Technical Report Documentation Page

1. Report No. RES2013-47	2. Government Accession No.	3. Recipient's Catalog No.
4. Title and Subtitle *Innovative Strategies for Public Involvement*		5. Report Date December 2014
		6. Performing Organization Code
7. Author(s) Triplett, K. L., Ivey, S. S., Moore, L. W., Benson, B., Mersereau, J., Nelson, D., & Howell, E.		8. Performing Organization Report No.
9. Performing Organization Name and Address Tennessee State University Department of Social Work and Urban Studies 330 10th Avenue N Nashville, TN 37203-3401		10. Work Unit No. (TRAIS)
		11. Contract or Grant No. 040B268 (FHWA Project No.)
12. Sponsoring Agency Name and Address Tennessee Department of Transportation Research Office 505 Deaderick Street, Suite 900 Nashville, TN 37243		13. Type of Report and Period Covered Final Report February 2014 to April 2015
		14. Sponsoring Agency Code

15. Supplementary Notes

16. Abstract

This research was designed to review current practice, identify strategies to achieve more balanced public involvement, develop a community profile tool identifying key stakeholder organizations for TDOT regions (Knoxville, Region 1; Chattanooga, Region 2; Nashville, Region 3; and Jackson-Memphis, Region 4), and to test the effectiveness of public involvement strategies in diverse settings across the state of Tennessee. The overall goal of the research was to identify innovative strategies to gain greater public participation in transportation decision-making and to improve accessibility for stakeholders throughout the State of Tennessee. Furthermore, the research identified methods of disseminating information that most effectively communicate the transportation decision-making process in such a way to help citizens understand the importance of their role in the process. These approaches aim to serve as a best-practice document, assisting with public participation efforts as part of the 25-Year Long Range Plan.

The key findings that emerged from the analysis of all the research study data (interviews, literature reviews, focus groups, and surveys) were that improvements in both awareness activities and two-way dialogue are important to increasing effectiveness of TDOT's public participation activities. Overall, it is important for TDOT to adopt a combination of technology-based and community-based approaches to both inform and engage the public. It is also important to approach each community on a case-by-case basis - it is important for TDOT to be fluid and flexible when implementing their public outreach strategies.

Challenges that the TDOT staff believed they would face in implementing new strategies include the cost of recommended strategies, aligning new practices with TDOT requirements/regulations, the reluctance of staff to try new strategies, and lack of time to devote to developing new approaches or meeting formats so that those responsible for implementation are comfortable in doing so.

17. Key Words **Public Engagement, Long Range Plan, Public Involvement Plan (PIP), Public Participation, Transportation Decision-Making**		18. Distribution Statement No restrictions. This document is available through the National Technical Information Service, Springfield, VA 22161; www.ntis.gov.	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 66	22. Price $110,907.40

Form DOT F 1700.7 (8-72)   **Reproduction of completed page authorized**

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Project Name: Innovative Strategies for Public Involvement
Funding Agency: Tennessee Department of Transportation (TDOT)
MSA #: RES2013-47
Contract #: EG1440153
Contract Timeline: December 1, 2013 – November 30, 2018

Innovative Strategies for Public Involvement

Final Report

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Submitted to:

Tennessee Department of Transportation's Long Range Planning Division

Tuesday, May 2, 2017

Innovative Strategies for Public Involvement:
A Case Study of Tennessee Department of Transportation

Executive Summary

The Tennessee Department of Transportation (TDOT)'s Long-Range Planning Division funded a grant in December 2013 for the research study entitled "Innovative Strategies for Public Involvement." This research was designed to review current practice, identify strategies to achieve more balanced public involvement, develop a community profile tool identifying key stakeholder organizations for TDOT regions (Knoxville, Region 1; Chattanooga, Region 2; Nashville, Region 3; and Jackson-Memphis, Region 4), and to test the effectiveness of public involvement strategies in diverse settings across the state of Tennessee. The study began in February 2014 and concluded in April 2015. The overall goal of the research was to identify innovative strategies to gain greater public participation in transportation decision-making and to improve accessibility for stakeholders throughout the State of Tennessee. Furthermore, the research identified methods of disseminating information that most effectively communicate the transportation decision-making process in such a way to help citizens understand the importance of their role in the process. This project capitalizes on the unique and diverse expertise of the faculty team and research assistants assembled from Tennessee State University (TSU) and the University of Memphis (U of M). These approaches will serve as a best-practice document supporting the Tennessee Department of Transportation's Long Range Planning Division and assisting their public participation efforts as part of the 25-Year Long Range Plan.

To best organize and outline the research processes and the outcomes of each task, the "Innovative Strategies for Public Involvement" study was divided into eight tasks. The Best Practice Document (see Attachment 1) provides an overall explanation of the tasks and activities performed by the grant team and submitted to TDOT for review. The Best Practice Document summarizes the research findings and provides guidelines for future use outlining some of the strategies expected to be most successful. The document included detailed procedures for implementation that the State can use to satisfy its public participation goals and meet the unique needs of each individual region.

Within this Final Report we have highlighted the purpose of our grant, the takeaways and insights learned throughout our grant process, and have provided our findings and planned publications.

Project Purpose of Our Grant

Public participation in TDOT planning efforts in recent years has been limited. Thus, the agency seeks to involve a wider cross-section of people in public meetings to provide balanced input to the transportation decision-making processes. Such broad and balanced public involvement will help ensure that TDOT's transportation decision-making efforts are sound and offer the greatest benefit to as many stakeholders as possible.

Project "Takeaways"

The research team completed eight tasks leading to identification of strategies, divided into technology-based and community-based approaches that are designed to inform and/or engage the public in the transportation decision-making process.

Challenges that the TDOT staff believed they would face in implementing new strategies include the cost of recommended strategies, aligning new practices with TDOT requirements/regulations, the reluctance of staff to try new strategies, and lack of time to devote to developing new approaches or meeting formats so that those responsible for implementation are comfortable in doing so.

It is important for TDOT to adopt a combination of technology-based and community-based approaches to both inform and engage the public. It is also important to approach each community on a case-by-case basis - even though they might all share the commonality of operating under varying levels of disadvantages and lack of transit access, each has its own specific needs. There is no "cookie cutter" approach to public participation, what works for one community may not work for another community. Therefore, it is important for TDOT to be fluid and flexible when implementing their public outreach strategies.

The key findings that emerged from the analysis of all the research study data (interviews, literature reviews, focus groups, and surveys) were that improvements in both awareness activities and two-way dialogue are important to increasing effectiveness of TDOT's public participation activities.

Project Insights

Although it is understood that public participation is fundamental to the planning process, practitioners struggle with low levels of participation. Transportation planners, practitioners, and scholars have had difficulty in selecting appropriate public participation tools and strategies for their Public Involvement Plans (PIPs) and/or outreach programs. This case study expanded the research on public participation by taking an investigative look into TDOT's Public Involvement Plan (PIP) and their public involvement efforts. This case study also identified methods of disseminating information that most effectively communicate the transportation decision-making process in such a way to

help citizens understand the importance of their role in the process. Strategically selecting and applying public engagement and outreach strategies is key for successful public involvement initiatives. Our research team discovered unique perspectives from best practices and insight from participants for addressing challenges frequently faced in public involvement efforts. Although the research team was successful in identifying innovative strategies for TDOT to capture greater public participation, there were challenges during the implementation stage of the pilot projects due to conflicts with TDOTs regular practices and polices. It is important to examine and address practice and policy gaps that can inhibit innovative public involvement efforts.

The research team also discovered that no matter which tools TDOT incorporates into their Public Involvement Plan (PI) to enhance public participation, the most important key is to incorporate a tool that is the "best fit" for the community and/or region where the potential projects will be implemented or the engagement is desired.

Dissemination

2017

- Triplett, K.L., Ivey, S., Moore, L.W., and Howell, E. [TSU Undergraduate student]. Submitted Final TDOT Grant Report & Project Summary to the TDOT on Tuesday, May 2, 2017.

2016

- Triplett, K.L., Ivey, S., Moore, L.W., and Howell, E. (2016). Best Practices and Innovative Strategies for Public Involvement: A Project for the Tennessee Department of Transportation. *American Planning Association (APA): Transportation Planning Division (TPD) News.* 41(2). Retrieved from https://planning-org-uploaded-media.s3.amazonaws.com/document/Div-News Transportation-2016-Spr.pdf

- Triplett, K.L., Ivey, S., Moore, L.W., and Howell, E. [TSU Undergraduate student]. "Innovative Strategies for Public Involvement: A Case Study of Tennessee Department of Transportation." Presented at the 45th Annual 2016 Conference of Minority Public Administrators (COMPA) National Conference. Jackson, Mississippi. February 17-19, 2016.

2015
- Triplett, K.L. "Innovative Strategies for Public Involvement: A Case Study of Tennessee Department of Transportation." Presented on American Planning

Association (APA) Transportation Planning Division's Webinar entitled *Public Involvement for Transportation Planning*. October 21, 2015

- Triplett, K.L., Ivey, S., Moore, L.W., Benson, B., Howell, E, Mersereau, J., and Nelson, D. (2015). Best Practice Document: "Innovative Strategies for Public Involvement." Tennessee Department of Transportation (TDOT)'s Long Range Planning Division.

- Triplett, K.L., Ivey, S., Moore, L.W., Benson, B. [TSU graduate student], and Howell, E. [TSU Undergraduate student]. "Tennessee Department of Transportation: Innovative Strategies for Public Involvement" Presented/Facilitated the TDOT Public Engagement Workshop. TDOT Headquarters in Nashville, Tennessee. April 29, 2015.

- Triplett, K.L, Benson, B. [TSU graduate student], and Howell, E. [TSU undergraduate student]. "Tennessee Department of Transportation: Innovative Strategies for Public Involvement." Presented at the College of Public Service's Research Brown Bag Series on Friday, April 24, 2015.

- Triplett, K.L, Ivey, S., and Benson, B. [TSU graduate student]. Conducted a Brainstorming Luncheon with TDOT staff [Larry McGoogin, Aury Kangelos, and Carlos McCloud] at the Jackson Housing Authority (JHA) in Jackson, Tennessee on TDOT Public Involvement Project entitled "Innovative Strategies for Public Involvement" to obtain feedback from JHA residents to determine effective means of attracting residents within Region 4 (Jackson/Memphis), with particular emphasis on the JHA and similar communities.

- Triplett, K.L, Benson, B. [TSU graduate student], and Howell, E. [TSU undergraduate student]. Conducted Focus Group Session on TDOT grant entitled "Innovative Strategies for Public Involvement" to obtain feedback from Urban Studies undergraduate students about the public involvement process and perceptions of previous public engagement activities conducted by TDOT. Focus Group session took place in Dr. Kimberly L. Triplett's Introduction to Urban Studies (URBS 2010) class on February 3, 2015 at the Avon Williams Campus of TSU in Nashville, Tennessee.

2014

- Triplett, K.L., Ivey, S., Moore, L.W., Howell, E. [TSU Undergraduate student], and Mersereau, J. [U of Memphis Graduate student]. Submitted to TDOT a Federal Highway Administration Report entitled: "Tennessee Department of Transportation: Innovative Strategies for Public Involvement" on November 13, 2014.

- Triplett, K.L. "Tennessee Department of Transportation: Innovative Strategies for Public Involvement." Presented at the Fall 2014 Division of Research and Sponsored Program (RSP) Research Forum I "Research: Celebrating Excellence" at Tennessee State University on September 24, 2014 for Broadening Participation Research Efforts with National Science Foundation (NSF) and the TDOT.

- Triplett, K.L., Ivey, S., Moore, L.W., Howell, E. [TSU Undergraduate student], and Mersereau, J. [U of Memphis Graduate student]. "Tennessee Department of Transportation: Innovative Strategies for Public Involvement" Presented at the 2014 Transportation Innovation Planning Inspiration: TN APA/TRB ADC-10 Summer Workshop. Nashville, Tennessee. August 26-29, 2014.

- Triplett, K. L. Presentation for the College of Public Service & Urban Affairs' Advisory Board on TDOT Grant. Tennessee State University on May 6, 2014.

Future publications:

Submitted Papers
- Triplett, K.L., Ivey, S., Moore, L.W., and Howell, E. (submitted 2016). Innovative Strategies for Public Involvement: A Case Study of Tennessee Department of Transportation. March 2016 Submitted to *Journal of Public Management and Social Policy*.

Working Papers & Manuscripts
- Working Paper: Triplett, K.L., Ivey, S., Moore, L.W., and Howell, E. Identifying Policy Gaps Associated with Implementing Innovative Public Involvement Strategies.

Innovative Strategies for Public Involvement

Best Practice Document

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Submitted to:

Tennessee Department of Transportation's Long Range Planning Division

Completion date: Wednesday, June 17, 2015
Approved date: Friday, August 7, 2015

TABLE OF CONTENTS

PAGE NUMBER

Acknowledgements

Section 1: Introduction

The Tennessee Department of Transportation (TDOT) funded a grant in December 2013 for the research study entitled "Innovative Strategies for Public Involvement." This research study was designed to review current practice, identify strategies to achieve more balanced public involvement, develop a community profile tool identifying key stakeholder organizations for TDOT regions [Knoxville (Region 1), Chattanooga (Region 2), Nashville (Region 3), and Jackson-Memphis (Region 4)], and to test the effectiveness of public involvement strategies in diverse settings across the state of Tennessee. The research study began in February 2014 and concluded in April 2015. The overall goal of the research study is to identify innovative strategies to gain greater public participation in transportation decision-making and to improve accessibility for stakeholders throughout the state of Tennessee. Furthermore, the research study identified methods of disseminating information that most effectively communicate the transportation decision making process in such a way to help citizens understand the importance of their role in the process. This project capitalizes on the unique and diverse expertise of the faculty team and research assistants assembled from Tennessee State University (TSU) and the University of Memphis (U of M).

The research team conducted face-to-face interviews with TDOT Headquarters and Regional staff and launched an online survey as the initial task for this project. The overall responses from the face-to-face interviews and online surveys indicated that TDOT staff understands the importance of public involvement and believes they are actively working to achieve public participation in the transportation planning process. They do recognize the potential for improving this process and outcomes through new resources, better internal communications, and the use of a diverse set of approaches for engaging citizens. Significant barriers to public involvement exist in both the time constraints faced by stakeholders, as well as language, economic, and cultural differences.

A review of past efforts (including Customer Satisfaction Surveys, Case Studies, Progress Reports and the current Public Involvement Plan) related to public involvement at both the TDOT headquarters and regional levels was conducted following the interview and survey effort. This review revealed that all regions have either experienced similar challenges (such as limited success of public involvement strategies or a lack of public input/support) or have implemented similar strategies (such as the use of social media or the utilization of dynamic message boards).

Upon understanding TDOT's past practices, a review of past and current efforts related to public involvement in other United States (U.S.) Departments of Transportations (DOTs) was conducted in order to identify effective practices. The review included public involvement documents that were obtained via Internet searches and contacting 51 U.S. DOTs, excluding TDOT. One key finding revealed through the review is that while technology-based tools may work well with the general public, these tools may not work well with underrepresented populations. The review resulted in an inventory, by state, of public involvement practices and outcomes reported by DOTs.

The next phase of the project included a review of community partners who have demonstrated the ability to provide effective communication and engagement of participants in TDOT's

outreach efforts in the past and identified potential new partners who may enhance and attract an improved balance of attendees at future meetings. A Geographic Information System (GIS) was utilized to identify the location of these partners and to overlay critical information about each partner, including contact information, type of organization, and demographics of constituents served. A GIS and Toolbox Instruction document was prepared to accompany the GIS database and Toolbox to provide guidance to TDOT staff on using these tools. To better explain various methods by which TDOT can disseminate the GIS data, including the advantages and disadvantages of each method, a Going Forward document was also developed. Lastly, a Public Involvement Rubric was created to help identify the appropriateness of each tool for increasing accessibility, promoting interaction/feedback and engaging diverse groups when using tools to share ideas and concerns. The research team utilized these tools to identify participants for Focus Groups as well as determining proper methods for ensuring a successful Public Involvement Marketing Plan was in place for the Focus Group meetings.

During this task, the research team was invited to speak at the Transportation Innovation Planning Inspiration: TN APA/TRB ADC-10 Summer Workshop in Nashville, Tennessee. The team conducted a workshop session highlighting the project goals and progress. From this experience, the team gained valuable input from the attendees pertaining to the public involvement process. As a result, this stimulated interest in future project participation (i.e. focus groups sessions and pilot projects).

In January 2015, the research team conducted Focus Group discussions and obtained questionnaire results across the state of Tennessee to provide critical input about potential strategies that were developed in earlier findings. Upon completion of the Focus Group sessions, the team analyzed the focus group results to identify commonalities as well as differences across regions, demographics, and settings (e.g., urban/rural). These findings were used to prepare a suggested list of best practices and strategies, which included tools to inform and/or engage the public, likely to be most effective for increasing balanced engagement. These best practices and strategies served as best candidates for the pilot tests that were conducted in March 2015 within the TDOT regions.

Once the research team identified the list of strategies, two pilot projects and two hypothetical pilot projects were conducted using the recommended best strategies selected for each TDOT region. Due to inclement weather and lack of attendance the two pilot projects did not occur. Instead, a brainstorming luncheon was held, which included Jackson Housing Authority and Lincoln Court Community members opportunities to share their input. An analysis of the pilot projects was conducted by assessing the effectiveness of both recruitment techniques and engagement strategies. An evaluation on the brainstorming luncheon and pilot projects included both public meeting outcomes and stakeholder survey results.

Lastly, the research team conducted an engagement workshop at TDOTs Headquarters for TDOT's headquarters and regional staff. The research team presented the research findings for the purpose of helping staff understand how the use of project tools can improve public involvement across the state. Feedback was also solicited from workshop participants to determine key elements of the project of greatest interest and areas of concern for project tool/strategy implementation.

Section 2: Informing the Public via TDOT Information Materials/Resources

Introduction

The research team was interested in understanding the opinions of TDOT staff pertaining to past public involvement efforts, specifically within each TDOT region. To capture this, the research team identified the appropriate agency's staff, at both the headquarters and regional level, and conducted a series of interviews and an online survey. Face-to-face interviews with personnel in all four transportation regions as well as the State's headquarters in Nashville were conducted. The content associated with the interviews provided information about the types of individuals that attend public meetings, their primary motivation for attending, and the quality of input received from the public meetings. The online survey was administrated to TDOT headquarters and regional staff to help evaluate existing practices. The research team created a questionnaire and online survey for headquarters and regional planning personnel to capture their opinions on past public involvement efforts as it pertains to headquarters and their individual regions. The information that was gathered through the face-to-face interviews and the online survey was used to develop various "attendee profiles" and "public meeting profiles" for the purpose of characterizing each region. This would eventually aid the team in providing the agency with recommendations relevant to their needs (this discussion is reflected in Sections 3 and 4).

Review of TDOT Historical Documents and Interview Results

The research team reviewed historical documents in the Tennessee Department of Transportation (TDOT)'s four transportation regions to determine what past practices yielded useful input. From this they were able to examine past collaborations and identified which practices were effective and which were not. The review included documents provided by TDOT to the research team and documents made publicly available on various TDOT websites. A database was created to capture the past practices from both TDOT's Headquarters and Regional offices.

In an effort to evaluate existing practices and update TDOT's Public Involvement Plan (PIP), multiple strategies were used to obtain input from TDOT staff regarding the public involvement process. These strategies included an online survey and interviews of TDOT headquarters and regional staff, review of historical documents, and nationwide literature review of best practices. This summary briefly outlines the methodology, administration process, and responses to the regional staff interview portion of the research project.

A 13-item questionnaire was developed for the interviews of staff members in each region and contained items related to:

- Reasons for creating the current public involvement strategies;

- Basic elements of current public involvement strategies;
- Examples of public involvement that impacted transportation planning decisions;
- How well current strategies are working;
- Strategies and results when reaching out to minorities and low-income persons;
- Critical elements of TDOT's public involvement process;
- Use of social media to enhance public involvement;
- Identifying key factors that increase citizen participation; and
- Challenges in implementing public involvement efforts.

Headquarters and Regional Staff Comprehensive Responses

According to the face-to-face interviews and online survey, the TDOT staff understands the significance of public involvement, they believe they are actively working to achieve public participation in the planning process, but recognize the potential for improving this process and outcomes through new resources (including guidance documents and expanded web and social media presence), better internal communications, and use of a diverse set of approaches for engaging citizens. Significant barriers to public involvement exist in both the time constraints faced by stakeholders, as well as language, economic, and cultural differences.

Survey Results

The following sections contain a brief summary of survey responses that were collected from the TDOT staff who completed the online survey. The summary highlights responses from key topics of interest (including Use, Importance, and Effectiveness of Current Public Involvement Strategies and Venues for Engagement).

When identifying the use, importance and effectiveness of the current public involvement strategies, venues for engagement, importance of public involvement, barriers to public involvement and methods for enhancing public involvement, a Likert-scale was used for most items on this section of the survey to determine relative importance or effectiveness. Respondents were asked to provide ratings on a scale of 1 to 5 (with 5 being very important/effective, 3 somewhat important/effective, and 1 not important/effective) for choices within each question.

Use, Importance, and Effectiveness of Current Public Involvement Strategies

Survey participants indicated engaging a variety of stakeholders is important to successful public involvement: Community organizations (4.64), local elected officials (4.64), and business

owners (4.45) were rated as the most influential, closely followed by neighborhood associations (4.32) and local media representatives (4.29) for enhancing public involvement. In terms of the methods for disseminating information, press releases and public service announcements received highest ratings (4.64), however, all items rated by participants were considered at least somewhat important (minimum average rating for all items was 3.0). Participants also rated strategies for obtaining feedback from the public. The top-rated responses were methods for visualization (4.67) including physical models/maps and computer simulation or other GIS-based scenario planning tools. Small group activities, including role-playing, games and contests, and brainstorming were rated least effective (2.62).

When asked how strongly they agreed (1-strongly disagree; 3-neither agree nor disagree; 5-strongly agree) with a series of statements regarding TDOT's current practices, respondents indicated TDOT actively engages stakeholders in the planning process (4.05), is effective in disseminating transportation-related information to the public (3.9), routinely sends out briefings on major projects to stakeholders (3.6) and is good at identifying the potentially most active stakeholders (3.5).

In addition, open-ended responses indicated a need to improve internal communication so that employees understand the importance of maintaining communication and public involvement, the importance of using a diverse set of strategies (including varying time, place, and type of presentation), and the potential for generating more interest from communities by increasing awareness of smaller scale safety projects. With regard to the TDOT website, respondents agreed that it needs to be substantially revised to better inform the public of the transportation planning process (3.9) but that the website is an excellent tool for keeping the public aware of the planning process (3.75). Respondents disagreed that the website is readily accessible to users that are not English language speakers.

Venues for Engagement

Eighty-six percent (86%) of survey participants identified schools as the best venue for public meetings. Participants could select more than one option, and community centers (81%), public buildings (71%), and churches (67%) were also favored. The best day/time for holding public meetings was overwhelmingly indicated to be weekday evenings (95%) by respondents. Only 5% indicated weekday breakfast meetings, and no participants selected mid-day or weekend timeframes.

Importance of Public Involvement

TDOT staff that responded to the online survey recognized the importance of public involvement from a diverse group of stakeholders to the planning process. The average agreement for the statement, 'It is very important to engage citizens in the planning process,' was 4.75 and for the statement, 'It is very important to ensure that a diverse group of citizens participate in the planning process,' was 4.65.

Barriers to Public Involvement

Survey participants reported youth (85%) and low-income populations (55%) as the citizen groups that are most difficult to engage in public participation efforts. Participants were also asked to rate the significance of a list of barriers to public involvement efforts, with 5 indicating a very significant barrier, 3 a somewhat significant barrier, and 1 indicating the barrier is not significant. The highest rated response was time constraints and other personal demands of citizens (4.4) followed by language differences (3.9), economic differences (3.75), lack of trust of public officials (3.6), and cultural differences (3.5). Respondents were also able to enter additional barriers that were not identified within the provided list of choices, and indicated that citizens lack access to internet , smart phone technology, and/or newspaper subscriptions (particularly in rural areas) and also lack understanding about the planning process and the length of time required for a project.

Methods for Enhancing Public Involvement

Likert-scale ratings were also used for questions within this section, with 5 indicating strong agreement, 3 neither agree nor disagree, and 1 indicating strong disagreement with statements contained within each item. Participants agreed that TDOT should explore the use of mobile applications (4.05) and add a 'Get Involved' component to the website (4.0), but only somewhat supported other suggestions for enhancing public involvement. Participants disagreed (2.59) that TDOT should offer funding to community organizations to conduct outreach to citizens not typically involved in the planning process. In addition, survey respondents selected strategies (all that applied) that TDOT should consider for increasing information dissemination and public involvement, with the following results for the top three most frequently selected:

- Publish a special guide entitled, 'The TDOT Handbook: A Guide for Municipal Officials and Citizens." (75%)
- Release press advisories to electronic and print media outlets on a regular basis. (70%)
- Publish a special brochure entitled, "A Citizen's Guide to the Regional Planning Process.' (65%)

This interview and survey process provided a detailed source of crucial information that allowed the research team to begin evaluation of TDOT's public involvement activities. Further analysis of the detailed interviews with headquarters and regional staff, as well as analysis of regional

differences and perspectives across the state were used to examine effectiveness of current practices, barriers encountered in public involvement efforts, and to identify best practices for enhancing the public involvement process.

Conclusion

To conclude, all regions have either experienced similar challenges (lack of implementation of public involvement strategies or a lack of public input/support) or have implemented similar strategies (from the use of social media to the utilization of dynamic message boards). Differences between what the regions have accomplished in their public outreach (Community Center or working with local media stations) as well as their varied successes with the public input (deficiency in minority involvement) were also reported. Altogether, the regions have grasped a good understanding of their successes and failures with past practices in public involvement, and recognize the need for additional strategies to increase meaningful engagement of community stakeholders in the planning process.

Agency Considerations

Concerning collaboration in the planning process, TDOT must ensure that the process is as inclusive as possible, which can be challenging. Community leaders (including public officials, neighborhood organizations, non-profit organizations, businesses, and religious leaders) can be very helpful in encouraging involvement of residents in the planning process and identifying the best means for disseminating information at the local level. TDOT should work with local agencies and governments to ensure that projects are in alignment with their needs, as this has not always been the case. Additionally, review of past practices indicates government representatives do not always accurately represent their constituents, and that there is no substitute for public hearings. To ensure a balanced response, TDOT should also employ proactive strategies to ensure that as wide an audience as possible is available and that those in attendance feel free to participate through the employment of tactics that prevent domination by individuals or organizations. Finally, TDOT should adequately address all input received in a response that ensures stakeholders recognize their input was received, understood, and addressed.

Section 3: Informing the Public via Traditional Media

Introduction

Traditional public involvement tools generally have served and continue to serve the Tennessee Department of Transportation (TDOT) well. Therefore, many of the tools can be expected to contribute effectively in future public involvement efforts. This section focuses on traditional tools that serve to inform the public about TDOT projects, planning, and other activities. The primary goal is to convey important information to the public in a way that can be readily understood by an audience with wide-ranging backgrounds and levels of understanding.

One component of informing the public is by effective notification of a meeting, event, or project development to project stakeholders. Mainstream newspaper advertisements , direct mail announcements, flyers, signage and other traditional means were used to notify the public about specific transportation projects and planning activities; these and other tools such as radio and television continue to be used today. These tools have been enhanced in many cases by including ethnic media, use of sign and language interpreters, translated materials, and other techniques of communication and outreach that consider cultural differences. (Fresno Council of Governments, 2014)

The use of English translated project fact sheets, newsletters, presentations, exhibit boards, and physical models continues to be effective for informing the public. TDOT's approaches must be sensitive to persons with disabilities and to persons who communicate in languages other than English, such as English as Second Language (ESL) populations. One huge challenge is TDOT's ability to explain complex projects in a clear and concise way to diverse populations. Moreover, our society is bombarded by other forms of messaging and advertising; so, sharing information with the public is a difficult task. However, well-trained staff members have found and will continue to find ways to be creative and effective in getting the word out using traditional tools.

TDOTs General Approach

TDOT has identified five levels of public involvement activities. They are described as follows:

Level One

These projects pose minimal or no impact to the surrounding community, require minimal or no right-of-way acquisition, will be of short duration and pose no disturbance to local communities during construction. These are considered to be small construction projects that require no formal planning or design process. Examples may include median removal, signalization, and intersection realignment. Also included in this category are unfunded projects for which a planning study is being prepared. (If an unfunded planning study yields a project that moves forward, it will be assigned to Level Two, Three, Four, or Five).

Level Two

These projects include those defined as Categorical Exclusions (CE) by the Federal Highway Administration (FHWA), or classified as corridor feasibility or other general planning projects.

Level Three

These projects require completion of an Environmental Assessment (EA), or other environmental documentation. Typically, these projects would have insignificant impact and would be of moderate size, requiring less time for planning, design, and construction.

Level Four

Projects in this category require an Environmental Impact Statement (EIS) to be completed, or are large-scale efforts in terms of both design and construction, require substantial acquisition right-of-way, and require more significant time for planning, design, and construction.

Level Five

These projects involve statewide or systems-level planning efforts undertaken by the Department, including the Statewide Long-Range Transportation Plan (LRTP), the Statewide Transportation Improvement Plan (STIP), the Statewide Rail Plan, Statewide Aviation Plan, and Statewide Transit Plan. With respect to each category defined above, the subsequent information in this section will focus on traditional public involvement tools that should be useful and meaningful for informing the public. In other words, the approaches offered in this section primarily involve traditional one-way communication. It is a process whereby TDOT gets its message out to the public in a format that the public can understand.

Level Procedural Definitions

Level One Procedures

Because these projects are limited in scope and impact, only a few of the traditional public involvement tools are needed. All information must be distributed at least two weeks prior to the start of any project activity. No action will be taken on unfunded planning studies; if a study moves forward, a new level of public involvement will be assigned.

Level Two Procedures

Projects in this category have officially entered the environmental phase under which National Environmental Protection Act (NEPA) public involvement requirements are clearly articulated. Typically, projects in this category are defined early in the planning process as a Categorical Exclusion (CE), or the effort requires minimal planning before design and construction begin. If the project is a CE project, then normal NEPA requirements will apply.

Level Three Procedures

Level Three projects require an Environmental Assessment (EA) to be performed because some degree of environmental impact is expected even though the project is of moderate size. Therefore, TDOT must consider a wider array of tools to inform the public in an effective manner.

Level Four Procedures

Level Four projects require an Environmental Impact Statement (EIS) to be completed. An EIS is a very expensive, comprehensive evaluation of a project's impact on various components of local communities. The cost of an EIS can vary from a few hundred thousand dollars to several million dollars. Typically, these projects would significantly impact local communities, require substantial acquisition right-of-way, and require more time for planning, design, and construction.

Level Five Procedures

Level Five projects involve statewide or systems-level planning efforts undertaken by the Department, including the LRTP, STIP, the Statewide Rail Plan, Statewide Aviation Plan, and Statewide Transit Plan.

Public involvement activities for Level Five efforts will be treated in a manner separate from other categories, in that the level of public involvement will be determined based on the effort to be undertaken. When the department intends to conduct a statewide effort, a team of TDOT staff, any associated consultants, and appropriate Federal agency staff will be formed to determine the appropriate level of public involvement for statewide plans.

As with Level Three and Level Four projects, a variety of techniques will be used to inform the public about Level Five efforts. Most of the techniques described previously for Level Four projects are expected to be utilized in Level Five efforts. The primary differences are that Level Five efforts are planning efforts and do not involve design and construction phases. Thus, the discussion of tools used to inform the public about design and construction activities (described under Level Four Procedures above) will not be applicable to Level Five efforts.

Definitions of Tools
(Includes Level Procedural Descriptions) See Table 1: Tools & Procedures Guide

Direct Mail

Correspondence will be sent to elected officials, Metropolitan Planning Organizations (MPOs), and Development Districts in the project area to provide information. (Montana Department of Transportation, 2011)

For Level Two Procedures, the correspondence will describe activities and anticipated impacts (on transportation, environment, public health and safety, natural resources, business and

industry, etc.). If no planning period is anticipated for the project, correspondence will be sent to the designated parties at the beginning of the design process.

For Level Three Procedures, TDOT must identify any populations in the project area requiring special outreach to ensure they have access to information and the opportunity to make comments, regardless of their race, religion, age, income or disability. Identification of these populations will include using Census data or information obtained from groups or organizations known to have knowledge of these populations.

Media Releases

Media releases will be sent to at least one newspaper in the project area with wide circulation and to television and radio stations serving the project area. Media releases will also be sent to any ethnic publications within the project area.

For Level Two Procedures, media releases will be distributed once during the planning stage and once during the design stage. The media releases will describe the expected project, notify readers of anticipated impacts (on transportation, environment, public health and safety, natural resources, business and industry, etc.), and invite comment.

For Level Three, TDOT should develop a media relations plan that identifies the dates and proposed content of media releases and that identifies any ethnic media outlets to which information should be sent.

- Press releases will be sent to related media at least two weeks prior to an event with an in-depth explanation of the issues involved and the time, date, and location of the event.

- Follow-up calls to reporters will be made to ensure media releases were received and any questions were answered. An assessment will be made of the reporter's interest in the story. Trained media staff is able to speak to the reporter if necessary.

- Press releases will be sent to minority newspapers within the community.

- Reminder media advisories will be distributed at least two days prior to the meeting.

- Calls will be made to radio stations for spots on daily drive time talk shows. Trained staff is available to talk about pertinent issues.

- News items will be disseminated to the media so the event can be seen on the news pages as well as in the legal notice section.

At the beginning of the design process, correspondence will be sent to all persons in the planning phase database to apprise them of design activities, and a media release will be distributed to all media in the vicinity of the project. The correspondence and media release will include a review of the activities and results of the planning process, and will describe expected design activity and anticipated impacts. (Montana Department of Transportation, 2011)

At the end of the design process, a right-of-way public meeting will be held to present the final proposed right-of-way plans. Before construction begins, correspondence will be sent to all persons on the database at the end of the design phase to apprise them of impending construction. The correspondence will describe the anticipated impacts during construction and will invite input regarding the project.

A media release will be prepared and distributed prior to construction that provides information about impending construction activity in the project area. The media release will be distributed to at least one newspaper in the project area with wide circulation, to all television and radio stations serving the project area, and to any minority publications within the project area. It will also be posted to TDOT's website.

TDOT Website Posts

Information about the project will be posted on TDOT's website.

For Level Two Procedures, the website post should describe the expected project, notify readers of anticipated impacts (on transportation, environment, public health and safety, natural resources, business and industry, etc.), and invite comment.

Public Informational Meetings (PIMs)

TDOT will hold informal meetings upon request.

For Level Two Procedures, TDOT will hold informal meetings with stakeholders impacted by the project. The meetings should help build relationships with the community members and encourage them to participate in the planning and design process. (New Hampshire Department of Transportation, 2012)

For Level Three Procedures, TDOT will determine the need to hold public meetings in the project area, and a description of how many public meetings will be held, including anticipated dates and locations of meetings.

PIMs can be valuable for offering information, raising community awareness, and developing trust and a sense of partnership with communities. PIMs can be informal gathering of property owners, informal community meetings, or formal community meetings. The structure of formal community meetings can be either formal, or a combination of formal and informal. A formal presentation will be made that provides information about the need and purpose of the effort, its impacts to adjacent properties and the community, a time line for project development, the estimated cost of the project, its funding source (if determined), and the reasons for the meeting.
Coordination

TDOT will present information to the MPO, local city council, or other organization. This approach should stimulate coordination among agencies and organizations, which hopefully will lead to a group effort in influencing the public to get involved in transportation decision-making.

For Level Three Procedures, TDOT will coordinate a notice to offer the opportunity for public hearing to comply with FHWA and NEPA requirements regarding EAs. Refer to internal TDOT procedures for more information about notice of opportunity for public hearings.

During the design phase, it may be necessary to continue communications with the groups and individuals involved in the planning process on a more frequent and intense level.

In addition, during the design phase activities to enhance construction communication may need to take place. These include such activities as meeting with local businesses or residents to answer questions and identify potential construction issues. When issues are identified, a plan for resolving those issues during construction will be developed.

Advocate Presentation Meetings

This tool will allow stakeholders and officials to impact the planning and design process in a unique setting. TDOT should make every effort to include the necessary stakeholders that represent various populations. This approach requires time and resources to plan and execute. (Fresno Council of Governments, 2014)

Booklets, Brochures, and Handouts

This tool provides opportunities for any population (regardless of demographic background) to gain access and become knowledgeable about the project. The materials may require multiple formats/languages to ensure all potential stakeholders have the information in a form they can understand.

Briefings

Briefings allow attendees to receive necessary information pertaining to the project. They may prove difficult in areas with high percentages of underrepresented populations. (South Dakota Department of Transportation, 2010)

Community Events/Meetings

These tools help build relationships within the community and encourage the public to participate in the planning and design process. Piggybacking on routine community events should be very beneficial in terms of getting information to the public. (Fresno Council of Governments, 2014)

E-Newsletter

This tool is a very low-cost method for distributing information. The effectiveness of this approach depends on recipients having computer access. (Delaware Valley Regional Planning Commission, 2014)

Fact Sheets

Fact sheets allow the public to take home information and process it at their leisure, which should yield greater understanding of the project and its impacts. It is crucial that the material avoid jargon that could be confusing to the readers. Obviously, there is a chance the information will be thrown away.

Mailing Lists and Newsletters

These tools are relatively low-cost options for keeping people informed. All populations will have opportunity to learn regardless of access to the internet. This tool relies on the public to look for the information. To better ensure equality, it is also suggested that TDOT highly consider adopting various technologies and the use of multiple language translations in its mail-outs and electronic data to better serve diverse ethnicities and disabled residents. (Examples may include developing multiple language translations and braille-supported software).

Documents

Documents promote social equity by being transparent and easily accessible to the public. The documents can be provided on the TDOT website, but the internet user must be able to easily find the location of the documents.

Oversight Committee

TDOT should form this committee, consisting of TDOT staff and members of other key agencies (MPOs, RPOs, FHWA, FTA, and other respective agencies), to make sure that the appropriate tools are used to effectively inform the public about the project.

Quarterly Report on Website

This tool allows the public to gain a better sense that TDOT is trying to be open and share all appropriate information. Clearly, significant time will be required by TDOT staff to prepare the quarterly reports. Only persons with internet access will be able to review the quarterly reports. To ensure a broader reach to diverse populations, it may be recommended to provide mail-outs of quarterly reports to those who do not have access to internet. Though this action is time-consuming, it would assist in building and maintaining trust with the taxpayers.

Speakers Bureau

This tool allows experts to speak on topics as requested, meeting the target group's needs. It also builds community contacts and relationships. Moreover, it establishes TDOT and MPO credibility. This tool is more appropriate for larger projects or studies. It requires dedication of staff and resources. (Delaware Valley Regional Planning Commission, 2014)

Mailing List of Stakeholders

This tool allows for the regular dissemination of information about TDOT activities and meetings to potential stakeholder groups. TDOT must develop a database on citizens information living in the project area (such as address or zip code), elected officials, stakeholders (businesses or institutions in the area), and any other groups or individuals thought to have an interest in the project. The database will be used to communicate project information to stakeholders. (South Dakota Department of Transportation, 2010)

Studies and Reports

These items can help foster a relationship with the public whereby the public does not feel TDOT is withholding information. They can be used to inform the public about troubling issues surrounding them and how it will affect them. Studies and reports would require time and resources to prepare and execute. (Mid-Ohio Regional Planning Commission, 2013)

Visual Aids

These items provide accessibility for all, regardless of disability. Proper technology and dedicated staff are required to implement the respective tools.

Email Notification List

This tool is cost-effective and requires minimum resources. It also may help utilize people with strong knowledge base and who are involved in the community. (Fresno Council of Governments, 2014) Outdated email addresses may preclude information from being received by concerned and/or impacted parties. Another disadvantage is that not everyone has access to the Internet and/or an email address.

Information Boards

Information Boards are relatively simple ways to send updates to the public. They may need to provide translations in languages other than English to inform minority communities.

Public Awareness Campaigns

This tool allows for many individuals to be informed about a project through a dedicated campaign. They can be costly. In addition, they may draw members of the public into the public involvement process that may not be affected by the project due to the wide net being cast.
Videos

This tool can help paint projects in a positive light due to external production. Videos can reach out to all populations and present a strong message. They may be viewed as bias because they were produced by TDOT. Videos require time and resources to prepare and execute.

Visualization Techniques

This tool allows for information to be easily understood. Consistent branding allows for the public to easily identify it as a TDOT product. This tool may gloss over some details if presented without an accompanying explanation. It may not provide clear and distinct data/visuals that can be understood by all populations/academic backgrounds. (Delaware Valley Regional Planning Commission, 2014)

Table 1: Tools & Procedures Guide

Tools	Level 1 Procedures	Level 2 Procedures	Level 3 Procedures	Level 4 Procedures	Level 5 Procedures*
Direct Mail	X	X	X	X	
Media Releases	X	X	X	X	
TDOT Web site Posts	X	X	X	X	
Public Informational Meetings	X	X	X	X	
Coordination	X	X	X	X	
Advocate Presentation Meetings		X	X	X	
Booklets, Brochures, Handouts		X	X	X	
Briefings			X	X	
Community Events/Meetings			X	X	
E-Newsletter			X	X	
Fact Sheets			X	X	
Mailing Lists and Newsletters			X	X	
Documents				X	
Oversight Committee				X	
Quarterly Report on Web site				X	
Speakers Bureau				X	
Studies and Reports				X	
Visual Aids				X	
Email Notification List				X	
Information Boards				X	
Public Awareness Campaigns				X	
Videos				X	
Visualization Techniques				X	

Public involvement activities for Level Five efforts will be treated in a manner separate from other categories, meaning that the level of public involvement will be determined based on the effort to be undertaken. When the department intends to conduct a statewide effort, a team of TDOT staff, any associated consultants, and appropriate Federal agency staff will be formed to determine the appropriate level of public involvement for statewide plans.

Section 4: Informing the Public via On-line and Social Media

Introduction

Social media is a powerful tool. Social media, also called social networking, refers to a group of web-based applications that encourage users to interact with one another. Social media applications invite users to share opinions, information, experiences, photographs, and sometimes their locations. This section will only address the use of social media for conveying information to the public related to TDOT projects and planning activities.

Transportation agencies have adopted social media strategies in recent years. In fact, almost every U.S. state department of transportation has a social media presence. The level of commitment and engagement in social media varies widely, from states, such as Oregon and California that demonstrate widespread adoption and use of multiple social media platforms to states, such as Delaware, that employ more limited use of social media. The reasons for varied use can include, but are not limited to, funding and staff support required for successful social media efforts. Other users of social media include transit agencies, airports, turnpike authorities, and other transportation organizations at all levels of government. Information that can be conveyed to the public consists of agency news, real-time traffic alerts, meeting and event notices, weather emergencies, crisis communications, featured stories, public safety guidelines, updates on highway construction projects, and reports and studies.

Transportation agencies are using multiple social media platforms to provide information to citizens and stakeholders. They include the following categories: social and professional networking sites, blogging, micro-blogging, media- and document-sharing sites, social curation sites, geo-location applications, and crowd-sourcing applications. Use of these applications by transportation agencies is growing. The inventory of social media applications keeps evolving and particular sites may gain or lose popularity over time, which poses a challenge to agencies as they consider which platforms to adopt.

One of the main challenges of using social media is to provide content that is interesting and relevant within the social media arena. There is significant competition within social media; it is a challenge to devise messages that stand out and keep target audiences interested. Another challenge is in educating agency staff in understanding the importance of social media, how to use it effectively, and the need to routinely incorporate it into the public involvement process.

TDOT's advantages of using social media include:

- Opportunity to build better relationships with its customers.

- Opportunity to boost loyalty.

- Opportunity to build a community of supporters both on-line and off-line.

- Social media costs significantly less money compared to traditional marketing tactics, and the value achieved may be enormous.

- It is one of the best ways to demonstrate that you are accountable, responsible, transparent, and socially relevant.

Agency Considerations and Policies Related to the Use of Social Media

It is easy to start using social media. The real challenges come relatively quickly after being active in social media. The most common concerns include staffing requirements, ensuring digital access for all citizens, record-keeping procedures, and responding to on-line criticism. In its use of social media, TDOT has already experienced most of these issues.

Organizational considerations for TDOT may include (Bergman and Watkins, 2014):

- Which social media platform(s) is (are) the best choice(s) for TDOT?

- How much time is required to manage social media account(s)?

- Which TDOT employees should have access to social media administrative rights?

- Should any site(s) be excluded?

- What should be the suggested frequency of disseminating social media updates?

- Does using social media put the agency at risk for viruses and malware?

- Are tweets part of the public record?

There are several social media platforms that can be used. Some of the popular options include Twitter, Facebook, LinkedIn, YouTube, Flickr, Blogs, and many others. TDOT uses Twitter, Facebook, and other platforms that are connected to the home page of the TDOT website, allowing the public to gain simple access to these media platforms.

The agency does not try to maintain centralized control for managing content by requiring all posts to be approved by the appropriate TDOT department. Headquarters and regional communications staff members have the authority to respond to postings. Thus, TDOT relies on the judgment of its social media employees to make sure that posts are consistent with TDOT policies, while not compromising the integrity of the department. What all agency staff members must realize is that once information is published it is widely accessible and not easily retractable. Moreover, the information will be around for a long time.

Most social media posts will be one of three types: information, engagement, and marketing. Under ordinary circumstances, about half of TDOT's posts are expected to be informational. About 30% of posts will be engagement, and about 20% will be marketing. (Bergman and Watkins, 2014) This section focuses only on informational posts. Engagement and marketing will be covered in Section 6.

Many organizations treat all social media posts as matters of public information subject to the same retention rules as other official communications. Thus, TDOT should seriously consider

retaining social media records due to liability and security reasons. An advantage of saving the records is if the agency is accused of failing to inform the public about a significant project activity (e.g., a street closure), the records can be used to prove that accusation incorrect.

Social media records also allow TDOT to evaluate how effectively it is performing in the use of social media. The number of times notices were posted and the number of times the public viewed or clicked on a link during certain time intervals is useful data, and can be obtained through by implementing social media analytics and measurement tools. TDOT may also choose to retain a third party (ArchiveSocial, Nextpoint, Smarsh, Inc., TwInbox, ArchiveFacebook, SocialSafe, or Hootsuite) to archive its social media content.

Agencies that use social media need to provide fresh content and personal answers to questions posed by stakeholders. In the use of Twitter and Facebook, TDOT communications staff tries to respond to every posting within a reasonable time frame. Research shows that most customers expect responses within a day of posting a comment, and half of Twitter users want answers within two hours. (Bergman and Watkins, 2014) Although TDOT has limited social media staff (about 6 people), the agency must continue to respond to postings in a timely manner. This is critical for maintaining followers and attracting new followers.

TDOT social media staff needs to monitor their social media accounts at least daily, and every effort should be made to respond to postings on a real-time or hourly basis. This means TDOT's time commitment to social media must be maintained or even increased in the future to ensure ongoing, successful interaction with its customers.

Technology can also help TDOT stretch its resources. Third party applications such as TweetDeck and HootSuite enable users to create online dashboards to manage all their social accounts from a single location. These applications also allow users to schedule posts in advance as a convenient option for sharing information that is not time-sensitive. Only communications staff is allowed to respond to social media postings, and they are updated regularly on transportation projects and planning activities so that they provide accurate responses. There is a concerted effort to provide consistent information across multiple social media channels, and these third party applications can facilitate this process.

Research indicates that there are no statistically significant differences in use of social media based on race or ethnicity, household income, education level, or urban, suburban, or rural residence. Women, however, slightly outnumber men; 71% of women use social networking while 62% of men do so. With respect to age, there are statistically significant differences (Bergman and Watkins, 2014):

- 86% of Internet users ages 18 to 29 use social media.

- 72% of Internet users ages 30 to 49 use social media.

- 50% of Internet users ages 50 to 64 use social media.

- 34% of Internet users over age 65 use social media.

Underrepresented groups that may be difficult to reach with social media are persons who have limited English proficiency and people with disabilities. More than 10 million people in the U.S. have limited English proficiency. According to the U.S. Census Bureau, 14.8% of persons aged 15 and older have severe disabilities, including 0.8% with severe vision problems and 0.5% with severe hearing problems (Bergman and Watkins, 2014).

Numbers in Context

State of Tennessee population (2010): 6,346,105 persons

Population ages 20 to 29 was 843,927 persons
Population ages 30 to 49 was 1,727,531 persons
Population ages 50 to 64 was 1,245,064 persons
Population ages 65 and over was 853,462 persons

Based upon the percentages of Internet users in these various age groups provided above:

Internet user age 20 to 29 = 725,777.22 persons use social media
Internet user age 30 to 49 = 1,243,822.32 persons use social media
Internet user age 50 to 64 = 622,532 persons use social media
Internet user age over 65 = 290,177.08 persons use social media

Of the 4,669,984 people who make up the total population within the age groups between 20 and over 65, 2,882,308.62 who use the Internet use social media. This means that TDOT could potentially reach out to approximately 45% of the state population just through social media outreach!

Making meeting materials available on TDOT's website and other social media outlets will expand outreach to people who could not otherwise attend a public meeting because of disabilities, limited transportation, or scheduling difficulties. Many people can now read a tweet or post from the agency. (*Source: U.S. Census Bureau, 2010 Census - Profile of General Population and Housing Characteristics: 2010 Demographic Profile Data*)

For persons with limited English skills, numerous web-based applications can translate web pages. Examples are FreeTranslation.com, translate.google.com, bing.com/translator, and free-website-translation.com. These sites allow web developers to add translation buttons on their websites for easy access to translated pages. Our survey of TDOT staff members indicated that TDOT's website is not readily accessible to visitors who speak languages other than English, yet 2.8% of the state's population (177,690) speak English 'less than "very well"' according to data gather through the U. S. Census Bureau's 2013 American Community Survey.

TDOT communications staff members have responsibility for managing the website, internal and external, and monitoring the social media administrative accounts. Other responsibilities include writing blog stories and taking videos regularly and integrating them within their respective social media sites. The social media staff post regularly on Facebook, Twitter, and other social media sites they believe will reach out to diverse populations.

What is the return on investment (ROI) for TDOT as it invests in social media employees? The ROI may be measured in terms of improved efficiency, future costs avoided, electronic versus paper printing, speed of delivery, public support without significant public relations expenses, etc. Clearly, the agency realizes that there is a significant commitment of time and resources. The goal is for TDOT to continue to develop its brand and image in social media. By doing so, the agency can enhance its reputation and help it recover relatively quickly in the face of negative news or criticism.

TDOTs General Approach

The TDOT has identified five levels of public involvement activities, as mentioned in Section 3.While Section 3 focused on traditional approaches, this section will examine the five levels of public involvement through the lens of non-traditional or more innovative approaches that can help TDOT foster public involvement, particularly through enhanced engagement using technology-driven approaches. *See Section 3 for a description of the five levels of public involvement activities beginning on page 1.*

With respect to each category that was defined in Section 3, the subsequent information in this section will focus on on-line and social media public involvement tools that should be useful and meaningful for **informing the public.** In other words, the approaches offered in this section primarily involve one-way communication. It is a process whereby the TDOT disseminates its message out to the public in a format that the public can understand. Level procedural definitions and social media tools are described in the following segments, and Table 2: Tools & Procedures Guide indicates the tools most appropriate to each level procedure.

Level Procedural Definitions

Level One Procedures

Because these projects are limited in scope and impact, only a few of the on-line and social media public involvement tools are necessary. All information will be distributed at least two weeks prior to the start on any project activity. No action will be taken on unfunded planning studies; if a study moves forward, a new level of public involvement will be assigned.

Level Two Procedures

Projects in this category have officially entered the environmental phase under which NEPA public involvement requirements are clearly articulated. Typically, projects in this category are defined early in the planning process as a Categorical Exclusion (CE), or the effort requires minimal planning before design and construction begin. If the project is a CE project, then normal NEPA requirements will apply. With all other Level Two projects, public involvement will involve use of the tools noted below.

Level Three Procedures

Level Three projects require an Environmental Assessment (EA) to be performed because some degree of environmental impact is expected even though the project is of moderate size. Therefore, the TDOT must consider a wider array of tools to inform the public in an effective manner. The public involvement tools that should be considered are given below.

Level Four Procedures

Level Four projects require an Environmental Impact Statement (EIS) to be completed or are large-scale design and construction projects. An EIS is a very expensive, comprehensive evaluation of a project's impact on various components of local communities. The cost of an EIS can vary from a few hundred thousand dollars to several million dollars. Typically, these projects would significantly impact local communities, require substantial acquisition right-of-way, and require more time for planning, design, and construction. The tools below that have no written description are identical to that provided for Level Three Projects.

Level Five Procedures

Level Five projects involve statewide or systems-level planning efforts undertaken by the Department, including the Statewide Long-Range Transportation (LRTP), the Statewide Transportation Improvement Plan (STIP), the Statewide Rail Plan, Statewide Aviation Plan, and Statewide Transit Plan. Our survey of TDOT staff members indicated that TDOT needs to substantially revise its website to better inform the public of TDOT's transportation planning process.

Public involvement activities for Level Five efforts will be treated in a manner separate from other categories, in that the level of public involvement will be determined based on the effort to be undertaken. When the department intends to conduct a statewide effort, a team of TDOT staff, any associated consultants, and appropriate Federal agency staff will be formed to determine the appropriate level of public involvement for statewide plans.

As with Level Three and Level Four projects, a variety of techniques will be used to inform the public about Level Five efforts. Most of the techniques described previously for Level Four projects are expected to be utilized in Level Five efforts. The primary differences are that Level Five efforts are planning efforts and do not involve design and construction phases. Thus, the discussion of tools used to inform the public about design and construction activities (described under Level Four Procedures above) will not be applicable to Level Five efforts.

When TDOT plans to significantly revise its Long Range Transportation Plan (LRTP), the draft Plan or major Plan amendment will be placed in a prominent location on the website. Information (event calendar, meeting notices and agendas, how to submit comments, contact email addresses, contact phone numbers, links to related transportation agencies and municipalities, etc.) about the various stages of the public review process will also be provided on the website. Visualization techniques are used to help describe the Plan's findings and recommendations to the public. For example, color maps and other tools are used to illustrate the

various proposed transportation improvements. These visualization tools should be made available on the website.

The State Transportation Improvement Program (STIP) is updated every four years. Current and proposed versions of the STIP are posted on the TDOT website. Information (event calendar, meeting notices and agendas, how to submit comments, contact email addresses, contact phone numbers, links to related transportation agencies and municipalities, etc.) about the various stages of the public review process will also be provided on the website.

Definitions of Tools
(Includes Level Procedural Descriptions)

GovDelivery

GovDelivery allows for brief information to be distributed quickly to the public on Level One projects. The primary disadvantage of this tool is that not everyone has Internet and/or cell phone access. (Potential language barriers)

Register

The register is a simple way for TDOT to inform the public about Level One projects. A disadvantage of the Register is that not everyone may be aware of the Register and/or information that could be on it.

Traveler Information

This is an efficient way for the agency to disseminate updates about Level One projects. A disadvantage of this tool is that TDOT may not provide translations within the traveler information.

Facebook

Facebook is a social media site that invites its users to create profiles, connect with other users, exchange messages, etc. Facebook was created in 2004 and is one of the oldest social networking platforms in current use. Organizations may use Facebook to set up profiles and provide updates for its constituents. TDOT uses Facebook to inform citizens about department activities, public safety guidelines, and the status of highway construction projects. As of April 2015, TDOT has over 9000 followers on Facebook.

TDOT tries to consistently provide project updates, workshop announcements, and meeting announcements on the agency's Facebook page. Failing to routinely provide this information to constituents often is identified as a current weakness among many state transportation agencies that use social media. Facebook provides flexibility for the user to control who can provide feedback on their wall (or equivalent to discussion post) as it would be up to the administrator(s) to determine if they will allow feedback or not.

Blogs

A blog is a regularly updated on-line journal. Blogs can be about any subject and usually contain comments from readers, photographs and media clips, and links to other websites. Blogs are often written by a single author and have no length restrictions. Posts are typically published in chronological order, but authors can tag posts with keywords and give them topics or categories to enable users to easily locate information on a specific topic.

Blogs can be an effective tool for agencies that want to present detailed information about programs or policies. For example, the U.S. Transportation Security Administration (TSA) uses a blog to highlight agency success stories and to explain policies. (Bergman and Watkins, 2014) For TDOT Level One projects, normal posts may include a brief description of the minor construction project.

TDOT should consider identifying how many people are reading the blogs on a given day and the number of unique users. Also, to gain a strong following of users, TDOT could establish goals to acquire an identified number of users (e.g., 50,000 people) within a period of predetermined time (e.g., one year).

Twitter

Twitter is a real-time network that allows members to share information in very short posts or "tweets." Each tweet is limited to a maximum of 140 characters long (including spaces) and can include links to websites, photographs, and video clips. Unregistered users can read tweets, but only registered users can send them. In terms of being able to provide information about TDOT's transportation system to Tennessee citizens, there is no faster way to do it. Twitter is a great tool that TDOT uses to provide real-time information about incidents that happen on Tennessee highways – crashes, vehicle fires, weather events. Suppose a gasoline tanker crashed on I-40; TDOT staff will use Twitter to keep the public informed about changing road conditions.

Government agencies can use Twitter to share information about their services, projects, and other activities. The real-time nature of Twitter makes it especially useful for communicating time-sensitive information related to Level One projects. Examples may include updates on median removal, signalization, and intersection realignment projects. TDOT uses Twitter to keep the media updated about what is going on in real time. It is a very effective way for TDOT to disseminate accurate information to customers and the media. Moreover, Twitter is an especially effective tool for building relationships with citizens and for humanizing a state bureaucracy.

TDOT has several Twitter accounts. These Twitter accounts are managed by communication staff at TDOT Headquarters and in the four regional offices. These persons have authority to post information. Needless to say, these individuals are continually talking to TDOT headquarters staff to stay abreast of projects and to tweet words that will have the most success. Prior to posting information, that person will call a knowledgeable person in the agency and ask "What do you think? Is it appropriate?" Obviously, the agency attempts to preclude inappropriate and inaccurate information from being tweeted. TDOT may want to adopt internal agency policies that requires 30 days' worth of posts be archived.

Podcasting

Use of podcasting ensures that those with Internet access are able to receive updates regardless of physical limitations due to disability and/or lack of transportation. Podcasting may describe the expected project, notify readers of anticipated impacts (on transportation, environment, public health and safety, natural resources, business and industry, etc.), and invite comment. One disadvantage of podcasting is that not everyone has Internet access. Another disadvantage is the potential lack of technological knowledge among specific population groups (i.e., senior citizens).

Internet Press Releases

Information about the project will be released on TDOT's website, once during the planning stage and once during the design stage. The Internet press release should describe the expected project, notify readers of anticipated impacts (on transportation, environment, public health and safety, natural resources, business and industry, etc.), and invite comment. This tool allows for people to access press releases on the Internet. One disadvantage is that it does not provide content in multiple languages to ensure that all populations are informed.

For Level Three Procedures, at the beginning of the design process, an internet press release will be done to apprise the public of the results of the planning process, expected design activities, and anticipated project impacts. The internet press release will invite comment.

At the end of the design process, the TDOT will provide an internet press release containing information about the final design, impending construction, and anticipated impacts during construction. The internet press release will also invite input regarding the project.

Prior to construction, an internet press release will be done to provide information about impending construction activity in the project area.

Quarterly Report on Website

TDOT staff can prepare quarterly reports for high-profile Level Three projects and make them available through the TDOT website. Doing so allows the public to gain a better sense that the agency is trying to be open and share important information about the projects.

YouTube Releases

YouTube is a video hosting site where users can upload, watch, and share short videos. Most of the material is generated by individuals, but companies, agencies, and organizations can share content on the site. Transportation agencies can use YouTube to build community support for a project. YouTube can also be used to educate and inform citizens about programs and policies. (Bergman and Watkins, 2014) YouTube releases can help paint projects in a positive light due to internal production. A disadvantage is the time it takes to prepare the videos. TDOT regularly takes videos and shares them on YouTube.

Flickr

Flickr is a website that allows users to publish and share photographs. Many transportation agencies use Flickr to share photos with customers, stakeholders, and the media. (Bergman and Watkins, 2014)

Scribd

Scribd is a large on-line library and allows users to upload and share documents and reports. This resource could be used for TDOT to consider sharing particular information to residents who use this technology.

Pinterest

Pinterest lets users share photographs and images from on-line sources. The name combines "pin" and "interest" and suggests bulletin boards or art boards often used in the fashion or advertising industries. Some DOTs post images of various transportation-related themes. (Bergman and Watkins, 2014) TDOT occasionally uses Pinterest to post transportation photos and images.

Quarterly Report on Website

TDOT staff should prepare quarterly reports for all Level Four projects and make them available through the TDOT website. Level Four projects are expected to have significant environmental impacts; thus, the public will be especially interested in receiving updates describing the status of these projects. Obviously, much time and effort will be required by the TDOT staff to prepare the quarterly reports. Providing quarterly reports on the website allows the public to gain a better sense that the agency is trying to be open and share important information about these high-profile transportation projects.

Studies and Reports

The agency staff and its consultants routinely prepare studies and reports about TDOT projects. These documents should be made available on the website. This can help foster a relationship with the public whereby the public does not feel the TDOT is withholding information. These documents will inform the public about significant issues related to the project and how the agency is attempting to resolve those issues. The documents will also provide information concerning the impact of various projects on users of Tennessee's transportation system. While these documents take time and resources to prepare, their value to the public may be substantial.

Web-posted Videos

Web-posted videos can help paint projects in a positive light due to internal production. The TDOT must be sensitive toward reaching out to all populations. These videos may be able to present a strong message. One disadvantage of using web-posted videos is that they may be viewed as biased because they were produced internally by the TDOT. Obviously, it takes time and resources to prepare the videos.

Web-posted Visual Aids

Visual aids will be used to aid the public in understanding proposed projects. Examples of visual aids that can be used are sketches, drawings, artist renderings, simulated photos, computer model images, GIS-based scenario planning tools, and computer simulation. Because of the high-profile nature of Level Four projects, some form of visual aid should be provided on the agency's website.

Table 2: Tools & Procedures Guide

Tools	Level 1 Procedures	Level 2 Procedures	Level 3 Procedures	Level 4 Procedures	Level 5 Procedures*
GovDelivery	X	X	X	X	
Register	X	X	X	X	
Traveler Information	X	X	X	X	
Facebook		X	X	X	
Blogs		X	X	X	
Twitter		X	X	X	
Podcasting		X	X	X	
Internet Press Releases		X	X	X	
Quarterly Report on Website			X	X	
YouTube Releases			X	X	
Flickr			X	X	
Scribd			X	X	
Pinterest			X	X	
Studies and Reports				X	
Web-posted Videos				X	
Web-posted Visual Aids				X	

* Public involvement activities for Level Five efforts will be treated in a manner separate from other categories, meaning that the level of public involvement will be determined based on the effort to be undertaken. When the department intends to conduct a statewide effort, a team of TDOT staff, any associated consultants, and appropriate Federal agency staff will be formed to determine the appropriate level of public involvement for statewide plans.

Section 5: Obtaining Public Feedback via Traditional Tools

Introduction

Traditional public involvement tools generally have served and continue to serve TDOT well in gathering input from the public. Therefore, many of them can be expected to contribute effectively in future public involvement efforts designed to engage the public.

The previous two sections focused on getting information to the public about TDOT projects and planning efforts. This section focuses on traditional tools that serve **to obtain feedback from the public** about TDOT projects, planning, and other activities. The primary goal is to gather input from the public that can be used to assess public concerns and to evaluate recommendations from the public regarding potential changes to projects that enhance project outcomes and that minimize adverse environmental impacts.

In these efforts, it may be necessary to use sign and language interpreters, translated materials, and other techniques of communication and outreach that consider cultural differences. TDOT needs to be sensitive to persons with disabilities and to those who communicate in languages other than English. Well-trained staff members have found and will continue to find ways to be creative and effective in getting public feedback using traditional tools.

TDOT's General Approach

The TDOT has identified five levels of public involvement activities. These levels are defined previously in this report. *See the beginning of Section 3 for a description of the five levels of public involvement activities.*

With respect to each level of public involvement activities defined by TDOT, the subsequent information in this section will focus on traditional public involvement tools that should be useful and meaningful for **obtaining feedback from the public.** In other words, the approaches offered in this section primarily involve two-way communication. It is a process whereby the TDOT has an exchange of ideas with the public in a format that encourages citizen feedback in a meaningful manner.

Level procedural definitions and traditional tools are described in the following segments, and Table 3: Tools & Procedures Guide indicates the tools most appropriate to each level procedure.

Level Procedural Definitions

Level One Procedures

Because these projects are limited in scope and impact, only a few of the traditional public involvement tools are needed. All information must be distributed at least two weeks prior to the start of any project activity. No action will be taken on unfunded planning studies; if a study moves forward, a new level of public involvement will be assigned.

Level Two Procedures

Projects in this category have officially entered the environmental phase under which National Environmental Protection Act (NEPA) public involvement requirements are clearly articulated. Typically, projects in this category are defined early in the planning process as a Categorical Exclusion (CE), or the effort requires minimal planning before design and construction begin. If the project is a CE project, then normal NEPA requirements will apply.

Level Three Procedures

Level Three projects require an Environmental Assessment (EA) to be performed because some degree of environmental impact is expected even though the project is of moderate size. Therefore, TDOT must consider a wider array of tools to inform the public in an effective manner.

Level Four Procedures

Level Four projects require an Environmental Impact Statement (EIS) to be completed. An EIS is a very expensive, comprehensive evaluation of a project's impact on various components of local communities. The cost of an EIS can vary from a few hundred thousand dollars to several million dollars. Typically, these projects would significantly impact local communities, require substantial acquisition right-of-way, and require more time for planning, design, and construction.

Level Five Procedures

Level Five projects involve statewide or systems-level planning efforts undertaken by the Department, including the LRTP, STIP, the Statewide Rail Plan, Statewide Aviation Plan, and Statewide Transit Plan.

Public involvement activities for Level Five efforts will be treated in a manner separate from other categories, in that the level of public involvement will be determined based on the effort to be undertaken. When the department intends to conduct a statewide effort, a team of TDOT staff, any associated consultants, and appropriate Federal agency staff will be formed to determine the appropriate level of public involvement for statewide plans.

As with Level Three and Level Four projects, a variety of techniques will be used to inform the public about Level Five efforts. Most of the techniques described previously for Level Four projects are expected to be utilized in Level Five efforts. The primary differences are that Level Five efforts are planning efforts and do not involve design and construction phases. Thus, the discussion of tools used to inform the public about design and construction activities (described under Level Four Procedures above) will not be applicable to Level Five efforts.

Definitions of Tools

Community Meetings

Community meetings help build relationships within the community and encourage the public to participate in discussions about a project. This approach takes time for TDOT staff to prepare for and attend meetings. This approach is highly suited to Level One and Level Two projects.

Neighborhood Outreach Specialists/Community Facilitators

Neighborhood Outreach Specialists and Community Facilitators are knowledgeable about their respective communities and can encourage the public to participate in community meetings. These people can help to stimulate discussion at the meeting and ensure that citizens share their ideas about the project.

Advocate Presentation Meetings

This tool will allow stakeholders and officials to impact the planning and design process in a unique setting. The TDOT should make every effort to include the necessary stakeholders that represent various populations. This approach requires time and resources to plan and execute.

Public Informational Meetings (PIMs)

The TDOT will hold informal meetings with parties desiring to meet. The meetings should help build relationships with the parties and encourage them to participate in the planning and design process.

Telephone Hotlines

This tool allows the public to easily share comments about the project with TDOT through an automated telephone system. It requires the user to seek the information out, but they are able to comment about various aspects of a particular project in which they are interested.

Community Events/Meetings

These tools help build relationships within the community and encourage the public to participate in the planning and design process. Piggybacking on routine community events should be very beneficial in terms of soliciting input from the public about the project.

Advisory Committee

A meeting with a local advisory committee can be used to generate buy-in for the proposed project. It will take staff time to meet with the committee and obtain their input about the project. This tool is very useful for Level Three and Level Four projects.

Brainstorming Sessions

These sessions give the public an opportunity to speak and listen in more informal settings, which may encourage more honest feedback. This approach requires special effort to ensure participation of underrepresented populations.

Consultation with Stakeholders

This tool allows the public to address specific concerns they may have about a project. It allows all stakeholders to have an equal opportunity to voice their concerns. Be careful that the focus of the discussion is not too narrow.

Meetings with Organizations

These meetings allow faith-based organizations and secular organizations to provide public feedback about a given project. TDOT staff who conducts the meetings must be sensitive to the needs of these various organizations. The organizations need to be assured that their input will be used to modify the project as necessary to address valid and reasonable concerns related to transportation efficiency, public safety, and environmental impacts.

Focus Groups

Focus group sessions provide an excellent opportunity for citizens to respond to the costs and benefits of a project. Such meetings establish and enhance TDOT's credibility because the focus group sessions provide an opportunity for strong interaction between citizens and TDOT staff. These sessions often require extensive planning and resources to ensure their success.

Opinion Poll

With this tool the public can voice opinions without having to speak before a large group. Thus, citizens are more likely to provide honest opinions and concerns. TDOT staff must be sure to offer this service in a clear and concise format to ensure that all populations can have opportunities to participate.

Oversight Committee

This tool builds community contacts and relationships. It also establishes TDOT's credibility with the public. This approach is more appropriate for larger projects or studies. It requires dedication of TDOT staff and resources.

Public Hearings

These hearings help set public expectations and provide information about the public comment and participation process. They also provide an open forum for the public to express concerns about a project and to voice support for a project.

Public Workshops

Public workshops promote exchange of ideas in a casual environment that is non-threatening to the audience. Domination of the conversation by individuals who are strongly opinionated may occur. This approach requires significant time and resources to plan and execute.

Electronic Voting

This tool allows the public to engage in a confidential manner and has been used successfully by TDOT in the past. One drawback is that not everyone may feel comfortable using the various technologies (i.e., keypads).

Conferences

Conferences can be used to capture many concerns, thoughts, and ideas from all populations and backgrounds. Failing to invite all population groups can lead to unbalanced feedback. Moreover, this task requires substantial time and resources to plan and execute because of all the activities within the conference. The feasibility of cost associated with putting a transportation related conference together may exclude marginalized populations. Level Four and Level Five projects may be candidates for this tool because of widespread interest in a large transportation project with significant environmental impacts or in a significant planning activity.

Meeting in a Box

This tool provides opportunity for citizens to voice their opinions in a private setting with other citizens. These people take the lead in the meeting; thus, this approach should contribute to higher levels of public involvement.

MetroQuest

This approach completes the communication circle by collecting information from stakeholders using wireless voting technology to collect preferences from audience members during planning meetings. Stakeholders may also submit preferences online or from kiosks in strategic locations in the community.

Table 3: Tools & Procedures Guide

Tools	Level 1 Procedures	Level 2 Procedures	Level 3 Procedures	Level 4 Procedures	Level 5 Procedures*
Community Meetings	X	X	X	X	
Neighborhood Outreach	X	X	X	X	
Advocate Presentation Meetings		X	X	X	
Public Informational Meetings		X	X	X	
Telephone Hotlines		X	X	X	
Community Events/Meetings		X	X	X	
Advisory Committee			X	X	
Brainstorming Sessions			X	X	
Consultation with Stakeholders			X	X	
Meetings with Organizations			X	X	
Focus Groups			X	X	
Opinion Poll			X	X	
Oversight Committee				X	
Public Hearings				X	
Public Workshops				X	
Electronic Voting				X	
Conferences				X	
Meeting in a Box				X	
MetroQuest				X	

* Public involvement activities for Level Five efforts will be treated in a manner separate from other categories, meaning that the level of public involvement will be determined based on the effort to be undertaken. When the department intends to conduct a statewide effort, a team of TDOT staff, any associated consultants, and appropriate Federal agency staff will be formed to determine the appropriate level of public involvement for statewide plans.

Section 6: Engaging the Public via Surveys, Questionnaires, and Innovative Approaches

Introduction

Surveys and questionnaires can be used to gather input on the preferences and thoughts of the public. They can be done in traditional ways, that is, by mailing surveys and questionnaires to citizens and having them return them by mail. Typically, response to conventional surveys and questionnaires is relatively low. Web-based surveys and questionnaires can also be used to obtain input from the public about TDOT activities. Because many people have access to the internet, response may be significantly higher because of the ease of internet access and the relative ease of completing online surveys and questionnaires.

Social media provides a good way to connect effectively with TDOT constituents (citizens, community stakeholders, members of the media, and public officials). Social media can be an effective strategy for obtaining feedback about proposed transportation projects as well as long-range planning efforts. People today rely on the web for information and to exchange ideas. Transportation agencies can therefore use the web to promote exchange and engagement between their constituents and the agency.

This section will address the use of traditional and innovative approaches to achieve two-way communication with the public related to TDOT projects and planning activities. These approaches will use some aspects of the tools discussed previously, but the goal here is to obtain feedback from the public that can be used to enhance transportation projects and planning efforts. The focus will be on two-way communication.

TDOTs General Approach

The TDOT has identified five levels of public involvement activities, as mentioned in Section 3.While Section 3 focused on traditional approaches, this section will examine the five levels of public involvement through the lens of non-traditional or more innovative approaches that can help TDOT foster public involvement, particularly through enhanced engagement using technology-driven approaches. *See the beginning of Section 3 for a description of the five levels of public involvement activities.*

With respect to each category that was defined in Section 3, the subsequent information in this section will focus on innovative non-web-based public involvement tools as well as on-line and social media public involvement tools that should be useful for **engaging the public.** In other words, the approaches offered in this section primarily involve two-way communication. It is a process whereby the TDOT achieves two-way communication with the public. Level procedural definitions and engagement tools are described in the following segments, and Table 4: Innovative Tools & Procedures Guide indicates the tools most appropriate to each level procedure.

Engaging the Public Using Traditional Surveys and Questionnaires

Traditional surveys and questionnaires can provide a relatively simple means of obtaining input from stakeholders. Participants may feel more comfortable responding to a survey than voicing opinions in a public meeting and are more likely to provide honest feedback, particularly if surveys remain anonymous. While surveys may be easily constructed, care must be taken to ensure that survey instruments are developed such that:

- Questions are written in coherent language and are easily interpreted by stakeholders so that appropriate feedback is obtained,

- Survey length is appropriate to the topic and desired audience, and

- Survey items are designed such that they are valid and reliable so that high quality data can be obtained, particularly when detailed analysis is required.

Surveys should typically be tested within a pilot setting before being distributed to a broad group of stakeholders to ensure the type of information desired from the survey is obtained.

Once a survey is developed, traditional surveys may be distributed in a variety of settings, including public meetings, information booths, and via direct mail. The cost of traditional surveys includes modest costs for development and printing, low distribution costs for surveys handed out in person, and higher costs if it is necessary for surveys to be mailed (particularly due to the fact that postage-paid return envelopes are typically necessary to encourage stakeholders to return completed surveys). Additional costs are incurred with data entry and analysis once survey responses are obtained. These costs may be significant if large numbers of stakeholders are surveyed. A further issue related to traditional surveys is the need to translate questions into languages other than English if responses are desired from communities with high populations of stakeholders with low English proficiency. This may require hiring a skilled interpreter to ensure that the intent and context of the questions is appropriately translated.

Engaging the Public Using Web-Based Surveys and Questionnaires

Use of web-based surveys and questionnaires can significantly increase the number of stakeholders that can be reached, facilitate the distribution process, and significantly reduce data entry and analysis costs versus use of traditional surveys. In terms of distribution, web-based surveys can be distributed via transportation agency email lists, forwarded to partner organizations for distribution to their members/constituent groups, and links can be posted on websites and distributed through a variety of social media platforms. Some online survey systems also allow purchase of survey responses that can be tailored to specific geographic boundaries, participant demographics, and sample size. Reminder emails can be scheduled through email management systems to prompt stakeholders to participate, and may even be customized such that only those stakeholders who have not yet responded receive reminders. Anonymity is easier to ensure via online responses, and stakeholders may also be more willing to respond to online surveys because of the ease of response through the online system and ability to take the survey at a time that is convenient from the comfort of their home.

The design of web-based surveys is still subject to the same level of effort and scrutiny as traditional surveys to ensure that a valid and reliable instrument is obtained, however; many online survey systems can reduce some of this work by providing standard validated survey questions that can be selected by the survey designer. In addition, many online survey systems provide language interpretation services whereby surveys can be translated into numerous languages within the system. Review by a qualified interpreter is still recommended to ensure context and intent of the survey items is retained in the translated survey.

Data entry costs are drastically reduced with online surveys, as the survey participants enter data themselves. Many systems also offer the option for survey developers to enter additional data into the survey database if paper surveys are distributed in addition to online solicitation. This may be of particular interest in reaching communities and populations with limited access to the Internet. Finally, data analysis and reporting costs are dramatically reduced with online survey systems as all provide basic data analysis and reporting, and many offer advanced features such as testing for statistical significance of responses and text coding and analysis for free response-type questions. Three of the most advanced and frequently used web-based survey systems are described in the following sections.

Survey Monkey

Survey Monkey is one of the most popular online tools available for creating web-based surveys and questionnaires. It is widely used by agencies of many types, and offers numerous features that can be purchased through a subscription service. The most basic offering is free, and allows users to create surveys with up to 10 questions, view responses from up to 100 participants, creation of survey items using 13 different question types, access to a standard question library, and a variety of response tracking and managing features. Subscriptions can be purchased ranging from $228-$780 annually, which add features such as:

- Expedited and phone support,

- Branding and customization of survey page appearance,

- Testing for statistical significance,

- Question randomization,

- Question and page skip logic,

- Filtering and cross-tabbing of results,

- Text analysis,

- Printing of custom reports,

- Download of data in a variety of formats (CSV, XLS, PDF, PPT, SPFF), and

- Survey completion redirect.

Survey Monkey also offers a variety of additional services available for purchase on an as-needed basis such as purchasing survey responses based upon a targeted set of stakeholders (demographics, geographic location) and sample size.

Questions Pro

Questions Pro is an online survey system similar to Survey Monkey but with a few different features. QuestionsPro also offers free and subscription-based accounts. Free accounts include use of a standard questions library, choice of up to 15 question types, numerous professionally designed survey templates, mobile compatible surveys, ability to create polls, respondent tracking and basic response analysis. Advanced features are available via monthly subscriptions ranging from $12-$75 per month. Advanced features include capabilities such as:

- iPad QuestionPro App that allows offline collection of survey responses (such as a public meetings, information booths, etc.) that will automatically sync once connected to the Internet,

- Branding and customization of surveys,

- Branching and skip logic,

- Export of data to CSV, XLS, PPT, SPSS,

- Reminder email functionality,

- Advanced question types,

- Action alerts,

- Multilingual surveys and translation services,

- Custom reporting (which may be directly downloaded to Google Docs and Dropbox), and

- Customizable domains.

SoGoSurvey

SoGoSurvey is one of the most recent survey systems to enter the market. Like Survey Monkey and Questions Pro, it also offers both free and subscription-based survey tools. The free account includes development of 15 surveys, up to 75 questions, and collection of 200 responses. It allows all basic question types, skip logic and branching, survey customization, multilingual surveys, basic reporting, contact management system, a survey question bank, smartphone compatibility, and online polling. Advanced features are available for purchase with subscriptions ranging from $12- $99 per month. Advanced features allow additional functionality such as:

- Unlimited surveys, questions, and responses,

- Customized thank-you messages,

- Advanced branching,

- Prevention of ballot box stuffing and duplicate responses,

- Scanner-ready surveys,

- Custom survey design to match agency website colors,

- Survey invitations via text message,

- Custom-branded Uniform Resource Locators (URLs) ,

- Participant login with unique passcode,

- Distribution and activity logs,

- Data cleansing and merging,

- Integrated Google Analytics,

- Kiosk functionality,

- Survey calendar planner, and

- Email management and mail merge, and

- Touch rules.

Engaging the Public Using Innovative Non-Web-Based Tools

Guerilla Input Sessions

Guerilla user testing is a low-cost approach to user testing. The term "guerilla" refers to its "out in the wild" style, which means that it can be used is a lot of different settings (café, library, train station, etc.). Guerilla testing works well to validate how effective a design is on its intended audience, whether the design works in the way it was intended to work, or determining whether a project of planning effort is accurately understood by the audience.

The approach is fast and fairly easy to set up. Participants are not recruited but are approached by those persons conducting the sessions. The sessions are short, typically between 15 and 30 minutes and are roughly structured around specific key research objectives. The output is usually qualitative; thus insight is often rich and detailed.

The typical approach is for a researcher to run the sessions with the project designer. The researcher can help with defining the tasks, moderating the sessions, and to provide a level of objectivity by not being the person who designed the project. Involving the designer in the sessions enables the designer to see first-hand how people respond to the project, where there are areas of improvement, and how they might resolve any issues.

The following logistics must be taken into consideration before carrying out any guerilla testing:

- Always ask permission first to speak with people,

- Outline briefly the purpose of the project or plan,

- Reassure them about confidentiality,

- Keep it simple and fast,

- Consider the location and set up carefully (some locations have a lot going on and people scurrying to and from the location),

- Providing incentives for audience participation is not required or necessary (however, some candy for the participants is a nice "thank you" for the people taking time to participate in the session),

- Seek permission from the participants first prior to recording the sessions (provide them with a written consent form for them to sign).

The primary weakness of guerilla testing is that it is not statistically sound and participants may not always match your target audience in terms of skills, expertise, and knowledge. The sessions can vary from 6 to 12 participants in any given round of guerilla testing. The number of participants will depend on where and when the sessions are conducted. Information (project summary, drawings, sketches, videos, etc.) will be needed to give the participants a reasonable understanding of a proposed project (United Kingdom Government Service Design Manual, 2012).

Engaging the Public Using Web-Based Tools and Social Media

GoToMeeting

This tool creates an opportunity for participants to attend a meeting in a virtual setting, eliminating the barriers of meeting location, need for child care, etc. GoToMeeting (and other web-based meeting platforms) can be used to engage participants real-time, allowing communication via the participant's computer microphone and speakers or through a conference call line (which can be established as either a free to TDOT (but users must pay) or free to users via a toll-free conference line (which TDOT much purchase)). GoToMeeting provides the ability to share the hosts' computer screen so that all participants can view PowerPoint or other visual displays, eliminating the need for participants to have other software capabilities beyond the meeting platform. There is no cost to a participant to join a meeting over the Internet, although conference call lines may incur call-in fees. Participants will need access to a computer and Internet connection with capabilities for downloading the GoToMeeting software and running the application. Video conferencing is also available, allowing participants to see one another, in addition to seeing the host. The host is able to control the meeting, mute participants, and assign mouse control to other users in the meeting. The platform also provides a chat feature allowing participants to text questions and comments and allowing the host or other participants to respond. The host establishes a meeting and its settings, and meeting connection details must be sent to participants. This can be accomplished via email, social media, websites, and texting. Finally, the meeting session can be recorded, enabling TDOT to provide viewing access to stakeholders via TDOT's website at a later date.

The primary drawback to using web-based meeting system is that not all stakeholders may have access to a computer with Internet capabilities. In addition, TDOT staff must be familiar with the meeting platform so that they are able to efficiently and effectively establish and run the virtual meeting. If large numbers of stakeholders are anticipated, the mute feature should be

used so that all users are able to clearly hear the TDOT staff hosting the meeting without interference from audio of other participants. The chat feature becomes particularly important in this instance as participants can submit questions at any time and TDOT staff can review and answer these as they are received or at the end of the session in a Q & A period.

MindMixer

This tool can create an environment where people feel empowered to be involved in TDOT's planning process. This approach requires internet access and TDOT manpower to develop at some cost. It is important to keep in mind that not everyone has internet access and may not be technologically savvy.

MindMixer is a crowdsourcing tool that encourages participants to develop their own ideas and vote on each other's ideas for the purpose of identifying the most popular ideas. The content is mostly text-based questions and responses. Typically, tools such as MindMixer attract significantly less participants compared to tools that allow users to connect immediately. The reason is that the participants have to register and create an account before participating in a planning project.

In MindMixer, participants create their own content or ideas. Input is usually open-ended and text-based. While this gives the participants freedom to express themselves, it often makes it difficult for planners to analyze the results for reporting.

MindMixer uses a standard format, and its functionality is focused on idea generation and voting. Dialog is between participants. They develop their ideas and vote on each other's ideas in a joint exercise. The participants can suggest any idea they choose. It is up to users to evaluate those ideas and draw their own conclusions.

MetroQuest

MetroQuest is another popular tool for engaging customers about planning projects. MetroQuest is a survey tool that collects very specific input from participants to assist transportation agencies in decision-making with respect to the planning process. MetroQuest has substantially yield greater participation than MindMixer because it is not necessary to register prior to participating. Thus, more people are willing to participate in MetroQuest.

MetroQuest has a fraud detection system; so it is easy to identify and eliminate abusers. It collects demographic data and email addresses at the end when participants are most invested in the project. With a survey, TDOT develops specific questions for the participants. These questions cover a wide array of input types, including priorities ranking, item rating, comments on maps, scenario voting, and budget allocation. Outputs are easier to quantify, analyze, and summarize in planning reports.

MetroQuest has an extensive toolbox of screen types that satisfy a wide range of needs. The MetroQuest layout is tailored to the specific needs of the agency. The planning team defines the

questions and participants respond to those questions. Content is presented in a way that can be quickly and easily understood by the public.

We Traverse Tennessee (WTT)

This could be an online tool whereby TDOT customers provide input to help identify travel patterns, transportation needs, and future priorities. They can receive individual comments on mobility gaps and challenges through the use of web-based questionnaires, an online mapping tool, and other methods. Based on this wealth of information, TDOT staff can recognize a number of common issues and develop core themes. It will take time and effort by TDOT staff to develop this tool and to determine the most strategic locations that need to be addressed. A disadvantage of this tool is failing to develop a comprehensive strategic plan to ensure all populations are engaged in the process.

Online Forums

This is a potentially low cost way to interact with the public, especially those who may have difficulties attending meetings. It requires internet access, and it depends on customers making the effort to actively participate in the online forums.

Online Public Hearing

All materials that are available at the public hearing will also be provided on the study web site. This tool allows people who are immobile, handicapped, and unable to attend the public hearing because of job conflicts, or have other constraints to participate in the public hearing process. However, not everyone will have Internet access.

Online Scenario Games

This approach provides an interactive way to engage citizens who have a "gaming" mind to be involved in the public participation process. This tool requires Internet access, and clear instructions must be provided for the user. Not everyone may be comfortable with using this tool because of unfamiliarity and/or lack of computer/Internet skills.

Online Video Contests

This tool is another way for consumers to publicly showcase their creativity while also helping TDOT to create low-cost promotional materials. Customers receive recognition for publishing award-winning videos, and the agency benefits from the trust facilitated when customers engage with one another about good service or unique programs they experienced. TDOT customers could be challenged to submit short videos showing what they like best about TDOT roadway improvements. Contests and competitions such can create exchange and engagement opportunities with the public that can lead to a positive experience (Bergman and Watkins, 2014).

Celebrity Tweets

TDOT should encourage Tennessee celebrities to engage via Twitter by sending messages touting the positive aspects of Tennessee's transportation system. When several celebrities tweet, the message often goes viral because of their large followings (Bergman and Watkins, 2014).

Pitfalls to Avoid When Using Social Media to Engage the Public

A potential problem area when using social media is the instantaneous formation of flash mobs. Social networks have the power to encourage large groups to amass, and they can overwhelm a transportation system easily. In one city, a popular musical group used social media to attract thousands of fans to one of its performances. The concert ultimately turned unruly with crowds of people rushing to buses to make their way out of town (Bergman and Watkins, 2014).

TDOT has already used Facebook pages, Twitter accounts, YouTube channels, and Pinterest boards to engage its constituents. These social media tools clearly are effective, and they are often perceived as free. However, TDOT staff spends a considerable amount of time providing the initial social media material, providing updates to the various social media platforms, and responding to comments and questions posted by TDOT followers. In other words, there is a hard cost involved in connecting with the public via social media.

As TDOT tries to maintain multiple social media outlets, there is a challenge to make them all relevant or to achieve a critical mass of participants. Sometimes significant resources can be used to develop social media products, and these products may not attract a large audience. Thus, TDOT needs to "pick and choose" those social media platforms that offer the best opportunity to engage its constituents in a sound, cost-effective manner.

As it uses social media, TDOT must be careful to monitor the individuals who are actively producing online messages and materials and responding to customers posts. TDOT allows its communications staff to respond to customer posts without first obtaining prior approval from their superiors. This is good in that it provides for a relatively quick response to customers, but these TDOT staff members must be careful to respond in an accurate and ethical manner that enhances TDOT's reputation. Individuals must be directed, policies must be put into place, and TDOT's brand should shine through in all social media endeavors (Bergman and Watkins, 2014).

TDOT needs to avoid providing a home page that tries to provide too much information and tends to confuse TDOT's customers. The home page must not be too overwhelming by containing too much information. The alternative is to direct TDOT customers to an appropriate landing page for additional information about a given topic or project. The challenge here is to make sure that the landing page does exactly what it needs to do. The landing page not only needs to be compelling but also satisfies the customer's interest. This is not an easy task.

One of the challenges of using social media to engage the public is to convey relatively technical information in a way that can be understood by customers who do not have a transportation background. A customer may be aware of a specific project or issue but lack any knowledge of the details. Thus, TDOT staff should take care to provide those details in a manner that can be understood by the customer. Content must be managed carefully, and succinct points must be made using social media language that is coherent, concise, relevant, accurate, memorable, and useful.

If potentially damaging information appears, it is relatively easy to see if it fails to gain traction with the public. For example, if an unfavorable news story does not gain any comments on social media, chances are the issue will disappear quickly. On the other hand, if social media public activity is rampant, worries about the agency's reputation may multiply. (Bergman and Watkins, 2014).

TDOT must realize that social media blunders may occur. The important point to remember is that when blunders occur, the agency must step up and take responsibility quickly. This approach will enhance TDOT's reputation among its customers and forge a good relationship based on honesty and integrity.

General Guidelines for Using Social Media to Engage Customers (Bergman and Watkins, 2014)

- TDOT needs to build and maintain its brand in the social media environment.

- In using social media, it is important to educate supporters as well as skeptics.

- TDOT needs to enhance its use of social media, with the goal of engaging and energizing the public on a frequent basis.

- TDOT must continue to respond to followers in a personal and timely manner.

- Social media interactions need to be personal because people are looking for human interaction.

- TDOT should use photographs of staff and volunteers to emphasize the human aspect of the agency (placing a face to a name can go a long way!)

- Social media followers are not looking for technical jargon they cannot understand. They want down-to-earth information they can comprehend and to which they can intelligently respond.

- TDOT needs to use surveys, images, videos, etc., that create excitement and make its social media outlets the greatest thing available. In other words, marketing is very important.

- It is extremely important that social media participants feel that TDOT's transportation policy decisions and projects prioritize the people of Tennessee.

- Social media posts must remain fresh and must be continually updated.

- TDOT Facebook pages should include project progress reports, updates about study staff activities, and links to interesting stories about TDOT projects that appeared elsewhere.

- TDOT needs to post stories with different viewpoints that contain negative comments about the agency's transportation decisions and projects. This enhances the agency's credibility with project supporters and skeptics.

- Posts with inappropriate language should be removed from the social media site as soon as possible, and TDOT should remind citizens that their passion and interest are welcome as long as their language is appropriate for all audiences.

- TDOT must realize that social media provides outstanding opportunities for engagement with the public, but it does not fully replace traditional methods of engagement.

- Social media strategies must be well thought out and fully integrated into the communications effort for a project.

- TDOT must have a very clear idea of what audiences it wants to reach, what it wants to communicate, and the role that each form of communication plays in accomplishing those goals.

Table 4: Innovative Tools & Procedures Guide

Tools	Level 1 Procedures	Level 2 Procedures	Level 3 Procedures	Level 4 Procedures	Level 5 Procedures*
Guerilla Input Sessions		X	X	X	
MindMixer					X
MetroQuest					X
We Traverse Tennessee					X
Online Forums		X	X	X	
Online Public Hearings			X	X	
Online Scenario Games			X	X	
Online Video Contests			X	X	
Celebrity Tweets			X	X	

Public involvement activities for Level Five efforts will be treated in a manner separate from other categories, meaning that the level of public involvement will be determined based on the effort to be undertaken. When the department intends to conduct a statewide effort, a team of TDOT staff, any associated consultants, and appropriate Federal agency staff will be formed to determine the appropriate level of public involvement for statewide plans.

Section 7: Best Practice Tools Engagement Workshop

Introduction

The purpose of the Best Practice Tools Engagement Workshop was to provide a project overview and to demonstrate the utility of tools identified in current research findings for effectively engaging stakeholders in the public involvement process to TDOT employees. The research team was interested in receiving feedback on strategies that would be best utilized and how the strategies would be implemented in the various regions of the state.

The research team conducted an Interactive Best Practice Workshop at TDOT Headquarters in Nashville, TN on Wednesday, April 29, 2015 from 10:00 AM to 12:00 PM. This workshop functioned as a practical presentation for the purpose of familiarizing TDOT staff with tools that have been identified thus far in the research project, and engaging staff in conversations about how TDOT can best utilize these tools.

The following TDOT departments from Headquarters, Regions 1 (Knoxville) and 3 (Nashville) were present either on-site or via webcam: Community Relations, Environment, Long Range Planning, Multi-Modal, and Local Program. There were nineteen (19) attendees total at the workshop, which included: thirteen (13) headquarters and region 3 staff attendees, four (4) grant team presenters, and two (2) region 1 staff attendees. Based on the tools identified in the Task 6 Pilot Projects the research team delivered a workshop designed to familiarize staff with strategies that may increase significant and balanced public involvement at the project and planning levels.

Overview

The workshop format included an overview and purpose of the research study entitled "Innovative Strategies for Public Involvement," brief presentations of innovative tools and best practices identified throughout the research study, and provided opportunity for TDOT staff to engage in discussion with the research team about the potential use of these tools and how to effectively implement them into various regions within TDOT.

Roundtable Discussion

The engagement piece of the workshop gave the attendees the opportunity to discuss questions regarding technology-based approaches (such as social media) and community- based approaches to inform and engage citizens in public participation decision-making activities.

Technology-Based Approaches:

Scholars Bregman and Watkins (2014) explains that "social media is allowing information access and public participation opportunities to many groups that were previously not reached…Social media provides traditionally under-represented groups that have Internet access the opportunities to participate in public decision-making" (pgs.248-249).

The attendees were asked the following questions during the engagement session of the workshop, which allowed for a more in-depth dialogue.

- Which of these have you used previously in Public Involvement (PI) efforts? How successful were they?

- What are the key challenges you face in implementing more or new technology-based approaches?

- What new approaches are you most interested in implementing?

- What resources will you need in order to successfully implement new technology-based approaches?

The attendees mentioned that TDOT has previously used technology-based public involvement approaches, such as Pinterest, Twitter, YouTube, and Facebook. TDOT currently has twenty-one (21) Twitter accounts, which is one of the primary social media tools that TDOT uses. The Community Relations Officers have their own Twitter accounts and are often involved in facilitating PIMs. TDOT has one general Facebook account which includes 8,000 to 10,000 "friends." Periscope is being used which allows live stream videos for Twitter followers – this is a free service.

The attendees believe that a lot more can be done in terms of social media both to inform and to engage. Currently TDOT is using Twitter and Facebook to inform and using Facebook to engage. TDOT staff indicated the agency has not been successful with engaging (two-way communication) outside of Facebook. The following sections outline key challenges, new approaches, and research needed pertaining to improving the public involvement process via technology-driven approaches.

Challenges
The attendees mentioned challenges to informing and engaging the public with social media platforms:

- The under-represented groups have limited access to social media and the Internet.

- Strategic planning for each project within each region to tailor engagement and informative efforts.

- Social media does not allow TDOT to know where a respondent lives, and if they are affected by projects directly.

One major challenge identified is that of how TDOT can record responses legally and administratively as mandated by federal law? Furthermore, how can social media data be captured for Administrative Record? Examples provided included Twitter feed (data) that can be printed and/or copied into the public record and Survey Monkey responses that can be downloaded and attached to court reporter notes. Further, scholars Bregman and Watkins (2014) state that "while agencies cannot control the applications created for specific social media sites, they can change the way information is presented" (p. 251).

New Approaches
The attendees also discussed several new approaches on social media:

- Survey Monkey and other scientific surveys.

- TDOT partnered with the Mayor's Office to send out successful Public Service Announcement (PSAs) blasts.

- Use of hash tags to (#) to better locate responses pertaining to certain projects.

- Implementing Hoot Suite, Textizen and/or Google Voice, and webinar platforms.

Resources Needed
The attendees explained that there are resources needed to implement social media tools in public outreach activities:

- There are at least six currently employed personnel tasked with social media and website updates.

- Software for PI webinars to allow two-way dialogue.

- Software to record meetings to be posted online.

Community-Based Approaches:

Scholars Bregman and Watkins (2014) explain that "although the reach of social media is rapidly expanding, it is anticipated that older populations will continue to be underrepresented by social media outreach. For that reason, agency outreach needs to include strategies to overcome this bias." Fortunately, traditional public involvement measures such as meetings advertised by mail and newspaper tend to attract older populations in greater numbers" (p. 250). It is also important to consider additional strategies to ensure the inclusion of underserved populations as well.

The attendees were asked the following questions during the engagement session of the workshop, which allowed for a more in-depth dialogue.

- Which of these have you used previously in PI efforts? How successful were they?

- What are the key challenges you face in implementing more or new technology-based approaches?

- What new approaches are you most interested in implementing?

- What resources will you need in order to successfully implement new technology-based approaches?

The attendees mentioned that TDOT has previously used community-based PI approaches, such as Community Facilitators (preachers, home owners associations, etc.) and the use of Libraries for posting information, providing Internet usage and hosting public meetings.

Challenges
The attendees mentioned challenges to informing and engaging the public with community based approaches:

- Identifying the time of day and location to hold the meetings – to accommodate parents, shift workers, college-age people, etc.

- Administrators have to give thought and time in planning public outreach activities.

- Life of the project can pose a barrier to keeping the public engaged and interested.

New Approaches
The attendees discussed new community-based approaches:

- Utilize local libraries more. Libraries are located in every community and agencies are welcomed to host meetings and/or post information. It is a "safe place" for all demographics (diverse racial, income, religious affliction, i.e.).

- Re-engaging citizens after the initial meeting occurs.

- Collecting emails and categorizing them by project.

An additional new approach discussed involved greater consideration related to educating the public about the transportation decision-making process. Staff realize the importance of helping the public better understand the transportation planning process, project lifespan, and points of engagement. One example discussed was using a two-minute informative video to educate the public about when they can participate in the transportation planning process within the life of the project. This video could be presented via Public Service Announcements, through presentations to community groups, and via the TDOT website and social media platforms.

Outcome

Survey Results

An exit survey was distributed to workshop participants to determine elements of the project that were of greatest interest/value to staff and to gauge effectiveness of the workshop itself. Seven (7) participants completed and submitted the survey. Participants were asked to rate the main components of the project on a scale of 1 to 5 (with 1 being 'not useful' and 5 being 'extremely useful'). The average rating for all project components was greater than 3, with the lowest relative rating for the Pilot Project Instruction Sheets (3.86) and highest for the Best Practice Toolbox (4.33). When asked which of the recommended best practices staff were most interested in trying to incorporate in future public involvement efforts, the top five responses included:

- Enhanced social media activities;
- Use of a community facilitator/liaison;
- Meetings with new stakeholder groups identified in the GIS Community Profile Database;
- Webinar format for community meetings; and
- Meetings at alternate times (recommended for specific stakeholder groups).

Challenges TDOT staff believe they will face in implementing new strategies include the cost of recommended strategies, aligning new practices with TDOT requirements/regulations, reluctance of staff to try new strategies, and lack of time to devote to developing new approaches or meeting formats. In order to meet these challenges, respondents of the survey indicated that guidance from TDOT on the most important areas of focus for public involvement (such as increasing underrepresented population engagement, etc., and training on the use of social media scheduling platforms or new technology such as Textizen are important.

Participants' overall perceptions of the workshop itself were positive. When asked to rate how strongly they agreed with a series of statements related to workshop effectiveness (with 1 being strongly disagree and 5 being strongly agree), all ratings were greater than 4. Participants indicated the workshop helped them better understand the scope of the presented project (4.7), the research team presented information in an understandable way (4.7), the workshop was worthwhile to attend (4.7), and the project products are useful (4.4). Additionally, participants agreed that it is important for TDOT to try new strategies for public involvement efforts (4.4). Finally, one respondent highlighted the importance of collecting data on who receives outreach messages and finding methods to ensure that efforts are reaching the intended audience.

It is important for TDOT to utilize a combination of technology-based (social media) and community-based approaches to "inform and engage the public." It is also important to approach each community on a case-by-case basis — even though they might all share the commonality of operating under varying levels of disadvantages and lack to transit access, each has its own specific needs. There is no "cookie cutter" approach to public participation, what works for one community may not work for the next. Therefore, it is important for TDOT to be fluid and flexible when implementing their public outreach strategies.

Summary Conclusion: Tying It All Together

Public participation in TDOT planning efforts in recent years has been limited. Thus, the agency seeks to involve a wider cross-section of people in public meetings to provide balanced input to the transportation decision-making processes. Such broad and balanced public involvement will help ensure that TDOT's transportation decision-making efforts are sound and offer the greatest benefit to as many stakeholders as possible.

Authors Bregman and Watkins (2014) explains that it is important to inform and engage citizens in the transportation decision-making process.

> "An equitable transportation system must provide all people the means to access information and express their opinions. This is not only a noble goal, it is also mandated in multiple U.S. laws. Transportation agencies must ensure that their use of social media includes appropriate practices, technologies, and supplementary traditional public involvement practices to ensure equitable decision making and information provision (p. 254).

The research team completed eight (8) tasks where they were able to identify strategies that were divided into technology-based and community-based approaches that are used to inform and/or engage the public in the transportation decision-making process.

The key findings that emerged from the analysis of all the research study data (interviews, literature review, focus groups, and surveys) include: Improvements in Awareness and Two-way dialogue are important to increasing effectiveness of TDOT's public participation activities.

Awareness

Awareness is a significant barrier to participation in the public involvement process for citizens from all demographics and regions of the state. The research team identified this as a prevailing concern across all communities during their research study. People had no idea that they could contribute their voices to the decisions determining transportation planning in their neighborhoods and surrounding areas. Focus group participants within the research study were just not aware there was such a thing [as participating]. In particular, one focus group participant revealed, "I never knew that I *could* say anything" (Region 3 Focus Group participant, 2015). Increased engagement with community organizations, such as those profiled in the GIS database developed for this project, is strongly recommended to increase awareness with citizens across the state, and specifically for those from groups traditionally underrepresented in the public involvement process.

Two-way dialogue

For meaningful engagement to develop, TDOT should emphasize two-way dialogue rather than just an 'input' process. This was another key theme that emerged from the interviews and focus groups conducted for this project. Feedback is very important to continued citizen involvement. Wellman (2015) explains scholars Fox and Miller (1995) and O'Connor et al. (2000) perspective on communication between agency administrators and citizens "true dialogue is bidirectional" (p. 2). Halvorsen (2003) states that "a history of participation with no visible impact on agency decisions can be worse than no participation at all" (p. 540).

In the foregoing sections of this document, several tools have been suggested for TDOT to improve two-way dialogue in its public involvement efforts. These tools include traditional and innovative approaches for engaging Tennessee citizens and stakeholders in transportation planning and decision making. With respect to the use of social media, TDOT has done reasonably well in using social media to engage the public, but additional work in this area is needed to increase two-way communication. Specific suggestions are as follows:

- The TDOT website needs to be substantially revised.

- Use of visualization tools (physical models/maps, computer simulation, GIS based scenario-planning tools, etc.) should be expanded.

- TDOT should expand its use of social media platforms (Twitter, Facebook, YouTube, etc.). TDOT should consider adding additional social media staff to improve TDOT feedback to public input via the Internet.

- Public meetings continue to be extremely important. There is no substitute for going out to schools and community centers and actively engaging the public about TDOT projects and planning activities. The best time for these meetings appears to be weekday evenings, and food should be provided to enhance participation.

- TDOT should post quarterly progress reports about major transportation projects and planning activities via its website and invite public response. TDOT should provide prompt feedback to public responses via the website.

- TDOT should routinely participate in community events in areas where major transportation projects are planned. At these events, TDOT should actively engage local citizens in discussions about the pros and cons of these projects. Summaries of these activities should be posted on the website in a timely manner.

- TDOT should use GoToMeeting, MindMixer, MetroQuest, and other similar tools to engage its customers more effectively.

- TDOT should consider developing a new tool, "We Traverse Tennessee," to help identify travel patterns, transportation needs, and future priorities based on citizen input.

The research team also discovered that public education related to the overall transportation process will help with awareness and overall public involvement activities. But no matter which tools TDOT incorporates into their Public Involvement Plan (PIP) to enhance public participation, the most important key is to incorporate a tool that is the "best fit" for the community and/or region where the potential projects will be implemented or the engagement is desired.

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