Public Participation: Madison Metro Transit

Prepared for Madison Metro Transit

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# Table of Contents

List of Tables ........................................................................................................................................... v
List of Figures ........................................................................................................................................... v
Foreword ................................................................................................................................................... vi
Acknowledgments ................................................................................................................................. vii
Executive Summary ............................................................................................................................... viii

## Introduction .......................................................................................................................................... 1

### Public Participation in Government Services .................................................................................. 2
  - Rationales for Public Participation ........................................................................................................ 2
    - Conceptual Frameworks ......................................................................................................................... 2
      - Power ........................................................................................................................................... 3
      - Legitimacy ................................................................................................................................... 3
      - Collaboration and Deliberation ........................................................................................................... 4
    - Public Participation Techniques .......................................................................................................... 4
    - Critiques of Public Participation .......................................................................................................... 5
  - Data and Methods ................................................................................................................................ 6

## Status Quo: Metro Transit’s Public Participation Process ................................................................. 7
  - Metro Transit’s Organizational Framework .......................................................................................... 7
  - Federal Requirements for Public Participation ...................................................................................... 7
  - Political and Financial Constraints ........................................................................................................ 8
  - Interaction with the Public ..................................................................................................................... 9
    - Transit and Parking Commission Public Hearings ............................................................................. 9
    - Neighborhood Resource Teams ......................................................................................................... 10
    - Public Postings ................................................................................................................................. 10
    - Website/Phone Comments ............................................................................................................... 10
    - Mobile Phone Apps .......................................................................................................................... 11

## Recommendations .............................................................................................................................. 14
  - Improving Accessibility of TPC Meetings ............................................................................................ 14
    - Vary Meeting Time and Day of the Week ......................................................................................... 14
    - Break TPC Meetings into Small Groups ........................................................................................... 15
  - Website Upgrade ................................................................................................................................ 16
    - Improve Website Navigability ........................................................................................................... 17
    - Crowdsourcing ............................................................................................................................... 17
    - Provide Multilingual Material ............................................................................................................ 18
  - Neighborhood Outreach ....................................................................................................................... 18
    - Use Community Organizations to Facilitate Participation ............................................................ 19
    - Hold Informal Meetings ...................................................................................................................... 20
    - Employ Methods of Tactical Urbanism ............................................................................................. 21
  - Improve Mobile Phone Applications into an Avenue for Public Participation .................................... 22
List of Tables

Table 1: Types of Participation ........................................................................................................3
Table 2: Context that Signals and Enforces Power Dynamics ........................................................3
Table 3: Public Participation Techniques ........................................................................................4
Table 4: Federal Requirements ........................................................................................................8
Table 5: Meeting Time Strategies .................................................................................................15
Table 6: Small Group Case Studies ...............................................................................................16
Table 7: Suggestions from Neighborhood Associations...............................................................19
Table 8: Examples of Meals and Childcare at Public Meetings ....................................................21
Table 9: Computer Access and Smartphone Ownership by Income and Race/Ethnicity ..........23
Table 10: Mobile App Development Options ................................................................................25

List of Figures

Figure 1: City of Madison Transit Organizational Framework .......................................................7
Figure 2: Metro Transit’s Avenues of Public Participation .................................................................9
Figure 3: Metro Transit Call Center and Online Comment Statistics, Fiscal Year 2011-14 .............11
Figure 4: Mobile Apps Serving Metro Transit Riders .................................................................12
Figure 5: Status Quo Configuration of Mobile Apps ....................................................................12
Figure 6: Metro Transit Homepage ................................................................................................17
Figure 7: Three Steps to Neighborhood Outreach ......................................................................19
Figure 8: Mobile Apps as an Avenue of Public Participation .......................................................23
Foreword

This report is the result of collaboration between the La Follette School of Public Affairs at the University of Wisconsin–Madison and Madison Metro Transit System. Our objective is to provide graduate students at La Follette the opportunity to improve their policy analysis skills while contributing to the capacity of Metro Transit to understand ways to improve its public participation processes.

The La Follette School offers a two-year graduate program leading to a master’s degree in public affairs. Students study policy analysis and public management, and they can choose to pursue a concentration in a policy focus area. They spend the first year and a half of the program taking courses in which they develop the expertise needed to analyze public policies. The authors of this report are all in their final semester of their degree program and are enrolled in Public Affairs 869 Workshop in Public Affairs. Although acquiring a set of policy analysis skills is important, there is no substitute for doing policy analysis as a means of learning policy analysis. Public Affairs 869 gives graduate students that opportunity.

This year the workshop students were divided into eight teams. Other teams completed projects for the City of Madison, the Wisconsin Department of Children and Families, the Wisconsin Legislative Council, the Wisconsin Department of Public Instruction, the Center for Economic Progress, and The Financial Clinic of New York City.

Every public organization struggles with how to incorporate the perspective of those it serves. Transportation services like Madison Metro face federal requirements for minimal levels of public involvement. Public participation provides a form of democratic legitimacy, and it may provide substantive knowledge on public preferences about services. But there are many different ways to engage in participation, with information technology offering new options. In some cases, non-representative groups may dominate participation forums, and organizing participation is not costless. This analysis examines which forms of participation Madison Metro can feasibly implement to increase participation.

Donald Moynihan
Professor of Public Affairs
Madison, Wisconsin
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Executive Summary

Madison Metro Transit System operates the bus system serving the Madison metropolitan area. Federal regulations require Metro Transit to prioritize equitable service in the community. Metro Transit has a limited budget to meet these regulations, maintain its operations, and create a robust public participation process. Residents have complained that Metro Transit has developed proposals without adequate public consultation. This report analyzes Metro Transit’s current public participation process and recommends opportunities to improve public participation.

Metro Transit goes beyond compliance with federal public participation requirements, but its strategies are primarily reactive. Metro Transit uses traditional forms of public participation, including public hearings held by the Transit and Parking Commission, public postings, a call center, and a website. Although these processes give community members the opportunity to voice their views, they often reach a limited audience and gather public feedback late in the decision-making process. This report looks at how changes in Metro Transit’s public participation process can lower the barriers to community engagement within the public participation process. Lower barriers can increase the legitimacy of public participation by making it more accessible, less intimidating, more convenient, and more inclusive.

We envision a future in which Metro Transit proactively reaches out and engages riders through technological and social interaction. Within the vision of proactive engagement, we recommend building on current strategies and exploring new opportunities. We developed these recommendations through an examination of research on public participation, a review of successful practices in other communities, and interviews with community stakeholders.

1. Improve accessibility of the Transit and Parking Commission meetings. The current meeting time and structure is not accessible to all riders. Holding meetings at varying times and days of the week, and breaking meetings into small groups will reach a broader audience.

2. Upgrade Metro Transit’s website. Metro Transit’s website is a valuable resource, but it is difficult to navigate. Highlighting feedback functions, soliciting feedback through crowdsourcing, and providing multilingual material are opportunities for improvement.

3. Engage in neighborhood outreach. Metro Transit struggles to target specific neighborhoods about relevant plans. Establishing relationships with neighborhood associations, schools, churches, and other neighborhood organizations; holding meetings in the community; and engaging in tactical urbanism will target particular riders earlier in the process.

4. Improve mobile bus apps. Bus riders increasingly seek information on services through third party apps. Every week mobile bus apps access bus data more than 600,000 times. Ensuring apps’ quality and uninterrupted service, and adding a comment component could make public participation in decision-making more convenient for riders.
Introduction

Madison Metro Transit System (Metro Transit) provides public transportation services to the Madison, Wisconsin, metropolitan area. Metro Transit’s service area spans 72 square miles and encompasses a population of nearly 250,000 individuals. With an annual operating budget of approximately $55 million, Metro Transit strives “to provide safe, reliable, convenient, and efficient public transportation to the citizens of the Metro service area” (Metro Transit 2013). To maintain operating costs, Metro Transit receives funding from federal, state, and local governments. In light of recent financial restructuring in Wisconsin’s state government, Metro Transit will have difficulty securing the funding necessary to expand its bus service capacity for the foreseeable future (Kamp 2015).

Federal regulations require Metro Transit to prioritize equitable service within its territory. Metro Transit wants to ensure that it uses its available resources to provide equitable service by developing a robust public participation process. This report recommends innovations that will improve Metro Transit’s public outreach program.

The report is separated into three main sections. First, we review academic literature regarding the rationales, conceptual frameworks, common techniques, and limitations of public participation in decision-making. Second, we describe Metro Transit’s current process for soliciting and using community input, along with a discussion of political and financial constraints. The third and final section provides recommendations that Metro Transit can implement to improve its public participation processes.
Public Participation in Government Services

Metro Transit's public participation challenges are not unique. The following discussion reviews prior literature on the expected benefits, academic models, common criticisms, and popular methods of public participation. These concepts inform our analysis of Metro Transit's specific issues.

Rationales for Public Participation

Public participation in government decision-making can benefit government agencies and public stakeholders. Through effective public participation practices, government agencies can achieve the following:

* **Solicit input from marginalized segments of the community.** Decision-makers can encourage input from marginalized groups by fostering effective public dialogue. Removing obstacles to public participation for these groups, which include language barriers, limited transportation options, and a lack of childcare, can increase participation (Brabham 2009).

* **Avoid future litigation by addressing stakeholder issues early in the process.** Defusing major issues at an early stage may benefit agencies by sparing them from costly legal battles in the future (Stewart and Sinclair 2007). Even if disgruntled stakeholders still choose to litigate, these battles will not be as time consuming and costly if the community is involved early in the decision-making process (Randolph and Bauer 1999).

* **Develop specialized solutions with local knowledge.** Agencies can use public participation as a way to access local knowledge, which can produce more informed policy decisions (Stewart and Sinclair 2007). Local intelligence provides context-specific information unavailable from other sources, enabling decision-makers to craft policies that better accommodate public preferences (Irvin and Stansbury 2004). Finally, local public input is especially salient when policy decisions require value judgments rather than technical expertise alone (Rowe and Frewer 2000).

* **Improve transparency throughout the decision-making process.** Decision-makers can gain stakeholders’ trust by clearly communicating their goals and challenges (Arnstein 1969). As transparency increases, stakeholders may become more sympathetic with agency decision-makers, as they acknowledge the tough decisions that they face (Irvin and Stansbury 2004).

* **Legitimize decision results in the eyes of the public.** Agencies can increase the legitimacy and acceptance of decisions by communicating with the public and allowing stakeholders to shape the decision-making process (Irvin and Stansbury 2004).

Conceptual Frameworks

Models of public participation distill central concepts of power, legitimacy, and deliberation that emerge across different public participation settings.
Power

The power over decision-making that participation processes provide or withhold from the public largely determines outcomes and the agency and public’s satisfaction with the process. In 1969, Sherry Arnstein categorized common participation practices according to the degree of power the public wields over decision-making, summarized in Table 1.

<table>
<thead>
<tr>
<th>Nonparticipation</th>
<th>Token Participation</th>
<th>Citizen Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manipulation</td>
<td>Informing</td>
<td>Partnership</td>
</tr>
<tr>
<td>Therapy</td>
<td>Consulting</td>
<td>Delegated Power</td>
</tr>
<tr>
<td></td>
<td>Placating</td>
<td>Citizen Control</td>
</tr>
</tbody>
</table>

Nonparticipation deprives the public of any legitimate means of influencing decision-making. The public gives input in token participation, but decision-makers can choose to consider or ignore public preferences. The subcategories of citizen power represent increasing ability for the public to override the preferences of government officials (Arnstein 1969). The context of participation plays a significant role and signals to participants who control the outcome. Table 2 below lists these aspects of power over participation choices that significantly influence decision outcomes: (Farkas 2013).

<table>
<thead>
<tr>
<th>Setting the agenda</th>
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</thead>
<tbody>
<tr>
<td>Limiting the discussion to certain topics</td>
</tr>
<tr>
<td>Regulating participants’ turns to comment</td>
</tr>
<tr>
<td>Interrupting other participants</td>
</tr>
<tr>
<td>Organizing the physical layout of the participation space</td>
</tr>
</tbody>
</table>

A model of public participation based on power describes situations where decision-makers’ and the public’s interests are opposed. When each group’s objective is to override the preferences of the other group, the public values a participation process that gives it power to compel decision-makers to consider its preferences. However, models based on power may miss opportunities for groups with common goals to mutually benefit from collaboration (Cooper, Bryer, and Meek 2006).

Legitimacy

Outcomes of successful public participation are democratically legitimate (Rowe and Fewer 2000). A legitimate process contains a transparent, inclusive, and fair mechanism for the public to influence the outcome (Laurian and Shaw 2009). The public and the government value genuine legitimacy and the appearance of legitimacy. Both are necessary for successful public participation. If the government creates the perception of legitimacy through transparent, inclusive, and fair avenues of public influence over decision-making, apparent and genuine legitimacy mutually support each other. But when the public views participation processes as
seeking to create legitimacy without genuine public influence, participation is unsuccessful (Arnstein 1969; Topal 2009).

**Collaboration and Deliberation**

Deliberation is a discussion in which multiple stakeholders carefully consider the reasons for and against a proposal (Fearon 1998). When successful, focusing on collaboration makes participation more effective, informative, and meaningful (Abelson et al. 2003). The public sees agencies as legitimate, responsive, and trustworthy users of decision-making authority (Carpini, Cook, and Jacobs 2004). Agency decision-makers see the public as effective, competent participants (Cooper, Bryer, and Meek 2006). Additionally, deliberative public participation cannot produce a fair and legitimate decision if some affected groups are excluded (Fung 2006).

**Public Participation Techniques**

Government agencies use a variety of techniques to facilitate public participation in their decision-making processes. Table 33 describes and categorizes these methods.

<table>
<thead>
<tr>
<th>Agency to Public</th>
<th>Public to Agency</th>
<th>Interactive</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public Postings:</strong> Agencies inform stakeholders about upcoming meetings and events through traditional forms of notification including: direct mail, flyers, public service announcements, and newspaper advertisements.</td>
<td><strong>Call Center:</strong> Members of the public call in to agency hotlines to voice their opinions and ask questions. Individuals are able to use this system to voice opinions regarding day-to-day operations as well as to provide input for long-term organizational planning.</td>
<td><strong>Citizen Advisory Committee:</strong> Community representatives assemble to examine how a particular agency-related issue affects the community. The committee may provide suggestions to the agency.</td>
</tr>
<tr>
<td><strong>Social Media:</strong> Agencies distribute information through electronic media such as Facebook, Twitter, and YouTube to engage individuals not reached by traditional methods of public participation.</td>
<td><strong>Website:</strong> Agencies use websites to provide information to the public in a centralized, digital resource. The public has an opportunity to provide opinions through feedback forms on the website.</td>
<td><strong>Crowdsourcing:</strong> Agencies aggregate collective knowledge from online communities to generate potential solutions. This technique takes advantage of online media to receive many responses from different individuals in a short period of time.</td>
</tr>
<tr>
<td><strong>Public Opinion Survey:</strong> Agencies administer public opinion surveys to gather public input about a particular issue. Surveys are often distributed through a written questionnaire or a telephone survey.</td>
<td><strong>Public Hearing:</strong> Agencies present information at a public forum about plans or programs that will affect the community. The public has a chance to provide input on the issues to decision-makers.</td>
<td></td>
</tr>
</tbody>
</table>
Critiques of Public Participation

Although public participation can improve decision-making, it has drawbacks. Research offers a number of critiques, described below.

*Traditional techniques often fail to produce meaningful public engagement.* Government agencies rely on formal public hearings as the main platform for soliciting public input. However, scholars question whether traditional public hearings effectively transform public preferences into government decisions. Formal hearings may alienate the public, ratify decisions agreed upon prior to the formal public proceeding, and legitimate state and corporate power with a veneer of public consent (Lando 2003; Farkas 2013; Topal 2009). Most forms of public participation do not involve the public until late in the process, limiting their ability to affect decisions, and thus build resentment (Irvin and Stansbury 2004).

Some scholars suggest replacing traditional forms of public participation with practices of collaborative public engagement. Decision-makers could make public participation processes inclusive and encourage an ongoing and equal dialogue between public agencies, private interests, and disadvantaged citizens. Effective processes create an ongoing dialogue in which all parties influence data and policy choices, build professional and personal networks, and create institutional capacity (Innes and Booher 2004).

*Public citizens sometimes lack the knowledge and expertise to make informed decisions about complex issues* (Moynihan 2003). The public’s lack of technical capacity could cause the costs of public participation to outweigh the benefits. Furthermore, special interest groups could take advantage of the public’s lack of understanding, which could produce outcomes not in the best interest of the greater community. In these instances, neutral administrators might make better and more efficient decisions unilaterally (Irvin and Stansbury 2004).

*Public participants can be unrepresentative of the greater community.* Participants may have narrow interests not aligned with the broader public interest (Moynihan 2003). Special interest groups can dominate public discussions. Additionally, public participants are often unrepresentative of the general community’s education, income, and policy preferences (Irvin and Stansbury 2004). In this way, public participation can encourage a process where self-serving actors influence government decision-making in their favor, potentially contributing to issues like inequality (Grimes and Esaiasson 2014).

*Public participation creates a trade-off between efficiency and inclusion.* Because public participation processes require more time and energy than unilateral decision-making, there is an inherent trade-off between equality and government efficiency. Putting in the effort to coordinate, educate, and inform citizens is time intensive and can slow down decision-making (Moynihan 2003). The representative system of government is organized to allow elected officials to specialize and make decisions for the community. Many citizens prefer this representative style and do not want to be involved in drawn-out decision-making and policy implementation processes (Irvin and Stansbury 2004).

*Online public participation does not necessarily make participation better.* While new digital technologies can enhance public participation and data collection, moving public
participation to online platforms may not resolve problems of traditional public participation. Online formats may lead to information overload, unrepresentative participation due to unequal access to technology (Goldberg 2010), and a loss of norms of respectful interaction due to the impersonal nature of the exchange.

Evaluation is necessary to determine effectiveness, but is difficult to conduct. Agencies must evaluate their public participation processes to improve them. Because public participation is complex, context-dependent, difficult, and prone to ineffectiveness, a systematic evaluation of outcomes is needed to understand the effectiveness of a public participation effort. Evaluating participation processes requires time, expertise, motivation, and money, all resources that could be applied to other projects. Organizations must also be willing to reveal shortcomings identified by the evaluation and make improvements (Laurian and Shaw 2009).

Data and Methods

We studied the practices of Metro Transit’s peer communities and their innovative transit systems. Metro Transit suggested case studies to us. We reviewed public documents and interviewed staff responsible for public participation for these case studies. Appendix A contains information gathered in these interviews and from public documents. We also talked to Madison stakeholders, including: Metro Transit employees, civic programmers, transit advocates, and neighborhood association representatives. We tried to interview diverse stakeholders within Metro Transit and in the community. We attended Transit and Parking Commission meetings to learn about the public participation process.
Status Quo: Metro Transit’s Public Participation Process

Metro Transit uses traditional public participation processes, such as public meetings and public notices, to communicate with the public. Federal requirements, limited budgets for capital improvements and staff, and local oversight constrain Metro Transit. Metro’s current processes are reactive but beyond compliance.

Metro Transit’s Organizational Framework

Three local governmental bodies set policy for Metro Transit. First, the general manager of Metro Transit reports directly to the mayor. Second, the Transit and Parking Commission (TPC) oversees Metro Transit and approves its budget and major service changes. Third, the Madison Area Transportation Planning Board, a metropolitan planning organization, establishes long-term transit plans for the Madison area. Metro Transit projects must be included in the long-term plan to receive federal funding. Figure 1 below depicts this relationship.

Federal Requirements for Public Participation

Metro Transit must comply with Federal Transit Administration requirements for public participation to receive federal funding pursuant to Title 49 Section 21 of the Code of Federal Regulations. The possible loss of federal funding is such a serious risk that Metro Transit protects against it through processes that go beyond the federal mandate.

Title VI of the Civil Rights Act mandates that everyone receive the same benefits and burdens regardless of race, color, or national origin. But defining, measuring, and enforcing equality of outcomes is difficult. Federal Transit Administration Circular 4702.1B implements Title VI of the Civil Rights Act to ensure that stakeholders have an equal opportunity to influence transit decisions regardless of race, color, or national origin (49 C.F.R. § 21, Circular 4702.1B, Circular 4702.1B Overview, Aimen and Morris 2012). Table 4 lists required components of Madison Metro Transit’s Title VI program that are important for public participation.
Table 4: Federal Requirements

<table>
<thead>
<tr>
<th>Requirements for Metro Transit’s Title VI program</th>
</tr>
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<tbody>
<tr>
<td>• Discrimination complaint process and form</td>
</tr>
<tr>
<td>• Public participation plan</td>
</tr>
<tr>
<td>• Data on demographics and travel patterns of riders</td>
</tr>
<tr>
<td>• Outreach plan for people with limited English proficiency</td>
</tr>
<tr>
<td>• Fare equity analysis</td>
</tr>
<tr>
<td>• Notice to riders of rights under Civil Rights Act</td>
</tr>
</tbody>
</table>

Source: Adapted from FTA Overview of Final Circular 4702.1B

Political and Financial Constraints

Federal and state funding that has not kept pace with the growth in ridership constrains service expansion and costly public outreach. Policy direction and oversight from city government limits Metro Transit’s ability to make up the difference through fare increases. Bus routes frequently run 30 to 40 percent over capacity. Full buses may pass waiting riders, inconveniencing them and hurting Metro Transit’s reputation. Lack of garage space prevents Metro Transit from adding more buses (Kamp 2015).

Increasing ridership has elevated Metro Transit’s importance to the community. Metro Transit must balance increased demand for bus service against physical space constraints and offset service expansions with service reductions elsewhere. Metro Transit’s public participation process must consider the competition for resources.
Interaction with the Public

Metro Transit communicates with the public through several avenues. Figure 2 summarizes these avenues.

**Figure 2: Metro Transit’s Avenues of Public Participation**

Created by the authors

*Transit and Parking Commission Public Hearings*

The TPC is a constituted under the auspices of the Madison Common Council. As the primary oversight body for Metro Transit, the TPC is a public utility. The TPC’s nine voting members meet at the Martin Luther King, Jr. Municipal Building at 5 p.m. on the second Wednesday of every month (Legislative Information Center 2015). The TPC gives some Madison residents control over Metro Transit’s decision-making through rider commissioners and the public comment period.

Many of the critiques of traditional public participation apply to TPC meetings. Meetings are held in municipal buildings downtown, which may be distant from the neighborhoods and residents affected by its decisions. Meetings attract those with the strongest interests at stake, and the TPC does not solicit other participants. Commissioners can choose to respond to public comments, so they are not compelled to enter into a dialogue with members of the public.
Meetings are recorded and available online, and agendas are available in advance online to make meetings accessible. Metro Transit presents comments received by its call center and website. The TPC is an important venue of public involvement in transit decision-making. However, multiple venues are necessary to meet the needs of Metro Transit’s diverse ridership and to facilitate several kinds of interactions between Metro Transit and the public.

**Neighborhood Resource Teams**

Neighborhood resource teams are cross-agency teams created under the direction of the mayor’s office. The teams are staffed by officials from city agencies that provide services to the community to enhance coordination and create collaborative solutions to problems particular to each neighborhood. Metro Transit assigns staff members to participate in the teams and lists them as the second most important oversight committee in its public participation plan (Metro Transit 2014).

Our research suggests, however, that Metro Transit should not rely on neighborhood resource teams as an important avenue of public participation. Neighborhood resource teams largely rely on their members to identify neighborhood problems and develop solutions internally. Although they may be attentive to local concerns and able to connect Metro Transit to community contacts, neighborhood resource teams should not be considered an avenue of public participation.

**Public Postings**

Metro Transit uses electronic and physical postings to notify the public of service changes, upcoming TPC meetings, and other information. In addition to traditional postings in newspapers, flyers, and inside buses, Metro Transit has a comprehensive online presence. The public can subscribe to Metro Transit’s emails and text messages to receive postings directly. Metro Transit also posts flyers directly at bus stops affected by service changes. Postings inherently send information one-way to the public, rather than creating a two-way dialogue. Notifying the public of opportunities to participate is a necessary first step to public involvement.

**Website/Phone Comments**

Metro Transit receives thousands of public comments per week through its call center and website. Metro Transit tracks comments and responses written by its staff through an Access database to ensure that comments receive responses within 10 days. Metro Transit informs the TPC of comments. These comments are summarized in Figure 3.
Metro Transit’s call center and online feedback form handle a large volume of public input. The focus on prompt, substantive responses to comments communicates that Metro Transit values public input.

**Mobile Phone Apps**

Metro Transit and the Madison community have been leaders in using mobile apps to keep riders informed about arrival times. Working with Madison residents, Metro Transit has made real-time information about bus locations and arrival times available through mobile apps. Metro Transit made bus stop location data available on its website in a standard format. Metro Transit also collects real-time arrival data that can be scraped from its website. Based on this data, volunteer developer Greg Tracy created an open-access interface that translates data from Metro Transit’s web site into data useful for mobile apps (Leege 2013).

Several apps, including Mad Next Bus, the Wisconsin App, and the Transit App, use this developer platform to provide real-time route information to riders. Figure 4 provides examples of the apps’ interfaces. This process is ad-hoc and informal and relies heavily on volunteer computer programmers. The developer interface and the precursor to the Wisconsin App helped Metro Transit win the 2012 Outstanding Public Transportation System Achievement Award (Metro Transit 2015).

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**Figure 3: Metro Transit Call Center and Online Comment Statistics, Fiscal Year 2011-14**

<table>
<thead>
<tr>
<th>Annual Volume</th>
<th>Composition by Category</th>
<th>Top 10 Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total: 15,267</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rank</th>
<th>Type</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Customer passed-up</td>
<td>8.5%</td>
</tr>
<tr>
<td>2</td>
<td>Driving Behavior</td>
<td>7.4%</td>
</tr>
<tr>
<td>3</td>
<td>Compliment</td>
<td>6.2%</td>
</tr>
<tr>
<td>4</td>
<td>Driver Rude</td>
<td>5.0%</td>
</tr>
<tr>
<td>5</td>
<td>Bus Late - Fixed Route</td>
<td>4.7%</td>
</tr>
<tr>
<td>6</td>
<td>Bus Early - Fixed Route</td>
<td>4.4%</td>
</tr>
<tr>
<td>7</td>
<td>Bus Late - Para</td>
<td>3.9%</td>
</tr>
<tr>
<td>8</td>
<td>Other Driver Conduct</td>
<td>2.7%</td>
</tr>
<tr>
<td>9</td>
<td>Bus Never Came</td>
<td>2.6%</td>
</tr>
<tr>
<td>10</td>
<td>Comment - Service Design</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

Created by the authors
Figure 4: Mobile Apps Serving Metro Transit Riders

Screenshots captured by the authors April 2015

Figure 5 illustrates the current relationship between Metro Transit and the mobile apps. First, Metro Transit makes bus stop location data available in a standard format that can be scraped from its website. Then, an open-access developer interface created by Greg Tracy takes data from Metro Transit’s website and translates it into a useful format for mobile apps (Leege 2013). Finally, the apps present route information directly to users.

Figure 5: Status Quo Configuration of Mobile Apps
Metro Transit has no direct tools to ensure the quality of bus apps or to add rider feedback features. Because developers are volunteers, they can choose at any time to stop performing needed updates. This current approach does not guarantee quality, uninterrupted service. The exception is the Wisconsin App, which is updated and maintained by the University of Wisconsin–Madison’s Division of Information Technology. But the Wisconsin App still relies on Metro Transit’s website data and Greg Tracy’s developer interface.

Metro Transit benefits from supporting independent, volunteer developers. Metro Transit does not have to use its resources to develop these apps and only needs to allow access to bus location data on its website (Tracy 2015). Independent, volunteer developers also bring additional skills and innovative ideas, which may be expensive for Metro Transit to acquire otherwise.
Recommendations

Metro Transit has well-established and effective processes for informing the public. However, Metro Transit’s processes for incorporating public input into decisions and demonstrating the value of that input to the public are more limited (Foxcroft 2015). Acting on these recommendations together will transition Metro Transit from a reactive public participation process to a proactive dialogue. We recommend that Metro Transit:

1. Improve accessibility of TPC meetings
2. Upgrade website navigability
3. Facilitate proactive community outreach
4. Add public participation components to mobile apps

Improving Accessibility of TPC Meetings

Community members can significantly influence Metro Transit’s decision-making process by participating in TPC meetings. The following recommendations make it easier to participate.

Vary Meeting Time and Day of the Week

We recommend that the TPC experiment with varying its time of day and day of the week so that it doesn’t always meet monthly downtown on Wednesday at 5 p.m. (Madison Legislative Information Center 2015).

One neighborhood association representative told us, “evening meetings are not appealing to families or anyone really” (Roltgen 2015). Residents who attend TPC meetings do not have conflicts or have an inherent interest or motivation in transit issues. Attendees probably differ in systematic ways from non-attendees who have schedule conflicts or lack sufficient interest to sacrifice other activities.

Ideally, the TPC would ask bus riders directly about their preferred days and times for meetings (FHWA 2006). Without knowing public preferences, the TPC can still increase the likelihood that members of the public can attend some of its meetings by varying meeting times and days of the week, advertising these alternative times, and observing effects on participation. Table 5 lists transportation organizations that adapted meeting times based on public preferences.
This recommendation has potential costs. For instance, meetings at different times may require greater availability of commissioners and city staff, or demand for space in city buildings may be too great during the day. Because citizen positions on the TPC are an important avenue of public influence over Metro Transit, the TPC should avoid schedule obligations that discourage service. The TPC can, however, vary meeting times and days enough to accommodate a greater share of riders without burdening commissioners and staff or conflicting with other important obligations.

**Break TPC Meetings into Small Groups**

We recommend that the TPC break attendees into small groups of commissioners and members of the public for a portion of each meeting. The TPC is an important forum for public involvement in transit decision-making; however, speaking before the TPC is intimidating (De Vos 2015; Saqqaf 2015). Restrictions on public comments are important to the functioning of official meetings but can make the commenter feel powerless (Farkas 2013). The gap in size between an organization like Metro Transit and a single individual may discourage residents from sharing thoughts (Ebeling 2015). Many people avoid sharing opinions in front of large groups, especially when commissioners or other commenters can challenge their opinions (FHWA 2006; Aimen and Morris 2012).

Although the TPC must conduct its business in an open session with formal rules in place, it should take time to break the meeting into small groups when its schedule allows. The TPC would need to experiment with the duration and size of small groups. Experience suggests that the primary role of commissioners and staff in these groups is listening to comments from other participants. The TPC should, however, prepare commissioners and staff to mediate small group discussions if necessary. Table 6 lists transit organizations that use small meetings or focus groups effectively. Breakout groups during TPC meetings will have many of the same advantages.

---

### Table 5: Meeting Time Strategies

<table>
<thead>
<tr>
<th>Organization</th>
<th>Effective Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sacramento (California) Area Council of Governments</td>
<td>Breakfast meetings increased engagement with business community</td>
</tr>
<tr>
<td>Georgia Department of Transportation</td>
<td>Surveys collected preferred times for business owners and others</td>
</tr>
<tr>
<td>Tennessee Department of Transportation</td>
<td>Mail surveys revealed preferences of different groups for meetings at different times</td>
</tr>
<tr>
<td>Chicago Area Transportation Study</td>
<td>Asking people to identify convenient meeting times improved outreach</td>
</tr>
</tbody>
</table>

Source: Adapted from Morris and Fragala 2010; FHWA 2006
Table 6: Small Group Case Studies

<table>
<thead>
<tr>
<th>Organization</th>
<th>Effective Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seattle Neighborhood Planners</td>
<td>1,200 residents attended workshops and small group discussions in 14 historically underrepresented neighborhoods.</td>
</tr>
<tr>
<td>City of Austin, Texas</td>
<td>More than 1,200 people participated in the Meeting-in-a-Box that provided groups and individuals tools to hold meetings on urban planning.</td>
</tr>
<tr>
<td>Community Planning Association of Southwest Idaho</td>
<td>Focus groups identified barriers to community engagement; used Meeting-in-a-Bag concept and provided meeting hosts with contact information for agency staff.</td>
</tr>
<tr>
<td>Colorado Department of Transportation</td>
<td>Small meetings of eight to 12 residents made participants more comfortable expressing opinions.</td>
</tr>
<tr>
<td>Indiana Department of Transportation</td>
<td>Stimulated discussion by breaking an open forum into small groups of a staff person and a few residents.</td>
</tr>
</tbody>
</table>

Source: FHWA 2006, Morris and Fragala 2010; Aimen and Morris 2012

Website Upgrade

A user-friendly website should be a key aspect of Metro Transit’s public participation plan. A website facilitates participation by providing information and soliciting feedback, which is important for community members who cannot attend public meetings (Wagner 2013). In addition, an online forum eliminates the power dynamics in a public meeting. Online interactions allow participants to bypass body language, positioning in the room, race, gender, and disability as nonverbal cues that prime the ways other participants interpret and respond to input (Brabham 2009). We recommend that Metro Transit improve the navigability of its website, use crowdsourcing, and translate more of the website into Spanish and Hmong to improve its role in public participation.
**Improve Website Navigability**

Metro Transit could improve its website by making it easier to navigate. Figure 6 highlights that the Metro Transit feedback form is at the bottom of the website (De Vos 2015). To provide easier access, the feedback form should be moved to the top of the website.

**Figure 6: Metro Transit Homepage**

![Metro Transit Homepage](image)

**Crowdsourcing**

Metro Transit can solicit public feedback through its website by crowdsourcing, “an online process for connecting online communities and organizations in pursuit of a product or solution to a problem” (Brabham 2013). Crowdsourcing is frequently used in transportation planning (Gazillo et al. 2013). A crowdsourcer like Metro Transit presents a problem, and members of the public propose creative solutions. These crowdsourcing efforts create an online community in which users can comment on different proposed solutions and vote on which solution is the best for their community (Gazillo et al. 2013).

For crowdsourcing to work, a problem should be addressed in an open forum by bringing together online communities of problem solvers. Crowdsourcing complements rather than
replaces traditional public participation, and distributes power to the community, allowing for an iterative dialogue (Brabham 2013).

In the crowdsourcing project “Next Stop Design,” users in Salt Lake City, Utah, submitted designs for a bus stop shelter. This process lasted four months. Users rated designs, and the three with the highest ratings were declared the winners. Participants had fun, expressed themselves in a creative fashion, and learned new skills. Participants also noted that the website was easy to use. Usability and good web design are important in motivating people to participate online (Brabham 2012). Metro Transit could use crowdsourcing to engage riders, but the problem must be easy to understand without technical knowledge.

Provide Multilingual Material

Metro Transit translates a portion of its website into Spanish. Thirteen percent of Madison residents have limited English proficiency. For example, the Hmong population has been steadily growing in Wisconsin. Roughly 3,000 Hmong speakers live in the Madison urban area as of 2014 (Metro Transit 2014).

Metro Transit should translate more of its website for people who do not speak English as a first language. This change will allow users to navigate the website better and improve Metro Transit’s relationship with non-English speaking residents. Metro Transit can pursue translation in two ways. Portland, Oregon, Champaign-Urbana, Illinois, and Ann Arbor, Michigan, provide Google Translate for Chinese, Hmong, and Spanish. Metro Transit could also contract with specialized translators that may better understand the context of the translation. These services criticize Google Translate as lacking proper understanding of culture and context needed to make an accurate translation. A service competing with Google Translate estimated the cost of a specialized translation service at 6 to 20 cents per word (SpeakLike.com 2015).

Neighborhood Outreach

Metro Transit’s public participation process relies on traditional, reactive methods of participation. Community members feel Metro includes them too late in the decision-making process (De Vos 2015). In 2014, when Metro Transit suggested removing stops from Jenifer Street, it was unaware that one of the bus stops recommended for removal served the Council for the Blind and Visually Impaired. Many in the community felt Metro Transit’s decision-making process lacked legitimacy (Rusch 2015; De Vos 2015). Metro Transit can focus on neighborhood outreach to understand rider preferences, build relationships, and engage the community earlier.

Metro Transit wants to reach groups in Madison that do not use public participation processes. Community members and Metro Transit staff told us that increasing these groups’ participation requires more narrowly targeted, proactive outreach that seeks residents out where they are (Rusch 2015; Foxcroft 2015; De Vos 2015; Ebeling 2015).

We recommend that Metro Transit focus on neighborhood outreach by (a) using community organizations to facilitate participation, (b) holding informal meetings in the community and (c) engaging in tactical urbanism in which individuals carry out small neighborhood projects. Figure 7 shows how all three strategies build on one another, and we recommend Metro use them simultaneously.
Use Community Organizations to Facilitate Participation

We recommend that Metro Transit identify neighborhood associations, churches, schools, and alders in parts of the city that are underserved by existing participation processes. Metro Transit can use these connections to ask questions about street-level rider needs and to transmit information to riders through association, church, and school newsletters. Metro Transit should contact these organizations and assign staff to maintain relationships. Alders can serve as contacts to find additional stakeholders in neighborhoods.

Our conversations with representatives from Madison neighborhood associations show that this recommendation addresses a need for Metro Transit. Table 7 summarizes key insights from these conversations.

Table 7: Suggestions from Neighborhood Associations

- Alders can facilitate participation in targeted neighborhoods.
- Fitchburg transportation staff and alders often contact associations directly.
- Associations like receiving information by email.
- Too much information in email subscriptions is not specific to the neighborhood of interest.
- Associations are interested in long-term planning, but the short-term takes priority.
- Associations expect to be involved before a preferred solution is chosen.

Source: Roltgen 2015; Gassere 2015; Pettigrew 2015; Mullen 2015; Kreimendahl 2015; Bisgard 2015

One model to emulate is TriMet, the transit operator in Portland, Oregon, a national leader in public transit. TriMet views proactive outreach and relationship building as essential to
public participation. We interviewed TriMet’s Outreach Services Coordinator Clay Thompson, who explained:

The tools we have found most valuable [in facilitating public participation] all revolve around leveraging relationships. We cultivate interactive relationships with businesses, business associations, neighborhood associations, advocacy groups and jurisdictional partners. Establishing these relationships is a highly effective way to reach out not only to riders but non-riders and future riders as well. As we cultivate relationships we have found that critics turn in to advocates and skeptics realize our shared goals. These types of relationships also go a long way towards positive PR with our constituents. (Thompson 2015).

Once Metro Transit establishes contact with community organizations, contact information should be collected in a database. Thompson noted this step crucial:

One of the strongest things that we have done in the past few years is establishing an electronic contact database housing all of these individuals and organizations for ongoing conversations via email. It has made a huge difference in our ability to communicate effectively. (Thompson 2015).

Updating contact information is an opportunity to reach out to community groups to see if they have feedback for Metro Transit (Thompson 2015). Metro Transit has difficulty getting information to targeted groups (Rusch 2015). The contact database would serve as a starting point when Metro Transit wants targeted feedback from the community. Metro Transit can use this database to build on relationships by sending out email updates, requesting targeted updates be shared in community newsletters, and setting up meetings in the community.

**Hold Informal Meetings**

Metro Transit can host meetings around the community to reach stakeholders. Initially, Metro Transit can reach out to neighborhood associations and business associations and briefly present Metro Transit’s priorities and plans. This initial presentation will introduce community groups to Metro Transit and allow for community feedback. Face-to-face meetings are the “backbone” of a public participation program. These meetings break down barriers between the public and Metro Transit (FHWA 2013).

Metro Transit can work with neighborhood and business associations to set up meetings when projects affect a particular neighborhood. Portland’s TriMet has success gathering feedback and providing updates at similar meetings. It can be difficult and intimidating for individuals to travel to and participate in formal meetings, so it is important to host these meetings in the community (De Vos 2015; Saqqaf 2015). In southwest Idaho, the association in charge of long-term transportation planning varied its meeting locations throughout the city to locations comfortable for community members. The planning association heard from more diverse voices and created plans more consistent with community preferences (Aimen and Morris 2012). By holding similar meetings throughout Metro’s service area, individuals can comment earlier in the decision-making process, in a location they can access, and in an environment where they are comfortable.
Additionally we recommend that Metro Transit help arrange childcare and meals at informal meetings held in the community. Childcare makes meetings more accessible to residents, particularly single parents (Ebeling 2015). Inadequate childcare is a barrier to community involvement for many residents (Hartell 2008). In 2010, single females were the heads of more than 8 percent of households in Madison (U.S. Census Bureau 2015). Single parents are more likely to have low incomes, so they may find childcare and meals especially valuable (FHWA 2006, NCHRP 2012).

Meals provided at meetings reduce schedule conflicts for families. It may be especially effective to contract meals with companies that are familiar to the target audience, such as restaurants in the neighborhood of the meeting (FHWA 2006). Table 8 lists transportation organizations that increased the effectiveness of their public participation efforts by providing meals and childcare.

<table>
<thead>
<tr>
<th>Organization</th>
<th>Effective Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona Department of Transportation</td>
<td>Increased attendance through lunch meetings added to the end of community organizations’ morning meetings</td>
</tr>
<tr>
<td>Kentucky Transportation Cabinet</td>
<td>Increased attendance by combining transportation meetings with volunteer fire department spaghetti dinners</td>
</tr>
<tr>
<td>Colorado Department of Transportation</td>
<td>Providing child care and meals and ending meetings early enough for children to go home to bed increased meeting attendance</td>
</tr>
<tr>
<td>North Carolina Department of Transportation</td>
<td>Used donated money to provide meals at meetings</td>
</tr>
</tbody>
</table>

Source: Adapted from Aimen and Morris 2012; FHWA 2006

Providing childcare and meals would require resources. Metro Transit could hire contractors to provide these services, or it could spend time soliciting donations. If neighborhood organizations, schools, or churches help organize meetings, those organizations may provide volunteers for childcare. Metro Transit may prefer, however, to contact a licensed and bonded childcare provider to address liability. Additionally, the time spent to situate children in childcare and distribute meals would infringe on the time available for Metro Transit to listen to members of the public. Last, childcare and meals would require a larger meeting space.

**Employ Methods of Tactical Urbanism**

Tactical urbanism is a form of public participation in which local individuals take on small-scale, hands-on projects to improve the livability of their neighborhood. Projects range from temporary and permanent artwork in the community to events and performances (Lydon 2012). This form of participation will not provide specific policy feedback to Metro Transit but
Metro Transit can build positive relationships with Metro Transit’s brand and bus ridership. Additionally, Metro Transit can build relationships, social capital, and trust.

Tactical urbanism takes place in cities across the United States, including New York, San Francisco, and Dallas. Public and city support for tactical urbanism exists in Madison. Madison’s Ride the Drive, which “turns Madison streets into a public promenade” and attracts 20,000 participants is one example focused on transportation (City of Madison 2015). Another example is Little Free Libraries. Residents around the city build boxes and fill them with free books to take or exchange. The Little Libraries across the city demonstrate Madison’s interest in small-scale, hands-on, interactive projects that beautify and engage the community (Little Free Library 2014).

Metro Transit can prioritize tactical urbanism in traditionally underserved areas to build relationships with marginalized communities. Metro Transit can coordinate neighborhood takeovers of bus stops with local groups. Communities can use creative means to make the bus stop representative of their neighborhood. Some ideas include involving students from local schools to paint the sidewalk, bus shelter, or surrounding areas; planting a garden at the bus stop; and chairbombing, which uses salvageable material to build public seating. DoTank in New York City built and located chairs around Brooklyn (Lydon 2012). This process could be duplicated in Madison to create seating at bus stops.

In Pittsburgh, Project for Public Spaces implemented neighborhood takeovers of bus stops. Project for Public Spaces “wanted to reshape Pittsburgh’s bus shelters into something more than static transit infrastructure” viewing them “as vibrant public spaces that foster community engagement and enhance the rider’s experience” (Leyzerovsky 2014). The organization partnered with Pittsburgh City Planning and Public Works, the Port Authority of Allegheny County, nonprofit organizations, and the community. Projects at bus stops included a stationary bike placed a stop to allow riders to exercise, a book corral, programming with music, dance, and poetry, and local art and photography displays.

Improve Mobile Phone Applications into an Avenue for Public Participation

We recommend Metro Transit enhance mobile phone bus apps so that they include opportunities for public participation. An important aspect of public participation is providing useful information. As such, we recommend Metro Transit ensures the continued quality and accuracy of the mobile apps’ information. The developer platform already receives well over 600,000 hits per week (Tracy 2015). Mobile apps will become more important to riders as they rely less on traditional paper route schedules.

Income and demographic disparities in the use of technology is a major consideration in creating a participation plan. Table 9 shows smartphone use is more evenly distributed by race and ethnicity than computer use, and compares similarly to computer access by income. Additionally, Metro Transit can use the neighborhood outreach strategy detailed in the prior section to reach low-income populations that do not have smartphones. More than 90 percent of Americans use cellphones (Fox and Rainie 2014). As smartphone prices decrease, cellphone users will increasingly upgrade their phones, and mobile apps will have a larger and more
diverse user base. Metro Transit should make mobile apps a key piece of its communications strategy, similar to the transit tracker and feedback form on its website.

Table 9: Computer Access and Smartphone Ownership by Income and Race/Ethnicity

<table>
<thead>
<tr>
<th>Annual Income</th>
<th>Computer Access (Percent)</th>
<th>Own Smartphone (Percent)</th>
<th>Race/Ethnicity</th>
<th>Computer Access (Percent)</th>
<th>Own Smartphone (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 30,000</td>
<td>65</td>
<td>47</td>
<td>White</td>
<td>83</td>
<td>53</td>
</tr>
<tr>
<td>30,000 to 49,999</td>
<td>84</td>
<td>53</td>
<td>African-American</td>
<td>77</td>
<td>59</td>
</tr>
<tr>
<td>50,000 to 74,999</td>
<td>92</td>
<td>61</td>
<td>Hispanic</td>
<td>71</td>
<td>61</td>
</tr>
<tr>
<td>&gt; 75,000</td>
<td>96</td>
<td>81</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Adapted from Fox and Rainie 2014

Goals for Mobile App Development

A substantial number of Metro Transit’s riders regularly receive real-time bus location information via mobile phone apps. Metro Transit can use these apps to send notifications directly to riders, capture user data, and receive targeted feedback from users through small surveys. Metro Transit receives no feedback and cannot contact users from mobile apps. We recommend that Metro Transit pursue a mobile app strategy that allows it to achieve the following goals:

- Reduce vulnerabilities in current flow of information
- Contact users in real-time
- Receive unsolicited feedback from users that can be directly incorporated into its existing database and feedback management
- Directly solicit feedback through short surveys or questionnaires
- Access user-generated data

Figure 8 shows how this recommendation would provide feedback mechanisms within the existing mobile apps. Specifically, it highlights how there would be an opportunity for two-way communication between Metro Transit and the public.

Figure 8: Mobile Apps as an Avenue of Public Participation

Created by the authors
Reduce vulnerabilities in current flow of information. Riders increasingly rely on mobile bus apps to plan their routes and track buses. These apps make using transit more attractive, and riders are more satisfied with public transit as a result of using bus apps (Ferris, Watkins, and Borning 2010). But, interruptions to the mobile app service, or inaccurate data, could easily undermine the satisfaction riders gain from using apps. As illustrated in the status quo, the current ad-hoc, volunteer-reliant mobile apps do not ensure quality, uninterrupted service. Future development should alleviate potential failure points to ensure riders receive the benefit of accurate data within mobile apps. Maintaining the flow of information to riders is essential. As described below, we recommend Metro Transit develop its own interface to best achieve this goal.

Contact users in real-time. Currently, Metro Transit cannot contact mobile bus app users. Development of mobile apps should allow Metro Transit to send notifications to riders through the app. Metro Transit can then alert riders to service changes, TPC meetings, or Metro Transit events. Unlike Twitter or Facebook posts, notifications through the app are more likely to be received by riders and notify those interested in Metro Transit.

Receive unsolicited feedback. Metro Transit’s most robust and effective use of technology is its database of call center and website comments. Allowing users to submit this kind of feedback through a mobile app would be a valuable new source of public participation.

Solicit feedback through surveys. Surveys are an important part of Metro Transit’s public participation plan. Short surveys administered through the mobile app would have very little cost, the ability to track response rates, and tie responses to unique identifiers available through mobile technology. However, implementing a survey through the mobile app is difficult.

Access user-generated data. Mobile app users generate a large amount of data about the way they use transit, much of which is being collected by apps. These data are unavailable to Metro Transit. Basic data, such as the number of unique users, can improve Metro Transit's understanding of how riders use mobile apps to enhance transit. Other data, such as route-searches, off-boarding, transfers, or perhaps even demographic information, would allow Metro Transit to better plan service changes and understand who is using buses. Metro Transit collects a lot of this information through surveys; having ready access through mobile apps would be less costly and more accurate. There are, however, important privacy concerns to consider.

Mobile App Development

Metro Transit has three options for app development. We evaluated these options based on financial costs, sensitivity to existing apps, and the ability to address vulnerabilities. Table 10 shows the results of our evaluation. We recommend that Metro Transit meet with Greg Tracy of Hacking Madison and Dave Schroeder of University of Wisconsin–Madison Division of Information Technology to discuss these courses of action.
Table 10: Mobile App Development Options

<table>
<thead>
<tr>
<th>Options</th>
<th>Cost</th>
<th>Competes with Existing Apps</th>
<th>Addresses Vulnerabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1: Add Participation Functions to Existing Apps</td>
<td>Least</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Option 2: Create a Developer Interface Owned by Metro Transit</td>
<td>Medium</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Option 3: Develop an App Owned by Metro Transit</td>
<td>Most</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Option 1: Add participation functions to existing apps. Greg Tracy and Dave Schroeder have said they are willing to work with Metro Transit to meet some of the goals outlined above. In particular, Mr. Schroeder has said that he would be willing to share user-generated data and develop a new developer platform (Schroeder 2015). Mr. Tracy has expressed willingness to share user-generated data and create a feedback function to integrate with Metro Transit’s website comment form (Tracy 2015). Metro Transit can work with Mr. Tracy and Mr. Schroeder to add public participation functions to the developer interface and mobile apps. But, implementing a survey or real-time contact from Metro Transit would be difficult without additional development.

Although this option is plausible and low-cost, it does not address the apps’ vulnerabilities. It does not ensure that volunteers maintain the developer interface, nor does it give Metro Transit any additional control over app features. For these reasons we do not recommend this option.

Option 2: Create a developer interface owned by Metro Transit. We recommend that Metro Transit create its own developer interface. Metro Transit could work with Greg Tracy and Dave Schroeder or hire a third-party app developer; either approach is viable (Tracy 2015; Schroeder 2015). Mr. Tracy and Mr. Schroeder expressed interest in helping Metro Transit. King County Metro in the Seattle area had success employing a third-party developer. See Appendix B for information regarding King County Metro. If Metro Transit is considering upgrading its information technology infrastructure, a robust developer interface should be on the list of essential features. Working with third-party developers may cost more, but Metro Transit can dictate more specific requirements.

We recommend this option because it ensures riders receive quality, uninterrupted data, while allowing app developers the room to create innovative apps. Creating a developer interface also gives Metro Transit more control over mobile apps. App developers need a developer key to call the interface, and Metro Transit could require public participation features in apps that receive developer keys. Metro Transit could also sponsor a contest, like the CivicApps award in Portland, Oregon, to stimulate development of public participation through mobile devices. But this option is more costly compared to Option 1 because it requires Metro Transit to devote
resources to maintaining the developer interface and potentially paying a third-party developer to create the interface.

**Option 3: Develop an app owned by Metro Transit.** There are benefits to Metro Transit developing its own app. Metro Transit would have complete control over the app’s public participation functions, maintenance, and information accuracy. Relative to the status quo and the other options, Metro Transit’s app would be less vulnerable to outages and errors, and could more efficiently integrate public participation.

Metro Transit would likely be unable to develop a mobile app by itself, however, and would need to hire a third-party developer with substantial expertise. Therefore, this option would likely cost more than the other options. For example, King County Metro’s app development cost approximately $80,000 and provided a comprehensive solution including maintenance (King County 2015). Although significant, the benefits of control and reduced vulnerability could justify this cost.

A Metro Transit app would compete with existing apps and could alienate volunteer developers. And there is no guarantee that riders would prefer Metro Transit’s app. Because of these limitations, we do not recommend this option.
**Conclusion**

Madison Metro Transit has an opportunity to proactively develop relationships and engage residents to plan and build acceptance for service changes. Madison residents will expect that any proposals for major service changes are the product of a transparent and inclusive process of sharing information, gathering feedback, and revising plans to reflect public preferences.

Metro Transit generally has effective processes for engaging interested residents in decision-making. It goes beyond federal compliance standards for participation. However, bus service decisions affect many residents who do not have the time or inclination to attend TPC meetings or speak in front of large groups.

Mobile apps represent a significant opportunity for Metro Transit to create a dialogue with riders. It must overcome significant challenges to add functionality and ensure that apps are continuously available.

Neighborhood associations, schools, and churches can help Metro Transit gather street-level information about rider needs and transmit information from Metro Transit to targeted subpopulations. However, Metro Transit will need to work with a large number of organizations to develop these avenues of communication.

Metro Transit’s website allows it to conveniently inform the public and receive feedback. The policy of responding to comments promptly likely improves public satisfaction with these interactions, but Metro Transit can improve the usability and appeal of its website further.

By taking public comments and having Madison residents as commissioners, the TPC allows the public to exert significant influence over Metro Transit decision-making. The TPC can build on this strength through changes to ensure that residents are comfortable expressing opinions and can conveniently access meetings.
Appendix A: Background on Peer Communities

Champaign-Urbana, Illinois

The Champaign-Urbana Mass Transit District (MTD) does neighborhood outreach by going to community events in Champaign-Urbana. The district utilizes the Marketing Mobile, a multi-passenger paratransit van that was going to be scrapped because it was old and no longer functioning as an adequate form of public transportation. According to Jan Kijowski, the marketing manager for MTD, the Marketing Mobile is useful because it can store information and other materials for events MTD staff members are attending. MTD staff will go to an event, set up the Marketing Mobile, and people are drawn to the van because it stands out among all of the tables and other booths. MTD staff take the Marketing Mobile to events around the community such as Bike Fest, Taste of Champaign-Urbana, farmers markets, and the University of Illinois Quad Day. This outreach is an example of going to where people are. In addition, the Marketing Mobile has a bike rack on the front, which allows MTD workers to demonstrate the proper way for putting a bike on the bike rack. Ms. Kijowski said that the MTD brand is clearly displayed on the Marketing Mobile, and that the Marketing Mobile has very little downside, humanizes the people who work for MTD, and is seen as an act of goodwill toward the community. Used from spring to fall, the Marketing Mobile has generated a significant amount of interest in MTD, including tours of the vehicle by children’s groups. The Marketing Mobile resulted in no new costs, and is seen as a successful example of outreach (Kijowski 2015). Figure A-1 shows the Marketing Mobile.

Figure A-1: Marketing Mobile

Another part of the outreach involves the Champaign County Regional Planning Commission (CCRPC). The MTD gave an old bus to the CCRPC to use for public outreach. The interior of the bus was gutted, and during the summer of 2014, the Champaign County Regional Planning Commission took the vehicle to events and parks around Champaign-Urbana. On the inside, this bus displayed the long-term transportation plan for Champaign County with signs and videos, and people could give their input on the planning process, especially on specific transportation plans by filling out surveys. The bus had high visibility at events, was different, and stood out from other displays. After the one summer, the MTD had to scrap the bus.
(Kijowski 2015). However, it is an example of how the public can get engaged with the public participation process. Figure A-2 shows the Long Range Transportation Planning Outreach bus.

Figure A-2: Long Range Transportation Planning Outreach Bus

Portland, Oregon

TriMet serves 1.5 million people in a 533-square-mile area that includes Portland, Oregon (TriMet 2015). TriMet runs buses, light rail, and commuter rail. TriMet engages with the community in a proactive manner, bringing in diverse stakeholders early in decision-making processes. These stakeholders include members of diverse communities, riders, civic and business organizations, property owners, residents, neighborhood associations, advocacy groups, and elected officials (Thompson 2015).

TriMet uses its website to gather feedback and inform the public, allowing individuals to submit questions, comments, and suggestions on an online form. The Transparency and Accountability Center page has information on governance, performance, audit reports, public records, and compliance with federal regulations. The Transparency and Accountability Center received 18,822 page views (13,043 of which were unique) from November 2013 to March 2015 (Thompson 2015).

TriMet uses social media, including Twitter and Facebook, to increase public participation. TriMet staff acknowledges social media are used predominately by people younger than 50, and as a result TriMet uses other avenues, including those detailed below, to reach other community members (Thompson 2015). TriMet’s fiscal year 2011 engagement strategies included:

- Conducted workshops with organizations serving minority and low income populations
- Provided childcare and food at workshops
- Conducted listening posts with community leadership from communities of color and diverse stake holders
- Conducted onboard outreach to riders on bus lines affected, focused on minority, low-income transit dependent individuals
• Placed ads in minority/community newspapers
• Conducted email campaign targeting leaders of minority and low income communities and organizations serving these communities
• Created a dynamic online discussion guide and survey online and in hard copy. Survey was also translated into Spanish
• Conducted a Twitter town hall

Source: Adapted from McFarlane 2013

TriMet also collaborates with Portland’s Metro, which oversees solid waste and recycling, visitor venues, natural areas, and transportation planning. Metro uses Opt In, an online participation tool, created in collaboration with foundations, the United Way, a public affairs college, and AARP. Opt In members participate in numerous online surveys. TriMet uses the Opt In survey tool to expand its outreach and for bus planning analysis.
Appendix B: Mobile Apps in Peer Communities

Cities around the country are using mobile bus apps to help riders plan routes and track arrival times. Google Maps incorporates bus schedules into its software. One successful app development project is OneBusAway, which was developed by two University of Washington Ph.D. students, and now serves Atlanta, Seattle, Tampa Bay, Toronto, and New York City. Similar to app development in Madison, OneBusAway began with citizens volunteering time to improve transit, but now partners with regional transit operators to expand into new communities (Badger 2014).

Of the peer communities we investigated, Lansing, Michigan, is the only community without an app for, at a minimum, planning bus trips. Like Metro Transit, Lansing has solely pursued development of a route planner and transit tracker on its website. The other three communities—Champaign-Urbana, Illinois; Portland, Oregon; and Seattle, Washington—all have mobile apps that serve their riders, but each have taken a different development route. All three are more advanced than Metro Transit.

**Champaign-Urbana, Illinois** provides an open-access developer interface and standard-format data. Third-party developers can use tools provided by the transit operator to develop apps with real-time arrival and geographic information. The city notifies developers of updates electronically and lists apps on its website. Unlike Metro Transit, Champaign-Urbana does not rely on volunteers to maintain the developer interface, but rather maintains the interface itself (Champaign-Urbana Mass Transit District 2015).

**TriMet in Portland, Oregon**, similarly provides an open-access developer platform and standard-format data to third-party developers (TriMet 2013). Like in Champaign-Urbana, TriMet lists apps that use its developer framework on its website (TriMet 2015). Portland’s CivicApps program provides open access data, hosts challenges for developers, and gives a CivicApp award to spur third-party development (Civic Apps 2015). After ensuring stability of the developer interface, Metro Transit should consider offering a prize like the CivicApp award to stimulate development of an app that facilitates public participation.

**King County Metro, Washington**, in contrast to the other communities and Madison, has developed its own mobile app internally. The Puget Sound Trip Planner, developed by King County Metro, integrates data from 11 transit authorities, including local bus operators. King County Metro contracted with Trapeze Software Group, Inc. to update its desktop trip planner, create a mobile web trip planner, and create both an iOS and Android trip planning apps. From initial app requirements until availability in app stores took eight months and cost $80,379. Eighty thousand dollars may be within Metro Transit’s budget. Metro Transit should consider hiring a third-party developer, and Metro Transit could reach out to King County Metro for more information on its process (King County Metro 2015).

Although mobile apps for tracking buses are rapidly becoming common, cities are just beginning to experiment with public participation via phone apps. Developers in Portland, Oregon, are working to make a transit mobile app with this type of functionality (Opt In 2015).
Although Metro Transit does not have a project like this underway, it has several promising avenues to pursue a more robust mobile app with an avenue for public participation.
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