Virtual Public Involvement EDC-6 STIC Grant
Project Summary

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This white paper serves as a summary of the MDOT Virtual Public Involvement (VPI) State Transportation Innovation Council (STIC) grant project amendment, which included the creation of community profiles for previously studied projects and an equity dashboard prototype and tech memo to inform MDOT and other transportation agencies across the state on the outreach capabilities of VPI tools.

This $58,000 project was delivered on April 30, 2022. FHWA STIC funds provided $46,400 of the project budget; MDOT provided the remaining $11,600.

VPI EDC-6 STIC Grant

The Federal Highway Administration (FHWA) STIC Incentive program provides resources to help STICs foster a culture of making innovation a standard practice at a state level (STIC Incentive Program Guidance, 2020). Through the VPI STIC Grant, MDOT, in partnership with the local FHWA office, sought to develop Virtual Public Involvement (VPI) tools and strategies.

MDOT sought a second STIC grant to continue evolving MDOT's VPI efforts to examine the impact of VPI tools on the pilot project outreach. Additionally, the team wanted to create a tool that could evaluate efforts in real-time throughout the project.

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Community Profiles

Five community profiles were created to assess the effectiveness of VPI tools and strategies on MDOT projects. The projects selected to examine the outreach efforts included three carried over from those studied during the first phase of the VPI pilot projects with an EDC-5 STIC grant. Two additional projects were added because of the robust VPI strategies deployed in other areas of the state. The projects analyzed include:
- The State Long Range Plan – Michigan Mobility 2045 (VPI pilot project)
- M-28 Reconstruction in Munising (VPI pilot project)
- US-131 Planning and Environmental Linkages Study Phase 1 (VPI pilot project)
- US-23 Flex Route Phase 2
- I-475 Planning and Environmental Linkages Study

With a diversity of locations, project areas, and VPI tools used, the community profiles provide a qualitative outreach narrative. The standardized template created can be applied across various project types to show the effectiveness of outreach efforts and highlight areas for engagement opportunities. Overlaying data collected on the project (Title VI, survey data, etc.) with census data provides a look at areas where increased engagement may be needed, or different strategies should be used to reach the population. Each community profile included the following:
- Project description
- Overview of VPI tools used
- Project participation map
- Project area demographics and population characteristics (age, disability, internet access, vehicle access, income, etc.)
- Race and ethnicity comparison of the area to the makeup of participants in the project

The community profiles provided a clear understanding of each project's outreach efforts, and a few key themes emerged:
- There was increased engagement on every project overall with the addition of VPI tools.
- There was increased engagement with a diverse range of races and ethnicities.
- In most cases, the engagement aligned with the race and ethnicity makeup of the area.
- Using hybrid outreach efforts (virtual and traditional methods) ensures more populations are engaged.
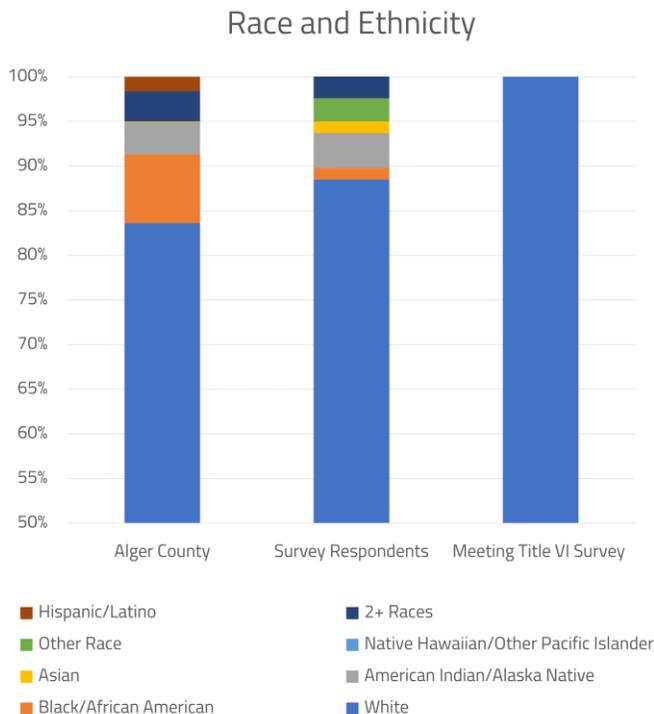
The M-28 project is an example of the benefits of race and ethnicity comparison between project data and census data, showing that VPI efforts increased engagement with diverse populations. The project began with a strategy of in-person engagement and later added virtual tools to reach more people.

Figure 1 shows the graph from the community profile that shows the racial and ethnic makeup of Alger County compared to the makeup of those who attended the in-person meeting ("Meeting Title VI Survey") and those who completed the online survey ("Survey Respondents"). The addition of the online survey in the outreach strategy increased the number of races other than white.

Additionally, the community profile template can help shape engagement efforts more clearly when used on an ongoing project. For example, a community profile created for the I-475 Planning and Environmental Linkages (PEL) study, as shown in **Figure 1**, was created in the middle of the study. The profile shows that the outreach to date closely aligns with the race

and ethnicity makeup of the project area. However, key project area demographics should be taken into account for reaching other populations as the study continues.
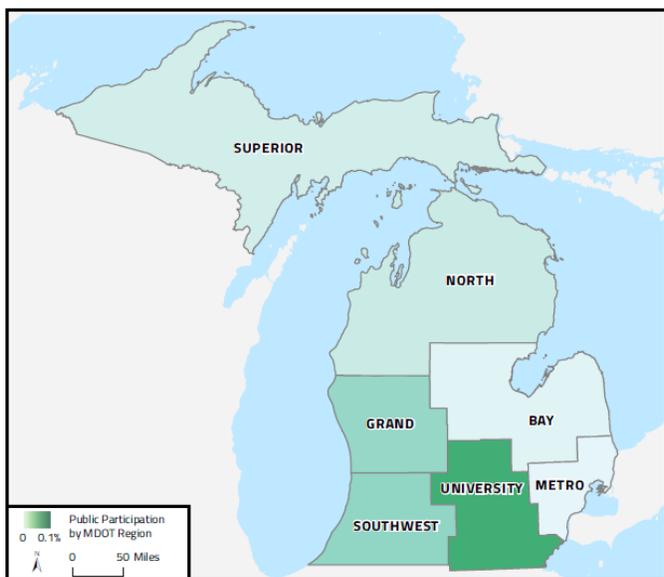
Figure 1. Race and Ethnicity Graph from the M-28 Community Profile

Race and Ethnicity

- Hispanic/Latino
- Other Race
- Asian
- Black/African American
- 2+ Races
- Native Hawaiian/Other Pacific Islander
- American Indian/Alaska Native
- White

Figure 2. Michigan Mobility 2045 Project Participation Map

The project area is primarily in Flint, Michigan, extending from the I-75 interchange in Grand Blanc Township north to the I-75 interchange in Mt. Morris Township. The project area has 17% of the population with no vehicle available, which means that VPI tools will benefit those who may not make it to an in-person meeting. Also, any in-person engagement should occur near public transportation routes to increase participation. Conversely, 28% of the population does not have internet access, so the strategy also needs to include traditional methods.

The population characteristics show help provide context to the makeup of the location the project is located in. Understanding who the community is that you are trying to reach is a large part of ensuring you are reaching people in a way that makes sense.

Project participation maps spanning the project areas are included in each community profile. The map provides an overview of the public involvement outreach participation along the corridor, including through each zip code or region as referenced in the statewide map in **Figure 2**.

Final community profiles for each can be found at the following links:

The State Long Range Plan – Michigan Mobility 2045

M-28 Reconstruction in Munising

US-131 Planning and Environmental Linkages Study Phase 1

US-23 Flex Route Phase 2

I-475 Planning and Environmental Linkages Study

Equity Outreach Dashboard Prototype and Technical Memorandum

The community profiles tell a story of outreach; however, the template is static. By developing a methodology for what type of demographic data should be collected and reviewed regularly for projects, MDOT wanted to assess how VPI tools are working on projects and how traditional methods work at the same time. This required a real-time look at outreach efforts paired with census data to pinpoint who was being reached and who was not.

Feedback was gathered from MDOT staff in the areas of environmental and planning, public involvement, and Title VI on what would be useful from a web-based dashboard to assess outreach efforts in real-time. The result is a web-based dashboard that can be used by public involvement, environmental planners, or project managers to enhance data-driven decision-making when identifying public outreach strategies through the assessment of demographic and engagement data.

An Equity Outreach Dashboard (EOD) prototype, as shown in **Figure 3**, was developed for MDOT as part of this study and is used to visually support the provided methodology. The overall goal is to establish a dynamic, data-driven process that is transparent, accurate, and functional to target and better inform outreach strategies. The purpose of this dashboard is to overlay engagement information with Census data at a block group level to assess the state of current outreach against project equity measures and adjust future outreach strategies to target specific communities that are lacking. The solution should:

- Be transparent and easily understandable
- Use accurate data
- Be functional with ease of filtering, sorting, and usability
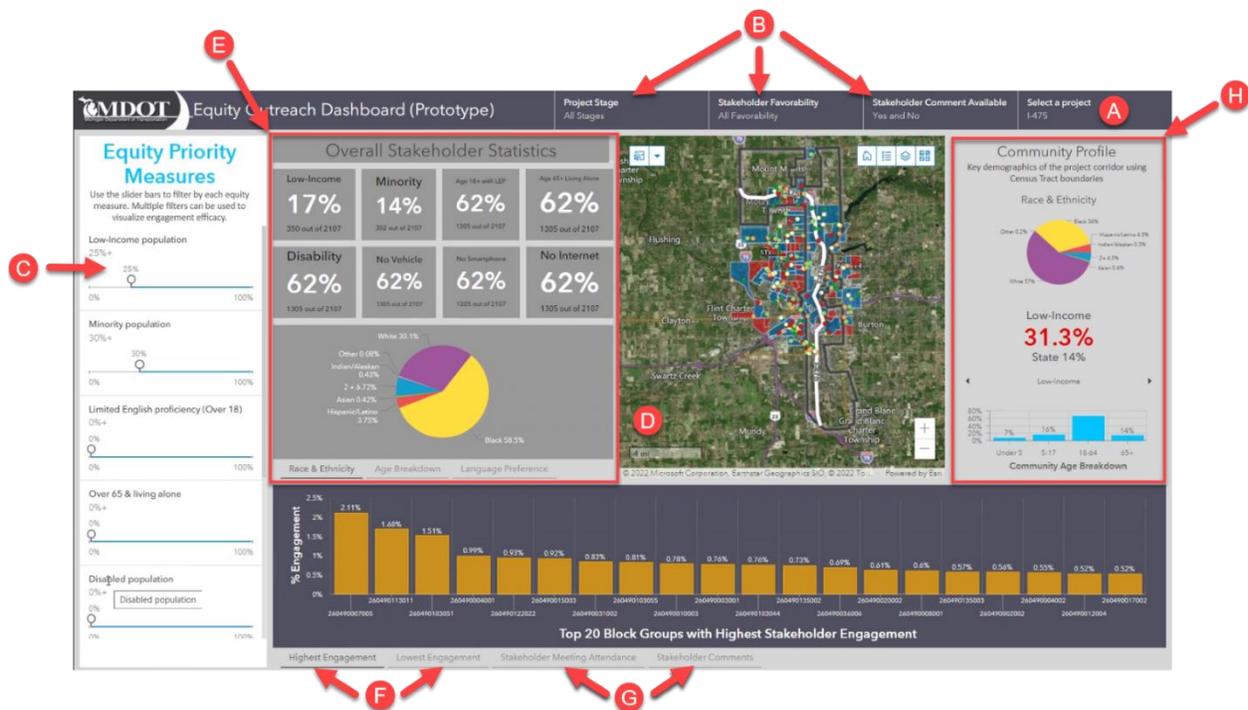
Note: Data in the above prototype image was manufactured to show the dashboard's capabilities and is not real. The letters identifying the function is referenced on page 5.

The dashboard incorporates demographic data from the U.S. Census Bureau's American Community Survey (ACS) and all project engagement data, which would come from a comprehensive system like PIMA, the Public Involvement Management Application. Census data aggregation is automated and summarized at the block group level to provide statistics more specific to the project. For example, suppose a user wanted to know the percentage of low-income and minority populations or those with Limited English Proficiency (LEP) within each block group. That information is available across many tables from the Census. To create the EOD, the data was further processed to make it easier for dashboard query and visualization. Census demographics summarize the community profiles and are represented as interactive GIS map elements. The stakeholder data included in the project was pulled from other PIMA projects and is not real for the project presented. It includes engagement statistics such as meeting attendance, comment/response details, mailing list sign-up and preferences, project issue/topics of concern, contact information, and project support. This was done because the PIMA data available for MDOT was limited and pulling data from other PIMA data sources allowed the prototype to showcase additional capabilities.

Using the EOD, several valuable aspects of project outreach can be determined, including:

- How is project favorability changing over time and across specific demographic measures?
- Which block groups or tracts have the lowest engagement, and which have the highest engagement?
- What is the level of engagement for areas that include specific disabilities or have no access to the internet or smartphone ownership?
- Are block groups with a high percentage of no vehicle ownership being effectively engaged?
- Does our outreach strategy need to be adjusted to provide more inclusive engagement based on specific project equity goals?

The EOD was built to allow project team members to filter attributes by stakeholder data such as favorability, comments, stakeholder type, organization, and key demographics from the census block in which that stakeholder is located. This allows the user to filter by a stakeholder's generalized key demographics (i.e., existing stakeholders in the lowest poverty blocks, stakeholders in the highest minority blocks, or a combination of those). The following features are the key capabilities of the existing EOD prototype as referenced in **Figure 3**:

A. Dynamic project-specific filtering
B. Dynamic stakeholder filtering
C. Equity priority measures
D. Interactive map capabilities (compatible with ArcGIS)
E. Area stakeholder statistics
F. Top 20 highest and lowest engaged stakeholders by block group
G. Stakeholder comments and meeting timeline
H. Community profile

To accompany the EOD, an Equity Dashboard Prototype Technical Memorandum was created to provide operational guidance for project deployment and next steps. The memorandum describes how the EOD can enhance project outreach efforts, explains the methodology used, provides extensive detail on all of the capabilities, and delivers recommendations for enhanced approaches to collecting and analyzing data to improve public involvement efforts.

Next Steps
The EOD is in a prototype stage currently. MDOT is exploring additional means to finish building out and deploying the EOD on an active project to assess the effectiveness of having this real-time data when making strategic project decisions.