

# **Emerging Practices in Community Engagement for Transportation Planning**

Deliverable 6: Final Report

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Florida State University

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**DISCLAIMER:** The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the State of Florida Department of Transportation.

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<b>16. Abstract</b> This document has been prepared as part of the Florida Department of Transportation (FDOT) project entitled <i>Emerging Practices in Community Engagement for Transportation Planning</i> . Public participation is a crucial element of transportation planning in Florida, as it ensures that plans and projects align with the needs and priorities of the state's residents, visitors, and all users of the transportation system. The primary objective of this report is to document both traditional and innovative methods for public notification and engagement. This report also documents state-level and national trends related to public engagement. The report complements FDOT's successful online <i>Public Engagement Resource Guide</i> (2022) by identifying, documenting, and synthesizing notable and emerging practices.				
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# Executive Summary

*Emerging Practices in Community Engagement for Transportation Planning* is a research study sponsored by the Florida Department of Transportation (FDOT) and conducted by Florida State University's Department of Urban and Regional Planning. The purpose of the study was to strengthen FDOT's approach to public involvement by identifying current practices, reviewing emerging tools, and providing practical guidance for improving community engagement throughout the transportation project development process.

The project resulted in five deliverables:

1. A research summary documenting findings from a literature review, a national survey of public engagement practitioners, and four district-based focus group workshops.
2. A decision-support guidebook linking outreach and engagement strategies to the phases of FDOT's project development process.
3. A set of visual infographics to support communication by FDOT staff and consultants.
4. A set of implementation recommendations to guide future engagement efforts across FDOT.
5. A final report bringing these components together in one consolidated resource.

## *Research Findings*

The literature review, survey, and focus groups identified key issues and trends related to public involvement in transportation:

- Hybrid engagement approaches are now widely used and often expected by the public. These practices include both in-person and virtual formats to accommodate different needs.
- Methods must be adapted to local populations and settings. Older adults, young adults, parents, and non-native English speakers may require different tools and approaches to ensure participation.
- Survey respondents showed strong interest in applying new tools, including geofencing, virtual rooms, and AI-assisted comment analysis, but noted common barriers such as limited training, unclear guidance, and difficulty measuring success.

## *Outreach and Engagement Practices*

The Decision Support Guidebook aligns public involvement methods with each phase of FDOT's transportation project development process: Planning, Project Development and Environment (PD&E), Design, Right-of-Way Acquisition, Construction, and Maintenance. Effective practices identified through field input fall into several key categories.

For the purposes of this study, engagement and outreach were defined as two separate activities. "Outreach" was defined as the act of notifying the public about an issue (such as a project) or an opportunity (such as a meeting), while "engagement" refers to how transportation professionals involve the public in decision making and solicit their feedback.

For outreach, FDOT practitioners emphasized the need to combine broad notification with targeted communication strategies:

- Location-based outreach such as Every Door Direct Mail remains widely used, especially in rural areas and for older populations.
- Digital tools such as geofencing and platforms like Facebook and Peachjar are used to target specific demographic groups, including commuters and parents.
- Combining channels such as flyers, media releases, email, and social media helps increase message reach and reinforce awareness.

For engagement, the most effective strategies are those that encourage two-way interaction and lower barriers to participation:

- Informal formats such as pop-up events and public displays allow engagement in familiar locations, increasing visibility and participation.
- Virtual meetings, online polling tools such as Slido, and digital comment platforms offer flexibility and accessibility for a range of users.
- Alternatives such as drive-through meetings and mail-back surveys provide options for individuals with limited digital access or scheduling constraints.

#### *Agency-Level Recommendations*

The recommendations developed in Deliverable 4 are organized into three areas to support agency-wide enhancements:

- **Programs and Training:** Proposes strategies that strengthen the long-term capacity of FDOT to conduct meaningful, effective community engagement by investing in both professional development and community education.
- **Digital Tools:** Explores the use of emerging digital tools for engagement, including shared virtual engagement platforms, virtual reality simulations, and virtual video libraries.
- **Resource Sharing:** Provides recommendations on building a central portal to support the exchange of templates, tools, and engagement examples across districts, and offering regular opportunities for peer learning and staff development.

#### *Conclusion*

This study provides a foundation for improving how FDOT conducts community engagement across a variety of transportation project types and settings. Findings confirm the importance of using both traditional and new and emerging methods and adapting strategies to local context and capacity. The outreach infographics developed as part of Deliverable 3 are included in the report appendix and are intended to be used by FDOT staff and consultants and to serve as a model for the format and depth of future training materials.

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# 1.0 Introduction

## 1.1 Purpose

*Emerging Practices in Community Engagement for Transportation Planning* is a research study conducted by Florida State University's Department of Urban and Regional Planning for the Florida Department of Transportation (FDOT). The purpose of the project is to improve FDOT's public involvement efforts by documenting current practices, identifying emerging tools, and developing practical guidance for agency-wide use.

The study was designed to ensure that FDOT staff and consultants have access to up-to-date methods for community engagement, support the design of outreach strategies that reflect local context, and assist in building public support around planned transportation projects. The findings and tools developed through this study are intended to help align community engagement with the seven goals of the Florida Transportation Plan.

This final report provides a summary of the study's objectives, methods, findings, and recommendations. It brings together the key components of the research and offers guidance for FDOT's consideration as it continues to strengthen its public engagement practices.

## 1.2 Content

This report summarizes the content of each of the four preceding project deliverables and provides an integrated overview of strategies, tools, and recommendations for FDOT's use in community outreach and engagement. It is organized into six main sections, including an appendix:

### **Section 1: Introduction**

Describes the purpose of the project and outlines its overall objectives, including how the findings support FDOT's broader engagement and planning goals.

### **Section 2: Research**

Consolidates the findings of Deliverable 1, including results from the literature review, the expert practitioner survey, and district focus group workshops. This section also highlights conclusions and key considerations identified during the research process.

### **Section 3: Practice**

Summarizes the Decision Support Guidebook, developed as Deliverable 2, and outlines guidance for selecting and applying outreach and engagement strategies across the five phases of FDOT's project development process.

**Section 4: Recommendations**

Presents the strategic recommendations from Deliverable 4. These recommendations are grouped into three focus areas: Programs and Training, Digital Tools, and Resource Sharing. Each area includes actionable suggestions that FDOT may consider for future implementation.

**Section 5: Conclusion**

Offers a final synthesis of the project's key findings and deliverables and identifies opportunities for future research and continued improvement in public involvement practices.

**Section 6: Appendix**

Presents the four infographics that compose Deliverable 3. The content of each infographic includes: Social Media, Emerging Technology, Geo Tools, and Activity Based Interaction.

Together, these sections provide a framework for strengthening community engagement within FDOT's planning and project development activities. The report is intended to serve as both a summary of research findings and a practical resource for use by agency staff and partners.



## 2.0 Research

This section summarizes the methodology and key findings from Deliverable 1: *Notable Practices in Community Engagement*. The research activities included a literature review, a national expert survey, and four district-based focus group workshops. These efforts provided insight into current outreach and engagement practices, common challenges, and opportunities for improvement.

### 2.1 Literature Review

The research began with a literature review of academic articles, statutes, government reports, white papers, and best practice guidelines related to transportation planning and community engagement. This review helped shape the project's survey and focus group materials.

Three key themes emerged from the review:

- **Shift to Hybrid and Virtual Formats:** Agencies are increasingly supplementing or replacing in-person meetings with virtual or hybrid options. This is important because it allows engagement to continue during disruptions and offers scheduling flexibility.
- **Expanding Access through Technology:** Agency staff are using digital tools to reach wider geographic areas and offer multiple options for participation. This is helpful because it increases the potential number of participants and reduces location-based constraints.
- **Emphasis on Real-Time Interaction:** Tools such as polling apps, live comment platforms, and interactive maps are being used to collect immediate feedback. This is relevant because it supports more dynamic engagement and increases participant responsiveness.

These findings provided a foundation for designing the expert survey and district focus group protocols.

### 2.2 Expert Practitioner Survey

A 27-question survey was distributed to 49 public engagement professionals, including FDOT staff and representatives from other state DOTs. The goal was to understand how agencies balance traditional and digital methods, identify common challenges, and examine variation across different populations.

Survey findings included:

- **Traditional methods remain widely used:** Traditional formats continue to serve key segments of the population. Flyers, mailers, and in-person meetings are considered effective for certain groups, including older residents and those in rural areas.

- Hybrid formats are gaining popularity: Many respondents reported increased use of combined in-person and virtual methods. These hybrid meeting formats provide multiple avenues for participation and can expand project visibility.
- Preferences vary by demographic: Younger adults and parents prefer digital formats, while older adults often rely on printed materials. Preferences such as these underscore the need to match engagement methods to audience characteristics.
- New tools are of interest but require support: Respondents showed interest in geospatial and virtual engagement platforms but noted barriers such as lack of training and internal approval processes. This is important because successful adoption of new tools depends on organizational readiness.

## 2.3 Focus Group Workshops

To validate and extend the survey findings, the research team held focus groups in four FDOT districts: Districts 1, 2, 4 and 7. Districts 1 and 2 were selected as they include large rural areas, while Districts 4 and 7 were selected because they are primarily urban. Participants described current methods, emerging tools, and practical challenges.

Key observations include:

- District context shapes tool selection: Urban districts are more likely to use digital tools such as video conferencing software and Peachjar, while rural districts rely more on flyers, mailers, and local events. The choice of which tools districts use suggests that geographic and community context influences engagement strategies.
- Common outreach tools are broadly similar across locations: Social media, newsletters, email blasts, and posting and sharing notices were cited in all four districts. These common tools suggest a shared baseline for standard outreach practices.
- Engagement activities are diverse: Districts use a variety of engagement activities, such as pop-up events, surveys, public meetings, and polling. This shows that engagement is taking place through multiple formats and at different stages of project development.
- Newer tools are being tested selectively: Geofencing, Facebook ads, drive-through meetings, and media partnerships were mentioned by some districts. This indicates openness to innovation and adoption of newer tools, but only under the right conditions.

Common barriers that can affect implementation include:

- Funding limitations: Many tools require subscription fees or technical support may be a barrier because resource constraints can limit experimentation and reach.
- Lack of evaluation metrics: Staff reported difficulty measuring outreach success. This could reduce the ability of staff to assess and refine future engagement strategies.
- Approval delays: Internal processes for approving new tools or messages were described as slow. Delays could reduce the agency's responsiveness to community needs.
- Media coordination challenges: Participants noted difficulty managing public perception without proactive media strategies. When messaging is less clear and transparent it can negatively influence public confidence.

## 2.4 Summary of Outreach Practices

Outreach practices help agencies inform the public, generate interest, and invite participation. The research identified five methods used frequently across districts:

- **Social Media Campaigns:** Platforms such as Facebook and Instagram are used to share updates and announcements. These platforms allow rapid and wide distribution at minimal cost.
- **Print Materials and Flyers:** Physical materials are distributed in community spaces or by mail. These more traditional strategies are familiar and accessible in areas with low digital engagement.
- **Virtual Public Involvement Tools:** Web-based portals provide on-demand access to project information and comment forms. These tools offer flexibility for people to participate at their convenience.
- **Pop-Up Events:** Staff set up booths or displays at existing public gatherings. This allows for informal contact with residents who may not attend formal meetings.
- **Every Door Direct Mail (EDDM):** This USPS service targets all households within a selected area. This ensures that outreach reaches every address, regardless of property ownership status, individual interest, or internet access.

Together, these methods represent a practical mix of print and digital approaches suitable for various community settings.

## 2.5 Summary of Engagement Practices

Engagement practices are used to collect feedback, answer questions, and involve the public in shaping transportation decisions. The research identified several methods in regular use:

- **Public Meetings and Workshops:** These include in-person, virtual, or hybrid formats. These workshops provide opportunities for direct dialogue and clarification of complex topics.
- **Interactive Technologies:** Platforms like Slido and virtual flyovers allow participants to view materials and offer input in real time. These technologies support more active involvement and can increase understanding of complex topics.
- **Surveys and Polling Tools:** These include online platforms and paper questionnaires. These allow input from large numbers of people, including those who cannot attend synchronous events.
- **Drive-Through Meetings:** Residents receive printed materials and interact with staff from their cars. This meeting style provides a low-contact option that is still personal and efficient.
- **Community Academies:** Some agencies host educational sessions to explain transportation planning processes. These academies help participants make more informed contributions, though use of this method is still limited.

These methods reflect the need to balance flexibility, accessibility, and participant understanding in engagement activities.

## 2.6 Additional Considerations

The research identified several agency-level factors that can influence the success and scalability of outreach and engagement methods.

Key considerations include:

- **Social Media Training:** Staff expressed a need for practical training on content development and platform use. Training is a necessary tool; staff proficiency can significantly influence the effectiveness of social media outreach.
- **Platform Guidance and Restrictions:** Some platforms are not permitted for official use. Uncertainty about platform rules may limit the range of tools staff are willing to try.
- **Internal Review and Approval Processes:** Delays in approving new tools or content were common. These delays can limit an agency's ability to act quickly in response to community concerns or feedback.
- **Lack of Standard Evaluation Metrics:** Without consistent measures, it is difficult to evaluate whether methods are successful. Creation of such metrics would support data-driven improvements to outreach practices.
- **Use of Consultants or Partners:** Some activities such as offering incentives or using restricted platforms may be more feasible through contracted firms. This expands capacity without placing all responsibility on internal staff.

## 3.0 Practice

This section presents key findings from Deliverable 2: *Decision Support Guidebook*. The guidebook is intended to help FDOT staff, district offices, and consultants identify appropriate outreach and engagement strategies aligned with the five standard phases of the transportation project development process. These phases include Planning, Project Development and Environment (PD&E), Design, Right-of-Way Acquisition, Construction, and Maintenance. The guidebook provides detailed recommendations on how to apply these methods based on project needs, audience characteristics, and available resources.

### 3.1 Practice across Project Phases

Each transportation project phase has distinct goals, timelines, and decision points. The following summaries describe the function of each phase, followed by the outreach and engagement methods that may be employed to support project success. Each method includes a brief explanation of its value or relevance.

**Planning Phase:** The planning phase defines transportation needs, identifies long-term goals, and determines future investments. It typically lasts one to two years.

- **Outreach:** Flyers, utility mail inserts, community bulletins, and Every Door Direct Mail (EDDM) are outreach methods that may be employed during this phase. These offer low-cost ways to inform the public, especially in areas with limited internet access.
- **Engagement:** Visioning workshops, municipal website feedback, online surveys, and interactive mapping tools are engagement practices that may be used during this phase. These tools support early public input on project priorities and community values before alternatives are developed.

**Project Development and Environment (PD&E) Phase:** The PD&E phase involves evaluating project alternatives, assessing impacts, and meeting federal and state review requirements. It can last from one to seven years.

- **Outreach:** Project websites, social media updates, newsletters, and legal notices are outreach methods that may be used during this phase. These tools help maintain transparency and meet procedural communication requirements during complex evaluations.
- **Engagement:** Public hearings, stakeholder interviews, tribal consultation, virtual public involvement tools, and comment mapping are engagement methods that may be used during this phase. These support detailed feedback on alternatives and accommodate diverse community needs.

Design Phase: This phase converts project alternatives into technical design documents. It lasts from one to three years.

- Outreach: Newsletters, project dashboards, and translated content in local media are outreach tools that may be used during this phase. This outreach keeps stakeholders informed as technical work progresses.
- Engagement: Public open houses, charrettes, children's workshops, and AR/VR visualizations are engagement practices that may be used during this phase. These workshops help make information accessible and encouraging detailed input on proposed solutions.

Right-of-Way Acquisition Phase: This phase involves securing land rights and compensating affected property owners. It generally lasts two to three years.

- Outreach: Personalized mailings, neighborhood-specific flyers, and geo-targeted messages are outreach methods that may be employed during this phase. This outreach delivers customized information to those most directly affected.
- Engagement: One-on-one landowner meetings, pop-up events, and small incentives such as branded safety items are engagement strategies that may be used during this phase. These are effective for building trust, addressing concerns, and ensuring clear understanding of acquisition procedures.

Construction and Maintenance Phases: This phase includes the physical buildout and long-term upkeep of transportation infrastructure. Construction may last several years; maintenance is ongoing.

- Outreach: Changeable message signs, geofencing alerts, email or text updates, and project hotlines are outreach methods that may be used during this phase. These keep travelers informed and promote safety during disruptions.
- Engagement: Construction updates, project tours, drive-through meetings, and interactive activities are engagement strategies that may be used during this phase. These methods are useful for maintaining transparency and collecting input on operations or user experience.

## 3.2 Key Recommendations for Applying the Decision Support Guidance

The Decision Support Guidebook recommends several strategies to ensure effective application of outreach and engagement methods across all phases.

Some of the key strategies include:

- Begin early and maintain continuity: Engagement should start during project planning and continue through maintenance. This is important because early and consistent contact builds community trust and reduces conflict.

- Select tools based on phase-specific goals and audience needs: Techniques should reflect the context of each phase and the preferences of affected populations. This helps ensure methods are appropriate and effective.
- Show how input is used: Track and summarize public input clearly and share results through meeting summaries, online updates, or visual reports. This is essential for demonstrating accountability and encouraging continued participation.
- Train staff and consultants: Provide instruction on tools such as virtual rooms, interactive polling, or 3D modeling. This supports better quality engagement and consistent implementation.
- Use partnerships to extend reach: FDOT may wish to collaborate with local agencies, community organizations, and other trusted messengers to share information and gather feedback. These partners can expand outreach capacity, especially in rural areas where FDOT may have limited direct presence and where traditional communication channels may be more effective than digital methods.

## 4.0 Recommendations

This section presents the recommendations developed by the research team for FDOT's consideration, as outlined in Deliverable 4: *Recommendations for Enhancing Community Engagement*. The proposed strategies are organized into three categories: Programs and Training, Digital Tools, and Resource Sharing. Each category includes specific and actionable ideas designed to strengthen FDOT's long-term capacity to deliver consistent, effective, and scalable public engagement.

### 4.1 Programs and Training

This category focuses on investments in staff skills, community education, and long-term capacity-building. Some examples include:

- **Statewide Community Academy Models:** FDOT may consider establishing or supporting regional educational programs that teach residents about transportation planning, decision-making processes, and opportunities for input. Increasing public understanding helps create a more informed participant base, which can lead to higher quality feedback and stronger community buy-in.
- **Community Champion Network:** FDOT may choose to continue supporting local networks of trained residents who serve as project ambassadors. These individuals can share project information, translate technical content, and collect community perspectives. Community-based messengers often build trust more effectively than formal agency representatives, particularly in areas with limited staff presence or past engagement fatigue.

### 4.2 Digital Tools

This category identifies digital tools that can support scalable and flexible engagement activities while improving accessibility and communication. Some examples include:

- **Evaluation and Use of Virtual Engagement Platforms:** FDOT may promote centralized digital tools such as PublicInput, Granicus, and Social Pinpoint to support online participation. These platforms can provide consistent interfaces, streamline feedback management, and improve integration across multiple project stages.
- **Development of a VR Walkthrough and Interactive Map Library:** FDOT may consider developing a shared repository of virtual simulations, 3D renderings, and interactive maps for use in project engagement. Visual tools can help the public better understand technical concepts and proposed changes, which in turn can reduce confusion and increase support.
- **Instructional Video Library:** FDOT may develop a curated set of short training videos that explain engagement tools and techniques to staff, consultants, and the public. Video content can provide flexible, on-demand support for newer practices and can be updated regularly to reflect emerging technologies.



Example topics for video tutorials may include but are not limited to, introduction to digital public engagement platforms, using AI chatbots to respond to public inquiries, sorting and analyzing public comments with AI tools, using geofencing and mobile outreach by location, and creating interactive 3D environments for public review.

## 4.3 Resource Sharing

This category includes mechanisms that can support knowledge exchange, cross-district coordination, and continuous improvement in public engagement practice. Some examples include:

- Shared Engagement Ideas Portal: FDOT may consider launching an internal online portal for districts and consultants to upload and access outreach templates, tools, and case study examples. This promotes consistency across the state and reduces redundancy by allowing teams to learn from each other's work.
- Central Archive of Storytelling Media: FDOT may create a repository of photos, videos, and community narratives that document how transportation projects impact daily life. Storytelling can humanize infrastructure improvements, helping to build public understanding and support.
- Quarterly Subject Matter Talks: FDOT may host informal but recurring learning sessions for staff and consultants to exchange lessons learned and highlight innovative practices. Peer learning supports institutional memory, encourages innovation, and helps new engagement techniques spread more quickly throughout the organization.

Each of these recommendations is designed to be flexible, scalable, and adaptable to different districts, communities, and project types. They are intended to support a stronger, more transparent, and more effective approach to public engagement throughout the project development process.

## 5.0 Conclusion

This section summarizes the research activities conducted and highlights the key findings and recommendations presented throughout the project. The goal of the study was to equip FDOT with up-to-date guidance, practical tools, and actionable strategies to improve community engagement practices across all stages of transportation project development.

### *Research Activities*

The project included four core research activities that collectively informed all deliverables.

- Literature Review
- Expert Practitioner Survey
- Focus Group Workshops
- Development of Recommendations

### *Key Findings*

The research identified several key takeaways that FDOT may consider when advancing its public engagement initiatives.

- Hybrid engagement models are expected: Digital participation has become standard practice and is often expected by the public, even in rural areas. However, traditional approaches remain necessary practice components for full coverage.
- The digital divide persists: While digital platforms offer flexibility and reach, communities without consistent internet access still depend on printed materials, phone hotlines, and in-person engagement.
- Interest in innovation is strong: Staff and consultants showed enthusiasm for tools such as AI-driven analysis, geofencing, and virtual flyovers, although concerns about funding and training remain.
- One-size-fits-all does not apply: Regional variations in population, capacity, and infrastructure require tailored outreach and engagement strategies.

### *Recommendations for Future Research*

The research team identified four areas where further study could help FDOT continue to advance its engagement practices.

- Evaluation of emerging technologies: Additional research could assess the feasibility and performance of tools such as AI-driven analysis, geofencing, and immersive media across varied district contexts.
- Geographical mapping of engagement gaps: A statewide assessment could help FDOT identify localities with under-engaged populations and develop data-driven strategies to improve outreach coverage.
- Visioning of metrics for effectiveness: FDOT could consider developing a set of metrics to determine what effective engagement looks like for the agency. This can help benchmark ongoing engagement practices.
- Capacity-building and training: Targeted training programs could enhance staff and consultant skills in digital tools, platform management, and outreach planning.

- Community co-design methods: Engaging communities in shaping outreach efforts could help ensure that strategies are locally relevant and accessible to populations with language or ability-related barriers.

Through this project, FDOT is better positioned to adopt more responsive, adaptive, and modern community engagement approaches. The tools and guidance developed support the Department's long-term goal of fostering more meaningful public participation in transportation planning, while enhancing transparency, flexibility, and trust across Florida's diverse communities.

# EMERGING PRACTICES IN COMMUNITY ENGAGEMENT



# SOCIAL MEDIA

Social media provides agencies with a low-cost option to engage with local communities in an informal and personalized way.

## KEY INFORMATION

Social media platforms are useful for garnering real-time feedback from the public through comments, shares, and likes.

Crucial to stay up-to-date with emerging platforms.

## EMERGING PLATFORMS

Instagram Threads:

An Instagram feature that allows users to create text-based posts and engage in real-time discussion and updates, similar to X.

Allows users to create posts with up to 500 characters and the option to link images and videos.

Instagram Reels:

A short-form video content section of Instagram where users can create videos and share to a broad audience.

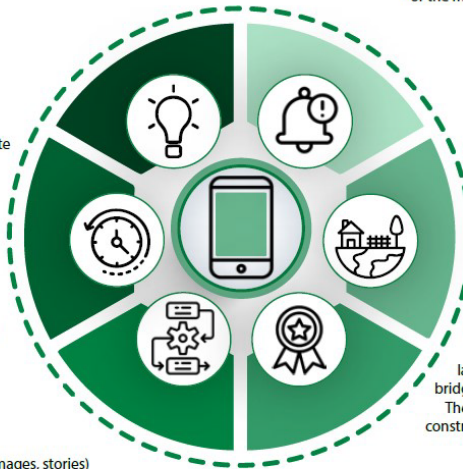
## CHANGING ALGORITHMS

Many algorithms have changed.

Use a mix of formats (e.g., videos, polls, text, images, stories) to stay visible in feeds.

Understand the platform that is being utilized in terms of which types of content are prioritized.

Likes, shares, comments, and DMs, replays and shares all count towards engagement.



## MONITORING

Monitor the success of posts on different platforms.

This includes likes, shares and comments.

If public feedback is observed to be negative or the message is being misconstrued or misinterpreted, consider making another post aimed at clarifying the messaging.

Reminder, it is not FDOT policy to respond to social media comments.

## RURAL ENGAGEMENT

Social media use is especially beneficial to reach rural communities by facilitating more engagement. It helps bridge gaps through the promotion of engagement in discussions, and provides a low-cost mechanism to share information and resources.

## SUCCESS STORY

The Utah Department of Transportation (UDOT) launched a campaign across Instagram regarding bridge safety and demolition in the Summer of 2024. The purpose of this campaign was to communicate construction updates and information with the public, in a way that was "memorable" and "fun".

The campaign content consisted of videos, creation of BridgeFest concert merch, and other graphics to effectively communicate complex infrastructure work. Over the course of the campaign, the UDOT Instagram received 429,663 likes over the course of 35 posts in two months.

# EMERGING TECHNOLOGY

Emerging technologies like artificial intelligence, augmented reality, and virtual reality are transforming how agencies engage with the public and present complex information.

## TOOLS

**Artificial Intelligence:**  
Software applications and systems that utilize machine learning and algorithms to perform tasks at a more efficient rate than humans.

**Virtual Reality:**  
Technological tools that create interactive and immersive 3D environments for the purpose of increasing visualization components.

**Augmented Reality:**  
Software tools that overlay digital content with the real world to create an immersive environment that enhances user interaction.

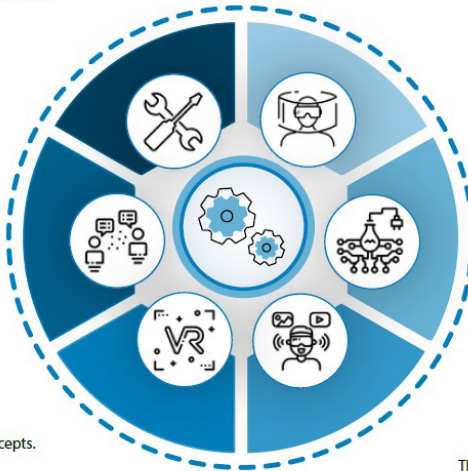
## AI FOR ENGAGEMENT

AI Chatbots can be trained to provide responses and answers to user inquiries. AI can also summarize and sort through public comment, especially when a project has large volumes of feedback. AI can also identify trends in collected data.

## VIRTUAL REALITY

VR can be used for visualization of design concepts.

VR can help create 3D, interactive simulations that showcase proposed projects for better comprehension of complex projects. VR also aids the public in assessing potential impacts of a project.



## AUGMENTED REALITY

Augmented reality (AR) enhances real-world environments by overlaying digital elements, allowing users to visualize proposed changes within their actual surroundings. This can help the public better understand design concepts and how projects will impact their communities in context.

## HOW TO DESIGN A VR WALKTHROUGH

To design and create a VR walkthrough, first **define the objective and purpose**. Then, **determine and select user-friendly software** like Unity or Unreal Engine. **Develop a 3D model and map out paths and routes** for users to navigate in the virtual space. Then, **integrate interactive features** like clickable points that provide information to promote engagement. Lastly, **export the model** to VR format for deployment.

## CONSIDERATIONS

These technologies may be more costly than other engagement methods.

This is crucial to understand when deciding when these tools are appropriate for use.

Consider using AR and VR strategies for projects that may receive much negative feedback from the public to promote enhanced visualization and understanding.



# GEO TOOLS

Geo tools offer location-based strategies that can enhance outreach and engagement by delivering targeted and up-to-date content to specific geographic areas.

## CONSIDERATIONS

Boosts overall participation rates, especially for those who may be disconnected from traditional outreach methods.

These tools also improve efficiency of targeted messaging.

Although they may have higher costs associated with start-up, the public is much more likely to receive and open the message.

## GEOFENCING

A digital outreach tool that sends messages to digital devices that have entered a specific geographic boundary using technology like GPS, WiFi, and cellular data services.

## BLUETOOTH BEACONS

A digital outreach tool that uses Bluetooth Low Energy (BLE) protocols to send messages and/or content to Bluetooth-enabled devices when they have entered a geographic boundary. (GeoPlugin, 2024.)



## GEOTARGETING

A digital tool that uses location information to deliver content and engage a targeted user. This tool uses the user's IP address and GPS location services.

## OUTREACH AND ENGAGEMENT USE

Use of these tools shares and promotes project-related content and information for people who live or regularly travel through these locations.

These tools are ideal for communicating the following types of updates:

- Construction updates
- Road closures
- Changes in traffic patterns
- Safety campaigns
- Surveying

## SUCCESS STORY

Orange County Transportation Authority (OCTA), CA, used geofencing as a major outreach strategy for their I-405 Improvement Project. Project-related content, and advertisements were digitally sent to residents and businesses within the affected geographic boundary. These targeted alerts were dispersed to over 100,000 mobile apps reaching a broad audience of users. Due to this strategy, engagement metrics were reported to have passed the industry's averages by around 30%.

# ACTIVITY-BASED INTERACTIONS

Activity-based engagement strategies foster meaningful public participation by making it more interactive and increasing community ownership.

## KEY INFORMATION

These engagement strategies encourage public participation by engaging stakeholders interactively through different formats.

Although these strategies may not be "new" they are often not widely integrated into the public outreach process.

## POP-UPS

An innovative way to meet the public "where they're at". Pop-ups can be in the form of tents and tables at events like farmers markets and festivals or can be hosted by the agency.

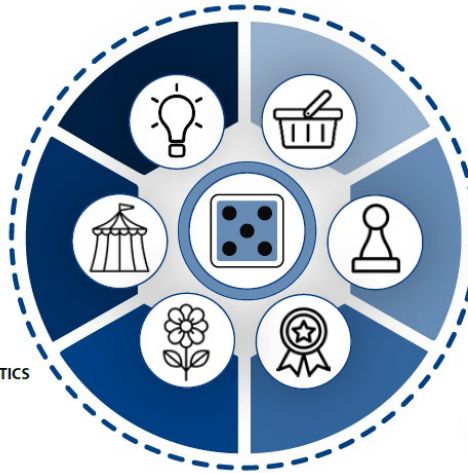
They can be used to distribute information or can be more participatory involving surveys or activities.

## "PRETTY" COMMITTEES- PROJECT AESTHETICS

These are informal advisory groups often composed of local residents, artists, or community leaders who help shape the aesthetic and cultural elements of a project.

These groups have a valuable role in guiding visual design, signage, landscaping, or place-making features that reflect local character.

This can increase community ownership of a given project.



## BUDGET PREFERENCE EXERCISES

Allows for citizens to "shop" for desired transportation improvements.

Residents prioritize their desired changes and agencies can then tailor transportation decisions based on the community's needs.

This approach allows the agency to set the parameters including the "budget" and the options provided to residents.

## GAMIFICATION

The utilization of game-like content in public meetings to engage community members through informal education practices. This may include game pieces, role playing, or art materials

This approach makes complex planning concepts more approachable and can increase participation by appealing to a broader audience, including groups that are younger or less familiar with the topic.

## SUCCESS STORY:

In 2019, Bayview, California, in conjunction with the San Francisco Municipal Transportation Agency (SFMTA), launched a participatory budgeting process to inform their Community Based Transportation Plan.

In this exercise, residents submitted project ideas and voted on existing project proposals to determine what should be funded. This community engagement process showcases how interactive tools and exercises can hold influence over transportation decisions.