as crowdsourcing, allow organizations to collect formal and informal feedback from their customers and community. Such forums are also being used to educate the public about their services.

As technology gets smarter, the flow of information continues to pick up speed. The advent of the Internet age is bringing more information to and from organizations at a faster and faster pace. This brings a need for increased work flow, which can quickly overwhelm staff, if not carefully managed.

While some transit agencies are comfortable dealing with large volumes of information from multiple social media platforms, online surveys, crowdsourcing, and specialized applications, others are just starting to engage with customers through Twitter. There is a concern in the transit industry about the disparity of knowledge and experience with web-based feedback tools. Therefore, this report is designed to enhance and expand the use of web-based feedback to improve service by agencies at all levels of experience.

***Smaller and Novice Agencies*:** This document provides the basics for initiating a web-based feedback program. Definitions are provided to help users understand the differences in types of feedback that can be collected and the types of tools available depending on the feedback needs. The benefits of web-based feedback are summarized to help make the case for moving forward with these tools, as well as challenges that should be considered as the program is developed.

***Agencies Experienced with Mainstream Tools*:** Many agencies have experience with mainstream tools, such as social media and web-based complaint/comment forms. The Tool Selection Guide, especially the Tool Information Sheets, provides guidance on expanding that set of tools to reach out and engage a broader audience, such as "games" that ask the public to solve planning and budget dilemmas, and holding public meetings online so the community can join in the conversation from anywhere.

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***Larger and Experienced Agencies*:** This document provides guidance on creating and implementing a web-based feedback plan. It provides a structure for organizing the information, the tools, and the work flow. It also looks at the "backend systems," the applications that manage the information flow for efficient data collection and retrieval. The appendices provide options for how to categorize comments to facilitate integration between legacy comment/complaint systems and web-based systems.

Research Problem Statement

The objective of TCRP Project B-43, *Use of Web-Based Customer Feedback to Improve Public Transit Services*, was to develop a user-friendly toolkit that presents best practices, cutting-edge applications, and promising approaches that transit agencies can use to engage customers and obtain actionable feedback. To develop this toolkit, the study team set out to answer several key questions:

What do transit agencies want to know from their customers and the public? Can these tools create efficiencies in processing customer comments on safety and security, maintenance, and service delivery issues? Which web-based tools are useful for obtaining ideas for new service, comments on short- or long-range plans, origin-destination data, or rider demographics? How can transit properties solicit positive comments and constructive criticism?

What are the benefits and challenges of using web-based tools to solicit rider feedback? Can these tools enhance the speed, volume, structure, and richness of customer communications? Can agencies use web-based tools to supplement staff resources by encouraging customers to serve as their eyes on the street? Do web-based tools encourage feedback from previously silent rider groups, especially young adults? Do customers have access to the technologies needed to use web-based feedback tools? Will staff be overwhelmed with the volume of comments and will they know how to respond in the more public forums? Are there institutional barriers, such as open records laws, that make it difficult to successfully use web-based feedback? Will customer feedback be located in multiple silos across an agency, making it difficult to see patterns and trends?

What best practices are in use among transit agencies and in other industries? What tools do transit agencies use for time-sensitive feedback (safety and security issues) and which are better for general comments (requests for more service)? How do organizations use web-based feedback tools, externally, to gather feedback from their customers, stakeholders, opinion leaders, and the general public?

What tools are currently available for obtaining feedback and what approaches are on the horizon? Which tools are best for collecting feedback from the customer and general public? Which tools are best for internal employee use? What tools now used in other industries can be adapted to transit? What approaches are currently under development in the transit industry and elsewhere? How can agencies manage the increasing speed and volume of data flowing into the agency from web-based feedback tools?

How can the transit industry best use web-based tools to improve service on the street? What is needed to integrate web-based feedback into operations, maintenance, planning, market research, and other agency processes? How can transit providers use web-based feedback to demonstrate customer orientation and improve credibility for the agency?

Overview of Findings

Part 1 of the report provides guidance on managing web-based feedback. Following are the findings based on the literature, industry surveys, and case studies.

Understanding Web-Based Feedback

Chapter 1 provides background information that defines web-based feedback, the needs it can address, and benefits and challenges of implementing a web-based feedback program.

Agency Needs for Web-Based Feedback

Agency needs for web-based feedback tools have been divided into four categories, each of which has several subcategories, as defined below.

1) **Collect unsolicited comments.** This is feedback that the public sends to the agency, such as complaints, comments, or requests for service. There are two subcategories of unsolicited comments: time sensitive, such as safety and security concerns; and ongoing, which includes all other unsolicited comments.
2) **Solicit comments.** This includes all activities where the agency is reaching out to riders, the public or other defined stakeholders to gather information, opinions, and ideas. The two subcategories are: policy and planning activities, such as public comment on service changes; and public opinion polling, for collecting structured feedback on any topic of interest to the agency.
3) **Encourage civic engagement.** Agencies often wish to engage with a target audience rather than simply solicit input. The three subcategories of encouraging civic engagement are: building community by establishing a dialog around transit issues; open houses using web-based tools; and education, such as teaching the public about transit budget challenges.
4) **Manage web-based feedback.** This category includes tools to manage web-based feedback. The three subcategories are comment tracking, contact management, and reporting and analysis.

These categories are used as the foundation for the Tool Selection Guide in Part 2 of the report.

Benefits of Web-Based Customer Feedback

Real-Time Feedback. Mobile applications and social media are especially well-suited for reporting time-sensitive situations in the moment, including safety and security concerns.

Safety and Security. Transit riders can help police monitor the complex and often extensive transit environment by serving as additional eyes and ears on the system. Likewise, real-time feedback can allow police and transit agencies to act quickly and appropriately to address the situation.

Increased Public Participation. Email, social media, blogs, and websites used to notify the public about events are free or very affordable and may reach more people than traditional means. Online public comment tools can help to increase participation among those who are too busy or otherwise reluctant or unable to speak at public hearings.

Reduced Call Center Wait Times. More call-takers are available to help people who have an immediate question and those without access to technology, making call centers more efficient and effective. This can improve public perception of the transit agency by providing shorter wait times and better responsiveness at the call centers.

Enhanced Agency Image. Helpful, timely interactions with users online can improve public perceptions of an agency's trustworthiness when individuals feel that their feedback and ideas are important to the agency. Responsiveness gives customers a sense that someone is listening who cares about their experience and can take appropriate action.

Cost Effectiveness. Signing up for web-based tools is often free and little or no customization is required. It is also possible to analyze feedback quickly using analysis functions.

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Increased Outreach and Documentation of Agency Needs. Web-based feedback can help agencies obtain diverse opinions. The more feedback that an agency receives, the more issues are typically documented and, with an effective feedback and issue management system in place, addressed.

Lists of Interested Future Participants. More feedback from active known users can be leveraged for strategic joint gains, such as to mobilize them in support of better funding for the agency to improve service.

Interagency Communication and Coordination. Transit agencies often depend on effective coordination between their staff, police from one or more jurisdictions, planning bodies, municipal, county, and state governments, and more. Web-based tools can recognize interagency and interdepartmental coordination to direct feedback appropriately.

Reporting. Web-based tools have the ability to generate summary reports and statistics that make it easier to process, analyze, and convey information than traditional in-person or written feedback.

Rider Retention. Web-based feedback allows agencies to keep riders by listening to them and addressing their needs, thereby improving service for everyone.

Challenges of Web-Based Customer Feedback

Equity/Accessibility. Some riders may have mental or physical disabilities, language barriers, or no access to a smartphone or the Internet. Agencies need to offer a diversity of methods for submitting comments and reporting incidents or concerns, including non-web based traditional approaches.

Public Acceptance. Some people simply choose not to use web-based tools due to the learning curve associated and for a variety of other reasons. Agencies should choose easy to use tools with limited registration requirements that may be burdensome or seen as intrusive.

Privacy Concerns. Individuals may be uncomfortable sharing detailed personal information through an Internet connection.

Personal Contact. Dialog via telephone or in-person can relay more complete and accurate information with less frustration due to incomplete communication that may cause delays.

Negative Feedback. Psychological distance and higher levels of anonymity make the Internet a more welcoming space for criticism. Agencies must understand how to manage the often unsolicited negative feedback.

Internal Support of Web-Based Feedback. Getting management to recognize the importance of web-based feedback despite possible increased public accountability and unfamiliarity. Also internal staff acceptance creates a need for a paradigm shift in functions that may be seen as adding more workload.

Internal Processes may need to change to respond to web-based feedback. One challenge is the loss of direct, personal two-way communication. Engaging individuals in-person or on the phone allows for conveyance of visual cues, tone, and inflection, which can help to calm down angry people. Another recommended practice is collecting enough information to act and follow-up, yet respect privacy. Many comments that are not in a specific form are missing one or more critical pieces of information. Finally, knowing when to respond can be tricky and

there may be inconsistency from one staff person to the next. Agencies need to develop policies and guidelines to set expectations.

Resources Are Needed to Properly Use Web-Based Feedback. Responding to customer feedback can be time-consuming and drive up labor costs, but irate customers who did not get a timely response may complain. Managing effectively may require training programs for employees, contractors to manage tools, and additional support. Public expectations are not always in line with how agencies operate, as social media and other online platforms operate all day, every day. Most agencies do not support a 24-hour customer service center. Even if guidelines for the operating hours of feedback channels are given, agencies can have trouble managing the expectations of riders to respond and may have trouble controlling the large quantity of information that riders provide them. Finally, it is difficult to measure the impact of web-based feedback tools. It is not easy for agencies to link standard measures, such as hits or likes, to agency benefits, such as brand loyalty and ridership.

Managing Web-Based Feedback

Chapter 2 provides a discussion of the major issues and concerns with managing a web-based feedback program. Following is a summary of the topics covered.

Audience

Understanding the target audience is important when considering any tool for collecting feedback. Web-based tools will be ideal for some markets and inappropriate for others. As market penetration of the Internet and mobile devices continues to grow, web-based feedback will reach an increasingly diverse audience and create greater transparency. As web-based communication channels mature, agencies will need to continue to assess which tools are most appropriate for the need, and how the tools can be made useful to a larger audience.

Promise to the Public

An agency can create an open and effective web-based feedback program by informing the public about when it monitors comments, how it intends to use and respond to feedback, and acceptable behavior regarding publicly visible comments. This information is typically posted on the agency's website and through the various feedback tools. Hours for monitoring public comments may correspond to regular agency business or customer service hours. When soliciting feedback, three possible options for how feedback will be used are presented: to share information and answer questions; to gather information and input; and to engage in dialog. In terms of acceptable behavior in a public forum, an effective approach has been to use the "community standards" developed for social media.

Legal Issues

Freedom of speech, freedom of information, and privacy are three issues of critical concern to agencies and the public. These topics are explored to provide an overview of the issues to be aware of, and the need to create a policy that is consistent with state and local regulations. In addition, the agency may wish to monitor parody and imposter accounts to protect their brand. While free speech is protected, the agency can take steps to protect itself from copyright infringement and ensure brand clarity.

Staffing

There is no one "best" organizational structure for managing web-based feedback. Three alternatives presented include centralized, coordinated, or dispersed responsibility.

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The level of staffing needed to establish a successful web-based feedback program varies depending upon many factors, such as agency size and operating environment. In addition to these typical factors the report discusses management and technology related factors that impact the level of staffing needed for web-based feedback programs. The roles and responsibilities related to managing web-based feedback will depend on the agency's organizational structure and culture.

Training is a critical issue for the successful implementation of web-based feedback tools. Topics of training include technical training on the Internet, specific tools used by the agency, agency policies and procedures for handling web-based feedback, and the message and tone to be used when responding to web-based feedback in a public forum.

Responding to Web-Based Feedback

Responding to web-based feedback is similar to responding to feedback from any other communication channel. Customers wish to be treated with respect, receive a response in a timely manner, be able to track the progress of their concern, and know the final outcome. With some online formats, such as Twitter, customers may expect real-time responses. Posting the policy regarding hours when the agency monitors the feedback and the timeframe for responding will help manage public expectations. An example flowchart for determining when to respond to comments on social media is provided.

Monitoring and Responding to Comments in Public Forums

Monitoring web-based feedback can be a staff-intensive process. Not only are there legitimate comments to track, but there may be inappropriate, negative, or irrelevant comments that can distract from more constructive conversations. Five strategies for monitoring comments include: (1) set expectations with the public by posting comment guidelines; (2) control the ability to post comments by allowing posts on specific sites or on certain topics; (3) let the conversation run, recognizing that other posts will create a dialog and may become self-policing; (4) speed up agency postings to move unwanted posts further down the list, making them less visible; (5) establish an online collaborative site for specific stakeholder groups that is not generally visible to the public.

In addition to monitoring comments on agency sites, other sites may be used to engage in discussions regarding transit, both positive and negative. Each agency will need to determine its threshold for monitoring and engaging with these sites. Some agencies only respond if there is misinformation that can be easily clarified, but otherwise, monitor sites without engaging the other users.

Data Processing, Analysis, and Metrics

The Internet has greatly increased the ways people can send feedback to transit agencies, which can lead to a significant increase in comments. Processing of comments can be facilitated by taking advantage of the built-in features of software, especially the electric format. Categories of comments for online tools can be developed to mirror legacy comment tracking systems, while being simplified to make it easier for the public to "pre-code" their concerns.

Having all comments in a centralized database facilitates analysis of the comments received to improve service, and allows for the use of metrics to track performance. Options for integrating comment databases are to use web-based feedback applications that will export comments in a format that can be imported into an existing tracking system, or to purchase a new system that provides a variety of integrated web-based feedback tracking tools. Currently, metrics for measuring the performance of web-based feedback tools are in their infancy. Number of comments received and the timeliness of responses are two measures that are available through most web-based feedback systems.

Web-Based Feedback Tools

Chapter 3 provides the planning considerations for web-based feedback tools, definitions of the types of tools and tool features, and guidance to facilitate the decision-making process for procuring web-based feedback tools.

Planning Considerations

The following six topics should be considered by agencies as they adopt and implement web-based feedback tools.

Public expectations. Understanding what tools are most popular in the area and the type of feedback that the public wants to provide is important to consider in selecting the most appropriate tools.

Internal support. Gaining buy-in from and training the staff that will be implementing the applications.

Keep it simple. Despite the availability of many new tools on a regular basis, focusing on standard and well-tested applications is a key to managing tools internally and encouraging use by the public.

Changing technology. Software is continuously evolving and software upgrades may be required to keep applications working correctly.

Interdependence with other technologies. Web-based tools run on a variety of platforms, including web-browsers and smartphones, and may also use other software or hardware. Usability of the feedback tools requires maintaining all supporting platforms as well.

Money isn't everything. This guide is intended to provide issues to consider when adopting a web-based feedback system. There is often a trade-off between cost, functionality, and ongoing maintenance that needs to be included in the decision process.

Categories of Web-Based Feedback Tools

Web-based feedback tools have been divided into the following four categories, each with several subcategories:

1) **Issue Reporting.** These systems are primarily for unsolicited comments, such as commendations and complaints. There are four subcategories of issue reporting tools: customer information mobile applications, where the ability to comment is appended to existing agency information tools, such as real-time arrivals; security-related mobile applications that are designed to be monitored by transit police or other security organizations; community issue reporting tools designed for reporting of community issues, not necessarily related to transit; and social media, where users interact with the agency and other users.
2) **Online Public Comment Forums.** These tools are used to solicit feedback and discussion on topics generated by the agency. There are four subcategories of public comment forums: idea management, which encourages the public to generate, discuss, and prioritize ideas; online public meetings, where the agency can use the Internet to broadcast or create interactive online public meetings; map-based forums that encourage feedback through a map-based interface; and system-building games, where a virtual exercise is presented in a game format with trade-offs and issues involved in real-world transit decisions.

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3) **Customer Research.** These tools are used to solicit opinions in a structured format and have built-in reporting. There are three subcategories of customer research tools: surveys, that recreate traditional telephone or on-board surveys, but differ from traditional tools in the specific population they will reach; live polling, which allows the agency to set-up questions that may support live public meetings or for use at a specific location; and feedback panels, which involve pre-recruited and screened survey respondents.
4) **Feedback Management.** Agencies use feedback management tools to manage all aspects of the feedback system, including taking comments, internal review, responding to the customer, analyzing results and trends, and reporting. There are three subcategories of feedback management: social media dashboards, used to aggregate and track activity from multiple social media accounts; internal tracking, used to log, track, and respond to customer comments, and analyze and report trends; and customer relationship management, used to track an individual's communication history with the agency.

Tool Features

The types of features available for web-based feedback tools are divided into two main categories:

Features of Tool Types. These features are used to differentiate the categories of tools, and are used in the Tool Selection Guide to match tools with the agency need. The seven features are: user identification, visibility of comments, dialog capabilities, immediacy, geography-based, level of technical support needed, and cost.

Application Specific Features. These features are available across a wide variety of tools. They may be considered when procuring a specific tool, and can be required, desired, optional, or not needed. The 11 application specific features are: ability to customize the application; market penetration of the tool; who has control of the data; level of training and support; accessibility for persons with disabilities; translation for persons with limited English proficiency; mobile photography for reporting problems; reporting functionality; ability to rank or prioritize options; data processing; and ability to create custom and personalized responses.

Procurement

Guidance is provided to help agencies navigate the challenges of procuring software and working with software vendors. The topics are integration of web-based feedback tools, custom development versus off-the-shelf tools, and working with software developers.

Integration of web-based feedback tools occurs in many ways. There is often a desire to integrate comments from web-based tools into legacy comment tracking systems. Integrating feedback tools into existing agency web applications, such as real-time vehicle arrivals, puts feedback capabilities into the hands of an existing customer base. Social media creates many discussions and opportunities for the public to provide feedback to the agency. Integrating with social media allows the agency to capture a wide conversation with minimal staff effort. The same advantages exist for pulling comments from agency websites and blogs.

Custom development versus using off-the-shelf tools is a critical decision for the agency. Each option has its benefits, which need to be balanced against the costs based on the needs of the agency. Custom development allows the agency to specify exactly what it needs, including the ability to integrate with existing customer feedback systems. However, development can be slower than desired and more costly. In addition, resources will be needed to provide maintenance and upgrades to keep it compatible with common operating systems. Off-the-shelf tools can often meet the basic needs of the agency at a lower cost. The vendor typically provides

ongoing updates to keep the software current with new operating systems. However, the agency may not be able to customize the application to their satisfaction, or may have to pay additional fees to create a customized version of the program.

Working with software vendors and developers has its own set of challenges, especially for agencies that do not have dedicated IT staff. Developers may be talented programmers, but may benefit from guidance on the particular needs of the transit industry. As public entities, there are procurement requirements for transit agencies that software vendors and developers may not be familiar with, especially if they typically work with the private sector. Agencies can smooth the process by establishing clear goals, and recognizing the timeline for procurement, development, testing, and implementation of new software. Having a clear communication protocol between the agency and vendor will also facilitate the procurement process. Long term, establishing the level and type of ongoing support will help maintain both the application and a positive working relationship between the vendor and agency staff.

Lessons Learned and Future Research

The case studies are summarized in detail in Chapter 4. They revealed many overarching lessons, which are provided in Chapter 5. Following are a summary of the lessons learned, the concept of an "Ideal Tool," and topics for future research.

Overall Lessons

- **One Size Does Not Fit All.** Not every tool is right for every agency or for accomplishing every goal. Web-based tools have a place in the mix, but transit agencies are well advised to customize their tools to their audience and their resources.
- **People Want to Be Acknowledged.** Agencies can offset the concern of comments ending up in a black hole by acknowledging that a comment was received—ideally within 24 hours—and then following up directly with the individual in a timely way.
- **Accentuate the Positive.** Web-based feedback tools often attract criticism and negative comments. To help offset the negative, transit operators can make it easy for riders and stakeholders to share positive stories. Riders want to have an easy way to compliment bus drivers who make their morning a little brighter or employees who provided exceptional customer service.
- **Manage Expectations.** The real-time nature of social media can create challenges for agencies in terms of response time. While agencies are encouraged to respond to social comments, they should be realistic about the level of responsiveness they can provide. Many agencies address this challenge by responding to social media comments during normal transit operating hours only and posting those hours on their accounts. Clear information about when these channels are being monitored can help guide customer expectations.
- **Look Before You Leap.** Many platforms have especially low barriers to entry—and sometimes agencies get started without thinking through all the ramifications of inviting comments from these sources. Once an agency starts down a path, it can be very difficult to turn back. Agencies should set ground rules for comments and other forms of feedback.
- **Use the Customer Feedback Process to Educate.** Regular training for employees helps to ensure that customer service personnel are well-informed about the policies and procedures, as well as the internal structure, of the agency. Also for the user, providing information on the front end, such as service alerts, frequently asked questions, policies, plans, and budgets, can help to guide feedback from the public.
- **Measure Your Success.** Evaluating the performance of web-based feedback programs can help agencies understand what worked (and what did not) and documenting success can give staff the information they need to approach managers for additional personnel, budget, or software support. Numerous metrics and evaluation systems are available.

- **Build Stakeholder Support.** By encouraging two-way conversations, web-based feedback has the potential to engage riders and other stakeholders in meaningful interactions with the agency.
- **Consider the Costs.** Web-based feedback could expand the reach of public meetings and free up call centers to focus on complex questions and to serve constituents without access to technology. However, monitoring social media in real time and creating feedback options, such as webcasts, are resource-intensive activities. Cost-benefit analysis is needed to determine whether the tools will help the agency achieve its goals.
- **Integrate New and Old Systems.** It can be difficult to integrate legacy call center based systems with new web-based feedback technologies, including email, online forms, and social media. Ideally all customer communications will come to a central database to facilitate responses and to make it easier to track those responses. However, software systems may not be adaptable, training may be needed, and union agreements may dictate division of work.
- **Working with Vendors.** Some agencies have the in-house resources and expertise to develop customized web-based solutions, but many will choose to work with outside vendors. In some cases, the agency will want to purchase an off-the-shelf product that can be customized for a better fit. At other times, the agency will want to create a unique product from the ground up.
- **Maintain a Level Playing Field.** Technology-based feedback strategies have the potential to divide customers into those with access to these tools and those without access. Agencies should be concerned that customers with access to technology will receive faster responses than those using traditional communications channels and take measures to ensure this does not occur.

The Ideal Tool

At an APTA Marketing and Communications Workshop, transit agency staff created their "ideal customer feedback tool." The tool would take advantage of technology to reduce staff resources to process comments and responses. It would be easy to use, yet collect the detailed information needed to respond appropriately. The tool would be able to accept feedback from, and provide responses in, all standard platforms and applications, including mobile devices. It would allow real-time interaction and provide location information, if appropriate. The tool would be interesting with the ability to vote options and ideas up or down.

Future Research

Three areas of future research are presented: (1) identifying metrics to measure the benefits of web-based feedback and for performance reporting; (2) standardizing feedback categories for transit agencies and vendors to use, to reduce the amount of customization needed; (3) understanding rider access to technology, especially given the transportation disadvantaged markets served by transit agencies.

How to Use the Tool Selection Guide

Part 2 of the report provides a Tool Selection Guide that helps agencies select the most appropriate web-based feedback tool based on their needs.

Organization of Part 2

Chapter 6 summarizes the categories of agency needs for web-based feedback, based on the information provided in Chapter 2. Chapter 7 summarizes the categories of web-based feedback tools and their features, based on the information provided in Chapter 3. Chapter 8 presents an overview of the Tool Selection Guide, including a 3-step process for using the guide, and three examples demonstrating how an agency could use the guide.

Chapter 9 contains the Tool Selection Guide tables and information sheets. The first set of four tables, "Best-Fit Tools for Agency Need," is organized around agency need, and identifies types of tools that are a best fit or good fit for each category of need. The second set of 10 tables, "Tool Features for Agency Need," is also organized around agency need, and provides a comparison of features for all of the best-fit and good-fit tools. The third section of Chapter 9 contains Tool Information Sheets, one for each type of tool, organized by type of tool. The information sheets include a summary description, uses, advantages and disadvantages, and features of the type of tool.

The 3-Step Process

The tables and information sheets provided in Chapter 9 are designed to be used in a 3-step process or individually, depending on the needs of the agency and staff members' familiarity with the types of web-based feedback tools. The process assumes that the agency has already identified the type or types of feedback it is interested in collecting.

Step 1: The agency identifies the appropriate "Best-Fit Tools for Agency Need" table, and identifies the best-fit and good-fit tools based on the subcategories of need provided in the table. Those tool options are taken to Step 2 of the process.

Step 2: For each of the tool options selected in Step 1, the agency identifies the appropriate "Tool Features for Agency Need" table. The tables provide a listing of features to compare the tool options. Based on the agency's specific needs and requirements, the tool options are further narrowed down. The final list of potential tools is taken into Step 3.

Step 3: The Tool Information Sheets provide additional detail on each of the tools. The final list of tools can be further explored using the information sheet for each type of tool, to come to a decision on which type of tool is best for their needs.

Appendices

Appendix A provides sample categories used for recording customer comments to facilitate reporting, analysis, and performance measures.

Appendix B provides a glossary with definitions of terms used throughout the report.

Appendix C contains a summary of the transit agency survey findings regarding web-based feedback.

PART 1

Managing Web-Based Feedback

CHAPTER 1

Understanding and Organizing Web-Based Feedback

This chapter provides background to define customer feedback, differentiate feedback from other forms of communication between transit agencies and their customers, and define the categories of agency feedback needs that will be used throughout the report. The benefits and challenges of customer feedback identified in the literature are also discussed.

Defining Customer Feedback

Feedback is defined as communication generated by transit users and other members of the public and directed at transit agencies. For a transit agency, the feedback process involves listening to and, in some cases, reacting to input from customers and other stakeholders. While feedback can take the form of one-way communication from the customer to the agency, the process can be enhanced by creating a dialog between external and internal stakeholders that allows information to be shared in both directions. For the purposes of this research project, transit-related feedback is divided into two general categories:

- **Unsolicited feedback** is defined as the comments, suggestions, and complaints that flow into the agency without being directly requested by agency staff. These comments come in through multiple communication channels, including call centers, email and online forms, written comments, social media, online communities or forums, and mobile applications designed to facilitate interaction with the public.
- **Solicited feedback** is initiated by the agency to address specific needs or issues. The most common activity is public outreach—comments collected with regard to service and fare changes, customer satisfaction, or project planning, which can become part of the public record. Solicited feedback can also include questions posed on any topic using a variety of conventional and technology-driven tools, including web-based and panel surveys that do not have the rigor of true market research and the increasingly popular technique of crowdsourcing.

While customer feedback can serve many purposes, it is not a replacement for other types of agency communication. The following types of communication are not covered in this report.

- *Customer information* includes real-time information, service alerts, schedules, way-finding, and other one-way communications from a transit agency to their customers. Information dissemination techniques are used to broadcast messages from the agency to the public. These techniques, both web-based and otherwise, have been covered in depth in several previous TCRP studies (Schaller 2002; Schweiger 2006; Bregman 2012). The one-way aspect of customer information distinguishes this type of communication from customer feedback, which is generally intended to be two-way communication between the agency and the customer.

- *Customer service* includes ticket sales, trip-planning services, safety monitoring, and other efforts to serve transit users. Customer feedback can enhance, but not replace such services.
- *Public relations* uses publicity and other types of promotion to influence opinions, attitudes, and beliefs about an organization among customers or stakeholders. Similar to customer information, this is one-way communication from the agency to the public, rather than gathering input from the public.
- *Market research* is the gathering and evaluation of data regarding consumers' preferences for products and services. It can be quantitative, following strict statistical requirements to ensure representativeness, or qualitative, designed to explore and test concepts. Solicited customer feedback can use a survey format to facilitate collecting and analyzing feedback, but it is not necessarily designed around sampling methods to ensure results that are representative of the target population. A full discussion of market research tools is available through *TCRP Synthesis 105* (Coffel 2013).
- *Marketing and promotions* often include activities where customers are asked to respond to questions, share opinions, and otherwise engage with the agency. The primary purpose of these activities is to develop a strong, positive relationship with the customer that results in loyalty, higher ridership, word-of-mouth advertising, and support for the agency. This toolkit will be relevant to the customer feedback portions of this activity, but will not specifically address web-based promotions and customer engagement.

In practice, there is often significant overlap between these different categories and often the same employees are responsible for all aspects of an agency's communication. Messages that are sent out as public information, such as a notice for a public hearing on a service change, are frequently repurposed into a social media posting to solicit customer feedback on the service changes. Thus, while the focus of the report is on web-based customer feedback to improve transit service, the concepts and tools presented are applicable to many other areas of communication.

Agency Needs for Web-Based Feedback Tools

The first step in the decision-making process for purchasing or implementing a web-based feedback tool is to articulate the need for the tool. Therefore, agency needs have been categorized into four overarching categories throughout the report: (1) to receive comments that the public and employees wish to share; (2) to proactively solicit comment on topics of interest to the agency; (3) to encourage civic engagement through facilitating topical discussions; and (4) to manage the feedback. The purpose for the feedback tool will have direct bearing on which department "owns" the information, work flow, and which tools are most appropriate. The following discussion describes the major categories of comments from the perspective of the public and the agency.

Collect Unsolicited Comments—Information the Public Wants to Convey

The most fundamental need for web-based feedback is to collect comments from the public. While most of the unsolicited feedback is from transit riders, anyone may have occasion to contact the agency to register a comment or complaint on agency activities. Transit customers and other stakeholders may choose to comment on a wide range of issues, including:

Service quality issues. People care most about issues that affect them directly, and transit riders are no different. Comments about transit service quality detail anything related to the agency's daily services, including late or early buses, crowding, temperature on the vehicle, or customer information needs. Feedback on these topics can help agencies address short-term

problems, such as on-time performance issues and the need for additional capacity and customer amenities (e.g., schedule information, a shelter, and lighting).

Some riders may make a point of highlighting good service, but it is not a large percentage of what agencies hear. People are more inclined to speak out if they are opposed to or upset by some aspect of service quality than if they are supportive or pleased. Having a mechanism available for them to easily share their views in either case is helpful.

Apart from short-term operational issues, riders may seek the opportunity to provide feedback on how routes could be optimized or how the system could be improved. Items like poorly located bus stops, potential scheduling changes, and moving the time of a bus by a few minutes to allow a connection are important parts of system design. Riders may also want to share their feedback on topics such as major service changes so that other stakeholders can see comments from other riders and agency responses. Allowing customers to provide web-based feedback in areas of service quality can help guide future decision making, especially with regard to service modifications.

Comments about transit agency personnel. Operator behavior, as well as user interactions with and impressions of agency staff, are also tied into service quality. Complaints and commendations regarding employees can help agencies ensure that their employees are doing their jobs and meeting or exceeding customer expectations. This feedback can include reports of distracted bus drivers, lack of customer attention by station clerks, and other information regarding poor customer service. This feedback can also include positive feedback on extraordinary job performances. These comments can help the agency identify employees who are not providing good customer service, as well as reward employees who provide excellent service.

It is widely believed that making commendations and complaints easier to report can encourage more people to submit their comments. The effort required to provide comments after the fact via traditional means, such as email or telephone call, including the need to remember to give input after an incident rather than on the spot, can discourage customers from submitting feedback at all. Riders may offer more compliments if a forum is available for doing so in real time, especially if it has a social component. User feedback about transit agency staff performance could also help to inform periodic employee evaluations, such that those staff members who go above and beyond customer expectations may be recognized and rewarded. One idea is to let riders vote for bus driver of the year. On the other hand, repeated negative feedback about certain operators may help to identify problem behaviors and poorly performing employees, so that appropriate corrective or disciplinary actions may be taken.

Safety and security issues cover safety of particular stops, stations, and bus or rail routes, as well as reports about lost and stolen property or suspicious people. Mobile applications have been developed to allow riders and employees to provide unsolicited feedback on safety and security issues, but this is an important area for agencies to solicit feedback as well. Agencies can use this information to know where to increase security patrols to reduce crime on their systems, provide more frequent cleaning and maintenance, and make physical improvements, such as cameras and security phones.

Facilities and maintenance issues include problems with buses, rail cars, and station equipment. This feedback can allow agencies to fix broken heaters or air conditioners on vehicles, locate graffiti, and identify broken elevators, escalators, fare machines, or turnstiles. This feedback is useful for keeping vehicles and facilities clean and operational, while also identifying damaged agency property. Riders with disabilities may wish to report access issues as they encounter them. For example, in an interview conducted for this research, a rider who is blind said she would appreciate an easy way to let an agency know that the automated announcement system was not

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working. Other riders might want to report problems with ramps or lift equipment. In warm summers, rail riders want an easy way to tag a "hot car" (one in which the air conditioning is not working); some agencies encourage riders to use Twitter to report such cars by sending a tweet or text message with the rail car number, line, and the tag #hotcar. Some agencies offer mobile applications for customers to report non-emergency issues, such as a burned-out streetlight, and make complaints. Some issues may straddle the safety and maintenance classification or the line between time-sensitive and ongoing, such as when a stairway is not well lit.

Planning and policy. Riders also want to be able to comment about general policy issues, and may offer important insights and innovative solutions to some of the agency's organizational challenges. Policy changes include service standards that cover the levels of service to be provided, fare policies, rider rules (e.g., food and drinks on the vehicle), use of park-and-ride facilities, and vendor advertising. This feedback is typically not time-sensitive, but allows agencies to understand how their users feel about changes that are made to their commutes and how convenience can be added to help them on their journeys. Several agencies use sentiment analysis to review attitudes about their services (Bregman and Watkins 2013; Collins et al. 2013; Schweitzer 2012).

There are two broad types of unsolicited feedback: comments that are time-sensitive and warrant immediate attention and comments that relate to ongoing concerns. Whether the issue qualifies as time-sensitive or an ongoing concern will depend on the details of the issue.

Time-Sensitive Concerns

Time-sensitive feedback includes issues of immediate concern that warrant real-time or same-day responses. Typical time-sensitive issues include safety and security concerns, crime, broken equipment, and dangerous driving. The nature of these concerns may require the agency to monitor and address issues during all hours of service.

Ongoing Concerns

Ongoing concerns and commendations do not call for immediate action and may require additional review or be folded into a planning or administrative process.

Solicit Comments—What the Agency Wants to Know

Transit agencies regularly solicit feedback as a part of their public outreach efforts and to better understand their customers' needs and expectations. Web-based feedback can be used to supplement traditional outreach activities, as a means of "taking the pulse" of the public, or as a supplement to formal market research. There are two primary categories of solicited feedback: policy and planning activities and public opinion polling.

Policy and Planning Activities

Public outreach in support of policy and planning activities is the most common reason for soliciting comments from riders and the public, including requirements for public comment on budget, fare and service changes, or to gather ideas for future service improvements.

Budgeting and short-range planning. Feedback on service and fare changes, and through the budget approval process can help agencies communicate fiscal realities, prioritize changes, and spur innovative thinking from customers and the public for new revenue sources and savings opportunities. Feedback on short-term planning issues helps agencies identify areas for improvement in terms of frequency, geographic coverage, and service span. Some agencies have created interactive budget tools, designed to allow the public to propose alternative budgets for

the agency. This not only generates options for the agency to consider with regard to its spending, but also helps to educate customers on the challenge of meeting service demands within budget constraints. At one of the case study agencies, a web-based budgeting tool completely changed the conversation on budget with their customers; it effectively engaged the public and helped to deepen agency understanding of the public's priorities.

Long-range and capital planning. This include strategic plans, conceptual service plans, and construction programs, such as new rail lines. Soliciting feedback as part of the review process helps agencies understand customer issues and builds community support and a strong long-term rider base. Web-based feedback tools are proving to be effective in reaching a wider constituent base and collecting more detailed information on a broader array of issues than traditional methods of open houses and community meetings. For example, providing the opportunity to comment online during the planning phase of a rail project in southern California resulted in learning early in the process about potential flood zones and conflicts with historic designations.

Public Opinion Polling

Readily available, off-the-shelf survey software provides an easy way to gather, categorize, analyze, and report feedback on specific topics of interest to the agency. It should be recognized that web-based feedback is not a substitute for market research, which relies on statistical sampling methodologies to obtain results that represent the target population. Nevertheless, these are invaluable tools for monitoring public opinion and "testing the water" on a variety of topics from service and policy changes to vehicle attributes and branding options.

Customer profiles and travel characteristics. Transit is both a product and a service that benefits from the same level of customer attention as is given in the private sector. Feedback tools can be used to gather information on customer demographics, attitudes, expectations, and transit usage. In addition, web-based feedback tools are cost effective methods of gathering input on service quality and customer satisfaction metrics.

Public opinion. Transit agencies have operational policies that impact all aspects of service, and govern the actions of employees and the public. Policies include service standards that outline levels of service to be provided, fare policies, rider rules (e.g., food and drink on the vehicle), park-and-ride rules, and vendor advertising. Soliciting feedback on proposed policy changes or potential new policies allows agencies to understand how the policies may impact riders and expose potential unintended consequences of the policy changes.

EXAMPLE: Before introducing a new electronic fare system, TriMet conducted an online survey that asked riders how they expected to use the e-fare system, to list the advantages of a new payment system, and to vote on names for the agency's new smart card.

Encourage Civic Engagement

In addition to receiving comments on specific topics, both solicited and unsolicited, agencies are required by FTA to discuss major service changes and capital projects with the public. These conversations can deepen community support, inform agency decisions, and help educate the public.

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Building Community

Web-based feedback tools can help an agency build community by creating a dialog between the agency and the public. Blogs and other communication channels can be used to pose questions to the public that foster a discussion around issues that help frame agency policies and goals. This accessibility of the agency to the public improves the image of transit, creates a stronger bond with the community, and can result in better service and higher ridership.

Open Houses

Agencies traditionally hold open houses and public meetings to support major planning activities. Web-based tools are now available that allow the meetings to be held online, potentially reaching a larger audience, at a much lower cost of time and staff resources.

Education

Educating the public about transit activities is predominantly a customer information activity. However, dialog with customers pertaining to major planning efforts helps to educate both the riders and the agency about the needs and desires of both parties. Certain web-based feedback tools explain transit operations and planning constraints as part of the feedback process. By educating the public about how the transit system functions, the agency receives better informed comments that focus on what can be changed within agency constraints

EXAMPLE: In developing its FY2013 budget, TriMet faced a $17 million gap and had to choose between cutting service and raising fares. TriMet wanted the public to see how difficult it is to make that decision, the trade-offs involved, and how little funding the "easy answers" contribute toward bridging the budget gap. To do this, they created an interactive online budget tool and invited the public to look at a series of budget options. Participants could use the online interactive tool to learn about the impacts of budget cut options and vote for their preferred alternatives. The tool presented seven revenue-generating and 11 cost-saving measures (including several service cuts options, elimination of the downtown fare-free zone, fare increases, and administrative changes) and described the financial and ridership impacts of each.

Manage Feedback

Most U.S. transit agencies have systems in place to manage feedback from customers submitted through traditional channels, such as telephone, mail, and in-person. Depending on the agency, existing feedback management systems can be as simple as logging comments into a spreadsheet or as complex as fully integrated backend systems that allow feedback to be managed with alerts, automated responses, and tracking, regardless of the source. Some agencies will have legacy systems that may have been built 20 years ago and that may not integrate well with today's technology platforms. Others will have a variety of tracking applications, implemented over time to meet specific departmental needs.

As the number of feedback channels increases, agencies face a growing need to manage these new sources of information and integrate all agency communications into a single repository. This allows the agency to reduce duplication of efforts while ensuring customers receive a response from the agency, provides more comprehensive analysis and reporting, and supports

broader outreach efforts in the community. Three categories of feedback management needs are comment tracking, contact management, and reporting and analysis.

Comment Tracking

Comment tracking software is used to follow the feedback loop from initial intake to internal actions to the response back to the customer. An entry into a comment tracking system is initiated with a customer comment, request, or complaint. In the most basic form, the system provides for data entry of the comment, assigns an internal tracking number, and records the response to the customer. More sophisticated programs can automatically load and direct comments from online forms; provide a tracking number to the customer so that the status can be tracked online by the commenter; facilitate internal discussion of the comment before a response is sent to the customer; and have sophisticated reporting and analysis functions.

Contact Management

Contact management software, also called customer relationship management (CRM) software, focuses on tracking the person or organization making a comment, rather than tracking the comment itself. In their simplest form, these systems enable agency staff to view their history of communication with their customers. These systems typically are used for outreach efforts to track and manage communication with stakeholders, opinion leaders, organizations, the media, and others with whom the agency may have regular contact. This type of software had its origins in sales, marketing, and communications, and as such has not traditionally been used to track feedback. This has been rapidly changing, however, with many agencies seeing the value of managing both comments and individuals in the same system.

Reporting and Analysis

Web-based feedback provides agencies with information about their services and their customers. To take full advantage of this growing source of information, agencies need tools that can enable them to consolidate feedback from multiple channels, analyze comments, and create standard and customized reports. Reporting and analysis functions have become standard elements of most software applications, and new applications have been developed for tracking online feedback, such as social media comments.

EXAMPLE: Amtrak uses a social media dashboard to track online comments about the railroad and topics of particular interest. This enables the company to monitor online conversations, engage with riders, and track public opinion about rail transportation. Tracking social media also allows Amtrak to identify time-sensitive customer issues like a broken Wi-Fi connection in a particular train car and, when possible, fix the problem while the passenger is still enroute.

Benefits of Web-Based Customer Feedback Tools

It is well understood that transit agencies and their riders benefit from increased communication and public participation (Texas Transportation Institute and Nustats International 1999; Schweiger 2006; Giering 2011). Transit agencies have been gathering feedback through a variety of mechanisms since long before the invention of the Internet. Public meetings, on-board

surveys, customer comment cards, and feedback hotlines have all proven to be useful tools for gathering customer input, and transit agencies will continue to use these methods for many years to come. Web-based tools often build on the success of more conventional forms of feedback collection, while adding new features and functions to further enhance the public input process (Spitz et al. 2006). This section describes key benefits associated with web-based feedback tools from the perspectives of customers and transit agencies.

Customer Perspective

Real-Time Feedback

Mobile applications and social media are especially well-suited for reporting time-sensitive situations in the moment, including safety and security concerns (Bregman and Watkins 2013). Allowing customers to comment in real-time as an issue is occurring can allow better communication of details and faster resolution. Some mobile applications track the location from which the report is made to allow customers to skip the step of entering their location. Although Internet or cellular access connections may be limited or nonexistent in subway stations, tunnels, and other remote or underground areas, providing wireless Internet service in trains, buses, and transit stations can help to alleviate this issue.

Safety and Security

Safety and security are issues of concern for customers and transit agencies, as the perception of safety can directly affect ridership and the agency's public image. Riders are more likely to continue taking transit if they feel safe in doing so, and enabling real-time communication between transit users and police empowers riders to act when things go wrong. Transit riders can help police monitor the complex and often extensive transit environment by serving as additional eyes and ears on the system. Likewise, real-time feedback can allow police and transit agencies to act quickly and appropriately to address the situation. Applications developed specifically for reporting crimes and other safety or security concerns have an advantage over general-purpose feedback and social media tools because reports are tracked separately from other issues, preventing them from being lost in a stream of posts that are not related to security.

EXAMPLE: To help improve customer safety, one urban agency introduced a mobile tool to allow riders to report suspicious activities discreetly and directly by using their smartphones. The police chief believes that the tool empowers riders to report out-of-the-ordinary events. "Now we know they're looking around and seeing things. They're on their phones anyway," he said in reference to the agency's riders. "Nobody will even know what they're doing while they use the app to send a message to the police that says 'I'm on the train next to a guy and he's got a gun.'"

Increased Public Participation

Web-based feedback tools can help increase participation among traditionally underrepresented populations. Public hearings typically require participants to show up at a specific time and place and to share their opinions in front of others. This can bias the process toward those who are able and willing to speak out in a public setting. Some citizens may be intimidated by the presence of agency employees, public interest groups, and other activists (Brabham 2009).

Others may not be able to attend a meeting because of the location or conflicts with work or child care schedules. Still others may have limited proficiency communicating in English.

Online public comment tools can help to increase participation among those who are too busy or otherwise reluctant or unable to speak at public hearings. Web-based feedback tools can allow individuals to participate at times that are convenient for them, rather than requiring them to attend a meeting at a specific time and place. Some online services allow users to submit comments anonymously; many transit agencies noticed that participation in planning meetings increased when individuals could take part anonymously online (Evans-Cowley and Griffin 2012). In some cases, online tools include translation features. By reducing the barriers to participation, web-based feedback tools can make it easier to gather a larger and more diverse collection of opinions on a project. A larger body of feedback is likely to be more accurately representative of the views of those affected by a change, which can help the transit agency and other stakeholders make more informed decisions.

EXAMPLE: One transit agency interviewed for this study observed an increased level of engagement after they began to host online meetings as part of the review process for a capital project. At the start of the process, the remote meetings generated comments and questions from participants who were clearly transit advocates and quite familiar with the agency's planning process. Over time, however, the remote meetings attracted a broader mix of participants, many of whom were new to the public process. The agency also found that the online meetings helped create more awareness and interest in the project, and attendance at in-person meetings increased in step with greater online participation.

Reduced Call Center Wait Times

When options are available for riders to provide comments and feedback through online forms and social media, more call-takers are available to help people who have an immediate question and those without access to technology. This helps call centers to be more efficient and effective, and improves public perception of the transit agency by providing shorter wait times and better responsiveness.

Enhanced Agency Image

A major benefit of web-based tools is their ability to enhance transit agencies' reputations. Helpful, timely interactions with users online can improve public perceptions of an agency's trustworthiness (Rowe and Frewer 2000). This kind of engagement can help individuals feel that their feedback and ideas are important to the agency, which can encourage them to stay involved.

EXAMPLE: The Daily Pothole, a blog on the Tumblr platform run by the New York City Department of Transportation, allows drivers to report potholes to city officials who then post a running tally of their progress in fixing the streets and share other agency updates. Individuals cannot report potholes directly on The Daily Pothole, but a link directs them to DOT's website, where they can use a web form to file a report or check on the status of a repair. Shortly after starting the site, the city DOT found that the agency was viewed as more accountable (NYCDOT 2014).

One major benefit of web-based customer feedback systems paired with effective comment and issue tracking is the impact that responses can have on the user. Rather than feeling that their issue is being ignored, those who receive a response to their concern are more likely to feel that the agency has heard them. A response can go a long way, even if it is as simple as, "We are sorry that happened." Responsiveness gives customers a sense that someone who cares about their experience is listening and can take appropriate action, when possible. Irritated customers are often calmed by a sympathetic and genuine response, especially if they feel that their input may be used to help prevent such problems in the future. It is much easier for users to criticize and dislike agencies that they perceive as callous and uncaring than it is for them to criticize those that seem more human and compassionate. Responsiveness plays a major role in making this distinction in the public eye.

One of the biggest struggles that public agencies have faced in the last several decades is that of public accountability and transparency. When the public pays for transit service through taxes and fares, many citizens believe that they deserve to know how their money is being spent and how decisions are being made. Using web-based tools can make it easier for transit agencies to share such information with the public and get immediate feedback.

Agency Perspective

Cost Effectiveness

For many web-based tools, such as email, online surveys, and social media, signing up is free and little or no customization is required. This allows many agencies to engage customers at a relatively low cost (Bregman 2012). Relatively inexpensive dashboards and other tools can allow agency staff to skip the step of manually entering written or verbal comments to put them in a consistent electronic format, such as a spreadsheet or database, saving time and resources. It is also possible to analyze feedback quickly using analysis functions offered by many online survey platforms. Web-based tools can also reduce the need for employees to hold public meetings and hand out comment cards in-person, which also saves staff time (Evans-Cowley and Griffin 2012).

Increased Outreach and Documentation of Agency Needs

As mentioned previously, web-based outreach and feedback tools can help to increase public engagement online and in-person. Feedback management and data analysis tools can help to put diverse views into a larger context of the city or coverage area as a whole, which can ease the burden of prioritizing issues and dealing with conflicting public opinions.

The more feedback that an agency receives, the more issues are typically documented and, with an effective feedback and issue management system in place, addressed. This increased documentation can help agencies prioritize what issues to address in a transparent and comprehensive way. It is often beneficial to get a broader understanding of what is happening in a coverage area and its surroundings, to give context and justification to the decision-making process and its outcomes.

Inclusive public input processes that are well-documented can not only help to maintain a record of feedback and issues raised in terms of service, policies, and coverage. These methods are also useful in generating lists of short-term issues to address, such as vehicle or station maintenance issues, which can guide planning and budgeting of scarce resources.

Lists of Interested Future Participants

People who go out of their way to get in touch with a transit agency usually do so because they want to make the system better. The easier a transit agency makes it for their customers

to provide feedback, and the more responsive they are to that feedback, the more feedback they will generally receive. This give-and-take relationship helps to foster stronger ties between transit users and service providers, often in ways that can be leveraged for strategic joint gains. For example, agencies can inform their followers and those who have previously provided input about an upcoming vote to mobilize them in support of better funding for the agency to improve service.

Many agencies use a CRM database; typically they enter contact information for individuals who have previously commented on policy and planning issues or otherwise have contacted the agency. With their CRM database, they can send updates, invitations to hearings, requests for comments, frequently asked questions, and other information to keep their followers informed and engaged. Communicating regularly with customers can help bring those who have expressed concern over an issue together for further discussion, especially to inform an agency's planning and budgeting processes.

Interagency Communication and Coordination

With the growing complexity of government bureaucracies and urban environments, interagency and interdepartmental coordination is becoming increasingly important. Transit agencies often depend on effective coordination between their staff, police from one or more jurisdictions, planning bodies, municipal, county, and state governments, and more. Web-based tools are now available that can recognize these different entities and direct feedback appropriately. Tools can now distinguish between local and state roads for reporting potholes, for example. Because transit vehicles often cross local jurisdictional boundaries, transit feedback tools are being developed with stops mapped and issues directed to responsible jurisdictions. As another example, police reports of speeding transit vehicles sent to the proper transit agency can be tied to the correct vehicle and driver using information about where and when the report occurred and the transit agency's automatic vehicle location (AVL) system.

Reporting

A major advantage of web-based tools is their ability to generate summary reports and statistics. Some customer feedback tools use pre-defined categories for organizing feedback and comments (e.g., operations and maintenance, safety and security, employee complaints and commendations). In addition to the common categories of feedback, agencies can customize web-based tools to solicit feedback on any number of topics. As agencies define their specific needs, they can generate questions and topics for public feedback. For the purposes of reporting, feedback received through online tools is much easier to process, analyze, and convey than traditional in-person or written feedback. Survey software can be used to quickly pull together survey results in a concise and understandable way. This is extremely helpful for informing planning and decision-making processes, requiring minimal time, effort, and costs.

Rider Retention

Making it easy for riders to submit unsolicited feedback allows agencies to keep riders by listening to them, addressing their needs, and thereby improving service for everyone. Social media, in particular, provides an effective channel to let customers know the agency is listening and using their feedback to improve service. Riders are arguably the most important and influential group of stakeholders when it comes to transit agency success. Effective two-way communication creates happy customers and more transit advocates.

Challenges of Web-Based Feedback Tools

This section identifies challenges that agencies may face when initiating a web-based feedback program or when adopting new web-based feedback tools, from the perspectives of customers and transit agencies.

Customer Perspective

Equity/Accessibility

Not everyone is able to access or use web-based tools. They may have mental or physical disabilities that make it difficult to use certain tools, language barriers, or they may not have convenient access or skills to use a smartphone or the Internet. Agencies can address accessibility issues for some populations, such as by translating tools into different languages, but it is nearly impossible to serve everyone with any single platform. Offering a diversity of methods for submitting comments and reporting incidents or concerns will serve the greatest proportion of existing and potential customers, including older or low-income customers who may have limited online access. Online tools offer many benefits, but they cannot fully replace traditional approaches to gathering feedback from the public.

Public Acceptance

In addition to those who cannot access new technologies, some people simply choose not to use web-based tools. Not everyone wants to take the time to learn how to use new technologies. There is a learning curve associated with many web-based applications, and the seemingly endless variety of mobile applications and other online tools can be overwhelming for some users. Choosing tools that are easy to use, have limited or no requirements to register, and that leverage existing popular applications, such as email or the agency website, can help agencies engage more of their customers in using web-based feedback tools.

Privacy Concerns

Some tools require users to set-up an account before they can submit comments. The amount of required information varies from a simple username and password to fulI contact information. The latter is especially common among agencies using CRM software. Individuals may be uncomfortable sharing detailed personal information through an Internet connection, especially if their comments will be public, and they may choose not to participate.

Personal Contact

Web-based feedback tools allow people to provide feedback at any time and in any place (if using a mobile application), eliminating the need to call during the agency's business hours. However, the dialog experienced via telephone or in-person can relay more complete and accurate information that may be lost when communication is only online. In addition, the personal connection of a phone call or in-person discussion can sometimes address concerns more quickly, whereas online communication may create frustration due to incomplete communication and delays in agency responses.

Agency Perspective

Negative Feedback

The convenience of web-based platforms allows individuals to connect with public agencies on a range of issues, but psychological distance and higher levels of anonymity make the Internet

a more welcoming space for criticism. A challenge for agencies is deciding how to manage the often unsolicited feedback that comes through various channels, especially when the comments are critical of the agency. Researchers at Purdue University documented this experience when they analyzed a sample of Twitter posts ("tweets") about the Chicago Transit Authority in order to assess rider attitudes. Using the technique of sentiment analysis, they concluded that "transit riders are more inclined to assert negative sentiments to a situation than a positive sentiment" (Collins et al. 2013).

Electing not to create agency social media accounts and web-based feedback portals does not necessarily prevent people from offering negative feedback online. Those who are particularly passionate about certain issues may simply set-up their own unofficial accounts (often on Twitter) and use these forums to make their complaints public. These situations can be mitigated or prevented by offering a variety of official web-based feedback platforms combined with a staff that is responsive to the comments received.

Internal Support of Web-Based Feedback

Management. Getting top management to recognize the importance of web-based feedback to the agency brand can be a major challenge. Web-based feedback systems may mean increased public accountability, which some might see as leaving the agency vulnerable or exposed. Most upper management and board members have had the majority of their careers take place before the Internet became a common method for two-way communication. As such, they may not understand that communication strategies using the web and social media can be productive, affordable, and effective.

Transit agencies tend to be very hierarchical, so approval for new initiatives is often needed from upper levels of management. Demonstrating the benefits of using web-based feedback tools, including a broad reach, diverse audience, and low cost, can help to make the case for increased use of these tools. Until the benefits of web-based feedback tools are realized by agency leadership, agencies will continue to be challenged to get the resources and support needed to ensure their success.

Staff. Internal and external acceptance of new technologies and processes creates the need for a paradigm shift in how agencies operate and staff customer feedback functions. Agency staff may view the adoption of web-based feedback tools as adding more to their workload. In addition to resolving an issue, they now have to take extra steps to communicate this progress to the public. Prioritization of which communication channels (e.g., telephone, email, web-based feedback), which feedback applications (e.g., Twitter or Facebook), and which comments to respond to may also be an issue for them; they may or may not have adequate guidance and support from agency leadership to make those decisions. Working to develop an effective multi-level decision-making process and workflow for feedback responses will help prevent confusion and frustration as web-based tools are increasingly adopted. This also helps to set clear expectations for agency employees, which supports internal accountability and consistency. Finally, workflow processes should take into consideration the presence of the media on many of these feedback applications and properly train staff who are responding in customer and media relations.

Internal Processes

Loss of Direct, Personal Two-Way Communication. Engaging individuals in-person, or even through phone or video chat, allows for conveyance of visual cues, tone, and inflection that may be missing from email or social media communication. Furthermore, the anonymity of web-based feedback channels can make it easier for people to be rude or disrespectful than they would be in a face-to-face or telephone conversation.

It can also be harder for agency personnel to calm down angry people through online channels, and sometimes even genuine attempts to do so can be misinterpreted. When possible, a phone call or in-person meeting may help to address such situations, but agencies often do not have the necessary information to contact distraught customers in this way. Even when contact information is available, many customers do not wish to speak over the phone or in-person.

Collecting Enough Information to Act. Gathering information through web-based feedback tools is a balancing act. On one side there is the need to collect enough information to take appropriate action, such as the transit route, time, location, and operator involved in an incident, as well as the contact information of the person reporting the incident for follow-up. Yet people are often reluctant to divulge their identity and contact information, or even details about their commute. Social media tools are especially difficult to use for extracting all needed information, as many social media users do not reveal their true identity or contact information.

Without a form that specifically requests all the necessary information, many comments and incident reports submitted online will be missing one or more critical pieces of information. Even the requirement to fill out such a form can be a deterrent if the form has too many questions. Contact information sufficient to follow-up with additional questions is very important in these cases, but is not always obtained. Even when this information is required for submission of a comment, some people will enter false contact information in order to submit the comment. Technological advances in geographic positioning systems and real-time feedback tools can help to reduce the amount of information that commenters are required to provide, but agencies should still consider the detailed information they need when designing systems for comment submission and incident reporting.

Knowing When to Respond. Not all comments submitted to an agency require a response. Some commenters are simply trying to blow off steam and do not actually expect a response. In these cases, sending a response may aggravate the situation, rather than being a productive use of time. A good rule of thumb is to provide constructive responses to constructive criticism, express gratitude for praise, and not respond to comments that are overtly vague, unconstructive, or aggressive. Knowing when and how to react can be tricky and, with multiple staff members authorized to respond, there can be inconsistency from one staff person to the next. Developing policies and guidelines on this topic can help to set expectations and promote consistency within an agency for a more unified approach.

Resources

More Comments, More Responses. Responding to customer feedback can be time-consuming and drive up labor costs. Adding web-based feedback tools increases the ways people can contact the agency and can result in a significant increase in comments. Insufficient staffing for web-based customer feedback efforts can become an even bigger challenge when irate customers who did not get a timely response begin to bombard agency social media accounts with complaints about the lack of responsiveness. The agency's public image and customer satisfaction may be negatively affected in these circumstances. This is especially true during service disruptions, when customer contacts skyrocket in all channels. Agencies may struggle with balancing staff time between channels, especially during peak demand situations. Increased feedback does not always equal useful feedback, and sorting through unsolicited comments to find useful tidbits can be a tedious process (Heipke 2010; Nash 2010; Doan et al. 2011).

Managing Effectively. There is a cost associated with managing web-based feedback tools effectively. Building a professionally managed online presence may require employee training programs, contractors to manage the tools, and additional support from knowledgeable staff (Fine and Poe 2010).

Public Expectations. Social media and other online platforms operate all day, every day. Most agencies do not support a 24-hour customer service center, creating potential conflict between the customer's expectations and the agency's ability to respond. This can be exacerbated by the number of comments collected during non-business hours that need a response when the service center opens. The backlog of feedback added to regular call center activities can result in further delays and greater frustration for employees and the public.

Measuring Impact. A fundamental challenge that many agencies have in prioritizing social media and other web-based feedback tools is the lack of metrics and methods for measuring the impact of these tools. Web-based feedback tools are affordable and some, including social media, are free. While many platforms offer easy, free, and automatic ways to track metrics, such as number of people engaged, post views, and comments received, it is not always easy for agencies to link these measures to intangible benefits like brand loyalty or quantifiable impacts like increased ridership.

CHAPTER 2

Managing Web-Based Feedback

This chapter includes topics related to managing a web-based customer feedback program. The first topic is to understand the various audiences that may be engaged and how they access and interact with the Internet. Establishing a social contract with the public is discussed under "Promise to the Public," where the agency explains how they will use and support web-based feedback. Legal concerns specific to the Internet are described, providing a basic understanding of issues that should be discussed in further detail with agency legal staff. Guidance is also provided about policies and procedures related to staffing, responding to web-based feedback, and monitoring social media. The chapter concludes by looking at the backend of managing web-based feedback, including data processing, analysis, and metrics.

Audience

Different audiences have different preferences for how they communicate with the transit agency. They can include tech-savvy students, riders who are integrating technology into their lives more, and busy members of the public who cannot make time for traditional feedback mechanisms. They can also include technology-challenged older adults, lower-income riders with limited access to technology, and people with language or physical barriers to using web-based technology. Special populations identified by Title VI and the ADA, including persons with disabilities, the elderly, minorities, low-income, and persons with limited English proficiency, should be considered when developing web-based feedback tools. These tools can facilitate communication with these audiences as described in the subsections below. This mix of audiences encourages the increased use of web-based feedback tools, but will continue to necessitate multiple forms of communication so that everyone has the ability to provide feedback. It is also important for agencies to remember that feedback tools do not have to be limited to existing customers. Employees and the general public, including people who choose not to ride transit, can be valuable sources of input into planning and decision-making processes.

The Changing Demographics of Internet Usage

In 2014, a study showed that 87% of adults in the United States use the Internet (Pew Research 2014a). Even traditionally underrepresented minority groups use the Internet in large proportions. For example, 81% of the African-American population and 83% of the Hispanic population uses the Internet (Pew Research 2014a). This is in large part due to the proliferation of smartphones amongst these groups, with even greater numbers of ethnic minorities owning smartphones than Whites (53% White, 59% African-American, and 61% Hispanic) (Pew Research 2014b).This suggests that agencies can successfully reach many of their audiences through web-based tools.

Though the ability to tap a large racial and socioeconomic diversity is present, some groups are less likely to use or have access to the Internet. These groups include those with a high school diploma or less schooling (24% offline), those older than 65 (43% offline) and those with an annual household income of less than $30,000 (23% offline) (Pew Research 2014a). These numbers hold true for smartphone ownership as well, with only 19% of those 65+ owning smartphones, 44% of those with high school diplomas or less owning smartphones, and 47% of those making less than $30,000 per year owning smartphones. In addition, those in rural communities own smartphones in smaller numbers as well, with only 43% owning a smartphone, compared with 60% of suburbanites and 64% of those in urban areas (Pew Research 2014b). Other areas of concern are those with limited proficiency in English and individuals with disabilities who are unable to use web-based tools that have not been adapted to their needs (Giering 2011).

Low Income

While smartphones are becoming increasingly popular across nearly all socioeconomic groups, it is important to plan for those riders who have a basic mobile phone and may not have Internet service at home. Accessible options for individuals with limited financial resources are especially important, as most transit agencies find that their riders are more likely to be in the lower-income groups than the overall population in their service area. Texting is often a cost effective option that can help ensure the widest applicability; however, the simpler interface of text-based tools can limit their functionality and many older adults are not comfortable with texting.

Persons with Disabilities

The primary concern for persons with disabilities is accessibility of the tools, especially for individuals with impaired vision. Considerations include displays that are compatible with screen readers and audio tracks or descriptions for video, such as live broadcasts of web-based "town halls."

Social media platforms (Facebook, Twitter, etc.) are increasingly becoming more accessible to individuals with disabilities. Web-based feedback tools and mobile applications developed by the agency, or purchased from vendors, should be carefully reviewed to ensure that they have accessibility features built-in, rather than requiring an alternative method of input for the disability community. Having a web-based feedback tool that is accessible from the start is typically more user-friendly and will be more widely adopted by persons with disabilities.

Limited English Proficiency

Web-based feedback tools need to take into account individuals with limited English proficiency. By making use of web functionality, tools can be more easily translated into multiple languages, but agencies must take active steps to ensure that web-based tools include these features. Some agencies use online translation tools on their website to provide two-way translation for all non-English languages. Others have found the online translations do not always provide an acceptable level of accuracy and use agency translated pages in commonly spoken languages. They may also use online translation tools for less commonly spoken languages in their community.

Tech-Savvy

The tech-savvy public can be both the easiest audience to engage and the most challenging. They are able to participate using a wide variety of web-based formats, but may have a list of

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favorite tools that are beyond the ability of the agency to adopt. Some prefer to use social media, but they want to know there is a live person monitoring their comments who will follow-up quickly. Others have jumped on the latest free application developed by a local transit enthusiast. The challenge to transit agencies is attracting tech-savvy people to transit and retaining them by meeting their need to interact through technology even though these tools are constantly evolving.

One approach for agencies is to not get engaged with a new technology unless they have the resources to do it well. While they may lag a bit with the latest technology, they feel the trade-off is worth it to avoid a half-way effort that falls short of audience expectations. Another approach is to adopt a specific technology if there is a staff person who is personally interested in it and will therefore put in the time and effort to make it work. A third approach is to monitor what the public is asking for through other web-based feedback channels and, when it appears that there is a critical mass, move forward with that technology.

Employees

Viewing staff as the agency's eyes and ears on the ground can serve to elevate issues that may otherwise go unreported. Employees may see issues to report in the course of their work and experience problems that the general public may not recognize or bother to report. Involving staff in agency efforts to continually improve builds a greater sense of ownership, pride, and purpose among agency employees. This can also create higher employee engagement and can serve as a learning tool to educate employees on transit agency operations, policy, and planning activities.

While operators are prohibited from using mobile applications while driving, they can easily provide almost instant feedback during layovers or via the web through an agency intranet site. Other systems (such as web-based forms) that are available to the general public can be made available to all employees on the agency website or intranet.

Promise to the Public

By implementing web-based feedback programs, including engaging in social media, the agency is creating a promise to the public that they welcome comments and will take feedback seriously. What the public expects, however, and what the agency is capable of delivering are not always the same. The agency can help bridge the gap by establishing user guidelines, disclaimers, a statement regarding how the feedback is monitored, and what the public can expect in terms of a response from the agency.

User Guidelines—Community Standards

User guidelines or comment policies are typically brief statements intended to provide direct guidance to users about acceptable and unacceptable behavior, often including a definition of inappropriate comments that are subject to removal. For social media sites (e.g., Facebook, LinkedIn, Twitter), transit agencies can rely on the community standards established by these providers; topics include violence, threats, bullying, hate speech, graphic content, identity, and privacy. But some agencies choose to post their own user guidelines. For example, here is the comment policy for the MTA New York City Transit Facebook page (2014):

> Please respect your fellow readers and exercise appropriate restraint in drafting and submitting a post. In that regard, MTA New York City Transit reserves the right to delete any post that contains language or imagery which: is off-topic, is defamatory, compromises public safety or operations, disparages a group or individual on the basis of ethnicity, race, gender, religion, age, disability or sexual orientation, is commercial, contravenes law, contains spam, invades personal privacy, has sexual content, is obscene, includes any link to another site, or infringes on a copyright or other proprietary right.

EXAMPLE: Riders have certain reasonable privacy expectations that agencies must safeguard, such as keeping personal information off of websites. In the case of Citizens Connect in Boston, an automated system was including personal information such as phone number and email address on the public-facing website (Morrison 2015). The city quickly responded by removing the information, but agencies should make sure systems are set to keep key fields private.

Disclaimers—Ability to Respond

It is important for agencies to set an expectation of what will happen when a customer provides web-based feedback. This is especially important for platforms where users might expect a real-time response, such as Twitter or mobile security applications. For example, an agency might post the following disclaimer on its Twitter account: "This site is monitored during regular business hours, Monday—Friday, from 8:00 a.m. to 5:00 p.m. For emergency situations, please dial 9-1-1."

For other types of tools, the agency should provide an immediate response that lets the person know the comment has been received. The auto-response can also be used to provide guidance on what type of response to expect. Many web-based feedback tools have the capability to provide an auto-response with this information, which can also provide a comment tracking number for future reference. Information on when to expect a specific response to the comment can also serve to reduce follow-up comments, which can be time-consuming to process. While the time to provide a response to a specific complaint varies, typically agencies cite a response time of one to two weeks to address and "close" a complaint.

How the Agency Will Use the Feedback

Riders should not have to understand how an agency works in order to submit feedback. They care little about who they talk to initially, as long as they have some assurance that their message will be directed to the right person for follow-up. To ensure transparency, agencies should tell riders how major decisions are made and how the public can provide feedback. When people do offer comments, they need to know that providing feedback is worthwhile and that their message is being heard.

A key distinction that should be clearly stated is whether the primary function of the web-based feedback site is:

- To share information and answer questions;
- To gather information and input; or
- To engage in dialog.

Another important aspect of the promise to the public is communicating how information discussed on social media will be addressed in the decision-making process. Many agencies have created Facebook pages or Twitter accounts for long-range planning projects to keep the public informed and to encourage discussion. To date, the federal government has not allowed agencies to include comments received via social media in the formal environmental review process under the National Environmental Policy Act (NEPA). In the spirit of transparency and inclusiveness, some believe that social media comments should be part of the public record even if they are not considered formal public testimony. Regardless of whether social media posts are included in the project file, staff should be prepared to demonstrate how online interactive discussions

contributed to the project review process. Just as a key part of holding effective public meetings is following up with attendees about how their input was used, the virtual community engaged in social media also wants to know how their input is being used.

Legal Issues

As government agencies, transit providers can be held to a higher standard than private industry, especially related to transparency, accountability, and protecting personal rights and freedoms. Many federal, state, and local laws and regulations are in place to ensure these levels of protection. This section is not intended to provide an exhaustive discussion of those requirements and how they relate to web-based feedback. Instead, this is intended to provide an overview of some of the key issues agencies should consider when developing a web-based feedback program, and encourage a discussion with legal counsel for advice in their specific circumstances.

Free Speech

Removing public comments from social media and agency Internet accounts can be challenged as interfering with the right to freedom of speech. For social media sites, agencies can rely on filters established by the social media websites for offensive and inappropriate language, setting the filter to "strong." For the agency websites, the agency may limit where comments can be posted, such as allowing comments only in response to agency posts on their blog. Another approach is to speed up postings so that the inappropriate comment sinks down the list and is less visible to the public.

A policy that provides justification for removing comments may be established and posted on web-based feedback sites. Typically such a policy would allow most comments, only restricting comments that have inappropriate language or content, such as those using profanity or providing content of a personal nature (e.g., providing an employee's home address).

Parody and Imposter Accounts

Imposter accounts attempt to look like the transit agency, and may solicit comments and respond as if they are the agency. Parody accounts typically provide information designed to make fun of, or detract from the image of the agency. These types of accounts can harm the image and credibility of the agency. TriMet monitors the Internet and social media for account names such as "TriMess" to ensure that they do not look like an official TriMet site, such as by using the TriMet logo or responding as if they are TriMet. TriMet has not shut anyone down, but they have actively informed the sites that they must make it clear they are not TriMet or acting on TriMet's behalf, and have asked that the accounts not use any trademarked identity elements without permission.

Records Management Laws

Public records requirements, or "sunshine" laws, were created in 1966 with the enactment of the federal Freedom of Information Act (FOIA) for the purpose of ensuring that the public has access to the activities of the government. All states have laws requiring public access to government documents, although the scope of those laws differs by state in relation to disclosing or withholding information, and for maintaining records. Guidance for local transit agencies concerning record retention and record destruction requirements is provided by the secretary of state, or another designated entity (Waite 2010).

EXAMPLE: In the state of Washington, the Transit Records Retention Schedule (2012) states that Customer Comments Files must be retained by the agency for six years. At TriMet in Portland, OR, the legal department has advised that customer feedback should be retained for two years, to comply with records retention laws. The agency retains comments for a longer period of time, however, for business purposes, such as to track comments during previous large construction projects or winter storm events.

Social media sites now provide the ability to download past comments, making it unnecessary to have a separate effort for retention of customer comments. However, the agency is ultimately responsible for providing this information. Therefore, many agencies do their own records retention through readily available social media monitoring software applications.

Privacy and Security

Online and mobile feedback applications have the potential to collect personal information, often without the knowledge of the user. Options that provide privacy and security include storing redacted versions of documents, with full names and personal information removed; or, systems that retain the full information required by the agency in its own administrative records, but limit published information to last name, first initial, and city of residence or company.

Web-based feedback systems can also create conflicts with privacy and public records laws, most notably when comments are made anonymously (or using an alias), are received as part of a public hearing process, or are submitted through a security-related application.

Anonymous Comments

Anonymous commenting or using an alias is becoming more common on social media as people seek to retain some measure of privacy in this public space. This can conflict with local laws that may require individuals to identify themselves in comments. For example, in Florida, the sunshine laws require personal identification when filing a complaint in order for the agency to formally log the comment. The agency's "Promise to the Public" disclaimer should be used to provide guidance to the public regarding comments submitted using a "handle" (alias) or submitted anonymously.

The Massachusetts Bay Transportation Authority's (MBTA) mobile security application gives users the option to submit reports anonymously or to include their contact information. Currently, about half of the users of the system choose to remain anonymous, while the others voluntarily provide personal identification information.

Public Hearings

Projects that fall under the NEPA process have strict guidelines for soliciting and responding to comments, which includes having a name and contact information for all formal comments. Typically these comments must be received in writing or in a public forum where the person has provided their name and contact information. Web-based feedback forms with name and contact information fields can also be used for providing formal comments. The challenge with most web-based feedback, and especially social media, is that it is typically anonymous. As such, it does not fall into the legal reporting requirements for NEPA. Agencies have begun to actively

solicit comments via social media and online surveys, which are summarized and included separately from the formal comments under NEPA guidelines. Incorporating these comments into the formal NEPA process is currently being explored (Barron et al. 2013)

Security Applications

The MBTA Transit Police were one of the first police departments to use a safety and security application. The MBTA protects user privacy by offering the option to file an anonymous report. If users choose to provide contact information, their reports are treated the same way as police reports received through any other channel. If the transit police receive a formal request under the FOIA for an incident report filed through the See Say application, they follow standard police procedures for such requests and release or retain information according to police protocol.

Staffing

One key to an effective web-based feedback program is developing a staffing plan. This section addresses three common organizational structures, factors related to level of staffing, roles and responsibilities, and training needs.

Organizational Structure

The organizational structure, roles, and responsibilities for web-based feedback have evolved at transit agencies as they have gained experience with web-based feedback channels. In the early stages, responsibility for web-based feedback was assumed by those staff members who had an interest in pursuing the new technologies. As agency websites, social media, and mobile applications have become more commonplace, and agencies are adapting to the new channels of communication, roles and responsibilities are becoming more defined and integrated with other agency functions.

From the industry survey and case studies, three basic organizational structures emerged for handling web-based feedback: (1) centralized responsibility; (2) coordinated responsibility; and (3) dispersed responsibility.

Centralized Responsibility

Denton County Transit Authority (DCTA) provides an example of having one department responsible for all activities related to web-based customer feedback. DCTA is a small agency that contracts out operations, maintenance, and customer service activities. The DCTA marketing staff handles all aspects of web-based feedback, including managing the web-based comment forms, monitoring and responding to social media posts, conducting online customer satisfaction surveys, and hosting online community meetings for feedback regarding service changes and budgeting. With centralization, they are able to manage the agency's image and have developed a close relationship with the community.

Coordinated Responsibility

In this structure, the marketing and communications department manages the agency image, tone of communications, and all outward communication, including soliciting feedback from the public. The customer service department manages all incoming feedback, solicited and unsolicited, except online surveys. Online surveys are managed by market research staff. Obtaining solicited feedback for operations, finance, and capital projects is guided by marketing and communications, to manage the agency image, but customer service may take responsibility

for web-based feedback programs. The Information Technology (IT) department has primary responsibility for backend systems to ensure information and data streams can be shared throughout the agency. IT also ensures that data management systems are in place (backup and recovery, document retention, etc.).

Dispersed Responsibility

Agencies may allow each department to create and manage the web-based feedback programs based on their needs. Large construction projects may have dedicated public outreach staff that use a website, social media, and online town halls to share information and gather feedback. CRM software may be employed to track stakeholders. In these cases, there may be little need to coordinate with other agency feedback activities. The web-based feedback plan may be used to outline general guidelines for departments, such as preferred software, and how information should be shared between departments.

Regardless of the overall organizational structure, topic experts should be assigned to respond to specific customer issues. Those monitoring feedback from any web-based feedback tool should have the ability to forward specific issues to the responsible department and either gather information to respond to the customer, or have the expert respond directly. Having designated staff throughout the agency to respond to technical questions helps control the message and maintain the agency's customer service image.

The preferred organizational structure will reflect the operating environment of the agency and local preferences for web-based feedback tools. Operational influences include: overall agency size; whether customer communications is handled by management or union employees, or is a contracted service; and existing customer feedback systems and protocols. It should be recognized that, as with any plan, periodic review is needed to refine the organizational structure as staff adapt to new technologies, and as new tools for feedback become available.

Union Work Rule Considerations

Customer service functions, such as collecting and responding to customer complaints, are often represented activities, governed by bargaining agreements and subject to negotiations with a union. Typical issues that come up are that union work rules are rigid and may not be able to keep pace with the changes in technology that require new ways of operating; union employees

EXAMPLE: At TriMet, the agency focuses on the ***content*** of the communication, not the channel in which the communication is delivered when determining who has responsibility for web-based customer feedback. Customer service representatives (CSRs), represented by a union, have responsibility for handling customer service questions, complaints, and other non-solicited customer feedback. Non-represented positions are not allowed to do this work, per the collective bargaining agreement. When email became a standard method for submitting comments and complaints, this function was added to the duties of the CSRs. It is anticipated that customer feedback from social media will be transitioned to the CSRs and become part of their duties under the collective bargaining agreement. The agency is currently developing a protocol for how this interaction would work. Solicited feedback, such as outreach for public comment on a service change, remains a management function.

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may not be allowed to handle web-based customer feedback, per the union work rules; if response to web-based customer feedback becomes an activity covered by the bargaining agreement, management employees may not be allowed to respond; and other work rules may impact how data can be collected and used.

Level of Staffing

The level of staffing needed to support web-based customer feedback depends on two main factors: management and technology. Management factors include the size of the agency and region in which it operates, organizational structure, and hours of service when staff will monitor and respond to comments and posts. Technology factors include the number of web-based feedback tools used by the agency, the agency's ability to take advantage of efficiencies afforded through technology, and the penetration of web-based activities in the community.

Management factors. The appropriate level of staff is a balance between distributing responsibilities among existing staff with similar job responsibilities and hiring dedicated staff. While smaller agencies may not have resources to dedicate staff time to web-based customer feedback, interviews with medium and large agencies indicated that dedicated staff is important for creating a strong and community oriented web-based feedback program.

Advice from agencies with significant experience in web-based feedback programs stresses the importance of recognizing that once the agency ventures into accepting web-based feedback, there is no going back. Setting expectations through policy and procedures, which is then communicated to the public through a terms of use statement, is important internally as well as for the public.

Technology factors. The level of web-based feedback activity is an important factor in determining the number of staff persons needed to support the activities. Controlling the number of tools adopted can be challenging. New tools are rolled out and gain popularity, only to disappear within a year or two. It can be tempting for agencies to adopt every new tool that enters the marketplace, but many experienced agencies have chosen to focus on just a few tools so that staff can concentrate on doing a few things well rather than on doing a little of everything. To avoid creating an expectation with the public that cannot be sustained, a conservative approach is to introduce new feedback tools slowly, ensuring that there is staff and training to support the new communication channel. Another approach is to adopt the tools used most often by their constituents and use that community support to garner additional resources for the web-based feedback program.

In addition to the number of tools used at the agency, the features of the web-based feedback tools can greatly influence the level of staffing required. Many web-based tools, especially the comment management applications, can create work efficiencies and reduce duplicative manual activities, such as re-entering comments from an online form into a legacy comment database. Web-based feedback tools that work across multiple platforms (e.g., social media, online surveys, email forms) provide consolidated reporting and tracking, increasing the efficiencies in reporting and analysis. See Chapter 3, Web-Based Feedback Tools for a discussion of tool features.

Roles and Responsibilities

To build an effective web-based feedback program, it is important to define the roles and responsibilities at each step of the process. Critical questions that should be addressed as they pertain to web-based feedback include which departments or personnel are authorized to:

- Procure and implement web-based feedback tools;
- Post requests for solicited feedback;

- Monitor web-based feedback channels;
- Respond to comments and post responses in the public forums;
- Respond to comments and complaints from individual riders;
- Provide analysis and reporting;
- Manage internal processes, including records management; and
- Maintain the platform or application on a daily basis.

Responsibilities may fall to different departments and staff members depending on the type of feedback, the specifics of a larger project communication plan, or the type of application being used (e.g., social media versus an online survey). Agencies can benefit from mapping out how services flow (developing a process flow map for each typical issue). The industry survey and case studies demonstrated that *how* these activities are addressed is not as important as ensuring that clear policies and procedures are in place to ensure that responsibility has been assigned.

Training

A recurring theme in the transit agency interviews and case studies was the importance of staff training. Training is needed on a variety of levels, including technical aspects of web-based feedback tools, agency policies and procedures for handling web-based feedback, and response content and tone.

Technical Training

The most obvious need is training on the technical aspects of an agency's web-based feedback tools, whether they are social media, survey software, or specific applications developed for the agency. Without training, staff will be unable to maximize the use of the tools, take advantage of built-in features that increase efficiency, or develop a robust feedback program through the technology.

Policies and Procedures

Existing policies and procedures for handling public comments have typically been developed around pre-Internet communications channels. These operating procedures may use CSRs for in-person and telephone comments, and management staff for surveys and open houses or public meetings. Web-based feedback tools are quickly becoming a communication channel of choice for the public, creating a need for organizational change within the agency.

It is important to identify who handles comments from which communication channels, and even which specific web-based feedback tools. This is needed to: (1) avoid having comments "fall through the cracks" with no response to the customer; (2) ensure a common database for tracking and analysis of agency-wide issues; (3) ensure that appropriate staff members are trained on the software and agency customer service protocols; and (4) if available, have the feedback tool automatically forward the comments to the correct department for a response.

Message and Tone

Most web-based feedback tools are easy to use, but this does not mean that everyone should use them. While good customer service is everybody's responsibility, not everyone is good at it and it is not everybody's *job*. Without agency level training on how to provide appropriate responses to customer comments, it is too easy for a poorly worded response to cause trouble, especially in a public forum, such as social media. Agency-wide training is needed to ensure that staff members in all departments provide a consistent message in a tone that reinforces the agency's desired image. This customer relations training should also include media relations techniques, as many feedback applications have a substantial media presence.

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Responding to Web-Based Feedback

This section focuses on topics specific to web-based feedback tools: timeframe for response, tracking comments, and closing the loop with customers.

Timeframe for Response

A key benefit of many web-based feedback tools is the feature that provides an immediate, automated response to the customer letting them know that their comment has been successfully submitted. The auto-response can also be used to confirm the topic of the comment, inform the customer of the agency's policy for providing a more detailed response, and provide a tracking number. Filters can be used to add other topic specific information, such as adding the language "If this is a life threatening situation, please call 9-1-1" to safety or security-related comment auto-responses. Another beneficial feature of some tools is the ability to expedite the response process by filtering comments based on topic or word recognition and forwarding the comment directly to the appropriate staff person.

Comments posted to social media and other public sites typically will not get an auto-response, but must be read and responded to by agency staff. The agency's policy for monitoring posts should be clearly stated on the website to mitigate concerns that can stem from unmet expectations that the site is monitored and that a response will be forthcoming.

Comment Tracking

Persons submitting feedback, whether solicited or unsolicited, want to see how their comment is being processed. Web-based applications are available that assign an issue tracking or ticket number allowing the commenter to track their issue online, including dates when it was reported, when it was forwarded to a certain department or responsible party, and who is overseeing response efforts. Applications that allow the public to search for comments similar to their own may provide an added benefit by helping individuals find a resolution to their issue without contacting the agency.

This type of tracking system provides a higher level of customer service by allowing the customer to see the status of their comment at any time, rather than being constrained by agency business hours. The system benefits the agency by reducing the number of people calling regarding the status of their comment or submitting a duplicate comment, and can reduce pressure to provide extended customer service hours. This type of tracking is used successfully in the private sector by companies such as FedEx, where customers can track the delivery status of their packages online, 24 hours a day.

Closing the Loop

The final step of the customer feedback process is to follow-up with the customer and advise them of how their feedback is being used. The most effective customer feedback systems route and track comments for internal collaboration on the response, assign a timeline for response based on the urgency and nature of a comment or report, and flag comments that have a "late" response.

In closing the loop, consideration should be given for all stakeholders in the feedback process, including the customer (whether a member of the general public or an employee), the project team (if applicable), and the affected department and staff persons.

Monitoring and Responding on Public Forums

A unique aspect of public forums, such as social media and idea management software, is the layering of conversations over time and the ability for users to talk to each other by commenting on each other's posts. These platforms have the potential to be multi-voice forums for interactive discussion. Inevitably constructive comments will be mixed with criticism of the agency and their policies, operational concerns, off-topic conversations, and posts that do not make sense. Social media pages, in particular, are likened to gatherings of people with common interests, similar to a group of regulars who gather at the local coffee shop. How the agency handles monitoring and responding to posts can impact staffing levels and public perceptions of responsiveness and transparency.

Monitoring Strategies

Monitoring feedback on public forums can be a time intensive job that requires dedicated staff time to stay on top of the comments. In addition to comments by local residents, automated "spambots" are working around the clock to post irrelevant comments on websites, forums, and through social media, reinforcing the need to check submitted comments regularly and delete any spam to maintain the image and usefulness of online tools. There are several approaches that assist agencies in finding a balance between the desire to be responsive to the public and the reality of limited resources.

Strategy 1: Set Expectations. A key to keeping the peace on public forums is to develop brief "comment guidelines." This is standard practice for many agency capital planning, project-specific social media sites. The comment guidelines are typically vetted through legal counsel and similarly applied in other public involvement efforts.

Strategy 2: Control Ability to Post Comments. While some agencies allow the public to post comments on any of their public forums, it is becoming more common for agencies to restrict where public comments are allowed. For example, an agency may allow comments to specific agency posts on their Facebook page but not allow anyone to post comments to their "wall."

Strategy 3: Let the Conversation Run. Agencies that allow posts cite the value of having an open discussion that fosters communication and provides transparency with the public. They do not need, or attempt, to respond to every comment. Posts by members of the public become a conversation, which encourages others to jump in, resulting in a true online discussion. Often, the public will handle difficult situations and "self-moderate" by responding to negative comments. That keeps the agency from having to intervene and appear defensive or heavy-handed.

Strategy 4: Speed Up Posts. When comments and posts appear to be getting out of hand, the agency can speed up their own posts, thereby moving other conversations down the list and possibly out of view. This has been particularly effective on Twitter: short tweets can create a fast-paced conversation where new topics quickly eclipse older discussions. With a high number of followers, often the comments will move quickly on their own so the agency does not need to take any action.

Strategy 5: Establish an Online Collaborative Site. For high visibility projects with a high degree of public interest, an online collaborative site can be set-up, with its own log-in and user profiles. This allows the project team to have more control over the design and functionality of the site and creates a more controlled space for detailed and purposeful discussions. However,

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EXAMPLE: Monitoring social media comments can allow an agency to spot issues and respond quickly, greatly improving the customer's transit experience. One example is signage issues during construction at a major light rail station area. A tweet was sent to one transit agency during the morning commute with photos of how confusing the signage was from the passengers' perspective. The comment was forwarded to the appropriate person, who was able to improve the signage in time for the evening commute that day.

the requirement to register and log-in to the site to engage in discussions can present a barrier to getting wide participation.

Monitoring Other Sites

There are many opportunities on the web for the public to discuss and comment on agency activities, such as transit industry blogs (both supportive and critical). Monitoring these conversations can provide additional feedback to an agency that offers a different perspective from the feedback collected through agency-sponsored sites. The benefit of this additional perspective needs to be balanced with the staff time used to monitor the conversations, and the value added from these conversations.

Backend software applications that monitor web and social media comments are becoming more common and can be useful for tracking comments and customer sentiment in the community. This can be especially useful for monitoring opposition to agency initiatives, such as capital projects, which is likely to develop outside of the agency-controlled sites. Monitoring online discussions can help to identify issues early in the process so they can be addressed quickly.

In monitoring sites external to the agency, a policy should be in place that addresses if and when it is appropriate for staff to join discussions on third-party websites. If misinformation is shared on a site not hosted by the project team, the agency social media page can be used to introduce correct information and invite people to participate in the agency's process. In other cases, it may be best to simply note the comment internally and adjust external communications accordingly. Deciding what approach to take depends on a variety of contextual factors including stakeholder influence and reach, whether the misinformation is perceived as an oversight or intentional, and other factors, such as recent media coverage.

When to Respond

Public forums, such as social media, create a new dynamic that requires a different approach to communication. Comments will run the gamut of opinions, questions, complaints, commendations, and information requests. Comments can be related to the topic at hand, or can be completely off-topic, not even related to public transit. As a result, not every comment necessarily needs, or warrants, a response. The case studies identified concerns with the public nature of social media and approaches for responding to posts in this public setting. This section discusses two common concerns—negative comments and misinformation—and outlines a response plan.

Negative Comments

Negative comments should be a valued part of the agency's relationship with the public. They offer the agency an opportunity to better understand their constituents and identify hot-button

issues. The real-time nature of social media, in particular, means that negative comments can spread quickly. This immediacy can also work to the advantage of agency staff members who can quickly acknowledge the issue and respond with information about how the concern is being addressed. A negative post can turn into a positive conversation based on when and how staff responds; a disgruntled member of the public can change his or her attitude when he or she feels acknowledged and heard.

The conversation about transit will occur online with or without agency staff participation. Although staff members often discuss the risks of having a social media presence, they should also consider the risks of not participating in public forums and social media sites.

Misinformation

Misinformation posted by the public can proliferate across the Internet quickly via social networks, potentially damaging an agency's reputation. A first step to addressing misinformation is to evaluate whether a post with incorrect information has negative consequences to the agency's activities or a project planning process. A slight oversight or exaggeration to make a point may not have any consequence and can be safely ignored, as it will soon disappear in the flow of public forum feed.

If a post clearly has misinformation that has consequence to the public perception of the project, there are several approaches to consider. One is to watch the post for a while to see if other users correct the misinformation. Regular users familiar with the project are often quick to correct misinformation. A second approach is to directly engage known regular participants in sharing their thoughts and reactions to the post. This can be done in a comment on the post tagging or naming regular participants, inviting them to comment on the post. In some cases, the agency may want to directly correct the information by sharing a link or fact, doing so with tact and respect.

EXAMPLE: A case where misinformation was generated in a Twitter feed by a large daily newspaper in a metropolitan area can serve as a good example of how to quickly correct a potential social media backlash. In this example, the social media manager saw through normal keyword monitoring an important project fact incorrectly stated by a newspaper on Twitter. The social media manager alerted the project manager and together they drafted a 400-word "notes" post created in Facebook. Within three hours the note was posted on the project's Twitter and Facebook pages, an "@ reply" sent to the newspaper with the link to the note, and more "@ replies" sent to individuals who retweeted the original incorrect newspaper tweet. Significantly, the newspaper retweeted the correction, sharing it with all their followers. Acting quickly prevented the newspaper from posting the incorrect information on their Facebook page, so in a strategic decision, the project decided not to directly post to the newspaper site. The result was that no further dissemination of the incorrect information occurred.

Response Flow Chart

An important decision that each agency needs to address is when staff should respond to online comments. Should they take an active role or let the public discussion flow? A social media response flow chart spells out what to respond to, who will handle it, and what the response should entail.

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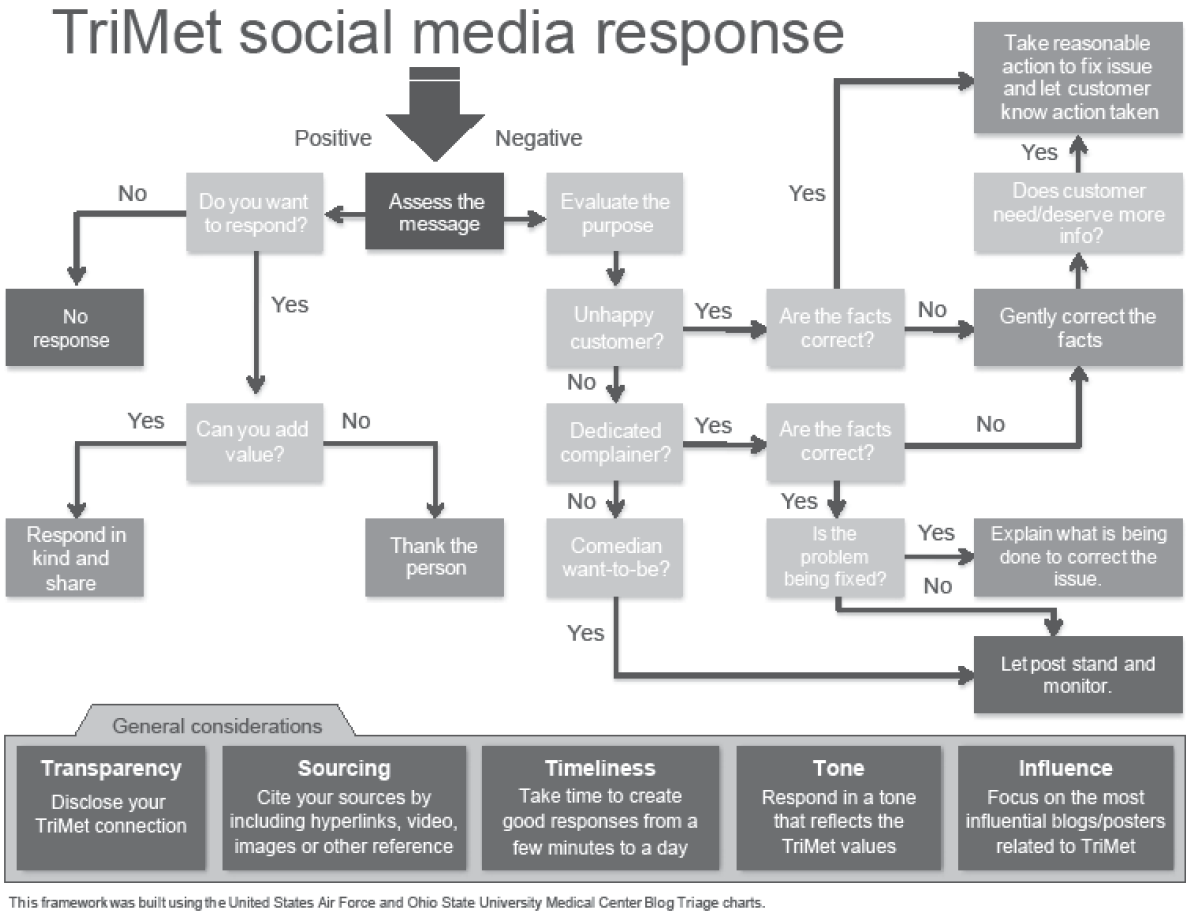

Figure 1. TriMet social media response flow chart.

Each agency will have specific actions depending on the culture and overall communication goals and practices. The first step is to determine if the comment is positive or negative. Positive comments may be assessed to determine if it is something that the agency wishes to share or add to "what the customer is saying" messages that enhance the agency's image. In addition, a decision is made whether to respond or not.

For negative comments, the process evaluates the content to determine if it is a specific customer complaint, follows a process for evaluating facets of the posts, and determines whether to respond and the tenor of the response. Figure 1, TriMet Social Media Response, is an example flow chart created for internal guidance within the agency. This is one comprehensive example for a larger agency seeking to be internally consistent, but many other agencies have less detailed guidance that is effective for their use. The idea is to provide the required guidance specific to the agency's needs.

Data Processing, Analysis, and Metrics

Increased feedback does not always equal useful feedback. The volume of information collected through web-based feedback tools can easily overwhelm transit agencies. Without one or more systems in place to categorize, analyze, and prioritize large data sets, the full value and usefulness of the feedback cannot be fully exploited. This presents a serious challenge for agencies when deciding how many web-based tools they can manage, as the more tools they provide, the more

information they will receive through different channels that needs to be integrated into the feedback systems.

Categorizing Comments

Defining a process for handling and integrating data is crucial. It takes time, resources, and commitment to the customer feedback planning process.

Comment Categories

Whether the comments are collected through solicited feedback tools or are unsolicited feedback received directly from the public, the comments need to be categorized by topic in a consistent manner that facilitates analysis and supports decision making. Following are issues that should be considered when developing feedback categories:

- Flagging time-sensitive comments for immediate action.
- Categorization by the public, which will likely be at a basic level, versus categorization by staff, which can be more detailed.
- Ensuring that solicited comments and feedback forms use the same structure outline as call-takers and internal staff.
- Relationship of categories to agency organizational and decision-making structure to ensure that reporting and analysis can be conducted at the department level; identifying key internal staff for receiving comments by topic area.
- Identifying the supporting information needed for each category of comments to make the feedback actionable (e.g., service complaints would need route, day of week, time of day).
- Comments from employees in the field, which will be operational in nature.

The most appropriate categories of comments will vary based on agency size, service characteristics, operating environment, and whether the codes are for internal use or used in a public comment forum. However, there is an argument to be made that agencies would benefit from more standardized categories of comments throughout the industry as more tools are developed by external developers rather than in-house. Appendix A provides examples of comment categories and subcategories for internal use and for web-based feedback forms.

EXAMPLE: One agency has created YouTube videos in response to the types of comments and complaints they receive. For example, they are rolling out five videos that cover rider safety and etiquette: eating, talking too loud on cell phones, using exact change, having fares ready, and safeguarding electronic devices.

Internal Efficiency Using Comment Categories

To ensure the success of their web-based feedback, agencies can develop systems and processes to facilitate their internal response to issues raised by customers. With effective structures in place to direct and track communications, web-based feedback can be more efficient and streamlined than traditional feedback.

Web-based feedback that can be seamlessly, automatically transferred into the internal tracking and response system is ideal. This can be accomplished most easily when comments are collected through online forms and mobile applications. In these cases, a series of drop-down menus can be used by customers to categorize their own comments. The system then automatically

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forwards the comment to the appropriate department for a response. In some instances, this could also generate a work order, such as for cleaning or maintenance issues. Such systems save time, allowing staff to focus more of their energy on customizing personal responses to each issue and request, or taking direct action to respond to the issue.

Data Collection Systems

Most agencies have a system for tracking, analyzing, and reporting on complaints received by their CSRs through traditional methods. These traditional customer feedback systems, however, may not easily integrate input from new communication channels, such as social media and online feedback applications. In order to analyze feedback from all sources, agencies may end up manually re-entering feedback records from their native application into a separate system.

There are two common approaches to addressing data collection and backend systems to avoid the costly manual integration of data sources. One option has been to purchase web-based feedback applications that will export customer feedback records in a format that can be imported into the agency-wide database. A second option is to purchase a new, integrated customer feedback or CRM system that has been designed for the current, web-based environment. These software applications integrate most standard web-based feedback tools, creating a centralized repository of customer feedback. However, they can be costly to procure and implement, and agencies will have to weigh the trade-offs involved.

Systems that help to aggregate, analyze, and track feedback from multiple communication channels can reduce the effort needed to incorporate new sources of feedback into the larger feedback tracking and response system. Given the benefits of coordinating customer feedback across all channels, many agencies are moving toward applications that support integration across applications. More information on backend processing applications is provided in Chapter 3, Web-Based Feedback Tools.

Analysis

Public feedback typically has two levels of action: immediate response and systematic analysis. The immediate response is from the "customer care" perspective, where the customer's issue is acknowledged, a response is provided, and the issue is dealt with immediately, if needed, such as with broken equipment, and safety concerns. Systematic analysis of customer feedback analyzes comments to identify "hot spots" with recurring problems, short- and long-term planning concerns, and customer needs and preferences. This includes service and capital planning issues, operational improvements, and policy changes.

EXAMPLE: Online feedback panels can help agencies assess trends in customer attitudes. The NJ Transit ePanel on customer satisfaction tracked rail riders' sentiments over a period of time. After analyzing the results, NJ Transit conducted additional outreach to find out why certain rail lines had scored so poorly and understand how to improve them (Spitz et al. 2004).

Metrics

Regular reporting of customer feedback metrics is important for supporting a customer-centric operating environment. Traditional metrics have included the number of customer contacts,

comments, or complaints. Web-based feedback tools have created a new set of metrics, focused on web-based activity, such as the number of "likes" on Facebook posts or Twitter mentions. Some tools try to measure levels of engagement, such as the number of times a Twitter post was retweeted or a Facebook update was shared.

The best web-based feedback reporting systems have analytics to measure quantitative issues on the site and can gauge an improvement in public service by monitoring agency response times. Metrics that evaluate whether current web-based feedback tools are meeting users' needs are not yet common and agencies are frequently using anecdotal evidence for this purpose.

EXAMPLE: At TriMet, operator comments reported through the Operations Field Report are tracked in the same database as customer feedback, providing a more complete picture of system issues. Each quarter the scheduling department summarizes comments related to scheduling issues and identifies a route with a high number of complaints. The schedulers meet and work with operators using a team approach to determine the sources of problems and identify ways to improve schedules to address complaints.

CHAPTER 3

Web-Based Feedback Tools

This section describes considerations for procuring web-based feedback tools; categories of web-based feedback tools; tool features; and procurement options, including how transit agencies can better work with software developers.

Considerations for Implementing Web-Based Feedback Tools

Implementing web-based feedback tools can be challenging. When making a decision about which tools to implement, agencies should consider several factors, including the needs of the target market, integration with existing systems, and agency resources and support required to maintain the tool.

Public Expectations

Many riders want to provide feedback about service quality in the moment, while they are sitting on a train or waiting at a bus stop, and agencies can adapt to the way customers want to interact to provide better customer experience. This may mean developing native smartphone applications, creating a mobile-optimized website, or having an active social media presence. Whatever web-based tools an agency chooses, ease of use is an important feature.

Some agencies are moving toward an outward-facing, customer-oriented brand that focuses on the customer experience in an effort to overcome their "government" image. As part of this transition, they should make sure that their web-based tools create a strong customer experience. For example, agencies should avoid using impersonal form letters and ensure that all online communication channels are mobile-friendly. Otherwise, riders will likely feel inconvenienced or think that their feedback is not valued. Some individuals may decide not to submit their comment at all after having trouble with a tool.

Keep it Simple

When developing new software solutions, it can be tempting to adopt all the latest fads and most popular features. However, to create tools that are user-friendly enough to be widely adopted, simplicity is key. Issue intake forms and surveys should be brief and well thought out to produce the most usable results. Users should be able to send simple messages via a mobile device by pushing a button. Adding new features gradually over time may be preferable to making major changes or adding several tools at once, although the effects that this may have on the cost of developing such tools should also be taken into account. Beta testing of new tools and features among members of the public is also recommended to ensure that tools are easily used

and understood by people with various levels of skills and experience. If appropriate, agencies should also test applications on different platforms and operating systems.

When developing issue reporting tools, agencies should make sure that the tools provide sufficient guidance to users on categorizing and summarizing issues. Tools should rely as little as possible on citizens to guide proper routing of their issues; it should be easy for a user to report something and have confidence that the comment was directed to the right person. Too many options on an issue intake form may produce diminished results if users change their mind about reporting the issue due to a burdensome or confusing process. Agencies should strive to achieve a balance between defining enough categories to route a comment correctly and keeping reporting forms simple and logical. See Appendix A for examples of comment categories.

Constantly Changing Technology

With the seemingly endless supply of mobile applications, social media outlets, and web-based customer feedback tools, it is easy to forget that most of these technologies did not even exist just a decade ago. The software market is rapidly diversifying, which presents a challenge for transit agencies trying to keep up with the latest and greatest technologies. Software and online tools are frequently updated or replaced, which requires learning and re-learning different web-based platforms. Knowing when to upgrade or adopt a new technology is not always easy. Addressing this concern early in the planning process will assist with selecting the correct tool and guiding the procurement decision.

Reliance On and Interdependence with Other Technologies

Applications and online tools need some kind of network connection for riders to transmit feedback, such as wireless Internet or cellular data service. Sometimes these connections are intermittent or unavailable, especially in subway tunnels and remote service areas, which can cause problems for individuals using mobile devices to share feedback. Further complicating reliance on wireless services, some applications depend on the availability and accuracy of third-party systems like mobile mapping platforms and global positioning systems (GPS). When these systems are not functioning optimally, the usability of tools that depend on them is also affected.

Money Isn't Everything

In this environment of constrained transit resources, funding will always be an issue. However, the cheapest solution may not be the best. At the same time, the most expensive one may not meet the agency's needs. Ultimately, it is important for the agency to make sure they are getting the best value from their investment.

Categories of Web-Based Customer Feedback

This section provides an overview of the broad categories of tools. Within each category, specific types of tools are discussed. See Chapter 8 for a more detailed discussion.

Issue Reporting

Issue reporting applications allow the public to provide comments directly related to issues with service on the street, planning activities, operator (or customer) behavior, and maintenance. These applications are designed to facilitate collection of unsolicited comments from the public and can also be used to solicit comments on topics of interest to the agency. As email is used and

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understood by nearly every transit agency in the United States, it is not included in this report. However, as it is the most widely used form of online communication (Zickuhr and Smith 2012), it is important that all transit agencies continue to use this basic tool for encouraging feedback.

Customer Information Mobile Applications

As mentioned earlier, using web-based applications to provide customer information, including real-time information, service alerts, and other one-way communication, is not the focus of this report. However, some agencies have incorporated a feedback component into their existing customer information mobile applications so that they can easily gather customer opinions. Although the feedback feature is not the primary purpose of these applications, enhancements or careful initial design of such tools should consider their use as a component of unsolicited feedback collection.

Security-Related Mobile Application

Security-related mobile applications are intended to report safety- and security-related issues (e.g., abandoned bags, suspicious behavior) directly to transit police via mobile devices. They often include the ability to send a text message or speak to an operator, in addition to filing a report. Non-emergency items such as graffiti, burnt-out lights, or elevator outages on the system may be reported as well.

Community Issues

Community issue reporting tools are websites and mobile applications that allow reporting of non-emergency issues in the community. These tools could be transit agency-specific, but often they include comments intended for multiple government agencies so that the user does not have to distinguish between agencies to provide unsolicited feedback. Transit agencies should coordinate with cities, counties, departments of transportation, and other agencies as such tools are pursued.

Web-Based Forms

The most common web-based tools used by transit agencies are email and web-based forms, which are typically posted on agency websites for users to submit questions, comments, commendations, and concerns. Though this is an easy way to collect information, agencies are advised to provide an easy way for riders and others to categorize their feedback so that it can easily be routed correctly within the organization.

Social Media

As one of the most popular web-based tools in use today, social media has enabled people around the world to connect with other people, businesses, and organizations almost instantly through their computers and smartphones. Of Americans using the Internet, 65% use social networking websites (Zickuhr and Smith 2012). Social media can facilitate the collection of solicited and unsolicited feedback by enabling transit users and agencies to communicate directly, back and forth. Such online dialogs may be prompted by a topic of interest from the transit agency perspective or an issue that the customer encountered while using or attempting to use transit services. This feedback can then be sent to responsible entities within a transit agency, as needed, allowing for a faster response than expected for conventional written feedback.

Online Public Comment Forums

These tools are used to create structured feedback on topics generated by the agency. Most of the tools in this category are used to supplement or sometimes replace public meetings, allowing

riders and members of the community to comment online about proposed changes to service, fares, or other topics. Some tools are more open-ended to allow for unsolicited feedback, although most of them are used at specific points in time to generate ideas and gather input on specific initiatives within the agency.

Idea Management

Idea management tools allow the public to submit suggestions, comment on current and past ideas, and vote ideas up or down. The tools can be used to set-up open forums where anyone can participate or private communities where select individuals or communities are invited to participate.

Idea management is one way that agencies can use crowdsourcing for web-based feedback. Crowdsourcing enables organizations to obtain ideas or content by soliciting contributions from an online community. Crowdsourcing is an increasingly popular way for agencies to tap into their riders' knowledge and experience to help identify and solve problems and inform decision-making processes. One widely known crowdsourcing application is Wikipedia, a web platform where users populate and edit information on a myriad of subjects, together building the largest online encyclopedia in the world. Crowdsourcing applications focus less on the agency input, and more on the user's ability to brainstorm ideas that can help the agency, requiring little employee input once the site has been created, except for periodic analysis, synthesis, and follow-up.

Online Public Meetings

Over time, agencies have begun to move their traditional public meetings into online forums. Creating online public meetings greatly increases the reach and participation in public outreach activities. Transportation to and from public meetings is no longer an issue because people can participate from their home, work, or other convenient location. In addition, participation can occur without stopping other life activities, such as taking care of small children. Online public meetings often include live streaming of the meeting and the ability for participants to post questions to the presenters through a chat-box or other real-time, interactive tool.

Map-Based Forums

Two additional ways that crowdsourcing is used to generate project planning ideas are map-based forums and system-building games (discussed in the next paragraph). Map-based forums include a substantial geographic component for agencies to encourage ideas specific to new locations of service or stops. Existing service and stops can also be assessed via the tools and locations that are identified are often voted up or down by additional users.

System-Building Games

System-building games facilitate public feedback on planning projects through virtual trade-off exercises to help educate riders and gain their feedback simultaneously (Nash 2010). These are similar to idea management applications and map-based forums, except that they include a game component with some sort of benchmark, such as a maximum amount of money that a user can spend.

Customer Research

Although formal market research is not the focus of this report, web-based customer research applications are included as valuable tools for collecting structured feedback on topics of interest to the agency.

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Surveys

Online surveys are used to solicit feedback in a structured format. The surveys can be developed in-house or through the use of third-party survey software. A link to the survey is often posted on the agency website, emailed to a target audience, and broadcast through other media outlets. Upon receiving feedback, agency staff can typically use web-based tools built into the survey application to analyze results immediately. This streamlines and accelerates the process of compiling, analyzing and reporting on customer feedback, which, in turn, saves staff time and resources. A full discussion of online surveys as a market research tool is available through *TCRP Synthesis 105* (Coffel 2013).

Live Polling

Another form of surveys includes live polling of customers any time or at specific events, online, through text-messaging, or through an application. For example, live polling can be used to solicit feedback during an online meeting or "Twitter town hall."

Feedback Panels

Organizations use feedback panels to solicit feedback on their products and services from customers and other members of the public. Feedback panels were traditionally conducted via telephone or postal mail. With the emergence of Web 2.0, which allows two-way Internet communication, agencies now have the ability to move panels online to generate greater involvement and faster turnaround times at a lower cost (Coffel 2013). Feedback panels are efficient at getting input from the public, especially if agencies are able to recruit a large, diverse group of people to participate in each panel.

Feedback Management

The web-based feedback tools discussed thus far are customer-facing applications—they are designed to collect feedback from the public. Agencies also need backend tools to manage the feedback received, including tools that integrate feedback from multiple sources. Backend tools manage all aspects of the feedback system: taking in the comment, internal review, responding to the customer, analyzing results and trends, reporting, and developing performance metrics.

Social Media Dashboards

The increasing usage of social media has resulted in numerous tools available to manage social media accounts simultaneously. Social media dashboards are used to aggregate and track activity from multiple social media accounts to allow agencies to post to multiple accounts on different platforms at the same time and track posts and comments. Many of the dashboards also allow scheduled and saved messages with the intent of simplifying repeated messaging.

Internal Tracking

Internal tracking software is used by agencies to log, track, and respond to unsolicited customer complaints and comments, analyze, and report trends. Although these types of systems are often used for ticket management in IT and other industries, they are now being applied to web-based feedback in the transit industry.

Customer Relationship Management

CRM software to manage information about individuals has existed in other formats for decades, but has more recently moved to include feedback tracking components as well. These

systems have traditionally allowed agencies to track user contact information and characteristics, but components to track activity and comments are now being included.

Tool Features

In selecting and procuring web-based feedback tools, agencies should review the features of the tool to ensure the right fit for the agency's needs. Some features are associated with the type of tool and some are dependent on the particular brand or provider of the application being purchased. The features of tool types and application specific features are described here.

Features of Tool Types

Certain features can be used to define categories of web-based feedback tools, such as supporting real-time communication or providing geography-based feedback. These features have been used to create the tool type categories used in the Tool Selection Guide to facilitate tools comparisons and selection. Additional information about these features is provided in Part 2, Tool Selection Guide.

User identification refers to whether individuals making comments must register or identify themselves, or can withhold their personal information. Some security-related applications allow users to remain anonymous as a safety measure.

Visibility of comments refers to whether comments to the agency are visible to the public and whether the agency's response is public or private. Some applications allow users to choose whether their comments are visible or private; others do not offer a choice. Visibility of comments may have an impact on whether customers choose to provide personal contact information.

Dialog refers to whether the communication tool is typically used to engage in an ongoing dialog between the commenter and the agency. Some tools are designed to facilitate dialog while other tools are more appropriate for one-directional communication. A discussion of agency web-based communication policies is in Chapter 2.

Immediacy refers to the ability for agencies to communicate with commenters in real time. Some feedback channels, especially social media, facilitate an immediate response while others, such as online forms and surveys, typically require time to process or do not support any response.

Geography-based refers to tools that have a mapping or geographic component to them. This allows easier identification of location-specific issues, such as a missing bus stop sign or a suspicious package. It also allows more specific long-range planning input related to locations for routes or stops.

Support needed refers to the level of technical expertise or IT staff support that is generally needed to implement the tool. It is recognized that some tools can be purchased through a vendor or created through custom programming. The classification looks at how each type of tool is typically implemented.

Cost refers to the cost to the transit agency to use the application. Almost all feedback tools are free for individuals to use, but the cost to the agency can vary substantially and change rapidly in response to market factors. Pricing can be structured as one-time-only charges for the software with additional charges to purchase updates or as a license purchased by the month or year.

Application Specific Features

Many features are available across all categories of web-based feedback tools, such as reporting functionality or ability to customize the "look and feel" of the tool. These features can be

specified when procuring or designing an application to meet the agency's technical needs for that application.

Customization. Often an agency desires the ability to modify an application to meet specific agency needs. This can include branding elements, categories of comments, reporting and analysis capabilities, privacy settings, question prompts, and other customer features. Customized tools do not always require a developer to make modifications to the features and functions of an application. Many platforms have customizable layouts and functionality that can be modified by agency staff through the use of templates. Certain tool features can be enabled or disabled, while others can be made visible to or hidden from the public and even certain agency staff. Effectively managing permissions and visibility for data and features can help to protect against misuse and keep employees focused on reported issues that are relevant to them. Tools therefore range from full customization (when tools are developed in-house or contracted) to partial customization (branding, reporting, and questions) to "off-the-shelf" (no customization, only use of the tool). Often the paid versions of an application offer greater customization.

Penetration. The level of market penetration of web-based feedback tools can be measured in terms of customer usage as well as the number of agencies or other businesses using the tool. Greater market penetration means that agency customers will have a better chance of being familiar with the tool.

Control of Data. The organization that hosts the site has control over the data. Applications developed by the agency have full control over the data. Third-party developers can control all aspects of the data hosting, share the control with the transit agency, or turn over all control. One aspect of data control is versioning, the ability to upgrade the tool to keep it functioning well and current with mobile device platforms or other underlying systems. With third-party applications that operate based on licenses, the agency must sometimes pay for upgrades either through ongoing license fees or through purchasing the upgrades. Some web-based tools, such as social media, are continuously updated and maintained by third-party vendors, with no action needed by those who use the tool.

Training and Support. Training and support is typically available for agency staff implementing the software or using new features. Offering a user-friendly guide or help service can support customers in learning to properly use and navigate a new tool.

Accessibility. Accessibility refers to the ability of a tool to be used by persons with disabilities. Most third-party tools have been developed to meet basic accessibility requirements and are Section 508 compliant in support of the ADA. This includes functionality such as screen reader compatibility, closed captioning, verbal prompts, vibration, or adjustable font sizes. Agencies should be cognizant of the need for accessibility by all of the customers, and the requirements under the ADA when developing, procuring, or implementing web-based feedback programs. Computer kiosks in senior and community centers can help expand services to older populations and those without Internet access. Some feedback tools allow items such as surveys to be printed for distribution in-person or via U.S. mail. Mobile applications and text-messaging services can also make feedback tools easily accessible for a wide variety of stakeholders, including those who may not have access to computers or smartphones. Agencies should recognize that map-based programs and games may not be easily accessible for individuals with visual impairments.

Translation Services. To assist customers with limited or no English proficiency, free online translators can be embedded on transit agency websites or used by customer service professionals to help overcome language barriers. Agencies may also benefit from translating their website and online feedback tools into languages that are common in their service area.

Mobile Photograph. Some applications allow users to submit photos of issues they are reporting as an especially efficient means of conveying information. The photos may communicate more than the customer could in words, while also providing agencies with visual evidence of issues or misconduct that can be used for follow-up purposes.

Reporting Functionality. Web-based feedback tools may be designed to support and streamline internal and external reporting processes, which can help agencies to track service, comments, complaints and commendations by categories, time or geography as well as the performance of their tools. Issue response time, on-time performance, common complaints, and even ideas for improving service can all be tracked and included in reports with minimal effort. Tracking online activity over time can also reveal important trends and anomalies, such as increases in feedback generated after certain weather events. Many tools offer statistical analysis of resulting data as well. Understanding these patterns and their causes can help guide planning and staffing efforts.

Ranking and Prioritization. Feedback tools that rank issues based on popularity can also be useful as transit agencies work to prioritize all the comments that they receive. If users can vote for the issues that they see as most important, such as through "likes" and "dislikes" or comment rating systems, then agencies can easily distinguish those issues that have widespread support from the rants of some customers on issues that others do not view as critical. A single point of information can be supported by thousands of people, making it much easier for an agency to justify a change based on that comment.

Data Processing. Many software applications allow for data to be sorted, filtered, categorized, and searched; this can help staff organize and process incoming and previously reported issues. These capabilities reduce staff time needed to go through and identify issues that are relevant to each department or individual. Often a tool will have a dashboard to manage reports, including basic summaries, and detailed views. Tools can also be programmed to route comments to the correct department, or the correct agency or jurisdiction for multi-agency tools. Thresholds can be set to trigger notification if a certain number of complaints are received based on type or topic.

Custom Automated and Personalized Responses. Some web-based feedback platforms allow agencies to create both automated and personalized responses, customized based on the comment received. Ideally, automated responses sent when an issue is first reported include agency branding, a summary of the report submitted, an issue tracking number, information about follow-up, and alternative methods for submitting feedback. Follow-up responses, including issue resolution notifications, would be customized to the individual who submitted the claim and their specific issue. It may also be beneficial to allow issue reporters to thank the person or people responsible for addressing their concerns by clicking a button or link included in the resolution response.

Procurement Considerations

When considering new tools for web-based feedback, agencies can take several approaches based on their goals and budget. This section examines integration of feedback tools with existing applications, customized versus off-the shelf tools, and working effectively with software developers. It should be noted that some applications, such as social media, are available freely on the Internet, do not require licenses or installation of an application, and therefore are not "procured."

Integration of Feedback Tools

One primary consideration in the procurement of a web-based tool is the possible integration with existing or desired applications. The levels of integration are: stand-alone software, with no

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ability to integrate into agency systems; integration with standard office software packages, such as Microsoft Outlook or Google Maps; the ability to customize the application to integrate with in-house software; and application suites that provide all-inclusive management of customer communication and feedback, including internal communications, analysis, and reporting.

Integration with Existing Tools and Systems

Most agencies are looking for a feedback tool that can directly feed into their pre-existing systems, such as an internal complaint/compliment management system. Without such integration, agencies often have to manually enter input information from the mobile/web tools into their intranet-based system. A primary goal in developing new online platforms is to make them easy for citizens and agencies to use, but it is important to note that integration with existing systems may require some level of customization and coordination on the part of the developers and the client, which may dictate the design or increase costs.

Some web-based tools allow mashups or integration with other existing systems. Most applications have an open data model, meaning that data generated or collected by the application can be used for other purposes by the agency. Therefore, integration of applications mostly involves a mechanism to transfer data from one application to the other.

Integration with Passenger Information Applications

Existing applications that already provide users with real-time or trip-planning information can be adapted to also include a channel for feedback. For example, if a real-time feedback application is telling bus riders that their bus is arriving, but they can clearly see that the bus is not there, then they should be able to easily communicate that to the agency. Many customer service questions can be addressed by providing accurate information to customers about on-time status, crowding status, service alerts, fare payment, and other information. Allowing customers to comment in the same regularly used information channels can provide a seamless experience.

Integration with Social Media

The effectiveness of using social media for outreach and soliciting feedback can be amplified by integrating it with other feedback tools. Repurposing project messaging, graphics, photos, and charts creates project efficiency, helps with consistency, and allows stakeholders to engage with project information at their convenience. Information presented at a public meeting can be shared online for ongoing discussion and to reach additional stakeholders. Questions posed at a workshop can be posted to the social media page for additional discussion and reactions from followers in real time, if desired. Survey links, draft documents, and comment forms can be posted on social media pages to increase awareness of public involvement opportunities. Likewise, project social media sites can be promoted at public meetings, workshops, and within other outreach tools, so that stakeholders are aware of participation opportunities online. Various social media tools can also work together to better accomplish public involvement goals. For instance, photos shared in an Instagram account can be posted to Twitter, Facebook, and Pinterest. YouTube and other videos can be shared via these media, embedded on a website, or posted on a password protected collaboration site.

Pulling Feedback from Websites, Blogs, and Online Communities

In addition to stand-alone web-based tools, many opportunities for gathering feedback exist in the current tools used by an agency. These include the agency's primary website, blogs, project websites, and online communities.

Integrating web-based forms, email to customer service departments, and other customer feedback functionality into the primary agency website is now common amongst transit agencies. Many agencies also maintain blogs on their website to inform customers about the latest news and events; these can encourage comments as a way to engage customers. Even though much of their design is concentrated on sending information out to the public, project websites can also encourage commenting from riders and non-riders. As comments are gathered, it is important to pass on more general comments beyond the project team to ensure they are addressed.

Online communities are sites where groups of people with similar goals or interests hold conversations by posting messages on a discussion site. Agencies can establish their own online community in order to solicit feedback on specific topics and engage the public directly, while having more control over the conversation. Sites established by the public allow people to come together and discuss information pertaining to problems or ideas they have for ways to improve certain features, which can be proposed later to transit agencies. Tracking and including these discussions can provide additional insight and depth to agency planning activities.

Custom Development Versus Off-the-Shelf Tools

Custom Development

Agencies will seek to develop customized tools to allow integration with other existing tools or to allow specialized functionality. This can be developed in-house or through consultants and contracted employees. Many agencies have organized "hack-a-thon" or similar crowdsourcing software coding events to develop new custom tools for free, or much less than it would cost to pay a developer. Although these techniques can generate and solidify ideas for tools that agencies would like, such events may not necessarily produce usable, quality results or opportunities for long-range support and upgrades. Another source for web-based feedback applications can be other transit agencies. Many agencies have developed their own applications, own the source code, and may be willing to share the source code with other agencies.

Creating a web-based tool is one thing, but maintaining it can be an unexpected challenge. The agency may launch an application, only to have inadequate resources to maintain it. Frequent updates to common operating platforms, such as social media and mobile phone operating systems, may compound this problem. Agencies should factor in the need to maintain and upgrade a tool over time when they choose a solution.

Off-the-Shelf Tools

In many cases, an existing off-the-shelf application will meet all of the agency needs and be more cost effective than developing a custom application. Off-the-shelf products come with increased visibility, a higher likelihood that users will be familiar with the tool, greater assurance that the product will work, and better support in cases where the tool does not work. Cloud-based tools, built and maintained by outside entities and not hosted on transit agency computers, may also be updated more frequently to provide long-term solutions that are not as likely to become obsolete as customized applications.

The features, functionality, and configuration of off-the-shelf tools can be customized to some extent as explained above. Software overlays can also be used to brand the tool for a specific agency, giving it the look of a custom application. Many off-the-shelf applications have already been developed for specific purposes, incorporating features desired by specific types of organizations, such as transit agencies. Custom tools may have higher long-term costs as well: agencies may require ongoing support to make sure the tools are upgraded for multiple, and ever evolving software platforms.

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Working with Software Developers

Agencies that wish to develop customized software can benefit from understanding how to work effectively with software developers and vendors. This mutual understanding of needs and constraints can smooth the process, reducing misunderstandings and the potential for cost overruns.

Knowledge of the Industry

Developers may be talented programmers, but they are often unfamiliar with the industries for which they create software. Transit agencies and other clients can help software developers to better understand critical information about data sources, the use of data in the industry, and the needs of the industry overall. As industry experts, agencies may need to educate developers and software companies regarding transit processes that are regularly used, just as they might educate the general public about transit to obtain better feedback on planning issues.

Procurement Options

Purchasing software and development services is guided by agency policies and FTA procurement requirements. Typically the type of procurement will depend on dollar thresholds established by agency policy. There are many web-based feedback tools that are free, very low cost, or have limited-feature "trial" versions that provide an opportunity for staff to become familiar with the type of tool and desired features before engaging in a full procurement process. One case study agency used a grant from the Department of Homeland Security to purchase a product and was able to achieve significant efficiencies by selecting a vendor from the General Services Administration approved list.

Clear Goals and Project Specifications

Clear goals of what the agency wants to achieve with web-based feedback software will help minimize the amount of effort and time required for development. Defining application specifications as required features, optional but desirable features, and features for future enhancement is one approach to defining the scope of work to allow for a more constructive response from product developers. For tools that have some level of customization for the agency, milestones should be set-up in implementation.

Development Process

Some software developers have specific processes that they are able to explain to their clients, with regard to the level of involvement and type of data needed at each stage of product development. A schedule of this type helps to set expectations and enable planning on both sides for who and what should be involved in each step of the development process.

Project Coordination

Project coordination is greatly facilitated by having a point person for the software developer and for the agency. These two individuals are responsible for communicating with and involving others in their organization as appropriate. This arrangement offers the benefit of having one person from the developer team and one person from the client organization who is in the loop on the project at all times. This can help reduce excessive back-and-forth with the developer and "scope-creep," which can result in overly customized answers for generic problems, potentially adding time and cost to the development process.

Application Support

From the beginning of the project, and as a part of any formal procurement, a plan is needed for providing ongoing maintenance of support of the application. The support and maintenance plan could include: support for staff who experience difficulties using the platform; ongoing maintenance for software glitches; upgrades required due to changing operating platforms (e.g., changes in social media platforms); enhancements to application to add new features; the costs for these activities; and the level of support provided. Agencies may need to adjust their operating procedures and expectations to recognize that upgrades are a common and necessary activity with any application.

CHAPTER 4

Case Study Summaries

This chapter summarizes the best practices and recommendations from the case studies and interviews conducted for this study. On-site case studies were conducted with four public transportation agencies. To gain the perspective of a service provider outside the mass transit industry, researchers met with representatives from Amtrak. Two case studies were also conducted jointly with public agencies and the software developer that provided them with a product. In addition to these on-site case studies, the research team convened three non-traditional case studies. Workshops were conducted with software developers at several conferences, a visioning exercise was conducted with marketing and communications executives representing several transit organizations, and an online forum was conducted with transit advocacy organizations and their members to collect feedback on the customer perspective.

Case Studies

The research team conducted on-site case studies with the following four transit operators:

- Charlotte Area Transit System (Charlotte, North Carolina)
- DCTA (Lewisville, Texas)
- Los Angeles County Metropolitan Transportation Authority (Los Angeles, California)
- Tri-County Metropolitan Transportation District of Oregon (Portland, Oregon)

Best practices and lessons learned are summarized here.

Charlotte Area Transit System

Charlotte Area Transit System (CATS) provides bus, light rail, vanpool, and paratransit services in the Charlotte, North Carolina, metropolitan area. CATS is managed by the Public Transportation Department within the City of Charlotte government. In FY2012 CATS averaged 92,100 weekday unlinked trips, across all modes. Saturdays averaged 53,800 unlinked trips, and Sunday averaged 33,800 unlinked trips.

CATS uses multiple web-based tools to collect rider feedback: an agency-developed mobile application, social media (Facebook and Twitter), and online surveys.

Web-Based Tools Can Complement More Rigorous Research Approaches

One common criticism of web-based feedback tools is that they do not reach all riders equally. Respondents are usually self-selected and tend to consist of tech-savvy riders who have strong opinions about a particular topic. While acknowledging this concern, CATS believes that electronic feedback is a cost effective way for agencies to collect feedback when a statistically valid

survey is not possible or necessary. Web-based tools can provide insights into what key stakeholders think about a project; online polls or social media conversations can offer a window into the opinions of people who are actively involved and who care about a project. As long as organizations recognize that electronic feedback may not be representative of the entire rider population, these tools can be an affordable option for agencies.

Online Surveys Can Extend an Agency's Reach

Online surveys (CATS uses SurveyMonkey) can complement public meetings and provide more detailed electronic feedback than social media. While social media comments tend to be anecdotal and difficult to summarize, online surveys can collect more detailed responses that organizations can more easily classify and analyze. While recognizing the limitations of online surveys, especially the challenges of a self-selected respondent base, CATS likes to extend its reach and follow-up public meetings with an online questionnaire. Some 60 to 100 people may attend a public meeting, but the agency can invite 1,000 people to participate in a survey via email.

Remember the Taxpayers

While riders may be an agency's key constituency, they are not the agency's only stakeholders. It is important to remember that members of the general public vote on funding referenda and pay the taxes that support transit, whether or not they ride the system. Any feedback strategy should include all stakeholders in the community, not just transit passengers.

Consolidate Feedback

CATS implemented a process to capture customer feedback from all sources—including telephone, email, and social media—and consolidate those comments in a single database. This ensures that no feedback channel receives priority and helps employees understand key customer concerns. To further even the playing field, a single set of guidelines covers the agency's process for responding to all comments regardless of source.

Manage Your Applications

CATS offers its riders several mobile applications that provide route and schedule information and allow users to send complaints, compliments, and questions directly to customer service. CATS chose to contract with a software development company to create the initial mobile application in order to better define and manage the application's features and functions. While many agencies prefer to let the developer marketplace create mobile applications, especially to offer real-time service updates, CATS believed that overseeing the development process directly enabled the agency to provide better customer service. Directly managing the mobile application also created better accountability. The agency did not have to rely on a third-party to collect rider comments and forward them to customer service; by managing the application in-house, CATS could maintain control over rider communications.

Work Within the System but Get Creative

As a city department, CATS cannot establish independent policies for managing systems processes like social media archiving, website development, or software procurement. The city has developed policies to oversee these activities and CATS is required to comply with these guidelines. To address specific department level concerns, however, CATS has developed some independent alternatives that comply with city rules. For example, because the city's computer network cannot provide sufficient storage for transit-related files, CATS maintains a separate server for datasets that are too cumbersome for the city server. These include General Transit

Feed Specification (GTFS) feeds, saved data, and the employee newsletter. The server costs CATS $1,200 a year and managers believe that it saves a lot of headaches.

Denton County Transportation Authority

The DCTA operates bus, commuter rail, and paratransit services in Denton County, Texas, north of Dallas. The DCTA management staff contracts operations, maintenance, and customer service activities. In FY2012 DCTA averaged approximately 11,400 weekday and 1,400 Saturday unlinked trips. There is no Sunday service.

DCTA operates in an Internet-savvy community, with a large college student population. Other local governments also have a strong online presence. DCTA's staff has found solutions to maximize their interaction with the public using minimal staff resources, including social media, online comment forms, and a mobile application called GORequest that allows riders to obtain travel information and share feedback while riding the system.

Web-Based Feedback Extends Agency Resources

Encouraging riders to use DCTA's web-based feedback options, specifically the agency's online forms and GORequest mobile application, frees up call-takers to help customers who have an immediate question and those without technology options.

Each Social Media Platform Has a Different Audience and Use

The agency policy is to engage with a social media channel only if they have the resources to do it well. Facebook and Twitter are the most active, so that is where they put most of their effort.

Facebook is a major communications tool for the agency, used primarily to connect with baby-boomers. People can post comments directly to the page and, like many transit agencies, DCTA initially was concerned about the potential for posts to become counter-productive. So far, however, there have not been many problems. On the occasions when comments start getting out of hand, regular users of the site tend to jump in and moderate the discussion on behalf of the agency.

The agency has an active group of Twitter followers, many of which are college students. DCTA has hired an intern to help monitor and respond to comments, when appropriate.

Supplementing Town Hall Meetings with Twitter Can Reach a Larger Audience

When DCTA held a series of community meetings about proposed service and fare changes, they found it was often difficult to get a large number of people to attend evening meetings or open houses. So the agency used Twitter to extend its reach. By promoting a specific hashtag to use to flag comments on Twitter, posting a few questions to seed the conversation, and assigning staff to respond to Twitter comments in real time during the community meetings, DCTA was able to increase the number of public comments collected on service changes. The agency included feedback collected through Twitter in the formal public comments.

Planning is Essential

Creating a social media plan is essential. A plan provides the rationale for agency actions, focuses the efforts, and keeps the social media activities streamlined. A plan can also help the agency establish the voice for posts and responses that reflect the agency brand. Plans may include a recommended schedule for posting updates, but staffers emphasized the importance of knowing when to use their own judgment to adjust the schedule. For example, they may have

to postpone routine posts in light of a significant news event or natural disaster; otherwise the agency could appear uncaring or out-of-touch with the community.

Web-Based Feedback Can Improve Transit Service

DCTA provides service on a commuter rail route called the A-Train. Service ran during peak commute hours and into the evening so people could attend evening events in Dallas. Mid-day service on the route was provided by a shuttle bus. Shuttle buses were always full, and riders used social media to request mid-day train service. As part of their annual service changes, DCTA proposed eliminating the lightly used evening service and reallocating the hours to serve the mid-day. Supporters of the evening A-Train service put out the call on social media for people to ride the evening train and to let DCTA know that they wanted to retain evening service. Few comments were posted in support of evening over mid-day service. As a result, DCTA was able to reallocate the evening/night service hours on the A-Train to the mid-day and eliminate the mid-day bus shuttle.

Implementing a Centralized System Has Streamlined the Feedback Process

DCTA procured GORequest, an off-the-shelf web-based feedback management system designed for government agencies in the Internet age. Unlike many transit agencies, DCTA did not have a centralized customer comment tracking system in place, and did not face the common challenge of integrating web-based feedback with a traditional call management center. GORequest lets individuals submit questions or requests via online form or mobile application. The system provides comment tracking, allows internal discussion, and emails the final response to the customer through Microsoft Outlook. The system also generates an Outlook email to the staff persons involved, which includes a link to the original comment. All comments use the same form and populate the same database, whether received directly from the public on a web-based or mobile form, from the CSRs, or from employees. This integration of feedback facilitates analysis and reporting of comments and helps staff pinpoint areas of concern.

Los Angeles County Metropolitan Transportation Authority

The Los Angeles County Metropolitan Transportation Authority, known locally as Metro, plans, designs, builds, and operates public transportation services in Los Angeles County in Southern California. Metro operates 170 bus routes, bus rapid transit, light rail, heavy rail, and paratransit service. In FY2012 average weekday unlinked trips across all modes exceeded 1.4 million. Average Saturday trips were approximately 945,200; Sunday averaged approximately 705,100 unlinked trips.

Metro makes extensive use of web-based tools to stay in touch with riders and constituents, including social media, comment forms on project websites, email, and interactive planning tools. The agency also has a traditional call center where agents respond to telephone calls and walk-in requests.

Develop a Social Media Policy

When Metro first joined Facebook in 2011, the agency did not have a social media or comment policy in place, and expectations for online users and the agency were not defined. Unfortunately, the agency quickly discovered that some people were posting derogatory comments on the Facebook page. In the absence of formal guidance, the marketing department simply deleted the negative posts which resulted in members of the online community accusing Metro of silencing their voices.

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In response, Metro developed a social media comment policy that defined acceptable behavior for users and identified the conditions under which Metro would take action. Treating Facebook as a digital community meeting, Metro based its guidance on what would be allowed in face-to-face meetings: no attacking other users, no offensive language, and no offensive material. In a nutshell, stakeholders can say whatever they want about Metro, but they cannot attack each other. The policy allows stakeholders to have a safe place to comment on Metro projects and programs without fear of an attack from others.

Social Media Supports Government Transparency and Accountability

As a public agency, Metro believes that it has a responsibility to address comments from its constituents, who are paying for service either directly through fares or indirectly through local taxes. Because 1.5 cents of the county sales tax supports Metro, one staffer said, "When you're taxing people like that, you owe them an explanation of what you're doing." For years, the primary channel for contacting the agency was by phone, which could be inconvenient and time-consuming, often requiring people to make multiple phone calls or to wait on hold for long periods of time. Social media now makes it easier for many of these individuals to contact the agency directly—often in real time—whether they are lodging a complaint or asking a question.

One Tool Does Not Fit All Project Planning Needs

Metro uses a wide variety of web-based feedback tools to support planning activities and typically creates dedicated website and social media accounts for major projects. To allocate resources effectively, Metro's community relations group typically conducts a cost-benefit analysis to determine which outreach tools to use for each project. For example, outreach for Metro's High Desert Corridor project—a proposed multi-modal link between State Route (SR)-14 in Los Angeles County and SR-18 in San Bernardino County—incorporated interactive project maps and real-time webcasts to reach residents in this extensive and low-density corridor who might not easily be able to attend public meetings in-person.

Listen to the Conversation to Identify "Hot Topics"

Although Metro typically sets up social media accounts for each of its projects, not all users post their comments to these official accounts. Monitoring the broader social media conversation—reviewing comments that are not necessarily posted on official websites—can help the agency identify potentially controversial projects and "hot spots" that might need additional staff attention.

Analytical Tools Facilitate Analysis of Comments on Social Media

Like many agencies, Metro found that analyzing social media comments on social media accounts was resource intensive, and it was especially challenging to boil down the volume of comments into a set of actionable recommendations. When Metro first started using social media to gather rider feedback, staff would manually cut and paste social media comments into summary reports. Free and paid analytics tools are now widely available to help track and evaluate social media posts, and Metro procured a tool to help employees in different parts of the organization follow and analyze the online conversations of relevance to their projects.

Find the Right Voice for Social Media

Finding the right voice in the social space is not easy, and there is a fine line between sounding too casual and sounding like a robot. Metro's social media staff stressed the importance of making sure that an agency's followers know that a real person is responding to their message while

also maintaining a level of professionalism. Recognizing that people sometimes turn to social media when they are angry or frustrated about an issue, Metro makes sure to treat these riders with dignity and to let them know that Metro understands their concerns.

TriMet

The Tri-County Metropolitan Transportation District of Oregon (TriMet) serves the greater Portland, Oregon, area with bus, light rail, commuter rail, and paratransit services. In FY2012 TriMet averaged 328,400 unlinked trips on weekdays, 205,200 unlinked trips on Saturday, and 146,400 unlinked trips on Sunday, across all modes.

TriMet uses several web-based feedback tools to build community support and to inform planning decisions; these include social media, online surveys, and planning exercises. The agency is transitioning to web-based customer feedback systems, but currently uses a legacy system for tracking customer comments that is over 20 years old.

Planning Will Focus Social Media Activities

When TriMet decided to make a commitment to social media, staff quickly realized they were in over their head. Without flotation devices, TriMet had to quickly figure out how to swim because backtracking was no longer an option. Developing a social media plan helped TriMet remain customer-focused and to provide clear and easy communication channels that are convenient for the customers. No matter how customers choose to contact the agency—even if they hit "reply" to emails sent out by the "alerts" subscription service—TriMet's goal is to stay flexible and accommodating and to respond to customers with whatever tool or channel they select. Having a social media plan in place ensures that everyone is working toward the same goal.

Customer-Oriented Web-Based Feedback Is Essential for the Agency's Image

TriMet's desired image is that of an outward-facing, customer-oriented brand that focuses on the customer experience. They do not want to convey a stereotyped "government" image that is often seen as slow, non-responsive, and out-of-touch with its constituents. TriMet is striving to create a strong customer experience and, in some cases, is still working out the details. For example, riders sending comments to TriMet via Twitter are currently directed to fill out a web form to formally submit their comment. Because TriMet's online form is not optimized for mobile devices, the process detracts from the desire to create an innovative, customer-oriented agency image. All elements of the customer interaction need to be coordinated to ensure that the effort creates and supports the agency's image.

Web-Based Feedback Tools Can Change the Conversation

Feedback can be used to improve the decision-making process for transit service, not just to improve transit service directly. At the start of its FY2013 budget process, TriMet created an interactive online budget tool and invited the public to look at a series of options for bridging a $17 million shortfall. Participants could use the online interactive tool to learn about the impacts of budget cut options and vote for their preferred alternatives.

The key to success was providing the right options at the right price points so that it made sense to the public; the tool needed to present a real choice set and not theoretical alternatives. Using check boxes the participant could select options to close the budget gap. As an example, if the customer selected an option to reduce headways, the tool would present the impacts in terms of longer wait times, reduced ridership and fare revenue, and cost savings for the agency. The tool allowed customers to dig into the finances of the agency and understand more about the choices being faced.

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The public became very engaged; they could not just say "I don't like what you are doing." By empowering riders to participate in the decisions, TriMet changed the dynamic of the budgeting process. Because people were asked to help solve the problem by prioritizing, not complaining, the tool completely changed the conversation. By using the budget-building tool, TriMet was also able to achieve public support for its actions at a potentially contentious time. Staff was able to close the budget gap by adopting a budget package made from elements preferred by the public with minimal public opposition.

Employees Welcome Web-Based Feedback Tools for Reporting Operational Issues

Web-based tools are not just for soliciting feedback from external audiences. When management decided to create an operator reporting system for safety concerns, they decided to make it an online form to facilitate tracking and reporting. Operators can access the online form through the agency intranet, which is available through any computer, including those in the operator reporting area. When the report is submitted, the operator gets an immediate confirmation. The report is entered directly into the agency's Service Improvement Program (SIP) customer feedback database. This format of collecting employee comments was so successful with operators that TriMet is moving the paper-based Field Reports into an online format and integrating them with the same SIP database so that all comments are in one databank.

Working with Software Developers

To better understand the dynamic between public agencies and software developers, two case studies were conducted with public organizations that worked closely with a developer to create a product for their organization. The research team met with the following:

- City of New Haven, Connecticut Transit, and SeeClickFix
- MBTA Transit Police and ELERTS

Findings and best practices are summarized below.

City of New Haven

New Haven is the second largest city in Connecticut, with more than 130,000 residents in 2012. The city uses several web-based communication channels, including SeeClickFix, MindMixer, and social media. SeeClickFix is a web-based tool that allows individuals to report nonemergency neighborhood issues to local government via website or mobile device. This city has also subscribed to SeeClickFix's integrated CRM software. The city's goal is to incorporate SeeClickFix into its systems as much as possible without slowing the work flow or creating more items for maintenance and public works to handle.

Feedback Tools Can Create Engagement

City officials believe that civic engagement tools, such as SeeClickFix, can turn residents into community leaders, and the city supports tools that help create a participatory and robust civic space. Unlike social media, where users often vent their feelings about a particular issue, civic engagement tools can turn complaining into a constructive activity. This level of participation helps governments better understand what services people want and what changes are needed. Many residents will initially test the system by reporting one issue of particular importance to them. As they see results, they transition from reporting a single issue to multiple issues and become more involved in improving their city. Yale University is conducting a customer survey to measure how many people make this kind of transition.

Civic Reporting Can Create Efficiencies

When citizens have an easy way to report issues, the city can get a comprehensive picture of conditions and set priorities. When the city can document the range of citizen concerns, it is easier to schedule repairs and maintenance programs and to allocate scarce resources. New Haven previously paid staff to locate and inventory potholes; now residents can report them with web-based tools, reducing the need for staff to identify potholes themselves.

Help Software Developers Learn the Ropes

Software developers and vendors may not understand the different responsibilities and roles in a complex government organization or recognize the specific challenges of the transit industry. In these cases, the client can help the developer understand the organizational structure and identify widely used information sources (such as census data).

Procurement Pitfalls

Government procurement is a complex and time-consuming process. Agencies should be clear about their goals, and realistic about what is a requirement versus what is nice to have versus what would be a future enhancement. Having a lot of back-and-forth with the developer can create customized solutions but can result in higher costs. Sometimes a generic product is sufficient to meet an organization's needs at a more affordable price point.

CTTransit

Connecticut Transit, known as CTTransit, is bus service provided throughout the state of Connecticut. Some services are provided directly by the Connecticut Department of Transportation; others are operated under private contract. CTTransit uses web forms and social media to stay in touch with riders and community, and is considering using additional third-party software applications for feedback.

Look at the Big Picture

CTTransit managers know that creating a tool is fairly straightforward, while maintaining that tool is a much bigger challenge for agencies. As they consider investing in feedback tools, managers want to make sure that they implement a tool they can maintain over time.

Consider the Agency Culture

Using web-based feedback tools may require a major change in the agency's culture. Because asking the public for more comments requires a certain level of accountability, such tools may require involvement beyond the marketing and communications department. If a supervisor does not close the loop with the customer or a busy workload keeps a manager from responding in a timely way, then the process could backfire, tarnishing the agency's image. To address these concerns, managers should have policies and procedures in place that define thresholds for scale and urgency so front-line workers have guidance on when and how to respond.

Match the Tools to the Community

Different tools work in different communities, and agencies have to understand the needs of the public in each part of their service area. New Haven is different from other communities where CTTransit provides service, for example. The New Haven community is more civically engaged than other parts of the state and civic engagement tools are likely to be successful in obtaining public feedback.

MBTA Transit Police

The MBTA serves 175 cities and towns in the Boston metropolitan area. The MBTA provides all modes of transit service: bus [including bus rapid transit (BRT)], trolleybus, light rail, heavy rail, commuter rail, ferryboat, and paratransit. In FY2012, the agency averaged over 1.3 million weekday unlinked trips across all modes. Saturdays averaged 657,000 unlinked trips; Sundays averaged 428,500 unlinked trips. The MBTA Transit Police is an agency-managed police force dedicated to protecting the riding public on the MBTA system and MBTA facilities and property.

Now retired, MBTA Police Chief Paul MacMillan initially came up with the idea for a mobile security application. The MBTA worked with ELERTS, a Massachusetts-based software company, to develop what became known as the See Say mobile application, capitalizing on the federal "See Something, Say Something" security campaign. The application allows users to report crimes, safety concerns, and security issues to the MBTA Transit Police in real time. Since the MBTA See Say application was developed, several other U.S. transit authorities have procured and launched the application, which ELERTS customized to their systems.

Clear Goals Created Successful Agency/Developer Collaboration

Developing the See Say application was a collaborative effort between the MBTA Transit Police and ELERTS. From the start, the MBTA police knew that they wanted a tool that was easy to use and insisted that the interface have only two buttons: one to file a report and one to call the transit police directly. The MBTA was able to communicate that goal effectively to the development team and, just as important, the developers were able to listen to the MBTA and translate that vision into an effective tool.

As part of the collaborative process between client and software developer, ELERTS recommended an additional feature to protect rider safety. The application allows users to take a photograph of a suspicious situation and forward the image to transit police. ELERTS made the suggestion to disable the flash on the smartphone's camera to allow users to take photos safely and discreetly, and the MBTA was quick to adopt this additional feature.

Maintain Flexibility in the Procurement Process

Because the MBTA used a grant from the U.S. Department of Homeland Security to purchase the product, the agency was able to select a vendor from the General Services Administration (GSA) list for federal procurement. While this made the procurement process easier for the MBTA, ELERTS had to become familiar with the federal procurement process in order to take advantage of the system.

The Value of Photos

See Say changed the way the MBTA talked to its passengers. For years the MBTA banned people from taking pictures on the system. Now the MBTA encourages people to take pictures as long as it does not interfere with transportation or put them in harm's way.

The photo feature of See Say works in two ways. Not only can users send a photograph to the MBTA police, but the MBTA can also use the application to share photos with officers and the public. MBTA have used this feature to push out pictures of missing children and be-on-the-lookout (BOLO) photos of individuals suspected of everything from fare evasion to murder. In some cases, people have identified suspects and recovered lost children within minutes. The photo feature of the application also lets the MBTA respond quickly to security-related matters reported

by customers. When riders forward a photo of a suspicious package in the system, dispatchers can forward that photo to officers on the scene so they can more easily identify the object.

Try Before You Buy

It is critical for agencies to define their goals and to make sure that the preferred tool is the best match for their needs. Because of the complexity of technology solutions, it is important for an agency to make sure that they are getting the best product for the available resources. Asking one or more vendors to set-up a demonstration for the project will allow agency staff to learn how the application will work in a live environment and how staff will use it. For some organizations, especially those that are not comfortable with technology, a demonstration can help lessen the fear of technology.

Non-Transit Organization: Amtrak

In addition to conducting case studies with transit professionals, a case study was conducted with Amtrak to obtain the perspective of a service provider outside of the transit industry.

The National Railroad Passenger Corporation, known as Amtrak, provides intercity passenger train service in the United States. In FY2013, Amtrak served nearly 31.6 million passengers. Amtrak serves more than 500 destinations in 46 states; the Northeast Corridor (NEC), which extends from Washington, D.C., to Boston, Massachusetts, is the railroad's busiest corridor.

While most Amtrak customers still provide feedback to the agency by telephone, Amtrak has expanded its social media presence to encourage comments from a broader audience and to extend brand loyalty.

Social Media Reaches Existing and New Riders

Amtrak believes that social media enabled the railroad both to reach new users and also to provide new communication channels for existing users. Amtrak believes that some of its riders prefer to contact the company by electronic means, including social media, and that these individuals may not have previously communicated with Amtrak. At the same time, Amtrak's use of social media has provided another channel for "super-users," those who offer frequent comments, to contact the company.

Quantifying the Benefits of Social Media

Tools to measure the impact of social media are still evolving, and the challenge for many organizations like Amtrak is that social media is not tied to traditional return-on-investment (ROI) indicators like sales. As a starting point, Amtrak acquired a social media dashboard and analytics tool to help monitor social media conversations about the railroad. Amtrak's social media program was still fairly new as of this writing, and the railroad initially focused on developing a month-to-month baseline in order to establish specific measurable goals for subsequent years (e.g., decrease response time for social media comments).

Integrate Social Media with Other Channels

Some savvy social media users use channels like Twitter to jump to the head of the customer service queue, in hopes of getting a response in real time, rather than writing a letter after the

trip or waiting on hold for a call center agent. This is the case in many industries and Amtrak is aware of this potential inequity. Accordingly, the company is working to provide customer service equally throughout all of its channels and not to allow one platform to become more important than the others. Managers have explored two approaches. One approach is to direct Twitter users to contact traditional customer service channels if they have a complaint. Another approach would be to make sure that all comment systems funnel into the same database regardless of source—whether it is the conductor on the train, a station agent, a social media follower, an email correspondent, or an agent fielding a phone call. Both options will require additional staffing and Amtrak is still weighing its options.

Transit Customers and Advocates

The research team used IdeaScale, a software package that encourages participants to submit ideas and suggestions related to a particular topic, to reach out to transit customers and transit advocates. The online campaign solicited ideas and comments about how customers wanted to communicate with transit agencies, organizing the conversation into three broad areas: topics, tools, and touch. Participants were asked the following:

Topics: What types of comments would you like to send transit agencies (e.g., bus was early/late, operator behavior, public safety issues, cleanliness of the vehicle or bus stop, commendations for operators and staff)? What types of issues should agencies be encouraging feedback on (e.g., service quality, maintenance issues, public safety concerns, route and schedule planning, long-range planning, fare policy)?

Tools: What type of technology is most useful for communicating with transit agencies (e.g., web-based, such as a form on the website; mobile applications; text-messaging)? What types of social media are most effective for agencies (Facebook, Twitter, Pinterest)? What types of tools would you like to see transit agencies use to get formal comments from transit riders (e.g., surveys, panels, discussion forums)?

Touch: How should agencies handle feedback that is received from riders about day-to-day operations (how quickly do you expect a response, what type of response, do you want interactivity with the agency)? How should agencies handle feedback that is received via social media (response time, type of response, interactivity with rider)? How should agencies engage with riders about feedback for general and long-term planning feedback (frequency of surveys, interactivity with panels, etc.)?

Following are most popular ideas, based on number of votes and comments.

Acknowledge Receipt of a Complaint

Participants wanted agencies to respond within 24 hours to individuals who file a complaint so they know that the agency has heard their comments and is doing something about it. This was the highest ranked idea submitted and was consistent with comments heard frequently throughout the study. Related comments, which received fewer votes, suggested that agencies should assign a case number to each comment so that individuals can track the status of their comments and that agencies should close the feedback loop by letting individuals know how and when their complaints were resolved.

Make It Easy to Identify Good Drivers

Riders want to have an easy way to identify bus operators who are particularly helpful and who demonstrate good customer service behavior. This high-ranking response underscores the fact that individuals want to share positive feedback but need convenient ways to do so.

Communicate Beyond Current Ridership

Riders urged agencies to engage with businesses, nonprofits, and cultural organizations to encourage ridership. Much of the lively discussion about this idea was not directly related to the topic of web-based feedback and focused on ways that transit operators could promote their services through publicity and free or subsidized transit tickets to sporting and cultural events. But some commenters suggested developing crowd-sourced directions for pedestrian and transit access to these events, which could be shared in printed and online listings.

Show All Vehicles on Google Maps in Real Time

Participants strongly supported the goal of using Google Maps as a common platform to display real-time locations for every vehicle from every transit system in the U.S. Riders want to be able to access Google Maps on a smartphone in any city to see their transit options at a glance. Commenters pointed out that this feature is already available in many mobile applications and that many agencies already share their route, schedule, and location information. Although real-time information was not the focus of this study, the popularity of this comment reinforces the notion that providing good information to riders about real-time vehicle location will give them fewer reasons to complain about late buses, which is a type of feedback that is frequently received but generally difficult to address.

Enable Riders to Provide Route-Specific Feedback

Riders want to be able to suggest changes to specific services based on their own experience. This could include items like new or relocated bus stops, potential scheduling changes, and moving the time of an arrival/departure by a few minutes to allow a connection.

Post Points of Contact

Although this idea was less popular than the ideas highlighted above, some respondents encouraged agencies to make it easier for riders to contact them by posting online contact information for key transit agency staff.

Emerging Tools

Much of the research for this study focused on existing best practices for using web-based feedback. To help envision the tools on the horizon and identify opportunities for additional research, the team convened visioning workshops with software developers and transit marketing and communications professionals.

Software Developers

The research team met with software developers at several TransportationCamp events held in Washington, D.C., Atlanta, Georgia, and Cambridge, Massachusetts. TransportationCamp is an informal conference that brings together transportation professionals, software developers, and others interested in the intersection of urban transportation and technology. Because participants suggest the session topics and lead the sessions themselves, organizers call this an "unconference." This section summarizes the feedback collected during these meetings.

Types of Feedback

Feedback may come in many forms, so customer feedback tools should be flexible enough to allow for complaints, compliments, service requests, and ideas for improving service. Because feedback may come from multiple sources, tools should be designed to allow anyone, from agency employees to customers to non-riders, to submit their feedback.

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Mapping can be useful for providing trip information as well, such as geographically pinpointing an issue or recommendation. This functionality can also enable users to get involved with transit planning efforts by encouraging riders to draw or re-draw a route as a suggestion for expanded or enhanced service.

Tools that create online public forums where people can share and discuss their ideas for new routes or service modifications serve multiple purposes. Such tools are effective at crowdsourcing information about potential improvements to the transit system, while also vetting proposed changes with other members of the public. In this way, transit agencies can see which issues have broad-based support and can be addressed with minimal opposition and which issues are more contentious before formal public comment periods take place.

Respect Privacy

Not all feedback should be made public. Some commenters may want to keep their communication private, looking for a meaningful response from the agency rather than a public airing of their grievance, and agencies may prefer not to have complaints made available for all to see. Addressing issues within the agency by properly routing complaints for appropriate follow-up, does not necessarily have to be completed in the public eye and personnel issues, in particular, require discretion. However, agencies can support goals of transparency and also boost their public image by taking advantage of the visibility of some comments when they have been able to fully address an issue.

Making Lemonade

Agencies can benefit from knowing what their critics have to say. People who take the initiative to provide feedback are often willing to share additional details, especially if the agency actively solicits their opinions. Engaging them in deeper conversations can provide useful details about trouble spots in the system and sometimes defuse criticism and negative feedback. Agencies can also use the feedback process to reach out to advocacy groups and grassroots organizations. These groups can be highly critical at times, but many have significant influence that an agency can use to its favor. For example, engaging in an active dialog with these groups can help turn them into powerful allies when additional transit funding is at stake.

Simplicity

Web-based feedback tools should be simple in format and easy to use. Surveys should be brief and well designed, with at least a few rounds of pre-testing to verify that questions are clear and producing useful results. Issue reporting should not rely on long categorization trees or take more than a few steps to complete. User experience professionals can help agencies and software developers design tools that extract the most useful and relevant information from the public.

Agencies can save a lot of time and effort in prioritizing issues by establishing open and interactive feedback systems that allow users to vote on which comments are most important. Idea management platforms, which generally include this feature, can help transit providers quickly gauge the popularity of ideas and frequency of issues. It is easier to review a few comments with a thousand votes each than to sort through and summarize thousands of comments that are similar but not identical. Tools that aggregate comments in this way make it easier for an agency to identify issues that have sufficient support to justify a change.

Modify Existing Applications to Obtain Customer Feedback

Agencies may have existing mobile applications and online platforms that can be adapted to incorporate feedback features. Modifying these programs to allow public input can result in

significant savings of time and resources, compared to the effort required to create a dedicated customer feedback tool from scratch.

Data Standards

Developers recommended establishing a standard for feedback data used throughout the transit industry, similar to the GTFS that is used for scheduling. This would make it easy for independent developers to build feedback functionality into their tools, even if the applications cover multiple regions or transit operators. A standardized format would also make it easier for agencies that want to create an application programming interface (API) to output information for applications and to process feedback.

Aggregating Data

Agencies may use data mining techniques to discover patterns in large data sets, such as the records collected through multiple customer feedback channels. By revealing the size and impact of different topics, this process can help to prioritize incoming issues, identify trends, and consolidate reporting across multiple platforms.

Good Design for All Users

Multiple platforms help to serve a diversity of riders. Text-messaging tools may be more accessible than native smartphone applications for riders with feature phones and those traveling internationally. Web forms and tools should be optimized to read on a mobile phone or tablet. To accommodate riders with sight impairments, feedback tools should be compatible with screen readers. When appropriate, it may be desirable to provide translation options so that riders with limited English proficiency can access them.

Transit Marketing and Communications Professionals

The research team met with a group of transit professionals at the mid-year meeting of the American Public Transportation Association Marketing and Communications Committee. Participants identified trends in gathering customer feedback and issues to be aware of when implementing web-based feedback tools.

Communication is Evolving

The number of ways that individuals can communicate is expanding rapidly, and agencies are faced with decisions of which options to adopt with their limited resources. At the same time, agencies have to maintain traditional systems (such as telephone and in-person communication) for customers who choose to use those options. New riders, especially young adults, tend to make extensive use of technology and expect transit agencies to do the same. In addition, there is a growing expectation from the public for increased transparency and broader outreach from transit agencies. These are challenges to the transit industry, and web-based feedback tools can help operators respond to these changing expectations.

Access for All

All individuals must have the ability to provide feedback to the transit agency, regardless of their age, disability, language, or other barriers. Web-based feedback tools can provide more options for providing comments, but they should complement traditional methods, such as a telephone call center, and not replace them. A text-based system should be available for cell phones with limited features. It should be recognized that some rural areas may not have Internet service or the infrastructure to support smartphone applications.

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External Barriers

Agencies may develop new and useful feedback tools, but the public must be brought along to embrace and use the tools. Marketing and advertising should be used to make the public aware of newly available tools. Exogenous barriers, such as lack of Internet availability or cell phone coverage provide further external barriers to implementing web-based feedback systems.

Internal Barriers to Implementing Web-Based Feedback Tools

Multiple internal barriers make it difficult for some agencies to embrace web-based feedback tools. Challenges may include limited management support, scarce resources (staff and operating budgets), employee resistance to new technologies, the need to provide training for new systems, and the absence of policies and procedures related to web-based customer feedback. Creating an implementation plan can help agencies overcome some of these barriers by using the planning process to develop support for web-based feedback goals, help staff understand the benefits and challenges, and to outline policies and procedures that guide staff decisions regarding web-based feedback.

CHAPTER 5

Lessons Learned and Future Research

This chapter summarizes the key recommendations and lessons learned from the case studies and interviews conducted for this research. In an early phase of the research, interviews were conducted with transit operators, organizations outside the transit industry, and software developers. The purpose of the interviews was to develop an overview of web-based feedback and to identify candidates for more detailed case studies. As summarized in Chapter 4, the case studies included site visits with U.S. transit agencies and a passenger railroad, joint meetings with public agencies and developers, structured meetings with software developers, a visioning workshop with representatives from transit agencies, and an online discussion with transit advocates and riders. This chapter presents overall lessons learned and proposed topics for future research.

Lessons Learned

This section summarizes the best practices and advice offered by organizations participating in the interviews and case studies.

One Size Does Not Fit All

While many transit operators have enthusiastically adopted web-based tools, practitioners emphasized that not every tool is right for every agency or for accomplishing every goal. Web-based tools have a place in the mix, but transit agencies are well advised to customize their feedback tools to their audience and resources.

Some larger agencies, for example, choose to have a large social media presence with dedicated staff, plus specialized tracking and analytics tools. Both Amtrak and Los Angeles Metro use social media extensively to broadcast information about their services and learn from their riders. Metro, in particular, believes that the agency has a responsibility to stay in touch with its constituents since these are the same individuals who support the agency through a countywide sales tax. Smaller transit properties may find it beneficial to have a presence on social media as well—and many are already active in the space—but these organizations typically have fewer resources and will probably devote less time to social media than their larger counterparts.

As another example, the MBTA considered various options for developing a tool for reporting safety and security issues including smartphone applications and text-based solutions. After working with a software developer, the team decided that a mobile application would be the best fit for the agency's needs. While texting would have been accessible to riders without smartphones, the agency thought it would be too cumbersome for people who were already in a stressful—and possibly emergency—situation to remember and type in a 10-digit number for sending a text message about a safety concern. Believing that rail ridership included a high proportion of

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tech-savvy riders with smartphones, the team developed a native application designed to minimize the necessary steps to report a security issue.

People Want to Be Acknowledged

One frequently cited concern about electronic feedback was that comments would end up in a figurative black hole. Agencies can offset this concern by acknowledging that a comment was received—ideally within 24 hours—and then following up directly with the individual in a timely way. An automated response may be appropriate for the initial contact, but stakeholders are looking for a more personalized response after that.

Agencies are also well advised to close the feedback loop with constituents and to let people know how their comment was addressed. For some straightforward comments—missing bus stop sign or overflowing trash barrel—agencies can simply tell commenters that the problem was resolved. In some cases, an issue cannot easily be addressed; these may include long-range planning suggestions or problems that fall outside the transit agency's jurisdiction. For personnel related matters, agencies may be legally required to keep details private. But commenters would still appreciate an acknowledgment and explanation, even if the transit agency cannot resolve the issue to the stakeholder's satisfaction. Above all, transit riders and advocates did not want to receive canned responses from an agency.

For social media conversations, in particular, agencies recommend using the personal touch when communicating with riders and other stakeholders. It helps to sound like a human being in these online conversations and not like a robot or a faceless bureaucracy. Followers should know that a real person is responding to their comments, and the agency's social media staff should make sure that they treat all online commenters with respect.

Accentuate the Positive

Web-based feedback tools often attract criticism and negative comments. This is especially true of social media, where the combination of real-time communication and user anonymity can encourage transit riders to vent their frustrations in the moment. To help offset the negative, transit operators can make it easy for riders and stakeholders to share positive stories. Riders want to have an easy way to compliment bus drivers who make their morning a little brighter or employees who provided exceptional customer service. Individuals want to share positive feedback, but they need convenient ways to do so.

Manage Expectations

The real-time nature of social media can also create challenges for agencies in terms of response time. While agencies are encouraged to respond to social comments—and commenters have come to expect rapid responses—they should be realistic about the level of responsiveness they can provide when comments are arriving 24 hours a day, seven days a week. Many agencies address this challenge by responding to social media comments during normal transit operating hours only and posting those hours on their accounts. Regardless of the agency's policy, providing clear information about when customers can expect a quick response to their social media posts and when these channels are not being monitored can help to guide customer expectations.

Look Before You Leap

It is easy to get started with some web-based feedback tools. Many social media platforms have especially low barriers to entry, and sometimes agencies get started without thinking through all

the ramifications. Once an agency starts down a path, it can be very difficult to turn back. Agencies emphasized the importance of planning an approach for implementing a web-based feedback program and, as required, setting ground rules for comments and other forms of feedback. When Los Angeles Metro joined Facebook in 2011, derogatory comments began to appear on the agency's page. This was not an unusual occurrence for government-sponsored social media accounts, especially for early adopters. After a few false steps, Metro created guidelines intended to create a safe space for constituents to comment on agency projects.

The comment policy, which is posted on Metro's Facebook page, encourages feedback that is on topic and brief. Commenters may take issue with a post as long as they direct their criticism to the content and not the author. Metro reserves the right to delete comments under certain circumstances, including when posts are "harassing, threatening or vulgar."

When TriMet first started using social media, the agency tried to respond personally to all comments, at all hours, on all social media sites. The agency was quickly overwhelmed but was able to right itself by developing a social media plan. The plan helped TriMet to remain customer-focused and provide clear and easy communication channels that are convenient for their customers. No matter how customers choose to contact the agency, TriMet's goal is to stay flexible and respond to customers whatever tool or channel they select.

The Denver Regional Transportation District (RTD) also advises agencies to have a plan for implementing web-based feedback. The plan should be developed in coordination with departments throughout the agency, so that everyone is on board with the vision.

Use the Customer Feedback Process to Educate

Agencies can use the web-based feedback process to educate customers and their own employees. Providing information on the front end, such as service alerts, frequently asked questions, policies, plans, and budgets, can help to guide feedback from the public, especially with regard to long-term planning issues. More informed customers often produce more usable and realistic feedback. Information provided to users, either preemptively or in response to their comments, can easily spread beyond those who directly engage with customer feedback systems. This creates a win-win situation for the customer and the agency.

Within the agency, providing regular training for employees helps to ensure that customer service personnel are well-informed about the agency's policies and procedures, as well as internal structures. Further, those who are in a role, which is not customer-facing but is responsible for addressing issues internally, tend to be more responsive to customer service personnel if they understand the customer feedback systems and expectations set for feedback response. Reports on how an issue raised by a customer was addressed, with reference to the impact this has on the agency's brand and ridership, can help demonstrate the importance of timely responses. A strong, responsive agency means better job security for all staff.

Measure Your Success

Evaluating the performance of web-based feedback programs has two key benefits. First, understanding what worked (and what did not) will enable the agency to build on its success and to shore up its weak spots. Second, documenting success can give staff the ammunition they need to approach managers for additional personnel, budget, or software support.

Numerous metrics and evaluation systems are available to help agencies measure the impact of their web-based feedback tools. Readily available measures like the number of social media followers or mobile downloads can help track the use of web-based feedback tools. Other tools

can provide a more sophisticated look at the impact of web-based tools—especially social media—by tracking the number of users who shared or forwarded a particular post. Many of these tools are free and are already built into web-based tools; others are available for purchase.

Despite the availability of measurement tools, the challenge for many agencies is that web-based feedback strategies do not fit neatly into traditional performance measures or ROI calculations. Transit operators are used to collecting and analyzing concrete performance measures, such as unlinked passenger trips or cost per revenue mile. Often the benefits of web-based feedback are intangible, and traditional customer service metrics may not fully capture the value of making customers feel special because their transit agency interacted with them on Twitter.

Build Stakeholder Support

Traditional methods for building rider support usually involve one-way communication. Agencies would distribute press releases, create advertisements, and post notices on the agency website and social media accounts. While these approaches kept customers informed about agency activities, they did not actively engage customers in a dialog with the agency. By encouraging two-way conversations, web-based feedback has the potential to engage riders and other stakeholders in meaningful interactions with the agency.

Consider the Costs

Agencies were in agreement that web-based feedback could expand the reach of public meetings and, in some cases, free up call centers to focus on complex questions and serve constituents without access to technology. However, transportation providers that made extensive use of web-based feedback, like Metro in Los Angeles and Amtrak, acknowledged that monitoring social media in real time and creating interactive feedback tools were resource-intensive activities. Even with automated social media monitoring tools, tracking the social media conversation requires "a lot of eyeballs on screens," as one agency put it. Furthermore, automated tools still require human judgment to determine which conversations require immediate attention and which comments can help inform business decisions.

Project-specific tools like streaming webcasts and interactive maps can provide valuable feedback to agencies, especially for projects located in areas where it may be difficult for constituents to attend face-to-face meetings. But because these resources can be expensive to implement, agencies recommended conducting a cost-benefit analysis to determine whether the tools will help the agency achieve its goals.

Integrate New and Old Systems

Many transit agencies are struggling to integrate web-based feedback tools with existing, or legacy, systems. For years, customers called a transit agency when they had a comment or a question, and many agencies have invested in sophisticated telephone call centers to handle such customer feedback. Now the challenge is to integrate these systems with new web-based feedback technologies, including email, online forms, and social media.

In a perfect world, transit agencies would like to see all customer communications in a central database to facilitate responses and make it easier to track those responses. But the transition has proven complicated, and some of the organizations interviewed for this report had separate systems to handle and analyze communications from different sources. They encountered multiple challenges as they added new technologies to their feedback efforts. For example, legacy

software systems may not be adaptable, customer service agents may need training in the new technologies, and union agreements may dictate which job classes are authorized to handle different types of communication.

Web-based feedback tools, social media in particular, have some characteristics that may not fit neatly into an existing customer feedback program. First, social media posts tend to be short, and some issues cannot be easily condensed into the length constraints of a platform like Twitter. While a telephone operator can easily probe for additional details, this kind of conversation can be difficult to conduct on social media platforms. Second, conversations in the social space are public. Customers and agencies may not want to air detailed complaints in a forum for everyone to see. The same goes for contact information. Customer call center agents are trained to capture personal contact information, and many agencies require callers to provide this information. While they may be willing to share this information with a trained operator in the course of a phone call, customers may consider these details too personal to share in a public space.

Working with Vendors

Some agencies have the in-house resources and expertise to develop customized web-based solutions, but many will choose to work with outside vendors. In some cases, the agency will want to purchase an off-the-shelf product that can be customized for a better fit. At other times, the agency will want to create a unique product from the ground up.

For software companies, especially those that develop mobile applications, working with transit agencies may be a new experience. These companies are often start-ups or small shops and they may not be familiar with government procurement processes.

Complicating the sometimes mysterious world of government procurement is the fact that rules differ among agencies. Some use the request for proposals process and others can enter into a sole-source agreement. Some agencies can sign multi-year contracts and others have to go year-by-year. Vendors that want to work with transit agencies have to remain flexible and patient; sometimes the public procurement process can take longer than anticipated.

At times agencies will use temporary software programmers to develop mobile applications. Denver RTD is an example of one agency that has used this approach. In cases like these, agencies should ensure that in-house staff can maintain the applications after the temporary workers leave.

Maintain a Level Playing Field

Technology-based feedback strategies have the potential to divide customers into those with access to these tools and those without. This, in turn, creates concerns that customers using web-based tools will receive faster or better service than those who use traditional methods.

Within transit organizations, for example, it is not uncommon for different departments to handle different customer feedback channels. For example, a call center might respond to comments submitted via telephone and email, but the marketing department manages social media activity, and the planning group interacts with customers on project-specific crowdsourcing platforms. Agencies have observed that some tech-savvy customers try to shop around when it comes to web-based feedback. If they did not receive satisfaction via telephone, they might try sending an email. If that does not work, a post on Twitter might be the next step. Unless an agency coordinates all its customer feedback channels, it is possible for individuals to receive a different resolution from different departments.

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Agencies have also expressed concern that customers with access to technology will receive faster responses than those using traditional communications channels like telephone and letters. There is a perceived urgency to comments received from the field in real time—whether it is an Amtrak passenger whose Wi-Fi is not working or a bus rider wondering when the next vehicle will arrive—and it can be difficult to separate the message from the medium to determine whether or not an immediate response is required.

Some real-time communications require immediate response, particularly those related to safety and security. Occasionally an easy fix is possible even for problems that are not time-sensitive. Other times, riders are just letting off steam using the technology at hand. Agencies should consider developing a protocol to ensure that customer comments do not jump to the top of the queue just because they arrived electronically.

The Ideal Tool

As part of the case study process, the research team spoke with agencies about their ideal web-based feedback application. In all, the agencies stressed the need for the integration of multiple existing applications, so that transit riders could access all their needs in one place. In a workshop held by the project team, one group of transit agencies described the "super app." As shown in Figure 2, they envisioned a mobile application that includes real-time information about vehicle location and fullness, with the ability to purchase tickets and access social media using the same application. The application would also include a link to the call center in case a customer needs to speak with an agent. The group emphasized that the application would have to be very easy to use, keep user information safe, and translate information into the format that the customer prefers. The application would have: live video chat; voice activation and recognition; text and picture-based information for persons with cognitive disabilities; the ability to print information for those without mobile devices; translations for all languages; compatibility with all media tools, including phones, tablets, and computers; and availability on-board and at stations. From the agency perspective, the application would also meet all federal and state regulations, especially related to accessibility, and be cost effective.

Figure 2. Schematic of the ideal tool as envisioned by transit agencies.

Characteristics of the Ideal Tool

Characteristics of tools that agencies found to be critical within any web-based feedback application were revealed through the case studies. These included:

Automated. Tools should send comments to the correct department and person to ensure they are handled properly. Actions taken should be tracked within the system to ensure comments are being addressed in a timely manner. Web-based feedback systems should minimize the time and effort required by government employees to respond to issues, bearing as much of the burden of routing, addressing, and following up on issues that are reported as possible. Systems that are overly reliant on humans tend to be slower and more prone to errors.

Mobile. Transit riders need to be able to comment while en route to preserve information (such as location) that helps to address the issue and also to make good use of waiting time, which is otherwise a fairly unproductive and loathed part of the transit experience.

Easy Response. Transit agency staff should be able to acknowledge the value of the input they receive by easily responding to the customer.

Categorized. Feedback should be categorized for easier response, forwarding, and querying. Queries should be possible based on routes, time of day, and location.

Reporting Capabilities. Systems should catalog comments into user-friendly databases for reporting purposes, ideally with helpful analysis tools, dashboards, graphic operations, and trend tracking features.

Multiple Means of Access. Agencies benefit from having the ability to collect feedback regardless of the format or tool of the end user. Various forms of media that customers use for comments (phone, Internet, social media, etc.), should be integrated so that feedback can be compiled and responded to through one system.

Open Across Personnel. Systems should be open to allow all customer-facing personnel, including directors and managers, to view reports filed. Customer service agents should be empowered to handle queries.

Relevant Details. A good system should prompt the user to indicate the specific details of a complaint or commendation, such as the route, time, location, and direction. This should be done via interactive and drop-down menus so the concerns can be as specific as possible.

Due Dates in System. Every comment should be assigned a due date for initial investigation based on the type of concern to ensure that feedback is responded to.

Use Technology. New technologies such as quick-response (QR) codes should be used to make it easy for riders to take surveys or provide other types of feedback. Feedback tools should also have simple URLs that customers can readily recall and type.

Positive. Systems should encourage positive feedback in addition to providing typical complaint categories. This can help morale at all levels of the agency if customers have an easy way to provide their commendations.

Personal Profiles. If personal profiles are kept, a survey could be sent to a passenger to ask them about their experience on a specific bus route or on a particular type of service (like paratransit). Insights from recruited customers on their experiences with transit service can provide valuable feedback from riders who understand the system. The agency can provide

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incentives to get feedback more frequently, but should make sure that they gather the information needed for follow-up.

Real-Time. Applications should be real-time to allow direct interaction with customer service staff from wherever the customer is in the system (on board or at a facility).

Location-Aware. Mobile device applications should automatically share the time, date, bus number, route number and location of the passenger. This allows for easy mapping of complaints.

Easy to Understand, Yet Functionality for Tech-Savvy. Applications should work for tech-savvy people to allow high level interaction, but should be easy to understand for people who are not comfortable using computers, texting, etc. Ease of use may help to increase participation from riders who do not generally voice their opinions.

Interesting. A system should ideally be interactive and dynamic to actively engage customers and maintain their interest.

Voting Up and Down. For comments that are not time-sensitive, the system should allow people to see each other's comments, where possible, to limit redundant feedback and encourage people to respond to each other. This makes it possible for a proposal to be voted upon. Planning issues are more likely to benefit from this openness.

Suggested Future Research Topics

Throughout the study, several areas were identified for future research, including metrics to measure the impact of web-based feedback, standardized feedback categories, and rider access to technology.

Identifying Metrics

Despite the demonstrated benefits of web-based feedback, it is sometimes difficult to wholly measure the impact that web-based tools have on agencies that use them. Many of the challenges identified, including staffing and training, require buy-in at all levels of an agency to ensure adequate resources. Furthermore, shifting from a traditional feedback process, using public meetings to solicit face-to-face comments and a call center to handle unsolicited feedback, to making use of the web-based feedback tools discussed in this report can be a major change for an agency. Without metrics to understand the ROI or to improve the web-based feedback program over time, agencies may struggle with decisions on which tools to implement or modify.

Many social media and other third-party developer platforms offer easy, free, and automatic ways to track metrics like number of people engaged, post views, comments received, and so forth. The best web-based feedback reporting systems have analytics to measure quantitative issues and can gauge an improvement in public service by monitoring the time it takes for an agency to acknowledge a comment and resolve the issue.

However, metrics that evaluate whether current web-based feedback tools are meeting users' needs are not yet common, and agencies frequently use anecdotal evidence for this purpose instead. In addition, many feedback strategies discussed in this report do not fit neatly into traditional performance measures or ROI calculations.

Further research is needed to understand how to quantify the benefits of individual web-based feedback tools. Measures of customer satisfaction and cost of feedback initiatives should be

developed and shared amongst agencies if web-based feedback tools are to be further adopted in the industry.

Standardized Feedback Categories

From the perspective of creating more powerful, integrated web-based feedback tools, one barrier is the lack of a standardized process for collecting and processing feedback data. Over the past decade, many transit data streams have been standardized, such as schedule data in the form of the GTFS and real-time arrival data in the form of GTFS-Real Time or SIRI. A standard for feedback data used throughout the industry would make it easier for independent developers to build feedback into pre-existing applications, even if the applications cover multiple transit systems or regions.

Further research is needed into the feedback categories that such a standard should include. Internal agency structure can differ from one transit agency to another, so that the marketing department handles web-based customer feedback in one agency while the customer service department leads this effort in another. Despite these differences, the nature of customer comments tend to be similar from one location to another and, with research into appropriate categories and groupings of categories, a standardized format for feedback could be created to enable further tool integration and development.

Understanding Rider Access to Technology

As discussed in this report, individuals in all demographic groups have more access to technology than ever before, and transit riders are participating in this trend as well. However, for many transit agencies, knowledge about the technological literacy of their ridership base is still limited. Among the agencies surveyed for this study, one out of four could not estimate how many of their riders had access to the Internet or to a smartphone. Most based their estimates on general knowledge of their customers or the community, which is a valid approach. But only a quarter of the agencies that provided an estimate of access to technology could base that response on the results of a rider survey.

Further research is needed both on an agency-by-agency basis and across the industry in larger studies, to understand the reach of the Internet and smartphones among transit customers. Some existing work in urban areas should be followed by studies in rural, suburban, and small urban locations, as the reach of such tools may differ based on rider population. Standard survey questions about technology usage should be developed and adopted across the industry as rider surveys are developed. Understanding how passengers use technology can help transit agencies tailor their communication strategies to ensure that all riders have access to information and can easily provide feedback.

PART 2

Web-Based Feedback Tool Selection Guide

CHAPTER 6

Categories of Web-Based Feedback

The first two questions to ask when considering a web-based feedback tool are: "What type of feedback does my agency want to collect and what do we want to do with it?" To help answer those questions, agency needs for web-based feedback tools have been categorized as follows: (1) collect unsolicited comments from the public; (2) solicit comments from the public or defined stakeholders; (3) encourage civic engagement; and (4) manage web-based feedback. Within each broad need, several options, or subcategories have been defined.

These needs are the foundation for the tool selection guide, and are used in the supporting tables and tool information sheets. The four categories of agency needs and their subcategories are described here.

Collect Unsolicited Comments

Agencies are looking for web-based tools to enable riders, stakeholders, and the general public to provide unsolicited feedback. While the specific topics will vary, unsolicited comments fall into two subcategories:

- **Time-sensitive** issues are those of immediate concern and that warrant real-time or same-day response. Typical time-sensitive issues would be safety and security concerns, crime, broken equipment, dangerous driving, etc. The nature of these concerns requires agencies to monitor and address issues during all hours of service.
- **Ongoing** concerns and commendations do not call for immediate action and may require additional review or be folded into a planning or administrative process. Typical ongoing concerns are requests for additional hours of service, new routes, placement of a bus shelter, commendations for the operator, and policy issues (e.g., how to accommodate strollers or bicycles).

Solicit Comments

While agencies cannot control the volume or content of unsolicited comments, they may seek feedback on particular topics from customers or other stakeholders. Agencies soliciting such feedback are typically seeking structured communication with the public for these types of inquiries, rather than a more wide-ranging dialog or conversation. (The third agency need, "Encourage Civic Engagement," focuses on this wide-ranging kind of public interaction.) Tools that support agency needs in this category usually allow the agency to pose a question to the public and to collect responses from the public or a defined subgroup. Agencies are likely to seek solicited feedback in the following two subcategories:

- **Policy and planning activities** are the most common reasons for needing to solicit comments from riders and the public. This category encompasses all types of questions on operating

procedures, short- and long-range planning activities, interest in promotions, and similar topics. Note that this category does not include public hearings, which have specific legal requirements for collecting and handling comments.
- **Public opinion polling** is used to collect structured feedback on topics of interest to the agency. Questions are typically asked through web-based surveys and include travel behavior, customer satisfaction, testing new service concepts, and prioritization of potential new vehicle amenities.

Encourage Civic Engagement

In addition to receiving comments on specific topics, both solicited and unsolicited, agencies are often required or find it beneficial to have a dialog with the public. These conversations can deepen community support, inform agency decisions, and help educate the public. There are three subcategories of need for encouraging civic engagement.

- **Building community** through dialog recognizes that accessibility of the agency to the public improves the image of transit, creates a stronger bond with the community, and can result in better service and higher ridership.
- Agencies hold **open houses** and public meetings to support major planning activities. Agencies may want opportunities to expand the reach of these traditional in-person meetings by using web-based tools to move this activity online to complement or, in some cases, replace the traditional open house.
- **Education** and informed decision making is predominantly a customer information activity. However, in some cases dialog with customers pertaining to major planning efforts helps to educate both the riders and the agency about the needs and desires of both parties.

Manage Feedback

Most U.S. transit agencies have systems in place to manage feedback from customers submitted through traditional channels, including telephone, mail, and in-person comments. As they collect more web-based feedback, agencies face growing pressure to manage these new sources of information and integrate all agency communications into a single repository. Following are the three subcategories of agency needs.

- **Comment tracking.** Transit agencies can use this to follow the feedback loop from initial intake to internal actions to the response back to the customer.
- **Contact management.** New technologies have made it easier for transit agencies to connect with individual customers and stakeholders. Contact management establishes a database of customers and stakeholders to understand individual customer needs and provide a means for future outreach.
- **Reporting and analysis.** Web-based feedback provides agencies with information about their services and their customers. To take full advantage of this growing source of information, agencies need tools that can enable them to consolidate feedback from multiple channels, analyze comments, and create standard and customized reports.

CHAPTER 7

Tool Types and Features

This chapter defines four broad types of feedback tools that can be used to address categories and subcategories of agency needs. Features that define the tools types are described in this chapter. Tool features that are available across tool types and can be applied when implementing any web-based feedback tool, are described in Chapter 3.

Types of Web-Based Feedback Tools

Four overarching types of web-based tools and applications for gathering customer feedback have been identified as: (1) issue reporting tools, (2) online public comment forums, (3) customer research tools, and (4) feedback management tools.

Issue Reporting

Issue reporting applications include a wide variety of tools that allow the public to provide comments directly related to issues with service on the street, planning activities, operator (or customer) behavior, and maintenance. These applications are designed to facilitate collection of unsolicited comments from the public and can also be used to solicit comments on topics of interest to the agency. Subcategories of issue reporting tools are:

- **Customer information mobile application.** Mobile application that can be downloaded from the application store or agency website. Application is typically designed to provide customer information about service, including next vehicle arrivals, schedules, fares, and system information, but may include a form to collect feedback. May be developed and managed by a third-party application developer. Feedback feature is not the primary purpose of the application.
- **Security-related mobile application.** Independent application to be used to report security-related issues via mobile device. Application is typically managed by transit police.
- **Community issue reporting tools.** Websites and mobile applications that allow reporting of non-emergency issues in the community that could be transit agency specific or of a general nature (potholes, etc.).
- **Web-based forms.** Forms available on transit agency websites for users to submit questions, comments, commendations, and concerns.
- **Social media.** A series of interactive online applications that encourage users to interact with one another, create content, and share information.

Online Public Comment Forums

Online public comment forums are used to create structured feedback on topics generated by the agency. Subcategories of public comment forums are:

- **Idea management.** Allows agencies to generate, aggregate, and prioritize feedback from public or private online communities. Users submit ideas, vote ideas up or down, and comment on ideas.

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- **Online public meetings.** Platforms to hold public meetings online, often including live streaming of the meeting and the ability for participants to post questions to the presenters through a chat-box or other real-time, interactive tool.
- **Map-based forums.** Facilitate public feedback on planning projects through a map interface for geographic specific projects.
- **System-building games.** Online tool that allows users to conduct a virtual exercise to help riders understand the trade-offs and issues involved with real-world planning and budgeting activities.

Customer Research

Customer research applications use structured questionnaires to gather feedback on topics of interest to the agency. The discussion is separate from formal market research because these tools may not take into account the sampling requirements needed to provide a representative sample of the target audience. Subcategories of customer research are:

- **Surveys.** Software that supports structured questions with integrated analysis and reporting. The software allows for sophisticated skip-patterns and question branching, such as skipping questions related to light rail service if respondents indicate they only ride the bus.
- **Live polling.** Live polling of customers any time or at specific events, online, through text-messaging or through an application.
- **Feedback panels.** Online panels consist of pre-profiled and pre-recruited respondents who are ready and waiting to provide feedback. Typically feedback is solicited through an online survey; however, panel members can be invited to provide comments through almost any online tool, including discussion groups.

Feedback Management

Agencies use feedback management tools to manage all aspects of the feedback system, from taking in the comment, internal review, responding to the customer, analyzing results and trends, and reporting. Tools can be as simple as a stand-alone application to monitor social media or as complex as a suite of applications that integrate all agency communications. Subcategories of feedback management are:

- **Social media dashboards.** Tools used to aggregate and track activity from multiple social media accounts.
- **Internal tracking.** Software used to log, track, and respond to customer complaints and comments, analyze, and report trends.
- **Customer relationship management.** Contact management software with the ability to track user contact information, characteristics, activity, and comments. Tool is designed to manage information about individuals by consolidating history of their contact with the organization.

Features of Web-Based Feedback Tools

This section identifies key features that differentiate types of web-based feedback tools. There are many additional features of web-based feedback tools that are *application specific*, regardless of the *type of tool* being considered, such as the amount of customization available. The application specific features are discussed in Chapter 3.

Each of these key differentiating features of tool types is described in the following paragraphs. Within each feature, several key terms are provided that describe the options for how different tools apply to that feature. These features and key terms are used in the Tool Selection Guide to compare types of feedback tools and identify the option that best meets agency needs.

User identification refers to whether individuals making comments must register, must identify themselves, or can withhold their personal information. Some security-related applications allow users to remain anonymous as a safety measure. State and local laws in some areas may not allow the transit agency to collect or act on anonymous comments, which may impact which tools can be used. User identification is not applicable (N/A) for Feedback Management tools. The terms used are:

- **Anonymous:** The person submitting the comment is not identified.
- **Minimal:** The person is identifiable through minimal personal information, such as a first name, screen name, email address, or Twitter handle.
- **Identified:** The person provides a full name and contact information.
- **Optional:** The person submitting a comment can choose whether to provide personal information or to remain anonymous.

Visibility of comments refers to whether comments to the agency are visible to the public and whether the agency's response is public or private. Some applications allow users to choose whether their comments are visible or private; others do not offer a choice. Visibility of comments may have an impact on whether customers choose to provide personal contact information. This feature is not applicable (N/A) for Feedback Management tools. The terms used are:

- **Public:** Anyone on the web who accesses the website or application can see the comments posted.
- **Optional:** The person submitting the comments and the agency have the option of making comments open to the public.
- **Agency's Option:** The agency selects whether comments submitted through the tool will be visible to the public.
- **Private:** Comments are not visible to anyone but the sender and receiver.

Dialog refers to whether the communication tool is typically used to engage in an ongoing dialog between the commenter and the agency. Some tools are designed to facilitate dialog while other tools are more appropriate for one-directional communication. A discussion of agency web-based communication policies is in Chapter 2. For Feedback Management tools, dialog refers to whether agency staff is able to have an internal discussion on the individual comments. The terms are:

- **Yes:** These tools are specifically designed with the intent of facilitating a discussion between the agency and the public. The tools can limit the discussion to just the commenter and the agency, or they can make the comments open to the public for a broader discussion.
- **Limited:** Although not specifically designed to facilitate dialog, many tools will capture contact information that allows agencies to provide a response to the commenter. This allows back-and-forth communication between the agency and the individual, but does not create a broader dialog with the public.
- **No:** These tools do not allow back-and-forth dialog between the agency and the person providing feedback.

Immediacy refers to the ability for agencies to communicate with commenters in real time. Some feedback channels, especially social media, facilitate an immediate response while others, such as online forms and surveys, typically require time to process or do not support any response. Options for immediacy are:

- **Yes:** The tool is designed to allow the agency to monitor and respond to comments in real time, during all service hours; agencies may choose to set parameters to manage customer expectations and agency resources.
- **No:** The tool collects feedback but does not generally provide the ability to monitor or respond in real time.

Geography-based refers to tools that have a mapping or geographic component to them. This allows easier identification of location-specific issues, such as a missing bus stop sign or a suspicious package. It also allows more specific long-range planning input related to locations for routes or stops. Tools are categorized as:

- **Map-based:** Primary use of tool is to provide geographic feedback and thus includes substantial mapping components.
- **Geo-referenced:** Feedback provided can be placed on a map to note the location, but mapping is not necessary to provide feedback.
- **Not geographic:** Tool does not include geographic components.

Support Needed refers to the level of technical expertise or IT staff support that is generally needed to implement the tool. It is recognized that some tools can be purchased through a vendor or created through custom programming. The classification looks at how each type of tool is typically implemented.

- **Minimal support:** These tools generally require only Internet access and possibly establishing user credentials and creating a password.
- **Set-up needed:** These tools generally require some level of set-up beyond Internet and log-on information. This typically includes setting up questions, adding agency branding, and creating a contact list for the target audience.
- **Technical support:** These tools generally require technical support. These applications typically require downloading software on an agency computer or server, and may include the need for linking the software with agency legacy systems, or need software programmers to implement the tool.

Cost refers to the cost to the transit agency to use the application. Almost all feedback tools are free for individuals to use, but the cost to the agency can vary substantially and change rapidly in response to market factors. Pricing can be structured as one-time-only charges for the software with additional charges to purchase updates or as a license purchased by the month or year. The procurement process is discussed in Chapter 3. Options are:

- **Free:** Application is free to download and implement, although features may be limited.
- **Freemium:** Basic features are free but agencies pay for premium options such as the ability to customize the look and feel of the interface.
- **Paid:** The agency pays for the software tool or application and ongoing support.

CHAPTER 8

How to Use the Tool Selection Guide

The Tool Selection Guide is designed around a 3-step process for identifying the best-fit web-based feedback tools based on the agency's needs. The three steps walk the agency through (1) identifying the agency needs for a web-based feedback tool; (2) narrowing down choices to the best-fit tools based on tool features; and (3) selecting the preferred type of tool or tools based on the additional detail provided in the tool information sheets. The tables and information sheets have been designed to be used as part of the 3-step process or individually, depending on the agency's familiarity with web-based feedback tools and their needs. The 3-step process is shown in Figure 3.

Step 1: Identify Best-Fit Tools Based on Agency Need

The first set of tables (in Chapter 9), Tables 1 through 4, "Best-Fit Tools Based on Agency Need," identifies the tools that are either the best fit or a good fit for a particular agency need. These quick-reference tables are organized by broad category of agency need and the subcategories within each broader category. A full description of the agency needs is found in Chapter 6. The types of tools are described in Chapter 7.

There are four tables, one for each primary need: (1) collect unsolicited feedback; (2) solicit feedback; (3) encourage civic engagement; and (4) manage feedback. Each table shows which types of tools are the best fit, designated with "++" and which types of tools are a good fit, designated by "+." Types of tools that are not considered at least a good fit are left blank. See Figure 4 for an example of the "Best-Fit Tools Based on Agency Need" table for collecting unsolicited comments from the public.

The example table is for the agency need of "Collect Unsolicited Comments" and has the two agency need subcategories of "time-sensitive" comments and "ongoing" issues. The "Type of Tool" column provides all of the tools (and their corresponding reference numbers) that address the need to collect unsolicited comments. In addition, each tool is rated on how well it addresses time-sensitive and ongoing unsolicited comments, with ++ representing the types of tools that best fit that need. For example, if an agency needs to collect time-sensitive feedback from customers on the system, such as safety and security concerns, 1.4 Web-Based Forms and 2.1 Idea Management are not recommended, while 1.2 Security-Related Mobile Application and 1.5 Social Media are a best fit for that need, and 1.1 Customer Information Mobile Application and 1.3 Community Issues are a good fit.

Step 2: Compare Tool Features Based on Agency Need

The second set of tables (in Chapter 9), Tables 5 through 14, "Comparison of Tool Features Based on Agency Need," provides a summary of the features for each of the best-fit tools, based on the agency need and subcategory of need. There is one table for each of the 10 subcategories of need.

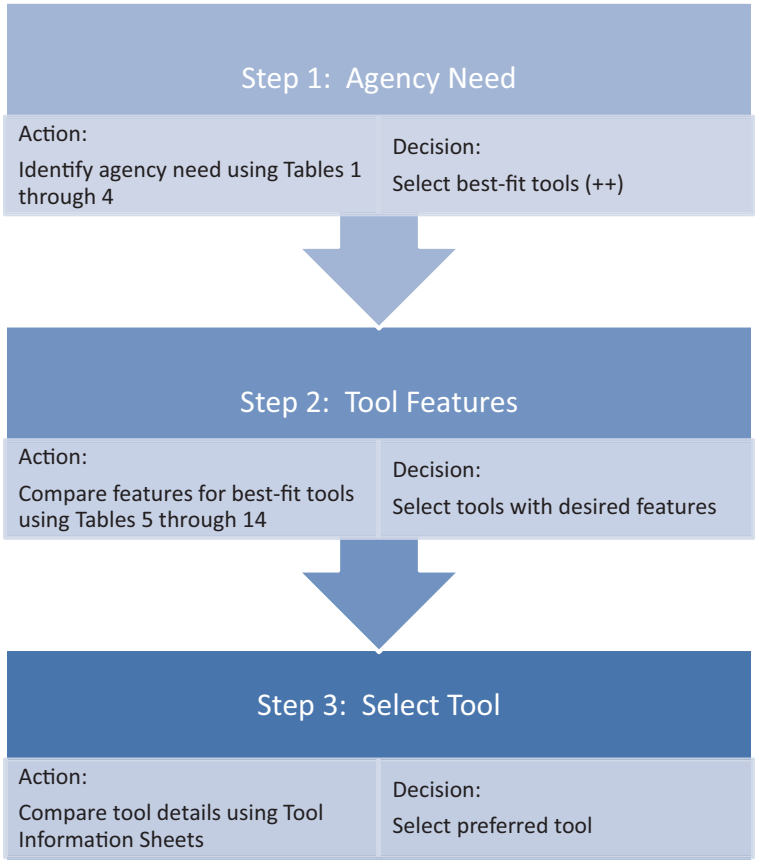

Figure 3. 3-step tools selection process.

The features of each tool are presented to help the agency understand the strengths of each type of tool and how the types of tools differ from each other. Each table includes only the tools that are a best fit or good fit for that subcategory of need. There is one comparison table for each of the subcategories of agency need for a total of 11 comparison tables. The features are described in Chapter 7.

Continuing the example from Step 1, Figure 5 provides the features for various types of tools used for collecting unsolicited, time-sensitive comments from the public. Comparing *1.2 Security-Related Mobile App* with *1.5 Social Media* provides the following key differences:

- **User Identification:** Security-related mobile apps allow the agency to set the level of user identification required, while social media will have minimal control over user identification.

	Type of Tool	Time-Sensitive	Ongoing
1.1	Customer Information Mobile Application	+	+
1.2	Security-Related Mobile Application	++	+
1.3	Community Issues	+	++
1.4	Web-Based Forms		++
1.5	Social Media	++	++
2.1	Idea Management		+

Figure 4. Example of best-fit tools based on agency need table (see Chapter 9 for full tables).

Tool Number Type of Tool	1.1 Customer Information Mobile App	1.2 Security-Related Mobile App	1.3 Community Issues	1.5 Social Media
Best-Fit:	+	++	+	++
Features:				
User Identification	Anonymous	Optional	Optional	Minimal
Visibility of Comments	Private	Private	Agency Option	Optional
Dialog	No	Yes	Yes	Yes
Immediacy	No	Yes	No	Yes
Geography-Based	Geo-referenced	Geo-referenced	Geo-referenced	Geo-referenced
Support Needed	Tech Support	Tech Support	Set-up needed	Minimal Support
Cost	Paid	Paid	Freemium	Free

Figure 5. Example of features of tools by agency need table (see Chapter 9 for full tables).

- **Visibility of Comments:** Security-related mobile apps will have private communication between the customer and the agency. The agency has the option of making social media comments to everyone on social media, which could be a concern for reporting safety and security issues.
- **Tech Support and Cost:** Security-related apps are specially designed programs provided by vendors, for a fee, and require technical support to implement. Social media is widely available for free.

Step 3: Compare Tools Using Tool Information Sheets

The third resource is a series of detailed Tool Information Sheets. There is one sheet for each of the 15 types of feedback tools. The information sheets are linked from the tables based on type of tool and reference number. They can also be used as a stand-alone resource for information on a specific type of tool. A discussion of the types of tools is provided in Chapter 7.

The information sheets are grouped by the primary type of tool (shown in the upper right-hand box) and tool sub-type. They provide a description of the type of tool, typical uses, and advantages and disadvantages of the type of tool. A summary of the tool features (consistent with what is provided in the Comparison of Tool Features Based on Agency Need tables) is provided, along with notes regarding each feature in relation to the type of tool. A notes section provides other information that may be useful to the decision-maker, followed by example tools. Finally, the agency needs for which this type of tool is a good or best fit are provided so the decision-maker can see how else the tool could help with web-based feedback needs.

Figure 6 provides two examples of the tool information sheet.

Continuing the example of an agency interested in collecting unsolicited, time-sensitive feedback, the information sheet for 1.2 Security-Related Mobile Apps provides advantages of being able to attach photos and geo-locate from where the incident is being reported. The advantages of social media are that the customer likely already has the app and knows how to use it.

Examples of Using the Tool Selection Guide

Following are several examples of how the Tool Selection Guide can be used to facilitate a decision about which web-based feedback tool to use. The first example follows an agency through the 3-step process to select a tool that allows the agency to gather comments on a

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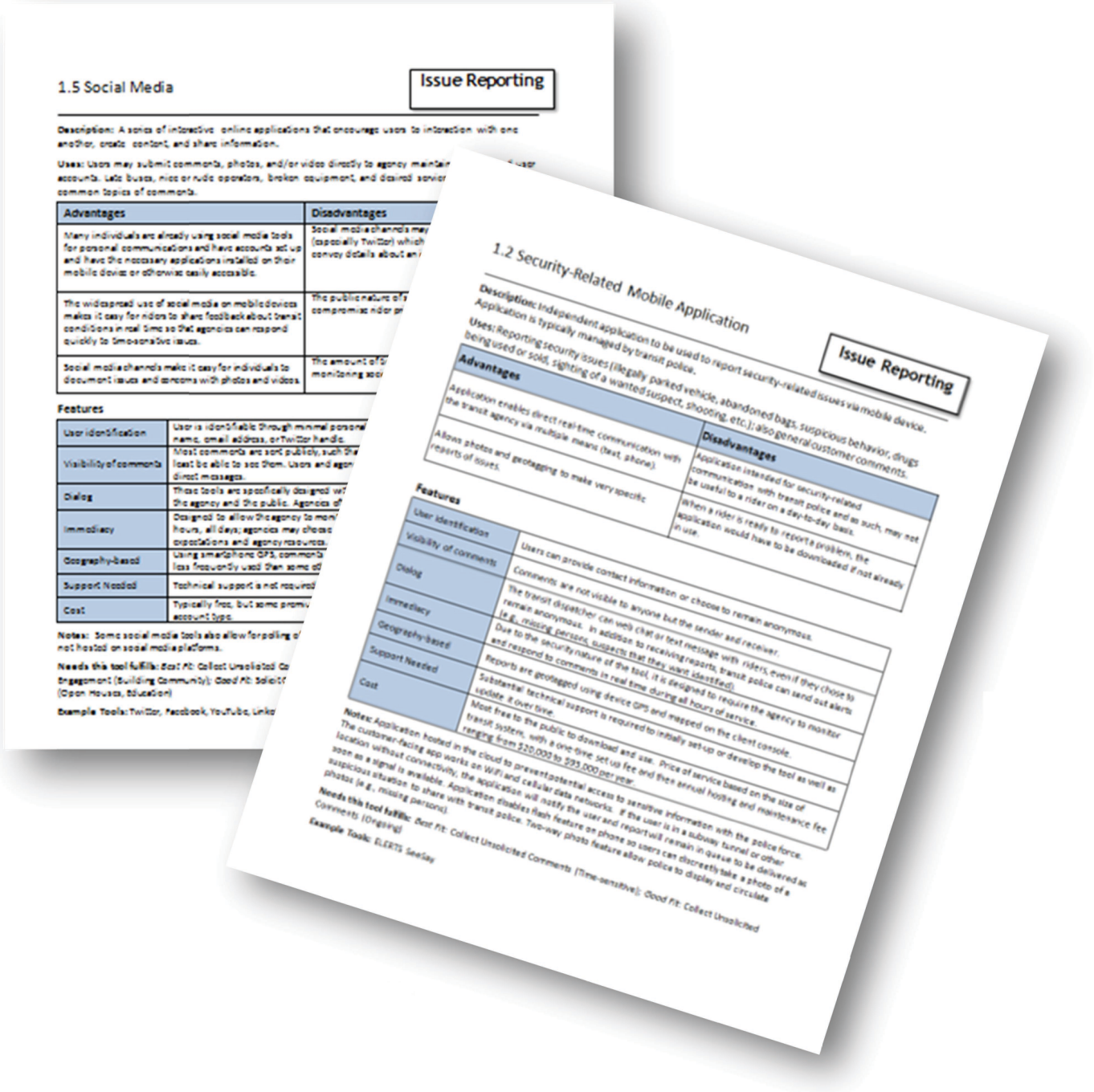

Figure 6. Example tool information sheets.

potential operation policy change. The second example follows the 3-step process to examine options for encouraging civic engagement for a 5-year service improvement plan. The third example shows how an agency that already has an ongoing web-based feedback program can use the Tool Selection Guide to find more sophisticated tools for expanding its web-based feedback options.

Example 1: Feedback for a Proposed Policy Change, Single Agency Need

Situation: The Regional Transit Agency (RTA) often considers new policies in conjunction with their riders. They are currently considering a change to their stroller policy and are looking for structured feedback from customers to gauge public reaction. The current policy requires strollers to be folded up upon boarding the vehicles, which reduces safety concerns with getting strollers up and down steps of the vehicle and reduces congestion in the aisle. However, it is difficult to do for larger strollers and when more than one child is involved. Low-floor vehicles allow level boarding so that safety concerns with steps are no longer an issue. As a result, the existing policy has not been consistently enforced resulting in more congestion in the aisles and less room for other passengers. RTA is considering whether to enforce the existing policy or change the policy to reflect the dynamics of level boarding.

Step 1: Identify Agency Need and Select Best-Fit Tools. RTA is interested in soliciting feedback on a policy change, which points to the Step 1 Table "Solicit Comments." (See Figure 7.) The first columns show the types of tools, along with their reference numbers. The next two columns provide the two subcategories of Soliciting Comments, *Policy and Planning* and *Public Opinion Polling.* For their need to get feedback on the stroller policy change, it could be either subcategory, depending on how RTA wants to structure and use the feedback. Internal discussion focuses the goal of the feedback as wanting to take a quick "pulse of public opinion" and not to engage in a planning and review process.

Reading down the column for *Public Opinion Polling*, Maria, a planner with RTA, sees that there are three best-fit tools, designated by ++, and one good-fit tool, designated by +. Maria decides to take the three best-fit options into the next step: 3.1 Surveys, 3.2 Live Polling, and 3.3 Feedback Panels.

Step 2: Narrow Choices through Comparison of Tool Features. The features of the three best-fit types of tools for Public Opinion Polling types of tools are highlighted in the Step 2 table,

	Type of Tool	Policy and Planning	Public Opinion Polling
1.4	Web-Based Forms	+	
1.5	Social Media	+	
2.1	Idea Management	++	+
2.2	Online Public Meetings	++	
2.3	Map-Based Forums	++	
2.4	System-Building Games	++	
3.1	Surveys	++	++
3.2	Live Polling	+	++
3.3	Feedback Panels	++	++

Figure 7. Highlighted best-fit tool for soliciting comments (see Chapter 9 for full tables).

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Tool Number Type of Tool	2.1 Idea Management	3.1 Surveys	3.2 Live Polling	3.3 Feedback Panels
Best-Fit:	+	++	++	++
Features				
User Identification	Optional	Anonymous	Anonymous	Identified
Visibility of Comments	Agency Option	Private	Private	Agency's Option
Dialog	Yes	No	No	Limited
Immediacy	No	No	Yes	No
Geography-Based	Not Geographic	Not Geographic	Not Geographic	Not Geographic
Support Needed	Set-up Needed	Set-up Needed	Set-up Needed	Tech support
Cost	Freemium	Freemium	Freemium	Paid

Figure 8. Features of tools by agency need for soliciting comments: public opinion polling (see Chapter 9 for full tables).

"Comparison of Tools Features Based on Agency Need, Solicit Comments: Public Opinion Polling." (See Figure 8.)

Comparing features for these three tools, Maria sees that Feedback Panel members are not anonymous; and she believes that due to the controversial nature of the debate around the policy change, this could impact the ability to collect honest feedback. In addition, a feedback panel would require technical support to set-up, and would have a cost. The Surveys and Live Polling would be anonymous, and while set-up is required, it would not require technical support. Finally, Maria decides that their needs are simple enough that they could do it for free or at little cost using a freemium version of either online surveys or live polling. As a result, she narrows down the options to 3.1 Surveys or 3.2 Live Polling to take into Step 3.

Step 3: Select Tool Based on Information Sheets. For the final review, Maria turns to the Tool Information Sheets for 3.1 Surveys and 3.2 Live Polling, to better understand the uses, advantages, and disadvantages of the two types of tools, and to make her final recommendation about which tool to implement.

The description of and uses for the two types of tools provide additional details and differentiation between the type products:

- The description for 3.1 Surveys states that the software supports structured questions with integrated analysis and reporting and it allows for sophisticated skip-patterns and question branching. The typical uses are to solicit structured responses on specific topics from a target audience or the general public.
- The description for 3.2 Live Polling says it is designed to ask a specific question related to the moment, such as preferred service option during a town hall meeting, or concerns during a service disruption. Some tools can also be used in a site-specific mode, such as posting a question and text response code in a prototype bus shelter to get feedback specific to that amenity.
- Because the stroller policy change impacts riders throughout the system, and RTA was not planning to test the potential changes during a public meeting or other specific event, Live Polling is not considered to be the best option.

Decision. Maria decides to use an online survey to assess public acceptance of the current stroller policy and the proposed changes. The survey format would provide the ability to ask structured questions of riders and the general public throughout their service district; allow quick and easy analysis; and provide built-in reports for disseminating the results to management. In addition, an online survey could be implemented by RTA staff, for little or no cost, and without having secured technical support.

Example 2: Encouraging Civic Engagement, Multiple Agency Needs

Situation. World's Best Transit District (WBTD) is faced with a budget imbalance that requires a significant reduction in spending, an increase in revenues, or a combination of the two approaches. They are looking for web-based tools to create a stronger bond with the community and their stakeholders, while at the same time gathering feedback and prioritization on the proposed options for bridging the budget gap.

Step 1: Identify Agency Need and Select Best-Fit Tools. The primary need of the feedback is covered in the Step 1 table Encourage Civic Engagement. Within this category are the subcategories of Building Community, Open Houses, and Education. From internal discussions, WBTD staff member Chris knows that the agency would like to educate the public about transit, and build a community of knowledgeable transit advocates. The subcategories of need are the columns "Building Community" and "Education." The columns on the left provide the types of tools and numbers that are appropriate for encouraging civic engagement. There are two types of tools that are a best fit for Building Community: 1.5 Social Media and 2.1 Idea Management. There are two additional types of tools that are a best fit for Education: 2.2 Online Meetings and 2.4 System-Building Games. Chris also notes that the several types of tools that are a best fit for one subcategory are a good fit for the other need. (See Figure 9.)

WBTD has previously pursued online meetings and Chris knows that they are not interested in pursuing online meetings for this project; therefore he has excluded that type of tool from the options they wish to consider. As a result, three types of tools are carried forward to Step 2: 1.5 Social Media, 2.1 Idea Management, and 2.4 System-Building Games.

Step 2: Narrow Choices through Comparison of Tool Features. Chris identified two subcategories of agency needs within the category of Encourage Civic Engagement: Building Community and Education. In order to compare the features of best-fit tools, he needs to reference two tables within Step 2, one for Building Community and one for Educational Tools. The three types of tools (1.5 Social Media, 2.1 Idea Management, and 2.4 System-Building Games) are found in both tables. The fit varies by subcategory of need: Social Media and Idea Management are best-fit tools for Building Community; while System-Building Games are a best-fit tool for Educational Tools. The features of the types of tools are the same regardless of which Step 2 table they appear in. (See Figure 10 and Figure 11.)

Comparing features for the three types of tools, Chris sees that the differences span the range of options, from free to paid, from minimal support to requiring technical support, etc. This provides flexibility for WBTD, but no clear direction on which type of tool would be best. For additional information, Chris turns to the Tool Information Sheets.

	Type of Tool	Building Community	Open Houses	Education
1.3	Community Issues	+		
1.5	Social Media	++	+	+
2.1	Idea Management	++		+
2.2	Online Public Meetings	+	++	++
2.3	Map-Based Forums	+	++	
2.4	System-Building Games	+		++
3.3	Feedback Panels	+		+

Figure 9. Highlighted best-fit tools for building community and for education (see Chapter 9 for full tables).

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Tool Number Type of Tool	1.3 Community Issues	1.5 Social Media	2.1 Idea Management	2.4 System-Building Games
Best-Fit:	+	++	++	+
Features				
User Identification	Optional	Minimal	Optional	Optional
Visibility of Comments	Agency Option	Optional	Agency Option	Optional
Dialog	Yes	Yes	Yes	Limited
Immediacy	No	Yes	No	No
Geography-Based	Geo-referenced	Geo-referenced	Not Geographic	Varies by Topic
Support Needed	Set-up needed	Minimal Support	Set-up Needed	Tech Support
Cost	Freemium	Free	Freemium	Paid

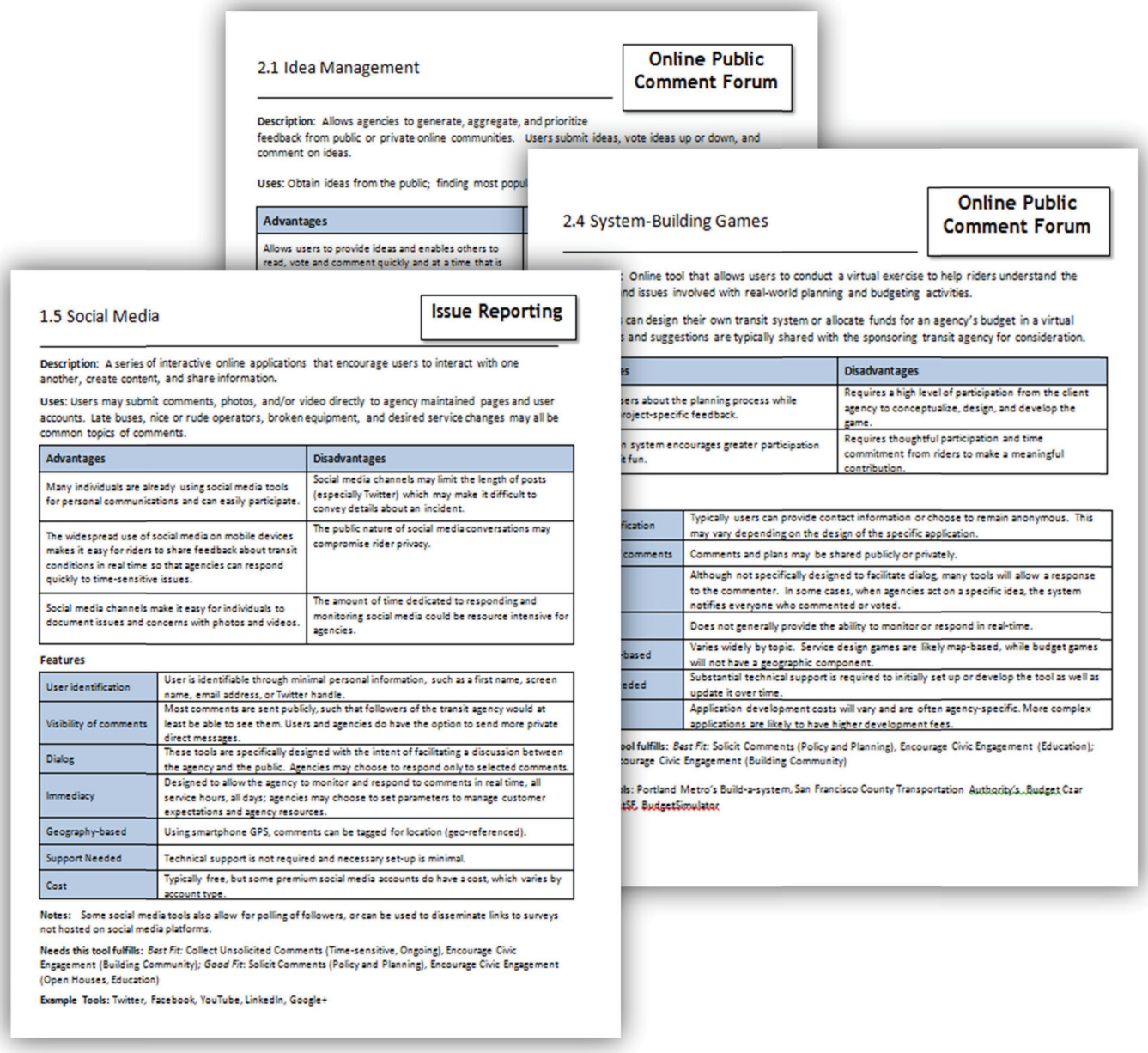
Figure 10. Highlighted types of tools: building community (see Chapter 9 for full tables).

Step 3: Select Tool Based on Information Sheets. The tool information sheets (see Figure 12) describe the uses, advantages and disadvantages, and features of the types of tools, and provide notes that can help the decision makers determine the best tool. The Tool Information Sheets for the three types of tools are reviewed to learn what the advantages are of each, and which may provide the best options given their needs. The Information Sheets yield the following comparison:

- **Uses:** *Social media* allows the agency to spark conversation and gather feedback, but does not appear to provide much structure for discussing specific options or narrowing choices. *Idea management* tools excel at generating ideas and allow people to vote ideas up and down. The *system-building games* appear to be great for creating a method for the public to build a system within constraints set by the agency, so that the respondent has to make trade-offs to create a viable system.

Tool Number Type of Tool	1.5 Social Media	2.1 Idea Management	2.2 Online Public Meetings	2.4 System-Building Games	3.3 Feedback Panels
Best Fit:	+	+	++	++	+
Features					
User Identification	Minimal	Optional	Identified	Optional	Identified
Visibility of Comments	Optional	Agency Option	Public	Optional	Agency's Option
Dialog	Yes	Yes	Limited	Limited	Limited
Immediacy	Yes	No	Yes	No	No
Geography-Based	Geo-referenced	Not Geographic	Not Geographic	Varies by Topic	Not Geographic
Support Needed	Minimal Support	Set-up Needed	Set-up Needed	Tech Support	Tech support
Cost	Free	Freemium	Paid	Paid	Paid

Figure 11. Highlighted features, types of tools for education (see Chapter 9 for full tables).



2.1 Idea Management

Online Public Comment Forum

Description: Allows agencies to generate, aggregate, and prioritize feedback from public or private online communities. Users submit ideas, vote ideas up or down, and comment on ideas.

Uses: Obtain ideas from the public; finding most popul

Advantages
Allows users to provide ideas and enables others to read, vote and comment quickly and at a time that is

2.4 System-Building Games

Online Public Comment Forum

: Online tool that allows users to conduct a virtual exercise to help riders understand the nd issues involved with real-world planning and budgeting activities.

can design their own transit system or allocate funds for an agency's budget in a virtual and suggestions are typically shared with the sponsoring transit agency for consideration.

es	Disadvantages
ers about the planning process while roject-specific feedback.	Requires a high level of participation from the client agency to conceptualize, design, and develop the game.
n system encourages greater participation t fun.	Requires thoughtful participation and time commitment from riders to make a meaningful contribution.

fication	Typically users can provide contact information or choose to remain anonymous. This may vary depending on the design of the specific application.
comments	Comments and plans may be shared publicly or privately.
	Although not specifically designed to facilitate dialog, many tools will allow a response to the commenter. In some cases, when agencies act on a specific idea, the system notifies everyone who commented or voted.
	Does not generally provide the ability to monitor or respond in real-time.
-based	Varies widely by topic. Service design games are likely map-based, while budget games will not have a geographic component.
eded	Substantial technical support is required to initially set up or develop the tool as well as update it over time.
	Application development costs will vary and are often agency-specific. More complex applications are likely to have higher development fees.

ool fulfills: *Best Fit:* Solicit Comments (Policy and Planning), Encourage Civic Engagement (Education); courage Civic Engagement (Building Community)

ls: Portland Metro's Build-a-system, San Francisco County Transportation Authority's Budget Czar tSF, BudgetSimulator

1.5 Social Media

Issue Reporting

Description: A series of interactive online applications that encourage users to interact with one another, create content, and share information.

Uses: Users may submit comments, photos, and/or video directly to agency maintained pages and user accounts. Late buses, nice or rude operators, broken equipment, and desired service changes may all be common topics of comments.

Advantages	Disadvantages
Many individuals are already using social media tools for personal communications and can easily participate.	Social media channels may limit the length of posts (especially Twitter) which may make it difficult to convey details about an incident.
The widespread use of social media on mobile devices makes it easy for riders to share feedback about transit conditions in real time so that agencies can respond quickly to time-sensitive issues.	The public nature of social media conversations may compromise rider privacy.
Social media channels make it easy for individuals to document issues and concerns with photos and videos.	The amount of time dedicated to responding and monitoring social media could be resource intensive for agencies.

Features

User identification	User is identifiable through minimal personal information, such as a first name, screen name, email address, or Twitter handle.
Visibility of comments	Most comments are sent publicly, such that followers of the transit agency would at least be able to see them. Users and agencies do have the option to send more private direct messages.
Dialog	These tools are specifically designed with the intent of facilitating a discussion between the agency and the public. Agencies may choose to respond only to selected comments.
Immediacy	Designed to allow the agency to monitor and respond to comments in real time, all service hours, all days; agencies may choose to set parameters to manage customer expectations and agency resources.
Geography-based	Using smartphone GPS, comments can be tagged for location (geo-referenced).
Support Needed	Technical support is not required and necessary set-up is minimal.
Cost	Typically free, but some premium social media accounts do have a cost, which varies by account type.

Notes: Some social media tools also allow for polling of followers, or can be used to disseminate links to surveys not hosted on social media platforms.

Needs this tool fulfills: *Best Fit:* Collect Unsolicited Comments (Time-sensitive, Ongoing), Encourage Civic Engagement (Building Community); *Good Fit:* Solicit Comments (Policy and Planning), Encourage Civic Engagement (Open Houses, Education)

Example Tools: Twitter, Facebook, YouTube, LinkedIn, Google+

Figure 12. Tool information sheets for social media, idea management and system-building games.

- **Advantages/Disadvantages:** *Social media* is a well-established tool that most people are familiar with, and can easily use to provide feedback. However, the comments may need a high degree of monitoring and need to be "pulled-out" of the chain of posts in order to summarize into useful feedback. *Idea management* tools are designed to generate ideas and have people vote them up or down, creating a priority list of improvements for the agency. However, people may vote up ideas that are not operationally or economically feasible, or create off-topic concepts that gain traction, reducing the focus on the plan. *System-building games* allow the agency to provide information and options from which to choose that are realistic options for the planning effort. The game aspect of the tool may create more activity to the site due to the "fun" nature of the exercise. However, it takes a lot of staff time to create the options and scenarios that are realistic for the public and the agency, and the public needs to become engaged

in the process to provide meaningful feedback. In addition, while an "other" option can be allowed, the basic structure does not support new ideas from the public since it is unlikely that a cost/benefit profile could be provided for the new idea.

Having reviewed all of the information on the tools, Chris evaluates where WBTD is in their budget planning process and which tool best matches their needs. Their original intent was to engage and educate the public on the hard choices in operating a transit system under constrained fiscal conditions. *Social Media* is seen as a good way to provide information, but does not provide the engagement and focused feedback the agency wants on real-life trade-offs. *Idea Management* provides ideas and gets a good discussion going with some degree of prioritization through voting ideas up and down. However, WBTD feels that the options would not necessarily be useful for the short timeframe the agency has to make the budget decisions. The *System-Building Games* would take extra staff time to develop realistic and useful options, but would provide a method of engaging the public with the dynamics of transit planning, and hopefully create a more informed public in the future.

Decision. Chris recommends *System-Building Games* as the best tool. The tool provides a tally of how many people support the various initiatives to decide which options should be eliminated from further discussion. Because the tool requires respondents to make financial choices about transit, it educates the respondents about transit financial issues. Furthermore, as the local press picks up the information and spreads the message, the local community is educated as well. The gaming nature of the tool is expected to engage a wider audience than traditional outreach efforts, helping to increase civic engagement. This provides WBTD the information they need to prepare a balanced budget with the most support from the community and least chance of negative press.

Example 3: Tools for Expanding an Existing Web-Based Feedback Program

Situation. Mountains and Valleys Transit Authority (MVTA) has been active with web-based customer feedback for many years and regularly uses several web-based feedback tools. Facing a decreasing number of attendees at public meetings for budget, service, and fare changes, they are looking for new ways to engage the public. It has been suggested that they hold their public meetings online. While open to the idea, MVTA is interested in how online meeting tools are used, what features are characteristic of the tools, and the advantages/disadvantages of online meeting tools.

Steps 1–3 Condensed. MVTA knows that they are looking for Online Public Comment Forums and, specifically, tools for *Online Public Meetings.* Given this understanding of their needs, they are able to go straight to the Tool Information Sheet, 2.2 Online Public Meetings.

Using the information provided, and additional information on features available to specific applications (described in Chapter 3), MVTA staff is able to define when and how they want to use the tool, the features they need in the tool, and the staff resources required to successfully implement online meetings. This supports the development of a solicitation to procure online meeting software specific to their needs.

CHAPTER 9

Tool Selection Guide

This chapter provides tables to guide an agency through to selection of a web-based feedback tool or to obtain further details about particular tools that an agency is considering. There are three resources in the guide, each of which corresponds to a step of the 3-step process described in Chapter 8. The first resource is a set of four tables to support Step 1 of the process, providing best-fit tools based on the agency need for web-based feedback. The second resource is a set of ten tables that support Step 2 of the process, providing the features of the types of tools, based on the category and subcategory of agency need. The third resource is a series of Tool Information Sheets that support Step 3 of the process, providing detailed information about each of the types of tools.

The categories and subcategories of agency needs used in the tables are explained in Chapter 6. The categories of tools and tool features used throughout the chapter are explained in Chapter 7. Three examples of how to use these tables in a step-by-step process are provided in Chapter 8.

Best-Fit Tools Based on Agency Need

Tables 1 through 4 identify the tools that are either a best fit or a good fit for each of the 10 subcategories of agency need. There is one table for each of the four categories of agency need. The subcategories of needs are found in the columns. The types of tools are listed in the rows of each table. Only the types of tools that are best fit or good fit for one of the subcategories of need are shown in the table.

Best-fit tools are designated with "++" and good-fit tools are designated by "+." Blanks indicate that the tool is not typically recommended for that subcategory of need. Types of tools that are not considered at least a good fit for any of the main categories of need in the table are not included.

Comparison of Tool Features Based on Agency Need

Tables 5 through 14 provide a summary of the features for each of the types of tools considered good-fit or best-fit tools, based on the category and subcategory of agency need. There is one table for each of the 10 subcategories of agency need.

The columns in each table include the tools that are best fit or good fit for the particular subcategory of need. The features of each of tool are found in the rows to help the agency understand the differences between each tool. The features are described in Chapter 7.

Table 1. Best-fit tools for agency need: collect unsolicited comments.

	Type of Tool	Time-Sensitive	Ongoing
1.1	Customer Information Mobile Application	+	+
1.2	Security-Related Mobile Application	++	+
1.3	Community Issues	+	++
1.4	Web-Based Forms		++
1.5	Social Media	++	++
2.1	Idea Management		+

Table 2. Best-fit tools for agency need: solicit comments.

	Type of Tool	Policy and Planning	Public Opinion Polling
1.4	Web-Based Forms	+	
1.5	Social Media	+	
2.1	Idea Management	++	+
2.2	Online Public Meetings	++	
2.3	Map-Based Forums	++	
2.4	System-Building Games	++	
3.1	Surveys	++	++
3.2	Live Polling	+	++
3.3	Feedback Panels	++	++

Table 3. Best-fit tools for agency need: encourage civic engagement.

	Type of Tool	Building Community	Open Houses	Education
1.3	Community Issues	+		
1.5	Social Media	++	+	+
2.1	Idea Management	++		+
2.2	Online Public Meetings	+	++	++
2.3	Map-Based Forums	+	++	
2.4	System-Building Games	+		++
3.3	Feedback Panels	+		+

Table 4. Best-fit tools for agency need: manage feedback.

	Type of Tool	Comment Tracking	Contact Management	Reporting and Analysis
4.1	Social Media Dashboards	++		++
4.2	Internal Tracking	++		++
4.3	Customer Relationship Management	+	++	+

Table 5. Tool features for agency need: collect unsolicited comments—time-sensitive.

Tool Number Type of Tool	1.1 Customer Information Mobile App	1.2 Security-Related Mobile App	1.3 Community Issues	1.5 Social Media
Best-Fit:	+	++	+	++
Features:				
User Identification	Anonymous	Optional	Optional	Minimal
Visibility of Comments	Private	Private	Agency Option	Optional
Dialog	No	Yes	Yes	Yes
Immediacy	No	Yes	No	Yes
Geography-Based	Geo-referenced	Geo-referenced	Geo-referenced	Geo-referenced
Support Needed	Tech Support	Tech Support	Set-up Needed	Minimal Support
Cost	Paid	Paid	Freemium	Free

Table 6. Tool features for agency need: collect unsolicited comments—ongoing concerns.

Tool Number Type of Tool	1.1 Customer Info App	1.2 Security-Related App	1.3 Community Issues	1.4 Web-Based Forms	1.5 Social Media	2.1 Idea Management
Best-Fit:	+	+	++	++	++	+
Features:						
User Identification	Anonymous	Optional	Optional	Optional	Minimal	Optional
Visibility of Comments	Private	Private	Agency Option	Private	Optional	Agency Option
Dialog	No	Yes	Yes	Limited	Yes	Yes
Immediacy	No	Yes	No	No	Yes	No
Geography-Based	Geo-referenced	Geo-referenced	Geo-referenced	Not Geographic	Geo-referenced	Not Geographic
Support Needed	Tech Support	Tech Support	Set-up Needed	Set-up Needed	Minimal Support	Set-up Needed
Cost	Paid	Paid	Freemium	Free	Free	Freemium

Table 7. Tool features for agency need: solicit comments—policy and planning activities.

Tool Number Type of Tool	1.4 Web-Based Forms	1.5 Social Media	2.1 Idea Management	2.2 Online Public Meetings
Best-Fit:	+	+	++	++
Features:				
User Identification	Optional	Minimal	Optional	Identified
Visibility of Comments	Private	Optional	Agency Option	Public
Dialog	Limited	Yes	Yes	Limited
Immediacy	No	Yes	No	Yes
Geography-Based	Not Geographic	Geo-referenced	Not Geographic	Not Geographic
Support Needed	Set-up Needed	Minimal Support	Set-up Needed	Set-up Needed
Cost	Free	Free	Freemium	Paid

Tool Number Type of Tool	2.3 Map-Based Forums	2.4 System-Building Games	3.1 Surveys	3.2 Live Polling	3.3 Feedback Panels
Best-Fit:	++	++	++	+	++
Features:					
User Identification	Optional	Optional	Anonymous	Anonymous	Identified
Visibility of Comments	Public	Optional	Private	Private	Agency's Option
Dialog	Limited	Limited	No	No	Limited
Immediacy	No	No	No	Yes	No
Geography-Based	Map-based	Varies by Topic	Not Geographic	Not Geographic	Not Geographic
Support Needed	Set-up Needed	Tech Support	Set-up Needed	Set-up Needed	Tech support
Cost	Paid	Paid	Freemium	Freemium	Paid

Table 8. Tool features for agency need: comments—public opinion polling.

Tool Number Type of Tool	2.1 Idea Management	3.1 Surveys	3.2 Live Polling	3.3 Feedback Panels
Best-Fit:	+	++	++	++
Features				
User Identification	Optional	Anonymous	Anonymous	Identified
Visibility of Comments	Agency Option	Private	Private	Agency's Option
Dialog	Yes	No	No	Limited
Immediacy	No	No	Yes	No
Geography-Based	Not Geographic	Not Geographic	Not Geographic	Not Geographic
Support Needed	Set-up Needed	Set-up Needed	Set-up Needed	Tech support
Cost	Freemium	Freemium	Freemium	Paid

Table 9. Tool features for agency need: encourage civic engagement—building community.

Tool Number Type of Tool	1.3 Community Issues	1.5 Social Media	2.1 Idea Management	2.2 Online Public Meetings
Best-Fit:	+	++	++	+
Features				
User Identification	Optional	Minimal	Optional	Identified
Visibility of Comments	Agency Option	Optional	Agency Option	Public
Dialog	Yes	Yes	Yes	Limited
Immediacy	No	Yes	No	Yes
Geography-Based	Geo-referenced	Geo-referenced	Not Geographic	Not Geographic
Support Needed	Set-up Needed	Minimal Support	Set-up Needed	Set-up Needed
Cost	Freemium	Free	Freemium	Paid

Tool Number Type of Tool	2.3 Map-Based Forums	2.4 System-Building Games	3.3 Feedback Panels
Best-Fit:	+	+	+
Features			
User Identification	Optional	Optional	Identified
Visibility of Comments	Public	Optional	Agency's Option
Dialog	Limited	Limited	Limited
Immediacy	No	No	No
Geography-Based	Map-based	Varies by Topic	Not Geographic
Support Needed	Set-up Needed	Tech Support	Tech Support
Cost	Paid	Paid	Paid

Table 10. Tool features for agency need: encourage civic engagement—open houses.

Tool Number Type of Tool	1.5 Social Media	2.2 Online Public Meetings	2.3 Map-Based Forums
Best-Fit:	+	++	++
Features			
User Identification	Minimal	Identified	Optional
Visibility of Comments	Optional	Public	Public
Dialog	Yes	Limited	Limited
Immediacy	Yes	Yes	No
Geography-Based	Geo-referenced	Not Geographic	Map-based
Support Needed	Minimal Support	Set-up Needed	Set-up Needed
Cost	Free	Paid	Paid

Table 11. Tool features for agency need: encourage civic engagement—educational tools.

Tool Number Type of Tool	1.5 Social Media	2.1 Idea Management	2.2 Online Public Meetings	2.4 System-Building Games	3.3 Feedback Panels
Best-Fit:	+	+	++	++	+
Features					
User Identification	Minimal	Optional	Identified	Optional	Identified
Visibility of Comments	Optional	Agency Option	Public	Optional	Agency's Option
Dialog	Yes	Yes	Limited	Limited	Limited
Immediacy	Yes	No	Yes	No	No
Geography-Based	Geo-referenced	Not Geographic	Not Geographic	Varies by Topic	Not Geographic
Support Needed	Minimal Support	Set-up Needed	Set-up Needed	Tech Support	Tech Support
Cost	Free	Freemium	Paid	Paid	Paid

Table 12. Tool features for agency need: manage feedback—comment tracking.

Tool Number Type of Tool	4.1 Social Media Dashboards	4.2 Internal Tracking	4.3 Customer Relationship Management
Best-Fit:	++	++	+
Features			
User Identification	Minimal	Optional	Identified
Visibility of Comments	Optional	Private	Private
Dialog	Yes	Yes	Limited
Immediacy	Yes	Yes	No
Geography-Based	Not Geographic	Not Geographic	Not Geographic
Support Needed	Set-up Needed	Tech Support	Tech Support
Cost	Freemium / Paid	Paid	Paid

Table 13. Tool features for agency need: manage feedback—contact management.

Tool Number Type of Tool	4.3 Customer Relationship Management
Best-Fit:	++
Features	
User Identification	Identified
Visibility of Comments	Private
Dialog	Limited
Immediacy	No
Geography-Based	Not Geographic
Support Needed	Tech Support
Cost	Paid

Table 14. Tool features for agency need: manage feedback—reporting and analysis.

Tool Number Type of Tool	4.1 Social Media Dashboards	4.2 Internal Tracking	4.3 Customer Relationship Management
Best-Fit:	++	++	+
Features			
User Identification	Minimal	Optional	Identified
Visibility of Comments	Optional	Private	Private
Dialog	Yes	Yes	Limited
Immediacy	Yes	Yes	No
Geography-Based	Not Geographic	Not Geographic	Not Geographic
Support Needed	Set-up Needed	Tech Support	Tech Support
Cost	Freemium / Paid	Paid	Paid

Tool Information Sheets

The tool information sheets are grouped by the primary type of tool (shown in the upper right-hand box) and tool sub-type. Each one provides a description of the type of tool, typical uses, and advantages and disadvantages of the type of tool. A summary of the tool features (consistent with what is provided in the Comparison of Tool Features Based on Agency Need tables) is provided, along with notes regarding each feature in relation to the type of tool. A notes section provides other information that may be useful to the decision-maker, followed by example tools. Finally, the agency needs for which this type of tool is a good or best fit are provided so the decision-maker can see how else the tool could help with web-based feedback needs. A discussion of the types of tools is provided in Chapter 7. The information sheets include the following tools:

1. Issue reporting
   - 1.1 Customer Information Mobile Application
   - 1.2 Security-Related Mobile Application
   - 1.3 Community Issues
   - 1.4 Web-Based Forms
   - 1.5 Social Media
2. Online Public Comment Forum
   - 2.1 Idea Management
   - 2.2 Online Public Meetings
   - 2.3 Map-Based Forums
   - 2.4 System-Building Games
3. Customer Research
   - 3.1 Surveys
   - 3.2 Live Polling
   - 3.3 Feedback Panels
4. Feedback Management
   - 4.1 Social Media Dashboards
   - 4.2 Internal Tracking
   - 4.3 Customer Relationship Management

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1.1 Customer Information Mobile Application

Issue Reporting

Description: Mobile application that can be downloaded from the application store or agency website. Application is typically designed to provide customer information about service, including next vehicle arrivals, schedules, fares, and system information, but may include a form to collect feedback. May be developed and managed by a third-party application developer. Feedback feature is not the primary purpose of the application.

Uses: Service delivery complaints and commendations; general rider comments.

Advantages	Disadvantages
Adding a customer feedback form through a mobile application is a simple method of gathering feedback from regular transit riders and commuters, who are most likely to have already downloaded the application for daily use.	Application updates can be difficult to procure for agencies and therefore often require in-house coding expertise.
	Because primary functionality of application is not feedback, feature is not designed specifically to facilitate commenting.
Third-party applications may not require agencies to be involved in the development, and access to riders may be provided free of charge.	If feedback process is not automated, third-party developers may not forward information to transit agency in timely manner. Agencies can be held accountable despite lack of control.
	Responding to the commenter can be difficult.

Features

User identification	Users typically remain anonymous.
Visibility of comments	Comments are not visible to anyone but the sender and receiver.
Dialog	Typically does not allow back-and-forth dialog between the agency and the user, although two-way communication may be possible if users provide an email address in the form.
Immediacy	Does not generally provide the ability to monitor or respond in real-time.
Geography-based	Using smartphone GPS, comments can be tagged for location (geo-referenced).
Support needed	Substantial technical support is required to initially set-up or develop the tool as well as update it over time.
Cost	Most free to the public to download and use, although those developed by third-parties sometimes charge a small fee. Application development cost will vary, but adding feedback component is likely to have low incremental cost. Third-party applications may be developed independent of and without cost to the agency.

Notes: Desirable to have comments automatically categorized and loaded into the agency's existing customer comment system. Categorization can be facilitated by using drop-down menus on the comment form for the customer to choose the category. Form can be native to the mobile application or a link to a mobile-optimized form hosted on the agency website.

Needs this tool fulfills: *Best-Fit:* None*; Good-Fit*: Collect Unsolicited Comments (Time-sensitive, Ongoing). Note that these tools were deemed only a good fit, because they are not designed expressly for feedback.

Example Tools: CATS mobile application, Tiramisu, OneBusAway

1.2 Security-Related Mobile Application

Issue Reporting

Description: Independent application to be used to report security-related issues via mobile device. Application is typically managed by transit police.

Uses: Reporting security issues (illegally parked vehicle, abandoned bags, suspicious behavior, drugs being used or sold, sighting of a wanted suspect, shooting, etc.); also general customer comments.

Advantages	Disadvantages
Application enables direct real-time communication with the transit agency via mobile phone or text.	Application intended for security-related communication with transit police and as such, may not be useful to a rider on a day-to-day basis.
Allows photos and geotagging to make very specific reports of issues.	When a rider is ready to report a problem, the application would have to be downloaded if not already in use.

Features

User identification	Users can provide contact information or choose to remain anonymous.
Visibility of comments	Comments are not visible to anyone but the sender and receiver.
Dialog	The transit dispatcher can web chat or text message with riders, even if they chose to remain anonymous. In addition to receiving reports, transit police can send out alerts (e.g., missing persons, suspects that they want identified).
Immediacy	Due to the security nature of the tool, it is designed to require the agency to monitor and respond to comments in real time during all hours of service.
Geography-based	Reports are geotagged using device GPS and mapped on the client console.
Support needed	Substantial technical support is required to initially set-up or develop the tool as well as update it over time.
Cost	Most free to the public to download and use. Price of service based on the size of transit system, with a one-time set-up fee and then annual hosting and maintenance fee ranging from $20,000 to $95,000 per year.

Notes: Application hosted in the cloud to prevent potential access to sensitive information with the police force. The customer-facing app works on Wi-Fi and cellular data networks. If the user is in a subway tunnel or other location without connectivity, the application will notify the user and report will remain in queue to be delivered as soon as a signal is available. Application disables flash feature on phone so users can discreetly take a photo of a suspicious situation to share with transit police. Two-way photo feature allows police to display and circulate photos (e.g., missing persons).

Needs this tool fulfills: *Best-Fit:* Collect Unsolicited Comments (Time-sensitive)*; Good-Fit*: Collect Unsolicited Comments (Ongoing)

Example Tools: ELERTS SeeSay

1.3 Community Issues

Issue Reporting

Description: Websites and mobile applications that allow reporting of non-emergency issues in the community that could be transit agency specific or of a general nature (e.g., potholes).

Uses: Reporting graffiti, trash, downed trees, missing signs, etc., primarily by the public but also internally within an agency.

Advantages	Disadvantages
Applications are available in most communities and can therefore be used nationwide.	Applications may not be transit specific and therefore may require coordination with other agencies.
Routes the report to the appropriate local government agencies by service request category or geolocation of issue.	Applications are typically controlled by third-parties and therefore agencies are dependent on others in their responses to customers.

Features

User identification	Users can provide contact information or choose to remain anonymous.
Visibility of comments	Resident is able to register with service via email, or submit comments anonymously. As public-facing issue reports are entered, all users of the system can see them. In some cases, issues remain private because of legal requirements or security concerns. Agencies can keep the communication loop closed if needed.
Dialog	Agencies can respond to users to let them know when a request has been received, processed, and closed. People can post a thank you when something is fixed.
Immediacy	Does not generally provide the ability to monitor or respond in real-time.
Geography-based	Using smartphone GPS, comments can be tagged for location (geo-referenced).
Support needed	At a basic level, set-up is minimal. For higher level usage of the tool, set-up is required, but can be handled within the department using the tool.
Cost	Front-end application is free for users. The applications operate on a freemium basis with free basic access to agencies. Backend processing for agencies is a contract price based on population and features, number of agency users and integrations required to meet the needs of the client, ranging from $15,000 to $90,000 per client annually.

Notes: Can be used for internal planning and crew management. Defined territories can be used to notify residents in a form of reverse 311.

Needs this tool fulfills: *Best-Fit:* Collect Unsolicited Comments (Ongoing)*; Good-Fit*: Collect Unsolicited Comments (Time-sensitive), Encourage Civic Engagement (Building Community)

Example Tools: SeeClickFix, PublicStuff, Citizens Connect, FixMyTransport

1.4 Web-Based Forms

Issue Reporting

Description: Forms posted on transit agency websites for users to submit questions, comments, commendations, and concerns.

Uses: Reporting issues like missing signs, late buses, and rude operators; also positive experiences like operators who go out of their way to provide excellent customer service.

Advantages	Disadvantages
Forms are easy to use for any rider who has Internet access.	Agencies have to design questions, form navigation, and associated menus thoughtfully to ensure that users can provide pertinent and correct information.
Forms are often designed and managed by the agency itself without third-party participation or software purchase.	Comments are not easily viewed by the public.

Features

User identification	Users can provide contact information or choose to remain anonymous.
Visibility of comments	Comments are not visible to anyone but the sender and receiver.
Dialog	Individuals usually receive an automated acknowledgement after submitting the report. Agencies will sometimes respond to commenters if an email address is provided.
Immediacy	Does not generally provide the ability to monitor or respond in real-time.
Geography-based	Does not typically include geotagging or mapping of comments.
Support needed	Set-up is required, but can be handled within the department using the tool.
Cost	Typically free to set-up, but require staff time to process and respond.

Needs this tool fulfills: *Best-Fit:* Collect Unsolicited Comments (Ongoing)*; Good-Fit*: Solicit Comments (Policy and Planning)

Example Tools: Google Forms, Wufoo, Contact Us Forms hosted internally on transit agency website

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1.5 Social Media

Issue Reporting

Description: A series of interactive online applications that encourage users to interact with one another, create content, and share information.

Uses: Users may submit comments, photos, and/or video directly to agency maintained pages and user accounts. Late buses, nice or rude operators, broken equipment, and desired service changes may all be common topics of comments.

Advantages	Disadvantages
Many individuals are already using social media tools for personal communications and can easily participate.	Social media channels may limit the length of posts (especially Twitter) which may make it difficult to convey details about an incident.
The widespread use of social media on mobile devices makes it easy for riders to share feedback about transit conditions in real time so that agencies can respond quickly to time-sensitive issues.	The public nature of social media conversations may compromise rider privacy.
Social media channels make it easy for individuals to document issues and concerns with photos and videos.	The amount of time dedicated to responding and monitoring social media could be resource intensive for agencies.

Features

User identification	User is identifiable through minimal personal information, such as a first name, screen name, email address, or Twitter handle.
Visibility of comments	Most comments are sent publicly, such that followers of the transit agency would at least be able to see them. Users and agencies do have the option to send more private direct messages.
Dialog	These tools are specifically designed with the intent of facilitating a discussion between the agency and the public. Agencies may choose to respond only to selected comments.
Immediacy	Designed to allow the agency to monitor and respond to comments in real time, all service hours, all days; agencies may choose to set parameters to manage customer expectations and agency resources.
Geography-based	Using smartphone GPS, comments can be tagged for location (geo-referenced).
Support needed	Technical support is not required and necessary set-up is minimal.
Cost	Typically free, but some premium social media accounts do have a cost, which varies by account type.

Notes: Some social media tools also allow for polling of followers, or can be used to disseminate links to surveys not hosted on social media platforms.

Needs this tool fulfills: *Best-Fit:* Collect Unsolicited Comments (Time-sensitive, Ongoing), Encourage Civic Engagement (Building Community)*; Good-Fit*: Solicit Comments (Policy and Planning), Encourage Civic Engagement (Open Houses, Education)

Example Tools: Twitter, Facebook, YouTube, LinkedIn, Google+

2.1 Idea Management

Online Public Comment Forum

Description: Allows agencies to generate, aggregate, and prioritize feedback from public or private online communities. Users submit ideas, vote ideas up or down, and comment on ideas.

Uses: Obtain ideas from the public; finding most popular ideas.

Advantages	Disadvantages
Allows users to provide ideas and enables others to read, vote and comment quickly and at a time that is convenient to them.	Requires active agency management.
Agencies can customize tool to encourage comments in areas of focus.	Users sometimes deviate from the topic the agency is attempting to discuss and provide broader comments.
Point systems used by many of these applications encourage greater participation.	Public interaction and voting system may be intimidating for some users.

Features

User identification	Users can provide contact information or choose to remain anonymous.
Visibility of comments	Communities can be public or private. Ideas are always seen by all members of the community to allow commenting.
Dialog	Specifically designed with the intent of facilitating a discussion between the agency and the public. Successful communities assign an individual to monitor, respond, and update the status of ideas as they move through the life cycle.
Immediacy	Does not generally provide the ability to monitor or respond in real-time.
Geography-based	Does not typically include geotagging or mapping of comments.
Support needed	Set-up is required, but can be handled within the department using the tool.
Cost	Freemium service model with initial free account and upgrades by monthly or yearly subscription.

Needs this tool fulfills: *Best-Fit:* Solicit Comments (Policy and Planning), Encourage Civic Engagement (Building Community)*; Good-Fit*: Collect Unsolicited Comments (Ongoing), Solicit Comments (Public Opinion Polling), Encourage Civic Engagement (Education)

Example Tools: Ideascale, Get Satisfaction, Uservoice

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2.2 Online Public Meetings

Online Public Comment Forum

Description: Platforms to hold public meetings online, often including live streaming of the meeting and the ability for participants to post questions to the presenters through a chat-box or other real-time, interactive tool.

Uses: Informing the public and soliciting comments on agency policy, budgeting, fare and service changes, and planning activities. Agencies may pose specific questions to which the constituents are encouraged to respond with their ideas.

Advantages	Disadvantages
Allows participation in public meetings without physical attendance, potentially reaching a wider and more diverse audience.	Requires active agency management.
Point systems and reward stores used to encourage participation.	
Customization to encourage commenting in the areas agency is currently focused on improving.	Some users may prefer an option to comment anonymously.

Features

User identification	User provides full name and contact information. Anonymous participation is typically not allowed due to the nature of the tool.
Visibility of comments	Anyone on the web who accesses the application can see the comments posted.
Dialog	Although not specifically designed to facilitate dialog, many tools will allow a response to the commenter. In some cases, when agencies act on a specific idea, the system notifies everyone who commented or voted.
Immediacy	Often designed to require the agency to monitor and respond to comments in real time, with meeting times typically advertised in advance. Recording is often posted online after the meeting has ended.
Geography-based	Does not typically include geotagging or mapping of comments.
Support needed	Set-up is required, but can be handled within the department using the tool.
Cost	Priced on a monthly maintenance basis based on the client's service population, with a range of $299 to $899 per month.

Needs this tool fulfills: *Best-Fit:* Solicit Comments (Policy and Planning), Encourage Civic Engagement (Open Houses, Education)*; Good-Fit*: Encourage Civic Engagement (Building Community)

Example Tools: Mindmixer, MetroQuest, OpenTownHall, EngagementHQ

2.3 Map-Based Forums

Online Public Comment Forum

Description: Facilitates public feedback on planning projects through a map interface for geographic specific projects.

Uses: Soliciting locations for facilities, such as bike share stations or desired bus stops. Collecting comments about locations, such as short surveys about usage and quality of transit stations. Soliciting feedback about proposed project corridors or route alignments using geotagged comments to identify particular questions or concerns. User can vote in favor of suggested locations on the map, allowing the client agency to prioritize locations.

Advantages	Disadvantages
Allows geographic commenting to better visualize location-based feedback.	Requires basic level of proficiency reading and interpreting maps. Some users may drop a location "pin" in the wrong location.
Supports simple mapping features such as a "heat map" of suggestions and summaries of results by different criteria, such as a breakdown by neighborhood.	Screen readers cannot interpret map-based systems, limiting access for visually impaired users.

Features

User identification	Users can provide contact information or choose to remain anonymous.
Visibility of comments	Anyone on the web who accesses the application can see the comments posted.
Dialog	Although not specifically designed to facilitate dialog, many tools will allow a response to the commenter. In some cases, when agencies act on a specific idea, the system notifies everyone who commented or voted.
Immediacy	Does not generally provide the ability to monitor or respond in real-time.
Geography-based	The purpose of this tool type is to allow comments on planning projects in a map-based interface.
Support needed	Set-up is required, but can be handled within the department using the tool.
Cost	Cost varies with tool and may be agency-specific. One example application has an all-inclusive bundle for $10,000 including design customization, server management, and monitoring the site for a year.

Needs this tool fulfills: *Best-Fit:* Solicit Comments (Policy and Planning), Encourage Civic Engagement (Open Houses)*; Good-Fit*: Encourage Civic Engagement (Building Community)

Example Tools: Shareabouts, PlaceSpeak

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2.4 System-Building Games

Online Public Comment Forum

Description: Online tool that allows users to conduct a virtual exercise to help riders understand the trade-offs and issues involved with real-world planning and budgeting activities.

Uses: Users can design their own transit system or allocate funds for an agency's budget in a virtual space. Plans and suggestions are typically shared with the sponsoring transit agency for consideration.

Advantages	Disadvantages
Educates users about the planning process while gathering project-specific feedback.	Requires a high level of participation from the client agency to conceptualize, design, and develop the game.
Gamification system encourages greater participation by making it fun.	Requires thoughtful participation and time commitment from riders to make a meaningful contribution.

Features

User identification	Typically users can provide contact information or choose to remain anonymous. This may vary depending on the design of the specific application.
Visibility of comments	Comments and plans may be shared publicly or privately.
Dialog	Although not specifically designed to facilitate dialog, many tools will allow a response to the commenter. In some cases, when agencies act on a specific idea, the system notifies everyone who commented or voted.
Immediacy	Does not generally provide the ability to monitor or respond in real-time.
Geography-based	Varies widely by topic. Service design games are likely map-based, while budget games will not have a geographic component.
Support needed	Substantial technical support is required to initially set-up or develop the tool as well as update it over time.
Cost	Application development costs will vary and are often agency-specific. More complex applications are likely to have higher development fees.

Needs this tool fulfills: *Best-Fit:* Solicit Comments (Policy and Planning), Encourage Civic Engagement (Education)*; Good-Fit*: Encourage Civic Engagement (Building Community)

Example Tools: Portland Metro's Build-a-system, San Francisco County Transportation Authority's Budget Czar and MyStreetSF, BudgetSimulator

3.1 Surveys

Customer Research

Description: Software that supports structured questions with integrated analysis and reporting. The software allows for sophisticated skip-patterns and question branching, such as skipping questions related to light rail service if the respondent indicates they only ride the bus.

Uses: Used to solicit structured responses on specific topics from a target audience or the general public.

Advantages	Disadvantages
Structured questions and response categories provide specific and measurable feedback from a broad-based and potentially very large audience.	Online survey tools do not draw a true random sample required for statistically valid surveys, so results should be characterized as feedback, not as representative of the population.
The online format and built-in analysis and reporting functions allow the agency to solicit feedback from a wide audience with minimal staff time.	There is no certainty as to who is actually providing responses to the survey, which can result in spurious comments, including fake responses (for the fun of it), and responses from people outside of the service area who may have little or no personal knowledge of the topic.
Questionnaires can be stored and repeated periodically to gauge change over time, such as for an annual customer satisfaction survey.	Open-ended questions that allow free-flowing comments do not take advantage of the tool's ability to summarize results, and are staff-intensive to analyze.

Features

User identification	Users typically remain anonymous, although some surveys may request general demographic information to categorize results.
Visibility of comments	Comments are not visible to anyone but the sender and receiver.
Dialog	Typically do not allow back-and-forth dialog between the agency and the user, although with an email address provided, two-way communication may be possible.
Immediacy	Does not generally provide the ability to monitor or respond in real-time.
Geography-based	Does not typically include geotagging or mapping of comments.
Support needed	Set-up is required, but can be handled within the department using the tool.
Cost	Operates on a freemium basis with basic tools available for free, but greater customization and functionality on a subscription basis.

Notes: Many survey software programs have mobile-optimized websites to allow transit riders to take surveys while they are waiting for a vehicle or riding on a bus or train.

Needs this tool fulfills: *Best-Fit:* Solicit Comments (Policy and Planning, Public Opinion Polling); *Good-Fit*: None

Example Tools: SurveyMonkey, SurveyGizmo, Zoomerang, Survs, PollDaddy, Vovici, Google Forms

3.2 Live Polling

Customer Research

Description: Live polling of customers any time or at specific events, online, through text-messaging, or through an application.

Uses: Ask a specific question related to the moment, such as preferred service option during a town hall meeting, or concerns during a service disruption. Some tools can also be used in a site-specific mode, such as posting a question and text response code in a prototype bus shelter to get feedback specific to that amenity.

Advantages	Disadvantages
Polls are accessible from anywhere, via the Internet, text-messaging, and mobile applications.	Survey wording must support brief responses, suitable to text-messaging.
Text-messaging does not require use of smartphone, thus broadening the reach of the polls to low-technology users.	Text-messaging rates may apply for some customers.
Questions can be formed and implemented in real-time, such as during a service disruption.	Does not allow for in-depth responses from the public.

Features

User identification	Users typically remain anonymous.
Visibility of comments	Comments are not visible to anyone but the sender and receiver.
Dialog	Generally the transit agency prompts customers with a question, the tool aggregates responses, and the agency may respond to the overall results but not to the respondents themselves.
Immediacy	Designed to allow the agency to monitor and respond to comments in real time when the poll is being conducted.
Geography-based	Does not typically include geotagging or mapping of comments.
Support needed	Set-up is required, but can be handled within the department using the tool.
Cost	Operates on a freemium basis with basic tools available for free, but greater customization and functionality on a subscription basis.

Needs this tool fulfills: *Best-Fit:* Solicit Comments (Public Opinion Polling); *Good-Fit*: Solicit Comments (Policy and Planning)

Example Tools: PollEverywhere, Textizen

3.3 Feedback Panels

Customer Research

Description: Online panels include pre-profiled and pre-recruited respondents to provide feedback. Typically feedback is solicited through an online survey; however, panel members can be invited to provide comments through almost any online tool, including discussion groups.

Uses: Gather feedback on proposed operating policy, fare policy, and service changes; pre-test service amenities, marketing and customer information materials; monitor service quality and customer satisfaction.

Advantages	Disadvantages
Getting feedback is quick, of high quality, and cost effective because the respondents are already identified and recruited.	Respondents are typically interested volunteers not representative of the general ridership or public.
The panel can be repeatedly questioned on a topic, allowing for an iterative process that can create a better result, such as testing features for bus stop and shelter design.	Panel membership must be managed to remove those who do not participate in a meaningful way and to recruit new members as people drop out of the panel over time.

Features

User identification	User provides full name and contact information. Anonymous participation is typically not allowed due to the nature of the tool.
Visibility of comments	May be public or private. Individual responses are often private, but results overall can be made public.
Dialog	Although not specifically designed to facilitate dialog, many tools will allow a response to the commenters individually or as a group.
Immediacy	Does not generally provide the ability to monitor or respond in real-time.
Geography-based	Does not typically include geotagging or mapping of comments.
Support needed	Substantial technical support is required to initially set-up or develop the tool as well as update it over time.
Cost	Application development costs will vary with agency requirements.

Notes: Participants can be recruited through opt-in questions on traditional agency surveys or through outreach and advertising.

Needs this tool fulfills: *Best-Fit:* Solicit Comments (Policy and Planning, Public Opinion Polling); *Good-Fit*: Encourage Civic Engagement (Building Community, Education)

Example Tools: Cint, MARSC, SMARTSUITE, in-house developed panels at NJ Transit, RTD (Denver), TriMet (Portland) and many others

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4.1 Social Media Dashboards

Feedback Management

Description: Tools used to aggregate and track activity from multiple social media accounts.

Uses: Consolidate tracking, monitoring, and reporting for social media outlets, post to multiple social media accounts at once, and schedule and archive messages.

Advantages	Disadvantages
Consolidates information and minimizes redundant activities to maintain and effectively manage a variety of social media accounts.	Currently does not integrate with other internal feedback tracking systems.
Allows agencies to set-up customized searches to monitor social posts and conversations on specific topics of interest.	Typically relies on the API from source social media platforms (e.g., Twitter or Facebook), which may change without notice.

Features

User identification	User is identifiable in the same way as the social media platform being consolidated in the dashboard through minimal personal information, such as a first name, screen name, email address, or Twitter handle.
Visibility of comments	Similar to social media platforms, most comments are sent publicly, although private messaging is possible.
Dialog	Facilitates posting on social media sites and responding to comments.
Immediacy	Designed to allow the agency to monitor and respond to comments in real time, all service hours, via the social media platforms.
Geography-based	Dashboards may reference geotagged information in social media posts.
Support needed	Set-up is required, but can be handled within the department using the tool.
Cost	There is wide variation in pricing. Some tools are available on a freemium basis. Others are customized for the agency and require an annual subscription.

Notes: Messages received through social media are aggregated here, while messages can also be sent through multiple social media outlets at once. Users can set-up searches on particular topics to identify comments and conversations throughout the social space.

Needs this tool fulfills: *Best-Fit:* Manage Feedback (Comment Tracking, Reporting, and Analysis); *Good-Fit*: None

Example Tools: HootSuite, TweetDeck, Sprout Social, Radian6

4.2 Internal Tracking

Feedback Management

Description: Software used to log, track, and respond to customer complaints and comments, analyze and report trends.

Uses: Traditionally used by CSRs to manage unsolicited comments. Application suites are available that integrate comment tracking systems with other platforms, including social media and email. Systems may also facilitate the creation of answers to frequently asked questions.

Advantages	Disadvantages
Provides an effective system for managing customer feedback received through multiple communication channels.	New software will not necessarily integrate with legacy comment tracking systems.

Features

User identification	Typically users can provide contact information or choose to remain anonymous. This may vary depending on the design of the specific application.
Visibility of comments	Comments are not visible to anyone but the sender and receiver.
Dialog	Agencies receive comments from customers and are able to respond.
Immediacy	Ability to respond to customers may be real-time, depending upon the set-up of the tool.
Geography-based	Does not typically include geotagging or mapping of comments.
Support needed	Substantial technical support is required to initially set-up or develop the tool as well as update it over time.
Cost	Application development cost will vary and may be agency-specific depending on the application. Generic versions have pricing plans that vary, but enterprise accounts are typically $100-200 monthly per customer service agent.

Notes: Some versions of this tool support customer service ticket systems which allow customers and agency staff to track status of comments.

Needs this tool fulfills: *Best-Fit:* Manage Feedback (Comment Tracking, Reporting, and Analysis); *Good-Fit*: None

Example Tools: GoRequest, Zendesk, Desk.com

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4.3 Customer Relationship Management

Feedback Management

Description: Contact management software with the ability to track user contact information, characteristics, activity, and comments. Tool is designed to manage information about individuals by consolidating history of their contact with the organization.

Uses: Typically used for contact management, stakeholder engagement, public outreach, email, large scale comment projects, grouping and tracking of comments, event announcements.

Advantages	Disadvantages
Facilitates effective contact tracking and relationship management, as well as outreach and information distribution services.	Must be used by all parties involved in customer outreach within an agency to be effective.
Enables agencies to follow-up on customer comments and investigate complaints more effectively.	Requiring users to identify themselves could discourage some commenters from providing feedback.

Features

User identification	The tool is designed to collect user's full name and contact information.
Visibility of comments	Comments are not visible to anyone but the sender and receiver.
Dialog	Facilitates mass email distribution, but also allows for one-on-one communications between agency staff and their customers.
Immediacy	Does not generally provide the ability to monitor or respond in real-time.
Geography-based	Does not typically include geotagging or mapping of comments.
Support needed	Substantial technical support is required to initially set-up or develop the tool as well as update it over time.
Cost	Prices vary depending on the size and needs of each organization.

Needs this tool fulfills: *Best-Fit:* Manage Feedback (Contact Management); *Good-Fit*: Manage Feedback (Comment Tracking, Reporting and Analysis)

Example Tools: Civi-CRM, eGain

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APPENDIX A

Sample Customer Comment Categories

As customer feedback is increasingly submitted via online platforms, there is an opportunity to streamline and improve the process of organizing and directing comments that are received. At the same time, consistency between online feedback paths and the comment codes that are used for organizing feedback received by phone and other conventional means can help simplify the process of aggregating comments from multiple feedback channels. Agencies have taken various approaches to their online comment organization, a few examples of which are outlined below.

TriMet: Legacy System and Online Comment Codes

TriMet has a legacy customer comment system used by the customer service representatives to log and track comments received by telephone, email, and other traditional sources. In addition to tracking comments from the public, TriMet has categories to log and track comments from operators and field personnel, previously handled as a paper-only reporting system. Because categorization of the comments is done by staff, there are over 250 detailed comment codes, organized around urgency of response and the responsible department. The comment categories and codes used for the legacy comment tracking system are summarized in Table A-1.

When TriMet introduced the option of providing feedback through forms on their website, the comment categories needed to reflect the customer's viewpoint. Staff members still manually enter the data into the legacy system. The categories used on the forms provide screening of the comments, facilitating coding and response by staff. It was important to ensure that the codes for the forms could easily be funneled to the correct department, and could integrate with the legacy system.

TriMet's website offers visitors four main topics for feedback:

- **Question, comment, or suggestion:** This form is for non-urgent questions, comments and suggestions. Additional comment categories are offered to provide additional categorization of the feedback.
- **Employee commendation or complaint:** This form is to submit a commendation or complaint about a TriMet employee.
- **Lost and found:** This form is not for providing feedback, but does provide the ability to report lost items and contact information in case the item is found.
- **TransitTracker problem:** This form is used to report a problem or submit a suggestion about the real-time vehicle arrival information system. The form provides a comment box to describe the issue, and collects information in order to respond to the comment. No comment categories are used on the form.

Table A-1. TriMet internal customer comment codes.

Category	Code	Code Description
Commendations	1	Employee Commendations
High Priority Response	2	Immediate Action: Typically employee misconduct that warrants immediate action, but not necessarily in the field
	3	Direct Access: Address immediately, in the field, such as operator unsafe driving, offensive graffiti, biohazards
	4	Priority Codes: Primarily ADA, transit equity, and safety issues
	5	Non-Immediate: Less immediate in nature, e.g. personal or driving behavior
Agency Support	20	Commendations for TriMet: Not employee related
In-Service Issues	23	Overloads
	24	Security Issues
	25	Vehicle Issues
	26	Automated Stop Announcements
Paratransit Service	30	Paratransit Services
	31	Paratransit Customer Issues
	32	Alternate Accessible Service
	35	Customer Feedback: Paratransit customers
Policy, Planning, Facilities	40	Fare System
	41	Operating Policies & Procedures
	42	Route Design
	43	Boarding Points: Bus stops and rail stations, including equipment, amenities
	44	Special Programs: Bicycles, concessions, lost and found, no smoking policy
	45	Safety Suggestions/Issues
Witnesses	46	Witness Comments
Customer Information	60	Printed Customer Information
	61	On Street Information
	62	Signage
	63	Advertising
	64	Info & Sales-Advertising and Promotion
	65	Online Customer Information
Operator / Field Operations Comments	70	Operator Reports - In service issues
	71	Field Operations Issues
	72	Operators - Chronic Fare Evasion
	73	Operators - Security
	74	Request Safety Assessment
Public Comments	80	Comments - TriMet Plans/Goals
	82	Comments - New Initiatives: Commuter rail and transit mall construction
	83	Responses to Media Stories
	84	Comments re: Research/Surveys

"Lost and found" and "transit tracker problems" both have specific codes in the legacy system; therefore TriMet does not offer any additional options on the form to further categorize these issues. "Questions, comments, or suggestions" and "employee commendation or complaint" have many possible codes in the legacy system; therefore, additional categorization of the issue is provided within the online forms.

The first two categories offer more specific sub-categories for customer feedback. If "Employee commendation or complaint" is selected, they are asked to select whether it is a commendation or complaint. A text box is provided for writing in the comment, and information is collected to be able to respond to the comment. No additional comment categories are used on the form.

When "question, comment, or suggestion" is selected, the commenter is asked to select whether it is a comment about: safety or security; a specific incident or event; or schedules, routes, or frequency of service. Safety and security issues are flagged as priorities so that they can be handled quickly by staff. "Specific incident or event" issues are also flagged as important, but of lower priority. These two categories do not have additional screening codes on the forms.

If a customer indicates that they have a comment related to the third sub-category, "schedules, routes, or frequency of service," an additional dropdown menu provides a list of specific concerns to choose from (more than one may be selected). The sub-categories help to ensure staff understanding of the problem, as well as help with pre-coding the response. The specific concerns in this list are:

- Change in routing
- Hours of operation
- Discontinuation of line
- General need for service
- Crowding on vehicle
- Late arrivals
- Increased wait times
- Problems making transfer
- Safety at the stop
- Transit equity
- Other concern/suggestion

The sub-categories of concerns were chosen based on the most common issues received by the agency. Customer service staff members read the comments and enter the information into the legacy system, providing the appropriate detailed internal comment code. See Figure A-1.

The current online forms, while user-friendly in terms of categorizing the type of comment, do not seamlessly integrate with the internal comment tracking system. The forms arrive as emails and are read, coded, and manually entered into the system by customer service staff. Table A-2 shows how comments through the website's online forms relate to the internal comment codes. As TriMet considers migrating to a more robust customer feedback tracking system, emphasis will be placed on ensuring that the comment codes can be used across multiple feedback channels.

DCTA: Fully Integrated Feedback System

DCTA is a small agency in Texas that set up their integrated customer feedback management system to accommodate online customer feedback. They procured a system that fully integrated comments received from their online web form, the mobile app, and comments entered by

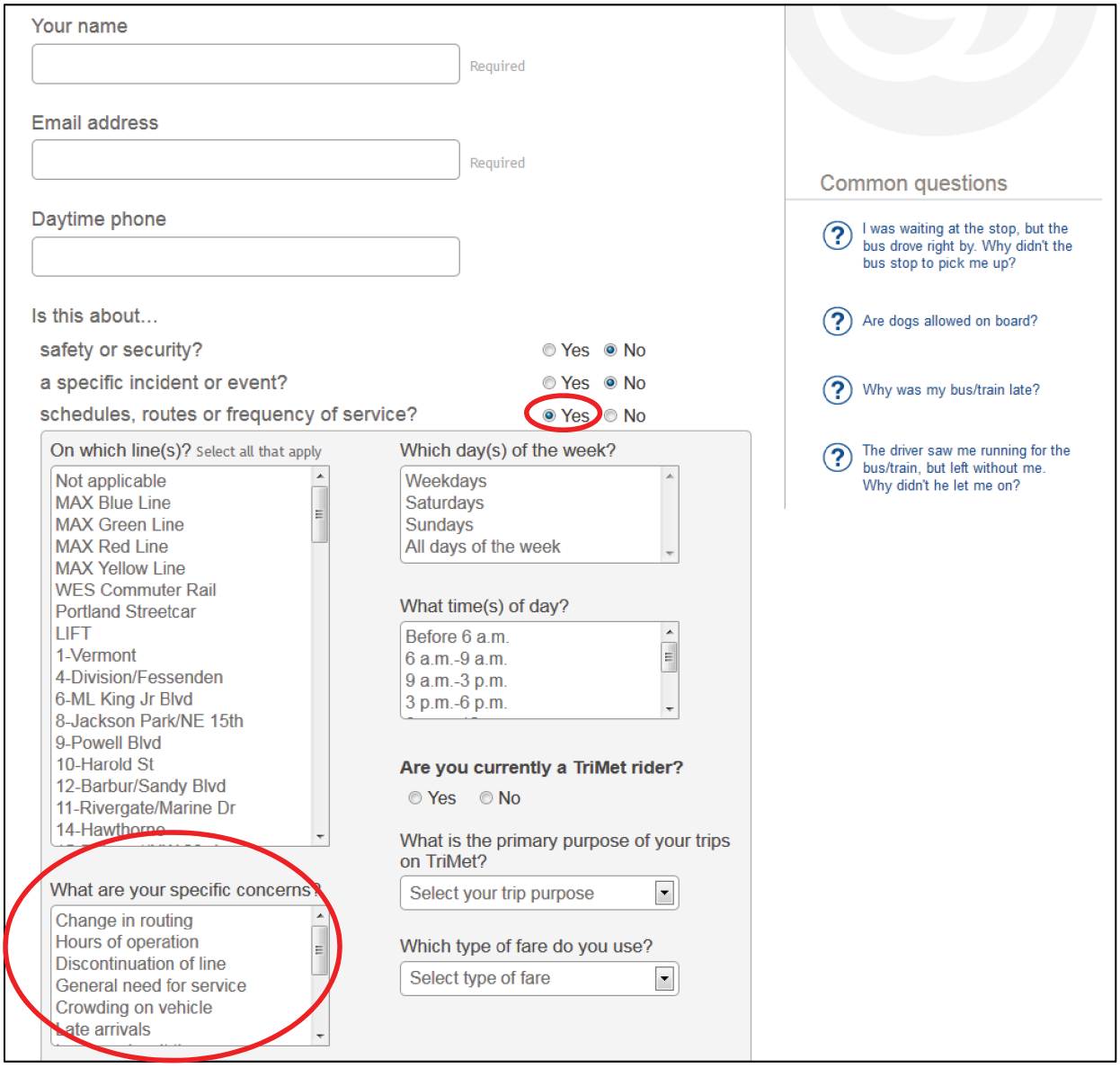


Figure A-1. TriMet website feedback prompts for "Question, comment, or suggestion" page.

Table A-2. TriMet online paths and corresponding comment codes.

TriMet Online Path			Internal Comment Codes
1st Level Menu	2nd Level Menu	3rd Level Menu	Internal Coding System
Question, Comment or Suggestions	Safety or security?	(No sub-categories)	Staff codes based on urgency of the comment
	Specific incident or event?	(No sub-categories)	Staff codes based on the context and urgency of the comment
	Schedules, routes or frequency of service?	Change in routing	Policy, Planning, Facilities, 42-Route Design
		Hours of operation	Policy, Planning, Facilities, 42-Route Design
		Discontinuation of line	Policy, Planning, Facilities, 42-Route Design
		General need for service	Policy, Planning, Facilities, 42-Route Design
		Crowding on vehicle	In-Service Issues, 23-Overloads
		Late arrivals	High Priority Response, 5-Non-immediate, Service Delivery
		Increased wait times	Policy, Planning, Facilities, 42-Route Design
		Problems making transfer	Policy, Planning, Facilities, 42-Route Design
		Safety at the stop	Staff codes based on urgency of the comment
		Transit equity	High Priority Response, 4-Priority Codes
		Other concern/ suggestion	Staff codes as appropriate

employees and customer service staff. Customers may visit the DCTA website on their smartphones to download the GORequest mobile application or they may submit a comment on the same web page through their smartphone or computer. Figure A-2 shows a screenshot of the DCTA GORequest web page.

Online comments can be given in the form of questions, compliments, complaints or suggestions. Users of the online comment form must also select from a list of topics provided in the dropdown menu. Table A-3 provides the categories used in their system, which is consistent across the apps and online form.

The GORequest app shown in Figure A-3 is available for iPhone and Android systems, and can be downloaded for free. This app is not specific to any one government agency, but rather uses location data to refer comments to the appropriate government agencies. However, agencies can customize the look of their GORequest application to make it appear more official and locally specific, as the DCTA has done. Users can submit new issues and track previously submitted issues through this tool, just as with the online form but with added functionality, like GPS.

MBTA: Online Coding

MBTA provides two customer feedback forms on their website, one for "Inquiry, Comments or Concerns" and one that is a "Cleanliness Complaint Form."

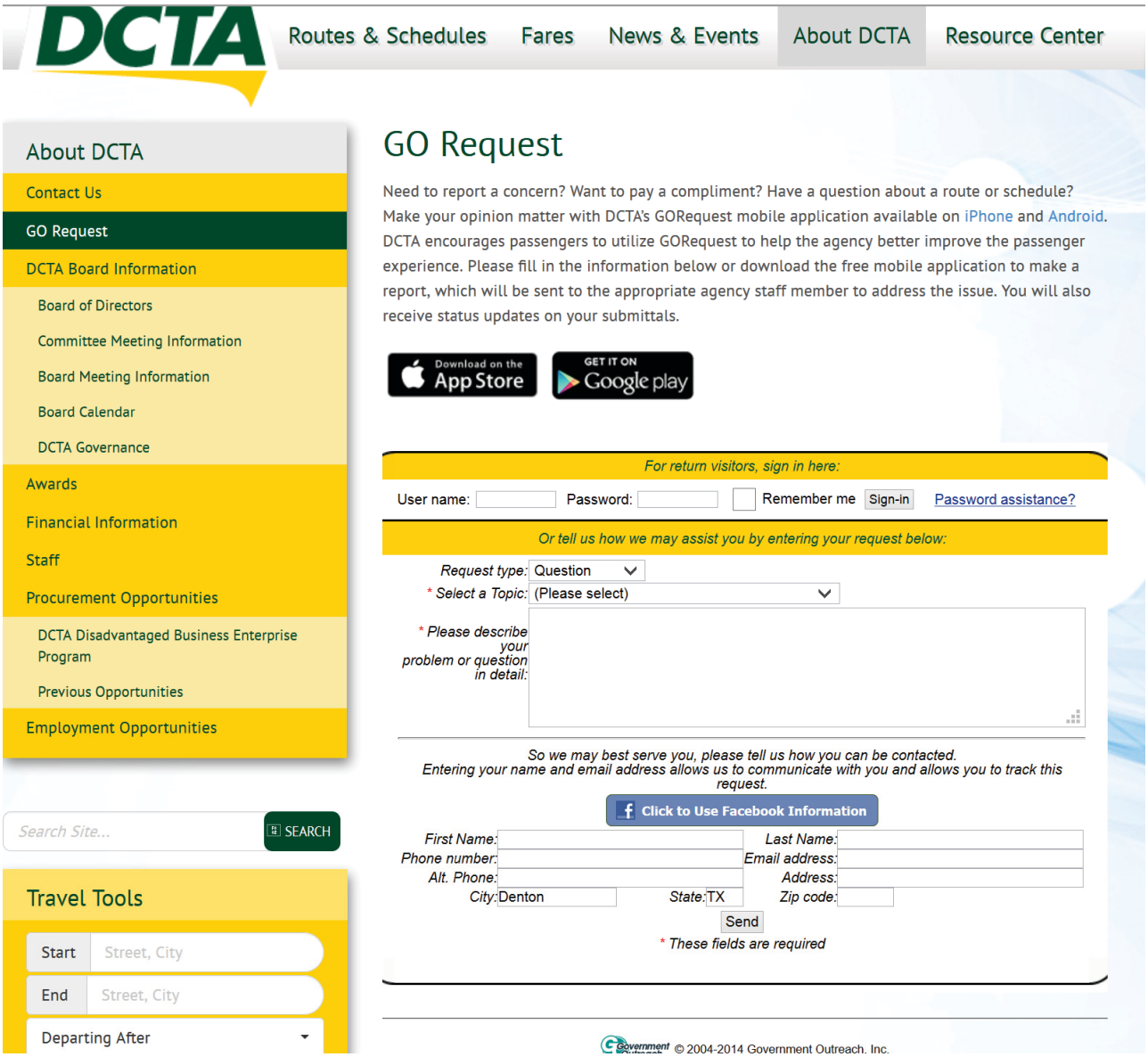


Figure A-2. DCTA web page for downloading GORequest or submitting a comment online.

The main form, shown in Figure A-4, takes advantage of the ability to have comments coded through the online form by providing four main categories. When one of the four types of feedback is selected, a second menu appears providing topic sub-categories for that type of feedback, as shown in Figure A-5.

The "Cleanliness Complaint Form" is specific to improving substation cleaning. It provides a menu to categorize the type of problem:

- Graffiti
- Foul Odor
- Lights Burned Out
- Overflowing Trash Barrels
- Litter on Floors/Stairs
- Dirty Floors/Stairs

Table A-3. DCTA customer feedback comment codes.

Topic	Department	Assigned To	Notify of New Requests	Days to Close	Rule	FAQ	Request Type	Active	ID	Updated
A-train Gates / Signals	Transportation			10	No	Yes	Citizen	Yes	25716	10/7/2013
Accident / Safety / Security	Transportation			6	Yes	No	Citizen	Yes	19330	5/22/2012
Customer Service Information	Transportation			10	Yes	No	Citizen	Yes	20027	10/7/2013
Driver Conduct	Transportation			10	Yes	No	Citizen	Yes	19326	10/7/2013
Driving Skills	Transportation			6	Yes	No	Citizen	Yes	19328	10/7/2013
Improper Stop	Transportation			6	Yes	No	Citizen	No	19329	10/1/2013
Lost and Found	Transportation			10	No	No	Citizen	Yes	19947	12/4/2013
On Time Performance	Transportation			6	Yes	No	Citizen	Yes	19325	10/7/2013
Passenger Behavior	Transportation			6	Yes	No	Citizen	No	19327	10/1/2013
Passenger Information Layout & Content	Transportation			6	Yes	No	Citizen	Yes	19333	10/1/2013
Rail Safety	Transportation			6	No	No	Citizen	Yes	19774	5/22/2012
Regulations	Transportation			6	No	No	Internal	Yes	19332	10/7/2013
Route and Schedule Information	Transportation			10	No	No	Citizen	Yes	20090	10/1/2013
Service Request	Transportation			10	No	No	Citizen	Yes	25835	10/7/2013
Stations / Shelters / Bus Stops	Transportation			6	Yes	No	Citizen	Yes	19331	10/7/2013
Survey	Transportation			6	No	No	Internal	Yes	20665	10/1/2013
Ticket or Ticket Vending Machine Issue	Transportation			10	Yes	No	Citizen	Yes	25715	10/7/2013
UNT Shuttle	Transportation			10	No	No	Citizen	Yes	25836	10/7/2013
Vehicle Maintenance	Transportation			6	Yes	No	Citizen	No	19324	10/1/2013
Other	Transportation			10	No	No	Citizen	Yes	19624	10/1/2013

Figure A-3. Advertisement for DCTA's GORequest application.

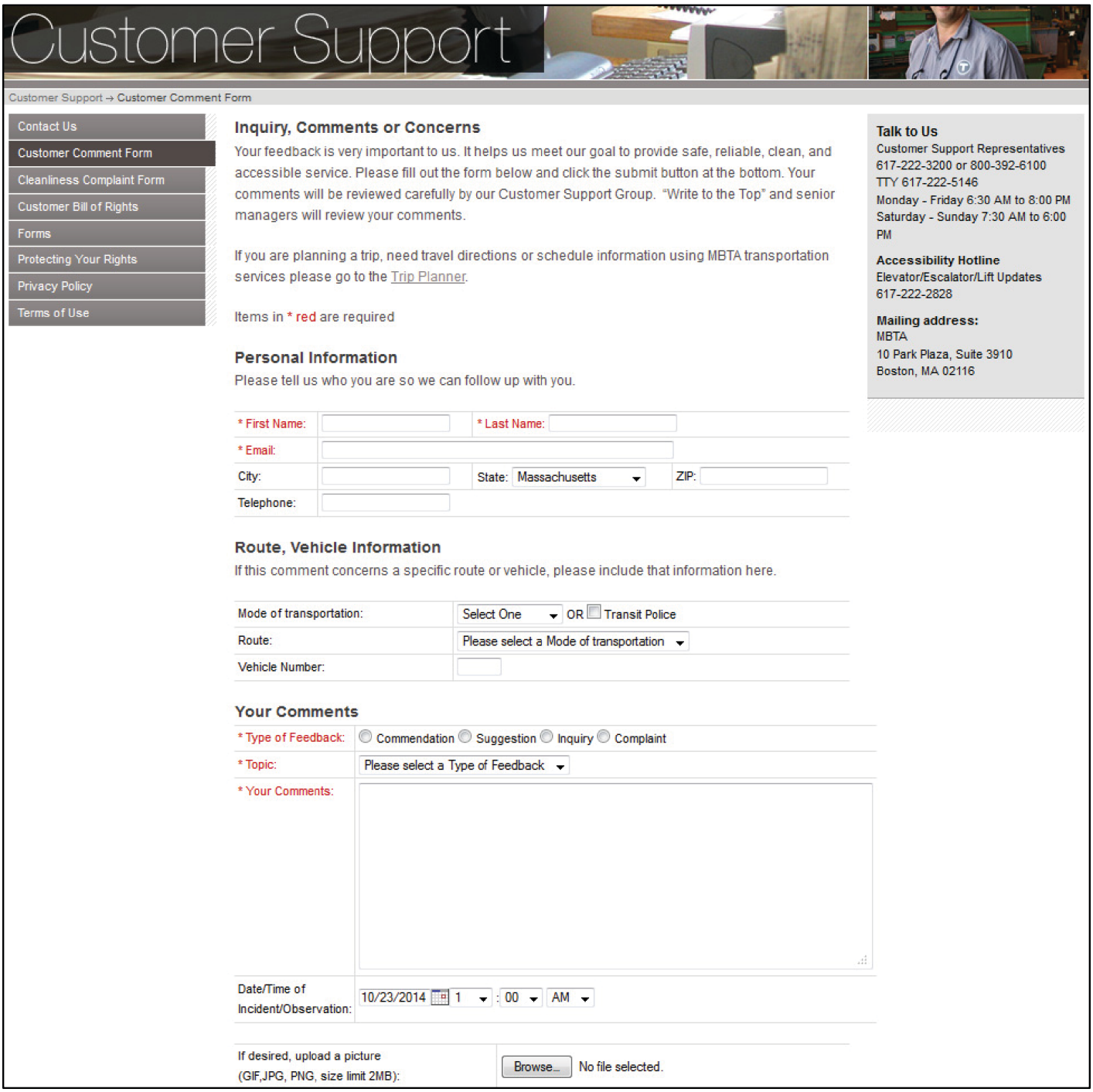


Figure A-4. MBTA online customer comment form.

Commendation	Suggestion	Inquiry	Complaint
• Advertisements • Alerts / Apps / Countdown • Employee • Fare Proposal • Mobile Ticketing • Service • Website • Wi-fi Commuter Rail	• Advertisements • Alerts / Apps / Countdown • Fare Policy • Fare Proposal • Lost and Found • Maintenance • Mobile Ticketing • Parking • Privacy Policy • Schedules • Service • Website • Wi-fi Commuter Rail • Other	• Alerts / Apps / Countdown • Charlie Cards and Tickets • Disability ID Cards • Elevator / Escalator • Fare Gate / Fare Box • Fare Policy • Lost and Found • Maintenance • Mobile Ticketing • Parking • Privacy Policy • Refunds • Schedules • Senior ID Cards • Service Inquiry • Student Cards • Trip Planner • Website • Wi-fi Commuter Rail	• Advertisements • Alerts / Apps / Countdown • Bus Stop Shelter Repair • Bus Stop Sign Replacement • Bus Stop Snow Removal • Charlie Cards and Tickets • Cleanliness • Elevator / Escalator • Employee Complaint • Fare Gate / Fare Box • Fare Proposal • Lost and Found • Maintenance Complaint • Mobile Ticketing • Parking • Privacy Policy • Refunds • Schedules • Service Complaint • Trip Planner • Website • Wi-fi Commuter Rail • Other

Figure A-5. MBTA customer comment types and topics for each type.

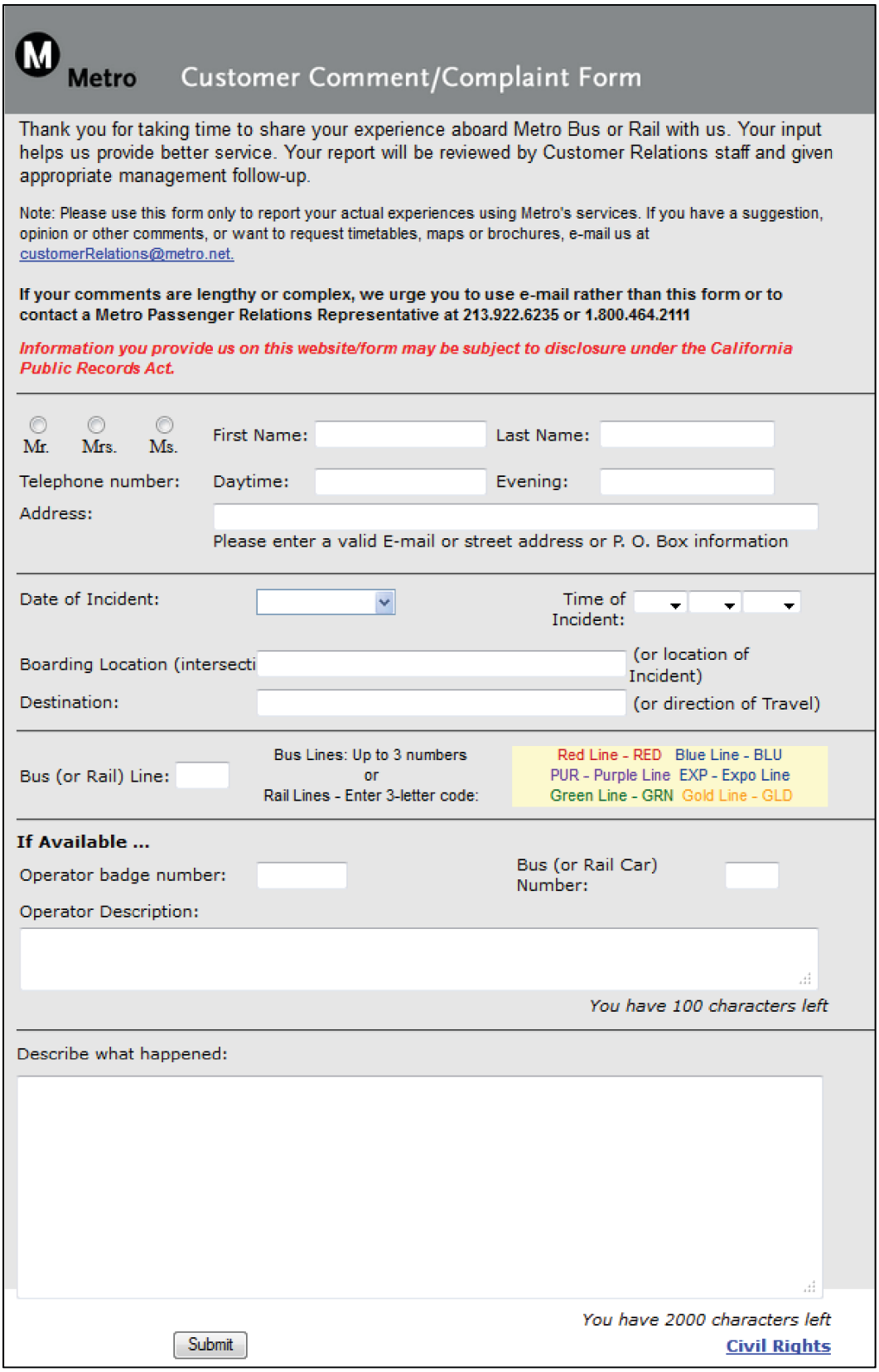
These categories, along with the subline and station, date and time, additional comments, and picture (if desired), provide detailed enough information to address the issue, with minimal need for staff to manually code and enter the data into a tracking system.

Los Angeles Metro: No Online Categorization

A simple solution is to provide a single comment/complaint form that collects information about a trip (e.g., route, time, operator description) and has a text box to provide comments, but no pre-defined categories or topic areas. The Los Angeles County Metropolitan Transportation Authority (Metro) provides an example of this type of form.

This form can be easy for the customer to complete because they can simply type in their comment without having to go through a menu list to find the appropriate category to check. In addition, it precludes issues from having customers incorrectly categorize their comments, which can lead to delays in the agency response as the comment is manually re-routed to the correct department. From the agency perspective, this approach is easy to implement and can be used, initially, to create codes that reflect the most frequent customer comments. It requires staff to read and categorize all comments for tracking in the comment database. Alternatively, software that recognizes key words could be used to help pre-code comments, with staff making the final coding decisions.

A screenshot of the Los Angeles Metro online comment form is shown in Figure A-6.



Metro Customer Comment/Complaint Form

Thank you for taking time to share your experience aboard Metro Bus or Rail with us. Your input helps us provide better service. Your report will be reviewed by Customer Relations staff and given appropriate management follow-up.

Note: Please use this form only to report your actual experiences using Metro's services. If you have a suggestion, opinion or other comments, or want to request timetables, maps or brochures, e-mail us at customerRelations@metro.net.

If your comments are lengthy or complex, we urge you to use e-mail rather than this form or to contact a Metro Passenger Relations Representative at 213.922.6235 or 1.800.464.2111

Information you provide us on this website/form may be subject to disclosure under the California Public Records Act.

Mr. Mrs. Ms. First Name: Last Name:

Telephone number: Daytime: Evening:

Address:

Please enter a valid E-mail or street address or P. O. Box information

Date of Incident: Time of Incident:

Boarding Location (intersecti (or location of Incident)

Destination: (or direction of Travel)

Bus (or Rail) Line: Bus Lines: Up to 3 numbers or Rail Lines - Enter 3-letter code:

Red Line - RED Blue Line - BLU
PUR - Purple Line EXP - Expo Line
Green Line - GRN Gold Line - GLD

If Available ...

Operator badge number: Bus (or Rail Car) Number:

Operator Description:

You have 100 characters left

Describe what happened:

You have 2000 characters left

Submit

Civil Rights

Figure A-6. Los Angeles Metro customer comment/complaint form.

APPENDIX B

Glossary

Audio tracks for video — Voice commentary that can be used to help convey video visual messages to the blind.

Automated response — A message sent automatically in response to a comment or other feedback received online. These messages are general, often simply acknowledging receipt of a comment or feedback form, indicating a timeframe for further follow-up and other relevant information.

Backend system — Processing systems that are not visible or accessible to the public, but rather used by certain agency staff people to manage internal tracking of work orders, inventory, performance, and the like.

Call center — A collection of agency representatives tasked with serving as an over-the-phone resource for customers with questions, issues, and comments. In the past, call centers have been physical locations where representatives work, but some companies have begun using distributed call centers, where representatives may be at geographically diverse locations but all accessible through the same customer support line.

Choice riders — Transit riders who have viable alternatives to transit, such as a personal vehicle, but who choose to ride transit anyway.

Commendations/ Compliments — Feedback that is generally positive toward a transit service, employee, or other aspect of the agency.

Complaints — Feedback that is generally negative toward a transit service, employee, or other aspect of the agency.

Crowdsourcing — Engaging various individuals, typically online, to collect ideas and resources for some purpose. Crowdsourcing is an increasingly popular way for agencies to tap into their riders' knowledge and experience to help identify and solve problems, and inform decision-making processes.

Customer information — Includes real-time information, service alerts, schedules, way-finding, and other one-way communications from a transit agency to their customers.

Customer service — Includes ticket sales, trip planning services, safety monitoring, and other efforts to serve transit users. Customer feedback can enhance, but not replace such services.

B-2 Use of Web-Based Rider Feedback to Improve Public Transit Services

Descriptions for video	According to the American Foundation for the Blind, video description makes television shows and movies accessible for people who are visually impaired. Short verbal descriptions of action or key visual scenes in a program are inserted during pauses in dialogue to add context.
Email form	A form on a website used to automatically email an agency or organization.
Feedback panel	A survey conducted by phone, mail, or Internet, which organizations use to solicit feedback on their products and services from customers and other members of the public.
Filter	A function of many online and computer-based systems to identify and extract data from a larger data pool based on specified criteria.
Handle (@_____)	A handle, always preceded by the @ symbol, is equivalent to a username on many social media systems. Handles are used to include other users in a post, or to reply back to the originator of a previous post.
Hashtag (#_____)	A word or phrase with the # symbol immediately preceding it, used to tag social media and blog posts for grouping, tracking, and search purposes.
Interface	The design and functionality of a system that facilitates and enables interaction with users.
Issue tracking	Refers to the system used by an agency to track issues raised by customers, from receipt, through various processes, until resolution is achieved, and perhaps also through post-resolution follow-up.
Long-range and capital planning	Planning that considers the operations and capital expenditures beyond the immediate next few years.
Maintenance issues	Focus on maintaining the day-to-day operations of a transit agency at or above some expected level of service. Maintenance issues may include broken or malfunctioning equipment, as well as graffiti and other appearance issues.
Market research	Involves planning, designing, and implementing research, as well as analyzing collected data and reporting results for the purpose of better understanding consumers' preferences for products and services.
Marketing and promotions	Include advertising for the agency, a service or a route, and promotional programs.
Means of access	The method used by an individual to get to a bus, train, or other transit service vehicle. Typically access is achieved through walking, but driving, biking, and other modes of travel can also be used.
Mobile applications (apps)	Software programs written for use on mobile devices, such as smartphones, tablets, and laptop computers.

Non-rider surveys	Surveys of the members of the public who do not regularly ride transit.
On-board/rider/ customer surveys	Surveys of transit users, which are conducted while customers are riding transit vehicles in the case of on-board surveys.
Online form	Form hosted online to gather structured feedback on one or more topics, which is generally shorter and more open-ended than an online survey.
Online surveys	Surveys hosted online to solicit structured responses from a target audience based on the principles of market research.
Platform	For computing, a platform is the environment in which a software program is designed to operate.
Policy changes	Changes to the rules and regulations of a transit agency, such as fare policies, service standards, and rider rules, which may or may not affect customers directly.
Public relations	Defined by the American Marketing Association as, "That form of communication management that seeks to make use of publicity and other nonpaid forms of promotion and information to influence the feelings, opinions, or beliefs about the company, its products or services, or about the value of the product or service or the activities of the organization to buyers, prospects, or other stakeholders."
Quick Response (QR) code	Symbols containing coded data that, when read by an appropriate device, will direct the user to a website or perform another function. Though they were originally designed for use in the automobile industry, QR codes are becoming increasingly popular for marketing purposes and facilitating online customer interactions.
Response time	The length of time between when feedback is received and when the agency responds beyond the basic automated response. A response means that the agency gives the provider of the feedback an answer to their questions and/or information about how their input has been used. Response time may refer to the length of time it took to send an initial non-automated response, perhaps with follow-up questions, or to the length of time between receipt of feedback and final issue resolution.
Safety and security issues	Issues including safety of particular stops, stations, bus or rail routes, lost and stolen reports, and suspicious people around agency property. Agencies can use this information to know where to increase security patrols to reduce crime on their systems and help their riders feel safe.
Screen reader	Software program that attempts to explain what is being displayed on a screen for the visually impaired.
Sentiment analysis/ monitoring	Analyzing communications to gauge public perception, also known as opinion mining.

Service planning	Service planning includes short- to medium-term planning for both regular fixed-route services and demand response services for people with disabilities. Feedback on service planning helps agencies identify areas for improvement in terms of service frequency, geographic coverage, and service hours.
Social media	Online communication tools, such as Facebook, Twitter, and LinkedIn, used for social interaction among individuals and organizations around the world.
Software hosting platform	Website that allows the hosting of software source code, and often allows users to provide comments with discussion threads (e.g., Github).
Solicited feedback	Initiated by the agency to address specific needs or issues. Sources of solicited feedback include comments collected with regard to service and fare changes, customer satisfaction, or project planning, which become part of the public record. Solicited feedback can also include questions posed on any topic using a wide variety of conventional and technology-driven tools, including web-based and panel surveys that do not have the rigor of true market research and the newly popular technique of crowdsourcing.
Support ticket	A support ticket may be a document, number, or code assigned to an issue, which is used for tracking purposes by an agency and/or the individual who made the claim.
System integration	The process of joining multiple smaller systems together to operate effectively as one larger system.
Tag	Generally, a tag is used to associate a post with certain key words, for organization and search purposes. "Tag" can also be used to refer to specific actions through one or more web-based platforms.
Third party service	A service that is offered by a third party contractor on behalf of an agency.
Title VI (including limited English proficiency)	Title VI of the Civil Rights Act of 1964 makes it contrary to federal policy for agencies receiving federal funds to discriminate against groups or individuals based on their race, skin color, or national origin. Agencies violating Title VI may lose their federal funding.
Tracking number	A combination of numbers, letters, and/or symbols used for tracking issues within an agency.
Traditional media	Traditional media in this report refers to the printed press, television, radio, and phone, which were the primary forms of communication before the rise of the Internet.
Transit service operations	Detail anything related to the agency's daily services, including late or early buses, crowding, temperature on the vehicle, or customer information needs. Feedback on these topics can help agencies address short-term problems, such as on-time

	performance issues, where additional capacity is needed, or where additional customer amenities are needed.
Unsolicited feedback	Comments, suggestions, and complaints that flow into the agency without being directly requested by agency staff.
Web-based customer feedback	Comments shared online by customers about the quality of a service or product, through one or more of a variety of web-based platforms.
Work order systems	Collections of technologies and processes used for generating, tracking, and resolving issues through work orders. Tasks are identified, entered into the system for proper assignment to agency staff, and eventually marked as resolved after completion of the task.

APPENDIX C

Transit Agency Survey

An online survey of transit agencies was conducted to understand which agencies are using web-based tools for customer feedback, how those tools are used, and the results that agencies have seen from their use.

The survey invitation was distributed via email to transit agencies on the APTA Marketing and Communications Committee list. The research team supplemented the APTA list with several small and medium-size agencies identified through the National Transit Database (NTD) to obtain better representation from small and rural operators. These agencies were all tracked for response, and email and phone follow-ups were pursued to obtain a high response rate. In addition, participation was solicited via email news blasts, popular transit blogs, social media, and emails to transportation organizations in the United States and abroad. Transit organizations were asked to respond to the survey regardless of whether they had an online web-based feedback tool or not.

Summary

A total of 130 agencies responded to the survey, representing agencies and urban areas of all sizes, all modes of transit, and all geographic areas of the United States plus Canada. The data was analyzed by both size of agency (based on annual unlinked trips) and population of urbanized area (UZA). Because the UZA results tracked closely to the results by size of agency, comparisons between UZA and agency size are provided only where there is a meaningful difference in response. Otherwise results are provided by agency size.

Email and Social Media are the Most Used Tools Today

- Email is used by almost all agencies (92%). Most of those who say they do not use email as a form of web-based feedback use other simple tools, such as online feedback forms. Those that aren't using ***any*** form of web-based feedback are small agencies (based on annual unlinked trips). The other commonly used tools are social media (78%), online surveys (68%), and online forms (65%). No other tools are used by more than 15% of the agencies responding.

Social Media, Online Surveys will Remain Key Tools; Mobile Apps Will Grow

- Social media is expected to continue to be an important customer feedback tool; 5% of the agencies not currently using social media stated they would "start using" it within the next five years, and 77% of the agencies stated they would use it more. Online survey use is also expected to increase, with 8% of the agencies anticipating that they will "start using" this tool,

C-2 Use of Web-Based Rider Feedback to Improve Public Transit Services

and 70% stating they will use it more. Mobile applications are not used by many agencies now, but 22% will "start using" them in the next five years.

Agencies See the Benefits of Web-Based Customer Feedback Tools

- Agencies are very positive about using web-based customer feedback tools, with the primary benefit being an increased ability for customers to provide positive feedback (selected by 91% of the respondents). The next most commonly selected benefits were that web-based tools enhance the agency's image and are a cost-effective method of collecting feedback (83% and 81%, respectively). Only one benefit was selected by less than half of the respondents, that web-based feedback "improves the ability of special populations to provide feedback" (46%).

Staffing Needs are the Only Major Drawback to Web-Based Feedback Tools

- There was only one drawback to web-based customer feedback selected by more than half of the agencies, the "lack of staff to respond in a timely manner" (64%). This issue was also raised when agencies were asked to describe their ideal system and to provide any "lessons learned" that would help other agencies. The next two most cited challenges were that "negative feedback could affect the agency image" (38%) and that it is "difficult to comply with archiving, record keeping, and other requirements."
- When asked what the barriers are to adding web-based feedback tools, over half (57%) selected the response "lack of staff resources to develop, implement and maintain web-based tools." The next highest category was "nothing—we do not have any barriers."

Rider Access to the Internet and Smartphone Ownership Varies by Size of Agency

- Among the 75% of respondents who reported that they had knowledge about Internet access and smartphone ownership, large and medium size agencies were more likely to respond that a high percentage of their riders have access to the Internet. Among small agencies, 13% percent estimated that 20% or less of their ridership has access to the Internet, while no large or medium sized agencies reported a similarly low rate of Internet access for their riders.
- Additionally, 19% of the small agencies estimated that 20% or less of their ridership has a smartphone. Only 6% of medium agencies and none of the large agencies estimated that less than 20% of their ridership has a smartphone.

Access for Special Populations

- Agencies did not appear to believe that web-based tools provided a particular benefit to special populations. Under the benefits of web-based customer feedback, the statement that was least likely to be selected was "improves ability of special populations to provide feedback"; 46% of all agencies and only 35% of small agencies selected that response.
- Formatting their website to support screen readers was the most commonly selected method of improving access for special populations, such as the elderly, disabled, and those that have limited English proficiency (57% of agencies). Site translators and varied text size were used by 47% and 45% of the agencies, respectively. Many websites and tools have ADA supportive features built into their programming, so it is possible that agencies are not aware of these features or did not consider them as "special features."

No Single Organizational Model for Handling Web-Based Feedback Emerged

- When looking at what department has primary responsibility for initiating, implementing, and monitoring web-based feedback tools, 45% of the agencies allocated responsibility to the various relevant departments, 31% of the agencies created a specific department to be responsible for web-based feedback, and 15% stated that each department is responsible for its own web-based feedback.
- A variety of organizational approaches was also seen in how agencies incorporated web-based feedback into agency operations and planning. The top three responses were that specific staff from throughout the agency are assigned to each web-based tool and respond or forward comments, as appropriate (30%); comments are directed to the customer service department and treated the same as any other feedback (26%); and the department that created the tool handles the feedback (25%).

Agencies Integrate Web-Based Customer Feedback into Existing Reporting Systems

- Web-based customer feedback is incorporated into existing customer feedback systems for 64% of the agencies, while 11% have a separate monitoring and reporting system for web-based feedback. Responses to the question to describe their "ideal web-based customer feedback system" emphasized the desire to integrate customer feedback to avoid duplication of effort, where comments from the web-based feedback systems must be manually input into the existing feedback system.

Most Agencies Have Customer Feedback Performance Measures

- Customer feedback measures are included in most agencies' performance measurement reporting (70% of agencies), with 11% responding that while they have regular performance reporting, customer feedback measures are not part of the system. The survey did not distinguish between web-based and other channels for feedback in terms of performance reporting.

The "Ideal System" Would be Integrated, Automated, and Friendly

- Integration is a key theme in designing the ideal web-based customer feedback system. Agencies expressed a desire for internal integration with existing customer feedback systems and external integration in the form of accepting comments across technology platforms (e.g., social media, applications, smartphone, email, and telephone).
- The ideal system would also be automated, such as categorizing comments and forwarding them to the appropriate person for response; and user-friendly for both staff and the public.

Planning for Digital Feedback and Timely, Honest Responses are Key Lessons Learned

- The key piece of advice for transit agencies developing a customer information system is to develop a plan for web-based customer feedback, working with all of the agency constituents, and pulling in the information technology department early in the planning. Part of the planning is to ensure that policies are in place for handling web-based customer feedback.
- Recognizing that staff resources need to provide timely, honest responses is critical to maintaining the image of the agency. Understanding staffing limitations and communicating the response time expectations to customers helps maintain good customer relations.

Detailed Survey Results

Agency Overview

Overall, 144 transportation providers in the United States and Canada were directly invited to participate in the online survey. Surveys were received from 117 of these transit operators, a response rate of 81%. An additional 13 agencies responded based on the blog posts, social media outreach, and emails sent on behalf of the research team to listservs. All 130 responding agencies were included in the survey analysis. Respondents represented transit agencies from 38 U.S. states, the District of Columbia, and one Canadian province.

The agencies were categorized two ways: by annual unlinked trips and by the size of urbanized or metropolitan area in which they are located (UZA). First, agencies were classified as large, medium, or small based on their total number of unlinked trips for the most recent year as reported in the NTD. This classification resulted in 37 large agencies (29%) that carry more than 20 million annual unlinked trips, 50 medium agencies (38%) that carry between 200,000 and 500,000 annual unlinked trips, and 43 small agencies (33%) that carry fewer than 200,000 annual unlinked trips (see Table C-1). See Figure C-1 for a map of transit agencies by size.

Second, agencies were classified by the size of the urbanized area they served, regardless of annual unlinked trips. Large metropolitan areas often have multiple transit providers, characterized by one or more large regional transit agencies that are supplemented by smaller agencies that target local markets. Although these small agencies are separate entities from the larger agencies serving the same urbanized area, they may coordinate with their regional partners for customer information and may use the same tools for interacting with customers. To see if there were differences in use of web-based feedback based on size of the urbanized area (e.g., are city residents more likely to use technology than their rural counterparts?), the analysis included a comparison of responses by UZA size. Of the 130 collected surveys, 76 agencies (59%) were located in large UZAs, defined as urbanized areas with a population of 500,000 or more, 14 agencies (11%) were in medium UZAs (population 200,000–500,000) and 40 (30%) agencies were in small UZAs (population less than 200,000). (See Table C-2.) A map of transit agencies based on size of UZA is provided in Figure C-2.

Survey results cover agencies that operate all modes of transit service. Almost all of the agencies responding to the survey (97%) operate fixed bus service. Heavy rail service is operated by 14% of the respondents, commuter rail service is operated by 8% of the agencies, and 7% of the agencies responding operate light rail service. Trolleys and ferries are operated by three agencies, with cable cars and automated guideway systems operated by one agency each.

Tools for Obtaining Feedback

The survey conducted for this study first asked respondents which web-based feedback tools they use, with multiple answers being acceptable. The tools were defined as follows:

- Email—Customers send email to the agency directly or via link on website. This does not include email blasts or other email communications that originate with the agency.
- Online Surveys—An agency posts a questionnaire or a survey on its website or other online location for users to complete. Topics may include customer satisfaction, service alternatives, or other agency questions.
- Online Forms—Users can submit questions and comments to an agency typically through a webpage. Forms may be open-ended or include drop-down menus or other options for users to structure their feedback.

Table C-1. Definitions of large, medium, and small agencies based on annual unlinked trips.

	Total Unlinked Trips	Example City	Total Respondents
Large Agency	>20,000,000	Portland, Oregon – TriMet	37
Medium Agency	2,000,000<x<20,000,000	Columbia, Missouri – Columbia Transit	50
Small Agency	<2,000,000	Grand Rapids, North Dakota –Cities Area Transit	43

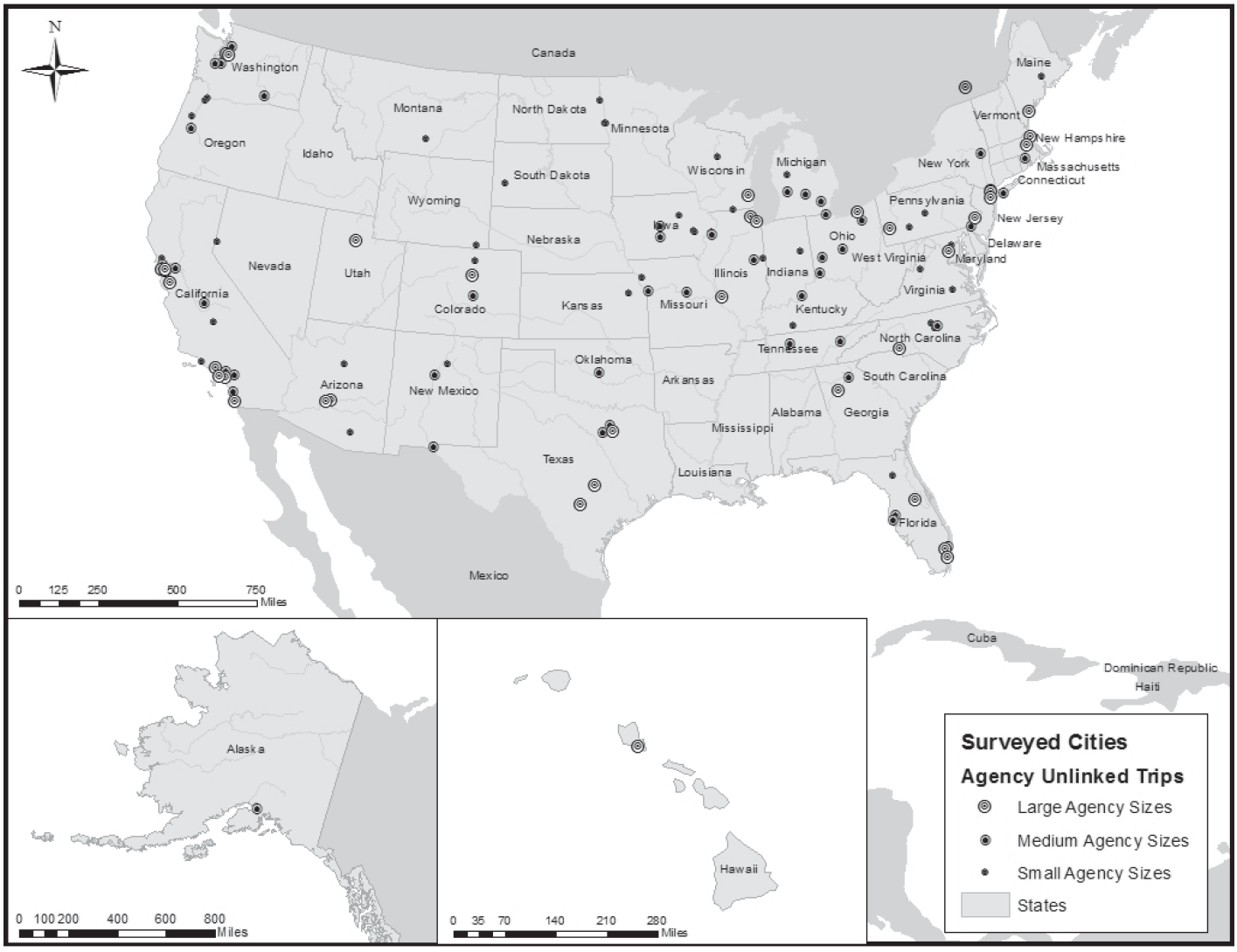


Figure C-1. Locations of survey respondents by agency size, based on annual unlinked trips.

Table C-2. Definitions of large, medium, and small urbanized areas.[1]

	Population	Example City	Total Respondents
Large Urbanized Area	>500,000	San Francisco, California – BART	76
Medium Urbanized Area	200,000<x<500,000	Ann Arbor, Michigan – Ann Arbor Transportation Authority	14
Small Urbanized Area	<200,000	Corvallis, Oregon – City of Corvallis Transit	40

[1] The definitions are adapted from the National Transit Database by the Federal Transit Administration (http://www.ntdprogram.gov/ntdprogram/pubs/ARM/2012/pdf/2012_Basic_Information_Module.pdf)

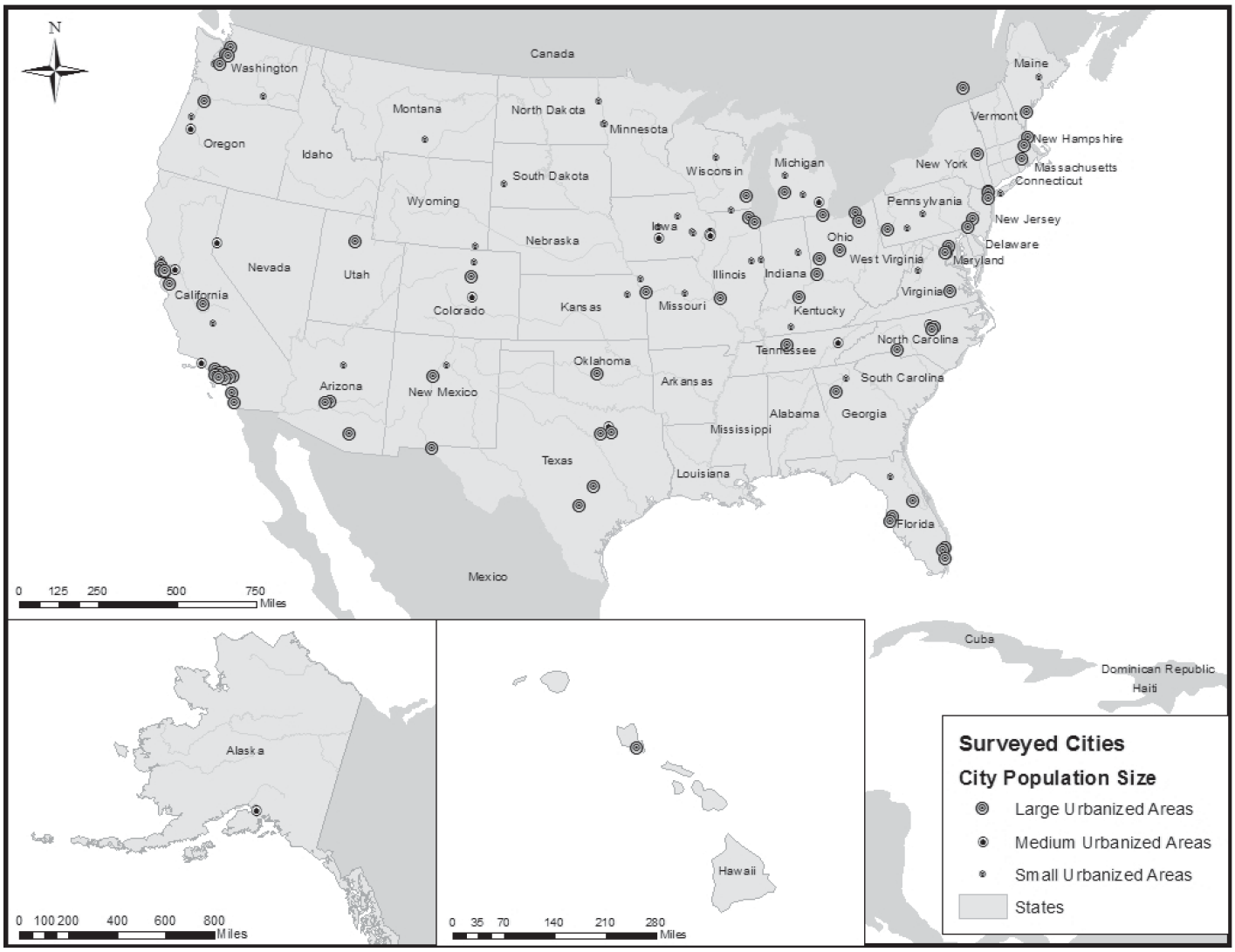


Figure C-2. Locations of survey respondents by size of urbanized area.

- Online Feedback Panels—Agencies sponsor groups that are asked to comment about specific topics or respond to surveys. Groups are typically invitation-only and interact with the agency through a website or other online interface.
- Social Media—Users communicate with an agency through social media channels, such as the agency's Facebook page, Twitter account, or official blog.
- Crowdsourcing—Agencies host online conversations where users can submit suggestions, offer comments, and vote on their favorite idea. Agencies typically use third-party platforms such as SeeClickFix, IdeaScale, MindMixer, etc.
- Internet Forums—Users participate in online discussion sites where they can hold conversations in the form of posted messages, e.g., NYCtransitforums.com, transittalk.proboards.com. These are also known as online communities, bulletin boards, or message boards.
- Mobile Feedback—Users submit feedback or information to an agency using an application on a smartphone. Examples include mobile applications like See Say where customers can alert agencies to safety and security issues.

Among the 130 agencies answering this question, email was the most prevalent web-based feedback tool. Email is used by 92% of the agencies that responded. Of the 11 agencies that stated they do not use email, six use other web-based feedback, such as online forms. The remaining five agencies stated they do not use any form of web-based feedback. Social media, online surveys, and online forms were the next most prevalent with 77%, 68%, and 65% respectively. The remaining categories (online feedback panels, crowdsourcing, Internet forums, and mobile feedback) all saw less than 15% usage by transit agencies for collecting web-based feedback (see Figure C-3).

The frequent response of agencies using email and social media is not unexpected; these tools have been around for a number of years and have been adopted by the general population.

Usage of web-based feedback tools was analyzed by size of agency and size of UZA in which the agency is located. The results can be seen in Table C-3 and Table C-4, with graphic comparisons available in Figure C-4 and Figure C-5.

Large and medium agencies use web-based tools more frequently than small agencies. All respondents from large and medium agencies indicated that they use at least one form of web-based tools. On the contrary, 12% of the respondents from small agencies indicated that they do not employ any form of web-based tools. When broken out by web-based tool types, a much larger share of large and medium agencies responded that they use social media, online surveys,

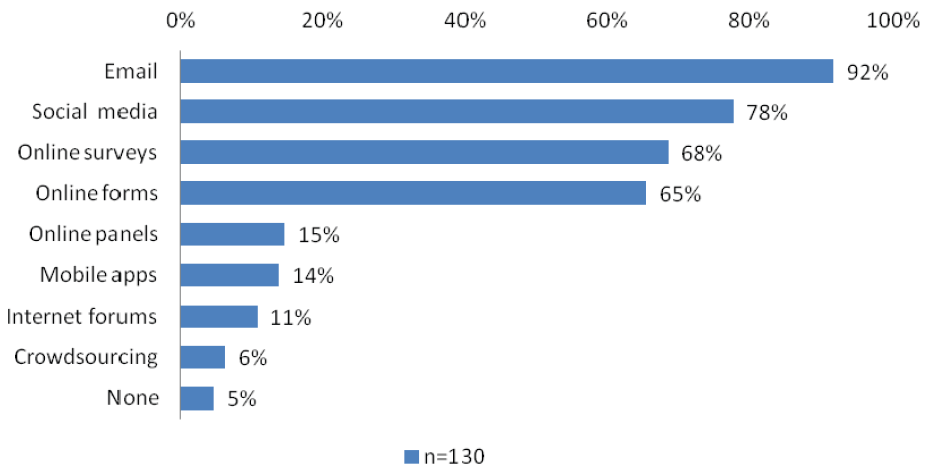


Figure C-3. "Which of the following web-based customer feedback tools does your agency currently employ?"

Table C-3. Percentage of agencies using different web-based tools by size of agency.

	Respondents	Email	Social Media	Online Surveys	Online Forms	Online Panels	Mobile Feedback	Internet Forums	Crowd-sourcing	None
Large Agency	37	89%	86%	84%	86%	27%	35%	14%	14%	0%
Medium Agency	50	98%	88%	82%	74%	14%	6%	8%	4%	0%
Small Agency	43	86%	58%	40%	37%	5%	5%	12%	2%	12%

Table C-4. Percentage of agencies using different web-based tools by size of UZA.

	Respondents	Email	Social Media	Online Surveys	Online Forms	Online Panels	Mobile Feedback	Internet Forums	Crowd-sourcing	None
Large UZA	76	92%	82%	82%	84%	21%	18%	9%	7%	1%
Medium UZA	14	92%	78%	57%	50%	0%	14%	7%	7%	7%
Small UZA	40	90%	68%	48%	35%	8%	5%	15%	5%	7%

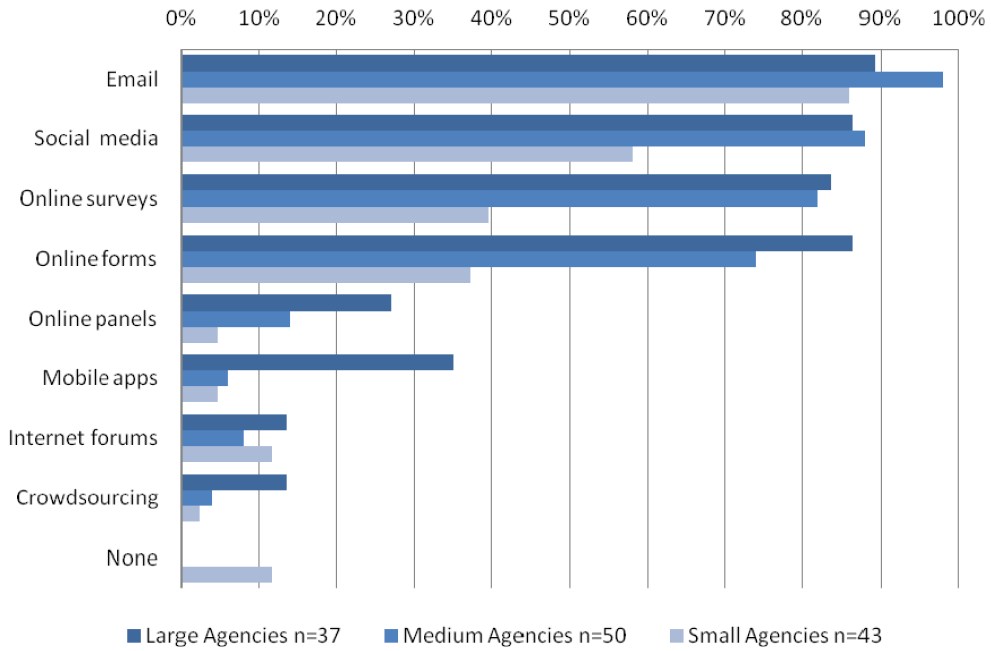


Figure C-4. Web-based tools used by agencies by size of agency.

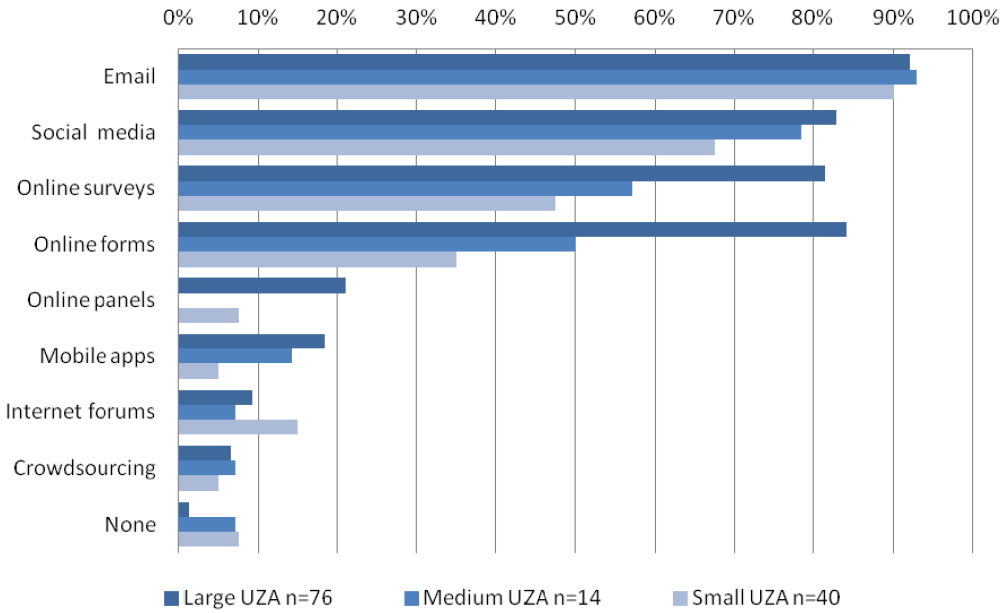


Figure C-5. Web-based tools used by agencies by size of urbanized area.

and online forms, compared to their smaller counterparts. A higher percentage of large agency respondents indicated that they use mobile feedback and crowdsourcing than medium and small agency respondents. When compared by size of UZA, the trends in the responses are similar with subtle differences. For example, the differences in use of social media and crowdsourcing are not as stark when compared by size of UZA as when compared by agency size.

Third-Party Media and Mobile Apps

To understand what other applications agencies are using or are in the process of developing, the 26 survey respondents who selected crowdsourcing and mobile feedback were asked "What specific mobile applications or third party media tools does your agency use to obtain feedback?" with a space to list the tools they use. Among them, 13 survey respondents listed individual applications or tools their agencies used to obtain feedback. Some tools were used by multiple agencies: two agencies reported using iWatch, a mobile application for reporting crimes or suspicious activities, and three respondents reported using Survey Monkey, an online survey tool. Several of the third-party applications in use were not specifically designed for transit agencies, but could be used for multiple purposes. For example, iWatch allows users to report suspicious people, criminal activities or other events on an interactive Google map and is not targeted to transit riders.

Several agencies reported using feedback tools that they developed themselves. The agencies that developed their own applications and mobile pages tended to be large agencies located in large urban areas.

Solicited Versus Unsolicited Feedback

Survey respondents were provided the following definitions of solicited and unsolicited feedback as background to the next set of questions:

> This survey is looking at two types of web-based feedback that an agency may receive: unsolicited and solicited. *Unsolicited* feedback does not respond to specific agency questions and includes all the comments,

suggestions, complaints, and opinions that flow into the agency on a daily basis. *Solicited* feedback is structured by the agency that asks riders and the public to provide comment on specific topics of interest to the agency, such as service or fare changes, service quality or customer satisfaction.

Survey respondents were asked what categories of unsolicited feedback their agency currently receives from its rider base. Of the 117 responses provided, 100% received unsolicited feedback in the form of "complaints and commendations," with another 97% receiving unsolicited feedback regarding their "transit service operations." "Long-range and capital planning" saw the least amount of unsolicited feedback, with only 44% of respondents reporting unsolicited feedback in this area.

Respondents were then asked to identify what categories of feedback their agency actively solicits from its rider base. "Service planning" was the most common category with 84% of respondents reporting that they solicit service planning feedback from their riders; another 75% reported soliciting "transit service operations" feedback from their riders. "Budgeting and fares" was identified by 62% of the agencies as a category for soliciting customer feedback, and 59% of the responding agencies actively solicited "complaints and commendations." Only 7% responded that they didn't solicit any information from their riders (see Figure C-6).

It is interesting to note that the third and fourth most common categories for unsolicited feedback, "safety and security" issues and "maintenance" issues, are the least common categories for soliciting feedback.

Transit agencies were asked to identify which web-based tools they use to solicit customer feedback, by category of feedback. Regardless of what information is solicited, the majority of respondents use email, online surveys, online forms, and social media as primary tools (see Figure C-7). The remaining web-based tools were generally used by less than 10% of the agencies to solicit information from the public. The usage trends broken out by feedback categories are similar across the nine categories, and closely mirror the overall usage trend as depicted in Figure C-3.

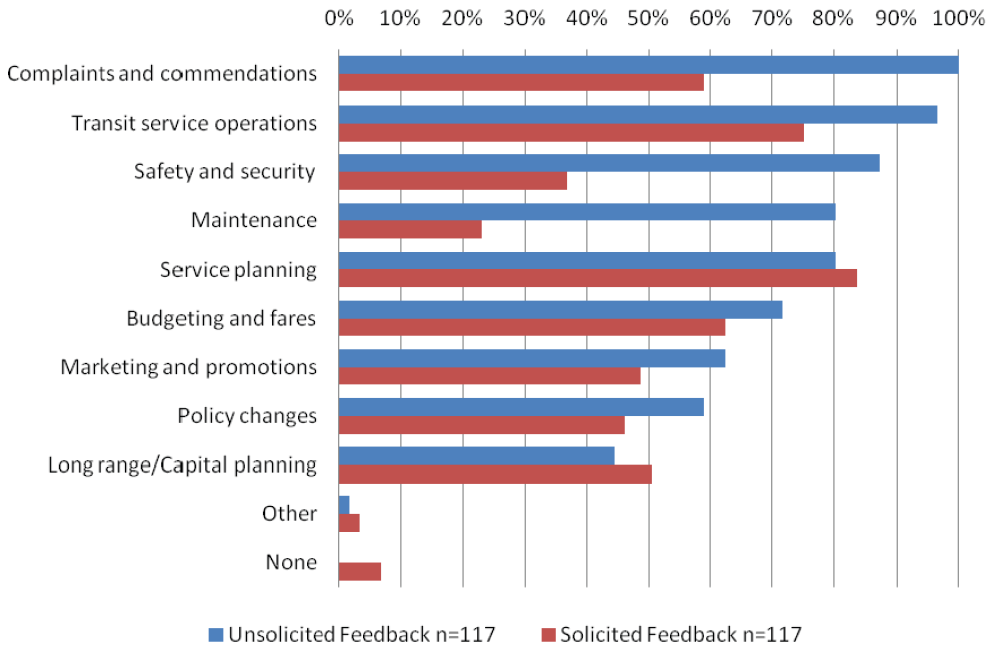


Figure C-6. "What categories of unsolicited and solicited feedback does your agency currently receive from its rider base?"

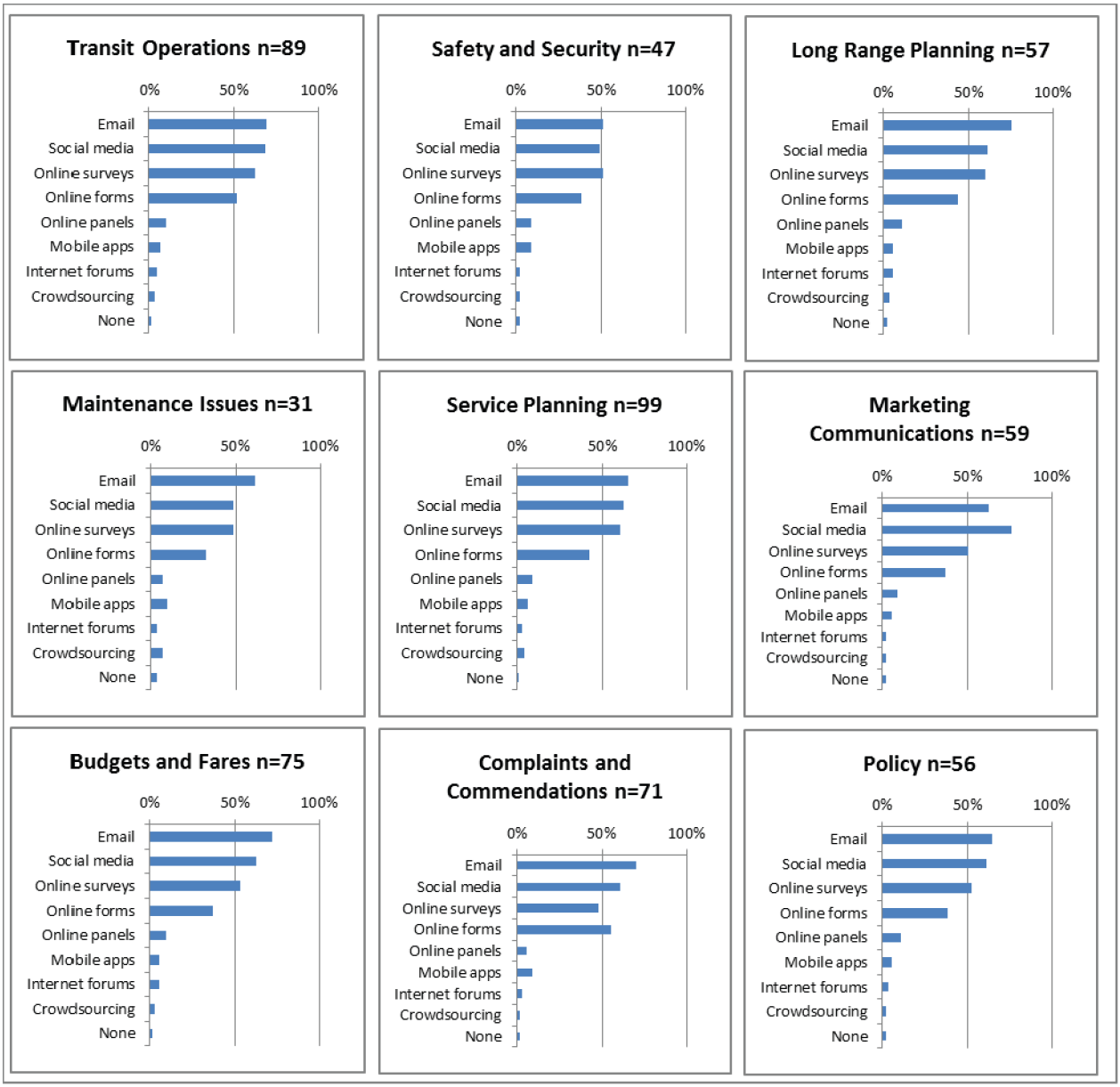


Figure C-7. "What web-based tools do you use to solicit customer feedback, by topic area?"

Administration of Web-Based Customer Feedback

Handling Customer Feedback

Agencies were asked "What department in your agency has primary responsibility for initiating, implementing, and monitoring web-based customer feedback tools?" For 45% of the agencies, responsibilities are "... allocated to the relevant departments, (Public Relations initiates, IT implements technology, customer service monitors, etc.)" while 31% of the agencies responded that a "specific department was responsible for web-based customer feedback" (see Figure C-8). Only 15% of the agencies responded that "each department develops and implements their own web-based feedback tools." Most agencies who responded "other" listed a specific department, typically marketing or communications.

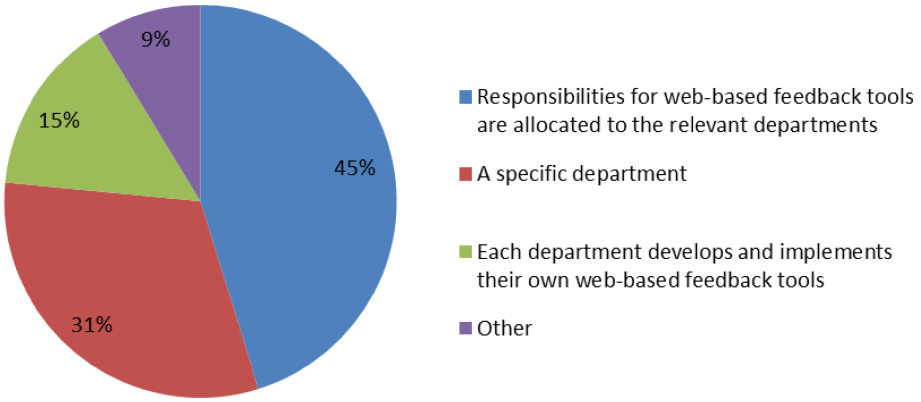


Figure C-8. "What department in your agency has primary responsibility for initiating, implementing, and monitoring web-based customer feedback tools?"

When asked "how is information from web-based customer feedback incorporated into agency operations and planning," agencies were evenly divided: 30% selected "Specific staff from throughout the agency are assigned to each web-based tool and respond or forward comments, as appropriate"; 26% of the responding agencies reported that comments are directed to the customer service department and treated the same as any other feedback; and 25% of the agencies assigned the department that created the tool to handle the customer web-based feedback. Only 6% of the responding agencies created a "special department specifically to develop, monitor, address, and handle feedback" (see Figure C-9). There are differences in the way that information is incorporated into the feedback system based on the size of the agency. For large agencies, no single method stands out for incorporating feedback. Medium agencies are more likely to route comments to the customer service department and treat them the same as any other feedback.

Tracking and Reporting Feedback

Transit agencies were asked to select which option "best describes the level of tracking and reporting of web-based customer feedback tools at their agency." Almost two-thirds (64%) of the agencies reported that they integrate their web-based feedback with existing customer

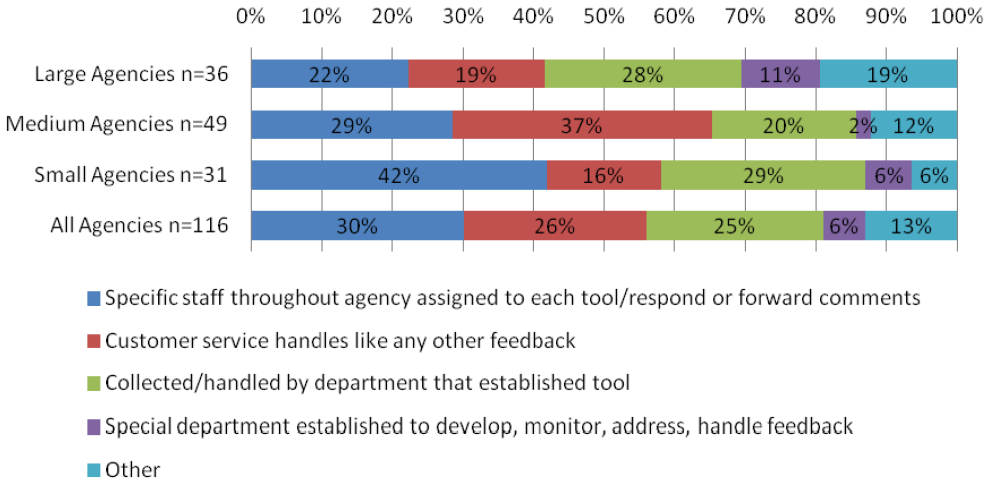


Figure C-9. "How is information from web-based customer feedback incorporated into agency operations and planning?"

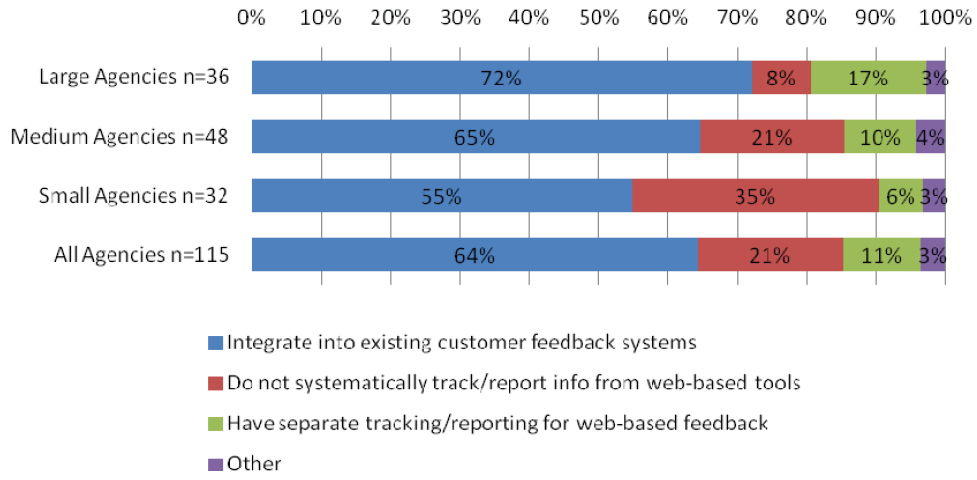


Figure C-10. "Which best describes the level of tracking and reporting of web-based customer feedback tools at your agency?"

feedback reporting systems. A separate tracking and reporting system for web-based customer feedback was cited by 11% of the agencies. Twenty-one percent of the agencies reported that they do not systematically track and report information from the web-based customer feedback tools (see Figure C-10).

When looking at how feedback is tracked and reported by size of agency, large agencies are most likely to "integrate web-based feedback into existing customer feedback reporting systems" (72%) with only 8% responding that they "do not systematically track and report information from our web-based customer feedback tools." Medium size agencies are somewhat less likely to integrate web-based feedback into existing systems (65%) and more likely not to have any systematic tracking and reporting of web-based feedback (21%). Over a third (35%) of the small agencies reported that they do not systematically track and report web-based customer feedback. It is not known if these agencies have a system for tracking non-web-based customer feedback (see Figure C-10).

Measuring Performance

Survey respondents were asked which option best describes their agency's performance measurement activities to improve transit services. Most agencies (70%) responded that they "regularly monitor and report a broad range of agency performance measures, including customer feedback measures." Another 15% of agencies stated that they "periodically measure performance, but do not have a regular performance measurement reporting program," and 11% "regularly report and monitor agency performance measures, but do not have customer feedback measures" (see Figure C-11).

Benefits and Drawbacks of Web-Based Feedback

Benefits of Using Web-Based Feedback Tools

When asked "What are the benefits to your agency for using web-based feedback tools," most of the respondents (91%) cited the increased opportunity for all customers to provide positive feedback. This was followed by "Enhances agency image (innovative, customer-oriented, engaged with riders)" and "Cost effectively collects customer feedback (less data entry, easy data retrieval)," with 83% and 81% respectively (see Figure C-12). Over three-quarters (76%) of the transit agencies saw the ability to interact with customers in real time as a benefit.

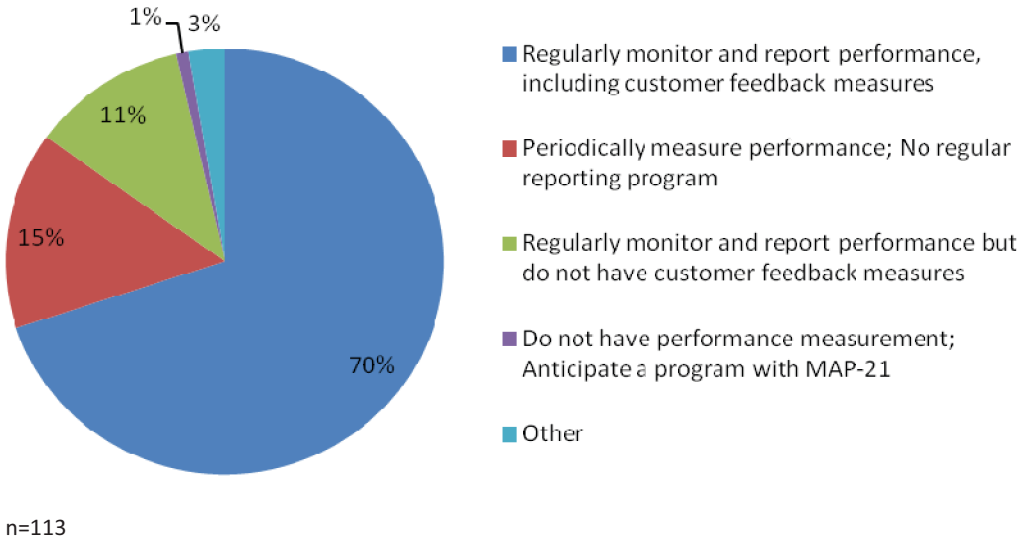


Figure C-11. "Which best describes your agency's performance measurement activities to improve transit service?"

Only one response category, "Improves the ability of special populations to provide feedback," was selected by less than half of the agencies (46%). Breaking down the responses by agency size, it became apparent that most agencies, regardless of their size, find the same benefits from using web-based feedback (see Figure C-13).

Drawbacks of Using Web-Based Feedback Tools

Respondents were asked to select the "drawbacks to their agency with the existing web-based feedback tools." Lack of staff to respond to comments in a timely manner (64% of respondents)

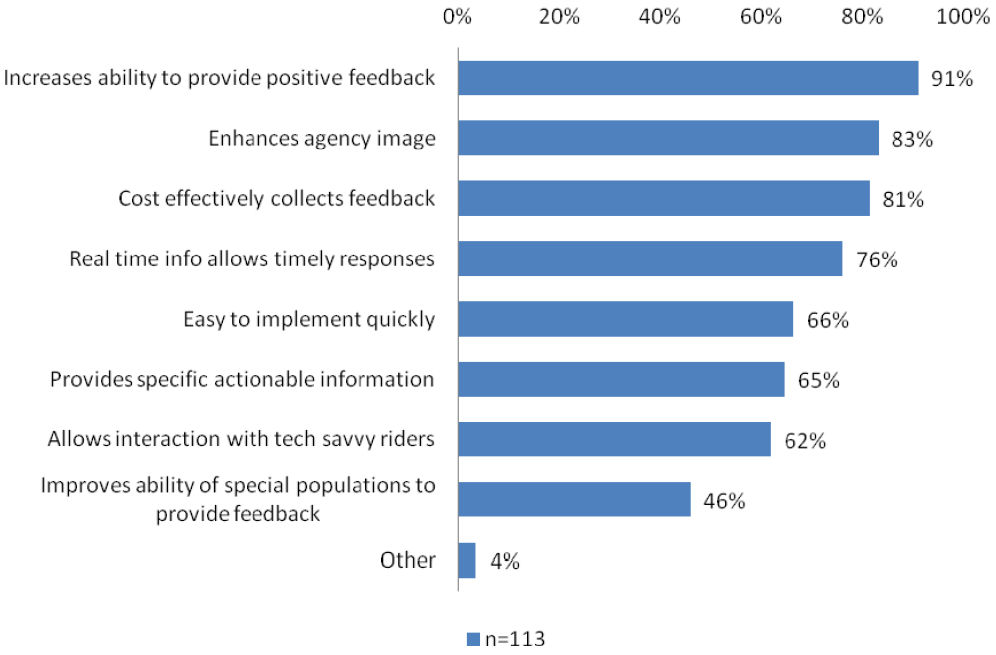


Figure C-12. "What are the benefits to your agency for using web-based feedback tools?"

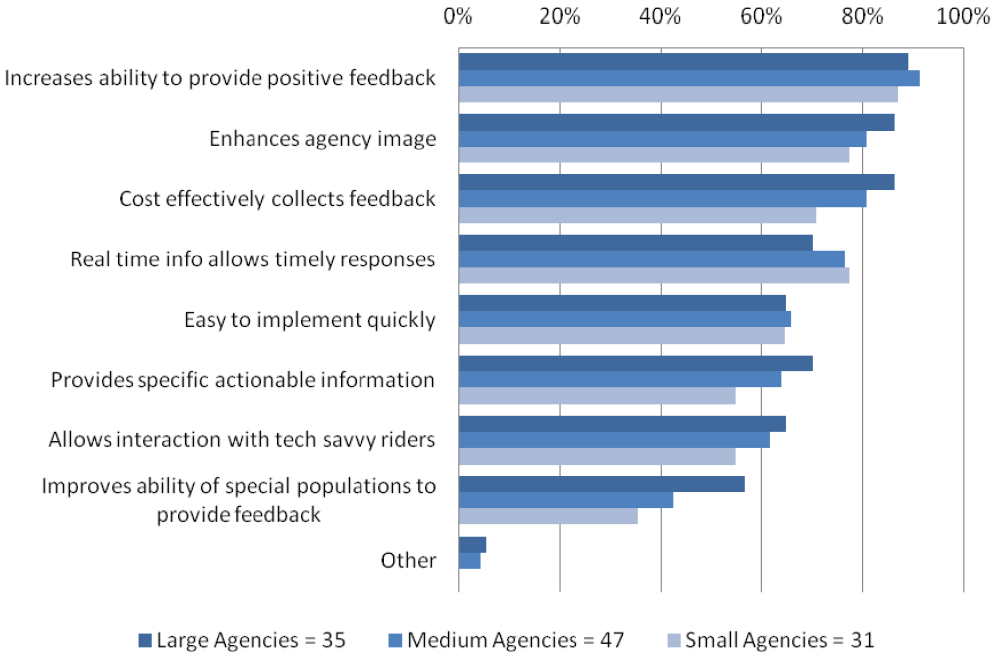


Figure C-13. Benefits of web-based feedback by size of agency.

was the largest drawback and the only one that was selected by more than half of the agencies. "Potential negative feedback could affect agency image" and "Difficult to comply with archiving, record keeping and other regulations" (38% and 34% of respondents, respectively) were the next most commonly selected drawbacks (see Figure C-14). Respondents did not appear to consider the other identified drawbacks as serious concerns; no more than 20% of respondents selected any other reasons. Responses in the "other" category (selected by 11% of respondents) were

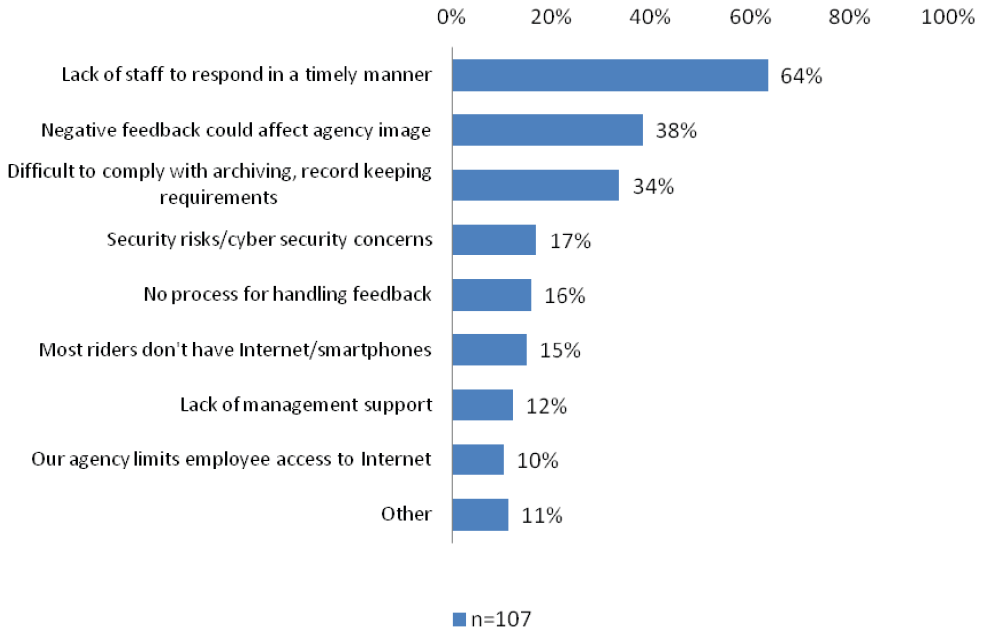


Figure C-14. "What are the drawbacks to your agency with the existing web-based feedback tools?"

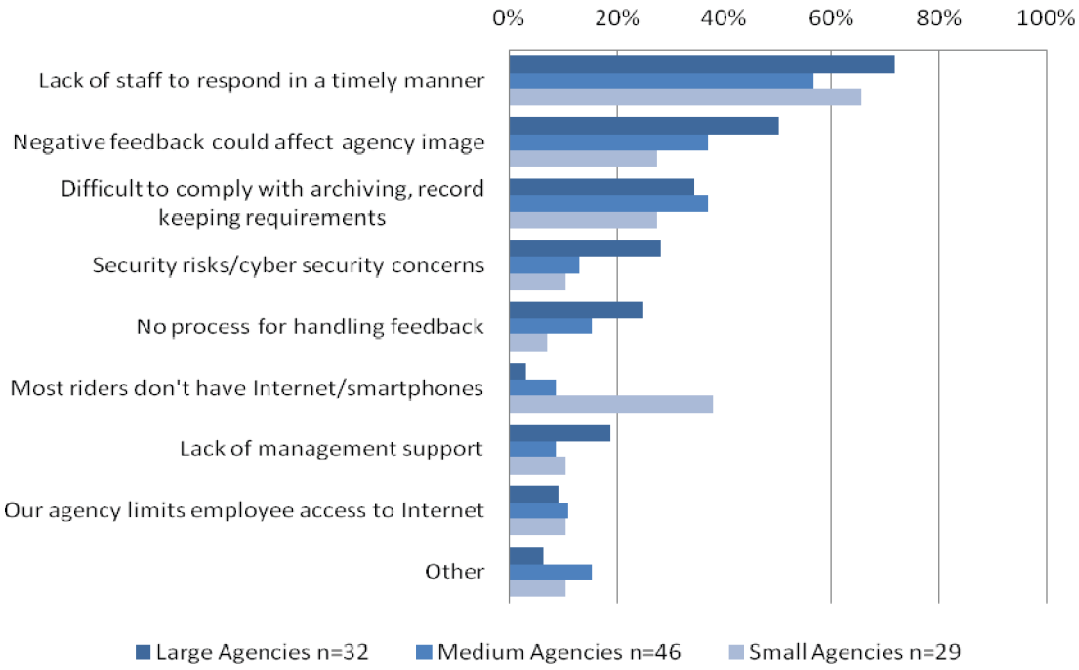


Figure C-15. Drawbacks affecting agencies by size of agency.

primarily related to customers who do not use the Internet (even though they may have access) and concerns that web-based feedback tools do not reach all populations.

Agency responses about drawbacks of the existing web-based feedback tools did not show much variation by size of agency. The only major differences were that smaller agencies were less likely to agree that the potential for negative feedback could impact the agency's image, and they were also more likely to agree that their riders did not use the Internet or have smartphones. Otherwise, most of the perceived drawbacks with web-based feedback tools were common to agencies of all sizes (see Figure C-15).

Barriers to Adding Web-Based Feedback Tools

Agencies were asked "What is preventing your agency from adding web-based feedback tools?" Over half of the respondents noted that the "lack of staff resources to develop, implement, and maintain the tool" is an obstacle (57% of respondents). At the same time, 34% of agencies responded, "Does not apply—nothing is preventing us" from expanding their web-based tools (see Figure C-16).

Staff Resources Used to Support Web-Based Tools

To understand current resources allocated to supporting web-based feedback tools, agencies were asked "What is the approximate level of staff resources (across all departments) used to support web-based customer feedback activities?" The majority of answers (60%) were 5.0 full time employees (FTE) or fewer, although there were some agencies that stated they have more than 50 FTE supporting web-based feedback tools. The higher figures may represent staff resources to support the full range of customer feedback activities, given that many agencies integrate web-based feedback with other feedback systems. One out of four agencies did not provide an estimate of staff resources used to support web-based feedback.

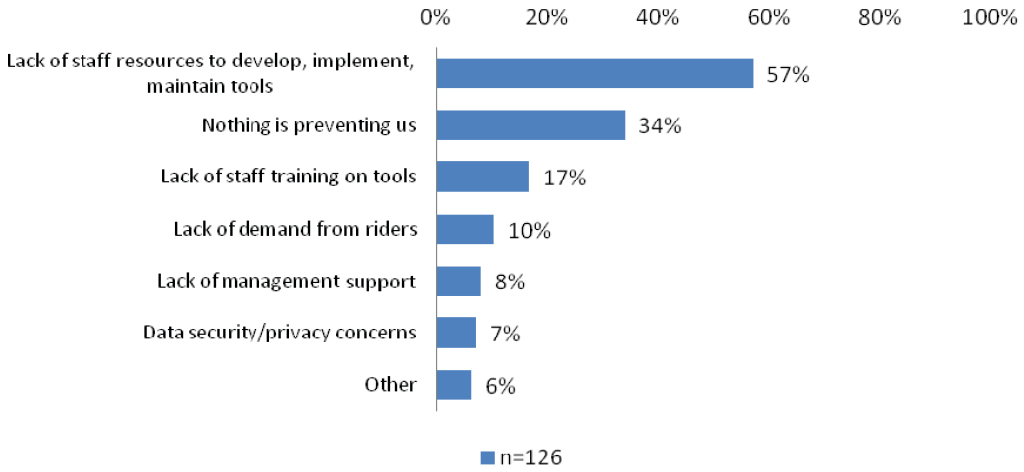


Figure C-16. "What is preventing your agency from adding web-based feedback tools?"

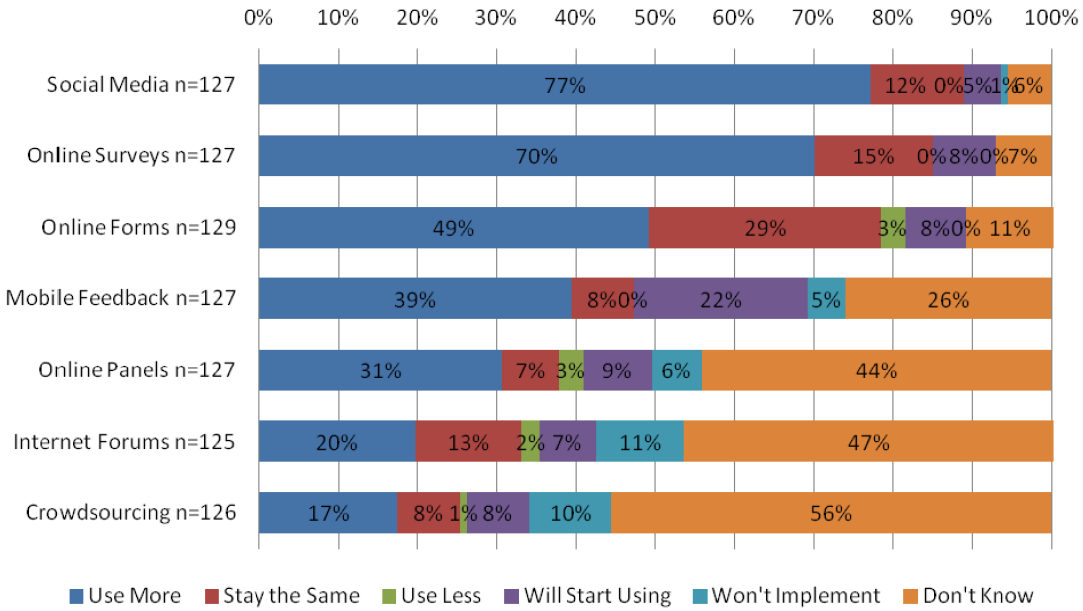
Future Use of Web-Based Feedback Tools

When asked "How do you anticipate your use of the following web-based tools will change over the next five years," two tools stood out as likely to be used more: social media and online surveys with 77% and 70% of respondents, respectively (see Table C-5 and Figure C-17). Both of these were among the tools that most agencies are currently using, as shown in Figure C-3. Adding the agencies who "will start using" together with those that "will use more," 82% of the agencies anticipate using social media within the next five years as a tool to gather feedback and 78% anticipate using online surveys. Mobile applications is the tool that could see the most growth, with 22% of respondents anticipating that they would "start using" this type of web-based customer feedback tool over the next five years. Definitions of the various tools for collecting feedback can be found earlier in this Appendix.

It is worth noting that almost no agencies stated they would "stop using" or use tools less over the next five years. Agencies are keeping their options open, with very few agencies stating that they "would not implement" a specific feedback tool and a sizable percentage saying they "don't know."

Table C-5. Agencies' anticipated change in use of web-based feedback tools.

	Use More	Stay the Same	Use Less	Stop Using	Will Start Using	Won't Implement	Don't Know
Social Media	77%	12%	0%	0%	5%	1%	6%
Online Surveys	70%	15%	0%	0%	8%	0%	7%
Online Forms	50%	29%	3%	1%	8%	0%	10%
Mobile Feedback	39%	8%	0%	0%	22%	5%	26%
Online Feedback Panels	31%	7%	3%	0%	9%	6%	44%
Internet Forums	20%	14%	2%	2%	7%	11%	46%
Crowdsourcing	17%	8%	1%	0%	8%	10%	56%



Note: Due to the small numbers, agencies reporting they would "*Stop Using*" tools are not shown in the figure.

Figure C-17. "How do you anticipate your use of the following web-based tools will change over the next five years?"

Incorporating Feedback from Transportation Disadvantaged Riders

Title VI of the Civil Rights Act of 1964 requires public transit agencies to provide services in a fair and equitable manner to all passengers without regard to their race, color, or national origin. Agencies must also reduce language barriers that may impede access to important services by customers who may not be proficient in English. This requirement extends to ensuring that transportation disadvantaged persons have equal opportunity to provide feedback on the full range of current and future transit services. Web-based customer feedback tools can assist in reaching out to these individuals.

Accessibility of Web-Based Tools

Some tools are readily available to improve website accessibility for individuals with disabilities. Section 508[2] of the U.S. Rehabilitation Act provides accessibility requirements and standards that federal agencies are asked to follow. Common practices to ensure accessibility include closed captioning, visual contrast, adjustable text sizes, keyboard navigation for people with impaired mobility, and color schemes that color-blind readers can recognize.

When asked "What does your agency do to make your agency's web-based tools accessible to transportation disadvantaged and Title VI populations," 86% of the responding agencies selected at least one accessibility feature to help people use their web-based tools. The primary features included special formatting to support text readers for the visually impaired, site translators for persons with limited English proficiency, and variable text sizes (see Figure C-18).

[2] Section 508 Standards can be found online (http://section508.gov/index.cfm?fuseAction=stdsdoc)

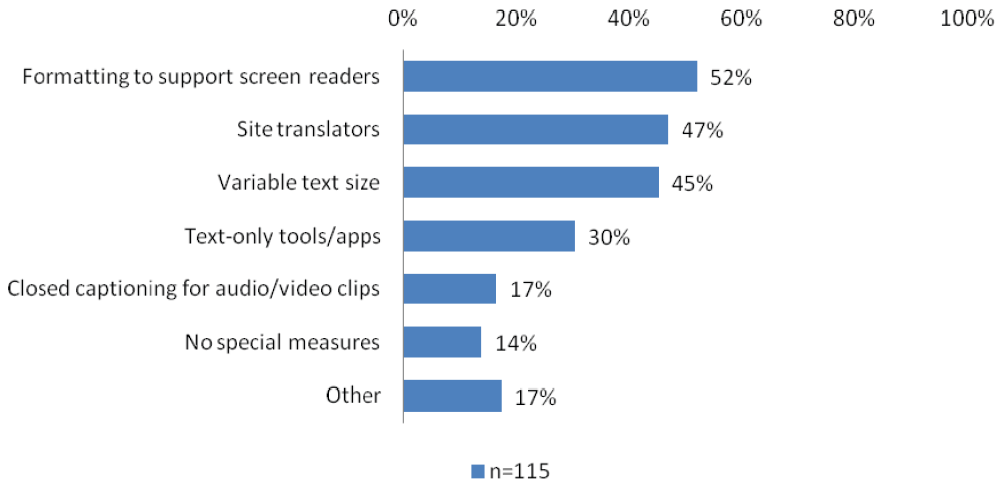


Figure C-18. "What does your agency do to make your agency's web-based tools accessible to transportation disadvantaged and Title VI populations?"

Some tools were not widely used, such as text-only tools and closed captioning. Use of tools like these is closely related to certain applications, specifically those with video or audio features, which may explain their more limited adoption.

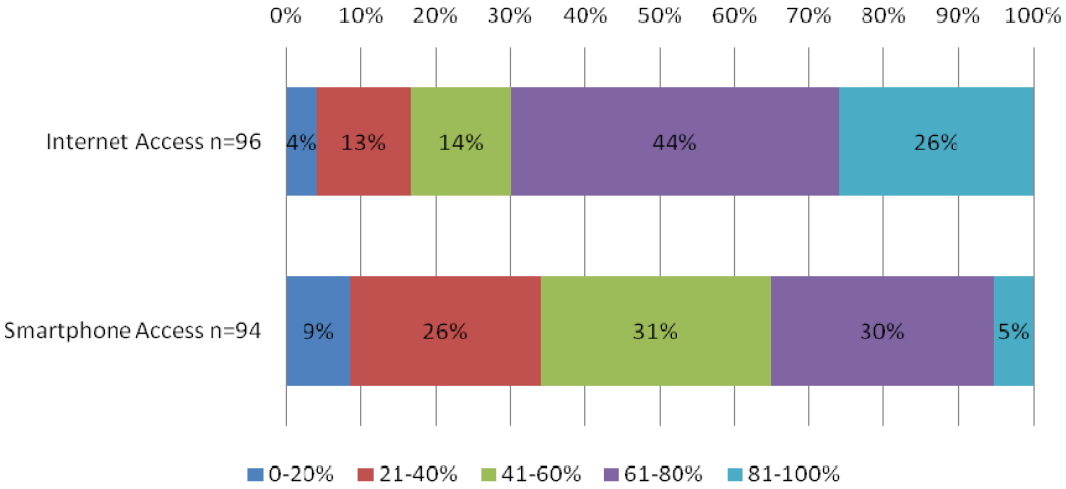
Fourteen percent of the responding agencies did not use any form of accessibility feature on their web-based tools. Many email and social media sites have built-in features that do not require additional software or programming, including site translators and variable text size, and it is possible that agencies do not consider these built-in features "special tools."

Rider Access to the Internet and Use of Smartphones

An area of concern for agencies regarding web-based customer feedback tools is the percentage of the ridership base that can access these tools via Internet or smartphone. Of the 127 respondents who answered the question, approximately one-quarter did not have an estimate of the percentage of their ridership with access to the Internet or a smartphone. Of those who provided an estimate, 70% stated that at least 61% of their riders had access to the Internet, and 35% stated that at least 61% of their riders had smartphones (see Figure C-19).

Comparing responses based on agency size indicates that small agencies are more likely than large agencies to serve riders without access to the Internet and that don't have a smartphone (see Figure C-20 and Figure C-21). Thirteen percent of the small agencies estimated that 20% or less of their ridership had access to the Internet, while no medium and large agencies estimated Internet access to be that low. Looking at ownership of smartphones, 19% of small agencies estimated that 20% or fewer of their riders had a smartphone while 6% of medium sized agencies and none of the large agencies estimated such a low rate smartphone ownership by their riders.

Respondents were then asked "What is the source of this estimate?" The responses were nearly identical for Internet access and having a smartphone. Of those agencies that provided an estimate, over half (56%) said it was a staff estimate based on their knowledge of the customer base and over a quarter of the agencies had data based on an agency survey (see Figure C-22).



Note: This figure does not include respondents that selected "Don't Know"

Figure C-19. "What is the estimate of the percentage of your riders that have Internet access/smartphones?

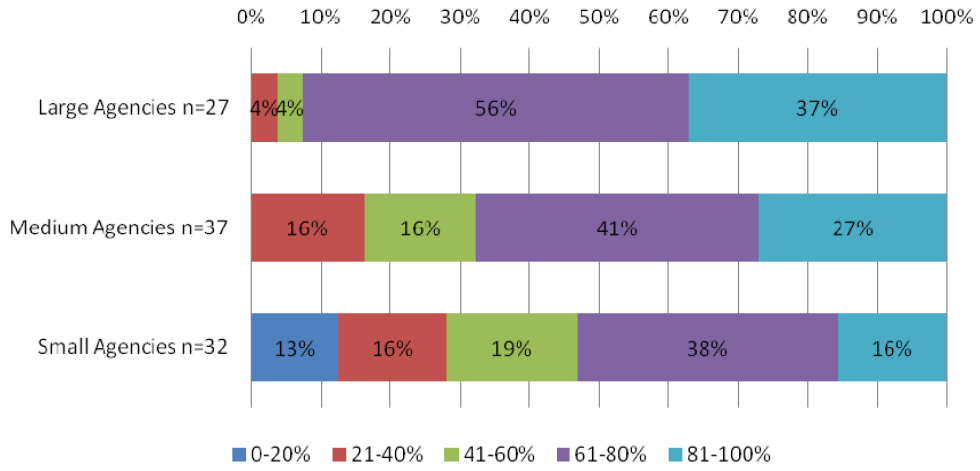


Figure C-20. Agency estimate of the percentage of riders that have Internet access, by size of agency.

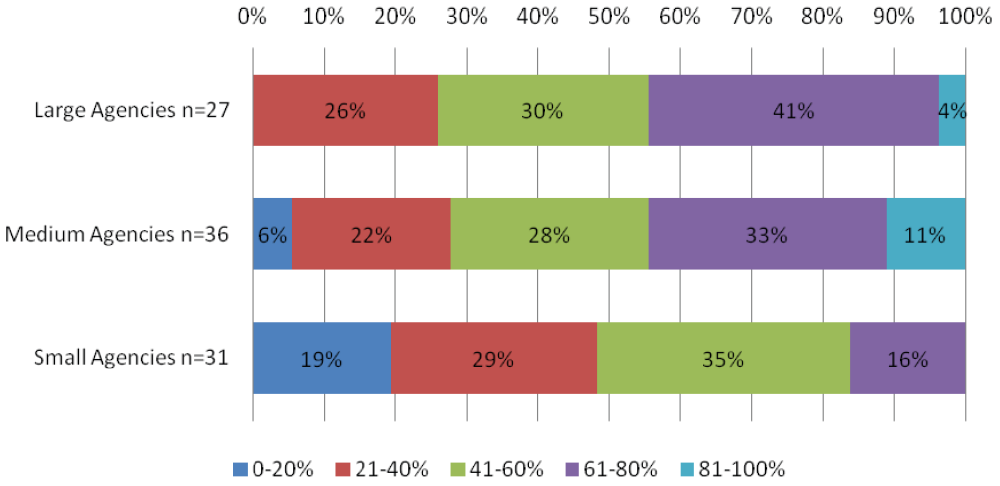


Figure C-21. Agency estimate of the percentage of riders that have smartphones, by size of agency.

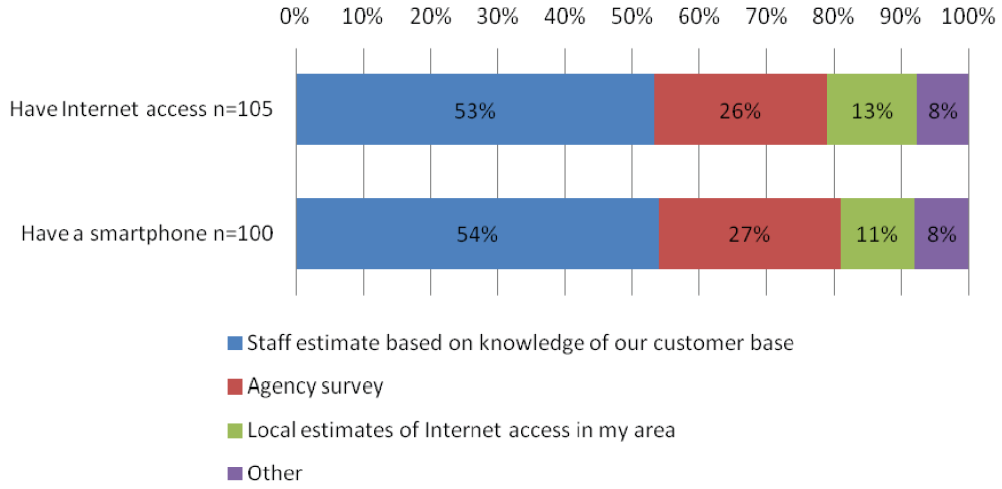
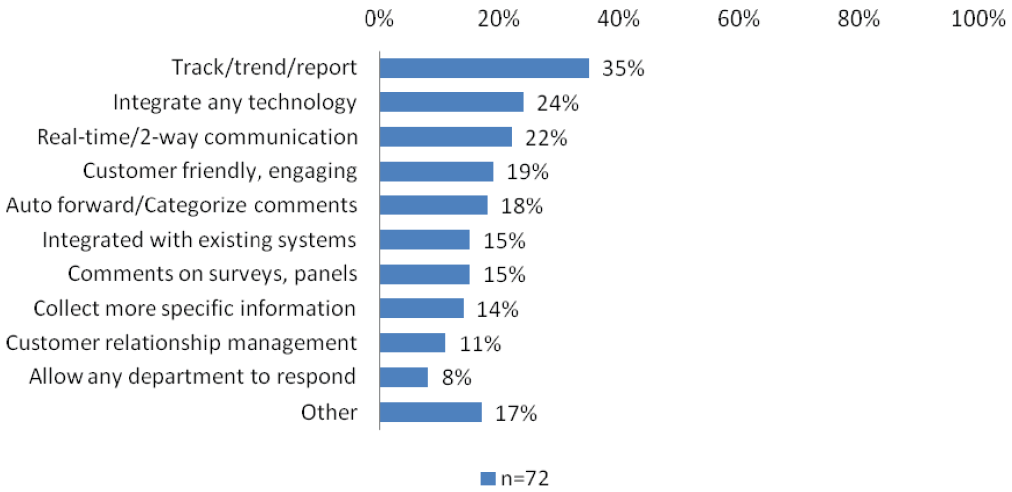


Figure C-22. "What is the source of this estimate?"

Final Thoughts on Using Web-Based Feedback Tools

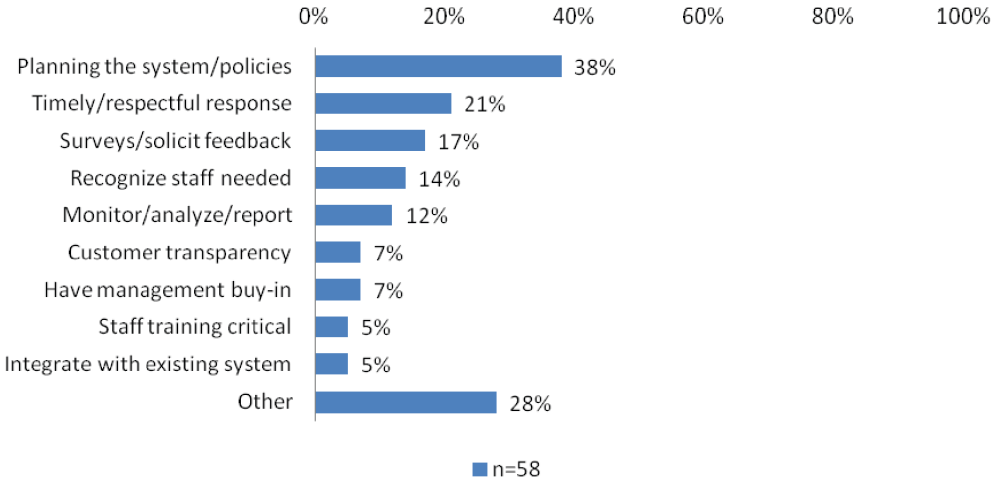
Ideal Web-Based Customer Feedback System

Survey respondents were asked to imagine the ideal web-based customer feedback system for their agency. They were asked to indicate what they would like to see, how it would operate, and what types of feedback they would receive. There were 72 respondents who provided comments about their ideal system. Comments were categorized into general topic areas that reflected the most common responses (see Figure C-23). The most desired feature, mentioned by 35% of the agencies, was the ability to track, monitor, and report on customer feedback. The next most mentioned features were the ability to integrate comments across all technologies (e.g., social media, mobile application, email), and ability to have real-time, two-way conversations with customers (24% and 22% of agencies, respectively).



Note: Multiple responses allowed; comments not related to online customer feedback systems were excluded.

Figure C-23. "Imagine for a minute the ideal web-based customer feedback system for your agency. What would your agency like to see? How would it operate? What type of feedback would you receive? Please describe your desired system."



Note: Multiple responses allowed

Figure C-24. "Do you have any lessons learned which would benefit other transit agencies that are considering implementing web-based customer feedback tools? What is the most important lesson?"

Lessons Learned

Finally, survey respondents were asked to share "any lessons learned which would benefit other transit agencies that are considering implementing web-based customer feedback tools." The most common comments were related to internal planning and policies (see Figure C-24). Example comments include:

- Have an overall roadmap for your digital efforts. Do not react all the time—be proactive. Have a plan and find a way for management to back the plan. Get IT involved early on.
- Have policies and procedures in place with clear work flows.
- Match your ability to manage and respond to comments to your resources—choose the media that is most readily available to your customers.

The next most common topics were related to timely and respectful responses to comments. Agencies stressed the importance of responding to feedback honestly and in a timely manner. The comments suggested that agencies believe that this practice helped to build trust from riders and acknowledged that the agency was trying to address the issue.

Conclusions

Overall, it was apparent that most of the responses focus on unsolicited feedback—gathering, categorizing, responding, tracking, monitoring, and reporting. Regardless of the type of feedback, however, transit agencies see the benefits of web-based customer feedback, with the primary downside being the staff resources needed to support the systems.

An element of the concern about staff resources is the expanding number of options for web-based feedback, as evidenced by the fact that almost no agencies stated they would reduce or "stop using" any of these over the next five years. The growing number of tools that need to be managed is a concern that is reflected both in the "drawbacks to web-based feedback" (see Figure C-14) and in the comments about an ideal system and lessons learned (see Figure C-23 and Figure C-24). Transit agencies see that the keys to managing these systems are planning, integration,

and automation. That is, key elements include developing an agency-wide digital feedback plan, with management support; having a system that automates as much of the process as possible, such as categorizing comments and forwarding to the proper person for response; and integrating all feedback channels across all technologies into existing internal operating systems.

Planning for the system recognizes that web-based customer feedback is now a standard method of communication. Having a plan, with the information technology requirements addressed; policies and procedures for handling customer feedback; data integration, reporting and analysis; and staff training are needed to incorporate the efforts into the organization structure. Looking specifically at web-based customer feedback systems, integration and automation are essential for two reasons: efficient use of staff resources and the ability to translate the feedback into information for improving transit through integrated analysis and reporting. Incorporating these elements into the web-based customer feedback system plan is important to ensure that an agency is able to most effectively use all customer feedback to improve transit service.

Abbreviations and acronyms used without definitions in TRB publications:

A4A	Airlines for America
AAAE	American Association of Airport Executives
AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
ACI–NA	Airports Council International–North America
ACRP	Airport Cooperative Research Program
ADA	Americans with Disabilities Act
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATA	American Trucking Associations
CTAA	Community Transportation Association of America
CTBSSP	Commercial Truck and Bus Safety Synthesis Program
DHS	Department of Homeland Security
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
HMCRP	Hazardous Materials Cooperative Research Program
IEEE	Institute of Electrical and Electronics Engineers
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
MAP-21	Moving Ahead for Progress in the 21st Century Act (2012)
NASA	National Aeronautics and Space Administration
NASAO	National Association of State Aviation Officials
NCFRP	National Cooperative Freight Research Program
NCHRP	National Cooperative Highway Research Program
NHTSA	National Highway Traffic Safety Administration
NTSB	National Transportation Safety Board
PHMSA	Pipeline and Hazardous Materials Safety Administration
RITA	Research and Innovative Technology Administration
SAE	Society of Automotive Engineers
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005)
TCRP	Transit Cooperative Research Program
TEA-21	Transportation Equity Act for the 21st Century (1998)
TRB	Transportation Research Board
TSA	Transportation Security Administration
U.S.DOT	United States Department of Transportation

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