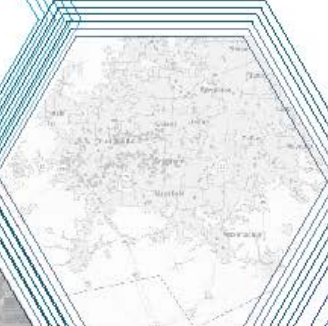




TRANSPORTATION EQUITY NEEDS ASSESSMENT TOOLKIT

FINAL PROJECT REPORT

Kristine Williams
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Jeff Kramer



FINAL REPORT

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UNIVERSITY OF SOUTH FLORIDA

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For:

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EXECUTIVE SUMMARY

Transportation equity is a representation of fairness in the distribution of benefits and burdens. Increasingly, metropolitan planning organizations (MPOs) and local governments are evaluating transportation plans and projects from an equity perspective. However, needs identification frequently focuses on system deficiencies and can overlook the needs of specific populations. Furthermore, approaches used to identify and prioritize projects of benefit to disadvantaged populations vary in scope and effectiveness. These gaps in current practice contribute to inequities in the transportation system for traditionally underserved communities.

The Transportation Equity Toolkit is designed to fill these gaps. The toolkit will serve as a resource for MPOs, transportation agencies, and communities as they work to advance equity in traditionally underserved communities. It provides a framework for a transportation equity needs assessment and an equity-based project identification and prioritization process. A variety of tools and methods are provided for these frameworks, including the following:

- **Transportation Equity Audit Tool:** a survey-based tool designed for use by agency staff, community organizers and community members in identifying community transportation needs from an equity perspective; and
- **Transportation Equity Scorecard Tool:** a spreadsheet tool to assist the staff of MPOs and other transportation planning agencies in prioritizing projects that advance equity.

Toolkit Composition

The toolkit is divided into two parts: Part I - Identifying Community Needs and Part 2 - Identifying and Prioritizing Projects. These are outlined below.

- **Part I: Identifying Community Needs** describes the needs assessment process. Sections include:
 - **About the Needs Assessment** introduces the needs assessment process. It is divided into four sections:
 - **What is the Transportation Equity Needs Assessment?** Introduces the needs assessment process and audit tool.
 - **Why Conduct a Transportation Equity Needs Assessment?** Describes the motivation for an equity-based needs assessment.
 - **Who Should Conduct the Needs Assessment?** Identifies groups that may be involved in the assessment, how each group can apply the processes and tools, and how the findings can benefit them.
 - **Where to Conduct the Needs Assessment** describes the geographic areas that might be assessed using the process and tools.
 - **How to Conduct the Needs Assessment** outlines steps and data-based methods for agency staff and community organizers in conducting the needs assessment and describes how community members can participate, by contributing community knowledge and personal experience.
 - **Evaluating the Audit Results to Identify Needs** provides a sampling of methods to evaluate needs.

- **Part II: Screening and Prioritizing Projects** describes the project screening and prioritization process. Sections include:
 - **About the Process** Introduces the project screening and prioritization process and scorecard tool. It is divided into three sections:
 - **Why Prioritize Projects for Equity?** Explains the need for an equity-based screening and prioritization process.
 - **Who Should Use the Scorecard?** Describes the role of agency staff and community members when using the Scorecard screening and prioritization process.
 - **When to Apply the Scorecard?** Identifies tool applications.
 - **Scorecard Tool Components** Describes the six categories used in the Scorecard screening and prioritization process.
 - **How to Use the Scorecard?** Walks through the four-step process to conduct the project prioritization process using the scorecard.
 - **Other Considerations** addresses a few additional considerations relative to use of the tool in project evaluation.
- **Appendix A** includes a list of tools and resources to supplement methods identified in the toolkit.
- **Appendix B** is the Transportation Equity Audit Tool.
- **Appendix C** includes instructions for the Transportation Equity Scorecard Tool.

This toolkit is supplemented by a guidance document that contains further information on methods and applications. The [Transportation Equity Scorecard User Guide](#) (Scorecard Use Guide) provides detailed guidance and illustrative examples of project screening and prioritization using the scorecard tool. The *Transportation Equity Scorecard* is a spreadsheet tool and is available as a separate downloadable Excel file.

INTRODUCTION

Metropolitan planning organizations (MPOs) and local governments use a variety of methods to ensure that local and regional transportation plans and projects meet community needs. Increasingly, these agencies are also identifying transportation needs and evaluating proposed projects from an equity perspective.

While all community needs are important in transportation planning, the needs of some communities have traditionally been underserved. Traditionally underserved communities include low income and minority populations, Limited English Populations (LEP), seniors, at-risk youth and persons with disabilities. Failure to meet the needs of these communities threatens their health and safety and exacerbates disparities that contribute to economic disadvantage and poor quality of life. Broadly stated, this failure causes inherent inequities in the transportation system and results in disproportionate adverse impacts on disadvantaged populations. Overcoming these inequities involves more equitably allocating transportation investments based on community needs (Wennink and Krapp, 2020).

What is the Transportation Equity Toolkit?

The Transportation Equity Toolkit emphasizes an equity approach to transportation planning with tools and resources to advance equity in traditionally underserved communities. The toolkit provides the framework for a transportation equity needs assessment and an equity-based project screening and prioritization process. A variety of tools and methods are provided for these frameworks, including two tools developed specifically for the toolkit:

- Transportation Equity Audit Tool
- Transportation Equity Scorecard Tool

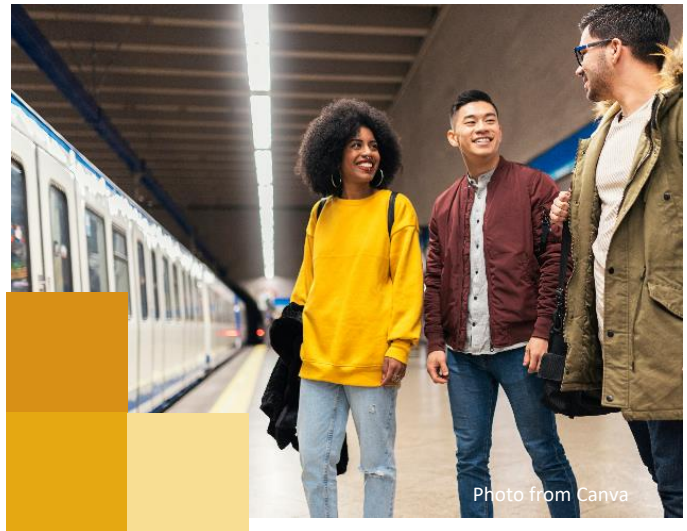


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“Transportation equity is a civil and human rights priority. Access to affordable and reliable transportation widens opportunity and is essential to addressing poverty, unemployment, and other opportunity goals such as access to good schools and healthcare services. However, current transportation spending programs do not equally benefit all communities and populations. And, the negative effects of some transportation decisions - such as the disruption of low-income neighborhoods - are broadly felt and have long lasting effects. Providing equal access to transportation means providing all individuals living in the United States with an equal opportunity to succeed.”

-The Leadership Conference on
Civil and Human Rights, 2013

About the Transportation Equity Audit Tool

The audit tool is a survey-based tool to evaluate community transportation needs from an equity perspective. The tool is divided into eight sections and is provided in Appendix B:

- Community Characteristics
- Access to Opportunity
- Environment
- Safety
- Active Transportation
- Public Transportation
- Investments and Burdens
- Overall Ratings

About the Transportation Equity Scorecard Tool

The scorecard is a spreadsheet-based tool for use by local and regional transportation planning agencies to screen and prioritize transportation projects from an equity lens. Although developed for use by transportation planning agencies, elements of the tool and processes could be adapted for use by other types of agencies and organizations interested in advancing equity. Some examples include evaluation of major development proposals, master plans, and community development plans and projects.

The equity scorecard includes six categories for use in project screening and prioritization. These categories and the relevant factors are also pertinent to the needs assessment and are as follows:

- **Access to Opportunity:** employment, education, and community services (including parks and recreational facilities).
- **Health and Environment:** health care, healthy food, and the environment.
- **Safety and Emergency Evacuation:** safety and emergency evacuation.
- **Affordability:** housing, transportation, and housing and transportation costs.
- **Mobility:** active transportation, transit access and service, and Americans with Disabilities Act (ADA) considerations.
- **Burdens:** the adverse impacts of proposed projects.

KEY TERMS

Some key terms used in this toolkit include:

- **Communities of Concern (COCs):** a planning term that encompasses demographic characteristics of populations that are historically disadvantaged in relation to transportation, including but not limited to low income, minority, Limited English Populations, persons with disabilities, zero-vehicle households, seniors, at-risk youth, rent burdened households, and other similar characteristics.
- **Community services:** public locations, such as community centers, parks and recreational areas, and recreation centers, that provide space for meetings, activities, events, public services, and other uses by community members.
- **Essential destinations:** areas that people are likely to travel to in order to fulfill their daily needs or desires and include essential services and destinations, such as employment, shopping, entertainment, recreation, health care, education and other services.
- **Food desert:** an area that has limited access to affordable and nutritious food, particularly fresh produce and other unprocessed foods.



PART 1

IDENTIFYING COMMUNITY NEEDS



ABOUT THE NEEDS ASSESSMENT

What is a Transportation Equity Needs Assessment?

A transportation equity needs assessment is a comprehensive process to identify the specific transportation needs of traditionally underserved communities. Examples include low income and minority populations, persons with disabilities, people too old or young to drive, and Limited English Proficiency populations. Data collected during the assessment can be used to develop targeted improvements for addressing identified needs and improving quality of life for communities with the greatest needs.

The Transportation Equity Audit Tool in Appendix B of this report is designed to guide transportation agency staff, community organizers, and community members through the needs assessment process. The tool is divided into eight sections:

- Community Characteristics
- Access to Opportunity
- Environment
- Safety
- Active Transportation
- Public Transportation
- Investments and Burdens
- Overall Ratings

Why Conduct a Transportation Equity Needs Assessment?

To have a lasting impact on the communities they serve, agency staff must understand how people use the transportation system. Although the definition of transportation equity centers on understanding the needs of all transportation users (FHWA, 2019; Wennink and Krapp, 2020), the specific needs of traditionally underserved communities are often not adequately addressed.

Reasons for transportation inequity are many, and include:

- The conventional focus on roadway expansion at the expense of transit, bicycle and pedestrian needs;
- Urban sprawl, housing segregation and a growing disconnect between affordable housing and jobs or services;
- Underinvestment in needed infrastructure improvements, services and amenities in low income communities; and
- Displacement of underserved populations in areas with a rich array of affordable transportation options.

The transportation equity needs assessment provides agencies with methods and tools focused on identifying the specific needs of underserved populations. By pinpointing these needs, the assessment will help transportation agencies develop improvement projects and strategies that best target these needs.



REASONS TO CONDUCT AN EQUITY NEEDS ASSESSMENT

- Learn about the specific needs of target populations
- Identify priority needs
- Get a clear description of needs and their underlying causes
- Ensure that actions taken align with community needs as identified by community members
- Increase public engagement and build public trust
- Secure community support for projects and future actions
- Provide the public with a sense of ownership in activities carried out in their communities
- Increase agency accountability

Who Should Conduct the Needs Assessment?

Identifying transportation needs involves technical analysis, as well as information from planning agencies, service providers, and the community. The Transportation Equity Audit Tool is designed for use by agency staff, community organizers, and community members. The guidance and audit tool promote collaboration between transportation agencies and community stakeholders for a more equitable transportation system. Community members are critical to the assessment and should be engaged throughout the process.

Agency Staff:

Staff is responsible for the more technical aspects of the needs assessment. Data collected by agency staff can be used to identify projects and services most beneficial to underserved populations and inform recommendations for policy changes. Agency staff may also use this data to inform and engage community members during community visioning, goal setting, and other planning activities.

Community Organizers:

Community organizers can serve as liaisons between community members and agency staff. Data collected by community organizers can be used to advocate for community needs by facilitating discussions with agency staff and elected officials in meetings and public hearings.

Community Members:

As users of the transportation system, community members have valuable information to contribute to needs assessments conducted by agency staff and may also do their own assessments using the audit tool. Data collected during a self-audit can be used to raise awareness of and advocate for community needs, recommend policy changes, and petition agencies for needed transportation improvements. Forums for these discussions may include committee and board meetings, public hearings, or community meetings.

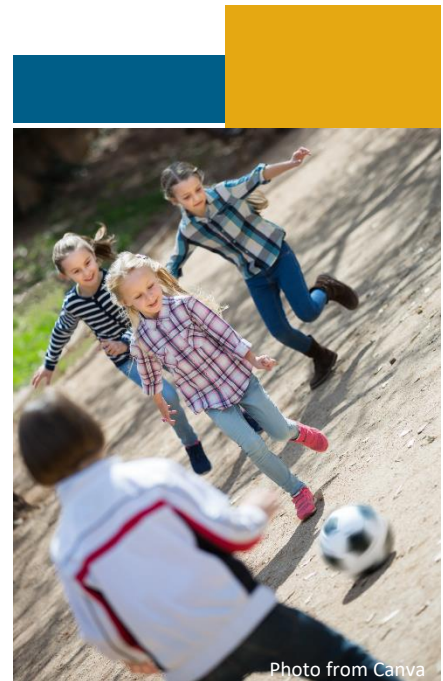
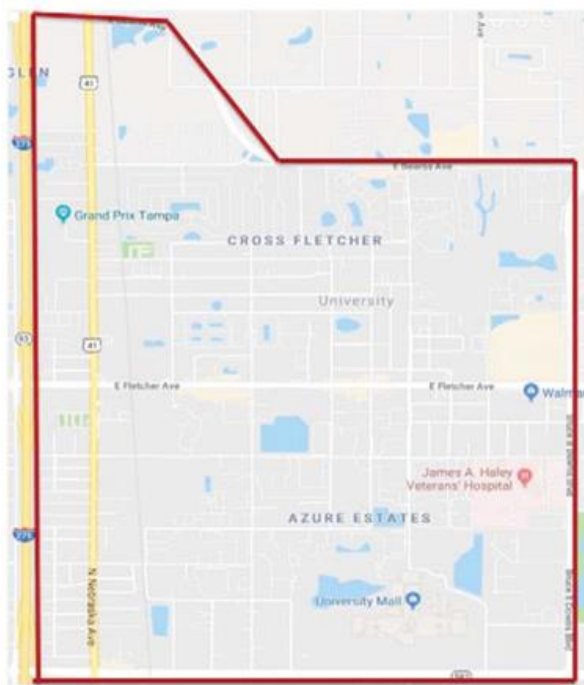


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Where to Conduct the Needs Assessment?

The audit tool is used to identify the transportation needs of traditionally underserved communities. These needs can be assessed along a single corridor, multiple corridors, within a census blockgroup, within a single neighborhood, or across a group of neighborhoods. Keep in mind that needs may be regional (e.g., lack of transit service to job centers), as well as local (e.g., unsafe crossings to local transit stops).

Figure 1 shows the University Area in Tampa, Florida, which is used in the toolkit to illustrate how various tools and methods can be applied during a needs assessment.



University Area Community Primary Boundaries
North: Bearss Ave. | South: Fowler Ave.
East: Bruce B Downs Blvd. | West: I-275

Figure 1. University Area boundary

Source: Diaz and Prieto, 2019

“Older adults, Black or African American and American Indian or Alaska Native people, and people walking in low-income communities continue to be disproportionately represented in fatal crashes involving people walking.”

-Dangerous by Design,
Smart Growth America,
2021



HOW TO CONDUCT THE NEEDS ASSESSMENT?

This section outlines how to conduct the assessment and use the audit tool in Appendix B. It involves completing the following interrelated actions:



Locate communities of concern.



Inventory and assess mobility needs.



Use the toolkit resources and audit tool to involve the community in this process.



Photo by Chris Zuppa



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Locate and Profile Communities of Concern

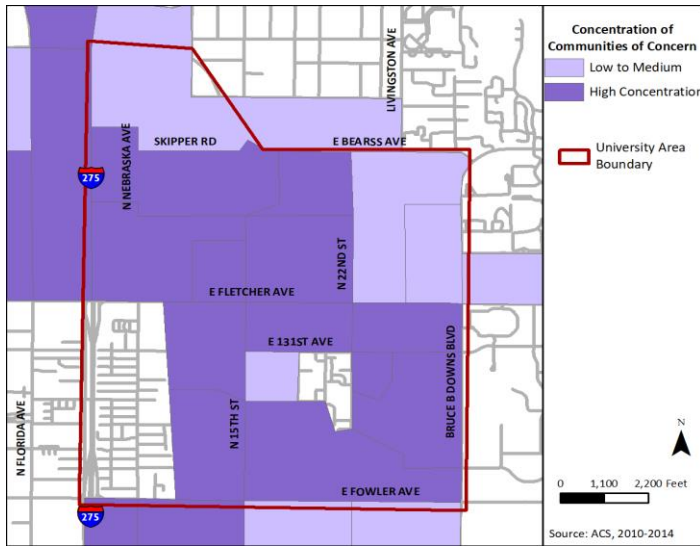
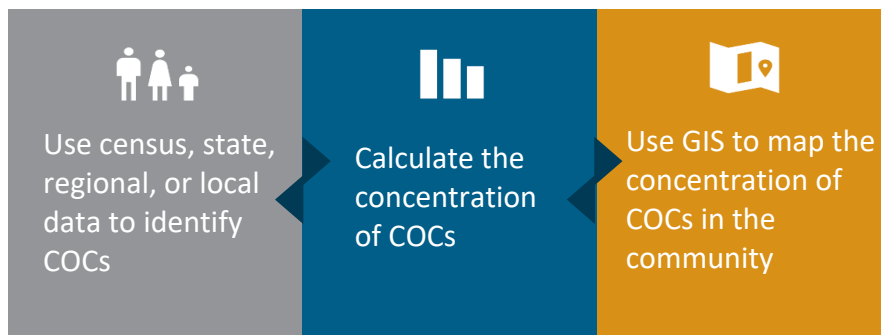


Figure 2. Example socioeconomic assessment

Collect socioeconomic and demographic statistics of the community and map communities of concern (COCs) in the study area. The term COCs refers to traditionally underserved or disadvantaged population groups, such as low income and minority populations, as well as persons with disabilities, zero-vehicle households, Limited English Proficiency (LEP) populations, rent-burdened households, and any other persons whose needs are often underserved. Use data from the census, as well as state, regional, and/or local data to summarize demographic characteristics of the target populations in the study area.

Mapping their location is another important step in the equity-based needs assessment process (see Figure 2). It can be done using geographic information systems or GIS. Various methods are available to define and map COCs. Agencies with existing methods can use methods currently in place.



EXAMPLE THRESHOLD-BASED METHOD

- Identify the relative concentration of COCs at the census tract, block group, or traffic analysis zone (TAZ) level for a set of selected socio-economic variables;
- Identify the regional average for that variable (or the average based on agency or jurisdictional boundaries);
- Identify and visually represent areas with larger concentrations (e.g., greater than one or two standard deviations above the average) of one or more groups of COCs.

For more information, see the Scorecard User Guide and [Evaluating the Distributional Effects of Regional Transportation Plans and Projects](#), Williams et al., 2018.

Inventory and Assess Mobility Needs

The next step in the assessment process is to inventory and assess community mobility needs. This involves collecting and evaluating information from a variety of sources, and supplementing that with field studies.

Needs assessment methods

- GIS analysis and mapping
- Modeling
- Field work
- Observation
- Community input

Needs assessment data sources

- U.S. Census data
- Census LEHD Origin-Destination Employment Statistics
- U.S. EPA Smart Location Data
- U.S. EPA EJSCREEN
- Open Trip Planner
- Model data

1

Use census, state, regional, and/or local data to summarize travel patterns and modes used.

2

Review existing plans and studies impacting the study area to identify current and proposed transportation projects and services.

3

Use GIS to build inventory maps.

- Land uses, origins (residential) and destinations (e.g., employment, education, shopping, recreation)
- The transportation network, including existing and planned infrastructure (e.g., sidewalks, pedestrian crossings, bike lanes, multi-use trails, transit routes and stops, etc.).
- Safety conditions (e.g., pedestrian and bicycle fatalities, injuries, property damage, crash hot spots, lighting ,etc.)
- Other conditions (e.g., regional jobs proximity index, food access and food deserts, transportation and housing costs, etc.)
- See Figure 3 and the Scorecard User Guide for examples and methods.

4

Overlay the inventory maps onto the COC maps.

Explore how underserved populations can access origins and destinations via local streets and the bicycle, pedestrian, and transit network. Look for gaps in the network and areas lacking pedestrian, bicycle, and transit connections to area destinations.

5

Conduct targeted field studies and summarize findings.

Document sidewalk, bike lane, and transit stop conditions, speeding drivers, inadequate crossings, poor lighting, and other issues that may be contributing to crashes or creating barriers to accessibility. Supplement findings with community input to evaluate overall mobility needs.



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Part I: Identifying Community Needs
How to Conduct the Needs Assessment

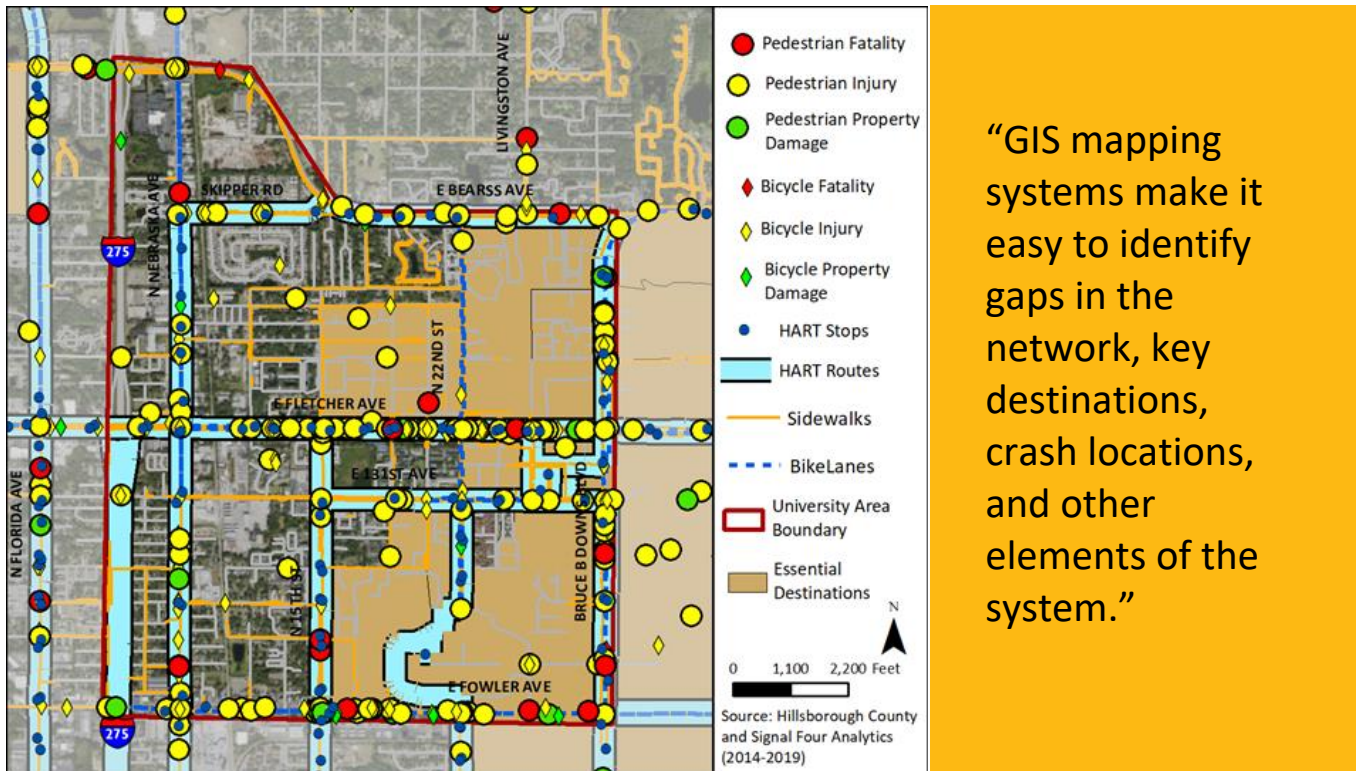


Figure 3. Example inventory map assessing safety needs

GIS mapping systems make it easy to identify gaps in the network, key destinations, crash locations, and other elements of the system, like major and minor streets, sidewalks, and bus stops. The pedestrian and bicycle gaps identified during the mapping process can be verified during community walk-audits/tours. More advanced GIS methods allow analysts to examine connectivity and accessibility of destinations and transit stops via walking and biking, as well as transit accessibility over larger areas.





Part I: Identifying Community Needs
How to Conduct the Needs Assessment

These same methods can be supplemented with field study and Google™ to develop a more detailed understanding of safety and accessibility issues. For example, Figure 5 and Figure 4 show how street-level analysis and Google Maps™ were used to identify safety issues caused by deficient lighting conditions and missing sidewalks and crosswalks.



Figure 5. Example lighting analysis
Source: Hillsborough County, 2020



Figure 4. Example sidewalk and crosswalk analysis
Source: Google Maps™

Involve the Community

A true understanding of community travel needs requires information from those who use the transportation system and live in the community. Deliberate efforts to engage community members must be made throughout the planning process. Identify and involve people from the community early in the needs assessment to help focus the analysis effort and ensure more accurate evaluations. The Transportation Equity Audit Tool can be used for this purpose.

STRATEGIES TO INVOLVE TRADITIONALLY UNDERSERVED POPULATIONS

1: Identify populations

- Develop social and economic profile
- Define the project and study area
- Utilize GIS to engage communities
- Conduct a community characteristics inventory
- Identify “affected populations” using a community attribute index
- Conduct periodic field visits

2: Implement a public involvement plan (PIP)

- Upfront site visits to establish scope of PIP
- Develop and maintain community contacts database
- Prepare a limited English proficiency (LEP) plan
- Use “I speak” cards to ensure communications with LEP populations
- Offer assistance for hearing impaired, sight impaired, and low-literacy populations
- Treat people courteously and respectfully
- Assess PIP effectiveness

3: Provide information

- Use videos to convey information
- Distribute flyers
- Advertise on billboards, marquees, and variable message signs
- Publicize through local and ethnic media outlets
- Employ visualization techniques
- Conduct periodic field visits

4: Gather feedback

- Conduct outreach at non-traditional locations
- Go to “their” meetings, schools, and faith-based institutions
- Apply social media appropriately
- Conduct market research interviews and focus groups
- Undertake surveys to understand needs, preferences, and impacts

5: Build relationships

- Form advisory boards, committees, taskforces, and working groups
- Foster understanding of communities through relationships with community organizations and other local experts
- Recruit and mobilize community ambassadors, “beacons,” or “trusted advocates”
- Provide technical training to citizen groups

6: Overcome Institutional Barriers

- Train community members to be transportation leaders
- Establish public involvement training programs

Adapted from [Practical Approaches for Involving Traditionally Underserved Populations in Transportation Decisionmaking](#), Aimen et al., 2014

COLLABORATE AND CO-CREATE WITH THE COMMUNITY

Inform

Provide the community with balanced, objective information to assist them in understanding the problem and potential opportunities and solutions.

Consult

Listen to and acknowledge community concerns and aspirations; provide feedback on how community input is influencing decisions.

Involve

Ensure that community concerns are directly reflected in the alternatives developed.

Collaborate

Incorporate community advice and innovation into solutions.

Empower

Place the final decision in the hands of the community.



The process described in the toolkit relies on a combination of techniques to ensure effective public engagement and a thorough assessment of community needs. Agencies are encouraged to use creative thinking and “out of the box” public engagement techniques to broaden their reach and effectively engage the community. Community organizations that serve the study area may also have valuable information to add during the assessment and should be contacted as well.

Adapted from [Sustainable CT Equity Toolkit, 2019](#)

A goal of the audit is to empower community members to become advocates for their needs. Community members can complete the audit tool with agency staff or community organizers. The audit tool may also be completed as an unguided self-audit using steps similar to those outlined next in *Prepare to Use the Audit Tool* and *Using the Audit Tool*.

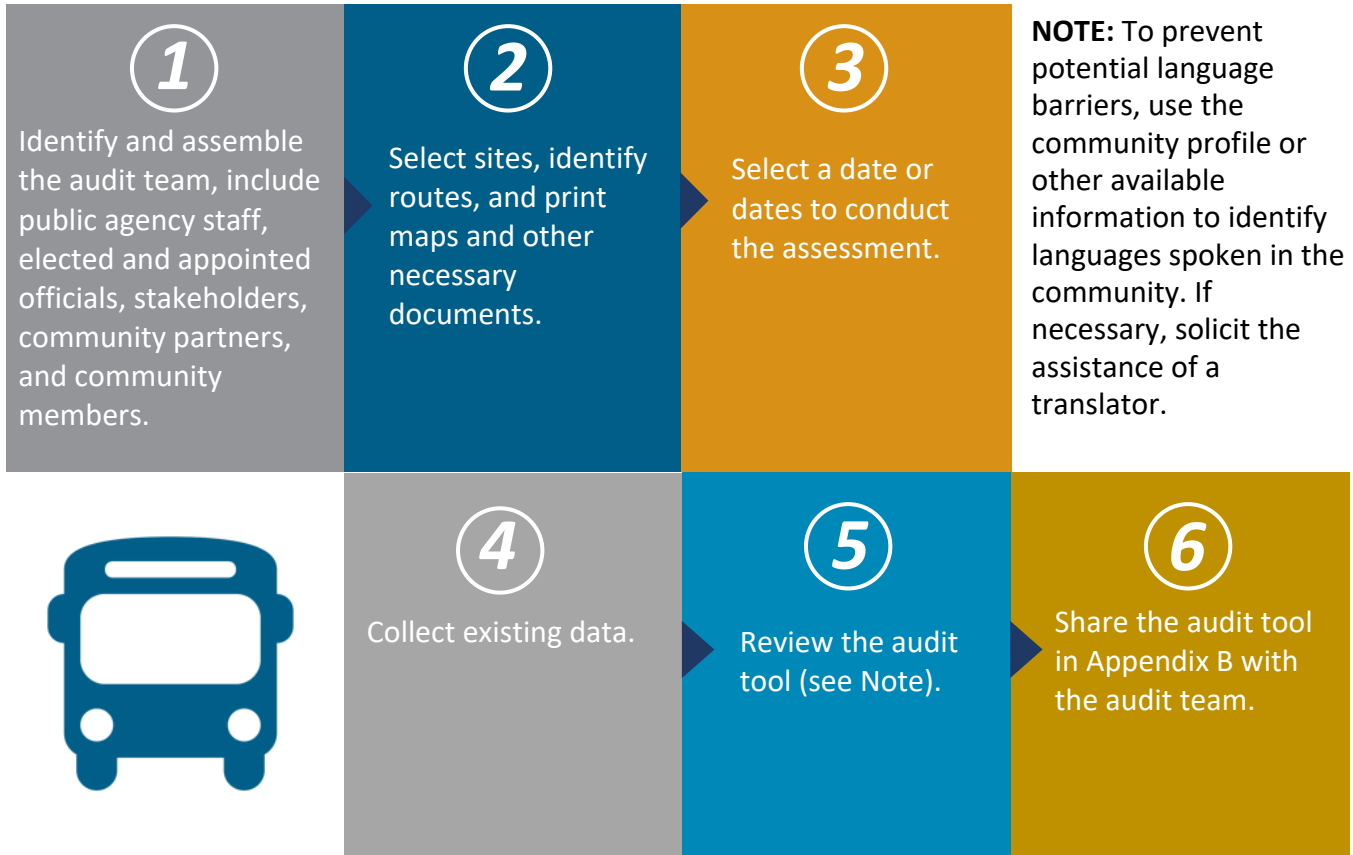
Discussing priority needs with agency staff and elected/appointed officials will provide an avenue for more meaningful collaboration between community members and the agency. These more focused discussions about individualized community needs ensure that targeted improvements for transportation are implemented.



“A goal of the audit is to empower community members to become advocates for their needs.”

Prepare to Use the Audit Tool

Before using the audit tool to do the needs assessment, take these steps.



Using the Audit Tool

Input data collected for the community profile into the Community Characteristics section of the audit tool. One, or both, of the following options can be used to complete the remaining sections:

- ① **Hold a community meeting and/or walk-audit/tour and use observational data to answer the audit questions (see note).**

Or

- ② **Interview community members in person, by phone, mail, or online (email, social media, online survey, etc.)**

Check the resources in Appendix A for additional audit tools and other resources.

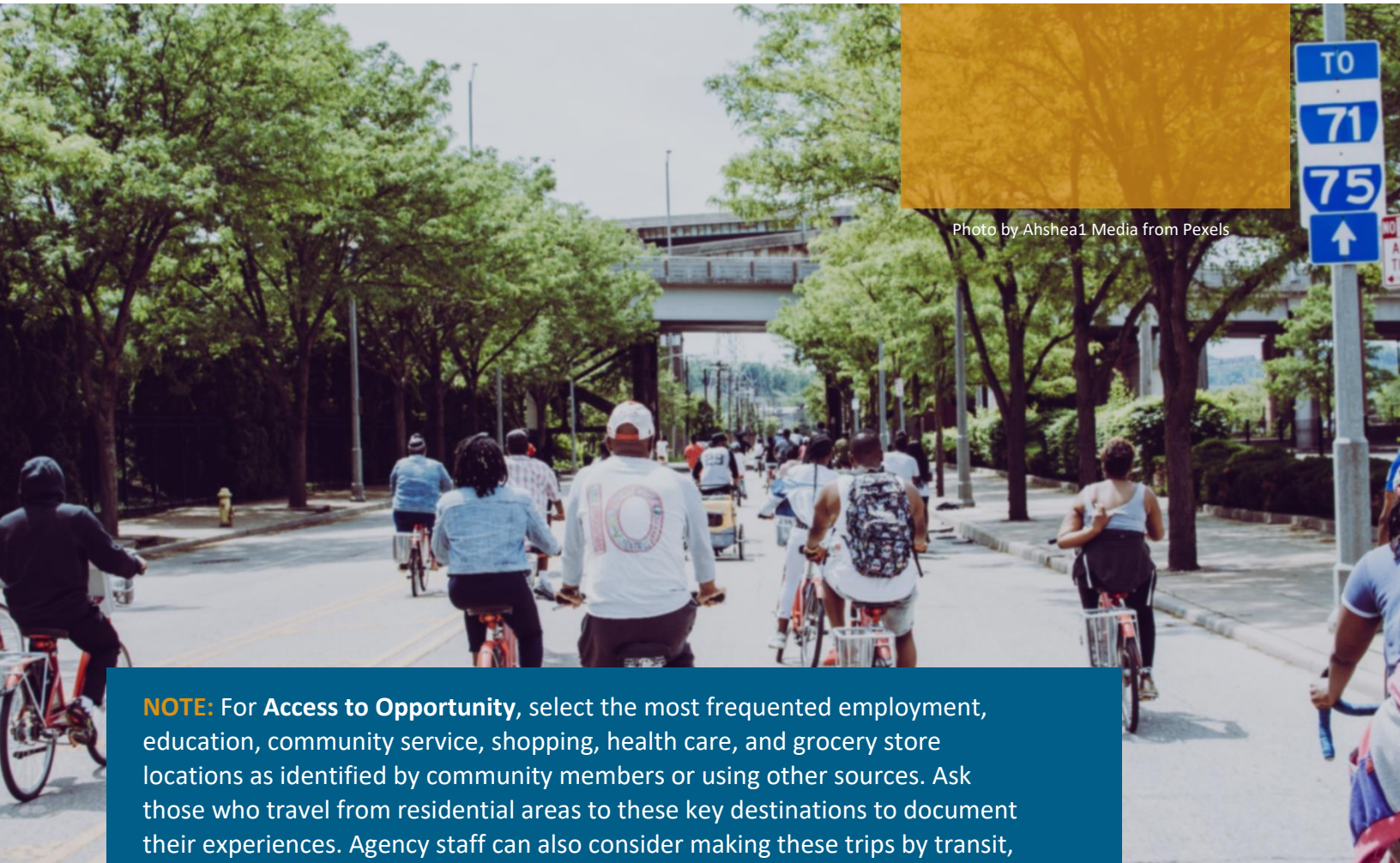


Photo by Ahshea1 Media from Pexels

NOTE: For **Access to Opportunity**, select the most frequented employment, education, community service, shopping, health care, and grocery store locations as identified by community members or using other sources. Ask those who travel from residential areas to these key destinations to document their experiences. Agency staff can also consider making these trips by transit, walking, and cycling depending on distance. This strategy is time intensive, but can uncover additional transportation gaps, barriers, and challenges building on walk-audit/tour experiences and other knowledge.

After the Audit

Collect completed audits and input information into a database such as Microsoft Excel or a similar platform. Use graphs, tables, charts, infographics, or other data visualization techniques to communicate findings. Analyze the data to identify trends that illustrate transportation needs in the community (see the Evaluation section of this document for more information). Share information collected and conclusions drawn from the data with elected officials and the public during public meetings, brainstorming sessions, charrettes, open houses, focus groups, and other public events.

Use the audit results to develop and prioritize targeted projects and strategies to address high priority needs. Public input is critical to the effectiveness of the audit and must be considered when selecting appropriate strategies. To ensure strategies are effectively implemented, a community action plan can be developed. The action plan can include goals and objectives, activities needed to achieve the objectives, estimated budget to complete activities, responsible persons and agencies, and estimated completion time.

Suggestion

Use the Transportation Equity Scorecard when prioritizing projects for funding.

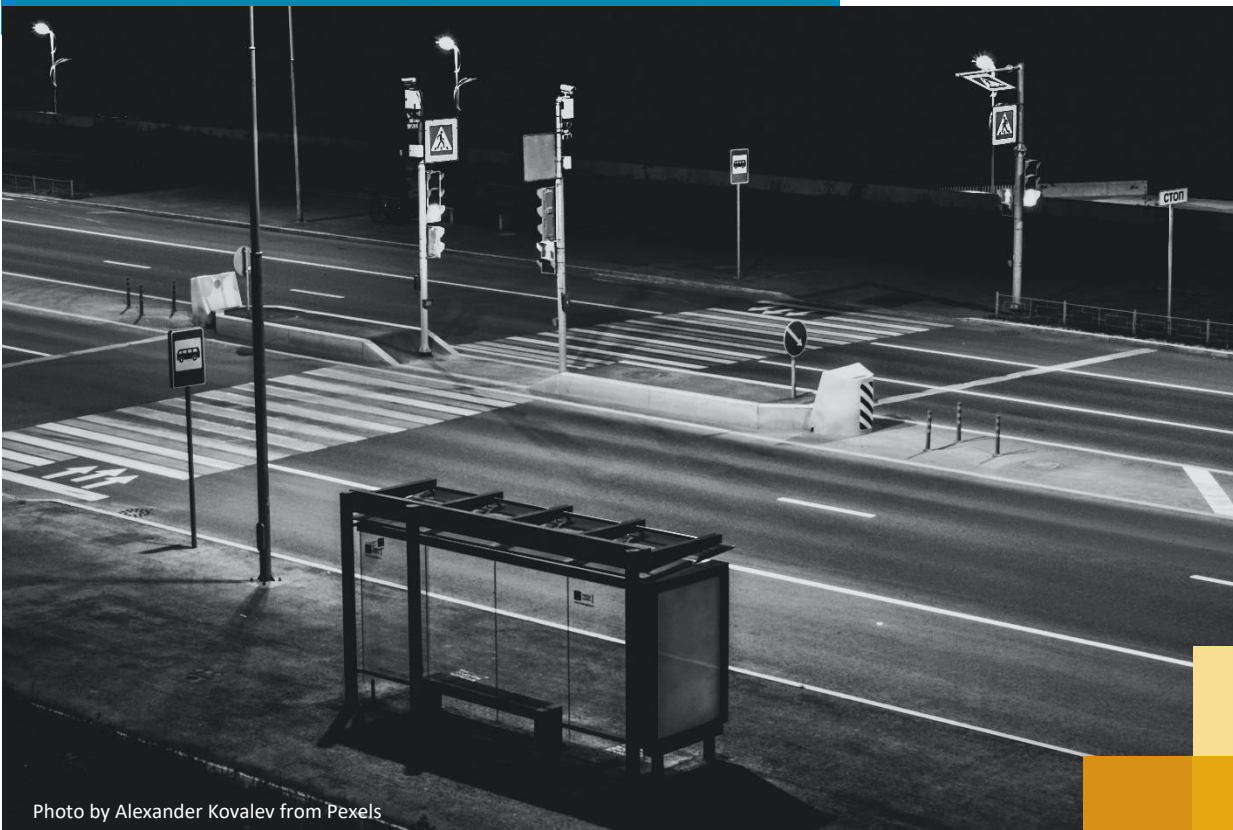


Photo by Alexander Kovalev from Pexels

EVALUATING THE AUDIT RESULTS

After the audits are documented, evaluate the findings to ensure that the root causes of identified needs are addressed. The process involves prioritizing needs, identifying and analyzing causes, and summarizing findings. The evaluation can then be used to develop and prioritize strategies that improve the transportation system for target populations. Involve the community and stakeholders throughout the evaluation process and at the end of the evaluation to validate results. This section explains these steps.



EVALUATING NEEDS ASSESSMENT DATA

Prioritize Needs

- List needs categories (access to opportunity, environment, safety, active transportation, public transportation, and investments and burdens) in rank order of importance.
- Within each need category, separately rank the identified needs.

Identify and Analyze Causes

- Determine general and specific causes of high priority needs. In general, try to answer the question “Why does this need persist?”
- Identify the factors that are amenable to intervention.

Summarize Findings

- Summarize and document findings with an explanation of the major causes.
- Share the results with key stakeholders.

Suggestion:

Ask community members to identify their top 3 transportation needs during community meetings.

Adapted from [Comprehensive Needs Assessment](#), Office of Migrant Education, 2001

Prioritize Needs

Organize the needs categories (access to opportunity, environment, safety, active transportation, public transportation, and investments and burdens) from highest (5) to lowest (1) using the average ratings provided for the *Overall Ratings* section of the audit tool. Examine the audit tool results to determine community needs for each category. Rank needs in each category from highest to lowest using the average number of responses for each prompt (see *Equity Indicators* for more information). Keep in mind that needs may overlap and appear in more than one category.

The process for prioritizing needs should consider the sociodemographic data collected in the *Community Characteristics* section of the audit and be consistent with travel mode preferences relative to each category. For example, in communities with a significant number of zero-vehicle households, special attention should be given to needs in the active transportation and public transportation categories.

Equity Indicators

Identify indicators to measure and prioritize transportation needs. Indicators are also useful for monitoring trends over time and progress toward achieving equity objectives. Data for each indicator can be aggregated by mode and sociodemographic group for comparison (e.g., COCs versus non-COCs) and measured over time to identify trends and needs specific to underserved populations. The categories used in the audit tool provide a framework for developing and organizing the indicators. Ensure that selected indicators are clearly defined and measurable.



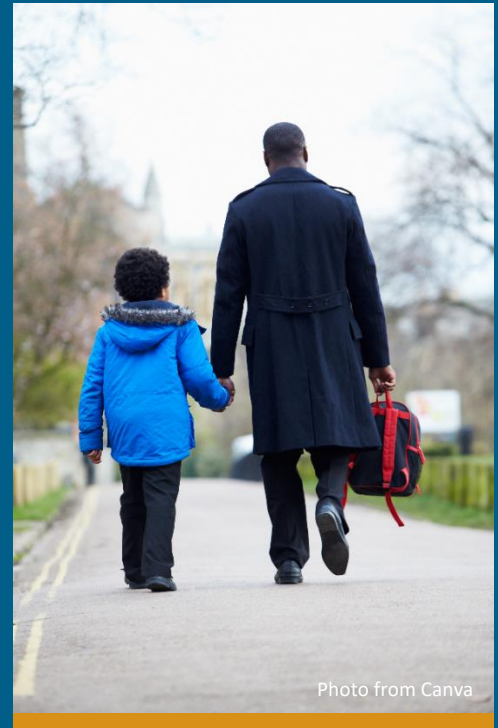
Photo from Canva

HOW TO SELECT INDICATORS

1. Inventory the indicators the agency currently measures.
2. Create a list of these indicators (such as bicycle network coverage, accessibility to jobs, or average travel time by mode). Any of these indicators likely can be tailored to an assessment of impacts on underserved persons without incurring significant additional work for the agency. Distinguish which indicators measure outputs and which measure outcomes.
3. Of the indicators the agency is already measuring, determine which indicators can be tailored to address the needs and concerns of underserved persons.
4. Review the inventory of indicators and identify those that relate to the needs and concerns of underserved persons. For example, if underserved persons expressed a need for reliable transit, look for indicators of transit hours of service, frequency, and coverage.
5. Determine if the agency needs to add new indicators for a meaningful equity analysis.
6. Identify whether any of the needs identified are lacking relevant indicators and determine what new indicators the agency could begin to measure, either for the current analysis effort or as part of ongoing research activities. If the new indicators would be highly meaningful but would require too high a level of effort to develop at this time, consider including their development as part of the agency's work plan for the upcoming year.

EXAMPLE INDICATORS

- Affordability
 - Percentage of household income spent on transportation
 - Housing and transportation affordability index
 - Displacement by population group
- Safety
 - Number of crashes (bicycle, pedestrian, vehicle)
 - Crashes by severity (injury, fatality)
 - Crash hot spots
- Access/Connectivity (bicycle, pedestrian, transit) to:
 - Employment
 - Schools
 - Healthy food
 - Medical facilities
 - Recreational facilities
- Travel Time and Distance
 - All travel purposes
 - Mandatory purposes (including work and school)
 - Non-mandatory purposes (including groceries, general shopping, banking, etc.)
- Congested vehicle miles travelled by population segment
- Mode share by
 - Transit
 - Active (walk and bike) modes
- Project investment by population segment
- Environmental Quality/Exposure to:
 - Vehicle emissions
 - Noise pollution



“Measure and
prioritize
transportation
needs.”

SWOT Analysis

A strengths, weaknesses, opportunities, and threats (SWOT) analysis may be used to further assess community needs identified during the audit. The SWOT analysis also provides a preliminary thought process to prioritize identified needs.

This analysis is useful as a post-audit debriefing or separate brainstorming session to identify needs that may not be immediately evident during the audit. Immediately after the community walk-through/tour, participants can discuss their experiences and complete the SWOT analysis. The analysis should introduce elements beyond the built environment to include the natural environment, socio-cultural environment, economy, funding, demographics, policies, and other factors.

Table 1 shows a variation of the SWOT analysis designed for this audit tool. Existing factors include assets that have been identified during the audit or documented during other studies (assets may also include the population). Future factors are trends that have the potential to impact the community.

Table 1. Example SWOT Analysis

| | Benefits | Burdens |
|----------|--|--|
| Existing | <u>Strengths</u> Existing assets that are beneficial to the community | <u>Weaknesses</u> Assets that need improvement or the community lacks |
| Future | <u>Opportunities</u> Trends that can positively impact the community | <u>Threats</u> Trends that can create or worsen barriers in the community |

After the SWOT analysis, agency staff can develop action items to build on strengths, take advantage of opportunities, address weaknesses, and prepare for threats, as discussed later in this section (see Table 4 in *Summarize Findings*).

Identify and Analyze Causes

A root cause analysis or cause and consequence analysis can help agencies determine the underlying causes of problems faced by disadvantaged populations. Understanding these causes can lead to more robust problem-solving strategies.



Photo by Charlotte May from Pexels

Root Cause Analysis

The root cause analysis explores the systemic challenges that lead to inequities. This analysis is an exploratory exercise completed after the needs assessment, but before action items are identified and selected. The root cause analysis can be completed during brainstorming sessions with community members, community organizers, and agency staff.

Priority needs identified for the community (see *Prioritize Needs*) can be further explored using this process. The analysis uses a simple approach called the Five Whys: “Five iterations of ‘why?’ is generally enough to determine the root cause, but fewer than or greater than five may be more effective in some cases” (Barnhart, 2011). The analysis can be further enhanced by asking “how do I know?” and by using data and evidence to answer these questions (Texas Equity Toolkit, n.d.). Continue this exercise for each high priority need identified during the needs assessment and subsequent exercises. See Table 2 for a root cause analysis template.

Table 2. Root Cause Analysis Template

| Need: | | |
|-------------|------------------------------------|-----------------|
| | Why does this need exist/continue? | How do we know? |
| 1. | | |
| 2. | | |
| 3. | | |
| 4. | | |
| 5. | | |
| Root cause: | | |

Adapted from [Texas Equitable Access Roadmap](#), Texas Equity Toolkit, n.d.

Fishbone Diagram

A fishbone diagram may also be used to illustrate and explore the root cause of identified needs (see Figure 6). The fishbone diagram can be used during brainstorming sessions with community stakeholders.

- 1 Generate a clear, concise statement of each need. Make sure that everyone in the group agrees with the need as it is stated.
- 2 Using a long sheet of paper or a white board, draw a horizontal line. This line will be the spine of the fish. Write the need along the spine on the left side.
- 3 Identify the overarching categories of causes of the need. Brainstorming is often an effective technique for identifying the categories of causes. For each category of causes, draw a bone—a line at a 45-degree angle from the spine of the fish. Label each bone with the cause categories; for example, categories could include materials, knowledge or skills, time, motivation, incentives, performance feedback, and others.
- 4 Have the group brainstorm to identify the factors that may be affecting the cause or the need or both. For each category of causes, the group should be asking, “Why is this happening?” Add each “why” to the diagram, clustered around the major cause category it influences.
- 5 Repeat the procedure by asking, “Why is this happening?” for each effect until the question yields no more meaningful answers.

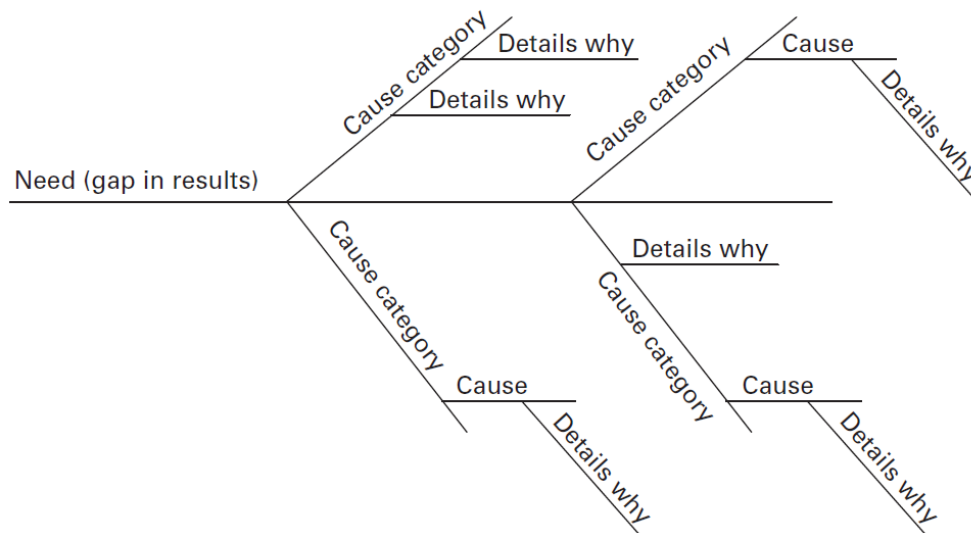


Figure 6. Fishbone diagram example

Adapted from [A Guide to Assessing Needs](#), Watkins et al., 2012

Cause and Consequence Analysis

The cause and consequence analysis identifies targeted strategies to address high priority needs based on their potential consequences. The needs identified during the audit can be put into a chart similar to the one in

Table 3. Historic and current data with additional input from stakeholders and community members can be used to complete the chart.

Table 3. Cause and Consequence Analysis Chart Template

| Need | Causes | Consequences | Difficulty to Correct [low, medium, high] | Criticality 1 2 3 4 5 |
|--|--|--|---|-----------------------|
| Students do not feel safe walking/biking to school | High-speed roadways Long distances between safe crossings | Risk of severe injury or death while crossing midblock | Low | 5 |

Adapted from [Comprehensive Needs Assessment](#), Office of Migrant Education, 2001

COMPLETING A CAUSE AND CONSEQUENCE ANALYSIS CHART

- To determine the priority of each need, examine both the difficulty to correct the need and the degree of criticality.
- Review the ratings in light of the magnitude of the discrepancy between the present and desired states.
- Use results to provide data for consideration in setting priorities and moving to solution strategies.



In column 1: List needs that were previously identified in the needs assessment.

In column 2: List all possible “treatable” causes of each need (concern), itemized separately for each need. A given need may have more than one cause.

In column 3: List consequences if the cause is not removed and the need is not met; also itemize separately for each need. There may be more than one consequence for each need.

In column 4: Enter a rating (low, medium, high) of the difficulty of correcting the problem once it has occurred.

In column 5: Enter a rating, on a scale of 1 to 5, of the degree of criticality of the need if it is not met, with 5 being the most critical.

Source: [Comprehensive Needs Assessment](#), Office of Migrant Education 1995

Adapted from [A Guide to Assessing Needs](#)

Summarize Findings

Review, synthesize, and document evaluation results in a needs assessment report. Use results from the evaluation to characterize high priority needs and inform targeted strategies to address those needs. Present recommended strategies or proposed action items in an assessment report or presentation. Share findings with community members and key stakeholders during public meetings, brainstorming sessions, charrettes, open houses, focus groups, and other public events and solicit feedback to validate results.

Use the audit and evaluation results to develop and prioritize targeted strategies and actions to address high priority needs. Public input is critical to the effectiveness of the assessment and should also be considered when selecting appropriate strategies. To ensure strategies are effectively implemented, a community action plan can be developed. The action plan can include goals and objectives, actions needed to achieve the objectives, estimated budget to complete activities, responsible persons and agencies, and estimated completion time. Action items can also be summarized as shown in Table 4.

Table 4. Example Action Items Summary Table

| Objective | Action | Description | Responsible Party | Funding | Timeline |
|---------------------------------|-----------------------------------|--|-------------------|-----------------------|----------|
| Improve access to transit stops | Fill gaps in the sidewalk network | Some bus stops on Bay Street lack continuous sidewalk access from the neighborhood | Local government | Local funding sources | 1 year |



Photo by Andrea Piacquadio from Pexels

PREPARING A NEEDS ASSESSMENT REPORT AND PRESENTATION

The contents of your needs assessment report may vary widely as determined by several factors, including: (a) the audience, (b) the format (e.g., website versus printed report), (c) the scope of the assessment (strategic, tactical, operational, or all three), (d) the type of needs identified (stable, changing, emerging, or all three), (e) the amount and types of data collected, (f) the number of alternative improvement activities considered, and (g) the importance of decisions to be made on the basis of the report (or presentation) (see Table 5).

Table 5. Typical Contents of a Needs Assessment Report and Presentation

| Assessment Report | Assessment Presentation |
|--------------------------------------|--------------------------------------|
| Executive summary | Agenda |
| Introduction | Introduction |
| Purpose, goals, objectives | Purpose, goals, objectives |
| Needs | Needs |
| Methods for identifying needs | Methods for identifying needs |
| Data used to identify needs | Data used to identify needs |
| Actions considered | Actions considered |
| Methods for identifying alternatives | Methods for identifying alternatives |
| Data on alternatives | Data on alternatives |
| Criteria for comparing alternatives | Criteria for comparing alternatives |
| Conclusions | Conclusions |
| Decisions or recommendations | Decisions or recommendations |
| Acknowledgements | Acknowledgements |
| Appendix: supporting data | Additional Resources |
| Appendix: tools and instruments | |

Adapted from A Guide to Assessing Needs, Watkins et al., 2012



PART II: SCREENING AND PRIORITIZING PROJECTS



ABOUT THE PROCESS

Why Prioritize Projects for Equity?

Metropolitan planning organizations (MPOs) and local governments use a variety of methods to ensure that local and regional transportation plans and projects meet community needs. Increasingly, transportation planning agencies are also evaluating proposed projects from an equity perspective. However, approaches used by MPOs and local governments to screen and prioritize projects of benefit to traditionally underserved populations vary in scope and effectiveness.

The Scorecard Tool and guidance provide a framework to advance equity during project screening and prioritization. Unlike traditional methods, which may only consider proximity to the population and avoiding or mitigating adverse project impacts, the criteria and methods applied for the Scorecard aim to advance transportation projects for funding based on the extent to which they directly advance the needs of underserved populations.

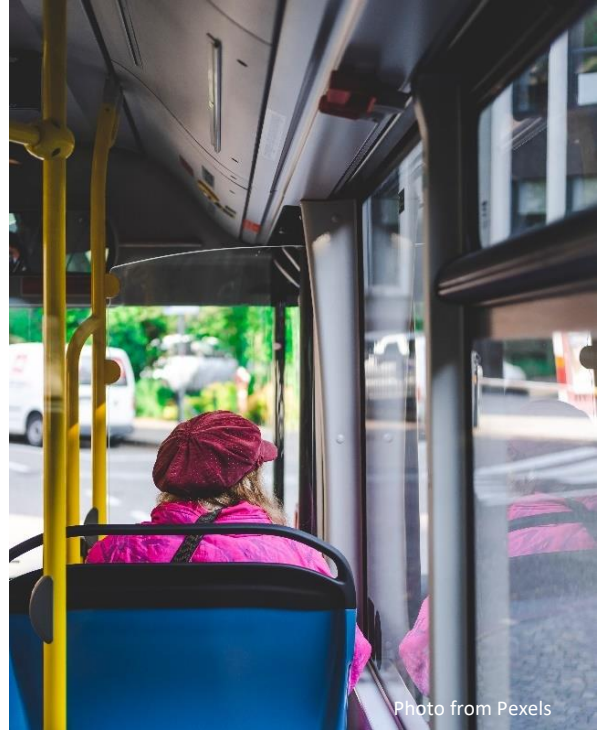


Photo from Pexels

Who Should use the Scorecard?

The Scorecard Tool and guidance was developed for use by MPOs, agencies that conduct metropolitan transportation planning, as well as local planning agencies. Nonetheless, elements of the Scorecard screening and prioritization process could be adapted for use by many other types of agencies and organizations. Public and private agencies involved in transportation planning can use the methods and tools to integrate equity into their project selection and prioritization processes or make their existing equity-based processes more robust.

Because the process used by transportation agencies to identify and prioritize projects for funding relies on technical methods, agency staff are best equipped to apply these methods with input from community members. Stakeholder outreach and targeted public involvement is needed to fill knowledge gaps during data collection and to validate project evaluation result



When to Apply the Scorecard?

The tool could be used within a broader project evaluation and scoring system or as a separate or additional assessment specific to equity. The guide and tool could also help MPOs and local governments formulate projects with important equity impacts and user benefits.

EXAMPLE USES FOR THE SCORECARD



Moving projects from a needs list to a cost affordable list when preparing a metropolitan transportation plan



Selecting projects for funding in the transportation improvement program (TIP)



Selecting projects as part of a specific agency plan, program, or initiative (e.g., Transportation Disadvantaged plan, bicycle and pedestrian plan, Transportation Alternatives Program, Vision Zero plan, Complete Streets program, etc.)



Selecting projects that best advance an equity plan or policy



Selecting project alternatives that best advance equity

SCORECARD TOOL COMPONENTS

Before using the Scorecard, familiarize yourself with its components. Six categories are included in the Transportation Equity Scorecard for use in transportation project screening and prioritization. These categories, described in this section, are as follows:

- Access to Opportunity
- Health and Environment
- Safety and Emergency Evacuation
- Affordability
- Mobility
- Burdens



Access to Opportunity

Access to opportunity considers the ability of target populations to reach employment locations, educational facilities, and other community services using different forms of transportation and at different times of the day. Transportation equity in this case is also clearly tied to land-use planning decisions. To improve access to opportunity, government agencies can: a) take steps to provide or

relocate opportunities and services near underserved populations (i.e., land use planning), and/or b) improve transit service and bicycle and pedestrian connections to activity centers.

Many factors affect access to opportunity, including (Litman, 2016):

- Modal options - mode availability, affordability, safety, and convenience.
- Transportation network connectivity - network density and connection between modes.
- Land use proximity - the distance between activity locations, as well as land use density and mix.

In the scorecard, access to opportunity is grouped into three main factors: access to employment, access to education, and access to community services and facilities as shown in Table 6 and Table 7. The objective is to make access to opportunity for underserved populations a priority in project selection. Guidance on data and methods to evaluate the criteria is provided in the [Scorecard User Guide](#).

Table 6. Access to Opportunity Factors and Criteria

| | | |
|------------------------------|--|---|
| Access to Opportunity | Employment | Project improves access to employment opportunities. |
| | Education | Project improves access to educational opportunities (e.g., higher education, job training, schools, daycare, after school programs). |
| | Community Services and Shopping | Project improves access to community services, including parks and recreational areas, and shopping areas. |

Table 7. Access to Opportunity Weighted Criteria

| | | |
|------------------------------|--|---|
| Access to Opportunity | Employment | Connects and/or significantly increases availability of safe and affordable travel options to major employers or areas with a high job density. Or significantly decreases walking, biking, or transit travel time to a high job density location. |
| | Education | Connects high percent of students and/or significantly increases availability of safe and affordable travel options to educational facilities. Or significantly decreases walking, biking, or transit travel time to large educational facilities. |
| | Community Services and Shopping | Connects and/or significantly increases availability of safe and affordable travel options to nearby parks, recreational facilities, shopping areas, and other community services. Or significantly decreases walking, biking, or transit travel time to community services and shopping areas. |

Health and Environment

Transportation decisions have significant public health and environmental consequences. Auto-dependent infrastructure is associated with increased rates of obesity, heart disease, high blood pressure, as well as a loss of social connectedness (Ewing et al., 2014). As McLaughlin et al. (2014) acknowledge, population health is also adversely impacted by the decline in air and water quality.

Active transportation (i.e., walking, cycling) has been suggested as an effective alternative in addressing these concerns (Morabia et al., 2019; Rojas-Rueda, 2019; Wu et al., 2019). The COVID-19 pandemic also brought to light the need for safe travel alternatives. For example, several cities closed lanes to offer more space for walking and cycling. In addition, projects that promote alternative fuels and electric vehicles can reduce vehicular emissions that are harmful to public health and the environment.

For the scorecard, health and environment are grouped into three main factors: health care, healthy food, and environment, as shown in Table 8 and Table 9. Each factor advances a specific objective, such as improving access to health care services. The criteria aim to improve connectivity and accessibility to health care services and healthy food and improve livability through the built environment.

Agencies are encouraged to consider land use planning strategies during the needs assessment and resulting action plans to address equity needs and priorities.

Table 8. Health and Environment Factors and Criteria

| | | |
|-------------------------------|---------------------|---|
| Health and Environment | Health Care | Project improves access to health care services. |
| | Healthy Food | Project connects to grocery stores or markets that provide healthy and fresh food at affordable prices. |
| | Environment | Project increases livability (e.g., community cohesion, streetscaping, green infrastructure, etc.) through design and/or mitigation measures. |

Table 9. Health and Environment Weighted Criteria

| | | |
|-------------------------------|---------------------|--|
| Health and Environment | Health Care | Connects and/or significantly increases availability of safe and affordable travel options to a hospital or other health care facilities. Or significantly decreases walking, biking, or transit travel time to a hospital or other health care centers. Or significantly improves public health in areas where residents have health outcome disparities, including asthma, obesity, or diabetes. |
| | Healthy Food | Connects and/or significantly increases availability of safe and affordable travel options to a fresh produce market or grocery store or community gardens. Or significantly decreases walking, biking, or transit travel time to a fresh produce market or grocery store. |
| | Environment | Significantly reduces noise level, emission rate, or vehicle miles traveled, and/or accomplishes two or more of the following: <ol style="list-style-type: none"> 1. Reinforces community cohesion 2. Improves landscaping and/or includes green infrastructure 3. Provides street furniture 4. Provides LED or solar lighting 5. Incorporates art or cultural amenities |

Safety and Emergency Evacuation

Transportation safety and emergency evacuation are fundamental to the health and wellbeing of transportation system users. High crash locations often correspond with locations that have a higher concentration of underserved communities (DVRPC, 2018; Hagen, 2011; Williams and Golub, 2017). Emergency evacuation (e.g., flood or hurricane) is especially important in high-hazard areas with vulnerable populations.

The Transportation Equity Scorecard groups safety into two factors – improvements for pedestrians and bicyclists at high-crash locations, and other safety improvements. The emergency evacuation criterion aims to prioritize emergency preparedness projects for funding in areas with a large concentration of COCs. Table 10 shows the safety and emergency evacuation factors and criteria. Table 11 shows the weighted criteria for this category.

Table 10. Safety and Emergency Evacuation Factors and Criteria

| | | |
|--|-----------------------------|--|
| Safety and Emergency Evacuation | Safety | Project improves safety for pedestrians and bicyclists at high-crash locations. |
| | | Project improves safety at other (non-high crash) locations. |
| | Emergency Evacuation | Project improves emergency evacuation (e.g., transit coordination, connections to shelters, etc.). |

Table 11. Safety and Emergency Evacuation Weighted Criteria

| | | |
|--|-----------------------------|---|
| Safety and Emergency Evacuation | Safety | Integrates two or more safety countermeasures, such as protected bicycle lanes, raised median islands, Rectangular Rapid Flash Beacon (RRFB) or other signalized midblock crossing treatments, roundabouts, lane reductions, traffic calming, street lighting, etc. Or significantly decreases pedestrian and bicycle crash rates per capita. |
| | | Integrates two or more safety countermeasures, such as protected bicycle lanes, raised median islands, Rectangular Rapid Flash Beacon (RRFB) or other signalized midblock crossing treatments, roundabouts, lane reductions, traffic calming, street lighting, etc. Or significantly decreases crash rates per capita. |
| | Emergency Evacuation | Connects and/or significantly decreases travel time to safe areas or shelters. |

Affordability

According to the Bureau of Transportation Statistics (2019), housing (33%) and transportation (17%) are the two largest categories of average household expenditures. Areas with a rich array of transportation options often lack affordable housing and affordable housing near employment locations and activity centers is particularly scarce in some regions.

Research demonstrates that the challenge associated with housing and transportation costs is particularly an issue for lower-income households and households of color. In large metropolitan areas, racial and income inequalities exacerbate the already significant mismatch between affordable housing and transit access (Kramer, 2018). Therefore, transportation agencies should make affordability more of a priority in their project selection process. Affordability factors and criteria are highlighted in Table 12 and Table 13. For the scorecard, affordability is grouped into three factors: housing and transportation costs, housing, and transportation.

Table 12. Affordability Factors and Criteria

| | | |
|----------------------|---|---|
| Affordability | Housing and Transportation Costs | Project decreases the share of household income consumed by transportation and housing. |
| | Housing | Project improves access to and from affordable housing. |
| | Transportation | Project increases availability of affordable transportation options. |

Table 13. Affordability Weighted Criteria

| | | |
|----------------------|---|--|
| Affordability | Housing and Transportation Costs | Provides direct connections to affordable housing through premium transit service, a protected bicycle facility, or new/connected sidewalks or shared use paths. Or significantly decreases travel time to and from affordable housing. |
| | Housing | Provides premium and affordable transit or protected and connected bike facility or new/connected sidewalk or increases availability of high quality and affordable transportation options. Or significantly decreases travel time to essential destinations and other activity locations. |
| | Transportation | Reduces housing and transportation costs as a percent of income to 30 percent or less. |

Mobility

Although mobility overlaps with several other equity categories, it is treated as a separate category in the equity scorecard tool due to its broad impacts. For example, traffic delay and congestion, which are important mobility indicators, are also considered in the evaluation of access to jobs and services. Quality and level of service (Q/LOS) are other measures to assess mobility impacts of the transportation system for the various modes. Equity and mobility can be improved through projects that reduce travel time for transit and single-occupancy vehicles, reduce vehicle miles traveled, and provide or supplement active transportation options available to underserved populations.

The mobility category includes three factors: active transportation, transit access, and ADA, as shown in Table 14 and Table 15. Active transportation also advances health and the environment; as a result, the evaluation of the active transportation criterion should consider health and environmental factors.

Table 14. Mobility Factors and Criteria

| | | |
|-----------------|--|---|
| Mobility | Active Transportation | Project improves or expands bicycle or pedestrian facilities. |
| | Transit Access and Service | Project improves transit service and/or access, including first- and last-mile access. |
| | Americans with Disabilities Act (ADA) | Project improves accessibility for persons with disabilities (e.g., transit stops, ADA curb ramps, audio-visual signals, driveway grade, etc.). |

Table 15. Mobility Weighted Criteria

| | | |
|-----------------|--|---|
| Mobility | Active Transportation | Project improves or expands bicycle or pedestrian facilities. |
| | Transit Access and Service | Project improves transit service and/or access, including first- and last-mile access. |
| | Americans with Disabilities Act (ADA) | Project improves accessibility for persons with disabilities (e.g., transit stops, ADA curb ramps, audio-visual signals, driveway grade, etc.). |

Burdens

Although the focus of the toolkit is on identifying projects that serve the needs of underserved populations, an analysis of the equity implications of project proposals would be incomplete without an evaluation of potential burdens. Examples of burdens include cumulative or disproportionate impacts, barriers, safety hazards, and increased noise or emissions.

Cumulative impacts are “the aggregate result of the incremental direct and indirect effects of a project or plan, the effects of past and present actions, and effects of reasonably foreseeable future actions by others on resources of concern” (AASHTO, 2016, p. 1). Disproportionate impacts are defined as extensive differences in impacts or risks across population groups (EPA, 2016).

Barriers include any physical obstacles, such as major multi-lane roadways, that dissect communities and lessen community cohesion. These barriers relate to several of the equity assessment categories, including access to opportunity, health and environment, safety and emergency evacuation, and mobility. Noise pollution and emissions are related to the health and environment category, and also warrant inclusion as a burden due to their potential to cause long-term negative impacts on underserved communities.

While some transportation agencies discontinue projects that cause adverse impacts, others take steps to mitigate these impacts. In the scorecard, burdens are given a score of negative ten (-10) or negative twenty (-20), ensuring that projects with significant adverse impacts are not prioritized higher than projects with minimal or no adverse impacts.

The burdens category has one factor, “adverse impacts”. Specific criteria for each agency will vary based on project type, geography, historic trends, public input, and other details unique to the project and the target population. Project information and other data can be used to create a list of projects and community-specific burdens. Table 16 shows the factor and criterion related to burdens. Table 17 shows the weighted criteria for the burdens category.

Table 16. Burdens Factor and Criterion

| | | |
|----------------|------------------------|--|
| Burdens | Adverse Impacts | Project causes cumulative, disproportionate, or other major adverse impacts. |
|----------------|------------------------|--|

Table 17. Burdens Weighted Criteria

| | | |
|----------------|------------------------|---|
| Burdens | Adverse Impacts | <p>Leads to one or more of the following:</p> <ol style="list-style-type: none"> 1. Significant barrier effects (e.g., widen from 4 to 6 lanes, high speed, increases traffic volumes, grade separation, etc.) 2. Significant cumulative/disproportionate impacts 3. Increases displacement of residents, businesses, or public amenities 4. Reduces business revenue and employment (e.g., by relocating businesses) 5. Greatly increases noise or emissions 6. Reduces safety and personal security |
|----------------|------------------------|---|

“Though people of all ages, races, ethnicities, and income levels suffer the consequences of dangerous street design, some neighborhoods and groups of people bear a larger share of the burden.”

-Dangerous by Design, Smart Growth America, 2021



Photo from Charlotte WALKS, City of Charlotte, NC, Bicycle and Pedestrian Plan

HOW TO USE THE SCORECARD

The equity evaluation for the tool involves the four steps shown in Figure 7. Each step requires careful consideration of community needs and regional goals. Stakeholder and public outreach are also necessary for an effective evaluation. Step-by-step instructions to use the scorecard and examples are included in Appendix C and the [Scorecard User Guide](#).

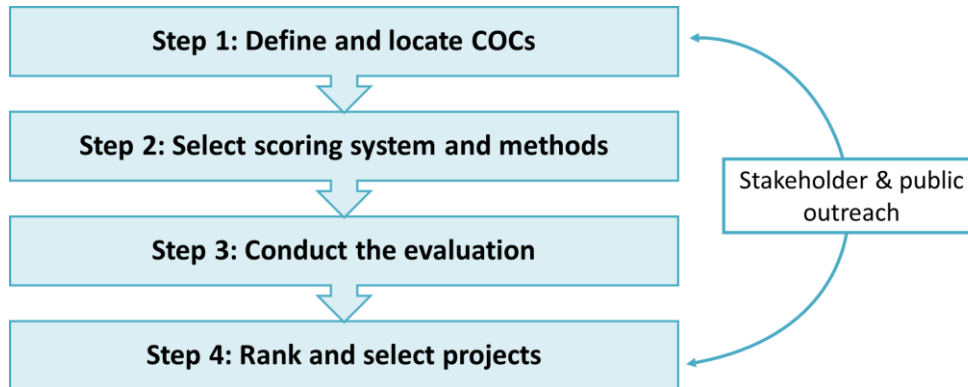


Figure 7. Equity project screening and prioritization process

1 Define and Locate COCs

The first step in the prioritization process is to locate communities of concern (COCs) using GIS. This process was previously described in this toolkit under Part I: *Identifying Community Needs* (see *Locate and Profile Communities of Concern*).

2 Select Scoring System and Methods

The equity scorecard tool scores each project against the factors/criteria based on the concentration of COCs impacted. A score of one (+1) is attributed to a project that serves low to moderate concentrations of COCs. Two (+2) is attributed to a project that serves high concentrations of COCs. A score of negative ten (-10) is attributed to a project that is expected to adversely impact COCs. The relative concentration of COCs will vary by region; therefore, each MPO or local government will need to set their own thresholds.

“The equity scorecard tool scores each project based on disadvantaged populations impacted.”

Each category in the scorecard can receive up to 6 points for a maximum possible equity score of 30. A weighting system allows agencies to assign a weight to each score based on the magnitude of the anticipated impact on equity. The scorecard multiplies a given criterion by 2 if it is expected to have high equity impacts in relation to that criterion. Under the weighted scoring system, each category can receive up to 12 points for a maximum possible equity score of 60. See Table 18 for the scoring system and weights. The relative impact on equity is determined using regional or national guidelines, as well as thresholds selected by the agency.

Table 18. Scoring System

| | Score | | Weight | | |
|------------------|-------------------|------------|-----------------|-------------------------|------------|
| | Points (COCs) | Max Points | Points (Impact) | COCs*Impact | Max Points |
| Criterion | -10, 0, +1, or +2 | 2 | 2 | (-10, 0, +1, or +2)*(2) | 4 |

3 Conduct the Evaluation

The third step of the process is the evaluation. This step begins with collecting and assembling the data. After data are collected and assembled, the project type, project location or coverage, and location of COCs in relation to the project are identified (see Figure 8, and Figure 9). The criteria are provided as questions to facilitate the evaluation using the scorecard.

Two Excel-based versions of the scorecard are available for project evaluation. An automated version of the tool automatically generates scores based on selected responses. The second, non-automated, version requires users to manually input scores. Step-by-step instructions for the scorecard tool are provided in Appendix C.

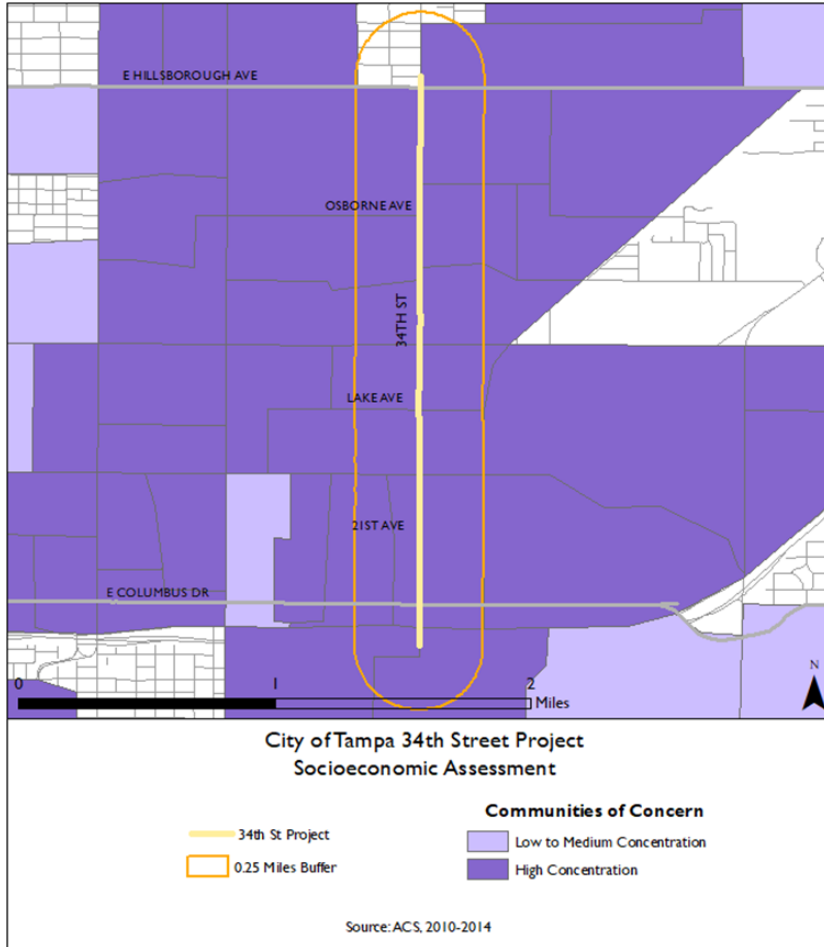
34th Street, City of Tampa
Results: The 34th Street project is a safety project.

Summary
34th Street from Columbus Drive to Hillsborough Avenue is primarily a 2-lane undivided collector roadway with a posted speed of 30 mph, as shown in Figure 2. 34th Street provides a secondary north/south access between the port area and northeast Tampa with 40th Street being the primary north/south arterial. 34th Street has an average daily traffic volume of 6,000 to 8000.

In a review of city-wide fatal and incapacitating injury crashes from 2009 to 2011, this section of 34th Street was identified as having a clustering (14) of fatal and severe injury crashes. As such, this section of roadway was analyzed for countermeasures to improve safety and apply as a candidate for Highway Safety Improvement Program (HSIP) Off-System Funds. Appendix A: Photo Log contains all the field review photographs taken.

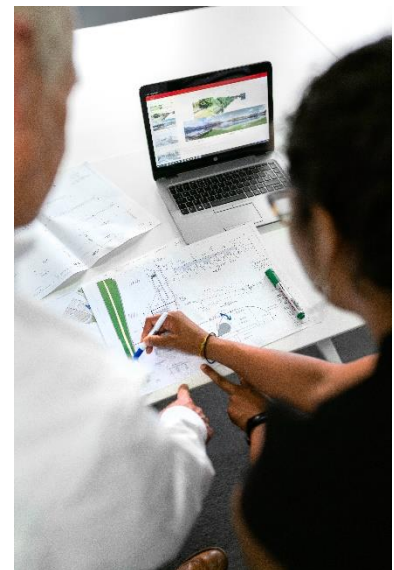
Figure 8. Identify project type
Source: City of Tampa, 2013

Part II: Screening and Prioritizing Projects
How to Use the Scorecard



“After data are collected and assembled, the project type, project location or coverage, and location of COCs in relation to the project are identified.”

Figure 9. Identify the project location and concentration of COCs



4 Rank and Select Projects

After evaluating projects and assigning scores to individual criteria, the scores are summed to generate scores for each category and the total equity score (see Figure 10). The total scores are used to rank projects and identify those that promote equity or specific dimensions of equity.

Suggestion

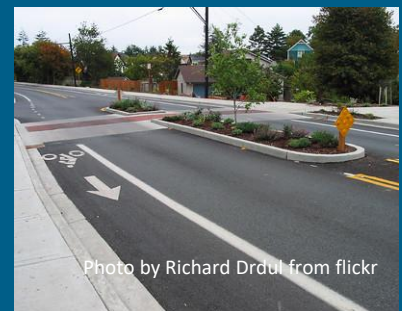
Use equity indicators to monitor trends over time and progress toward achieving equity objectives.

| | | Project ID |
|------------------------|---------------------------------------|---------------------------------|
| Category | Factor | |
| Access to Opportunity | Employment | |
| | Education | |
| | Community Services and Shopping | |
| Health and Environment | Health Care | |
| | Healthy Food | |
| Mobility | Transit Access and Service | |
| | Americans with Disabilities Act (ADA) | |
| Burdens | Adverse Impacts | |
| | Total Score | |
| | | Project ID |
| | | Access to Opportunity |
| | | Health and Environment |
| | | Safety and Emergency Evacuation |
| | | Affordability |
| | | Mobility |
| | | Burdens |
| | | Total |

Figure 10. Evaluation results

EXAMPLE PROJECTS

- Midblock crossing treatments, such as raised median islands, Rectangular Rapid Flash Beacons (RRFB) or pedestrian hybrid beacons
- New premium transit service (e.g., Bus Rapid Transit, Rail, Express Bus) connecting community to job centers
- Expansion of transit service frequency and/or hours of operation
- Adds bicycle infrastructure and facilities (e.g., bicycle lanes, bicycle parking)
- Road diets and traffic calming treatments
- New sidewalks and shared use paths
- Affordable housing near transit stations (e.g., as part of transit oriented development)
- Improvements for ADA accessibility (e.g., curb ramps for sidewalks, landing pads at transit stops, audio-visual signals at crossings)
- Transit shelters and benches



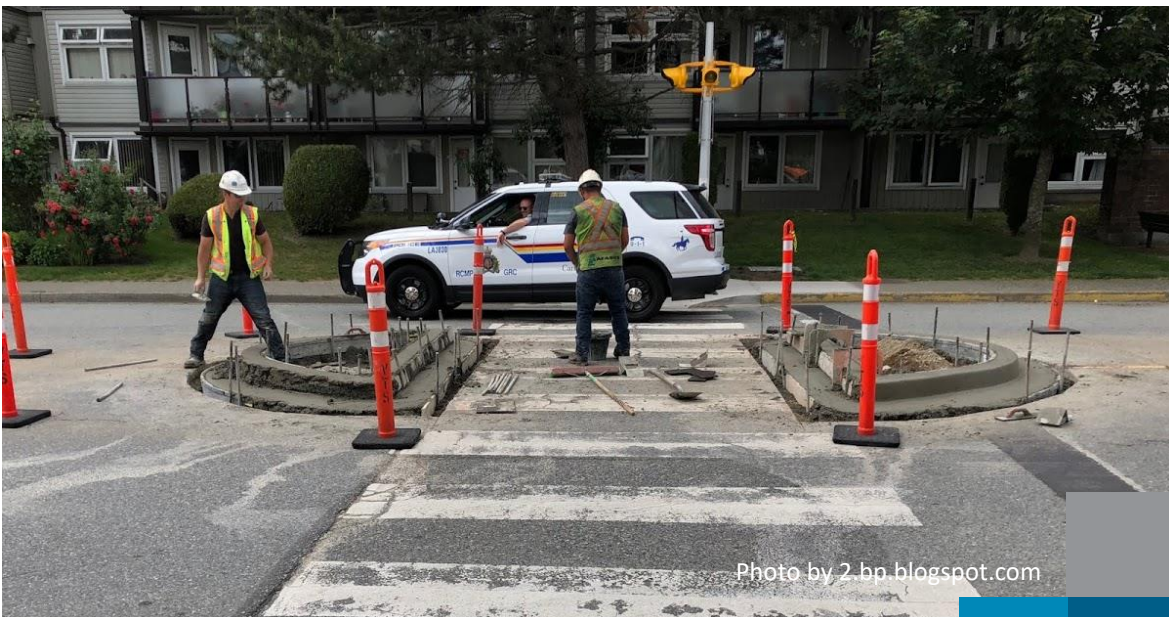
Other Considerations

This section addresses a few additional considerations relative to use of the tool in project evaluation. First, it is important to use a suitable buffer to conduct the proximity-based components of the evaluation. This buffer distance may vary based on characteristics of the population. Although a ¼ mile buffer for walking and 1 mile for cycling may be appropriate in most instances, these distances may be too far for communities with a high proportion of elderly persons or persons with disabilities.

Second, keep in mind that the tool can be adapted to best align with regional and community needs. Agencies can skip or modify certain criteria if they are not relevant, or if the agency lacks adequate resources to conduct the analysis for that criterion. Consistency is necessary when skipping or modifying criteria to ensure comparable results and limit the potential for error during project prioritization. See the [Scorecard User Guide](#) for more information.

Third, although the [Scorecard User Guide](#) provides a variety of potential assessment methods, agencies may have other more refined methods and are encouraged to use these methods, where available. The methods suggested in the guide may be modified to better correspond with existing agency methods. Keep in mind that the scorecard supplements and does not replace existing project screening or prioritization methods.

Finally, documentation is necessary if the criteria or evaluation methods are modified. Be sure to specify which criteria were skipped or modified and provide justification for the changes. Also document which methods and tools were used during the evaluation and how these methods and tools may impact the scores. Maintaining transparency in all aspects of the evaluation will help to build trust between stakeholders and the agency.



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APPENDIX A

ADDITIONAL TOOLS AND RESOURCES

A list of tools and resources to support the needs assessment and project prioritization processes.

General

A Guide to Assessing Needs

Reference guide of tools and resources to conduct needs assessments.

<https://openknowledge.worldbank.org/bitstream/handle/10986/2231/663920PUB0EPI00essing09780821388686.pdf?sequence=1&isAllowed=y>

All Aboard! Making Equity and Inclusion Central to Federal Transportation Policy

Provides a framework of principles, describes the work and ideas of key players, and captures the important policy solutions that should be included in the upcoming federal authorization legislation.

<https://www.policylink.org/resources-tools/all-aboard-making-equity-and-inclusion-central-to-federal-transportation-policy>

Community Needs Assessment Resource Guide

Provides details on various steps of the needs assessment process for Community Action Agencies. The guide includes various tools, guidance, and resources such as webinars, videos, checklists, and presentations.

https://communityactionpartnership.com/publication_toolkit/community-needs-assessment-resource-guide/

Community Tool Box: Chapter 3 Assessing Community Needs and Resources

Resource with tools and strategies for community assessments, planning, intervention, evaluation, and advocacy. Chapter 3 includes information on needs assessment surveys and techniques to determine community priorities.

<https://ctb.ku.edu/en/table-of-contents/assessment/assessing-community-needs-and-resources/conducting-needs-assessment-surveys/main>

Equity Analysis in Regional Transportation Planning Processes, Volume 1: Guide (2020)

Guide to help MPOs and other transportation agencies analyze and address equity effectively in planning and programming processes.

<http://www.trb.org/Main/Blurbs/180936.aspx>

Sustainable CT Equity Toolkit

Toolkit outlining community engagement to “optimize for equity”.

https://sustainablect.org/fileadmin/Random_PDF_Files/Files_and_Resources/SustainableCT_EquityToolkit_January2019.pdf

Evaluating the Distributional Effects of Regional Transportation Plans and Projects

Guidance for MPOs to evaluate distributional equity in regional plans and projects.

[https://trec.pdx.edu/research/project/862/Evaluating the Distributional Effects of Regional Transportation Plans and Projects](https://trec.pdx.edu/research/project/862/Evaluating%20the%20Distributional%20Effects%20of%20Regional%20Transportation%20Plans%20and%20Projects)

Integrating Equity into MPO Project Prioritization Processes

Documents methods used by MPOs in project prioritization, with a focus on improving equity and access to opportunity for COCs.

https://ctedd.uta.edu/wp-content/uploads/2020/01/kris_final.pdf

Mobility Equity Framework. How to Make Transportation Work for People

A three-step framework to elevate social equity and community power and address structural equity.

https://greenlining.org/wp-content/uploads/2019/01/MobilityEquityFramework_8.5x11_v_GLI_Print_Endnotes-march-2018.pdf

Technical Guidance for Assessing Environmental Justice in Regulatory Analysis

Approaches and methods to analyze environmental justice concerns for regulatory actions.

https://www.epa.gov/sites/production/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf

Public Involvement

FHWA Public Involvement Techniques for Transportation Decisionmaking

Provides a variety of tools to secure meaningful input from the public on transportation plans, programs, and projects.

https://www.fhwa.dot.gov/planning/public_involvement/publications/pi_techniques/index.cfm

Planning with Diverse Communities

Offers the information and tools planners need to engage people of color in planning processes and improve quality of life for all in ethnically and racially diverse communities. Chapters focus on frameworks and approaches to better engage people of color, including immigrants, in planning processes. Includes tools and strategies to improve economic opportunity, transportation access, housing options, health and safety, and placemaking in diverse communities.

<https://www.planning.org/publications/report/9165143/>

Practical Approaches for Involving Traditionally Underserved Populations in Transportation Decisionmaking

A toolkit for agencies and practitioners as they involve traditionally underserved populations in transportation decisionmaking.

<https://www.nap.edu/catalog/22813/practical-approaches-for-involving-traditionally-underserved-populations-in-transportation-decisionmaking>

Health

Health Impact Assessment Toolkit for Planners (HIA Toolkit)

Guidance for planners to conduct a Health Impact Assessment (HIA) within the context of the community and plan, project, or policy that the HIA will assess.

https://planning-org-uploaded-media.s3.amazonaws.com/publication/download_pdf/Health-Impact-Assessment-Toolkit.pdf

Health in Transportation Corridor Planning Framework

Assists in incorporating health in corridor planning. Includes data sources and other resources to identify transportation and health needs.

https://www.fhwa.dot.gov/planning/health_in_transportation/planning_framework/the_framework/fhwahep16014.pdf

Safety

Federal Highway Administration (FHWA) Proven Safety Countermeasures

Guidance on research-proven safety countermeasures to address multiple safety focus areas.

<https://safety.fhwa.dot.gov/provencountermeasures/>

Federal Highway Administration (FHWA) Road Safety Audits (RSA)

A Road Safety Audit (RSA) identifies potential road safety issues and identifies opportunities for improvements in safety for all road users. It accounts for all road user capabilities and limitations.

<https://safety.fhwa.dot.gov/rsa/>

NHTSA Fatality Analysis Reporting System (FARS)

A nationwide census providing NHTSA, Congress, and the American public yearly data regarding fatal injuries suffered in motor vehicle traffic crashes.

<https://www.nhtsa.gov/research-data/fatality-analysis-reporting-system-fars>

Safety Insights

Helps identify areas in need of safety interventions. It also assists in the choice of infrastructure solutions based on specific conditions and visualizes the predicted impacts of an intervention.

<https://vimeo.com/378278276>

U.S. Department of Transportation Pedestrian Fatality Risk Map

An interactive map from USDOT Safety Data Initiative identifies pedestrian fatality risk at the neighborhood level (census tract) on a national scale.

<https://maps.dot.gov/BTS/PedestrianFatalityModel/>

U.S. Department of Transportation (USDOT) Safety Data Initiative

Uses data to identify safety challenges and find solutions that can save lives.

<https://www.transportation.gov/content/safety-data-initiative>

U.S. Department of Transportation (USDOT) Safety Data Initiative Beta Tools

Examples of data that can be used for various safety applications.

<https://www.transportation.gov/SafetyDataInitiative/Pilots#pedestrianfatalities>

Active Transportation

AARP Walk Audit Tool Kit

Materials to conduct a walk audit and assess community walkability.

<https://www.aarp.org/content/dam/aarp/livable-communities/livable-documents/documents-2016/Walk-Audit-Tool-Kit/AARP-Walk-Audit-Tool-Kit-100416.pdf>

Evaluating Accessibility for Transportation Planning: Measuring People’s Ability to Reach Desired Goods and Activities

Guidance for accessibility analysis. Includes definitions, factors that affect accessibility, evaluation methods, and strategies to improve access.

<https://www.vtpi.org/access.pdf>

Federal Highway Administration (FHWA) Guidebook for Measuring Multimodal Network Connectivity

Guidance on multimodal network connectivity with a focus on pedestrians and bicyclists. It includes analysis methods and resources to identify high priority network gaps, implement cost-effective solutions that address multiple needs, optimize potential co-benefits, and measure the long-term impacts of strategic pedestrian and bicycle investments on goals.

<https://www.transit.dot.gov/research-innovation/manual-pedestrian-and-bicycle-connections-transit-report-0111>

How to Conduct a Walk Audit in Your Community – Quick Video Guide for Assessing Your Neighborhood Walkability

Guidance, tools, and resources for walk audits.

<https://americawalks.org/how-to-conduct-a-walk-audit-in-your-community-quick-guide-for-assessing-your-neighborhood-walkability/>

Pursuing Equity in Pedestrian and Bicycle Planning

Provides an overview of transportation equity, non-motorized transportation options for traditionally underserved populations, and strategies for improving equity for pedestrians and bicyclists.

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/resources/equity_paper/

Strava by Metro

Strava collects information about rides and runs of millions of people every week via their smartphone or GPS device. Data from Strava could be used to identify issues and improve infrastructure for bicyclists and pedestrians.

<https://metro.strava.com/>

Walkability Workbook

A workbook providing technical assistance to improve walkability through a walkability workshop. Guides participants through the workshop and includes a facilitators guide, notes section, walkability toolbox, and a walking audit survey tool.

<https://www.tpchd.org/home/showdocument?id=296%20>

Public Transportation

Federal Transit Administration (FTA) Manual on Pedestrian and Bicycle Connections to Transit

Includes evaluation of best practices for improving pedestrian and bicycle safety and access to transit.

<https://www.transit.dot.gov/research-innovation/manual-pedestrian-and-bicycle-connections-transit-report-0111>

Those Who Need it Most: Maximizing Transit Accessibility and Removing Barriers to Employment in Areas of Concentrated Poverty

Assesses the transportation assets and challenges faced by residents of Areas of Concentrated Poverty (ACPs), paying special attention to ACP50s—ACPs in which people of color comprise more than 50% of the population.

<https://conservancy.umn.edu/handle/11299/204923>

Toolkit for the Assessment of Bus Stop Accessibility and Safety

Resource for agency staff to assess bus stop accessibility and safety. The toolkit can be used to determine minimum ADA requirements, enhance bus stop accessibility through universal design, inventory bus stops, develop a strategic plan for system-wide accessibility, and advocate for improvements.

<http://reconnectingamerica.org/assets/Uploads/toolkitbusstopaccessibility2006.pdf>



APPENDIX B TRANSPORTATION EQUITY AUDIT TOOL

Community Characteristics

Agency Staff or Community Organizers

Use census, state, regional, or local data to complete the following section of the audit tool.

Where is the audit being conducted?

Community Name/Corridor: _____

City: _____

County: _____ Zip Code: _____

Population size: _____

Identify the percentages for each of the following community characteristics:

Age

19 or younger _____

20-24 years old _____

25-34 years old _____

35-44 years old _____

45-54 years old _____

55-64 years old _____

65-74 years old _____

75 years or older _____

Race or ethnicity

African American/Black _____

Caucasian/White _____

Asian/Pacific Islander _____

Hispanic or Latino _____

Native American _____

Multi-Racial _____

Other: _____

Language spoken

English _____

Spanish _____

Creole _____

Other: _____

Households with a single parent _____

Households with one or more person(s) under 18 years _____





Households with one or more person(s) 65 years and over _____

Persons with disabilities _____

Educational level

- Less than 9th grade _____
- Some high school, no diploma _____
- High school diploma/GED _____
- Some college, no degree _____
- Associate’s degree _____
- Bachelor’s degree _____
- Graduate or professional degree _____

School enrollment

- Nursery school or preschool _____
- Kindergarten _____
- Elementary school (grades 1-8) _____
- High school (grades 9-12) _____
- College or graduate school _____

Household income

- Less than \$10,000 _____
- \$10,000 - 14,999 _____
- \$15,000 - \$24,999 _____
- \$25,000 - \$34,999 _____
- \$35,000 - \$49,999 _____
- \$50,000 or more _____

Population below the poverty level _____

Unemployment rate _____

Population receiving public assistance _____

Zero vehicle households _____

Mode share used to commute to work

- Car, truck, or van (drive alone) _____
- Car, truck, or van (carpool) _____
- Public transportation _____
- Walked _____
- Other _____
- Worked at home _____





Is there a school in the community (*Check all that apply*)?

- Nursery school or preschool
- Kindergarten
- Elementary school (grades 1-8)
- High school (grades 9-12)
- College or graduate school

What is the average number of miles traveled from home to work (or school)?

- 1-5 miles
- 6-10 miles
- 11-15 miles
- 16-20 miles
- 21-25 miles
- 26-30 miles
- 31-35 miles
- More than 35 miles

What is the average commute time?

- Less than 15 minutes
- Between 15 and 30 minutes
- Between 30 and 45 minutes
- Between 45 and 60 minutes
- Over an hour





Community Members

Where do you live? Community Name/Street Name: _____ Zip Code: _____

What is your age? _____

Are any members of your household under 18 years?

- Yes
- No

Are any members of your household 65 years or older?

- Yes
- No

What is your gender?

- Female/Woman
- Male/Man
- Non-binary
- Other
- Prefer not to answer

What is your race or ethnicity?

- African American/Black
- Caucasian/White
- Asian/Pacific Islander
- Hispanic/Latinx
- Native American
- Multi-Racial
- Other: _____

What is your primary language?

- English
- Spanish
- Creole
- Other: _____

Do you or anyone in your household have a disability?

- Yes
- No

Are you currently employed?

- Yes
- No

What is your household income?

- Below \$15,000
- \$15,000 - \$24,999
- \$25,000 - \$34,999
- \$35,000 - \$49,999
- \$50,000 or more

Do you or someone in your household own a vehicle?

- Yes
- No

On a typical day, how many miles one-way do you travel to work?

- 1-5 miles
- 6-10 miles
- 10 to 20 miles
- More than 20 miles
- I'm not currently employed

On a typical day, how long does it take you to travel to work?

- Less than 15 minutes
- Between 15 and 30 minutes
- Between 30 and 45 minutes
- Between 45 and 60 minutes
- Over an hour
- I'm not sure
- I'm not currently employed





Access to Opportunity

Select the modes of transportation you use to travel to each destination (*Check all that apply*).

| | Walking | Biking | Riding Transit | Riding Taxi or Rideshare | Driving or Passenger | Other |
|--|--------------------------|--------------------------|--------------------------|--------------------------------|--------------------------|--------------------------|
| Employment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Education | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Community services and shopping areas | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Health care | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Grocery stores or markets | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

On a scale of 1-5, rate how difficult it is to get to each destination using the listed modes of transportation? (1= "not difficult at all" and 5= "extremely difficult")

| | Walking | Biking | Riding Transit | Riding Taxi or Rideshare | Driving or Passenger | Other |
|--|---------|--------|-------------------|--------------------------------|-------------------------|-------|
| Employment | | | | | | |
| Education | | | | | | |
| Community services and shopping areas | | | | | | |
| Health care | | | | | | |
| Grocery stores or markets | | | | | | |

Is there anywhere that you need to go that is not reachable due to a lack of transportation options?

- Yes. If yes, please provide more details: _____
- No

Are there affordable transportation options in your community?

- Yes
- No

Please provide any additional details on the presence or absence of affordable transportation options in your community:





Environment

Select environmental challenges in the community (*Check all that apply*).

- Heavy traffic
- Traffic pollution
- Traffic noise
- Lack of trees or streetscaping
- Lack of street furniture
- Lack of art or cultural amenities
- Other (please specify): _____
- None of the above

Safety

Is it safe to walk or bike in the community?

- Yes
- No. If no, please explain: _____

Is it safe to use public transportation in the community?

- Yes
- No. If no, please explain: _____

Select the safety challenges in the community (*Check all that apply*).

- Heavy traffic
- Cars speeding
- Signage issues
- Signal issues
- Lack of streetlights (e.g., LED or solar lighting)
- Lack of safe crosswalks
- Other (please specify): _____
- None

Select community needs related to accessing shelter, safe areas, or daily needs during an emergency or pandemic (*Check all that apply*).

- Transit service
- Connection to shelters
- Space for pedestrians and cyclists
- Adequate emergency evacuation routes
- Other (please specify): _____
- None





Active Transportation

Select walking challenges in the community (*Check all that apply*).

- Lack of sidewalks or crosswalks
- Discontinuous or cracked sidewalks
- Unmarked crosswalks
- Wide roadway crossings with no median
- Long distance between crosswalks
- Lack of adequate pedestrian signals (e.g., short pedestrian signal time, long wait for pedestrian signal phase, lack of working or accessible Push-to-Walk signal)
- Lack of adequate pedestrian signage
- Sidewalks blocked by trees, utility poles, etc.
- Other (please specify): _____
- None

Select bicycling challenges in the community (*Check all that apply*).

- Lack of bike lanes or shared-use paths
- Discontinuous bike lanes
- Bike lanes are narrow/close to speeding traffic
- Bike lanes are poorly maintained
- Lack of readily available information on bicycle routes
- Lack of bicycle storage facilities
- Other: _____
- None

Select ADA related access challenges in the community (*Check all that apply*).

- Lack of ADA curb ramps
- Lack of audio-visual signals
- Uneven driveway grade
- Untextured or unmarked curb cuts for people with visual impairments
- Other (please specify): _____
- None

You can also use the tools provided in the [Walkability Workbook](#) or the [AARP Walk Audit Tool Kit](#) to assess active transportation in your community. See Appendix A for more details.





Public Transportation

Is the area served by regular transit service?

- Yes
- No
- I'm not sure

If there is transit, approximately how often does this service run?

- Every 10 minutes
- Every 15 minutes
- Every 20 minutes
- Every 30 minutes
- Every 60 minutes
- Less than hourly
- I'm not sure
- Not applicable, there is no transit

Is there a transit stop or station within a 15-minute walk from your home?

- Yes
- No
- I'm not sure

Select issues with public transportation in the community (*Check all that apply*).

- Service not available to/from my destinations
- Unreliable schedules
- Hours of operation do not fit my need
- Long travel times because of multiple or long transfers
- Uncomfortable (e.g., lack of transit shelter, cleanliness, or security cameras)
- Lack of real-time information
- Non-affordable fares or complicated fare system
- No door-to-door service
- Other (please specify): _____
- None

You can also use the tools provided in the [Toolkit for the Assessment of Bus Stop Accessibility and Safety](#) or the [Federal Transit Administration \(FTA\) Manual on Pedestrian and Bicycle Connections to Transit](#) to assess public transportation in your community. See Appendix A for more details.





Investments and Burdens

Select transportation burdens in the community (*Check all that apply*).

- Grade separation of roadways (e.g., some roads are elevated and block local streets or sidewalks)
- Transportation projects causing displacement of residents, businesses, or public amenities
- Transportation projects causing reduction of business revenue and employment (e.g., by relocating businesses)
- Cumulative/disproportionate impacts from past and current transportation investments
- Other (please specify): _____
- None of the above

Please provide any additional details on transportation burdens in the community:

Select the three most needed transportation investments in the community.

- Construct new multi-use trails
- Maintain existing multi-use trails
- Construct on-road bicycle lanes
- Improve signage for shared lanes (auto and bicycle)
- Construct sidewalks
- Maintain sidewalks
- Improve public transit
- Other (please specify): _____
- Other (please specify): _____
- Other (please specify): _____





Overall Ratings

Please rank the following categories from 1 to 5 (1 = lowest priority need and 5 = highest priority need):

| | Ranking | Comments |
|-------------------------|---------|----------|
| Access to Opportunity | | |
| Environment | | |
| Safety | | |
| Active Transportation | | |
| Investments and Burdens | | |

Please rate the overall transportation experience.

| | Excellent | Adequate | Poor | Don't know |
|-----------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Walkability | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Bikeability | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Public Transportation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Safety | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Environment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Overall Transportation Experience | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Please provide any additional comments on the transportation experience in your community:

Please note any ideas you may have for transportation projects that might address the needs you have identified.

Thank you!



APPENDIX C

TRANSPORTATION EQUITY SCORECARD INSTRUCTIONS

This section includes step-by-step instructions to use the Transportation Equity Scorecard. Detailed instructions and example applications are provided in the [Scorecard User Guide](#).

Use the following steps to add projects to the automated scorecard:

1. Open the scorecard. If prompted, click “Enable Editing” and “Enable Content”.
2. Click the “Evaluation” tab and select “Add” (see Figure C 1), a pop-up window will appear (see Figure C 2).

| | A | B | C |
|----|--|---------------------------------|------------------|
| 2 | Transportation Equity Scorecard Tool | | |
| 3 | Directions: Click "Add" to answer questions for each project. See tabs named "Criteria Overview" and "Weights" for details related to the criteria and examples of "high impact" respectively. | Add | |
| 4 | | Edit / Delete | Project Rankings |
| 5 | | Project ID | |
| 6 | | Category | Factor |
| 7 | Access to Opportunity | Employment | |
| 8 | | Education | |
| 9 | | Community Services and Shopping | |
| 10 | Health and Environment | Health Care | |
| 11 | | Healthy Food | |
| | Introduction | Evaluation | Project Rankings |
| | | Criteria Overview | Weights |

Figure C 1. Evaluation page

Transportation Equity Scorecard Tool

Directions : Select " No, Yes, or Yes, high impact". See user guide for details.

Project ID |

| | Criteria | Response |
|---------------------------------|---|----------|
| COCs | What is the concentration of COCs within a 1/4 mile of the project? | |
| Access to Opportunity | Does the project improve access to jobs? | |
| | Does the project improve access to educational facilities? | |
| | Does the project improve access to community services? | |
| Health and Environment | Does the project improve access to health care? | |
| | Does the project improve access to grocery stores or markets with healthy and fresh affordable food? | |
| | Does the project increase livability through design and/or mitigation measures? | |
| Safety and Emergency Evacuation | Does the project implement appropriate safety countermeasures for pedestrians and bicyclists at high-crash locations? | |
| | Does the project implement appropriate safety countermeasures at other (non-high crash) locations? | |
| | Does the project improve emergency evacuation? | |
| Affordability | Does the project decrease the share of household income consumed by transportation and housing? | |
| | Does the project reduce travel time or eliminate a barrier to/from affordable housing? | |
| | Does the project provide affordable transportation choices, especially in areas with a high transportation cost? | |
| Mobility | Does the project improve or expand bicycle or pedestrian facilities? | |
| | Does the project improve transit service or access, including first mile/last-mile access? | |
| | Does the project include special measures to improve accessibility for persons with disabilities? | |
| Burdens | Does the project cause cumulative, disproportionate, or other major adverse impacts? | |

Cancel Save & Continue

Figure C 2. Add project evaluation

3. Input the project ID.
4. Using the evaluation results, select a response from the dropdown menu for each criterion. The suggested evaluation methods and example evaluations for each criterion are provided in the [Scorecard User Guide](#).

Response options for COCs include “None”, “Low to Moderate”, or “High” (see Figure C 3).

Project ID |

| | Criteria | Response |
|-----------------------|---|-----------------|
| COCs | What is the concentration of COCs within a 1/4 mile of the project? | |
| Access to Opportunity | Does the project improve access to jobs? | None |
| | Does the project improve access to educational facilities? | Low to Moderate |
| | Does the project improve access to community services? | High |

Figure C 3. Identify the concentration of COCs

Response options for equity categories include “No”, “Yes”, and “Yes, high impact” (see Figure C 4). All no responses receive a score of 0 (see step 2 in *How to Use the Scorecard* for more details about the scoring system).

| COCs | | What is the central focus of COCs within a 1/4 mile of the project? |
|-----------------------|---|---|
| Access to Opportunity | Does the project improve access to jobs? | |
| | Does the project improve access to educational facilities? | |
| | Does the project improve access to community services? | |
| Health and | Does the project improve access to health care? | |
| | Does the project include special measures to improve accessibility for persons with disabilities? | |
| Burdens | Does the project cause cumulative, disproportionate, or other major adverse impacts? | |

Cancel

Figure C 4. Identify project impact on COCs

5. Click “Save & Continue”, a pop-up window will appear confirming that the project has been added to the database.
6. Click “OK”, the pop-up window will close. Scores will be generated in corresponding cells and a total score will be calculated at the bottom of the scorecard.

Repeat steps 2 through 6 to add more projects.

Use the following steps to edit or delete projects:

1. Click the “Edit/Delete” button, a pop-up window will appear (see Figure C 5).

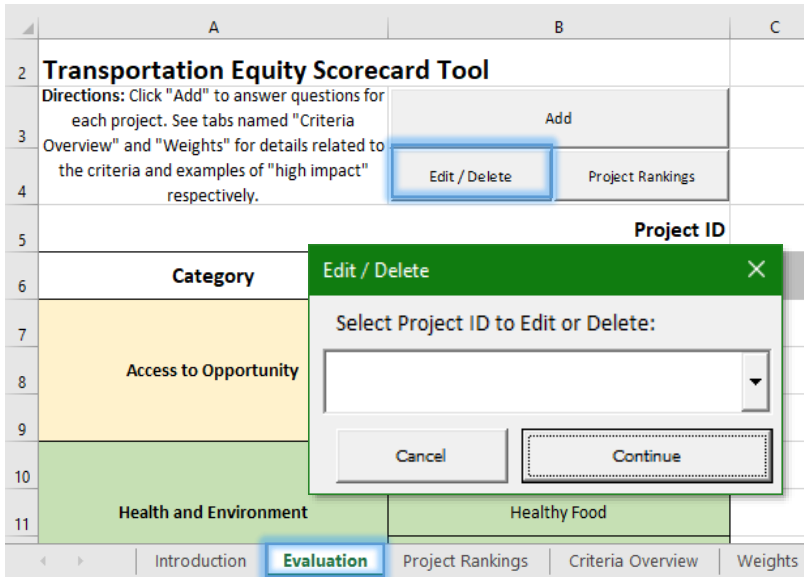


Figure C 5. Edit/delete project evaluation

2. Select the project ID from the dropdown menu, select continue, the evaluation page for the selected project will appear (see Figure C 6).

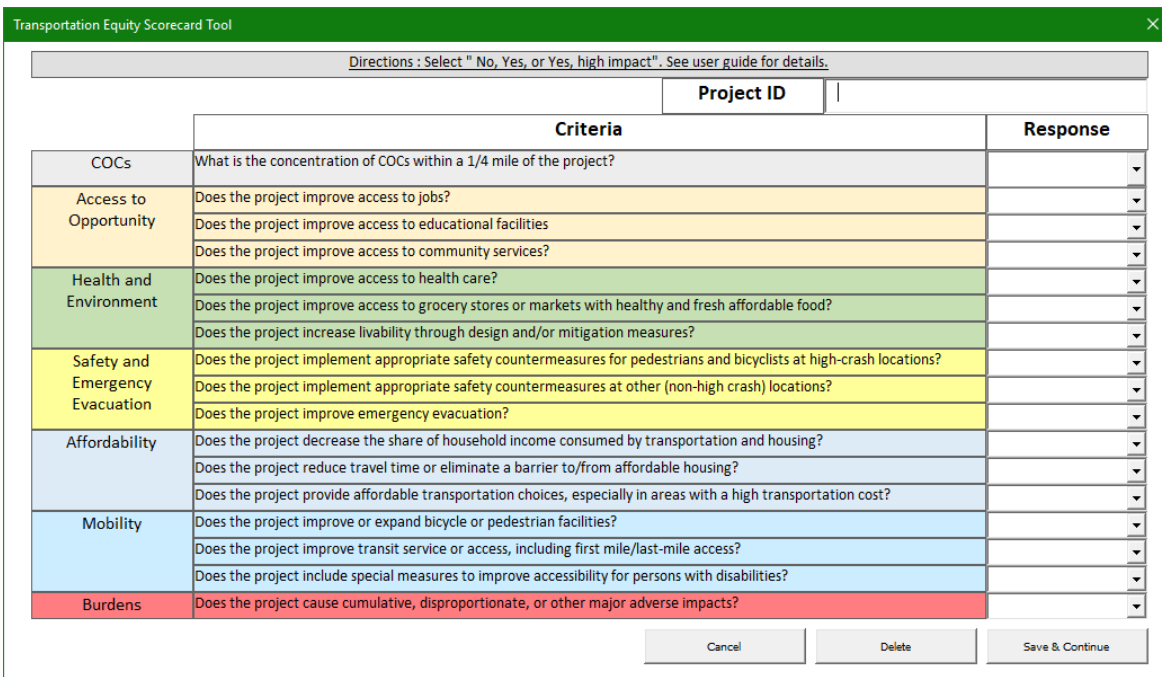


Figure C 6. Edit or delete project information

3a. To edit a project:

Use the dropdown menu to change responses.

Click “Save & Continue”, a pop-up window will appear confirming that the project has been edited in the database. Click “OK”, the pop-up window will close.

Scores will be regenerated in the corresponding cells, and a total score will be recalculated at the bottom of the scorecard.

3b. To delete a project:

Click “Delete”, the project and corresponding scores will be removed from the scorecard.

Use the following steps to rank and select projects

After the evaluation, criteria/factor scores are summed to generate category scores and the total equity score (see Figure C 7). The total scores are used to rank and identify projects that promote equity or specific dimensions of equity.

| | | Project ID |
|------------------------|---------------------------------------|---------------------------------|
| Category | Factor | |
| Access to Opportunity | Employment | |
| | Education | |
| | Community Services and Shopping | |
| Health and Environment | Health Care | |
| | Healthy Food | |
| Mobility | Transit Access and Service | |
| | Americans with Disabilities Act (ADA) | |
| Burdens | Adverse Impacts | |
| Total Score | | |
| | | Project ID |
| | | Access to Opportunity |
| | | Health and Environment |
| | | Safety and Emergency Evacuation |
| | | Affordability |
| | | Mobility |
| | | Burdens |
| | | Total |

Figure C 7. Results

Ranking projects based on the total score for each discrete category enables projects to be prioritized if they address identified needs in the project area. For example, projects may receive a low overall equity

score, but receive a high score for a specific category, such as access to opportunity. Those projects, regardless of the overall equity score, could be prioritized for funding if located in areas with high access to opportunity needs.

To review the project rankings by category click the “Project Rankings” button on the Evaluation page or click the “Project Rankings” tab at the bottom of the spreadsheet (see Figure C 8).

| Project ID | Category | Factor |
|------------|------------------------|---------------------------------|
| | Access to Opportunity | Employment |
| | | Education |
| | | Community Services and Shopping |
| | Health and Environment | Health Care |
| | | Healthy Food |

| Project ID | Total Score |
|------------|-------------|
| | |
| | |
| | |
| | |

| Project ID | Total Score |
|------------|-------------|
| | |
| | |
| | |
| | |

| Project ID | Total Score |
|------------|-------------|
| | |
| | |
| | |
| | |

Figure C 8. Project rankings

The ranking process is followed by a review of the results to check for accuracy. Keep in mind that a slight difference between results may be insignificant due to measurement or other errors. It is also important to understand that the selection of categories, factors, and criteria, as well as the selection of data and evaluation methods during **Step 2: Select Scoring System and Methods** and **Step 3: Conduct the Evaluation**, could influence the results. After the review, agencies can confirm and select the list of projects for funding.

The selection process and results should be clearly communicated to stakeholders and the public. A variety of visualization tools including tables, maps, and charts could be used to convey the results.

NOTE: Instructions to modify the scorecard tool are available in Appendix C of the [Scorecard User Guide](#).