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Construction of Pedestrian Infrastructure along Transit Corridors

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16. Abstract The availability and quality of pedestrian infrastructure play key roles in enabling access to transit. Many transit operators face challenges in facilitating this access, however, because they lack land use authority and encounter other institutional and programmatic impediments to effecting changes in the pedestrian environment. This report identifies the barriers to pedestrian access to transit in suburban communities located in the Pace Suburban Bus service area in northeastern Illinois and suggests potential solutions to overcome these barriers. The research team led several activities to collect data, including: conducting an academic literature review; reviewing pedestrian plans, policies, and programs in the region; surveying and interviewing key stakeholders; reviewing pedestrian funding sources; surveying and conducting case studies of peer transit agencies; conducting physical audits of pedestrian infrastructure; and interviewing residents of six municipalities about their transit access experiences. Lack of adequate funding, difficulties planning across jurisdictional boundaries, and conflicts in transportation priorities are major impediments to building pedestrian infrastructure. While planners and decision-makers tend to value pedestrian planning, challenges such as funding constraints and the need to retrofit suburban infrastructure are key barriers to implementation. Peer transit agencies face similar barriers to Pace and use strategies such as plan and policy development, diverse funding opportunities, and collaborative partnerships with stakeholder agencies and advocacy groups to overcome these barriers. Transit riders generally reported positive experiences with pedestrian access to transit in their communities. Many locations had robust infrastructure, but common deficiencies included poor sidewalk connectivity, incomplete crossings, lack of lighting and transit shelters, and deficiencies in Americans with Disabilities Act (ADA) infrastructure. A suite of policy recommendations for Pace and other partners that focus on planning, policy, funding, interagency coordination, education and training, infrastructure prioritization, and transit amenities address the full range of physical and institutional barriers identified in the research.			
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The contents of this report reflect the view of the authors, who are responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Illinois Center for Transportation, the Illinois Department of Transportation, or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

EXECUTIVE SUMMARY

Pedestrian infrastructure plays a critical role in public transportation networks. Safe, convenient, and accessible facilities such as sidewalks and crosswalks can bring passengers to transit service areas and connect them with their destinations, filling in the “first and last miles” between transit stops and the locations that they ultimately aim to serve. However, a variety of barriers make creating pedestrian infrastructure and connecting it to transit difficult, particularly in suburban communities.

The purpose of this project was to understand the challenges and opportunities associated with providing pedestrian access to transit in suburban northeastern Illinois. The research team developed a set of policy recommendations based on comprehensive research methods, including documentation of the state of pedestrian planning and policy, identification of potential resources and funding opportunities, a review of strategies that peer transit agencies have used, and identification of barriers through interviews with Pace Suburban Bus riders and a variety of regional stakeholders. Key takeaways from each of these efforts are described below.

Through a review of academic journal articles, white papers, and agency reports (Appendix A), the research team underscored the importance of pedestrian access to transit and identified design guidelines, funding issues, and implementation barriers related to providing such access. Many studies showed that walking is the predominant mode of transport to and from transit stops, which makes pedestrian access crucial to ensuring an accessible transit system in communities. The studies also showed that the quality of available pedestrian infrastructure and the nature of the built environment influence travelers’ decisions about whether to take transit. These studies also identified funding as a critical barrier to providing pedestrian access to transit.

A review of existing plans, policies, and programs related to pedestrian access to transit in the suburban municipalities of northeastern Illinois (Chapter 2) further informed this project. This review included a preliminary website scan of selected municipalities, interviews with planners and engineers in those communities, and a broader survey of municipalities throughout northeastern Illinois. Comprehensive plans, multimodal plans and policies, developer regulations, and zoning ordinances primarily govern the development of pedestrian infrastructure. The surveys and interviews revealed that while planners and decision-makers tend to value pedestrian planning, challenges such as funding constraints, jurisdictional issues, interagency coordination, and the need to retrofit suburban infrastructure have been key barriers to successful implementation.

Next, the research team identified federal, state, regional, and local funding sources for pedestrian projects (Chapter 3). This process included a review of funding sources that agencies in the Pace service area currently use as well as identification of underutilized sources and example funding strategies at multiple levels of government. This review showed that pedestrian projects usually do not have dedicated funding and have to compete with alternative transportation modes, making it beneficial to include pedestrian improvements as part of larger capital projects. Continued use of this approach alongside an expansion of dedicated funding for pedestrian projects would help to improve pedestrian infrastructure in the region.

After establishing the planning, policy, and funding context for pedestrian planning, the research team analyzed barriers to successfully implementing pedestrian infrastructure and began to identify solutions for overcoming these barriers (Chapter 4). This was achieved through interviews with participants representing six different stakeholder groups in the region. The interviewees noted barriers related to funding, competing investment priorities, and jurisdictional issues with counties and the Illinois Department of Transportation. Potential solutions identified by interviewees included strengthening relationships with county and state engineers and considering pedestrian and transit needs at the beginning of a project instead of as add-on amenities when projects near completion. Physical barriers to transit access were also identified through field and virtual audits of selected communities in the Pace service area, a process that a student workshop designed and conducted. These audits aimed to identify gaps in pedestrian infrastructure. Poor sidewalk connectivity, incomplete crossings, lack of lighting and transit shelters, and deficiencies in ADA accessible infrastructure were some of the key issues that the research team identified in these audits.

Community engagement in this research project was achieved through interviews in which Pace riders shared their experiences related to pedestrian access to transit (Chapter 5). These interviews played an important role in understanding deficiencies in pedestrian infrastructure from the user perspective. Most users reported a positive experience with pedestrian access to transit in their communities, although the interview analysis highlighted deficiencies in existing sidewalks, crossings, transit areas, and lighting. The interviewees also helped create an inventory of specific locations within their communities that lack adequate pedestrian infrastructure. The interviews reinforced the infrastructure audit findings described in the previous section.

Next, the research team reviewed strategies that peer agencies have used to ensure pedestrian access to transit (Chapter 6). This process included a survey of transit agencies, metropolitan planning organizations (MPOs), and municipalities in 10 US regions that are similar to the Chicago area in population and size, followed by in-depth case studies of agencies in 6 of these regions. The peer survey and case studies revealed that peer agencies face similar barriers to Pace—particularly with respect to funding—and address these barriers through a variety of strategies, including plan and policy development, diverse funding strategies, original data collection and data-driven analyses, and collaborative partnerships with stakeholder agencies and advocacy groups. These strategies, along with all other project findings, informed development of the policy recommendations outlined below.

The results of the aforementioned research activities were used to inform policy recommendations (Chapter 7) that Pace and other agencies can use to improve pedestrian access to transit in northeastern Illinois. The proposed policy recommendations are divided into the following seven categories: planning, policy, funding, coordination, education/training, prioritization, and amenities. The policy recommendations range from high-level planning to on-the-ground implementation and span multiple agencies, time horizons, and prioritization levels. The research team strategically formulated recommendations to address the diverse barriers and challenges identified throughout the project. Similar suburban transit providers, municipalities, metropolitan planning organizations (MPOs), and other agencies can use these policy recommendations to address the physical and institutional barriers they face when implementing safe, convenient, and accessible pedestrian infrastructure in transit service areas.

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CHAPTER 1: INTRODUCTION

BACKGROUND

Pedestrian infrastructure plays a critical role in public transportation networks. Safe, convenient, and accessible facilities such as sidewalks and crosswalks can bring passengers to transit service areas and connect them with their destinations, filling in the “first and last miles” between transit stops and the locations that they ultimately aim to serve. Creating pedestrian-supportive environments near transit is therefore an important and strategic goal for service providers, influencing the efficiency, effectiveness, and equity with which transit systems can achieve their service objectives.

Pace Suburban Bus (“Pace”) recognizes and has been working toward this goal. The agency has coordinated with stakeholders and decision-makers across multiple levels of government (e.g., state, regional, local) and across multiple sectors (e.g., developers, business owners) to promote pedestrian-supportive programs and policies, and has made pedestrian infrastructure a strong component of Pace’s Transit Supportive Guidelines (Pace, 2013). Despite these proactive efforts, Pace has encountered barriers that are common to transit providers in large, suburban settings. Some of these barriers are physical (e.g., sparse and disconnected infrastructure, high vehicle traffic volumes, long pedestrian access distances), but most barriers are institutional in nature. For instance, Pace representatives have identified exceptions to Complete Streets policies, long implementation time frames, lack of clear developer requirements, and limited funding and enforcement as key challenges associated with constructing pedestrian infrastructure in the agency’s service area.

More broadly, these institutional challenges stem from the size and diversity of the Pace service area, where entities with the authority to make decisions about pedestrian infrastructure are numerous, dispersed, and largely decentralized. Pace serves 284 municipalities across six suburban Chicago counties. The sociodemographic characteristics of the service area are quite varied, featuring some cities with high diversity and relatively low household incomes. Average densities in the service area are about one-third as dense as Chicago, and the population sizes of cities vary significantly: McCook, the smallest, has only 226 people, while Aurora, the largest outside of Chicago, has 200,000 residents. These factors alone suggest the difficulty of planning for pedestrian access to transit, where community priorities and capacity differ widely. As Pace does not have land use planning authority in the region, it must work closely with these diverse municipalities on access issues. This context creates both challenges and opportunities for constructing pedestrian infrastructure near transit.

OBJECTIVES

The purpose of this research project is to understand the challenges and opportunities associated with supporting pedestrian access to transit in suburban northeastern Illinois and to generate corresponding policy recommendations for Pace and other transportation partners. Specific research objectives included the following: document the state of pedestrian planning and policy in northeastern Illinois as they relate to transit access; identify potential resources and funding opportunities; examine the pedestrian planning strategies and practices of peer transit agencies; and develop short- and long-term strategies for constructing pedestrian infrastructure in the region.

OVERVIEW OF THE RESEARCH PROJECT

This project consisted of several major research activities. The research team worked closely with the project Technical Review Panel, Pace representatives, and relevant stakeholders to ensure that the policy recommendations emerging from this research are sensitive to the unique context of northeastern Illinois. A literature review informing this project is provided in Appendix A.

Chapter 2 provides a review of existing plans, policies, and programs related to pedestrian access to transit in northeastern Illinois. Given the numerous and diverse municipalities that Pace serves, this task was crucial for understanding the policy environment in which decisions about pedestrian infrastructure take place. The research methods used for this review included a website scan, phone interviews with planners, and an online survey sent to all municipalities in the Pace service area.

Chapter 3 identifies federal, state, and local funding sources that can be used to construct pedestrian infrastructure in the Pace service area. This chapter assesses how transportation funds are currently distributed in the region and considers innovative funding mechanisms from other states. This chapter can serve as a resource for agencies seeking to fund pedestrian infrastructure projects.

Chapter 4 examines barriers to successfully implementing pedestrian infrastructure and potential solutions for overcoming these obstacles. This chapter is based primarily on interviews with Pace representatives and other key stakeholders, including developers, local business representatives, transportation consultants, and disability advocates in the region. This chapter also summarizes the results of pedestrian infrastructure audits conducted in six Pace municipalities to more fully understand physical barriers to pedestrian access.

Chapter 5 presents the findings of interviews conducted with Pace riders in six communities throughout the service area. These interviews were designed to build upon the infrastructure audits described in the previous chapter, engaging current riders in a conversation about how they access Pace services, their experiences as pedestrians during their Pace trips, and potential strategies for expanding the safety and convenience of pedestrian access to transit.

Chapter 6 examines the experiences and approaches of peer agencies as they relate to pedestrian access to transit in suburban areas. This chapter is based on a survey of municipalities, metropolitan planning organizations, and transit agencies in 10 regions similar to the Pace service area, followed by in-depth case studies with 6 of these regions. The purpose of the survey and case studies was to identify short- and long-term strategies—including policies, programs, innovative funding mechanisms, inter-institutional collaboration structures, and monitoring systems—that could be transferred successfully to northeastern Illinois to support pedestrian access to transit.

Chapter 7 synthesizes the findings of all project activities into a comprehensive set of policy recommendations. These recommendations address a variety of substantive areas—including planning, policy, funding, coordination, education/training, prioritization, and amenities—and cover multiple agencies, time horizons, and levels of priority. The policy recommendations outlined in this chapter will support Pace and its partner agencies in planning for and successfully implementing pedestrian infrastructure near transit service areas in the region.

CHAPTER 2: PLANNING AND POLICY CONTEXT

OVERVIEW

During the early stages of the project, the research team conducted a review of existing plans, policies, and programs related to pedestrian access to transit in northeastern Illinois’ suburban municipalities. The purpose of this effort was to document and more fully understand the policy environment in which decisions about pedestrian infrastructure (e.g., sidewalks, crosswalks, lighting, transit amenities) take place within the Pace service area.

The research team achieved this through three steps: a website scan of selected municipalities, interviews with planners and engineers in those communities, and a survey of municipalities throughout the Pace service area. The process and results of these three steps are summarized in the sections below, followed by a summary of key takeaways. Overall, the findings suggest that municipalities typically have a comprehensive plan that guides the development of pedestrian infrastructure. Most municipalities also have codes and zoning ordinances that guide developer regulations and ongoing programs for sidewalk maintenance and gap identification. However, the findings reveal common challenges in pedestrian planning, including retrofitting developments that were not originally built with sidewalks and securing funding for pedestrian infrastructure projects.

WEBSITE SCAN

The research team compiled a list of the 15 suburban communities with the most Pace stops and conducted a website scan to create a preliminary inventory of plans, policies, and programs related to pedestrian infrastructure in these communities. They made minor revisions to this list based on input from the Technical Review Panel. Table 1 shows the municipalities included in this scan.

The research team searched the websites of these municipalities for plans, policies, and programs (hereafter referred to as “policies”) related to pedestrian infrastructure and active transportation. Key types of policies identified in this search included comprehensive plans, small area plans, downtown plans, pedestrian or active transportation plans, developer regulations, zoning codes, and sidewalk maintenance programs. The research team collected the following information about each policy: municipality name and population, policy name/title, date of adoption, type of policy, brief description, funding sources, and URL where policy is posted.

Table 1. Municipalities Included in Website Scan

Municipality	Number of Pace stops	Municipality	Number of Pace stops
1. Naperville	1,542	9. Schaumburg	397
2. Joliet	796	10. Skokie	356
3. Elgin	705	11. Lisle	322
4. Aurora	701	12. Glenview	304
5. Waukegan	693	13. Park Ridge	302
6. Niles	500	14. Bolingbrook	279
7. Downers Grove	488	15. Carol Stream	253
8. Des Plaines	434		

The research team identified 42 policies through this scan. Six municipalities had **plans specific to pedestrian transportation**. The Village of Downers Grove, for example, prepared a Bicycle and Pedestrian Plan in 2013 to identify actions that it could take to improve the safety and ease of walking and biking. The plan recommended that the Village prioritize pedestrian improvements (e.g., sidewalk replacement) at Pace bus stops and Metra stations to facilitate transit connections.

Three of the identified plans also mentioned applying for grants or seeking other funding sources, indicating that **funding** may be a challenge for these types of projects. Aurora's Bicycle and Pedestrian Plan provides an overview of federal, state, and local funding sources that may be useful for other municipalities. These funding sources are included in Chapter 3 of this report.

Twelve municipalities mentioned pedestrian infrastructure in their **municipal codes** and 11 mentioned pedestrian infrastructure in their **comprehensive plans**. Four municipalities had specific **commissions or committees** to support active transportation projects, and one was involved with the Bike and Pedestrian Task Force through the Chicago Metropolitan Agency for Planning (CMAP).

Two municipalities had conducted **studies about pedestrian infrastructure** separate from formal plans and policies. The City of Elgin, for example, conducted a study about sidewalk gaps and transit accessibility to improve pedestrian conditions. This study outlined various policy and programming recommendations for building and maintaining pedestrian infrastructure.

The information collected through the website scan was confirmed and expanded upon during the interview process, as described in the next section, and incorporated into a policy inventory.

INTERVIEWS

Following the initial website scan, the research team conducted phone interviews with 20 practitioners, including 15 planners or other representatives from the municipalities identified in Table 1, one CMAP representative, two county representatives, and two Illinois Department of Transportation (IDOT) representatives. The research team conducted these interviews to confirm and contextualize the website scan findings, identify additional relevant policies, understand the larger context in which these policies are created and implemented, and inform development of the wider planner survey in a later task. They developed an interview guide that included questions about existing pedestrian infrastructure; plans, programs, and policies relating to pedestrian infrastructure; developer regulations; funding sources; coordination and collaboration; prioritization of pedestrian projects; and barriers to the implementation of pedestrian projects. They tailored these toward different types of participants listed below. These interview guides are available in Appendix B. Key findings from this process are summarized by interviewee type (i.e., municipality, CMAP, county, IDOT) in the following sections.

Municipalities

Existing Infrastructure

Although many municipalities were originally built without sidewalks and have faced challenges retrofitting the pedestrian infrastructure, they reported having a complete sidewalk network with a

few gaps. Some of them, however, measure “success” by having a sidewalk on one side of the road rather than on both sides.

Most interviewees reported that there are sidewalks connected to Pace bus stops. However, some interviewees mentioned that these sidewalks do not connect to the larger pedestrian network, making it difficult for pedestrians to access Pace services. Because Pace bus stops are often located along county or state roads, municipalities often do not have jurisdiction to install sidewalks. In Downers Grove, for example, most Pace bus stops are connected to a sidewalk, except for those on Ogden Avenue—a state road over which Downers Grove has no jurisdiction.

Plans, Programs, and Policies

Most municipalities reported having a comprehensive plan, while some also had a small area plan, such as a downtown plan that focuses on walkability. Many also reported having specific bicycle and pedestrian plans. While most municipalities stated that their existing plans have been successful, three stated that their plans lack funding for implementation.

Most municipalities have dedicated funding for sidewalk maintenance that comes from the general fund and is allocated annually. Capital improvement plans guide annual maintenance spending. In most places, residents can submit complaints for areas they think need to be maintained, and many municipalities have 50/50 sidewalk replacement programs that allow homeowners to pay for 50% of the maintenance cost to expedite the process.

Development Regulation

Nearly all municipalities reported that their code requires developers to include sidewalks. Municipalities may waive this requirement under some circumstances for developers, but this generally requires special permission. Reasons for these waivers vary by municipality. Common reasons include geography (e.g., narrow roads or large grades), isolation from the existing road network, opposition from residents, industrial areas, plans for the road to be expanded or resurfaced within two years, or prohibitive costs. When these requirements are waived, most municipalities require that the developer pay a fee in lieu of the sidewalk.

Funding

Most municipalities stated that they use general funds to cover sidewalk capital improvements or maintenance. Municipalities can use their local share of the motor fuel tax fund for a variety of purposes and often use it for sidewalk or streetscape improvements. They can also use Safe Routes to School funding for sidewalks that are near schools.

Municipalities typically pursue federal or state grants to fund new sidewalk construction. To win these grants, municipalities generally need to roll their sidewalk improvements into larger roadway projects. For example, some interviewees reported using Community Development Block Grants (CDBG) as a funding source; although this source is not specific to transportation, municipalities may include pedestrian components in individual projects. Requiring developers to build sidewalks as part of their site plans reduces the cost to municipalities, because they will not have to build those sidewalks with their own money or pursue federal or state grants.

Collaboration and Coordination

Most municipalities coordinate with street improvement projects to install sidewalks or bring them up to code when roadways are expanded or resurfaced. Many municipalities have bicycle and pedestrian advisory committees. Common external partners include the Forest Preserve District, counties, IDOT, other municipalities, the Active Transportation Alliance, the Chicago Metropolitan Agency for Planning (CMAP), and park districts.

Prioritization

In most municipalities, planners and other decision-makers value pedestrian access, and pedestrian projects have gained importance in recent years. While interviewees commonly viewed safety as a reason why pedestrian projects are important, most municipalities do not explicitly recognize the importance of first-/last-mile connectivity for supporting transit ridership. Some interviewees were unfamiliar with this term. Others noted that even when staff members believe transit access is important, elected officials are unlikely to focus on access. A few municipalities with high transit ridership, however, viewed first-/last-mile connectivity as important.

Barriers

Most municipalities viewed funding as a major implementation barrier. Many also noted jurisdictional barriers specific to state and county roads, where the local municipality does not have the authority to install pedestrian infrastructure. Because these roads often have high traffic volumes, they are likely locations for Pace bus stops, which can make it challenging to connect these stops with the community's sidewalk network.

Some municipalities have faced resident opposition to sidewalks because they remove space from front lawns, or because residents do not want increased foot traffic close to their homes. Several municipalities also noted physical constraints associated with installing sidewalks, including geography, larger roads with infrequent intersections for crosswalks, and requirements for property acquisition. Interviewees noted that retrofitting older neighborhoods can be more challenging than building new neighborhoods where sidewalks are required. Finally, municipalities noted that competing investment priorities, lack of awareness among elected officials, and limited staff capacity were other barriers to implementing pedestrian projects.

Interviewees described success stories in overcoming these types of barriers. The first type of success story involves negotiating with property owners. Carol Stream negotiated with a single property owner who initially opposed new sidewalk construction. This property owner was concerned about losing yard space and having pedestrians too close to his house. In rural areas without curbs, sidewalk construction needs to be separated from the shoulder of the road. To address the property owner's concerns, the Village installed a curb along the road, allowing the sidewalk to be constructed closer to the road than would have been possible without the curb, taking less of the property owner's yard. In Elgin, the City negotiated successfully with property owners during the construction of a new road, working with their Bicycle and Pedestrian Advisory Committee to ensure that a sidewalk was installed on one side of the road and a 10 foot asphalt trail was installed on the other.

Successful partnerships with organizations have been helpful in other municipalities. In Joliet, the City worked closely with the Will County Forest Preserve District to help obtain grant funding for building pedestrian connections to the bridge over I-55 and the DuPage River, which connects pedestrian trails on each side. The Village of Schaumburg was able to partner with the Village of Rolling Meadows to complete a pedestrian connection beneath an interstate.

Another example includes clearly prioritizing pedestrian projects. In Downers Grove, the Village Council approved a prioritization matrix that identified and prioritized the most important sidewalk projects in the community. Because the Village Council seeks to make decisions that benefit the entire community, its prioritization process helped to justify these decisions and thereby stem resident opposition to individual pedestrian projects. Viewing sidewalks as a network has been helpful to guide sidewalk development in Glenview. The Village worked to identify east-west and north-south gaps in its sidewalk network. Connecting these gaps has helped to improve the pedestrian network's overall connectivity. Their next goal is to build more multimodal connections.

Interviewees also noted several novel ideas for overcoming implementation barriers. First, interviewees suggested that stronger regional partnerships and county leadership in the planning process would support pedestrian projects. Second, because many municipalities have similar downtown rehabilitation plans with pedestrian infrastructure components, some interviewees noted that it would make sense to coordinate the work they are doing to reach their goals. Third, one planner mentioned that it is important to remember that planners created the plans but need to implement them through political structures; thus, being able to talk to leaders in other communities or to other organizations can be very helpful. Finally, another interviewee mentioned the need to provide better bus stop visibility to elevate the status of transit corridors. This could help efforts to promote and prioritize transit and to encourage pedestrian connections to transit.

Chicago Metropolitan Agency for Planning

Policies

As the regional planning organization for northeastern Illinois, CMAP assists with planning in the seven counties and 284 municipalities in this region, distributes federal funds, and develops regional goals and priorities. CMAP has developed the regional comprehensive plan "ON TO 2050," which calls for biking, walking, and transit improvements as well as guides planning priorities for jurisdictions in the region. CMAP views pedestrian and transit goals as closely aligned.

Work with Local Communities

CMAP works directly with jurisdictions through the Local Technical Assistance Program. This program often involves developing comprehensive plans or bicycle/pedestrian plans. CMAP works with the Council of Mayors to recommend policies and programs to be addressed in subregional plans. It also partners with forest preserve districts, school districts, the Chicago Transit Authority (CTA), the Regional Transportation Authority (RTA), the Active Transportation Alliance, Ride Illinois, and trail and running groups. CMAP sometimes hires and manages consultants to work on these projects.

Funding

CMAP distributes a variety of funds, including funds from the Congestion Mitigation and Air Quality (CMAQ) Program, the Transportation Alternatives Program (TAP), and the Surface Transportation Program. TAP funds are generally used for regional greenways, trails, and bicycle/pedestrian projects. Most funds come directly from IDOT, but CMAP also pursues other grants, which may come from sources like Housing and Urban Development and Chicago community trusts. Distribution criteria vary by source but are often based on the number of people or jobs that the project will affect.

It is difficult to determine the exact amount spent on pedestrian projects, because these projects are often included as part of larger transportation projects. Grantees, for example, can use CMAQ funding for intersection or interchange improvements that include both roadway construction and sidewalk construction, and these expenses may not be differentiated in their reporting. In the Village of Schaumburg, the Village used CMAQ funding to replace an existing intersection at Plum Grove Road with a roundabout and build a shared-use path and sidewalk. The project reporting, however, included total construction costs and did not differentiate between sidewalk and roundabout construction. According to this interview, the Fixing America's Surface Transportation (FAST) Act has not had a large impact on the transportation funding that CMAP receives for the region.

Prioritization and Barriers

CMAP leaders and staff place a high priority on pedestrian projects. However, the communities within this region vary significantly, and in some places, infrastructure was built to support motor vehicles only. It is challenging to create efficient and functional walking and biking infrastructure in auto-centric areas. CMAP does not own infrastructure and does not control land uses. Its work, therefore, often involves establishing relationships and building coalitions. Success stories include education programs, providing expert advice to local jurisdictions, and reaching out to diverse stakeholders to overcome barriers.

Counties (Cook and Kane)

Policies and Work with Local Communities

Cook County makes it a point to add or improve pedestrian infrastructure as a routine part of road improvement projects. They recognize that suburban communities are frequently less pedestrian-friendly than Chicago, and that county roads are often the largest roads in these places. They believe that the Forest Preserve trail network should be considered when dealing with first-/last-mile access because these connections are important for pedestrians. Cook County coordinates with other entities, including private businesses and the Cook County Forest Preserve, where pedestrian accommodations have been uncommon. They also work with local municipalities, the Council of Mayors, the Active Transportation Alliance, and townships, sometimes functioning as a manager for projects when municipalities do not have adequate capacity.

In Kane County, municipalities may have their own long-range transportation plans, which have historically focused on roadways and highways. Bicycle and pedestrian plans are less common among Kane County municipalities, and the County considers the existence of these plans in some municipalities to be a success. Kane County helps local municipalities apply for federal grants through

technical support and planning assistance. The County is also involved with a variety of public and private partnerships to encourage pedestrian planning, including partnerships with Pace, Ride in Kane (an on-demand transportation service for the elderly and persons with disabilities), and developers.

Funding

Funding for pedestrian infrastructure in Cook and Kane Counties is typically project-based, rather than coming from a dedicated funding stream. Most funding comes from federal sources. In Cook County, the largest funding source for pedestrian projects is the county's share of the state motor fuel tax. Cook County used to divert motor fuel tax funding to other areas of government but has stopped doing this and now has more money in the transportation budget. The Invest in Cook Program, which Cook County funds, provided approximately \$8.5 million in 2019 for transportation projects in the county's municipalities; these projects may have included pedestrian improvements. CMAQ is another source of federal funding that Cook County has used in the past. These sources are not pedestrian-specific but have been used to implement projects with pedestrian components.

Kane County leverages federal funding sources for pedestrian projects, including CMAQ, TAP, Illinois Transportation Enhancement Program (ITEP), and Safe Routes to School (SRTS) funding. CMAP distributes Surface Transportation Program funding to the county, which then distributes these funds to specific projects. Philanthropic funding sources have been used in the past, although this is an uncommon funding source. Kane County uses a specific methodology to distribute funds so that this process is not biased; this method applies to any roadway project. In this methodology, pedestrian and bicycle components will earn more points for a roadway project.

Prioritization

Cook County views Complete Streets as an important part of its projects. Over the past several years, Cook County has broadened its transportation planning efforts to include many modes, rather than focusing primarily on major roads. First-/last-mile access issues and access to train stations has become more important with this change. However, in some suburban communities, local officials do not prioritize pedestrian concerns because they see their communities as driving-oriented suburbs.

In Kane County, pedestrian needs do not tend to rank highly compared with other needs. First-/last-mile access issues are often not a concern to leaders and staff. They assume that most commuters use Metra and drive to their stations. Pedestrian projects, therefore, are generally implemented for safety reasons rather than for connections to transit.

Barriers

Compared with Chicago, Cook County's suburban communities are less likely to have sidewalks that connect to create a larger network, even if sidewalks are on main streets. Places like suburban shopping malls and residential subdivisions were not originally designed with pedestrians in mind. Having a sidewalk on a major road next to these places does not mean that a pedestrian can access the building. Coordination with business owners can help, but this is one of the bigger challenges that Cook County faces, because installing individual sidewalks does not necessarily contribute to an overall pedestrian network. Leaders in Cook County also typically find it difficult to prioritize pedestrian infrastructure given a lack of pedestrian activity during the winter and on rainy days.

Although Kane County helps municipalities apply for federal grants through technical and planning assistance, county planners have found it challenging to motivate municipalities to work on pedestrian projects. It tends to be difficult for suburban areas to win funding because grantors view projects in urban areas as having a larger impact. It can also be hard to convince leaders that pedestrian spending is more important than widening roads. The interviewee suggested that educating the public on why pedestrian accommodations are necessary and training residents to interact safely with pedestrians on roadways could help elevate the status of pedestrian safety.

Illinois Department of Transportation

Working with Local Communities

Most pedestrian projects that IDOT completes are not strictly pedestrian projects, but rather are larger roadway projects that include pedestrian infrastructure and/or upgrades. For these projects, IDOT has a cost-sharing policy in which it will cover 80% of construction costs and the municipality will cover the remaining 20% and will agree to manage and pay for ongoing maintenance. IDOT's *Bureau of Design and Environment Manual* covers pedestrian infrastructure and cost-sharing in Chapters 5 and 17.

While cost-sharing agreements are relatively simple and easy to administer, IDOT often waives bicycle and pedestrian infrastructure in projects mainly because a municipality rejects the 20% cost-sharing and maintenance agreement. Most often, a municipality has insufficient funds or believes its sidewalk network is sufficient. When a municipality rejects the 20% cost-sharing agreement, IDOT does not build the sidewalk but leaves a footprint for it. This footprint includes land acquisition and grading, so that the municipality may complete the sidewalk in the future at its own expense.

IDOT also administers the Illinois Transportation Enhancement Program and the Safe Routes to Schools Program, both of which can be used for pedestrian infrastructure improvements. There has been significant interest in these programs, and IDOT typically receives six to eight times more funding requests than the agency is able to fund. IDOT has a formal technical support program in this program area and also provides some local assistance. IDOT representatives participate in advisory meetings and committees and inform localities about the State of Illinois' requirements or abilities for bicycle planning. The Bureau of Local Roads provides local education and has a technical assistance program, with two classes that are related to pedestrian infrastructure: ADA access and transition plans. IDOT also reviews local agency plans for pedestrian accommodations using motor fuel tax funds.

Funding

Table 2 lists common funding sources that IDOT administers. According to IDOT, the FAST Act has not led to significant changes in funding from MAP-21, although MAP-21 changed how quickly funding must be used. Federal funds now lapse after three years with time extensions possible and a hard cap of 10 years. IDOT believes that this change will cause projects to be built faster and more efficiently.

Table 2. Funding Sources Administered by IDOT

Funding Sources	Total Funding	Pedestrian-Specific Funding
Illinois Transportation Enhancement Program (ITEP) (2018 cycle) *	\$35 million	\$20 million
Safe Routes to School (SRTS) (2019 cycle) *	\$5 million	Not tracked
Congestion Mitigation and Air Quality (CMAQ)	N/A	Not tracked
Motor Fuel Tax	\$588 million	Not tracked

*ITEP and SRTS are on alternating two-year cycles. For example, ITEP was available in 2016 and 2018, but not 2017 and 2019. SRTS was available 2017 and 2019, but not 2016 and 2018.

There is no state-specific funding for pedestrian improvements, and while the motor fuel tax can be used for pedestrian projects, it can also be used for other roadway projects. IDOT uses state funds to pay for in-house staff, while it uses federal funds for construction and other project costs. IDOT representatives recommended two federal funding sources that could potentially be used for pedestrian accommodations: the Highway Safety Improvement Program and the National Highway Traffic Safety Administration Section 405 National Priority Safety Program. While these sources focus on highway safety, there are ways in which funds can be used for other projects that promote safety.

Prioritization

According to interviewees, IDOT has historically prioritized automobile planning. In the past 10 years, the agency culture has changed to include more multimodal concerns. However, pedestrian projects are still not generally pursued on their own, but rather are completed when they are part of a larger roadway improvement project. While IDOT has a Complete Streets policy, pedestrian improvements are generally only included in projects for which there are concerns about safety or ADA accessibility, because there are specific funding sources dedicated to these types of improvements. Interviewees noted that securing funding for additional Complete Streets work has been challenging due to political constraints and a general lack of robust funding sources for pedestrian projects.

Barriers

IDOT representatives stated that lack of interest in pedestrian accommodations from municipalities is a common barrier. While some municipalities request accommodations, others are unable or unwilling to pay the 20% match and commit to ongoing maintenance. Among those that request pedestrian improvements as part of a larger project, some request improvements that IDOT views as irrelevant to the project at hand and thus ineligible for inclusion. IDOT, for instance, tends to fund pedestrian projects that improve safety, rather than funding projects that promote a broader pedestrian network. The motor fuel tax is not growing, thus also making it hard to fund new projects.

Changing the culture at IDOT has been a recent success story. IDOT representatives state that the culture has shifted from a car-centric to a multimodal system. They have also had success with education programs for localities interested in applying for IDOT grants, which have helped municipalities understand how grant programs work and what types of documentation are needed.

IDOT has also improved ITEP application requirements. In the next application cycle, applicants will need to complete preliminary engineering before submitting an application. There are many project issues that arise in the preliminary engineering phase, so this new requirement will help to ensure that applicants have serious project proposals. Finally, IDOT interviewees suggested that pedestrian

projects are more likely to be completed when local champions support them, suggesting a role for municipal planners in guiding pedestrian projects through the state planning process.

PLANNER SURVEY

Based on the findings of the website scan and planner interviews, the research team conducted an online survey to reach a wider audience of representatives from the remaining municipalities in the Pace service area. This survey sought to expand the preliminary policy inventory and to more fully understand the context and barriers associated with developing pedestrian infrastructure in the region. The survey collected a variety of information about existing pedestrian infrastructure; plans, programs, and policies relating to pedestrian infrastructure; funding sources; coordination and collaboration; prioritization; and implementation barriers.

The survey was conducted online and sent via email to 277 mayors or village presidents in the region. The research team requested that these contacts forward the survey to the appropriate staff and received 100 responses between March and May of 2019, yielding a 36% response rate. Responses were received from 94 unique municipalities. Most respondents were engineers (34) or planners (27) at the municipal level. The team also received responses from elected officials (19), appointed officials (25), and community development staff (21). The survey text can be found in Appendix C.

Existing Infrastructure

Most respondents reported that their sidewalk network has good coverage and has sidewalks near Pace stops. While 57% of respondents agree that there are sidewalks near Pace stops, 23% of respondents said that this is not true in their municipality; 24% of respondents said there are not crosswalks near Pace stops, and 12% said there are no pedestrian crossing signals near Pace stops (Figure 1). Twenty-seven percent reported that sidewalks are not well lit near Pace stops.

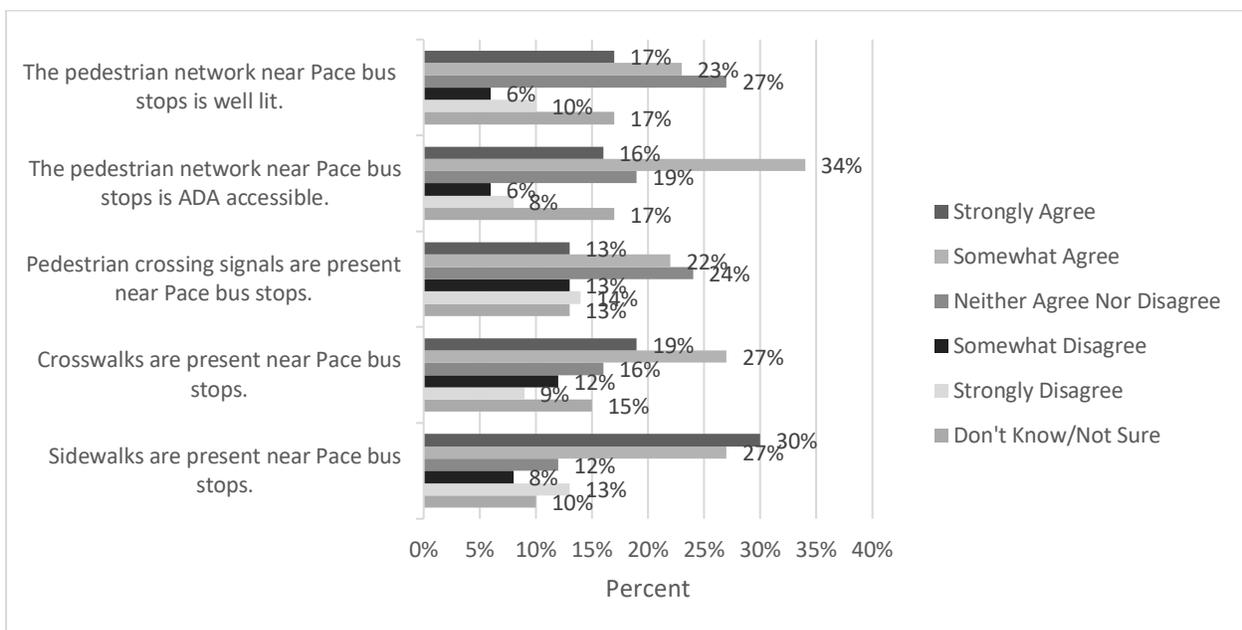


Figure 1. Chart. Responses to sidewalk questions about connections to Pace.

Plans, Policies, and Programs

Comprehensive plans were the most common type of plan that respondents ranked as “very important.” While 53% of respondents marked Complete Streets policies as important or very important, 28% of respondents indicated that they do not have a Complete Streets policy in place (Figure 2). Thirty-six percent of respondents marked developer fee-in-lieu of programs as important, but 40% of respondents do not have this type of program.

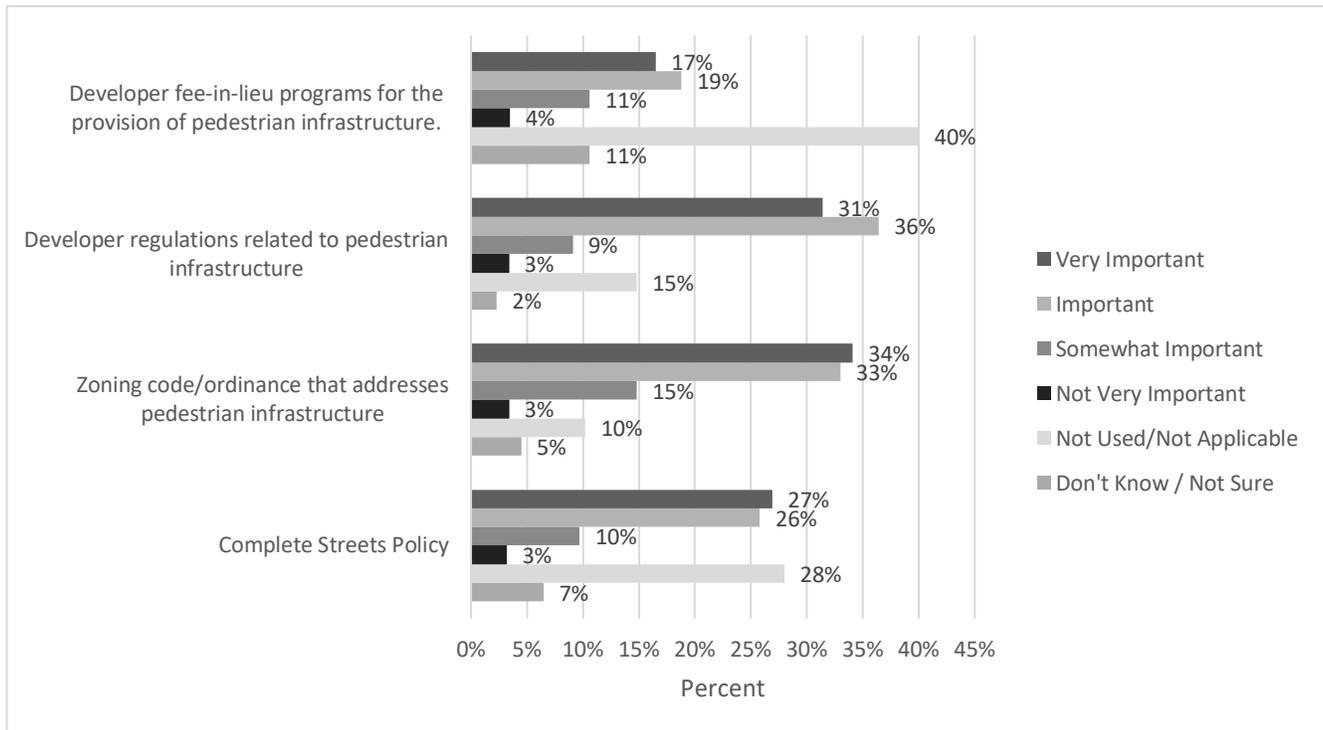


Figure 2. Chart. Responses to “Please indicate how important the following policies are to your community’s pedestrian planning process.”

Funding Sources

Respondents most likely “always” or “very often” (27%) used Surface Transportation Block Grant (STBG) Program funds and commonly used Community Development Block Grant (CDBG) funds. Of state sources, respondents overwhelmingly used the Illinois motor fuel tax, with 28% of respondents reporting that they “always” used this source. Of local sources, respondents most commonly used general funds and capital improvement funds.

Partnerships and Prioritization

Regarding collaboration, respondents were most likely to partner with other municipalities (62%), park districts (58%), CMAP (58%), and transit agencies (51%) to implement pedestrian infrastructure projects. Forty-eight percent of respondents rated pedestrian infrastructure planning as important, and 34% rated it as very important in their community. Safety was the most common reason that pedestrian infrastructure planning is important, with mobility, health, and access to transit following. Most respondents said that pedestrian infrastructure planning was given “medium priority” in the

planning process. Fifty-seven percent of respondents thought that leaders think first-/last-mile pedestrian access is important to promoting transit, but 18.5% of respondents were not sure.

Barriers

Funding and competing priorities were the top two barriers (Figure 3). Developer views and political will were least likely to be cited as barriers. Characteristics of the existing road network and property acquisition were considered the most important practical barriers.

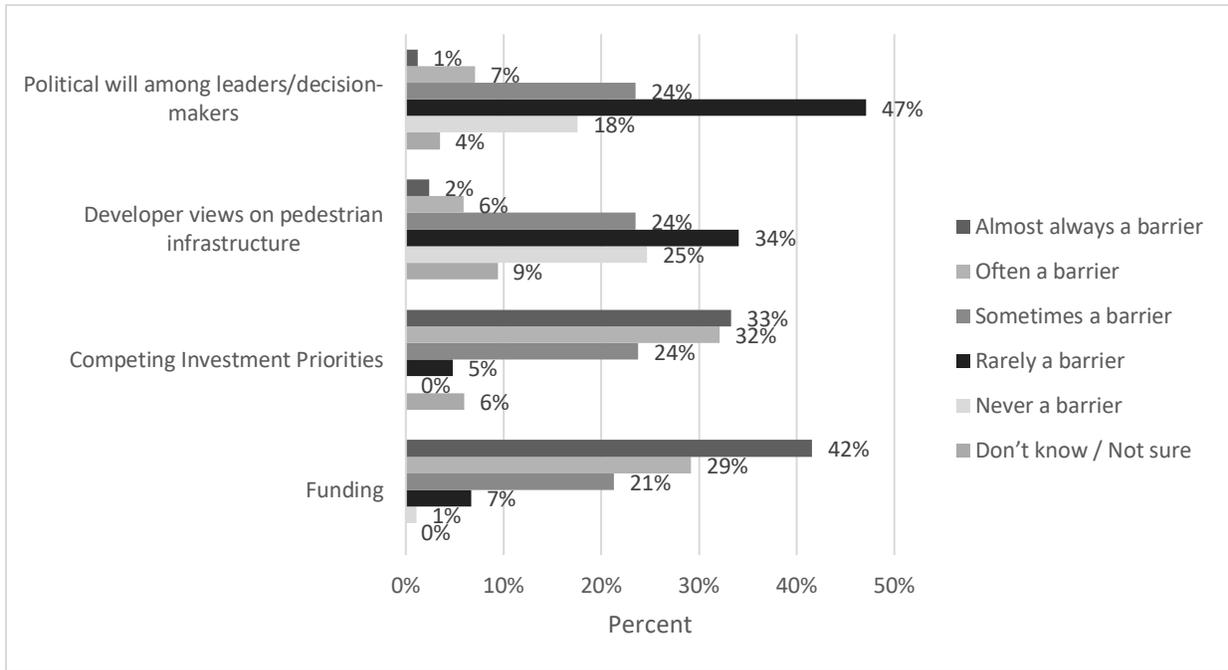


Figure 3. Chart. Responses to “To what extent are the following institutional or procedural factors barriers to your community’s pedestrian planning process?”

KEY TAKEAWAYS

The website scan, interviews, and survey resulted in an inventory of existing plans, policies, and programs related to pedestrian access to transit in the region, and thereby provided a stronger understanding of the context in which pedestrian infrastructure decisions are made.

Many municipalities reported having a complete sidewalk network with few gaps. Some, however, measure “success” by having a sidewalk on one side of the road rather than on both sides. Many communities were originally built without sidewalks, and retrofitting is a challenge. While 57% of survey respondents agree that there are sidewalks near Pace stops, 23% of respondents said that this is not true in their municipality. Even when Pace bus stops are located along a sidewalk, however, the sidewalk may not connect to the larger pedestrian infrastructure network.

Agencies in the Pace service area use a variety of plans, programs, and policies to support pedestrian infrastructure development. The most common type of municipal policy is a comprehensive plan that includes multimodal investments and strategies. Additionally, nearly all municipalities reported that

their code requires developers to include sidewalks. Some communities have 50/50 sidewalk replacement programs that allow a property owner to expedite sidewalk maintenance if they pay 50% of the cost. While 53% of survey respondents marked Complete Streets policies as important or very important, 28% of respondents indicated that they do not have a Complete Streets policy in place. Cook County, however, makes a point to add and/or improve pedestrian infrastructure as a routine part of road improvement projects.

Municipalities in the region use a variety of funding sources for pedestrian projects. Most municipalities have dedicated funding for sidewalk maintenance. Safe Routes to School, Community Development Block Grants, Surface Transportation Block Grant funds, and motor fuel tax funds were also frequently cited as sources used for pedestrian infrastructure projects. Cook County's Invest in Cook Program provided \$8.5 million in 2019 for transportation projects.

Most pedestrian infrastructure projects that IDOT completes are not strictly pedestrian infrastructure projects but larger roadway projects that include bicycle and pedestrian infrastructure components. For these projects, IDOT has a cost-sharing policy in which it covers 80% of construction costs, while the municipality covers the remaining 20% and agrees to manage and pay for ongoing maintenance. IDOT also administers the Illinois Transportation Enhancement Program, Safe Routes to School, Congestion Mitigation and Air Quality, and motor fuel tax funds, all of which can be used for projects that include pedestrian infrastructure components.

Many strategies identified in this process involve collaboration. Most municipalities coordinate with street improvement projects to install sidewalks or bring sidewalks up to code when roadways are expanded or resurfaced. Survey respondents were most likely to partner with other municipalities (62%), park districts (58%), CMAP (58%), and transit agencies (51%) to implement pedestrian infrastructure projects. Common external partners include the Forest Preserve District, counties, IDOT, other municipal jurisdictions, the Active Transportation Alliance, CMAP, and park districts.

In most municipalities, planners and other decision-makers value and prioritize pedestrian access. Forty-eight percent of survey respondents rated pedestrian infrastructure planning as important and 34% rated it as very important in their community. Many interviewees noted that the importance of pedestrian infrastructure projects has increased in recent years. For example, although IDOT has historically prioritized automobile planning, the culture has changed within the past 10 years to include more multimodal concerns. Safety was commonly stated as a reason why pedestrian infrastructure projects are viewed as important. While most communities do not explicitly recognize the importance of first-/last-mile connectivity to transit, it was viewed as important in a few municipalities with high transit ridership.

Limited funding, competing investment priorities, and lack of awareness among elected officials were noted as key barriers to implementing pedestrian infrastructure projects. Additionally, suburban communities are less likely to have sidewalks that connect to create a larger network even if sidewalks are present on main streets, and the 20% match for IDOT projects remains a barrier for municipalities. Suggestions for overcoming various implementation barriers include stronger regional partnerships and county leadership. Success stories include positive coordination with property owners and partnerships with outside organizations.

CHAPTER 3: FUNDING CONTEXT

OVERVIEW

As a complement to the policy review, the research team identified federal, state, regional, and local funding sources for pedestrian projects. They reviewed pedestrian funding sources that municipalities in the Pace service area currently use and identified underused funding sources that could be more fully leveraged. They achieved this by reviewing published resources (e.g., agency reports, journal articles) about pedestrian funding and analyzing funding information collected from municipalities during the interviews and surveys described in Chapter 2. The present chapter summarizes the results of this process and identifies key takeaways.

The federal funding sources discussed in this report reflect the changes that the Fixing America's Surface Transportation (FAST) Act in 2015 brought. Although the state funding sources focus primarily on Illinois, this section also presents examples of dedicated pedestrian funding sources in other states. Overall, the findings suggest that pedestrian projects do not likely receive federal or state grants on their own but are generally more successful when incorporated into larger roadway projects. However, a variety of programs at the federal, state, and regional levels focus on active transportation needs.

Given the administrative structure of transportation finance in the United States, many sources are funded by one level of government (e.g., federal, state) but are administered by a lower level of government (e.g., state, regional). The federal government, for example, funds the Congestion Mitigation and Air Quality Improvement (CMAQ) Program, but the Chicago Metropolitan Agency for Planning (CMAP) administers it in the Chicago region. Given this complexity, the research team has organized the funding sources in this report according to which level of government a municipality would apply to for a particular fund (e.g., CMAQ is listed under regional funding sources because CMAP administers it). This structure should reduce the funding landscape's complexity while maximizing this section's usefulness for municipalities seeking pedestrian funding.

FUNDING SOURCES BY LEVEL OF ADMINISTRATION

Federal Sources

The US Department of Transportation (DOT) authorizes six main transportation funding programs that can be used for pedestrian infrastructure. These programs fall into two categories: (1) programs that the federal government directly administers (BUILD, INFRA, TIFIA) and (2) programs that state or regional agencies administer (STBG, HSIP, CMAQ).

Table 3 summarizes the eligibility requirements and funding levels for the three federally administered programs, which are described in greater detail below. Municipalities may apply directly to the federal government for funding from these programs. The remaining three programs are presented in later sections according to the level of government (e.g., state, regional) to which municipalities may apply for funding. Also listed in later sections are non-transportation sources that

other federal agencies (e.g., US Department of Housing and Urban Development) provide for state or regional agencies to administer. Below and throughout this section, the term “access enhancements” is used to describe improvements, such as benches, bus pads, sidewalks, and crosswalks.

Table 3. Funding Sources Administered at the Federal Level

Program	Agency	Eligible Modes / Infrastructure	Eligible Pedestrian Projects	Amount
Better Utilizing Investments to Leverage Development (BUILD)	US Department of Transportation	Road, rail, transit, port	Access enhancements	In 2018, \$1.5 billion to 91 projects
Infrastructure for Rebuilding America (INFRA)	US Department of Transportation	Highway, bridge	Must be part of a larger project	In 2018, \$1.5 billion to 26 projects
Transportation Infrastructure Finance and Innovation Act (TIFIA)	US Department of Transportation	Highway, transit, railroad, freight, port	Must be part of a larger project	In 2018, \$1.8 billion to 3 projects
State Planning and Research Program (SP&R)	US Department of Transportation	Highway, transit, railroad, freight	Research, development and technology transfer activities related to pedestrian projects	In 2018, \$204.2 million

Source: FHWA, n.d.-a

Better Utilizing Investments to Leverage Development

Formerly known as the TIGER grant program, the Better Utilizing Investments to Leverage Development (BUILD) Program supports road, rail, transit, and port infrastructure projects across the country. BUILD grants can be used for access enhancements to public transportation and may be used to construct new infrastructure or retrofit older infrastructure. In 2018, the US DOT distributed a total of \$1.5 billion in discretionary grant funding to 91 projects in 49 states and the District of Columbia. Fifty-nine percent of the applications were for rural projects and 62 projects were awarded to rural grant applications.

Infrastructure for Rebuilding America

The Infrastructure for Rebuilding America (INFRA) Program provides dedicated, discretionary funding for projects that address critical issues facing the nation’s highways and bridges. While access enhancements are among the eligible projects, they are generally not competitive unless they are part of a larger project. In 2018, the US DOT granted a total of \$1.5 billion in INFRA grants to 26 projects in 23 states; among these, six were small awards of less than \$25 million and 20 were large awards of \$25 million to \$184 million. The US DOT awarded at least 25% of INFRA grant funding to rural projects.

Transportation Infrastructure Finance and Innovation Act

The US DOT provides credit assistance through the Transportation Infrastructure Finance and Innovation Act (TIFIA) for large-scale projects that generate revenue from user charges such as tolls, taxes, or other fees. These projects must cost at least \$50 million for regular projects and \$15 million

for transit-oriented development projects. Eligible projects include highway, transit, railroad, intermodal freight, and port access projects. Entities must classify pedestrian projects as access enhancements under larger projects to be eligible for TIFIA assistance. In 2018, the US DOT distributed a total of \$1.8 billion through this program to the following three projects: interstate toll lane expansion along I-66 in Virginia, train control technology and supporting infrastructure for the Massachusetts Bay Transportation Authority, and highway construction along I-70 in Colorado.

FHWA Planning and Research Funds

The US DOT administers the State Planning and Research (SP&R) Program, which provides funding to states for conducting transportation planning and research activities. To access funding, the state DOT must develop a management plan and have it certified by the FHWA Division Administrator. This funding source is not specific to pedestrian infrastructure but can be used to fund pedestrian projects. In 2018, the US DOT distributed a total of \$204.2 million through this program.

State Sources

Illinois

While the Illinois state legislature does not allocate dedicated pedestrian funding, a variety of state agencies distribute federal and state funds that can be used for pedestrian infrastructure. Table 4 summarizes these sources. Most of these grants are competitive and require some percentage of local match. Programs that the federal government at least partially fund are marked with an asterisk (*). Each program is explained in more detail below.

Highway Safety Improvement Program*

IDOT's Bureau of Safety Engineering administers the Highway Safety Improvement Program (HSIP), which is designed to significantly reduce traffic fatalities on public roads. Any governmental entity or nonprofit may apply, and federal money will cover up to 90% of project costs. Eligible projects include bicycle lanes, paved shoulders, highway intersection improvements, crosswalks, signal improvement, curb cuts, and safety education and awareness programs.

Illinois Transportation Enhancement Program*

IDOT's Bureau of Programming administers the Illinois Transportation Enhancement Program (ITEP) to promote and develop nonmotorized transportation options and streetscape beautification. It requires a 20% local match, but any governmental entity may apply. Eligible projects include bicycle and pedestrian facilities, streetscapes, and conversion of abandoned railroad corridors to trails. Pedestrian lighting, landscaping, and crossings are not eligible as stand-alone projects but can be included as part of other roadway projects.

Recreational Trails Program

The Illinois Department of Natural Resources administers the Recreational Trails Program (RTP), which seeks to develop and maintain recreational trails and facilities for both motorized and nonmotorized users. Federal money will cover up to 80% of the total project cost, and any

governmental entity or nonprofit may apply. Eligible projects include trails, intersection improvements if they connect to a trail, trailheads, educational materials, and training.

Safe Routes to School Program

IDOT's Bureau of Safety Engineering administers the Safe Routes to School Program (SRTS), which is designed to enable children to walk and bike safely to school through education programs and improvements to the local active transportation network. Local governments may apply, and a 20% local match is required. Eligible projects include bicycle and pedestrian facilities, safety education programs, and encouragement incentives. Funding can only be used in areas that are within two miles of an elementary or middle school.

Unified Work Program

The Unified Work Program (UWP) provides funding to CMAP, with metropolitan planning funds from FHWA and the Federal Transit Administration (FTA), in addition to state and local sources to support transportation planning projects in northeastern Illinois. The UWP funds are allocated for contractual services and operating activities, and can be applied to pedestrian projects. In 2018, the UWP provided total funding of \$21.7 million to 12 projects in the region.

Section 402 State and Community Highway Safety Grant Program

IDOT's Bureau of Safety Engineering offers the Section 402 State and Community Highway Safety grant program for government agencies or nonprofits to create safety programs that aim to reduce traffic crashes. No local match is required. Eligible projects include enforcement campaigns to improve bicycle and pedestrian safety, helmet promotion, educational materials, and driver training.

Open Space Lands Acquisition and Development Grant

The Illinois Department of Natural Resources provides Open Space Lands Acquisition and Development grants to local government agencies for acquisition or development of land for public parks and open space. The local match is typically 50% (10% for distressed communities). Eligible projects include development or renovation of park roads and paths.

Table 4. Funding Sources Administered at the State Level

Program	Administered by	Local Match	Eligible Projects	Who Can Apply	Funding Amount
Highway Safety Improvement (HSIP)*	IDOT Bureau of Safety Engineering	10%	Bicycle lanes, crosswalks, education programs	Any governmental entity or nonprofit	n/a
Illinois Transportation Enhancement (ITEP)*	IDOT Bureau of Programming	20% for most; 50% for right-of-way and easement acquisition	Bicycle/ pedestrian facilities, education programs	Any governmental entity	Total \$35.6 million in 2018. No more than \$2 million per project
Recreational Trails Program (RTP)	Illinois Department of Natural Resources	Typically 20%, some 50%	Trails, educational materials	Any governmental entity or nonprofit	\$1.5 million in 2019. Max development grant amount of \$200,000.
Safe Routes to School (SRTS)	IDOT Bureau of Safety Engineering	20%	Bicycle/ pedestrian facilities, education programs	Local governments	Total \$5 million in 2019
Unified Work Program (UWP)	CMAP	20%	Contractual services and operating activities	Local governments and regional agencies	Total \$21.7 million in 2018
Section 402 State and Community Highway Safety	IDOT Bureau of Safety Engineering	Not required	Safety and education programs	Any governmental entity or nonprofit	n/a
Open Space Lands Acquisition and Development Grant	Illinois Department of Natural Resources	Typically 50%; 10% for distressed communities	Park roads and paths	Local governments	\$29 million in FY 2019. Max. \$750,000 for land acquisition, \$400,000 for construction

Source: Active Transportation Alliance, n.d.

Other States

While Illinois does not have a dedicated funding source for pedestrian projects, some states in the United States have dedicated state revenue sources used to fund pedestrian projects (Advocacy Advance, 2014b). Table 5 lists several of these states and their associated programs. These programs suggest that state legislators have an important role to play in promoting dedicated state funds for pedestrian projects. Several of these programs are summarized below.

Table 5. Other State Funding Programs

State	Program	Funding Source	Yearly Funding
California	California Active Transportation Program (ATP)	State gas tax, vehicle registration fees, bond proceeds, public-private partnership, general fund	\$100 million in 2019
Colorado	Funding Advancements for Surface Transportation and Economic Recovery	State gas tax, vehicle registration fees, gambling, lottery revenue	\$2.7 million in 2013
Delaware	State Administered Bike and Pedestrian Improvements Program	CMAQ Fund, state funding	\$20.7 million in 2016
Iowa	State Recreational Trails Program	Iowa DOT's budget	\$1.3 million in 2019
Louisiana	Share the Road plates	Share the Road license plates	\$20,000
Maine	Maine Partnership Initiative	State highway funds, which require a 50% local match	\$800,000 (10% of the total \$8 million)
Maryland	Transportation Trust Fund	Motor fuel taxes, motor vehicle fees, other state taxes	\$7.4 million
Massachusetts	Transportation Bill (2012)	State bonding bill	\$16.4 million
Michigan	Law requires at least 1% of state transportation funds to be spent on nonmotorized travel	Fuel excise taxes, vehicle registration fees, federal aid	1% of state transportation funds
Nevada	Voluntary Complete Streets Fund	Donation during vehicle registration renewal	\$200,000
New Jersey	Transportation Trust Fund	State gas tax	\$5.5 million
North Carolina	Highway Fund & Highway Trust Fund	Highway Fund & Highway Trust Fund	\$800,000 & \$1,250,000
Ohio	Clean Ohio Trail Fund	Natureworks bonds	\$1.1 million in 2018
Oregon	Urban Trail Fund	Lottery revenue	\$8.3 million
Tennessee	Multimodal Access Fund	State gas tax revenue	\$30 million for 2014–2016
Vermont	Bike and Pedestrian Facilities Program	Vermont Transportation Program (2014)	\$8.9 million
Washington	Transportation LEAP Documents	Washington State DOT	\$19 million for 2013/2015
Wisconsin	Bicycle and Pedestrian Facilities Program	State budget	\$1 million per year

Source: Advocacy Advance, 2014b

In **Ohio**, the Clean Ohio Trails Fund supports trails and outdoor recreation. While its primary purpose is to support the statewide trail plan, the fund also seeks to provide commuter access links in urban areas (Clean Ohio Fund, n.d.). These grants require at least a 25% local match. In 2018, 41 projects received a total of \$1.1 million from this fund. Total project costs were \$9.7 million. These projects included trail construction, multi-use path construction, and resurfacing projects. While most projects connect residents to recreational space, one project involved a path that provided access to five public schools. **Wisconsin** had the Bicycle and Pedestrian Facilities Program, which lasted until 2014. It discontinued this program given changes under MAP-21 legislation. Wisconsin now funds bicycle and pedestrian infrastructure through Transportation Alternatives funding. In 2014, this program funded projects including a bicycle and pedestrian bridge, riverwalks, and bicycle and pedestrian plans. In **Michigan**, state law requires that 1% of the state transportation budget must be spent on

nonmotorized travel. This funding can be spent on constructing bicycle and pedestrian facilities as well as training and education about nonmotorized travel modes. In **Iowa**, the State Recreational Trails Program provides dedicated bicycle and pedestrian funding that focuses on trail construction and connectivity. Iowa has distributed up to \$6 million, with \$1.3 million allocated in 2019. In 2018, it awarded \$3 million across a total of 10 projects under this program.

Regional Sources

Regional agencies administer several funding sources that are summarized in Table 6. Most of these grants are competitive and require some percentage of local match. Programs that the federal government at least partially funds are marked with an asterisk (*). Each program is explained below.

Table 6. Regional Administration of Federal Funds

Program	Administered by	Match	Eligible Projects	Who Can Apply	Amount
Access to Transit	RTA; uses 80% CMAQ funds, 20% RTA & local funds	0%–10%	Primarily bicycle improvements; may also fund bus shelters	Municipalities and counties	Varies
Community Development Block Grants (CDBG)*	Counties	None required	Sidewalk and street improvements	Municipalities	Cook: \$10 million in 2018
Community Planning	RTA	n/a	Access to transit improvement plans, neighborhood mobility plans, corridor studies, transit-oriented development plans	Municipalities, counties, townships, councils of government, RTA service boards	n/a
Congestion Mitigation and Air Quality Improvement (CMAQ) Program*	CMAP	20%	Bike/ped facilities in non-attainment regions	Local or state agencies	n/a
Local Technical Assistance Program	CMAP	5%–20%	Bike/ped plans	Municipalities, nonprofit organizations	n/a
Surface Transportation Block Grant (STBG) Program *	CMAP, Council of Mayors	20%–30%	Bike/ped facilities	Municipalities	\$128 million in 2017
Transportation Alternatives (TA Set-Aside within STBG Program) *	CMAP	20%	Bike/ped facilities	Municipalities	\$13.5 million in 2019

Access to Transit Program

RTA provides funding for small-scale capital projects that improve pedestrian and bicycle access to the regional transit system under the Access to Transit Program. The match requirement for this program ranges from 0% to 10% based on community need. RTA funds the remainder of the match required to use CMAQ funds. Eligible projects are primarily bicycle infrastructure projects, but may also include warming shelters and bus shelters. Projects should be based on recommendations from a Community Planning study that RTA conducted or a Local Technical Assistance study that the Chicago

Metropolitan Agency for Planning (CMAP) conducted. Eligible applicants include municipalities and counties that have completed, or are in the process of completing, a planning or implementation project through either the Community Planning or Local Technical Assistance Program.

Community Development Block Grant Program

The US Department of Housing and Urban Development administers Community Development Block Grant (CDBG) funds to county governments. Local governments may use these funds for community development projects in low- and moderate-income communities. Although this program is not specific to transportation, eligible projects may include pedestrian infrastructure. No local match is required. Eligible projects include infrastructure such as streets and curbs; public facilities such as parks, playgrounds, and facilities for persons with special needs; and demolition activities.

Community Planning from RTA

This program funds access to transit improvement plans, mobility plans, corridor studies, and transit-oriented development plans. Municipalities, counties, townships, councils of government / municipal associations, and RTA service boards in the six-county RTA service area may apply. In 21 years, RTA has funded 200 projects with over \$21 million.

Congestion Mitigation and Air Quality Improvement Program

CMAP administers the Congestion Mitigation and Air Quality Improvement (CMAQ) Program to improve air quality and reduce traffic congestion in areas that do not meet air quality standards. Local or state government agencies may apply, and federal money will cover up to 80% of project costs. Eligible projects include bicycle and pedestrian facilities, safety education programs, encouragement incentives, active transportation plans, bicycle and pedestrian maps, and bicycle or pedestrian coordinator positions. At the federal level, the FAST Act has provided \$2.3 to \$2.5 billion per year in CMAQ funding for 2016 through 2020.

Local Technical Assistance Program

CMAP provides the Local Technical Assistance Program to help communities in the Chicago region undertake planning projects, which advance the principles of ON TO 2050, the region's long-range transportation plan. Local governments and nonprofit organizations may apply, and the local match ranges from 5%–20%, depending on the project. A variety of projects are eligible, including bicycle and pedestrian plans, multimodal transportation plans, and multimodal corridor plans.

Surface Transportation Block Grant Program

The Surface Transportation Block Grant Program (STBG) is administered throughout Illinois by the five transportation management areas (TMAs) and the sixteen MPOs in Illinois. In Chicago's six-county region, it is administered by regional Councils of Mayors. This program funds state and local transportation projects that include bicycle and pedestrian facilities. The local match is 20%–30% for bicycle and pedestrian projects, and local governments in Cook County may apply. Road projects that include sidewalks receive additional points.

Transportation Alternatives (TA Set-Aside within STBG Program)

This program is administered throughout Illinois by the five TMAs. CMAP administers these funds in Chicago's six-county region. These programs support nonmotorized transportation modes and require a 20% local match. The Transportation Alternative Set-Aside within the Surface Transportation Block Grant program includes on- and off-street pedestrian and bicycle facilities, recreational trails, and access enhancements. Local governments may apply. In CMAP's region, eligible projects include those that help to complete the Regional Greenways and Trails Plan.

Local Sources

In addition to the federal, state, and regional sources listed above, most municipalities use resources from their own general funds or capital improvement budgets to build and maintain sidewalks. Municipalities generally have capital improvement plans or other types of plans that guide this spending. Developers are usually required to build sidewalks as part of their projects, although some municipalities have in-lieu fee programs to which developers must contribute if they do not build sidewalks; the resulting funds are then made available to the municipality for future sidewalk construction. Some municipalities also have programs that allow residents to pay part of the cost of fixing a sidewalk to expedite their repairs. During the interview process summarized in Chapter 2, many municipalities mentioned that their local funds do not adequately cover the needs of their sidewalk network maintenance.

While local funding sources beyond CMAP or county grants are rare and limited, it is possible to create partnerships to increase funding sources. Several municipalities partner with the Forest Preserve District to expand the local trail network, which may include the local sidewalk network.

USE OF FUNDS BY MUNICIPALITIES IN THE PACE SERVICE AREA

The planner survey summarized in Chapter 2 provided more information about funding sources that municipalities in the Pace service area most frequently use. Among programs that the federal government authorized, respondents typically "always" or "very often" (27%) used Surface Transportation Block Grant funds. They also commonly used Community Development Block Grant and Congestion Mitigation and Air Quality Improvement funds.

The planner surveys also provided information about state sources that municipalities most often used. Municipalities were most likely to report using the Illinois motor fuel tax, with 28% of respondents reporting that they "always" used this source. Among local sources, municipalities most commonly used general funds and capital improvement funds. Underused sources may include RTA and county grants, with only 5% and 6% of respondents, respectively, stating that they "always" or "very often" used these grants. Only 10% of planners also stated that their municipalities "always" or "very often" used resident contribution programs, indicating that this could be a growth area in the pedestrian funding landscape.

KEY TAKEAWAYS

A variety of sources at the federal, state, regional, and local levels can be used to fund pedestrian projects, and some of these grants are focused explicitly on rural and suburban areas. However, many of these programs can be used for other types of transportation projects, meaning that pedestrian projects must compete with other modes for scarce funding. Pedestrian projects are seldom funded on their own and must generally be part of a larger project to be competitive (or even eligible) for federal or state funding. Municipalities can coordinate with IDOT when state roadwork is done and add a sidewalk with a 20% local match and maintenance agreement.

Illinois may be able to learn from other states like California and Colorado, which set aside a significant amount of funding dedicated to pedestrian projects. While advocacy for these statewide changes may be beneficial, this would represent a long-term change that will be difficult given Illinois' recent budget crisis. However, the J.B. Pritzker administration's transportation capital bill, which passed in June 2019, includes \$50 million for a bicycle/pedestrian fund (Whitehead, 2019). IDOT shall distribute these funds through its Illinois Transportation Enhancement Program.

Because most pedestrian infrastructure projects, even locally, are part of larger roadway projects, a potentially promising strategy would be to develop and enact Complete Streets requirements in suburban municipalities and counties. This would facilitate routine accommodation of pedestrian improvements in as many roadway projects as possible. Strengthening local pedestrian planning initiatives could also help make the case that pedestrian infrastructure belongs in larger roadway projects. In the interviews described in Chapter 2, IDOT representatives mentioned that it is easier to include pedestrian and bicycle infrastructure when it is in accordance with local plans and policies. Strengthening local plans and policies could therefore make it easier to make the case to the State of Illinois that sidewalks and other pedestrian infrastructure should be included in roadway projects.

CHAPTER 4: ACCESS AND IMPLEMENTATION BARRIERS

OVERVIEW

Following the reviews of policies and funding sources, the research team conducted interviews with Pace and other key community stakeholders to better understand barriers to implementing pedestrian infrastructure, and to identify potential solutions for overcoming these barriers. The research team conducted 13 interviews with 17 participants representing six different stakeholder groups. This report summarizes the key findings from those interviews. While members of all stakeholder groups believed that pedestrian infrastructure is important overall, they noted key barriers related to funding, transportation priorities, and jurisdictional issues with the county and the State of Illinois. Participants’ ideas for overcoming these barriers included strengthening relationships with county and state engineers and representatives and considering pedestrian and transit needs at the beginning of a project instead of an add-on amenity when a project ends. The research team also led a student workshop, in which participants conducted both physical, field audits and virtual audits of pedestrian infrastructure in six municipalities in the Pace service area. Workshop participants observed complete pedestrian environments in several audited locations, but on the whole many areas suffered from poor sidewalk connectivity, incomplete crossings, a lack of lighting, ADA accessibility deficiencies, and unimproved bus stop areas.

METHODS

The research team selected interviewees from six different stakeholder groups, including Pace staff, developers, consultants, ADA advocates, transportation advocates, and the business community. Interviewers followed a structured interview guide that included questions about existing infrastructure, barriers to pedestrian access, and community attitudes and opinions about pedestrian infrastructure. The research team tailored interview questions for each stakeholder group, and the interview guide can be found in Appendix D of this report. Table 7 lists the number of interviewees and participants for each stakeholder type. The three interviews with Pace staff included representatives from planning and engineering, community relations, and signs and shelters. The Technical Review Panel suggested the other participants based on their knowledge of local communities and stakeholders. Apart from the interviews, the research team convened a student workshop to document physical barriers to pedestrian access in six municipalities in the Pace service area.

Table 7. Interview Summary

Stakeholder Group	Number of Interviews	Number of Participants
Pace staff	3	7
Developers	3	3
Consultants	2	2
ADA advocates	2	2
Transportation advocates	2	2
Business community	1	1
Total	13	17

This chapter is organized around the major topics addressed in the interviews: existing infrastructure, community priorities and policies, and barriers. The discussion of barriers includes institutional, physical, and community and cultural barriers, as well as ideas and success stories for overcoming barriers. The section on physical barriers also contains a summary of the student workshop report.

EXISTING INFRASTRUCTURE

Most respondents affirmed that suburban areas close to the urban core (inner-ring suburbs) have strong pedestrian connectivity, farther away suburbs are more automobile-centric, and rural areas have little to no pedestrian infrastructure. Inner-ring suburbs generally have Metra stations or a historic downtown that has good pedestrian infrastructure. However, communities that were built later are more likely to have arterials or cul-de-sacs that are dangerous and inconvenient for pedestrians. Participants also noted that even where pedestrian infrastructure exists, it is often discontinuous. While arterials may have sidewalks, they are unlikely to have meaningful connections to other places and tend to lack midblock crossings, making it difficult for pedestrians to access destinations. Although developers prioritize pedestrian and transit access, they often focus on trains and do not prioritize bus access.

COMMUNITY PRIORITIES AND POLICIES

Respondents stated that community leaders generally desire to be pedestrian-friendly, are supportive of Pace, and seek to promote safety in their communities. These leaders broadly recognize that younger generations expect walkability and that a community needs to have walkability to attract this new generation. Furthermore, a study completed by the National Association of Realtors in 2017 found that Millennials are more likely to favor walkable neighborhoods with sidewalks, short commutes, and public transit nearby than their Baby Boomer counterparts. There is also a rise in Gen X-ers choosing walkable neighborhoods and short commutes as well.

Most communities have pedestrian policies in place; however, they do not consistently apply them. For example, IDOT has encouraged communities to enact Complete Streets policies, but implementation is a challenge, especially given the costs associated with building additional infrastructure. Communities may also have active transportation plans to address pedestrian accessibility, but implementation may pose a financial challenge. Master plans, standards, and guidelines may also address pedestrian infrastructure. Some communities have specific transit-oriented development plans, although these often focus on areas around transit stations and do not necessarily improve connectivity elsewhere.

Many communities have strong requirements for developers, such as building sidewalks on the site, regulating sidewalk widths, ensuring safe access to the site, and extending sidewalks to connect with other destinations, depending on the local context. Communities can generally identify problem spots like major arterials, difficult crossings, or lack of connecting sidewalks. Advocates of people with disabilities, however, believe that communities are unaware of ADA-related issues and reported that they needed to be the “squeaky wheel” to effect change.

Communities generally have mechanisms in place to invite general feedback, such as public reporting of problem areas; input for specific plans such as the comprehensive plan, area plans, or corridor studies; public comments at municipal board meetings; and social media comments. However, communities are unlikely to seek feedback on pedestrian-related issues specifically.

BARRIERS

Interviewees were asked to comment on the most important barriers to addressing pedestrian connectivity to transit. The responses are summarized in this section and organized into subsections on (a) institutional barriers, (b) physical barriers, and (c) community and cultural barriers. Interviewees were also asked to reflect on ideas for overcoming barriers and discuss specific “success stories” they had experienced, which are summarized at the end of this chapter.

Institutional Barriers

Funding

Across the board, the cost of pedestrian infrastructure is a barrier for communities. While there may be funding for transportation projects, most communities spend this funding on infrastructure for automobiles, rather than pedestrians. Many interests and services also compete for local funds. Sidewalks often get sidelined, and the costs of retrofitting neighborhoods built without sidewalks can be prohibitively high. Expensive ongoing maintenance can further deter communities from building sidewalks in the first place.

Jurisdictional and Coordination Issues

Pace serves 284 municipalities across six different counties, creating notable challenges for community coordination. Because Pace only has one full-time engineer dedicated to roadway and development reviews, it cannot meet the needs of all communities. Furthermore, different jurisdictions often have their own regulations. Although Pace has prepared guidelines for developers to consider transit services before they build, they are unenforceable because Pace lacks land-use planning authority. It also does not have input into local zoning codes, which are the source of relevant regulations such as parking restrictions.

Pace also frequently cited coordination with IDOT as a barrier. Adding pedestrian infrastructure to a state road is only possible when the roadway is being redesigned and includes a 20% cost-share agreement that is prohibitive to many communities. IDOT is rather cautious when approving pedestrian infrastructure such as midblock crossings. Furthermore, transportation advocates who often work directly with communities mentioned that communication with IDOT is often problematic. For example, IDOT might contact someone who is not the correct point of contact, and that person might not pass the message to the correct person, so communities sometimes miss out on opportunities for pedestrian infrastructure.

One disability advocate expressed frustration about jurisdictional issues, noting that both parties tend to avoid responsibility at intersections where a local street and a state street meet. This advocate believed that the state is often not interested, even when communities would like upgrades.

Development Procedures

Pace has found that transit access is often an afterthought in commercial development. A large retailer, for example, may realize that demand for transit exists only after constructing a new site; if the retailer did not incorporate sidewalks or transit supports in the initial development, adding this infrastructure afterward is expensive. Moreover, even when new developments are required to have sidewalks, these often come in the form of “token” sidewalks that do not connect with the larger pedestrian network. One respondent gave an example of a developer that built a sidewalk along a parking lot on their site but did not include a way for pedestrians to get to the front of the building.

While developers tend to value pedestrian connectivity, they do not attach as much value to bus infrastructure or bus stops. All three developers interviewed during this phase of the research said that they do not often work with bus stops or intentionally connect infrastructure to bus stops. They each stated that their target tenants are unlikely to ride the bus but will likely ride the train or drive to employment in other suburban locations. Developers did not support including bus infrastructure in their projects, because they do not view bus stops as important amenities for their target tenants.

ADA Challenges

According to interviewees, many communities have not complied with ADA requirements to create transition plans for appropriate ramps and curbs. One transportation advocate suggested one reason why: communities that identify ADA needs in a plan could face legal repercussions if the needs are not met. They suspect that this fear prevents communities from creating plans that would address ADA needs, because they do not wish to open themselves up to liability.

Disability advocates spoke about needing community leadership to recognize and balance different needs for different people. The principle of universal design means that while ensuring people with disabilities—those who may have vision impairments or mobility concerns—have safe ways to get around, accessible infrastructure also benefits people with less prominent mobility challenges, such as older adults or those without a driver’s license. Disability advocates described the process of including ADA-compliant infrastructure as an uphill battle that happens within each community, project, and specific location, with no coordinated effort to ensure that disability needs are met.

Physical Barriers

Suburban land uses create barriers to walkability that are less prevalent in higher-density areas. Suburban developments are often set far back from the road, with parking in between the road and the destination, which makes walking to destinations difficult. Instead, there should be a designated path from the bus stop to the business’ front door. In addition, bus stops on major arterials are often not protected sufficiently from traffic and are not connected to a sidewalk network—access is disjointed. Physical constraints on roads, such as infrastructure that was built up to the road or limited public right-of-way, leave minimal room for sidewalks or bus stops in many locations.

Workshop Report on Physical Barriers in the Pace Service Area

The Pace service area includes multiple types of urban form—from central city Chicago to traditional suburbs to old rail towns to sparse exurban areas—and has a variety of infrastructure conditions that

may facilitate or inhibit pedestrian access to transit. To document existing pedestrian conditions, the research team led a workshop in which students conducted infrastructure audits in six communities in the Pace service area: Aurora, Crystal Lake, Harvey, Joliet, Skokie, and Waukegan. Communities were selected to reflect the region's diversity in geography and socioeconomic composition. Findings from the audits were initially designed to be the basis for a community mapping exercise in which residents would validate the team's observations, suggest additional examples of both good and poor pedestrian conditions, and identify areas for improvement. However, the COVID-19 pandemic prevented gathering in person, and findings were instead shared during individual interviews.

Workshop students conducted two types of audits: physical, field audits and virtual, remote audits. For the field audits, the team selected three routes to observe, totaling about two miles, in each municipality. Audit routes were selected to encompass different land uses and availability of sidewalks, as documented by the regional sidewalk inventory that CMAP maintains. The team developed a standard observation form to guide the audits, adapted from forms published by FHWA and traffic safety organizations. Observers gathered qualitative data on the availability, continuity, and design of sidewalks; ADA accessibility features; crossings and signals; transit areas; and perceptions of safety. The team later supplemented the real-world observations with virtual audits to obtain a larger sample for quantitative analysis. Sites were selected to fill in gaps with respect to the types of locations visited during the physical audits (by sidewalk coverage or land use type) or to virtually revisit sites that students were unable to attend during the field visits. Virtual audits followed the same procedures as the field audits using Google Street View images to observe characteristics. Given that images are not continuously uploaded to Google Street View, it is possible that some observations recorded outdated characteristics at some of the virtual audit sites. Spot checks with physically visited sites suggested this was not a significant concern.

As an additional exercise, workshop students reviewed municipal codes and funding sources for each municipality to understand potential opportunities and structural barriers to improving pedestrian infrastructure. Those findings are not summarized here but contribute to the policy recommendations in Chapter 7. Students also created a quantitative index, weighting different characteristics of the pedestrian environment, which serves as an example for comparing existing infrastructure conditions across audit sites. The full workshop report can be found in Appendix E.

Findings

Pedestrian infrastructure availability, design, and quality greatly varied across the communities that were audited. Downtown areas of all six municipalities generally had the most robust pedestrian networks: sidewalks were wide and continuous, crosswalks were marked, pedestrian signals were present, and curb ramps were usually ADA accessible. These networks did not always extend to areas directly outside the business district, however. In Crystal Lake, for example, crossings immediately outside the downtown retail area were not ADA compliant, while in Harvey, several pedestrian signals were nonfunctional, and sidewalks were passable but in poor repair. Other retail-heavy areas were not as consistently pedestrian friendly. For example, Waukegan's Grand Avenue consisted of mostly strip commercial land uses. Sidewalks were wide on both sides of the road but crossed many driveways; they were also buffered from traffic, but the audit team felt as if traffic was moving above the 35 mph speed limit.

Common issues across all municipalities along at least one audited pedestrian route included insufficient separation between pedestrians and vehicular traffic, poorly maintained or nonexistent sidewalks along streets, worn and unlabeled pedestrian crossings, and inadequate or nonexistent transit waiting areas. Some areas were qualitatively better pedestrian environments, including near the McHenry County Community College in Crystal Lake, where the pedestrian infrastructure included a dedicated separate wide sidewalk (trail) that was shared with bicycles, and most areas in Skokie, where pedestrian infrastructure was present and properly labeled and protected. Other areas, such as Harvey and Waukegan, were documented to have pedestrian infrastructure issues such as inadequately labeled crossings, no sidewalks present, or improperly sheltered transit waiting areas along almost the full length of all routes that were audited. It is important to note that near certain institutions in underperforming communities, there were pockets of high-quality pedestrian infrastructure, such as near the Ingalls Memorial Hospital in Harvey, as well as near the Glenwood Elementary School in Waukegan.

In the quantitative analysis, the audit team rated each of the municipalities according to characteristics of sidewalks, crossings, and transit areas along the physically and virtually audited routes. The sidewalk score was a weighted sum of presence and continuity of sidewalks, permanent or temporary obstructions, lighting, and separation from traffic by a buffer. The crossing score was a weighted sum of the presence of crosswalk markings, lighted crossings, curb extensions, pedestrian islands, ADA accessible features, and visibility to drivers. The transit area score was a weighted sum of the availability of bus stop amenities and ADA accessibility. The weights were chosen qualitatively to provide an initial example; a robust weighting scheme would be validated by local knowledge and across a greater number of municipalities. According to the analysis, Skokie had the highest sidewalk score while Waukegan had the lowest; Crystal Lake had the highest crossing score while Harvey had the lowest, and Harvey had the highest transit area score while Crystal Lake had the lowest (Figure 4). The scores generally agree with the qualitative observations made during the field audits.

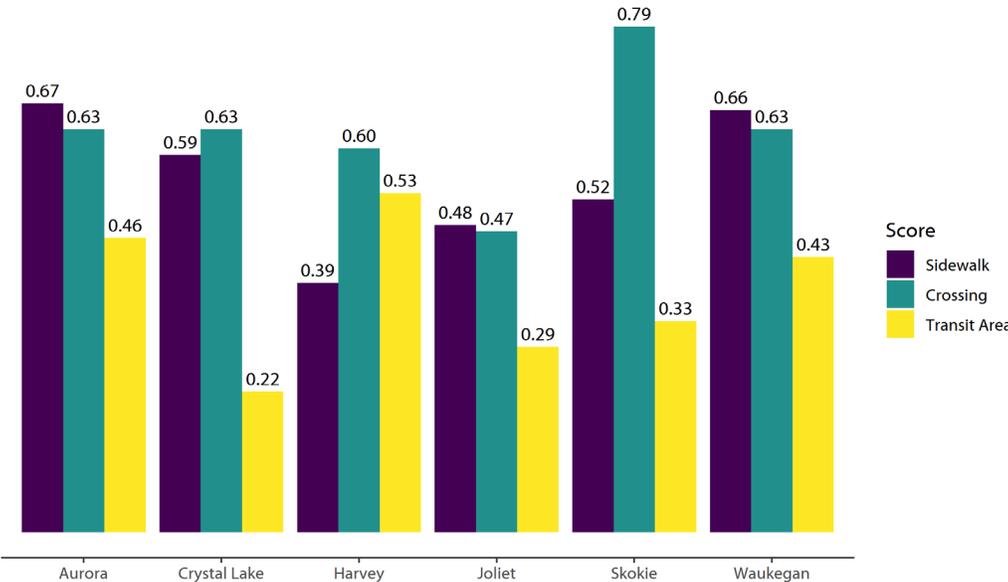


Figure 4. Chart. Weighted score of sidewalk, crossing, and transit area characteristics.

Community and Cultural Barriers

Staffing

Many municipalities, especially smaller ones, struggle with appropriate staffing. Staff turnover can lead to information being lost in the transition from one employee to the next, and often requires community relationships to be continually rebuilt. Because smaller municipalities often lack the capacity and professional expertise needed for pedestrian infrastructure planning, they may outsource public works staff to consulting firms that may be unaware of the local context or available grant sources. Hiring outside experts is generally more costly as well.

Cultural Expectations

Local residents are often accustomed to driving and are less likely to support other travel modes. They may not value Pace bus stops as important to their community, because they often assume that Pace is for people who do not have cars, and thus is of no use to them. One respondent mentioned that residents and businesses can also have very different goals for the community, which makes planning difficult. This respondent noted that businesses sometimes value pedestrian connectivity more than residents do, which is a challenge in older neighborhoods where retrofitting sidewalks can be costly. Residents would like to continue driving to destinations, while businesses feel the pressure of recruiting Millennials who are less likely to choose to drive to work.

Finally, while municipalities may have mechanisms to receive feedback from residents, they tend to be reactive rather than proactive. They would rather respond to complaints than look at the successes and struggles of the community at large, build a narrative from that information, and take initiatives to support larger change.

Transportation Policy and Expectations

Transportation advocates discussed the difficulty of incorporating pedestrian facilities into the existing transportation system. The status quo in transportation planning and policy, which is largely automobile-centric, does not tend to value pedestrian access as part of the transportation network outside of major cities. This challenge is relevant at both the local and regional levels. While CMAP's ON TO 2050 long-range transportation plan describes goals to make transit more competitive, and supports walkable neighborhoods, one advocate felt that the plan lacks clear pedestrian priorities and performance measures. Furthermore, traffic impact analyses and other transportation studies tend to focus exclusively on automobiles and do not address pedestrian and transit needs, even though new development produces new demand for sidewalks and transit access.

Ideas for Overcoming Barriers

Next, interviewees were asked to provide ideas for actions that could help overcome the barriers they experienced when facilitating pedestrian access to transit. As described in the sections that follow, interviewees offered ideas related to funding, policy, coordination and collaboration, physical infrastructure, and cultural attitudes.

Funding

Naturally, an increase in dedicated funding from state and federal sources would help address funding constraints. In 2019, the 101st Illinois General Assembly concluded the year's session with the passing of the *Rebuild Illinois Capital Bill* and action on several ON TO 2050 recommendations. This included new ongoing funding for transit capital and an emphasis on multimodal projects such as bicycle and pedestrian facilities. However, even with the allocated funds, there are still gaps to address in several infrastructure needs (CMAP, 2019). Interviewees also mentioned that communities need more education about existing funding sources, and often need help pursuing grant funding.

A transportation advocate mentioned that Illinois recently passed the *Rebuild Illinois Capital Bill* on June 28, 2019, and doubled the gas tax on July 1, 2019. Communities will therefore receive more money than they have in the past, which is important because funding is a critical barrier to implementing pedestrian infrastructure. However, the advocate also noted that there is already significant transportation funding available. They said that funding tends to go towards automobile infrastructure instead of sidewalks, even though sidewalks are significantly less expensive than roads. The challenge is to ensure that some of this increased funding goes toward pedestrian infrastructure.

Policy

Interviewees also had ideas for policy changes that could help encourage better pedestrian infrastructure. They recommended that development projects use a pedestrian-first approach, considering pedestrian needs as an integral part of the conversation from the very beginning rather than as an afterthought. Most traffic engineers consider automobiles first, but design standards should be updated so that pedestrians are considered in all designs. Traffic impact studies should include pedestrian and transit needs, and transportation studies should be required to be multimodal rather than just focusing on automobiles.

ADA advocates suggested strengthening state and local requirements to ensure pedestrian infrastructure is made ADA accessible whenever it is updated. These requirements should address key infrastructure components that include new curb ramps, truncated domes on corners, and accessible crossing features at intersections. ADA advocates also believe that sidewalks must be installed any time that work is performed on a street. They stated that being the "squeaky wheel" is sometimes the most effective strategy for encouraging communities to make accessibility changes.

Coordination

Transportation consultants and developers believed that while jurisdictional issues can cause problems, they are not insurmountable. To address these issues, consultants recommended making sure that everyone involved in a project comes to the table, including IDOT, pedestrian and bicycle advocacy groups, municipal representatives, and regional planning representatives. It is helpful for communities to have a plan to support and justify their requests when multiple jurisdictions are involved in the same project.

Strengthening coordination efforts with the Regional Transportation Authority (RTA), IDOT, other regional agencies, and other municipalities was frequently suggested as a strategy to support pedestrian infrastructure implementation. Coordination with RTA and other regional agencies can

help facilitate infrastructure improvements, especially in smaller communities where staff is more likely to be stretched thin. RTA's Access to Transit grants can help communities with funding constraints and help fill in missing connections. The American Planning Association and other organizations also have webinars that can help municipal staff learn new skills and access new tools. This can also help educate communities about what funding sources are available.

Having good relationships with county and IDOT engineers and having residents who care about pedestrian access is important. These partners and stakeholders can communicate issues and challenges and turn requests into campaigns and projects, which can help move the pedestrian conversation forward when it might otherwise be stagnant. Having prepared plans that address infrastructure needs helps communities plan ahead and communicate with outside agencies about their needs and goals.

Physical

To address physical barriers, one transportation advocate suggested viewing parking lots as land banking for the future. While Metra historically wanted parking lots near their stations, this approach reduces walkability and development potential. Parking lots have the potential to become sites for transit-oriented development.

One consultant suggested strengthening bicycle infrastructure, which can help with transit connectivity. Some Pace users solve the first-/last-mile problem with bicycles, so connecting transit with bicycle infrastructure can help these users. In general, it is helpful when a community already has an active bicycle advocacy coalition or a strong individual advocate for cycling improvements.

Cultural and Community

Resident awareness and activism can help encourage better pedestrian infrastructure. Bringing residents to the table early can help them understand that building sidewalks fulfills a larger community goal and can prevent later complaints about sidewalks in their front yards. Having residents champion improvements can help these ideas become reality. Walking audits, biking audits, and sidewalk inventories are a good way to begin the conversation in a community. Public education and outreach are crucial to addressing resident concerns. Telling the story of what benefits communities can unlock can help them understand available opportunities. It is one thing to improve walkability in the community, but accessing transit greatly increases opportunities for residents. Some representatives also believe that Millennials are choosing walkable suburbs, and suburbs are learning to remake themselves because of this.

Enhanced community awareness from residents can let local leaders know that the community values pedestrian improvements. For example, building coalitions within communities may be helpful because when a coalition approaches an elected official, the elected official will generally try to find a way to accommodate them. However, residents need advocacy tools to be able to do this. ADA advocates stressed that community leadership should have better knowledge and awareness of people who do not have driver's licenses, who have disabilities, or who are older. This population is larger than most people know, and community leaders should be aware that up to a quarter of residents are not able to drive.

Staff can also make a big difference in a community, and advocates stressed the importance of building relationships with community staff. Communities may also be more likely to listen to businesses demanding pedestrian infrastructure than they listen to Pace.

Success Stories

Finally, interviewees were asked to reflect on “success stories” as examples of the strategies they suggested. These success stories are described in the sections that follow, grouped by their relevance to municipal support, collaboration and coordination, development, resident support, and funding.

Municipal Support

Several communities have worked with Pace to improve pedestrian access. For example, the Village of Niles built additional pedestrian infrastructure and updated their zoning code, which now encourages pedestrian-oriented development along Pace’s new Pulse service station areas. Joliet realized that they needed sidewalks, and now requires new developments to build them. Furthermore, a consultant engineering firm helped connect Pace with the Village of Dolton, in which the Village assisted with permitting and coordination with private property owners. As a result, Pace was able to improve multiple bus shelters in the village.

Collaboration and Coordination

Pace attempts to work with municipalities and meet them where they are. In one example, a municipality had recently redone their main street and was concerned about the aesthetic look of Pace’s bus stop pole. Pace purchased a matching and more expensive pole for their bus stop sign to keep the community satisfied. Pace is reluctant to modify designs all the time because of the expense, but this serves as one example of Pace’s commitment to working with communities.

Development

For developers, one success story involved repurposing an auto-centric mall. The developer took down part of the mall to build new residential units. Within the remaining portion of the building, the developer will build a grocery store and entertainment venues. This development, which will lend itself to pedestrian circulation within the mall, is adjacent to an existing Metra station. Previous data showed that 98% of people using this Metra stop were driving and parking, so there was a clear opportunity for development near the station. The developer coordinated with Metra, who allowed them to build in the right-of-way, an unusual accession for Metra. There will be nine pedestrian paths that connect to the train station. Metra realizes the importance of bringing pedestrians to the stops, which adds ridership without the burden of providing additional parking. This is a potential opportunity for Pace, because connecting Pace with Metra stations is beneficial to both agencies.

Resident Support

Strong resident support has also led to successes in Bartlett and Palatine. In Bartlett, a resident advocate was instrumental in establishing a bicycle community. In Palatine, working with a local bicycle club helped a municipality implement some of the recommendations from a transit-oriented development study. In another example, a resident was successful in getting the municipality to install sidewalks on one side of the street where infrastructure was missing. The municipality had not

been aware of this gap in the system until the resident brought it to them, and they were willing to pay to install the rest of the sidewalk.

Two advocates of people with disabilities were successful in getting audible signals installed at intersections in Naperville and DuPage. They successfully became the “squeaky wheel” in their communities when they convinced traffic engineers that these signals do not require many additional resources. In another success story in Glen Ellyn, an advocate for people with disabilities convinced the city to purchase materials for truncated domes on street corners, which help people with visual impairments know that they are about to enter a street or parking area. The city originally wanted to purchase the cheapest option, but the advocate was able to convince them to choose a slightly more expensive but longer-lasting version.

Funding

RTA’s Access to Transit Program and the Illinois Safe Routes to School Program have been successfully used to fund pedestrian improvements. RTA’s Access to Transit grants can encourage pedestrian infrastructure, while the Illinois Safe Routes to School Program is designated for sidewalks near schools rather than transit. Safe Routes to School is one of the few funding sources available for building sidewalks, and the money can serve dual purposes. Furthermore, this program often does not require a local match, so it could reduce the funding barrier for communities.

Another success story occurred when a transportation advocate worked with the Cook County Bureau of Economic Development to revise a Community Development Block Grant program to include Complete Streets considerations. The Bureau recommended the model that DuPage County uses, in which communities can use the program to build sidewalks in areas that qualify for block grants with an amended process. This helped to create a new source of funding for sidewalk projects.

KEY TAKEAWAYS

Interview participants mostly talked about institutional barriers. Funding was consistently noted as a barrier, corresponding with the findings of other project tasks. This problem is twofold because there is a lack of dedicated pedestrian funding and a tendency for general transportation funding sources to be spent first on automobile infrastructure. Additional funding-related barriers include the high costs of retrofitting areas initially built without sidewalks, and the need for ongoing maintenance, the latter of which sometimes deters communities from building sidewalks in the first place.

Coordination with other agencies was typically listed as a barrier as well, although many success stories revolved around building successful partnerships. For Pace, the number of municipalities they work with and frequent staff turnover make coordination a significant challenge. Coordinating with IDOT was also frequently cited as a barrier, although the stakeholder groups interviewed in this process expressed different opinions about this challenge. Most developers and consultants thought that coordination with IDOT was just another process to undertake and were more likely to have existing relationships with IDOT staff. However, communication between municipalities and IDOT can sometimes get lost in the shuffle, especially if there has been staff turnover or if the wrong person is

initially contacted. Disability advocates in particular noted that state roads were less likely to receive accessible pedestrian upgrades.

Developers highly value pedestrian connectivity and access to train stations or dense downtowns. However, they are much less likely to see bus stops, bus access, or bus connections as important amenities. Developers also stated that working with communities to get projects approved can be difficult and that regulations are sometimes too rigid.

Meeting ADA standards has been a challenge for many municipalities. ADA advocates expressed that even simple infrastructure (e.g., audible crossing signals) are often not included in projects. They felt they needed to be the “squeaky wheel” in order to see any progress.

Physical barriers included suburban land uses, especially when destinations are far from each other, and when parking lots lie between the road and the destination. Midblock crossings are frequently missing from arterials with high traffic volumes, making it difficult for pedestrians to safely access destinations. Observations from the workshop physical audits echoed these findings. The participants noted intermittent sidewalks, a lack of buffers between sidewalks and fast-moving traffic along arterials, inadequate lighting, and unimproved bus stops disconnected from the pedestrian network. A few locations in downtown areas or near major institutions in the six audited municipalities were examples of good pedestrian environments, however. Cultural attitudes toward transportation were also frequently cited as problematic. Automobile infrastructure generally receives priority, and residents often do not consider pedestrian facilities to be part of the transportation system.

Interviewees suggested a variety of potential solutions to these barriers, most of which revolved around institutional shifts. Interviewees particularly recommended enhancing coordination and cross-agency relationships, providing education and training to local municipalities, and including pedestrian considerations at the beginning of projects. Success stories that illustrated these ideas usually featured strong relationships, either between agencies or with strong resident support. Advocates for people with disabilities shared their experiences with successfully advocating for their needs to town councils and other community decision-makers.

CHAPTER 5: RIDER PERSPECTIVES

OVERVIEW AND RESEARCH METHODS

The research team conducted phone interviews with Pace bus users from Aurora, Chicago Heights, Crystal Lake, Joliet, Skokie, and Waukegan to identify barriers to pedestrian access for bus riders. They recruited interviewees from the cities where they had conducted physical audits of pedestrian infrastructure in an earlier phase of the project. Focusing on cities that were examined earlier permitted the team to describe infrastructure conditions to participants during the interviews, allowing for corroboration of, qualifications of, and additions to the audit findings. Although Harvey was among the six cities audited, the team was unable to obtain any interview participants from the city. Harvey was therefore replaced with Chicago Heights on the recruitment list, another city in the south suburbs with a similar socioeconomic profile. (Please see Chapter 4 and Appendices E and F for more information about the infrastructure audits.)

The participants were recruited in two phases. In the first phase, interview participants were recruited with help from community organizations, such as churches, social service agencies, and neighborhood nonprofits; economic development corporations; and public agencies, such as parks departments and municipal governments. Organizations posted flyers in their public spaces and sent out information about the project to their members. In the second phase, staff posted flyers on Pace buses to recruit additional participants for cities with few interviewees. Eligible participants had to be adults over 18 years old who regularly rode Pace before the COVID-19 stay-at-home orders, which began in March 2020. Participants had to either live, work, or have a regular destination within the study city that they represented.

The number of participants varied by city. The team conducted interviews with 51 participants: 6 in Aurora, 12 in Chicago Heights, 4 in Crystal Lake, 9 in Joliet, 8 in Skokie, and 13 in Waukegan. Crystal Lake had the fewest participants because there are few fixed-route services in the city; most Crystal Lake Pace riders used door-to-door services and had less familiarity with pedestrian conditions compared to other interviewees. The research team did not record interviewees' personal characteristics, but ensured broad representation across the spectra of age, gender, employment status, race, and ethnicity. Most interviewees relied on Pace as their primary transportation mode.

The interviews were semi-structured, following an interview guide that contained questions related to barriers to transit access, positive and negative aspects of the pedestrian environment, and potential solutions to identified barriers. (See Appendix F for the interview guide.) Each interview lasted between 30 and 60 minutes, was recorded, and was later transcribed. After the interviews were completed, all members of the research team conducted a scan of the transcripts to generate an initial list of major themes for qualitative analysis. The list included six themes: walkability, sidewalk conditions, crossings, lighting, weather, and bus stops. Once the list of themes was generated, two members of the research team coded a sample of interviews line by line to establish intercoder reliability, ensuring that each independent analyst tagged interview data the same way. One research team member then independently coded the remaining interviews.

FINDINGS

Most interviewee concerns were related to walkability, sidewalk conditions, difficulty using transit during bad weather, and bus stops. Interviewees raised similar issues across the cities, except for a few problems specific to particular locations. The results of this analysis are described below, with interviewee comments highlighted in their own words. Direct quotes are attributed by city and interview number. We use the singular “they,” “their(s),” and “them” when referring to a participant whose gender is irrelevant to the discussion, as per American Psychological Association guidelines.

Walkability

Walkability included concerns related to general experiences while walking to and from Pace bus stops, including perceptions of personal safety and security, and was the most encompassing theme. Interviewees generally agreed that the cities in which bus riders lived and the paths they took were highly walkable. Nearly all participants reported that they generally felt safe while walking to and from their bus stops. Some characterized the “neighborhood situation” as contributing to positive feelings of personal security (Chicago Heights, 10), while others attributed a lack of traffic to their perceptions of being safe. Often, safer places were associated with open space or park areas. When asked why they liked walking, a Crystal Lake interviewee responded, “Oh, well it’s safe. It’s pleasant and everything, obviously the bike path is all a prairie. It’s very nice” (Crystal Lake, 1). An Aurora resident described several pleasant areas to walk in the city:

They’re beautiful neighborhoods with wonderful sidewalks that you could walk, and you could walk by Aurora University which is beautiful. We used to walk for blocks all back in there, down the street, Garfield, very safe, very nice sidewalks, next to a park. (Aurora, 3)

To be sure, not everyone lived in a safe, walkable neighborhood. A Joliet resident explained that different neighborhoods they had lived in had different safety characteristics, and they would take extra precautions walking in certain parts of the city for fear of violence. A few interviewees reported problems with loose or barking dogs that hindered walks and construction that impeded safe crossings.

A common issue almost all interviewees highlighted was their reluctance to walk or take the bus at night. Several noted that they planned their trips during the day because they did not feel safe walking during darkness. Some participants attributed this to the absence of streetlights, while some attributed this to the absence of lights specifically at bus stops. A Joliet resident remarked, “They got light poles and all but some of them are far away and at night you’ll hit some dark spots. That’s like a safety issue for me” (Joliet, 7).

Another common thread among interviewees were generally short distances between their homes or destinations and bus stops. Many reported walking just a few blocks to get to a stop; access routes were walkable even if there were brief obstacles. For these individuals, access to a bus stop was a highly valued convenience. One interviewee considered changing homes, but proximity to transit kept them in their current location:

To be honest with you, I'm pretty good because I wanted to move, but I'm so satisfied with being close by the terminal over there. So, so far, I don't have a complaint with the routes that I take. Other people may have complaints with different routes. The only complaints that I have is when I'm staying in Lynwood about to take the Pace and I had a long, long, long, very long walk to the bus stop. ... [But now] I'm close, I'm happy. (Chicago Heights, 2)

But as this individual also indicated, some people had to travel longer distances to get to the places they needed to go. In one instance, a respondent reported how the walking distance between the bus stop and a discount store caused a change in travel behavior:

Grand is rough going past Green Bay Road. Yeah, you could get hit by a car. Like I said, and the distance from where you need to go, they need to put another bus stop right there. They got it real distant. That's exhausting there. I go another route. I go to another store. I like to go to a Dollar Tree, but going down Grand is crazy. The distance of the bus stop before you get to another bus stop, it's almost a half a block to go right back to the Green Bay. (Waukegan, 9)

Very few interviewees reported not using certain routes because of high traffic volume at certain busy roads or pedestrian-vehicle interactions at intersections, though this varied by location. For example, a Chicago Heights resident believed that vehicles in their neighborhood were "very respectful of the speed limits" (Chicago Heights, 1), while a Crystal Lake resident complained to the city that there were "cars not even stopping at stop signs when there [were] pedestrians present; they [were] just rolling past the stop sign" (Crystal Lake, 3). However, busy streets made people feel unsafe while walking or waiting at bus stops.

Sidewalk Conditions

Sidewalk availability and quality played an important role in determining the routes that people chose to take to their bus stops and also impacted their decision of whether to even take public transit. People felt safe walking in places with well-maintained sidewalks. One participant remarked, "When the sidewalks are good and some of them have the shelters, you feel safer there. It's a good thing" (Joliet, 7). Many interviewees strategically planned trips around places where sidewalks were available and in good condition. Additionally, participants who had access to sidewalks in their neighborhoods described them as convenient, walkable, and accessible. But this varied by city and neighborhood; a lack of sidewalks was a prominent theme in Chicago Heights and parts of Joliet, but residents of Aurora and Skokie appeared to be more satisfied with sidewalk coverage. In Skokie, for example, one resident thought the city generally kept sidewalks in good shape:

Old Orchard Road, which is the street just north of the mall...there are few sidewalks along that street. So if I have business to transact anywhere on that street, I have to walk in the street or in the grass. That seldom occurs, but that's the only place of note that I've had difficulty walking. But everywhere that I've gone to in Skokie...with the exception of Old Orchard Road, I've had no issue with sidewalks....As a matter of fact, the village seems to have gone to a great effort to make the sidewalks at intersections ADA accessible, which makes life easier for me. (Skokie, 8)

The unavailability or inaccessibility of sidewalks deterred interviewees from using Pace in certain areas. A participant from Crystal Lake described the reason why she would not be comfortable with her child taking Pace in a particular area in town: “He could walk out of [a recreation facility] and walk to a Pace bus but again, he has to walk where there’s no sidewalks and it’s a busy road with no sidewalk on the busy road. So I just said I’d rather pay the Uber than risk [him] being on that busy street” (Crystal Lake, 1).

A common observation that participants from all cities reported was the lack of sidewalks, especially in residential areas. The need for more sidewalks was one of the most recurring recommendations across all cities. Many participants reported the poor condition of sidewalks, lack of maintenance, and old and crumbling sidewalks in various parts of the city. The old sidewalks pose problems especially when it rains or snows because it becomes difficult to walk. The lack of sidewalks near Pace stops was problematic for some interviewees. One interviewee discussed how that made waiting for a bus uncomfortable:

I wish every stop had a shelter, but a couple of stops are only like the sign on the pole and there’s really no sidewalk, so pretty much anywhere you stand, so in the summertime you’re standing in the grass, in the wintertime and spring before the grass you’re standing in the mud. There’s a few stops like that actually. (Chicago Heights, 1)

Another reported a similar situation in Joliet, acknowledging differences across the city:

The [neighborhood] I’m currently in [in West Joliet] is walkable. It has sidewalks and the bus stop is pretty near, and it’s easy to cross the streets, but in my previous neighborhood, in East Joliet, it wasn’t [the] case. The bus stop used to be in areas, the grass was never cut and the snow was never plowed, so you had to stand either in really tall grass or really deep snow. There wasn’t a sidewalk, so you had to walk on the side of the street to get through it. So that one wasn’t as walkable, but the one I’m in now is more walkable. (Joliet, 2)

Some participants reported that they felt unsafe while walking on sidewalks on busy streets where there was no buffer between pedestrian and vehicular traffic. They reported that they generally avoided walking in these areas, and if they had to walk there, they felt unsafe. An interviewee from Aurora described their experience walking on Lake Street in Aurora:

I would say especially Lake Street here on both sides of the street. They pawn it off on the state, because it’s Route 31. And then, they pawn it off on the city, but the sidewalks are crumbling and they’re tilting. And so, you’re trying to watch traffic in the sidewalk. And so, it’s not a comfortable walk. And it’s sad, because we have older people here. The director encourages people not to do that, not to go on those sidewalks. (Aurora, 1)

This interviewee pointed out that one of the challenges with ensuring adequate sidewalk coverage is jurisdictional authority. Lake Street is an Illinois state route, requiring the city to work with and request pedestrian improvements from IDOT, whose priorities will not always align with city needs.

Crossings

Most interviewees perceived intersections with timed crossing signals and properly marked crosswalks as safe. Some participants reported difficulty crossing busy streets, noting that they would generally avoid taking certain routes because of lack of crossings, stop signs, and/or pedestrian crossing timers along those streets. A Joliet resident, when asked about improvements that needed to be made in the city, replied, “Jefferson Street. That seems to be the busiest intersection in Joliet. Sometimes there aren’t timed crosswalks. So it’s a little bit difficult to cross” (Joliet, 2).

The corollary was also true: people would prefer streets with traffic controls. An interviewee from Skokie described how traffic signals influenced the route they took:

When I walk to the Swift I always walk down to Keeney Street because there’s always a light to cross Skokie Boulevard, there’s always a light. When I walk to the 54A by my house it’s just in the corner so I don’t even have to cross the street, which is very convenient and nice. (Skokie, 2)

A few interviewees recommended putting more stop signs at certain intersections. One interviewee from Aurora stated, “[I] had to say about near the Freeman Schools. That could be improved. I’ve often worried about intersections where stop signs aren’t... You know they’re supposed to be there and you haven’t heard whether they’ve been pulled out but for some reason having been replaced” (Aurora, 3). Some recommended increasing pedestrian crossing times to be able to safely cross busy streets.

The lack of crosswalks on certain streets was an issue that came up when people talked about pedestrian infrastructure near bus stops. When asked about issues that created barriers to getting to a bus stop, an interviewee from Aurora noted:

The only thing that I could think of is that the side that has the bus stop by my house, there is only one side of the street that you can walk across on safely, through a crosswalk, and the other side doesn’t have a crosswalk where the bus stop is. You have to walk all the way around, which could be, for someone that is handicapped, a little bit more difficult. (Aurora, 4)

Lighting

Nearly all the interviewees perceived well-lit spaces as safe and secure, while many described some places in their cities as unsafe because of the absence of adequate lighting. One interviewee linked safety while walking to Pace directly to the presence of lighting:

Interviewer (I): And in terms of personal safety, do you feel safe when you’re walking to and from bus stops?

Respondent (R): Yes. When it’s plenty of light out, I do feel safe, but when it’s dark, not so. (Crystal Lake, 3)

A few participants who rode Pace in the evening or night said they felt safe doing so because of the presence of adequate lighting in their area. But many said that they avoided taking the bus after dark

because of the absence of streetlights. Even when there were streetlights, some described their effects as insufficient: “They got light poles and all but some of them are far away and at night you’ll hit some dark spots. That’s like a safety issue for me” (Joliet, 7). Several mentioned prioritizing bus stops as locations for additional lights.

Lighting combined with other elements of the built environment contribute to a feeling of safety. When asked to describe safety, one interviewee highlighted both lighting and other pedestrian activity in a particular area:

So, by safe, I mean, it’s well lit, so it will be in the evening, the bus stop that I get off, that way I take the bus now, it’s near a few stores. There’s lights, there are streetlights. The walking area is fine and the neighborhood just feels quiet. There’s not a lot of commotion going on. Then where I get off, same thing, the stop I get off at is next to a Menards and a Walmart, so there’s always some activity there. The streets are clean, the grasses are mowed really nice and it’s quiet. It’s also well lit. So those reasons contribute to, I guess, a sense of safety. (Joliet, 2)

Weather

Poor weather conditions did not play a major role in decisions to use Pace Bus. Most interviewees noted that they did not change their walking routes during the winter months or during rainy periods. But some participants discussed issues of poor sidewalk maintenance during the winter, and few interviewees were very satisfied with the regular shoveling of snow in their cities. An illustrative comment came from a Skokie resident:

At the downtown transportation center, getting off the bus can be treacherous because of packed ice. Now I don’t know who’s responsible for keeping that area clean or clear. But that is definitely a challenge, and especially a big challenge for people who aren’t as able as I am to keep walking. (Skokie, 5)

Others observed that the cities generally were not quick to remove snow from near bus stops:

Well, it’s scary walking around in ice and snow, but that’s not a Pace issue. It takes the city a while to shovel snow and make sure the bus stop areas are clear so people can stand there and step up onto the buses. So that was an issue at one point, having to step through the snow to get on to the bus. But as the days go by, the street people from Waukegan, I don’t know what their title is, they eventually get to the locations and they clear the snow away from the bus stops. (Waukegan, 4)

Another interviewee, however, recognized that the responsibility for snow clearance does not always fall on the city:

I haven’t had any type of bad experience going from here to the bus stop. Like I said, its only one block from my house, so no, I haven’t had any bad experience going. Well, I take that back. Only in the wintertime when there’s snow and the businesses that are not in operation, no one’s there to shovel or put salt down in front of those places. In the wintertime I sometimes have to walk in the street instead of on the sidewalk,

because like I said, those businesses that's not in operation they're not shoveled, so I have to walk through the street. (Chicago Heights, 11)

Many observed that conditions were more challenging during the winter, even if they did not alter their paths to the bus. Some older interviewees reported that they preferred not to walk or take the bus in winter due to difficulty in walking. An older Skokie resident described their decision this way: "Now, again, when there's snow on the ground, I generally don't go because I walk with a cane. I have a problem with balance" (Skokie, 8). More commonly, however, references to bus shelters came in conversations about the role that weather conditions play in walking to transit, as described in the Bus Stops section that follows.

Bus Stops

Although the interview guide focused on the pedestrian experience as it relates to transit access, most interviewees took the opportunity to describe their experiences at the bus stops themselves. Most reported proximity to a bus stop as an advantage that made the trip more convenient and public transit more accessible for them. But many interviewees complained about the lack of bus shelters at stops when asked about infrastructure issues they faced or improvements they would like to see made. The availability of a bus shelter on the usual route made the trip more convenient for most people. One interviewee from Waukegan, when asked about what changes in the pedestrian-transit environment they would like to see, illustrated the issue for many:

Again, just more possibly, more actual shelters. I know it's not possible at every single bus stop but, where it is possible, I would like to see more places. Because we've got elderly that take the bus to their doctor's appointments and things like that. Teenagers, and just all kinds of working class, all kinds of people are taking the Pace bus. (Waukegan, 1)

Several mentioned the lack of seating at the bus stops as an issue even if a bus shelter was present. A considerable number of interview participants were older, and this concern was brought up in multiple interviews. When asked what needed to be improved along a corridor, one interview spoke vividly about seating:

[We need] somewhere they can sit down comfortably and sit down and wait there for the bus. You know how sometimes you have to sit there and stand? And I mean, there's older people that they can't stand. Do you know what I'm saying? So it would be nice, if they had somewhere to sit down and wait for the bus. I'm a senior citizen, I know how that feels. You know? (Waukegan, 13)

When asked about places they think are good for making sure that people can access transit, participants usually mentioned places that have bus shelters and benches. A Skokie resident pointed to a bus shelter as a main reason for liking a particular bus stop: "Well, the one at Dodge and Church, that's a very good one. There's a shelter. And the area is well maintained. So I would say that's a very good one" (Skokie, 5).

As described earlier, some interviewees shared how inadequate lighting at bus stops either deterred them from using Pace at night or made them feel unsafe while waiting. One bus rider described how a lack of lighting contributed to poorer safety perceptions:

On the West side [of Joliet], not a problem, but on the East side, especially there was that one time that I did take I want to say it was either the 501 or the 505, the bus that runs on Cass, I took that pretty late at night. The stop that I used to get on was not lighted at all, you know. And so that was kind of an iffy one for me. So yeah, definitely I would agree, more lighting should be at least looked at. (Joliet, 5)

Several interviewees noted a variety of other problems with the waiting areas, including a lack pavement or concrete pads, litter, and proximity to speeding cars. Unimproved bus stops proved to be a noteworthy challenge during weather events, as one interviewee described:

Also, that the area around the actual bus stop where you have to get on the bus, oftentimes that's a grassy area so that it's often muddy or in the winter it's slippery with ice. In the summer, it gets muddy when it rains and a lot of the drivers won't stop just like two feet further up so that you can walk on the pavement to get on the bus. So a lot of the times my shoes are wet, coming and going my shoes and socks are soaking wet or I've slipped and fallen a couple years ago trying to get on and off the bus because the drivers, they stop at the sign. (Crystal Lake, 4)

KEY TAKEAWAYS

On the whole, Pace users had positive experiences with pedestrian access to transit. Most interviewees found their cities to be walkable, with bus stops often close to where they need to go. Sidewalk coverage was adequate in many places, though interviewees recalled well where it was not. Common complaints about sidewalks included uneven or broken concrete, missing or intermittent sidewalks along walking routes, or placement of stops near busy traffic without a buffer. Sidewalks were more often absent from quiet residential areas, but some interviewees reported a lack of sidewalks along busier streets as well, deterring some from using those bus routes. Many interviewees reported inadequate lighting along pedestrian routes or near bus stops, contributing to negative perceptions of safety. Harsh weather conditions like snow and ice did not deter most interviewees from taking Pace, though they noted several locations where snow and ice removal made walking difficult or where rain accumulated into mud puddles when sidewalks were absent.

The pedestrian environment is connected to the bus stop itself, and nearly every interviewee had something to say about the quality of waiting areas. Most wanted to see more shelters and benches at bus stops, especially for older riders who may not be able to stand for long periods of time or who would benefit from protection from the weather. Another common complaint was that not every bus stop was improved; many reported having to wait on a patch of grass next to a sign, which caused problems with mud or treacherous conditions when there was rain or snow.

Although this was not a statistically representative sample of bus riders, the findings are emblematic of common issues in the Pace service area and reinforced the findings of the infrastructure audits presented in Chapter 4. Most interviewees mentioned specific locations in each city that were notable as either being supportive of or causing barriers to pedestrian access to transit. A summary of those locations is available in Table 17 in Appendix G. The findings from the interview process were used to develop amenity-related policy recommendations, as summarized in Chapter 7.

CHAPTER 6: PEER STRATEGIES

OVERVIEW

During this phase of the project, the research team reviewed peer agency practices to identify strategies that could lead to successful implementation of pedestrian infrastructure near transit in northeastern Illinois. The research team used two related research approaches to achieve this: a survey of transit agencies, metropolitan planning organizations, and municipalities in 10 US regions that are similar to the Chicago area in population and size as well as in-depth case studies of 6 selected peer agencies that serve suburban areas. This chapter summarizes the process and results of each of these approaches and presents key takeaways.

The findings of the peer survey show that agencies similar to Pace are facing comparable barriers to implementing pedestrian projects. However, they have addressed these barriers with varying degrees of effectiveness through plan and policy development, diverse funding strategies, and collaborative partnerships with other agencies and advocacy groups. The case study findings suggest that explicit statement of pedestrian goals, clear project guidelines, and a robust methodology for project prioritization are crucial for successfully implementing pedestrian projects.

PEER SURVEY

Following the literature review, the research team conducted a survey of peer agencies to understand the types of barriers that agencies in similar regions face and how they address these barriers to provide better pedestrian access to transit in suburban communities. The research team distributed the peer survey to transit agencies, MPOs, municipalities, and state DOTs in 10 regions similar to the Chicago metropolitan area to understand how implementation barriers may be overcome. This section summarizes the peer agency survey's methods, results, and key findings.

Methods

To understand how implementation barriers are experienced and overcome in regions that are similar to northeastern Illinois, the research team conducted online surveys of institutions in 10 metropolitan areas across the United States. They selected these regions based on population size and similarity to the Chicago metropolitan area (e.g., climate, geographic region, political culture), along with input from the project's Technical Review Panel about the most relevant peer regions. They selected metropolitan areas for the following cities: Detroit, Houston, Los Angeles, Minneapolis, New York City, Philadelphia, St. Louis, San Francisco, and Washington, DC. The research team then identified several agencies to include in each of these regions, such as MPOs, major regional transit agencies (particularly those serving suburban areas), and suburban municipalities of varying sizes.

The research team identified the most appropriate survey participants from each agency using a combination of online directories, other web-based searches, phone calls, and emails with agency staff. Participants included transit planners, pedestrian planners, and representatives of state DOTs and FHWA division offices. The research team invited these individuals via email to complete the online peer survey, with follow-up emails and phone calls as needed to maximize participation.

The research team designed the survey questions to identify planning and policymaking barriers to improving pedestrian access to transit in suburban areas and to gauge experiences in overcoming these barriers through policy solutions and other approaches. More specifically, they developed this survey’s content based on the literature review as well as the findings of earlier project tasks, and included questions on the following topics (see Appendix H for the full survey text):

- Policy priorities and agency culture regarding pedestrian planning
- Lists and descriptions of pedestrian plans, policies, and programs
- Use of federal, state, and local funding sources, as well as public-private partnerships
- Methods for intra- and interagency coordination, cooperation, and collaboration
- Participation of advocacy and community groups
- Data tracking and evaluation systems
- Barriers to pedestrian infrastructure and methods for addressing them

They administered the survey between November and December of 2019 and received a total of 62 responses. Among these, 44 respondents answered at least one question beyond their agency type and role. These 44 respondents make up the survey sample that is described in the following section, with the number of respondents for each particular question included as table/figure footnotes.

Results

Among the 44 respondents in the survey sample, the largest shares were from state DOTs (34%) and transit agencies (23%); Table 8 presents the distribution of respondents by agency type. Most respondents were planners (52%), followed by pedestrian and bicycle coordinators (20%) and other roles within the organization (Table 9). Roles noted as “other” included transit administrators, an ADA compliance manager, an MPO executive director, and several responses for which the “other” category was not described.

Table 8. Distribution of Survey Responses by Agency Type

Type of agency	Number (and %) of respondents
State department of transportation	15 (34%)
Transit agency	10 (23%)
City planning department	7 (16%)
Metropolitan planning organization	8 (18%)
County planning department	4 (9%)

**Number of respondents who answered this question: 44*

Table 9. Distribution of Survey Responses by Respondent’s Role within the Agency

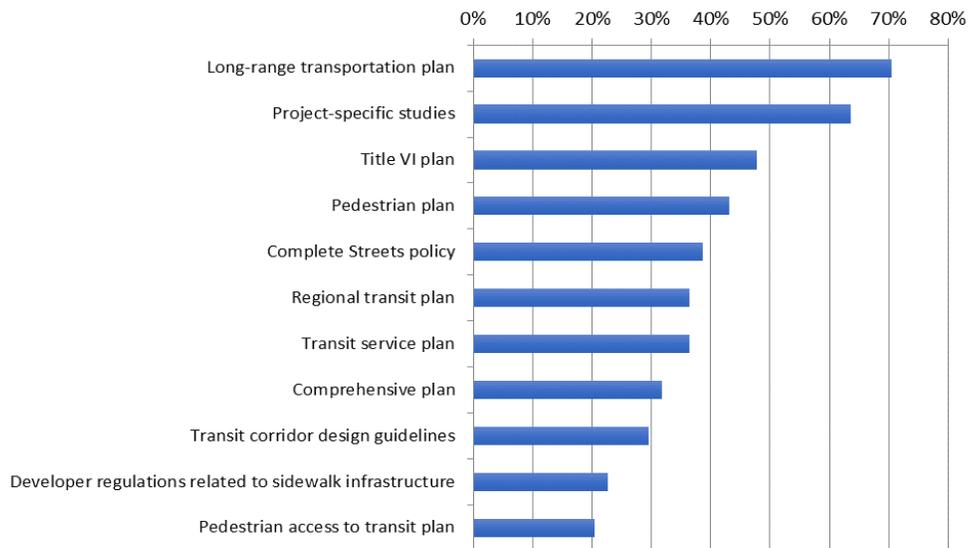
Role within the agency	Number (and %) of respondents
Planner	23 (52%)
Pedestrian/bicycle coordinator	9 (20%)
Engineer	4 (9%)
Community development staff	1 (2%)
Other	7 (16%)

**Number of respondents who answered this question: 44*

Plans, Programs, and Policies

After reporting general information about their agency type and role, respondents were asked to indicate the types of plans, programs, and policies (hereafter referred to as “plans”) that their agency has produced or implemented. Of all plan types, agencies were most likely to have a long-range transportation plan in place (Figure 5). Other common plans included project-specific studies, Title VI plans, and pedestrian plans. Fewer respondents reported that their agency had implemented Complete Streets policies, regional transit plans, transit service plans, or comprehensive plans. The least reported plan types were transit corridor design guidelines, developer regulations related to sidewalk infrastructure, and plans that explicitly dealt with pedestrian access to transit.

While this distribution gives a broad overview, it is important to note that the prevalence of each plan type is also influenced by the types of agencies that completed the survey (i.e., not all agencies are tasked with producing all types of plans). Respondents from transit agencies were most likely to report the use of pedestrian access to transit plans, transit services plans, and Title VI plans. Respondents from municipal planning departments were most likely to report the use of developer regulations related to sidewalk infrastructure, while representatives of state DOTs were most likely to report the use of Complete Streets policies, Title VI plans, and long-range transportation plans.

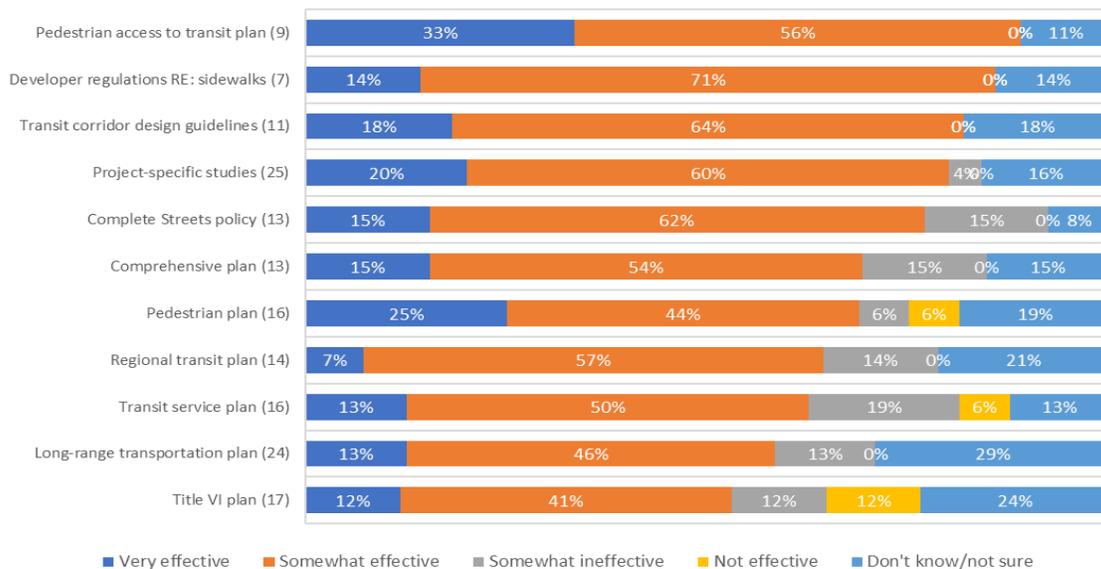


**Number of respondents who answered this question: 44*

Figure 5. Chart. Percent of respondents who reported using various plans, programs, and policies.

In addition to listing the types of plans their agency had implemented, respondents were asked to rate the effectiveness of these plans in supporting pedestrian access to transit. In general, respondents tended to view their plans favorably; for all plan types, the most respondents rated them as either very effective or somewhat effective (Figure 6). Despite this favorable perspective, however, reported effectiveness varied by plan type. Pedestrian access to transit plans received the highest effectiveness ratings, with 89% of respondents whose agencies had implemented these plans describing them as either very effective or somewhat effective. Other plans that received high ratings included developer regulations related to sidewalk infrastructure (85% very effective or somewhat effective), transit corridor design guidelines (82%), and project-specific studies (80%). The three plan types with the lowest effectiveness in supporting pedestrian access to transit were Title VI plans (53% very effective or somewhat effective), long-range transportation plans (59%), and transit service plans (63%).

These results show an interesting pattern at the intersection of plan frequency and plan effectiveness. The three plan types that the responding agencies were least likely to use—pedestrian access to transit plans, developer regulations related to sidewalk infrastructure, and transit corridor design guidelines—were also the most likely to be viewed as either very effective or somewhat effective in promoting pedestrian access to transit. Conversely, two of the most frequently used plan types—long-range transportation plans and Title VI plans—received the lowest effectiveness ratings. These findings suggest the potential value of increasing the use of particularly effective plan types and improving upon plan types that are not as effective in supporting pedestrian needs.



**Number of respondents providing ratings varied by plan type; number of raters indicated in parentheses.*

Figure 6. Chart. Effectiveness of plans, programs, and policies.

Some respondents also provided qualitative information to describe their agency’s plans or to explain their effectiveness ratings. Two respondents noted that pedestrian needs were well integrated across multiple levels and decision-making processes for their agencies, indicating a supportive culture for

pedestrian planning and implementation; one of these agencies had successfully accommodated pedestrians through a multifaceted approach involving legislation, policy, and design guidelines. Other agencies described specific plans, programs, and policies their agency had implemented. Specific examples include the following: explicitly mentioning pedestrian access to transit in plans at multiple levels, from a statewide pedestrian vision to a recent e-scooter ordinance; committing in a Comprehensive Transportation Plan to construct three miles of missing sidewalk segments each year beginning in 2024; implementing a Better Bus Stops Program focused on improving shelters, transit information, and ADA access to bus stops; requiring developers to include sidewalks, on-street bicycle facilities, and transit studies as part of their development plans; prioritizing pedestrian infrastructure upgrades in transit corridors; and emphasizing connections to major regional destinations and placement of bus stops in pedestrian-friendly areas as part of developing transit service plans.

Some respondents also provided further information to explain their effectiveness ratings. Key success factors included an integrated, multifaceted approach (as previously noted); support from elected officials serving as champions; the ability to influence the land acquisition process for individual projects when supportive policies are included in long-range plans; and conducting training with planners, engineers, and landscape architects to maximize the effectiveness of bus stop design guidelines. Challenges that led to lower effectiveness ratings included pervasive car culture among residents and decision-makers; limited and siloed funding; reliance on the development process rather than taking a broader, community-wide view of pedestrian infrastructure networks; variations in pedestrian needs and priorities across jurisdictions of varying size; and limited authority or leverage for implementation. Indeed, some respondents noted that while their planning efforts were strong, implementation often fell short. These implementation barriers will be further explored later in this section.

Funding Sources

The survey asked respondents to describe the federal, state, regional, local, and other funding sources that their agency uses to support pedestrian infrastructure after reporting on their agency's plans, programs, and policies. Among federal sources, the Congestion Mitigation and Air Quality (CMAQ) Improvement Program was the most likely to be used "always" or "very often" (32% of respondents), followed by the Surface Transportation Block Grant Program (STBG) (28%). The Community Development Block Grant (CDBG) Program was not frequently used; 36% of respondents had never used this program and only 4% stated that they "always" used it.

Among state sources, Safe Routes to School (SRTS) was the most commonly used program, with 33% of respondents using it "always" or "very often." Approximately one-fifth (21%) of respondents reported "always" or "very often" using other state programs supporting transportation. Within regional, local, and other funding sources, respondents were most likely to use general funding (33%), capital improvement funds (29%), or regional planning organization grants (23%) to pay for pedestrian infrastructure. County grants were not common, with no respondents using these "always" or "very often."

Compared to the full sample of respondents, those representing transit agencies were less likely to report using the aforementioned federal and state sources. However, some respondents reported

using the STBG, CMAQ, and CDBG programs, other federal programs (e.g., TIGER grants), state gas tax, SRTS funds, and other state funds (e.g., bikeways grants, statewide transportation innovation grants) at least “sometimes.” Transit agencies were more likely to rely on regional and local sources such as regional grants, CIP funds, and general funds at least “sometimes.”

It is also important to note that many respondents stated that they did not have enough information to report on their agency’s use of federal and state funds for pedestrian infrastructure. This degree of unfamiliarity with the funding landscape points to the potential value of training, education, and information dissemination about pedestrian infrastructure funding.

Several respondents provided qualitative information about the funding sources they reported. One agency uses community benefit grants from private developers to enhance pedestrian access around new development projects. Another agency awards technical assistance for planning projects only, but uses other state funding sources for pilot projects and demonstrations. A respondent in the Washington, DC area described the Transportation Land-Use Connections Program, which the Metropolitan Washington Council of Governments funds, as a valuable regional funding source for supporting walkable communities and pedestrian connections to transit.

Partnerships

To further examine their funding approaches, respondents to the peer survey were asked whether their agency had formed revenue-sharing partnerships with other agencies or public-private partnership agreements to construct or maintain pedestrian infrastructure. Though the use of these funding strategies was limited—only three agencies reported revenue-sharing partnerships and only four reported public-private partnerships—transit agencies were well represented within the small number of agencies that had used them. The Minnesota Valley Transit Authority in Minneapolis-St. Paul, for instance, pursued both strategies, forming a revenue-sharing partnership with cities, counties, and private companies in the service area, and public-private partnerships with private companies. Metro Transit, also in Minneapolis-St. Paul, noted that the Minneapolis Downtown Improvement District performs regular cleaning and snow removal at key bus stops within the district. As another example, the Suburban Mobility Authority for Regional Transportation (SMART) in Detroit reported an Adopt-a-Stop Program, in which community organizations and groups contacted the agency to help maintain particular stops in the system (e.g., keeping pedestrian access clear of trash and/or snow and reporting additional needed repairs to the stop).

While formal revenue-sharing partnerships and public-private partnerships were rare, other types of partnerships were common. Respondents were most likely to report partnering with counties (82%), regional planning agencies (74%), active transportation advocacy groups (63%), and transit agencies (63%). Metropolitan planning organizations typically play the leading role in facilitating these types of interagency collaborations (39%), followed by transit agencies (25%) and other agencies (25%). Most agencies (79%) do not have a consolidated framework or guide for interagency and interjurisdictional collaboration, though most agencies that do (83%) rated their framework/guide as no less than somewhat successful. The Maryland Transit Administration provided several specific examples of these frameworks/guides, including the Bus Stop Design Guide, which provides guidelines for integrating bus stops into local developments; Transit-Oriented Development Guidelines, which

provide guidance for developments near rail lines; and the BaltimoreLink Transit Priority Toolkit, which provides guidelines for infrastructure improvements that work well with transit.

Data Use

Next, to examine the role of data in pedestrian planning and prioritization, respondents to assess their agency's capacity to use various types of data—including sources measuring exposure (e.g., pedestrian counts), injury (e.g., pedestrian crashes and fatalities), and infrastructure (e.g., sidewalk inventories)—and report on the specific ways that these data types were used in the planning process. Most respondents rated their agency's capacity for using each type of data as either "high" or "very high." Injury data was the highest ranked, with 62% of respondents rating their agency's capacity as high (38%) or very high (24%). The ratings for exposure data and infrastructure data were the same and only slightly lower, with 48% of respondents rating their agency's capacity as high (24%) or very high (24%).

Despite this fairly positive view of *capacity*, only 38% of respondents reported that their agency *actually* tracks progress toward pedestrian goals using performance measures and indicators. Among those who tracked progress in this way, common performance measures and indicators included pedestrian crash rates, pedestrian counts, infrastructure availability, infrastructure connectivity, capital projects including pedestrian infrastructure, and community feedback.

Just under half of the respondents (46%) stated that their agency has developed a formal methodology to prioritize transit projects; encouragingly, this approach was not exclusive to transit agencies. Among those who reported a formal methodology for prioritizing transit projects, 62% rated pedestrian access to transit as either "important" or "very important" to this methodology.

Implementation Barriers

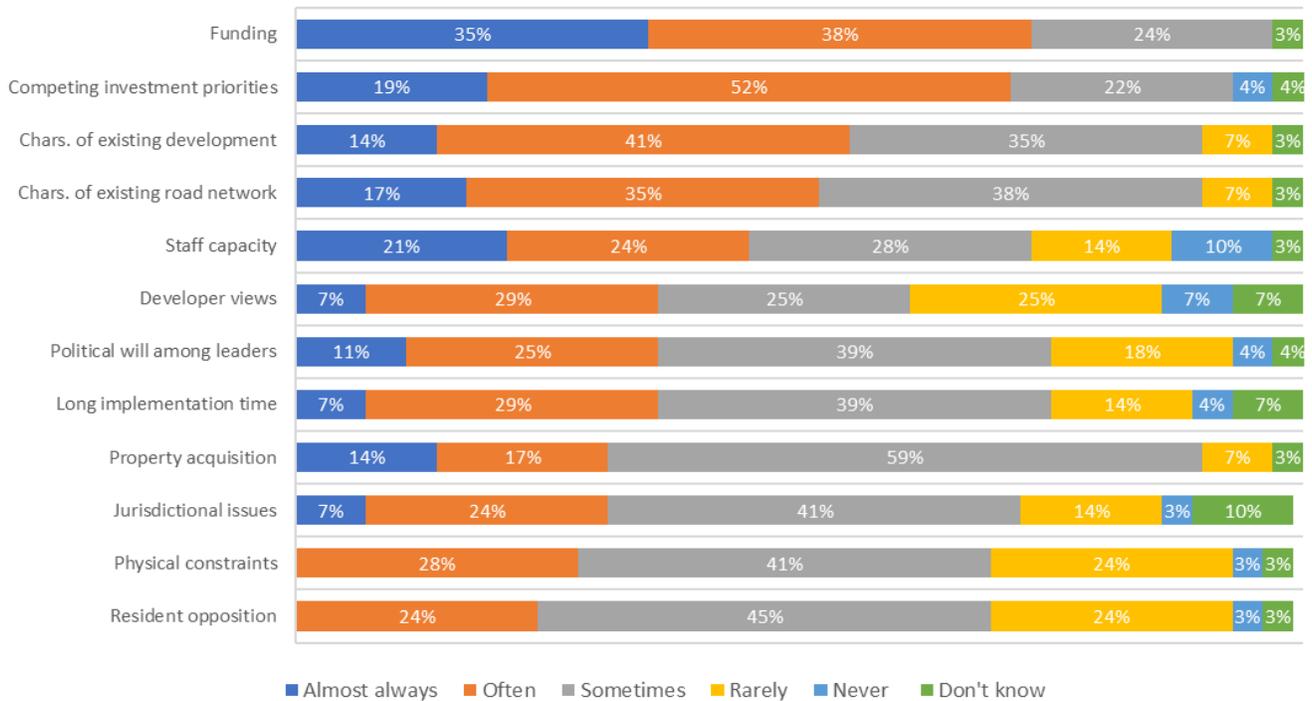
Next, respondents were asked to describe the barriers that their agency faces in supporting and implementing pedestrian projects (Figure 7). Funding and competing investment priorities were the most prominent barriers, with 73% and 71% of respondents (respectively) stating that these factors were either "often" or "almost always" a barrier. In open-ended responses, participants described limited and nondedicated funding, competing needs within and beyond transportation, and high project costs as critical barriers. Several discussed challenges with funding for maintenance, with one noting that "local/individual responsibility for sidewalk maintenance creates a disincentive to build out [the] network" and another stating that "state grant opportunities for construction have been missed because there is no funding for maintenance." Another respondent noted the difficulty of funding multimodal projects from siloed sources, stating that working on a TIGER grant made their agency "realize how much funding programs and other processes are designed for siloed projects and not for projects that combine transit and pedestrian improvements or multiple agencies."

Characteristics of existing development and the existing road network were also key implementation barriers, rated as "often" or "almost always" a barrier by 55% and 52% of respondents, respectively. Key challenges noted in open-ended responses included road networks built for automobiles, low-density suburban and rural settings where sidewalks are not viewed as important, a diversity of needs across community types, and the persistence of car culture. A respondent from Detroit noted that

“due to the nature of past development in the region embracing the ‘Motor City’ mentality, we constantly are facing the issue of roads that were developed for cars over the pedestrian.”

Staff capacity was also reported as a frequent barrier by nearly half (45%) of respondents; however, 10% of respondents rated staff capacity as “never” a barrier—the largest “never” category reported—suggesting that staff capacity varies considerably across agencies. Two respondents, in particular, noted that their agencies are short-staffed and therefore need to focus on resolving backlogs and fulfilling basic regulatory requirements. Similar diversity in experiences is suggested in the results for developer views, which were reported as a frequent barrier by 36% of respondents but as “rarely” or “never” a barrier by almost as many (32%). One respondent noted that although developers and/or property owners are required to fix sidewalks, “they complain about doing [it] or don’t do [it] at all.”

Political will among leaders and decision-makers (36%), long implementation time frames (36%), and property acquisition (31% with an additional 59% noting “sometimes”) were moderate barriers. One respondent stated that “residents do not understand why projects take so long,” which can lead to pushback. Least prominent among the barriers were jurisdictional issues (31%), physical constraints (28%), and resident opposition (24%). The findings for jurisdictional issues are interesting and somewhat unexpected, given that Pace stakeholders have cited this as a frequent barrier in other project activities. Regarding resident opposition—the least frequently cited barrier—one respondent stated that *fear* of opposition, rather than (or in addition to) *actual* opposition, is often a barrier to implementation.



*Number of respondents who answered this question: 29

Figure 7. Chart. Barriers to supporting and implementing pedestrian projects.

In addition to these barriers, several participants noted in open-ended responses that their agency has a desire to support pedestrian infrastructure but lacks the necessary authority. These respondents noted that their transit agency relies on decisions by and funding from outside parties where the agency does not own property; that they have limited leverage for implementing their pedestrian goals; and that being limited to an advisory role in project review means that their advice is not often followed.

Pedestrian Prioritization

Finally, respondents were asked to rate the following aspects about how their agency and community prioritize pedestrian needs: (1) its importance among their leaders and decision-makers, and (2) its prioritization within the planning and funding process (Table 10). For the former aspect, respondents were asked to rate how important pedestrian planning is among community leaders and agency leaders, and particularly how important pedestrian access to transit is among their agency leaders. Most respondents stated that pedestrian planning was “important” or “very important” among their community’s leaders and decision-makers (68%) and within their agency (69%); 72% stated that agency leaders viewed first-/last-mile pedestrian access as “important” or “very important” to promoting transit use.

Despite this generally favorable view, 17% and 14% of respondents, respectively, rated pedestrian planning and pedestrian access to transit as “not very important” to their agency’s leaders. Twenty-four percent of respondents believed that pedestrian needs have received high priority in the planning and funding process while 45% of them believed that pedestrian needs have received medium priority. This suggests that pedestrian needs have not yet been fully integrated and formalized within the funding process, even though most agency leaders view pedestrian planning and first-/last-mile pedestrian access as important.

Table 10. Importance and Prioritization of Pedestrian Needs

	Very important	Important	Somewhat important	Not very important	Don’t know
How important is pedestrian planning among community leaders?	29%	39%	29%	4%	0%
How important is pedestrian planning among agency leaders?	48%	21%	14%	17%	0%
How important is pedestrian access to transit among agency leaders?	48%	24%	3%	14%	10%
	High priority	Medium priority	Low priority	No priority	Don’t know
How much priority do pedestrian needs receive in the planning and funding process for your agency?	24%	45%	14%	3%	14%

**Number of respondents who answered this question: 29*

Open-ended responses provide additional insights into these patterns. Regarding the disconnect between the importance of pedestrian planning and its (lower) priority in funding decisions, one respondent had this to say: “Pedestrian infrastructure is given lip service, but generally is not the driving force behind development decision-making.” Others noted specific barriers that tend to generate the same outcomes, including long-standing policies that favor automobiles; the difficulty of convincing decision-makers to acquire property without a clear financial incentive; and agency performance measurement on the basis of project completion time and pavement quality/bridge condition scores. Another stated that because the region “[does not] have great public transit options, [the City Council] doesn’t see the value in getting people there” through pedestrian projects.

Despite these challenges, one respondent provided an encouraging note on agency culture: “Agency culture is changing, so we are truly making great strides in changing the mindset of the agency toward inclusion of pedestrian infrastructure in all of our projects when possible.” The following case studies will further explore these types of “success stories.”

CASE STUDIES

In addition to the peer survey conducted in 10 regions, the research team analyzed the operations, strategies, and plans of 6 peer transit agencies based on their geographic location and performance measures, including transit ridership and revenue. Because this study is focused on suburban bus services, the research team prioritized peer transit agencies that predominantly serve suburban areas. They primarily wanted to identify the best practices these peer agencies used to overcome institutional and other barriers for successfully implementing pedestrian projects. This review included each agency’s policy priorities on pedestrian planning; a brief description of existing plans, policies, and programs; methods of intra- and interagency collaboration; and evaluation systems.

Peer Agency Characteristics

The research team relied on the Regional Transportation Authority’s (RTA’s) recommended criteria for identifying the six peer transit agencies, which included service area population and size, passenger trips, and vehicle revenue miles. RTA developed these recommendations during its yearly subregional peer performance review. This review is part of its function to support the management and evaluation of the region’s public transportation system (RTA, 2012–2017). Table 11 shows the agencies the study team selected and the RTA criteria they used.

Table 11. Selected Characteristics of Peer Transit Agencies

Agency	Agency name	Metropolitan area	Service area (population)	Service area (sq mi.)	Passenger trips (2017)	Vehicle revenue miles (2017)
AC Transit	Alameda-Contra Costa Transit	San Francisco Bay Area, CA	1,425,275	364	52,687,373	20,449,182
OCTA	Orange County Transportation Authority	Los Angeles, CA	2,856,307	435	39,954,846	19,759,880
SCVTA	Santa Clara Valley Transportation Authority	San Francisco Bay Area, CA	1,938,180	346	29,464,079	15,902,113
Ride On	Ride On Montgomery County Transit	Washington, DC	971,777	495	22,984,194	12,780,608
NICE	Nassau Inter-County Express	New York, NY	1,339,532	285	25,244,195	8,481,315
SMART	Suburban Mobility Authority for Regional Transportation	Detroit, MI	3,424,477	1,074	8,202,341	8,845,468
Pace	<i>Pace Suburban Bus</i>	<i>Chicago, IL</i>	<i>5,666,540</i>	<i>3,519</i>	<i>28,804,740</i>	<i>24,193,306</i>

Pace serves a larger area and population compared to its peers. Five of the six peers serve areas less than 1,000 square miles and populations of less than 2 million. The SMART service area is closest in size to that of Pace. Given the smaller size of the service area, OCTA and SCVTA serve higher density areas compared to the other transit agencies. Pace falls in the middle of its peers with respect to passenger trips served. AC Transit had the most riders in 2017, serving over 52 million passengers, while SMART served the fewest with 8.2 million. Pace had the largest vehicle revenue miles (VRM) compared to its peers, thanks in part to its large service area. NICE had the smallest VRM with 8.5 million, while ACT had the most after Pace with 20.4 million VRM.

Because the peer review’s main goal was to review agency plans, policies, and programs to better understand its policy priorities about pedestrian planning, the research team prioritized agencies with more documentation available for detailed case study. Table 12 gives an inventory of these documents for each transit agency. The “Remarks” column in Table 12 identifies the primary reasons why the research team selected each agency. The research team prioritized ridership, density, availability of adequate plans and policies, and similar geography to Pace service area for final selection. Despite having the least number of plans and policies, the research team included SMART in the case study list because it is the only peer agency from the Midwest and serves the highest population and largest area among the six peer transit agencies.

Table 12. Existing Plans and Policies of the Selected Peer Transit Agencies for Case Study

Agency	Plans/Policies/Programs	Remarks
AC Transit: Alameda-Contra Costa Transit, Oakland, CA	<ul style="list-style-type: none"> • AC Transit Multimodal Corridor Design Guidelines • Bus Parklet Design Manual • Designing with Transit • AC Transit Title VI Program, 2014-2017 	<ul style="list-style-type: none"> - Highest per capita ridership - Several publications
OCTA: Orange County Transportation Authority, Orange, CA	<ul style="list-style-type: none"> • A Transit Master Plan for Orange County • Central Harbor Boulevard Transit Corridor Study • The 2014 – 2019 OCTA Strategic Plan • Long-Range Transportation Plan 	<ul style="list-style-type: none"> - High density - Large service area - Several publications
SCVTA: Santa Clara Valley Transportation Authority, San Jose, CA	<ul style="list-style-type: none"> • Transit Service Plan • Introduction to Transportation Funding • VTA Transportation Handbook • VTA Pedestrian Access to Transit Plan 	<ul style="list-style-type: none"> - Availability of pedestrian access to transit plan
Ride On: Ride On Montgomery County Transit, Rockville, MD	<ul style="list-style-type: none"> • Moving Forward Together • MCDOT Sustainability Policy • Annual Reports 	<ul style="list-style-type: none"> - High per capita ridership
NICE: Nassau Inter-County Express, Nassau County, NY	<ul style="list-style-type: none"> • 2019 NICE Title VI System Plan • Multi-Year Transit Vision 	<ul style="list-style-type: none"> - High per capita ridership
SMART: Suburban Mobility Authority for Regional Transportation, Detroit, MI	<ul style="list-style-type: none"> • SMART 2014 Coordinated Human Services Transportation Plan 	<ul style="list-style-type: none"> - Located in Midwest - Similar size and density to Pace

Case Study of Selected Peer Agencies

This section describes the plans, programs, and best practices of each selected peer agency and how they leveraged innovative and sustainable funding mechanisms.

Alameda-Contra Costa Transit, Oakland, CA (San Francisco)

Alameda-Contra Costa Transit (AC Transit) is the third largest public bus system in California that serves western Alameda and Contra Costa Counties in the East Bay of California’s San Francisco Bay Area. AC Transit’s mission is to build a sustainable public transit system that safely and reliably connects its communities. However, AC Transit operates on facilities that other agencies typically manage because bus stops are located on sidewalks maintained by other agencies.

In 2004, AC Transit published *Designing with Transit*, a handbook describing how East Bay communities could become more transit-friendly (AC Transit, 2004). AC Transit designed this handbook as a tool for collaborating with partnering agencies and communities to encourage East Bay communities to make their streets more pedestrian-friendly for bus services. Table 18 in Appendix I shows how AC Transit designed its handbook to appeal to different stakeholder groups.

The handbook outlines a set of policies and best practices for ensuring safe routes to transit. It frames the issue with a set of questions: “How would I feel walking to the bus stop? Would I feel safe? Would

I enjoy the walk? Would I do it again?” Table 19 in Appendix I highlights some of the best practices that AC Transit identifies in their handbook. These best practices are grouped under the following three policy statements: (1) develop networks that provide pedestrian access to all locations in a community; (2) create access to transit which is direct, safe, understandable, and pleasant; and (3) site buildings to provide easy access to transit.

This handbook also provides design guidelines. Similar to the Pace service area, AC Transit has found that areas bordering urban areas often lack sidewalks. The AC Transit handbook stresses that these areas should be connected to the community’s existing pedestrian network.

AC Transit had conducted a major corridors study in 2016 on 12 corridors that served more than half of their system’s daily riders. They held several public outreach and stakeholder agency meetings, conducted two surveys with 700 participants, and met with approximately 750 riders at bus stops. Most respondents commented that transit projects should be part of multimodal improvement projects, including pedestrian and bicycle access and safety (AC Transit, 2016). One of AC Transit’s policy recommendations stated that pedestrian and bicycle projects should include transit performance elements and thus establish transit-supportive requirements to fund complete street projects on transit corridors.

AC Transit has two documents that specifically address design guidelines that would create better conditions for pedestrians accessing transit. The AC Transit Multimodal Corridor Guidelines (AC Transit, 2018) provides a range of guidelines and standards to ensure efficient transit operations and safe access to bus stops for AC Transit passengers. With special emphasis on bicycle infrastructure, this document offers guidance on bus stop design elements. The guidelines recognize that healthy communities require effective bus services with safe pedestrian facilities in the same corridor and considers the surrounding pedestrian environment to be a major factor for bus stop design.

AC Transit also published the *Bus Parklet Design Manual* in 2017. It clearly states that AC Transit is looking for opportunities to enhance pedestrian and bicycle access to transit (AC Transit, 2017). It also provides detailed design guidelines and potential funding sources to create bus parklets so that the transit experience becomes better for pedestrians and bicyclists.

AC Transit has been active in other community-based efforts. The agency participates in the Community-Based Transportation Planning (CBTP) Program that the region’s MPO, the Metropolitan Transportation Commission (MTC), hosts. The CBTP Program principally seeks to enhance the mobility options for low-income people in the Bay Area (ACCMA, 2009) and serves as a basis for future funding. Although it initially focused on transit needs, the CBTP Program’s focus was later enlarged to include pedestrian and bicycle needs.

AC Transit published their short-range transit plan (SRTP) in 2015 as a mandatory regulatory and planning document (AC Transit, 2015). AC Transit has used this document to gather important data for developing strategic plans between 2014 and 2024. As a part of the SRTP, the Capital Improvement Program (CIP) outlines potential funding sources for the agency’s capital needs. Federal funding sources include FTA Formula Grants and CMAQ funds. State sources include Regional Transportation Improvement Program Grants, Infrastructure Bond Funds, and Low Carbon Transit

Operation Program Funds. Local funding sources include AB 664 (three bridge tolls), Regional Measure 2 (toll bridge revenue), Transportation Fund for Clean Air (motor vehicle registration fees), Bay Area Toll Authority Project Savings, Alameda County Transportation Commission Vehicle Registration Fees (VRF), and voter-approved Measure BB sales tax revenue. CIP also identifies discretionary funding sources which may be subject to voter approval, legislative action, or competition among other discretionary programs. Discretionary funding sources include the FTA New Starts Program, the Active Transportation Program (ATP), the California Air Resource Board's Air Quality Improvement Program, the California Energy Commission's Alternative and Renewable Fuel and Vehicle Technology Program, and the Regional Gas Tax.

AC Transit does not receive any dedicated funding for pedestrian or bicycle connectivity improvement. However, the SRTP mentions that CMAQ and ATP funds can be used to improve pedestrian access. The Alameda County Transportation Commission published a Comprehensive Investment Plan that identified some potential funding sources for the county. The plan mentions that 3.75% of the 2000 Measure B Funds (half-cent sales tax from 2002–2022), and 3% of the 2014 Measure BB Funds (one-cent sales tax from 2022–2045) are allocated to pedestrian and bicycle safety. Similarly, 5% of the VRF is allocated to pedestrian and bicycle access (Alameda County Transportation Commission, 2017).

Orange County Transportation Authority, Orange, CA (Los Angeles)

Orange County Transportation Authority (OCTA) has a dual role as the transportation planning body and transit service provider for Orange County, California. It is the second-largest public transportation provider in the Los Angeles Metropolitan Area, serving 34 cities in the region. OCTA's mission is to develop transportation solutions to enhance the quality of life in Orange County.

OCTA adopted a five-year Strategic Plan for 2014–2019 to define its priorities and accommodate future constraints so that it can address Orange County's transportation challenges. This plan aimed for "an integrated and balanced transportation system that supports the diverse travel needs and reflects the character of Orange County" (OCTA, 2014). It contained five broad goals and 18 specific objectives. OCTA identified transportation funding uncertainty as one of the major issues, although it is important to note that they had prepared this plan before the FAST Act was passed. They also addressed the importance of regulatory requirements for environmental issues like air pollution and climate change. The Strategic Plan's public service goals aimed to link Orange County's communities to multimodal transportation choices. Specific objectives included engaging and educating the community on OCTA initiatives and building productive relationships and partnerships.

OCTA updates its long-range transportation plan (LRTP) every four years to reflect the county's mobility needs and uses it to serve as the county's input into regional planning efforts (OCTA, 2018a). The LRTP addresses transportation funding uncertainties as a major challenge. With growing concern for active transportation needs, OCTA conducted a sidewalk inventory in 2015 and found that approximately 15% of roadways in Orange County did not have sidewalks. The short-term action plan reflects this finding and calls for investments in active transportation infrastructure. As per the LRTP, OCTA works closely with transportation and planning organizations and agencies within the county and with neighboring counties. For example, OCTA developed a successful revenue-sharing approach

with the Riverside County Transportation Commission to extend the 91 Express Lanes (high-occupancy toll lanes) to I-15. OCTA hopes that this will lead to further partnership building with other agencies to develop similar inter-county strategies.

OCTA’s Orange County Transit Vision, a 20-year plan, seeks to enhance public transit services in Orange County. It reflects comprehensive public input collected over a course of two years via focus group stakeholder discussions, group and individual interviews of different community representatives, and interactive surveys. Across these engagements, OCTA (2018c) has identified the following five priority areas for improving transit services in Orange County: faster and more frequent transit; longer operating hours; high capacity or rapid transit modes; improvement of walking and biking access to transit; and more seasonal (or special) event services. OCTA’s interactive surveys also identified the community’s transit connection preferences (Figure 9 in Appendix I), which revealed that most transit riders asked for better sidewalk and pedestrian crossings.

Based on the identified priority areas, OCTA developed a transit investment framework to guide its resource allocation for bus services and the development of transit-friendly streets, land use plans, and other transportation policies. The framework, for example, sets a threshold for considering high-capacity transit where population or job density is more than 15 people or jobs respectively per acre; or where there are five or more peak buses per hour with a peak load of 600 people in the peak direction (OCTA, 2018c). For transportation system integration, the framework proposes a potential access hierarchy for Orange County transit centers (Figure 10 in Appendix I).

Although it does not explicitly mention funding sources that could be used for enhancing pedestrian access to transit, OCTA’s Orange County Transit Vision gives directives about potential funding sources for transit projects in the county (Table 13). Two percent of overall Measure M program funds are allocated to the Environmental Cleanup Program.

Table 13. Orange County Transit Vision: Funding Sources

Federal Sources	State Sources	Local/Regional Sources
<ul style="list-style-type: none"> • FTA Capital Investment Grant • FTA Urbanized Area Formula Grants • FHWA STBG Program • CMAQ Program • TIFIA Grant 	<ul style="list-style-type: none"> • Cap and Trade Funds • State Infrastructure Bank • Transportation Development Act • State TIP • Senate Bill 1 Competitive Grants 	<ul style="list-style-type: none"> • SCAG Sustainability Planning Grants • Measure M County sales tax • Gas tax • Vehicle registration Fees • Parcel taxes

Source: OCTA, 2018c

OCTA’s Next 10 Delivery Plan outlines the funding assumptions for different freeway, streets, and transit programs in the region from 2018 to 2026. It assumes that that the Measure M (M2) Transit Program will have received approximately \$150 million in federal New Starts funding, \$85 million in CMAQ funding, and approximately \$25 million in State Cap-and-Trade funding (OCTA, 2018b). Project W of the M2 Program allocates money to local agencies for safe transit stops. Local agencies can use this fund for pedestrian infrastructure improvement. The OCTA Comprehensive Business Plan (last updated in 2015) states that OCTA sets aside 10% of annual CMAQ funding for active transportation

projects. OCTA also provided \$3.5 million in 2014 from local transportation funds to develop pedestrian and bicycle facilities (OCTA, 2015).

Santa Clara Valley Transportation Authority, San Jose, CA (San Francisco)

Santa Clara Valley Transportation Authority (SCVTA), also known as VTA, is primarily responsible for public transit services in Santa Clara County, California. It operates local bus, express bus, and light rail services and is responsible for congestion management, countywide transportation planning, pedestrian or bicycle improvement projects, and the promotion of transit-oriented developments.

SCVTA is responsible for preparing the LRTP for Santa Clara County. It published the *Valley Transportation Plan 2040* in 2014, which provides the long-range transportation vision for the county (SCVTA, 2014). SCVTA assigned approximately \$1 billion for multimodal transportation investments in the LRTP and included \$400 million for bicycle and pedestrian improvements to be implemented over 25 years. However, the funding sources are no longer relevant because SCVTA wrote the plan before the FAST Act had passed. The plan admits that pedestrian projects are traditionally difficult to fund, so SCVTA often includes pedestrian elements in other roadway or bicycle projects.

SCVTA's 2014 Pedestrian Access to Transit Plan identified 165 capital projects to improve pedestrian access to transit in 12 focus areas in Santa Clara County. Outreach efforts for this plan included a task force and a transit survey. The task force included representatives from stakeholder groups such as advocacy groups, transit users, people with disabilities, academics, and municipal staff (SCVTA, 2017). The task force was responsible for providing input into the plan approach, outreach strategies, criteria to identify focus areas, and proposed projects. The survey sought to better understand the concerns of transit users and found that 17% of respondents (out of 465 total) mentioned that there are roadway sections where sidewalks are missing when they walk to or from transit stations.

The plan developed a methodology to identify focus areas, evaluate projects received during the outreach process, and prioritize projects for funding. SCVTA identified focus areas based on the following factors: bus ridership, pedestrian infrastructure improvement needs, socioeconomic characteristics, major destinations, housing density, and journey to work. They applied different weights to each factor and developed a multicriteria decision analysis, which resulted in identification of 12 focus areas. Table 20 in Appendix I shows the multicriteria decision analysis.

Using these focus areas, SCVTA performed a geographic information system (GIS) analysis on Santa Clara County's pedestrian facilities to identify deficiencies within the focus areas. They conducted a field review of the deficient pedestrian facilities to evaluate each facility's connectivity, safety, quality, accessibility, and activity. Following their existing policies and guidelines, SCVTA identified 165 capital projects that fit into one or more of the focus areas. The projects were developed based on the results of the field review and customer survey, in addition to inputs from the VTA Bicycle and Pedestrian Program staff, task force, and VTA committees. To evaluate these projects for funding, SCVTA developed a project evaluation matrix where they score each project based on its level of community benefit and its ease of implementation using the criteria shown in Table 14.

Table 14. SCVTA Criteria for Individual Project Evaluation

Criteria for Community Benefit	Criteria for Ease of Implementation
<ul style="list-style-type: none"> • Connectivity • Safety • Accessibility • Activity • Equity • Community Support 	<ul style="list-style-type: none"> • Funding Competitiveness • Maintenance Cost • Existing Funding • Project Readiness • Jurisdictional Complexity

Source: SCVTA, 2017

Once all the projects are scored, a project evaluation matrix is prepared for each focus area. Figure 8 shows an example of the project evaluation matrix for focus area A (Alum Rock). Projects are categorized into four classes: high-priority short-term, high-priority long-term, long-term, and medium-term projects. For example, high-priority short-term projects are easily implementable projects that address major challenges and provide immediate benefits to the community.

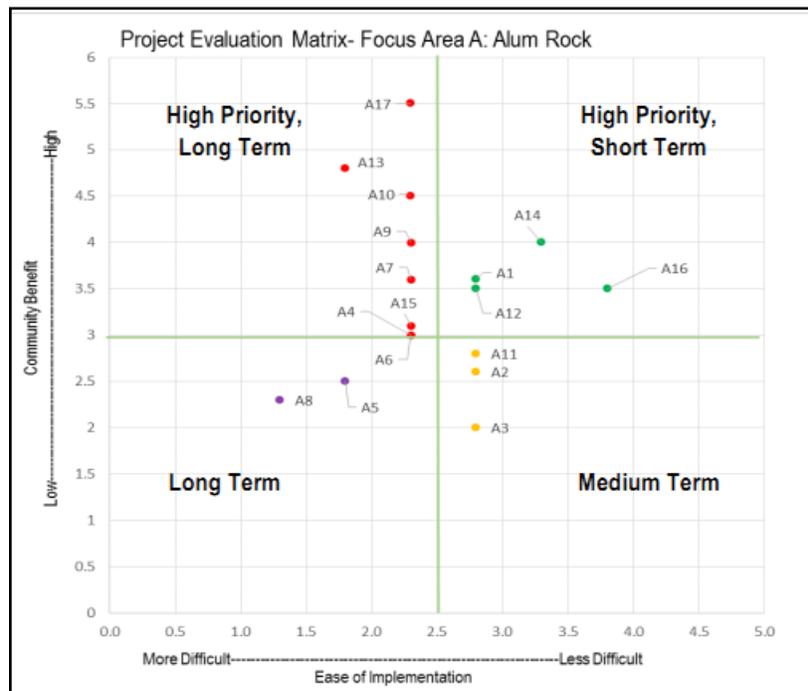


Figure 8. Image. Project evaluation matrix example.

Source: SCVTA, 2017

Once the projects are evaluated, SCVTA estimates the cost for each project. They categorize the costs into three classes: less than \$500,000 projects, \$500,000 to \$5 million projects, and over \$5 million projects. They also identify the potential funding sources in the plan to implement the projects. The plan suggests that Article 3 of the Transportation Development Act and Transportation Fund for Clean Air grants could fund the lower cost projects. Other funding sources include Active Transportation Program grants, One Bay Area grants, the Highway Safety Improvement Program, the 2016 Measure B sales tax, and Priority Development Area Planning grants (SCVTA, 2017, 2012).

Ride On Montgomery County Transit, Rockville, MD (Washington, DC)

Ride On is the main public transportation system in Montgomery County, Maryland, just outside of Washington, DC. The Division of Transit Services of the Montgomery County Department of Transportation (MCDOT) operates the Ride On bus system and MCDOT formulates the plans and programs for transit services in the region.

In 2015, MCDOT published Montgomery County's vision for transportation in the document *Moving Forward Together*. MCDOT's vision is to achieve a seamless transportation system for all that supports a sustainable community (MCDOT, 2015). As a part of this initiative, MCDOT developed a set of sustainability policies to create a more progressive transportation system (MCDOT, 2017). For attaining the environmental sustainability goals, the policy document stresses providing new pedestrian connections where there are none or where there are gaps in connectivity. Similarly, under economic goals, the policy requires maintenance of sidewalks to preserve the investment in infrastructure (Figure 11 in Appendix I). The policies for attaining social sustainability goals are the most relevant for this study, and call for improving multimodal connectivity by:

- Expanding the reach of alternate transportation options
- Expanding and improving first-/last-mile transit connectivity
- Constructing sidewalks and ramps in compliance with ADA standards

Montgomery County adopted a Pedestrian Safety Initiative in 2007 with a goal of improving pedestrian safety and accessibility in the county. The strategies include:

- Proper assessment and improvement of pedestrian networks and connectivity needs
- Increased consideration for pedestrians and bicyclists in the planning process
- Upgrading pedestrian signals
- Assessment and enhancement of streetlighting in the area (Montgomery County, 2007)

To achieve these goals and identify areas for prioritization, the plan included an initiative to compile a comprehensive inventory of sidewalk characteristics. This inventory had not been completed as of 2019, but the county did conduct an existing conditions assessment of pedestrian infrastructure around 5,400 bus stops between 2010 and 2012. The assessment led to construction of new sidewalks, new bus pads, and other pedestrian improvements near most of the deficient bus stops.

Most of MCDOT's documents relating to funding opportunities were published before the FAST Act's enactment. MCDOT's fiscal year 2018 annual report indicates that they received a \$60,000 grant from the Transportation Land-Use Connections Program (a program of the Transportation Planning Board) and used it to develop an education campaign named "Look Out for Each Other" (MCDOT, 2018). This campaign sought to educate the public about new bicycle infrastructure and signage. MCDOT also received a \$60,000 Land-Use Connections grant to develop a transit plan for Great Seneca Transit Corridor and other grants from Maryland's Transportation Alternative Program (TAP), FTA's Enhanced Mobility and Low or No Emission Competitive Program grants, and a Washington Metropolitan Area Transit Administration grant. While it did not receive any dedicated funding for pedestrian projects, FTA and TAP grants can be used for pedestrian projects.

Nassau Inter-County Express (New York)

Nassau Inter-County Express (NICE) is the local bus system that serves Long Island, including Nassau County, parts of Suffolk County, and Queens. Until 2011, it operated as MTA Long Island Bus, a part of MTA's Regional Bus operations. From 2011 on, Nassau County outsourced these transit services to a French multinational corporation, Transdev Transportation Services Inc.

NICE has a multi-year Transit Vision Plan, Let's Go, for Nassau County that was published in 2018. NICE sees it as a long-term, ongoing process which will guide Nassau County's future transit improvements (NICE, 2018). This vision is motivated by a desire to increase economic development and reduce vehicle traffic. Figure 12 and Figure 13 in Appendix I, respectively, show how Nassau County and county residents benefit from transit as estimated by NICE.

NICE's visions and goals include the promise of a better customer infrastructure and enhanced system infrastructure, including transit centers, stops, stations, and shelters. At the same time, NICE plans to include facilities to accommodate pedestrians, bicyclists, and persons with disabilities.

Another important planning document for both Nassau County and NICE is the Nassau County 2010 Master Plan. The project and policy recommendations of the master plan's infrastructure goals stress the importance of the transit system and pedestrian and bicycle infrastructure. One of the policy recommendations is to "improve transportation infrastructure and encourage alternatives to auto dependency" (Nassau County, 2010). This policy seeks to increase the public transportation system's attractiveness and accessibility and encourage more pedestrian activity within the county. The Master Plan also identified a set of projects to improve transit services and transit accessibility in Nassau.

Suburban Mobility Authority for Regional Transportation (Detroit, MI)

Suburban Mobility Authority for Regional Transportation (SMART) is the only regional bus system in southeastern Michigan. It has 47 routes and operates seven days a week and 22 hours a day. Its mission is to provide high-quality, safe, and cost-effective transit service in southeastern Michigan that meets the needs of people of all ages and abilities who depend on public transit.

SMART prepared a Coordinated Human Services Transportation Plan in 2014 to analyze transit riders' needs in the region. Human services transportation plans are a requirement under the Federal Transit Law for projects selected for funding under the Enhanced Mobility for Individuals and Individuals with Disabilities (Section 5310) Program. This document has the following four major elements:

- Assessment of available services
- Assessment of transportation needs for seniors and individuals with disabilities
- Strategies to address the identified gaps and opportunities to enhance service delivery
- Priorities for implementation based on available resources

SMART developed a framework to exhibit how the coordinated plan relates to funding (Figure 14 in Appendix I). A stakeholder group, which included people with low incomes, seniors, veterans,

individuals with disabilities, and different public transportation providers from Wayne, Oakland, and Macomb Counties, was convened to prepare the coordinated plan (SMART, 2014).

Based on stakeholder input, SMART identified existing gaps and transit riders’ unmet needs in the region. SMART then identified a set of strategies to address the identified existing gaps, which included the following:

- Identifying opportunities to provide access across service area boundaries
- Improving their signage systems to help locate the routes and stops easily
- Funding projects that increase amenities for riders with disabilities
- Implementing a web-based system to allow better and faster coordination among different transportation providers

SMART shared these strategies with their stakeholders and later prioritized them based on their stakeholders’ input. SMART also outlined available funding opportunities for implementing these strategies. However, this plan was prepared before the enactment of the FAST Act and SMART has not updated this document since. Therefore, the funding opportunities mentioned in this document may be irrelevant. A broader look at these funding opportunities shows that SMART relies on different FTA grants under different sections for project funding. In its operating and capital budget, SMART estimates that it received \$51.1 million in federal and state grants for fiscal year 2019 (SMART, 2019). These sources are summarized in Table 15.

Table 15. SMART 2019 Funding Sources

Federal Sources	State Sources	Local/Regional Sources
<ul style="list-style-type: none"> • FTA Urbanized Area Formula grants • Unified Work Program grants • New Freedom Mobility Management grant • Federal capital and operational funding 	<ul style="list-style-type: none"> • State of Michigan Act 51 Formula Funding 	<ul style="list-style-type: none"> • Contributions from County Transit Authorities (i.e., the share of local property tax revenue allocation)

Source: SMART, 2019

KEY TAKEAWAYS

Peer Survey

The peer survey revealed that many agencies **face the same barriers as Pace** when supporting and implementing pedestrian projects. The peer agencies surveyed in this effort cited funding constraints (e.g., limited and siloed funding, competing fiscal priorities), characteristics of existing development and road networks, and staff capacity as critical implementation barriers. Additional barriers included a lack of pedestrian performance measures (despite the capacity to do so) and a disconnection between the stated importance of pedestrian planning and its relative priority in the planning and funding process.

Despite these challenges, peer agencies have pursued a variety of strategies to improve pedestrian access to transit in their regions. Among **plans, programs, and policies**, agencies were most likely to rely on long-range transportation plans, project-specific studies, Title VI plans, and pedestrian plans. However, two of these frequently used plan types—long-range transportation plans and Title VI plans—received the lowest ratings on their ability to effectively support pedestrian access to transit. Conversely, the three plan types that were least likely to be used—pedestrian access to transit plans, developer regulations related to sidewalk infrastructure, and transit corridor design guidelines—were also the most likely to be viewed as effective. These findings suggest room for improvement and growth in the forms of (a) more frequent adoption of highly effective plan types and (b) efforts to improve consideration of pedestrian access in plans that are already frequently used in practice.

Peer agencies have navigated the funding landscape through a **combination of federal, state, regional, and local funding sources**. While the use of revenue-sharing agreements and public-private partnerships in pedestrian projects was rare, responding agencies frequently engaged in other types of **partnerships with other agencies** and with transportation advocacy groups in their regions. MPOs and transit agencies most frequently led these partnerships, and while formal frameworks guiding the collaboration were rare, agencies that had adopted such frameworks found them to be effective.

The peer survey results also point to **several success factors** in planning for pedestrian access to transit. Prominent among these factors included integration of pedestrian priorities across multiple levels of decision-making; the use of coordinated strategies addressing legislation, policy, and design; prioritization of pedestrian infrastructure upgrades in transit corridors; the ability to influence land acquisition for projects when supportive policies are included in long-range plans; and support from elected officials serving as champions for pedestrian needs. These success stories represent potential opportunities for pedestrian planning among Pace and its stakeholders in the region.

Peer Case Studies

The six peer agencies reviewed had many similar service characteristics to Pace, though their **organizational structures and operational emphases varied significantly**. Each agency had at least one plan that touched on pedestrian access. OCTA (Orange County, CA), SCVTA (Santa Clara County, CA), and Ride On (Montgomery County, MD) control funding and have some degree of planning authority within their service areas, so it is easier for those agencies to develop plans for pedestrian connections to transit. They had the most extensive plans and policies for pedestrian access goals and were able to dedicate funding to multimodal transit access. In contrast, NICE (Nassau County, NY) and SMART (metro Detroit, MI), which do not have planning authority or the capacity to distribute funds, had the weakest pedestrian policies originating from their agencies. Operational improvements within plans for these two agencies focused primarily on transit service characteristics, although NICE emphasized a new multimodal transfer hub as an element in their transit vision for better service in the county. Instead, the county planning documents proposed better pedestrian connections to transit. AC Transit (Alameda and Contra Costa Counties, CA), however, did prioritize pedestrian access in several plans and design manuals despite not having land use authority in its service area.

Especially for transit agencies that cannot build or maintain their own pedestrian infrastructure, **collaboration among other responsible agencies and the public** was necessary to develop strong

plans and policy frameworks that clearly place pedestrian access goals as a top priority. AC Transit's *Designing with Transit* handbook is a good example. It outlines the policies with specific pedestrian access goals and mentions which section of the handbook would be particularly helpful for which group of stakeholders. The handbook also illustrates some best practices for each of the pedestrian access policies and strategies. Likewise, SMART's Coordinated Human Services Transportation Plan contains recommendations vetted by a group of individuals who are reliant on transit, vulnerable populations, and other transportation providers. AC Transit also established coalitions with community-based organizations to understand and develop mobility solutions for low-income individuals.

Data-driven analysis is key to developing effective pedestrian solutions. Several agencies collected data and developed methodologies to prioritize pedestrian improvements. Three agencies used or created comprehensive sidewalk inventories to quantify the proportion of their service areas that lacked sidewalks, while another conducted a survey of transit riders to find out how many encountered a missing sidewalk on their walk to transit. In the case of Ride On, which sits in the county department of transportation, the agency used the information to prioritize new sidewalks and waiting areas near transit areas. They also used information about high-impact crash areas to identify priority areas for investment based on safety concerns. SCVTA, together with project stakeholders and community representatives, developed a quantitative methodology to weight pedestrian projects for capital investment and prioritization, based on several criteria such as connectivity, accessibility, equity, and cost-effectiveness. Their multicriteria decision analysis was designed to ensure community support for investments in pedestrian access to transit.

Original data collection helped develop policy in several cases. For example, AC Transit developed some guiding principles for their transit plans based on a high number of survey responses where riders indicated their desire for better multimodal pedestrian and bicycle connections to transit. Likewise, OCTA surveyed their riders and found that while many current riders wanted improved sidewalks and pedestrian crossings, many future riders also wanted to see more space dedicated to shuttles, taxis, and ride-hailing vehicles. SCVTA found the extent to which riders walked to transit and how often they faced gaps in pedestrian infrastructure along their walking routes.

Funding is a perennial problem for transit agencies. Most transit agencies do not receive funds to improve pedestrian conditions, and very few funding sources are available specifically to develop pedestrian infrastructure. In most cases, planning authorities will tie pedestrian projects into other fundable projects. Two agencies used economic development and sustainable economic practices as the primary arguments for why transit and multimodal connections to transit are important to fund. NICE, for example, clearly outlined the benefits that improving transit services may bring to Nassau County residents and Nassau County.

CHAPTER 7: POLICY RECOMMENDATIONS

OVERVIEW

After completing the research activities documented in previous chapters, the research team reviewed all project findings to prepare a list of policy recommendations that will help Pace and its partners improve pedestrian access to transit in northeastern Illinois. These recommendations are comprehensive in several ways: they span from high-level planning and policy to on-the-ground implementation; they address the full range of physical and institutional barriers identified in the research; and they cross multiple time horizons, levels of priority, and levels of decision-making. They also cover diverse substantive categories, including planning, policy, funding, coordination, education, prioritization, and amenities.

The policy recommendations stemming from this work are described by category in the sections that follow. The recommendations are also summarized at the end of this chapter in Table 16, which has been made available to Pace and other Technical Review Panel members in a spreadsheet that allows for interactive sorting and organization. The research team recognizes that some of the policy recommendations presented in this chapter may require stakeholder agencies to acquire additional financial and staffing resources, and thus may impact future budgets and resource allocations.

A. PLANNING RECOMMENDATIONS

Recommendations A1 through A4 address the planning process. Across all project activities, explicit recognition of pedestrian needs in formal planning documents was noted as a critical step in supporting pedestrian infrastructure development. The recommendations below reflect this importance, as well as the strengths and limitations of specific plan types and the potential for better data to support the planning process.

A1. Encourage Recognition in Existing Plans and in the Development of New Plans (CMAP, RTA)

Encourage local, regional, and state agencies to explicitly recognize pedestrian access to transit in existing plans and the development of new pedestrian plans.

Stakeholders viewed having a strong plan in place to support pedestrian infrastructure as crucial for justifying pedestrian improvements as part of individual projects. Several survey and interview respondents noted that it was easier to justify pedestrian-related expenditures to their respective departments of transportation if those expenditures were part of their community's vision for the transportation system. One survey respondent also attributed their community's success in implementing pedestrian projects to including clear pedestrian goals in formal planning documents at multiple levels of government—from statewide and regional long-range transportation plans to local plans and policies.

The research team therefore recommends that CMAP work with partner agencies such as RTA to encourage local, regional, and state agencies to strengthen the inclusion of pedestrian needs in their

existing and future plans, and to develop new pedestrian-specific plans where relevant. While this effort should broadly focus on pedestrian infrastructure, it should encourage other agencies to explicitly mention pedestrian access to transit as part of their approach and to set their goals accordingly. For instance, CMAP could promote a goal for agencies to have sidewalks linking from all bus stops to a specified distance (e.g., 1/4 mile) on both sides of the street. This recognition and accompanying action items could help raise the profile of pedestrian access to transit in plans and in investment decisions across multiple levels of government.

A2. Document Existing Infrastructure Conditions (Pace, IDOT, Municipalities)

Use CMAP's comprehensive sidewalk inventory and additional audits as a baseline for existing pedestrian infrastructure.

CMAP introduced its comprehensive sidewalk inventory to support pedestrian planning in northeastern Illinois during this study's time period. Given the importance of data in the planning and prioritization process, the research team recommends that Pace use this inventory to document existing pedestrian infrastructure conditions in its service area, particularly near bus stops. This work could build upon the site audits that the research team conducted for the present project, the methods and results of which are summarized in Chapter 4 and respectively detailed in Appendices E and F. By establishing baseline conditions, Pace will have a strong basis for working with communities to improve pedestrian infrastructure, justifying associated investments, and tracking its future progress in expanding pedestrian access to Pace services.

Because the CMAP inventory includes details only about the presence or absence of sidewalks and the presence or absence of buffers from vehicles, Pace should also coordinate with IDOT and municipalities to conduct more detailed audits of pedestrian conditions within walking distance of bus stops. These audits should focus on several elements of the pedestrian environment, including the condition of pedestrian crossings near bus stops, especially ones near key destinations like grocery stores, big-box retail centers, and medical centers; the condition of sidewalks and pathways on commonly traveled pedestrian routes; elements of ADA accessibility such as ramp availability, sidewalk widths, and slopes; and lighting conditions near bus stops. These audits will provide important information for IDOT and municipalities, who generally have the authority to make infrastructure changes, and for Pace as they request needed changes near bus stops.

A3. Conduct Equity Evaluation of Pedestrian Access (Pace, IDOT)

Conduct an equity evaluation of pedestrian access to transit across the Pace system.

While pedestrian access to transit is important everywhere, environmental justice considerations emphasize that disparate impacts to low-income communities and communities of color should be eliminated first. After documenting existing conditions (Recommendation A2), Pace should partner with IDOT to conduct an equity analysis with the goal of determining whether infrastructure might be disproportionately absent or in poorer condition in environmental justice communities. A list of needed improvements could be prioritized based on this equity analysis and circulated both internally for projects that Pace can address and externally to partners for improvements in the right-of-way.

Using an equity-driven methodology for project planning and selection should be emphasized in the Pedestrian Access to Transit Plan described below (Recommendation A4).

A4. Develop a Pedestrian Access to Transit Plan (Pace)

Develop a Pedestrian Access to Transit Plan that builds upon Pace's Transit Supportive Guidelines.

Pace has developed an extensive set of strategies for improving pedestrian infrastructure near bus stops through its Transit Supportive Guidelines. To build upon this work and the findings of the existing conditions evaluation (Recommendation A2) and equity analysis (Recommendation A3), Pace should incorporate its Transit Supportive Guidelines into a broader Pedestrian Access to Transit Plan that addresses both infrastructure and non-infrastructure elements of planning for pedestrian access.

As noted in the results of the peer survey (Chapter 6), Pedestrian Access to Transit Plans were among the least commonly used plans, but agencies that used them rated them as highly effective. Adopting this type of plan could effectively increase Pace's support for the development of pedestrian networks in northeastern Illinois and help ensure that Pace is a stakeholder when municipalities adopt or update their own pedestrian plans.

Pace's Pedestrian Access to Transit Plan should include the following elements: the existing Transit Supportive Guidelines, with updates as needed to reflect emerging best practices; a process for increasing connectivity between Pace's network and new development; non-infrastructure strategies that broaden the agency's approach to help pedestrians safely access transit (e.g., education and awareness campaigns and encouragement programs); and most importantly, a public and stakeholder engagement component for ensuring that diverse voices are heard in the planning process.

B. POLICY RECOMMENDATIONS

Recommendations B1 through B4 address the policy environment in which pedestrian plans and infrastructure investment decisions are made. These recommendations aim to institutionalize pedestrian planning, elevate the role of ADA compliance in planning and infrastructure development, and support communities when creating and strengthening developer regulations.

B1. Encourage Complete Streets Policies (CMAP, Counties, Council of Mayors)

Encourage development and adoption of regional, countywide, or subregional Complete Streets policies.

Complete Streets policies exist in some municipalities within northeastern Illinois but not in others, and may not be enforced even when they are present. Creating a regional Complete Streets policy, or a series of countywide policies, could help to ensure more uniform compliance. CMAP could work with area counties and the Council of Mayors to develop guidelines for policy development, saving time and supporting consistency. If a regional and/or countywide Complete Streets policy is not feasible, CMAP could provide a template for a Complete Streets policy to support municipalities who want to develop their own policies. This could help to reduce fragmentation across jurisdictions. Even

basic regional or countywide regulations are beneficial because many small municipalities do not have planning departments large enough to support and maintain a Complete Streets policy. Larger jurisdictions could build upon this framework when developing their pedestrian infrastructure policies and plans.

B2. Build Institutional Capacity for ADA Compliance and Emphasis (IDOT, CMAP, Council of Mayors)

Build institutional capacity to ensure that the ADA is a core component of all pedestrian planning activities and infrastructure investment.

Across many conversations with stakeholders in the Pace region, limited ADA compliance was raised as a significant problem affecting both the accessibility of the pedestrian environment and broader issues of mobility equity. Since laws and regulations are already in place to require ADA accommodations, the disconnect between policy and action appears to be more institutional than regulatory in nature. Municipalities and other entities would thus benefit from guidance, funding, knowledge sharing, and other efforts to build institutional capacity around ADA compliance.

To this end, the research team recommends that IDOT, CMAP, and the Council of Mayors work together to develop resources that will support ADA compliance across all stakeholders affected by federal law and, more importantly, will make ADA considerations a core component of all pedestrian planning activities and infrastructure investments. Such resources could include guidance documents outlining best practices for integrating ADA into planning processes and infrastructure interventions; providing technical assistance for ADA planning efforts; and designating funding for communities seeking to update their ADA-related plans, policies, and infrastructure. In its messaging and substance, this effort should seek to transform communities' ADA approach from one based solely on regulatory compliance to one that routinely and meaningfully integrates ADA considerations into all aspects of its pedestrian planning efforts. These resources should be critical components of the Transit Supportive Guidelines and the Pedestrian Access to Transit Plan discussed in Recommendation A4.

B3. Encourage Completion of ADA Audits and Transition Plans (IDOT, CMAP, Council of Mayors, Municipalities)

Encourage municipalities to conduct ADA audits and prepare transition plans.

As noted in the previous recommendation, ADA accessibility is a persistent challenge in the communities that Pace serves. To complement the broader, institutional capacity-related efforts outlined in recommendation B2, the research team recommends that Pace coordinate with IDOT, CMAP, and the Council of Mayors continue to encourage municipalities in the region to complete ADA audits and prepare ADA transition plans. For municipalities that are required to prepare formal ADA transition plans but have not yet done so (or have outdated plans), CMAP and IDOT should work with planners and other community representatives to conduct ADA audits and meet all regulatory requirements for the preparation of a transition plan. For municipalities that are not required to prepare a formal plan, CMAP and IDOT should still work with community representatives to encourage completion of infrastructure audits and develop strategies for compliance. While the ADA

audits will be geographically broad in scope, efforts should be made to ensure that a sufficient number of areas surrounding bus stops are included in audit activities to support ADA accessibility to Pace services.

Additionally, when pedestrian signals are installed, municipalities should ensure that locations with a significant share of older adults or people with mobility limitations have longer pedestrian clearance times than the *Manual on Uniform Traffic Control Devices* (MUTCD) mandates for minimum clearance times.

B4. Create a Template for Developer Regulations (CMAP)

Create a template for developer regulations on pedestrian infrastructure (e.g., codes, standards).

The results of this research show that developer regulations are important tools for providing pedestrian infrastructure. Through its outreach activities, the research team learned that developer regulations for pedestrian infrastructure in northeastern Illinois are generally strong and effective. Similarly, in the peer regions surveyed in Chapter 6, developer regulations received one of the highest effectiveness ratings among agencies that had used these regulations to support pedestrian access. This suggests that developer regulations play a critical role in planning for pedestrian access to transit. However, the developers consulted in this study did not typically value bus stops as important amenities for their market, suggesting that regulations are needed to ensure new developments are connected to the bus network.

In light of this critical role, the research team recommends that CMAP prepare a template for developer regulations pertaining to pedestrian infrastructure, as well as strategies for adequately enforcing these regulations. This template should provide examples and models of municipal and subdivision codes, such as minimum standards for future construction requiring adequate pedestrian infrastructure. Examples include the Village of Niles, which updated its zoning code to encourage pedestrian-oriented development along Pace's new Pulse service station areas, and Joliet, which updated its zoning code to require developers to build sidewalks near new developments. The regulation template, prepared at the regional level, could help municipalities develop their own codes (or revise existing ones) and lead to more uniform and complete development standards throughout northeastern Illinois.

C. FUNDING RECOMMENDATIONS

Recommendations C1 through C3 address pedestrian funding, which was noted as a critical barrier across all research activities and for all communities engaged in this project. These recommendations are not just about advocating for increased and dedicated pedestrian funding—an important ongoing effort—but also about identifying ways to work within the current funding landscape to expand awareness, use, and the ultimate success of diverse pedestrian funding sources.

C1. Create List of Funding and Technical Assistance Sources (CMAP, RTA)

Create and maintain a list of funding sources and technical assistance opportunities that are relevant to pedestrian infrastructure in the region.

Funding was the most consistent barrier raised by public agency staff in this research. While advocacy groups and other organizations are working to increase federal and state funding for pedestrian projects, complementary work can be done within current funding structures to maximize the benefit of available resources. CMAP and RTA should partner to create, distribute, and maintain a list of existing funding sources that can be used for pedestrian planning and project implementation in the region. This list can build upon the resources catalogued in Chapter 3 of this report, and should include a combination of traditional funding sources at multiple levels of government (e.g., CMAQ, RTA's Access to Transit grants), technical assistance opportunities (e.g., Pace's DRAFT Program), and strategies for leveraging other types of funding for pedestrian needs (e.g., including pedestrian infrastructure in larger roadway projects and other capital investments). The list can translate the results of this research into raised awareness and increased uptake of existing and future funding sources, helping communities as they navigate a funding landscape that often requires creativity in assembling resources for planning and implementation, particularly given a lack of dedicated pedestrian funding. RTA maintains a list of grant [opportunities](#) for Transit-Oriented Development (TOD) that encompasses many funding and technical assistance opportunities already. However, because the research team found many pedestrian access problems to be outside of TOD areas and corridors, a more comprehensive list that includes general pedestrian funding opportunities is important.

C2. Notify Municipalities of Funding Changes (CMAP)

Notify municipalities when there are changes in funding sources and how to best leverage them.

Building upon the previous recommendation, the research team recommends that CMAP notify communities when relevant changes occur in funding sources and provide strategies for how they can most effectively leverage these changes. This notification could come in the form of brief, one- to two-page documents, flyers, and/or email communications that describe the change, outline who is affected and how, and recommend actions that communities can take to support pedestrian planning in the context of the change. For instance, CMAP could develop best practices for using the additional transportation funding generated through the Rebuild Illinois Capital Bill; these best practices could help to ensure that the additional funding is not solely dedicated to expanding automobile infrastructure. CMAP can prepare these best practices while it updates and maintains the funding list in recommendation C1 over time. These best practices will provide additional information for communities as they navigate the considerable challenges of funding pedestrian planning and infrastructure development.

C3. Expand Technical Assistance for Pedestrian Planning (Pace)

Expand technical assistance to communities seeking to plan and fund pedestrian improvements.

Pace currently provides technical assistance for pedestrian planning through its Design Review Assistance for Transit (DRAFT) Program. This program should be included on the resource list developed under recommendation C1 and advertised more broadly as applicable. Pace should also identify opportunities for expanding this program and its overall suite of technical assistance offerings. For instance, Pace could provide help for additional stages of the planning process that precede design review (e.g., planning and project development). Pace can advertise these offerings,

as well as the existing DRAFT Program, through the education and awareness campaign to build momentum around the Transit Supportive Guidelines (see recommendation E1 below). Additional funding for technical assistance could come from creative partnerships with municipalities under programs like CMAP's Local Technical Assistance Program (LTAP).

D. COORDINATION RECOMMENDATIONS

Recommendations D1 through D5 address the need for coordination and collaboration for pedestrian improvements between agencies in northeastern Illinois. Several research activities in this study found that lack of coordination is a substantial barrier to successfully implementing pedestrian projects. Short- and medium-term measures can work within the existing institutional framework to facilitate cross-agency coordination for pedestrian infrastructure planning and implementation.

D1. Create Resources for Municipalities to Share Information (CMAP)

Create resources and ongoing opportunities for municipalities to share information about pedestrian planning and funding.

Municipalities have uneven levels of staffing and capacity to pursue and implement pedestrian improvements. Many small municipalities lack professional expertise, and frequent staff turnover creates an unfavorable environment for accumulating know-how and information critical for pedestrian planning.

CMAP, as a regional planning body and technical assistance provider to municipalities, should create resources and ongoing opportunities for municipalities to share information about pedestrian planning and funding. CMAP could host an online clearinghouse for funding, plans, and policies for pedestrian (and bicycle) infrastructure, maintaining it in partnership with regional transit agencies such as RTA and Pace. Municipalities could then share success stories on the online clearinghouse about cross-agency partnerships, funding, and other planning efforts. These resources would not only strengthen information sharing among municipalities, but also provide points of contact when municipalities need support. Building partnerships between low- and high-performing municipalities could let municipalities begin collaboratively building seamless regional networks of pedestrian facilities.

D2. Establish Central Point of Contact for Municipalities (IDOT)

Establish a central point of contact for municipalities seeking assistance with pedestrian planning and communications with IDOT.

The results of the planner interviews and surveys discussed in Chapter 2 revealed that IDOT and municipalities often may not know how to reach the right person in counterpart agencies to coordinate pedestrian projects. Because many Pace routes operate on state roads, timely work coordination among municipalities, Pace, and IDOT is critical to improve pedestrian infrastructure around Pace stops. Establishing a central point of contact at IDOT for municipalities seeking help with pedestrian planning and communications would be the easiest short-term measure to facilitate effective regional coordination.

D3. Improve Coordination among Stakeholders through the Pace Outreach Plan (Pace)

Continue to implement and expand upon the Pace Outreach Plan to support improved stakeholder coordination and cooperation.

Pace serves 284 municipalities across six counties, creating jurisdictional issues and challenges for community coordination. During the interview process described in Chapter 2, municipal planners noted a difficulty in building pedestrian facilities on state routes because IDOT policies are too focused on roadways. Planners and engineers also noted that coordination with other agencies was a common barrier, although many success stories revolved around building successful partnerships.

Pace has developed a robust outreach plan to facilitate coordination with municipalities and has assigned a community relations representative for each subregional Council of Mayors. Pace should continue these relationships and outreach efforts, and should expand upon them through education and information campaigns designed to highlight the linkages between transit and pedestrian projects. This campaign should provide a general template for cooperation between pedestrian and transit projects, clearly outlining which stakeholders should be involved, in what capacity, and in which stages of the planning process. This template will help municipalities and other stakeholder agencies to understand how and when they can engage Pace in their planning efforts. The template should recognize that for Pace to be able to make meaningful contributions and recommendations, Pace needs to be brought in an early stage.

As a complement to this expansion of its outreach efforts, Pace should partner with IDOT, municipalities, and counties to establish a working group that is tasked with ensuring meaningful coordination between agencies with the authority for roadway improvements.

D4. Implement Recommendations from Coordinated Public Transit–Human Service Plan (Multiple Stakeholders)

Coordinate with regional stakeholders to ensure recommendations for pedestrian improvements in the updated Coordinated Public Transit–Human Services Transportation Plan are addressed.

RTA released a draft Coordinated Public Transit–Human Services Transportation Plan (HSTP) in January 2021, with anticipated approval and publication of the final plan in March 2021. This plan sets forth the policies and strategies for FTA’s Section 5310 Program to enhance the mobility of older adults and individuals with disabilities. While this grant program supports the main project components for meeting special needs via demand-responsive paratransit services, agencies may also use this grant program for public transportation projects to enhance ADA access to fixed-route service. Draft recommendations relevant to pedestrian access to transit include establishing mobility management and travel training networks, improving access to suburban jobs for people with low-income, and creating an accessibility infrastructure database. These recommendations require input and coordination among nearly all the public sector agencies responsible for transportation in northeastern Illinois.

D5. Create Pedestrian Advisory Committees or Commissions (Municipalities)

Encourage municipalities to form pedestrian advisory committees or commissions to advocate for active transportation projects.

The literature review (Appendix A), peer review (Chapter 6), and planner interview results (Chapter 2) suggest that strong community support is a key ingredient for successfully executing pedestrian infrastructure improvements. Advocates and community groups can play important roles in making the case for pedestrian infrastructure to town councils and other decision-makers, turning the requests into campaigns and projects. Pedestrian (and bicycle) advisory committees or commissions can work as important channels to formalize the participation of advocates and community groups. These committees can help to identify unsafe intersections, provide input on proposed developments, and keep pedestrian (and bicycle) needs at the forefront of transportation planning and decision-making. The research team thus recommends that CMAP work with municipalities to encourage and support the formation of pedestrian advisory committees in the region.

E. EDUCATION AND TRAINING RECOMMENDATIONS

Recommendations E1 through E3 address the needs for education and training for key personnel. This study's research activities have shown that success stories begin with agency priorities and a supportive culture for multimodal transportation and pedestrian infrastructure. Promoting Pace's Transit Supportive Guidelines, developing education and training programs for municipal staff members and elected officials, and developing an awareness campaign for community members are crucial to these successes.

E1. Continue to Promote Pace's Transit Supportive Guidelines (Pace)

Continue to build an awareness campaign and associated training materials to promote and increase uptake of Pace's Transit Supportive Guidelines.

Pace published its Transit Supportive Guidelines in 2013 to help developers, municipal staff, elected officials, and transportation professionals create transit supportive development. The material contains design guidelines for Pace infrastructure and facilities as well as pedestrian facilities, land use, and site design around transit stops. Peer survey results in Chapter 6 indicate that transit corridor design guidelines are not commonly created but are effective when used to promote pedestrian access to transit. Pace has conducted a robust outreach campaign, including video and conference presentations, workshops, and promotional materials. Pace should continue these outreach and coordination efforts, updating materials and web content in a way that emphasizes the importance of these guidelines and offers instruction on how to use them. Pace can also develop two-page summary briefs for each category and an executive summary for the guidelines as a whole to use as promotion materials. The Transit Supportive Guidelines can also be used as core materials for training and education programs for municipal staff members and elected officials (Recommendation E2).

E2. Develop Training for New Municipal Staff and Elected Officials (Pace, CMAP, IDOT, Council of Mayors)

Develop training for new municipal staff members and elected officials to understand the importance of pedestrian infrastructure and available regional resources.

Suburban municipalities, especially smaller ones, often lack the capacity and professional expertise needed for pedestrian infrastructure planning. Furthermore, staff turnover can lead to information being lost in the transition. To facilitate consistent and stable coordination with local governments, Pace, in partnership with CMAP, IDOT, and the Council of Mayors, should develop training for new municipal staff members and elected officials to help them understand the importance of pedestrian infrastructure and available regional resources. This training may include, but not be limited to, the role of pedestrian access to transit, Pace's Transit Supportive Guidelines (Recommendation E1), and information on funding sources, technical assistance programs, and other regional resources. The lead organizations could design this training in various ways, including online classes, webinars, and workshops. Training for elected officials could emphasize how pedestrian improvements would benefit residents and businesses in their communities. Pace and CMAP can also partner with professional associations such as the American Planning Association (APA), and American Public Works Association (APWA) to conduct training for municipal planning staff members. This effort is critical to overcoming the barriers that planners noted in the Chapter 2 interviews, including competing investment priorities, lack of awareness among elected officials, and limited staff capacity. Training programs will not only supplement lack of professional expertise in this area but also create and nurture a supportive culture for planning and implementing pedestrian infrastructure.

E3. Develop an Awareness Campaign for Community Members (Pace, Active Trans, CMAP, RTA)

Develop an awareness campaign for community members to understand the importance of pedestrian infrastructure.

As emphasized above, community support is very important for successfully planning and implementing pedestrian infrastructure. However, residents in many suburban communities are often accustomed to driving and therefore do not support other travel modes. The research team recommends that Pace develop a partnership with the Active Transportation Alliance (Active Trans), CMAP, RTA and other advocacy groups to develop an awareness campaign for community members to understand the importance of pedestrian infrastructure. Active Trans has been working with community partners in the Chicago region to support grassroots action for promoting active travel modes and transit. Active Trans's networks and community work experience would be an asset for effective campaigning. Enhanced community awareness and coalitions within communities for pedestrian infrastructure may lead to a political landscape in which elected officials would prioritize pedestrian improvements.

F. PRIORITIZATION RECOMMENDATIONS

Recommendations F1 through F3 address prioritization of pedestrian projects. While interviews and surveys in the region show that pedestrian access has gained importance in recent years, pedestrian projects still lag behind other priorities in funding allocation. These recommendations suggest ways to further prioritize pedestrian projects within the current funding and political landscape.

F1. Revise Prioritization and Funding Allocation Formulas (IDOT, CMAP, Council of Mayors, Counties, Municipalities)

Revise prioritization and funding allocation formulas to strengthen pedestrian-related criteria and prioritize transit corridors.

Most agencies in the region, including IDOT, CMAP, the Council of Mayors, Pace, RTA, and many municipalities and counties, use established formulas or matrices to prioritize transportation projects and allocate transportation funding. However, pedestrian-related criteria are not always included in roadway and intersection project evaluation matrices. Because pedestrian projects are difficult to fund on their own, agencies can improve pedestrian facilities by strengthening pedestrian-related criteria and prioritizing transit corridors in their funding allocation formulas. The current agreement between the City of Chicago and the CMAP Council of Mayors on the distribution of locally programmed Surface Transportation Program (STP) block grant funds requires each individual subregional council and the City to establish its own methodology for project selection and to allocate 25% of those points to regional priorities that include the complete streets factor. However, this factor only takes into account whether or not the sponsors of projects have adopted a complete streets ordinance, but does not consider complete streets elements of individual projects. In addition, the weights awarded to the complete streets factor and the scopes of eligible projects for locally programmed STP funds also vary across subregional councils. While on-street pedestrian/bicycle facilities are included in the DuPage Council's program, pedestrian projects are not eligible in most other subregions. Revising these types of formulas would support greater priority and funding levels for pedestrian infrastructure in the region.

In addition to revising funding prioritization formulas, all government agencies that have rights-of-way should streamline transit-related permit processes. Within existing permit processes, transit-related facilities such as signs, shelters, and sidewalks are often considered "nonstandard," which creates various issues from process interpretation to creating new procedures that delay implementation. Government agencies from municipalities and counties to IDOT can expedite the process by establishing a standard review and submittal process for basic transit and pedestrian improvements.

F2. Strategically Promote Pedestrian Projects (Municipalities)

Implement low-cost, short-term projects and roll pedestrian improvements into larger capital projects to strategically support pedestrian infrastructure.

Given little or no dedicated funding for pedestrian projects and competing investment priorities, local governments will benefit from strategic and opportunistic actions. Most municipalities include

pedestrian infrastructure improvements in street improvement projects, such as installing or improving sidewalks when roadways are expanded or resurfaced. Municipalities should implement as many low-cost and short-term pedestrian projects as possible whenever roadways and intersections are to be redone. This strategy is critical because pedestrian projects rarely receive federal or state grants on their own and because a series of short-term projects can create small “wins” that build momentum for larger changes. When local plans and policies for pedestrian infrastructure are well established (Recommendations A and B), municipalities can more easily make the case for sidewalks and other pedestrian infrastructure to be included in larger capital projects.

F3. Use Crash Data to Identify Priority Areas for Investment (Municipalities)

Use information about high-impact crash areas to identify priority areas for investment based on safety concerns.

Local governments should track traffic crash data and use information about high-injury crash areas to identify priority areas for investment based on safety concerns. Grant programs specifically designed to improve safety exist and other grant programs typically include safety as an evaluation factor in grant allocation. Thus, enhancing pedestrian safety can thus serve as an important rationale for prioritizing pedestrian infrastructure given limited funding. Identifying priority areas for safety improvements would also contribute to more efficient use of scarce funding resources for pedestrian infrastructure.

G. AMENITY RECOMMENDATIONS

Recommendations G1 through G3 address amenities available to pedestrians accessing Pace. A pedestrian environment that is unaccommodating to individuals increases the friction in getting to transit and makes it less likely that those who have other options will ride transit. It can also create dangerous conditions for those who must ride transit. Several of the recommendations in this section reflect comments from current Pace riders.

G1. Implement a Better Bus Stops Program (Pace)

Implement a Better Bus Stops Program that is focused on improving shelters, transit information, and ADA access to bus stops.

The goal of a Better Bus Stops Program is to ensure that every bus stop has basic amenities and infrastructure for riders. Under this program, modeled after one that the Valley Transportation Authority (VTA) implemented in Santa Clara County, California (see Chapter 6), Pace would evaluate the conditions of its bus stops across northeastern Illinois and seek user feedback via surveys and an online rating system to create a project priority list for installing amenities such as shelters, benches, lighting, schedule information (static or real time), trash receptacles, and functional landscaping. Once this priority list is established, Pace should continually review it to take advantage of capital funding opportunities that are available via direct grants or that are bundled as part of other transportation infrastructure improvements. However, all stops should at least be ADA accessible, include a concrete pad or other paved area where riders in wheelchairs or with mobility limitations can safely disembark, and have route information on the bus stop sign. Pace could consider

implementing the Better Bus Stops program in a continual review process or as a second phase of the Posted Stops Only conversion once funding and implementation barriers have been resolved.

G2. Review the Process for Reporting Shelter and Stop Issues (Pace)

Review the process for reporting shelter and stop issues so that bus users and community organizations can easily contact Pace and receive quick responses.

While it was not the most prominent theme in the bus rider interviews and not reported in detail in Chapter 5, many interviewees did not know whom to contact when there were issues around Pace bus stops, such as needs for snow and ice removal, litter clean up, or other maintenance. Pace should review the process for reporting these problems so the public can contact the relevant agencies and receive quick responses for proposed solutions. One avenue for ensuring continuing maintenance of bus stops is an adopt-a-shelter program that would allow community groups or corporate sponsors to advertise at shelters in exchange for keeping stops in working order. Pace had an adopt-a-shelter program in the past, but it was discontinued because of administrative issues. Pace could consider conducting a postmortem review on the program to determine whether the challenges could be resolved so as to allow them to revive it.

Table 16. Policy Recommendations

Policy Recommendation	Category 1	Category 2	Timeline	Priority	Stakeholder Agencies
A1. Encourage local, regional, and state agencies to explicitly recognize pedestrian access to transit in existing plans and the development of new pedestrian plans.	A. Planning	Coordination	Medium	High	CMAP, RTA
A2. Use CMAP’s comprehensive sidewalk inventory and additional audits as a baseline for existing pedestrian infrastructure.	A. Planning	Data	Short	Medium	Pace, IDOT, Municipalities
A3. Conduct an equity evaluation of pedestrian access to transit across the Pace system.	A. Planning	–	Short	High	Pace, IDOT
A4. Develop a Pedestrian Access to Transit Plan that builds upon Pace’s Transit Supportive Guidelines.	A. Planning	–	Medium	High	Pace
B1. Encourage development and adoption of regional, countywide, or subregional Complete Streets policies.	B. Policy	Coordination	Medium	High	CMAP, Counties, Council of Mayors
B2. Build institutional capacity to ensure that the ADA is a core component of all pedestrian planning activities and infrastructure investment.	B. Policy	ADA	Medium	High	IDOT, CMAP, Council of Mayors
B3. Encourage municipalities to conduct ADA audits and prepare transition plans.	B. Policy	ADA	Medium	High	IDOT, CMAP, Council of Mayors, Municipalities
B4. Create a template for developer regulations on pedestrian infrastructure (e.g., codes, standards).	B. Policy	Developers	Medium	Medium	CMAP
C1. Create and maintain a list of funding sources and technical assistance opportunities that are relevant to pedestrian infrastructure in the region.	C. Funding	Coordination	Short	High	CMAP, RTA
C2. Notify municipalities when there are changes in funding sources and how to best leverage them.	C. Funding	Coordination	Medium	High	CMAP
C3. Expand technical assistance to communities seeking to plan and fund pedestrian improvements.	C. Funding	Coordination	Medium	Medium	Pace
D1. Create resources and ongoing opportunities for municipalities to share information about pedestrian planning and funding.	D. Coordination	Planning	Medium	High	CMAP
D2. Establish a central point of contact for municipalities seeking assistance with pedestrian planning and communications with IDOT.	D. Coordination	–	Short	Medium	IDOT
D3. Continue to implement and expand upon the Pace Outreach Plan to support improved stakeholder coordination and cooperation.	D. Coordination	Planning	Medium	High	Pace

Policy Recommendation	Category 1	Category 2	Timeline	Priority	Stakeholder Agencies
D4. Coordinate with regional stakeholders to ensure recommendations for pedestrian improvements in the updated Coordinated Public Transit–Human Services Transportation Plan are addressed.	D. Coordination	Planning	Short	Medium	Multiple Stakeholders
D5. Encourage municipalities to form pedestrian advisory committees or commissions to advocate for active transportation projects.	D. Coordination	Planning	Medium	Medium	CMAP, Municipalities
E1. Continue to build an awareness campaign and associated training materials to promote and increase uptake of Pace’s Transit Supportive Guidelines.	E. Education	Coordination	Short	High	Pace
E2. Develop training for new municipal staff members and elected officials to understand the importance of pedestrian infrastructure and available regional resources.	E. Education	Coordination	Medium	Medium	Pace, CMAP, IDOT, Council of Mayors
E3. Develop an awareness campaign for community members to understand the importance of pedestrian infrastructure.	E. Education	Coordination	Medium	Medium	Pace, Active Trans, CMAP, RTA
F1. Revise prioritization and funding allocation formulas to strengthen pedestrian-related criteria and prioritize transit corridors.	F. Prioritization	Funding	Medium	High	IDOT, CMAP, Council of Mayors, Counties, Municipalities
F2. Implement low-cost, short-term projects and roll pedestrian improvements into larger capital projects to strategically support pedestrian infrastructure.	F. Prioritization	Implementation	Short	High	Municipalities
F3. Use information about high-impact crash areas to identify priority areas for investment based on safety concerns.	F. Prioritization	Data	Medium	Medium	Municipalities
G1. Implement a Better Bus Stops Program that is focused on improving shelters, transit information, and ADA access to bus stops.	G. Amenities	Planning	Long	High	Pace
G2. Review the process for reporting shelter and stop issues so that bus users and community organizations can easily contact Pace and receive quick responses.	G. Amenities	Coordination	Medium	Medium	Pace

CONCLUSIONS

Summary of Findings

The purpose of this project was to identify challenges to and opportunities for providing pedestrian access to transit in suburban northeastern Illinois, identifying strategies that Pace and its partner agencies can use to successfully implement pedestrian infrastructure near transit service. To achieve this goal, the research team conducted a comprehensive set of research activities including documentation of the state of pedestrian planning and policy, identification of potential resources and funding opportunities, a review of strategies that peer transit agencies have used, and identification of barriers through interviews with Pace riders and a variety of regional stakeholders.

The research team reviewed existing plans, policies, and programs in the Pace service area (Chapter 2). This helped to identify planning and policy resources in the region, as well as key challenges such as funding constraints and the need to retrofit suburban infrastructure. In Chapter 3, the team identified and compiled federal, state, regional, and local funding sources for pedestrian projects, adding to the funding context of this work. Pedestrian projects usually do not have dedicated funding, making it beneficial to include pedestrian improvements as part of larger capital projects.

The research team conducted interviews with six different stakeholder groups (Chapter 4), which led to identification of additional barriers related to funding, competing priorities, and jurisdictional issues. Interviewees suggested the value of strengthening relationships with county and state representatives, and considering pedestrian and transit needs at the beginning of a project. The research team also conducted field and virtual audits of selected communities to more fully characterize physical barriers to transit access. To complement these results, the research team conducted interviews with Pace riders (Chapter 5). Most riders reported a positive experience with pedestrian access to transit in their communities, although the interview analysis highlighted deficiencies in existing sidewalks, crossings, transit areas, and lighting.

Finally, the research team reviewed strategies that peer agencies have used to facilitate pedestrian access to transit via a survey and case studies (Chapter 6). Peer agencies face similar barriers to Pace—particularly with respect to funding—and have used a variety of strategies to address these barriers, including plan and policy development, diverse funding strategies, original data collection and data-driven analyses, and collaborative partnerships with stakeholder agencies and advocacy groups.

Recommendations

The results of these research activities were used to develop policy recommendations that Pace and its partner agencies can use to improve pedestrian access to transit in northeastern Illinois. These policy recommendations are divided into seven categories: planning, policy, funding, coordination, education/training, prioritization, and amenities. The policy recommendations range from high-level planning to on-the-ground implementation and span multiple agencies, time horizons, and levels of prioritization. Similar suburban transit providers, municipalities, MPOs, and other agencies can use these recommendations to address the physical and institutional barriers to implementing safe, convenient, and accessible pedestrian infrastructure in transit service areas.

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APPENDIX A: LITERATURE REVIEW

OVERVIEW

During this phase of the project, the research team reviewed the academic and gray literature pertaining to pedestrian access to transit. The purpose of this review was to provide context for all subsequent research activities, including the identification of implementation barriers and potential strategies to address these barriers. The review drew upon a variety of resource types, including academic journal articles, white papers, and agency reports and guidance. Broadly, the results of the literature review reaffirmed the importance of pedestrian access to transit, identified existing design guidelines for pedestrian infrastructure, and revealed critical funding issues and other barriers to the successful implementation of pedestrian projects. These themes are discussed in the sections below, followed by a summary of key findings from the literature review.

KEY THEMES IN THE LITERATURE

Importance of Pedestrian Access to Transit

Pedestrian access is an essential component of effective, equitable, and efficient public transit systems. Unlike personal vehicles, which generally provide door-to-door transportation, public transit generally requires users to complete the first and last segments of a trip on their own, most often by walking to and from a transit stop or station. Among other factors, the success and reach of a public transit service largely depend on overcoming this “first-/last-mile challenge” (Los Angeles County Metropolitan Transportation Authority, 2014; Nabors et al., 2008).

According to the American Public Transportation Association’s (APTA) 2017 compilation of 211 transit user surveys for 163 transit systems, 69% of transit riders (81% for bus and 55% for rail) walk from their trip origin to their stop/station, and 76% of transit riders (80% for bus and 72% for rail) walk from their stop/station to their destination. Moreover, 10% to 16% of the remaining access and egress mode shares are by another form of transit (e.g., bus ride to rail stop), which still needs to be accessed by walking in most cases; this makes walking an even more predominant first-/last-mile access and egress mode. While many transit riders in outer-ring suburban areas use private cars to reach rail stations (Cervero, 2001), urban transit users and bus transit riders predominantly walk to and from transit stops.

Transit users are more likely to walk and are willing to walk farther to access transit in more pedestrian-friendly station areas. Because most transit users walk to and from their transit stops, distance to the nearest transit stop is a significant predictor of transit use, especially because most transit demand comes from immediate neighborhoods. A meta-analysis by Ewing and Cervero (2010) show that a 10% longer distance to a transit stop is associated with a 2.9% lower likelihood of transit use. Planners typically use a half-mile catchment area (approximately 10-minute walking distance) for rail transit and a quarter mile for bus transit to estimate transit demand (Canepa, 2007; Guerra et al., 2012). Many empirical studies support these thresholds. Wang and Cao (2017) show that, on average, transit riders in the Minneapolis region walk about 0.3 miles to bus stops and 0.4 miles for light rail

transit (LRT); 85th percentile walking distances were approximately 0.5 miles and 0.68 miles for bus and LRT, respectively. Another survey of pedestrians to LRT stations in California and Oregon also shows that mean and 75th percentile walking distances were about 0.5 miles and 0.68 miles, respectively (Agrawal et al., 2008). While a quarter to a half mile is a good approximation of how far transit riders are willing to walk to and from transit stops, actual walking distances vary substantially, depending on local context and circumstances (Van Soest et al., 2020).

The literature suggests that the built environment and pedestrian facilities in transit station areas, as well as the characteristics of individual transit users and transit services, strongly influence how far transit users are willing to walk to access transit and hence affect transit demand in station areas. All “three D” components of the built environment—density, diversity, and design (Cervero & Kockelman, 1997)—affect transit riders’ walking distances. Empirical studies show shorter average walking distances in high population density areas because transit stop density is also likely to be high in densely populated areas (El-Geneidy et al., 2014; Tao et al., 2020). Mixed land uses around transit stations are positively associated with walking distance because transit riders are willing to walk farther to transit in areas with highly mixed land uses (Tao et al., 2020). Wang and Cao (2017) found this tendency to be stronger in suburban areas and recommended promoting mixed-use developments along transit routes to expand transit stop catchment areas.

More importantly, well-connected street layouts, which are often proxied by street and intersection densities, also encourage transit users to walk farther to transit stations (El-Geneidy et al., 2014; Tao et al., 2020), resulting in extended walksheds and potentially increased transit demand. A survey of rail transit users in California and Oregon (Agrawal et al., 2008) offers insights behind street connectivity’s positive impacts. They gave top priority to minimizing walking distance, followed by safety factors, when choosing their route to and from transit stops. Sidewalk provisions and street dimensions also significantly influence the probability of walking to and from transit stations (Cervero, 2001). A more recent study using a comprehensive set of path walkability indicators, which included sidewalk amenities, traffic impacts, landscape elements, and street scale, shows that microlevel walkability has a statistically significant influence on access mode choices (Park et al., 2015). Walking-conducive changes to these aspects of the built environment increase travelers’ probability of choosing walking over driving (Park et al., 2015).

Enhancement of pedestrian access to transit is also important from a social equity perspective. Low-income households are less likely to own a car and more likely to walk, bike, or use transit. Ensuring safe and convenient access to and from transit services without cars saves money for transit-dependent populations and improves their transit experience (McNeil et al., 2017). Easy access to transit is also critical for low-skilled workers, many of whom do not own private vehicles, to access job opportunities. Indeed, empirical studies show a significant relationship between transit accessibility and employment outcomes among low-skilled workers and those with low educational attainment (Johnson et al., 2017; Merlin & Hu, 2017). Universal access to transit for people with disabilities is also critical from an equity perspective. Fixed-route transit service can better serve the immediate travel needs of people with disabilities because complementary paratransit typically requires making a reservation the previous day (Thatcher et al., 2013). Increased fixed-route transit use among current paratransit users would also benefit transit agencies because a paratransit trip

typically costs 10 times more than a fixed-route trip (APTA, 2012). While the accessibility of bus and rail transit facilities has been substantially improved since the passage of the Americans with Disability Act (ADA) in 1990, the lack of safe pathways to transit stops/stations still discourages many people with disabilities from using fixed-route services (Thatcher et al., 2013; DiPetrillo et al., 2018).

Promoting transit ridership by improving pedestrian access to transit can also affect travel activities in ways that could bring significant public health benefits. The Centers for Disease Control and Prevention's guidelines suggest that 150 minutes of moderate-intensity aerobic physical activity per week offer substantial health benefits, including reduced risk of chronic diseases and premature death (CDC, 2020). Walking to and from transit stops greatly contributes to meeting these physical activity recommendations. A study of the 2001 National Household Travel Survey, for instance, shows that transit users walk for an average of 19 minutes daily and that 29% of transit users meet the 30 minutes of daily physical activity recommendation solely by walking to and from transit (Besser & Dannenberg, 2005). Many additional studies provide similar results for moderate-intensity physical activity associated with public transit use (Morency et al., 2011; Freeland et al., 2013; Yu & Lin, 2016). Furthermore, Lachapelle and Frank (2009) found that the probability of obesity is significantly lower among transit users because of additional walking compared to people who use automobiles. Additional health benefits of improved walkability around transit stations include reduced emissions of air pollutants (Frank et al., 2006) and lower fatality rates from traffic crashes to the extent that increased transit ridership replaces driving (Litman & Fitzroy, 2006).

Guidelines and Policies for Pedestrian Access to Transit

This section reviews the legal context, guidelines, and policies for pedestrian access to transit. Two federal laws largely shape the legal context for transit access that emphasizes universal accessibility to transit services. These include Section 504 of the 1973 Rehabilitation Act and the 1990 Americans with Disabilities Act (ADA), both of which prohibit discrimination based on disability. In 2015, the Federal Transit Administration (FTA) released instructions that helped their funding recipients comply with ADA regulations when implementing access to transit projects.

The United States Access Board also provides a set of accessibility guidelines for transportation vehicles (1998) and a set of standards to ensure ADA accessibility for transportation facilities (2006). However, these ADA standards lack guidelines for ensuring safe and comfortable access to transit facilities from surrounding neighborhoods because they focus on design requirements for transit stops/stations and vehicles to accommodate the needs of passengers with disabilities.

Recognizing the importance of safe and comfortable pedestrian access for the success of transit systems, many federal agencies have published policy and design guidelines for transit agencies. The Federal Highway Administration (FHWA) provides guidelines for practitioners seeking to develop multimodal transportation networks (Porter et al., 2016). Their document *Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts* highlights how practitioners can address various roadway design challenges and barriers. It focuses on achieving connected networks to encourage more walking and biking for people of all ages.

FHWA's *Pedestrian Safety Guide for Transit Agencies* outlines several tools and techniques that transit agencies can use to assess pedestrian accessibility to transit and identify safety issues. The tools include a bus stop audit checklist, pedestrian behavior survey, facility inventories for pedestrian catchment areas, and basic engineering guidelines for safe pedestrian access to transit (Nabors et al., 2008). Because transit agencies lack the authority to make necessary changes for pedestrian safety in many cases, the guide also recommends that transit agencies develop partnerships with local, regional, and state agencies, residents and community groups, and land developers.

APTA published a recommended practice document to support transit agencies, local jurisdictions, developers, planners, and architects in making informed decisions for enhancing transit access. This document describes on-street bus stop location and design features, provides guidelines for street design, and recommends street connectivity to support access to transit (APTA, 2012). Better access to transit stops is dependent upon many different factors. APTA (2012) emphasizes the following guiding principles for designing transit stations:

- Direct connectivity of origins and destinations to transit stations/stops.
- Universal access (regardless of physical ability) to transit stations for people of all ages.
- Ensuring safety for first-/last-mile connections.
- Ensuring transit user comfort (e.g., bus stops protected from climatic extremes).
- Ensuring better legibility (i.e., signage).

Beyond these federal guidelines and standards, other organizations in the transportation field offer additional design and guidance documents for enhancing pedestrian access to transit services. The National Association of City Transportation Officials (NACTO), for example, has guidelines on critical design elements to create efficient streets that can accommodate transit vehicles. These guidelines contain design recommendations for transit streets, lanes, intersections, stations, and stops. NACTO's guidelines emphasize the importance of ensuring safe and convenient pedestrian and bicycle access to transit services (NACTO, 2016). The most common and basic design components for pedestrian access to and from transit in these guidelines are continuous sidewalks and safe pedestrian crossings on both sides of the street where transit services are available (NACTO, 2016). Safe and convenient location, design, and signage of transit stops are additional common components.

Beyond design guidelines, FTA's *Manual on Pedestrian and Bicycle Connections to Transit* (McNeil et al., 2017) offers implementation strategies to promote walking and bicycling connections, including setting agency priorities and culture, interagency collaboration, pilot projects, available funding, marketing and promotion, and data collection and evaluation. It also emphasizes the importance of making plans for pedestrian and bicycle access and provides examples of successful first-/last-mile access plans. Regional transit agencies or metropolitan planning organizations (MPOs) typically lead the plan-making process in partnership with local governments.

Funding Issues and Implementation Barriers for Pedestrian Projects

Improving first- and last-mile connections comes with notable challenges, especially for public transit agencies that provide bus services to automobile-oriented, low-density suburban areas. These agencies face the heightened challenges of improving first-/last-mile access in areas typically lacking sidewalks and/or pedestrian crossings, wide arterials with high-speed and heavy vehicle traffic, and disconnected street layouts in pedestrian access sheds. These challenges often deter people from walking to bus stops or stations. However, as daunting as these challenges are, the most fundamental barriers to retrofitting suburban streets are funding and institutional issues.

Transit agencies face critical funding issues that limit their ability to address pedestrian barriers and walkability concerns. While agencies are required to meet ADA standards, these mandates do not come with additional funding from the federal government. A survey of 152 transit agencies (DiPetrillo et al., 2018) shows that financial limitations are the primary constraint to improving pedestrian accessibility to transit, including making ADA improvements.

Most transportation acts also do not mandate spending on bicycle and pedestrian infrastructure, although federal funding sources have significantly increased for these active transportation modes since the Intermodal Surface Transportation Efficiency Act of 1991. Therefore, federal resources applied to pedestrian and bicycle infrastructure are not only insufficient, but also highly inconsistent across metropolitan areas (Handy & McCann, 2010).

A study of federal expenditures on approximately 10,000 pedestrian or bicycle projects (Cradock et al., 2009) found disparities in implementation by different demographic and socioeconomic factors. It revealed that counties with persistent poverty or low education status were less likely to implement pedestrian or bicycle projects. The authors also found that county type also had a significant influence. Non-metropolitan areas in counties were less likely to implement bicycle or pedestrian projects possibly because the dispersed land-use patterns in these areas make it difficult to justify non-motorized transportation projects as a purely transportation-focused project under FHWA program guidelines. Another study of federal funding shows that investment in pedestrian projects is often dependent upon state policies and the MPO's response to those policies. Support from local governments and local advocacy groups plays a strong role in leveraging federal funding for such investments (Handy & McCann, 2010).

Given limited federal and state funding for pedestrian projects, transit agencies and local governments need to rely on local and creative financing to invest in pedestrian infrastructure. Miller and Coutts's (2018) case studies discussed how American cities are using crowdfunding, donations, bonds, tax increment financing, and sales taxes to fill the existing funding gap at the local level. Denver, for example, tried to use crowdfunding, which consisted mostly of donations through an online platform, but could not raise enough money. However, they used the donations they received to provide other benefits such as raising awareness and encouraging other larger organizations to fund pedestrian and bicycle projects. Bonds, tax increment financing, and sales taxes, in contrast, raised significant funds in Salem, Oregon; Tallahassee, Florida; and Sugar Land, Texas. However, these mechanisms are dependent upon the condition of the local economy and require targeted campaigning to gain political support. The authors also stressed that along with the cities' pedestrian

and bicycle vision and process, it is necessary to create a compelling story to attract multiple partners to finance pedestrian and bicycle projects.

Transit agencies face additional barriers because they are often unable to take independent actions to enhance pedestrian access to transit. The most common reason is the lack of authority to implement initiatives on properties that the agency does not own. Therefore, FHWA stresses the importance of building partnerships with other organizations as well as local governments (Nabors et al., 2008). The aforementioned survey of transit agencies (DiPetrillo et al., 2018) also reveals that they are facing various institutional issues, such as acquisition of state and local permits, requirements to purchase land for transit stops and shelters, policy barriers to build improvements on unincorporated lands, lack of coordination among different agencies and stakeholder groups, inconsistent rules and regulations across multiple (overlapping) jurisdictions, and limited (or no) policies requiring sidewalks for existing development.

To overcome all these institutional barriers, transit agencies should formally and informally collaborate with cities, counties, MPOs, and state DOTs, as well as advocates and community groups. Regional collaboration and coordination to improve the transportation system can happen along a wide spectrum from less-formal coordination (e.g., informal information sharing, coordinated actions) to more formal collaboration (e.g., a shared vision, interagency partnerships, joint projects, shared use of resources) (FHWA, 2002). Because most transit systems operate across jurisdictional boundaries, transit agencies and MPOs should play a leading role in convening all parties for collaboration and their role can range from training and technical assistance for cities to directly funding projects (McNeil et al., 2017). Intergovernmental collaboration can often lead to cost savings through sharing each party's expertise and resources and creative funding opportunities (DiPetrillo et al., 2018). Partnership with advocacy or community groups is also important in articulating needs, exploring innovative approaches, and implementing education programs (McNeil et al., 2017).

KEY TAKEAWAYS

The literature review affirmed that there is a **strong connection between pedestrian infrastructure and transit accessibility**. Because most transit users are pedestrians on at least one end of their trip, pedestrian accessibility can influence travelers' decisions about whether to take transit. Indeed, many studies and survey results show that walking is a predominant first- and last-mile access mode to transit, especially for urban transit users and bus riders. Most transit demand therefore comes from neighborhoods near transit stops.

Although planners tend to rely on half-mile and quarter-mile catchment areas for rail and bus transit, respectively, research suggests that the built environment and pedestrian facilities in transit station areas strongly influence how far riders are willing to walk to and from transit stops. Specifically, studies show that transit riders tend to walk farther in station neighborhoods with mixed land uses and a well-connected street network, which results in extended walk sheds and increased transit demand.

Several **guidelines may help** when developing appropriate pedestrian infrastructure to increase pedestrian use and connections to transit. The Americans with Disabilities Act provides accessibility

guidelines. The Federal Transit Administration provides guidelines for developing pedestrian infrastructure and for meeting ADA requirements. The Federal Highway Administration also publishes pedestrian infrastructure development guidelines.

The literature review also revealed barriers that are likely to influence pedestrian infrastructure development. First, **funding is a prominent and critical barrier**, and many sources show that federal funding is limited, placing the burden on states and municipalities. However, cities may find creative ways to fill the funding gap, including crowdfunding, donations, bonds, tax increment financing, and sales taxes.

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APPENDIX B: PLANNER INTERVIEW GUIDES

PLANNER INTERVIEW GUIDE

Hello, my name is XXXX and I am a graduate student in the Department of Urban and Regional Planning at the University of Illinois. Thanks for speaking with me today. This interview is a part of an Illinois Center for Transportation project titled- “Construction of Pedestrian Infrastructure Along Transit Corridors.” This project seeks to identify planning and policymaking barriers to improving pedestrian access to transit in northeastern Illinois. This project focuses on on-street pedestrian infrastructure rather than trails or paths.

After an initial website scan of selected municipalities in the region, we have prepared an inventory of relevant policies and funding sources regarding pedestrian planning in these places. This interview will help us expand upon this preliminary inventory. It will also help us develop a survey that we will send to all municipalities in the region for their feedback in this project’s next phase.

We would like to record the interview for our records. Do we have your permission to record the interview? *[Note: If the interviewee declines recording, we will take detailed notes via laptop during the conversation.]*

Existing Infrastructure

I’d like to start by asking you about existing pedestrian infrastructure in your community. Remember that we are interested primarily in on-street infrastructure such as sidewalks and crosswalks.

1. Please tell me about the existing pedestrian network in your community. In general, how would you rate the overall quality of the network? Are there any major concerns or challenges with the existing infrastructure?
2. Now think more specifically about pedestrian access to Pace. How well does the existing pedestrian network connect to Pace bus stops? To what extent does this connection help or hinder transit ridership?

Plans, Programs, and Policies

Next I’d like to ask you about the plans, programs, and policies that your community has in place to support on-street pedestrian access and infrastructure.

3. I sent you a draft list that we found from a scan of your community’s website. Is this list accurate? Are there any other plans, programs, or policies that are not listed here but may be relevant to how your community plans for on-street pedestrian access and infrastructure? ?
 - a. *[For any new items mentioned]* Please tell us about how this plan/program/policy works.
 - b. *[If any of the items that we collected in the initial website scan were unclear]* Can you please tell us more about XXXX plan/program/policy?
4. Thinking about the plans, programs, and policies in your community related to on-street pedestrian access and infrastructure, which of these plans, programs, and policies have been successful? Which of them have not? Why or why not?
5. Are there any monitoring, evaluation, or maintenance plans for sidewalks? What are the existing resources for maintaining sidewalks?

Developer Regulations

Next, I'd like to ask about regulations for new developments.

6. Do your subdivision ordinances require private development to include on-street pedestrian improvements or connections to transit?
 - a. Are there ways these requirements can be waived?
 - b. If sidewalk improvements are waived, what are the common reasons that they are waived and not implemented?
7. If sidewalks are successfully integrated, what is ensuring that this happens?
8. Are there elements beyond your village's control which you feel may be impacting whether or not sidewalks are in fact implemented?

Funding

Next, I'd like to ask you about the funding sources that your community uses to support on-street pedestrian planning and infrastructure.

9. What are the federal, state, and local funding sources that you receive money from to implement pedestrian projects?
 - a. Are these sources one-time or dedicated/ongoing funding?
 - b. Do you have dedicated pedestrian funding from any source? If so, please tell me about it.
 - c. If these funds could be used for different purposes, how does your community decide how to distribute this funding?
10. Are there other funding sources that you have applied to but not received?
 - a. Have you had any grant writing successes or challenges for pedestrian projects? If so, please describe.

Coordination & Collaboration

My next question is about coordination and collaboration with local or outside organization and agencies for pedestrian planning in your community.

11. Do you partner with any organizations or agencies to implement on-street pedestrian plans, projects, or policies, either within your own community or in collaboration with other communities? These might include advocacy groups, working groups, committees, or any other organizations that work on issues of pedestrian access.
 - a. If so, please tell me more about your work with these organizations.
12. To what extent do you coordinate with street and roadway improvement projects, development projects, and others in which there may be opportunities to construct or enhance sidewalks?

Prioritization

Next, I'd like to understand more about how pedestrian access is viewed and prioritized in your community. We'll start with broad views about pedestrian access and then move to specific ways about how it's incorporated into the decision-making process.

13. How important do leaders and decision-makers in your community think pedestrian planning is?
 - a. *[If viewed as important]* How important do community leaders and decision-makers think first/last mile pedestrian access is to promoting transit use in your community?
 - b. *[If not viewed as important]* Why do you think this might be the case?
14. How is pedestrian access prioritized in the planning process in your community?
 - a. *[If prioritized]* Please tell me about how this prioritization happens.

- b. *[If not prioritized]* Why do you think this might be the case? What other needs receive higher priority?

Barriers

My final few questions are about implementation barriers, which are an important focus of this project.

15. Other than funding, what are the major barriers to implementing pedestrian projects in your community? Please describe these barriers. *[If they need a prompt for what types of barriers we're looking for, suggest that examples might include funding, competing priorities, developer views, lack of political will, local support issues, maintenance agreements, etc.]*
16. What are the major barriers to maintain or improve the existing pedestrian infrastructures?
17. What success stories has your community had in overcoming barriers to implementing a pedestrian project? Please describe these successes.
18. Do you have any other specific ideas about what could help you overcome barriers to implementation?

Other comments

19. Do you have any other comments or information that you'd like to share?
20. Finally, we will be holding focus groups in the summer of 2019 to further inform our work with pedestrian access. If we were to hold a focus group in your community, who would you recommend that we include in the focus group process?

Thanks so much for taking the time to speak with us today. Have a great day.

COUNTY INTERVIEW GUIDE

Hello, my name is XXXX and I am a graduate student in the Department of Urban and Regional Planning at the University of Illinois. Thanks for speaking with me today. This interview is a part of an Illinois Center for Transportation project titled- “Construction of Pedestrian Infrastructure Along Transit Corridors.” This project seeks to identify planning and policymaking barriers to improving pedestrian access to transit in northeastern Illinois. This project focuses on on-street pedestrian infrastructure rather than trails or paths.

After an initial website scan of selected municipalities in the region, we have prepared an inventory of relevant policies and funding sources regarding pedestrian planning in these places. We have included several county-level policies in the inventory as well, and this interview will help us expand upon the preliminary inventory. It will also help us develop a survey that we will send to all counties and municipalities in the region for their feedback in this project’s next phase.

We would like to record the interview for our records. Do we have your permission to record the interview? *[Note: If the interviewee declines recording, we will take detailed notes via laptop during the conversation.]*

Policies & Work with Local Communities

I’d like to start out by asking you about the plans, programs, and policies that your county has in place to support pedestrian access and infrastructure in suburban communities.

1. What are the plans, programs, and policies that your county has to address pedestrian access and infrastructure in suburban communities? Please describe these policies.
2. Thinking about your county’s plans, programs, and policies related to pedestrian access and infrastructure in suburban areas, which of these plans, programs, and policies have been successful? Which of them have not? Why or why not?
3. Do you partner with any organizations to implement pedestrian plans, projects, or policies in suburban communities? These might include advocacy groups, working groups, committees, or any other organizations that work on issues of pedestrian access.
 - a. If so, please tell me more about your work with these organizations.

Funding

Next, I’d like to ask you about the funding sources that your county uses to support pedestrian planning and infrastructure.

4. What are the federal, state, and local funding sources that you receive money from to implement pedestrian projects?
 - a. Are these sources one-time or dedicated/ongoing funding?
 - b. Do you have dedicated pedestrian funding from any other source? If so, please tell me about it.
 - c. If these funds could be used for different purposes, how does your county decide how to distribute this funding?
 - d. Are there any particular funding distribution challenges specific to suburban communities? If yes, please briefly explain.
5. Are there other funding sources that you have applied to but not received?
 - a. Have you had any grant writing successes or challenges for pedestrian projects? If so, please describe.

Prioritization

Next, I'd like to understand more about how pedestrian access is viewed and prioritized in your county.

6. How important do leaders and decision-makers in your county think pedestrian planning is?
 - a. *[If viewed as important]* How important do leaders and decision-makers think first/last mile pedestrian access is to promoting transit use in your county?
 - b. *[If not viewed as important]* Why do you think this might be the case?
7. How is pedestrian access prioritized in the planning process in your county?
 - a. *[If prioritized]* Please tell me about how this prioritization happens.
 - b. *[If not prioritized]* Why do you think this might be the case? What other needs receive higher priority?

Barriers

My final few questions are about implementation barriers, which are an important focus of this project.

8. From your county's perspective, what are the major barriers to implementing pedestrian projects in suburban communities? Please describe these barriers. *[If they need a prompt for what types of barriers we're looking for, suggest that examples might include funding, competing priorities, developer views, lack of political will, local support issues, etc.]*
 - a. Have you faced any barriers in working with local communities to implement pedestrian infrastructure on county-owned right-of-way? If so, please explain.
9. What success stories has your county had in overcoming barriers to implementing pedestrian projects in suburban locations? Please describe these successes.
10. Do you have any other specific ideas for helping you to overcome barriers to implementation?

Other comments

11. Do you have any other comments or information that you'd like to share?
12. Finally, we will be holding focus groups in the summer of 2019 to further inform our work with pedestrian access. Is there anyone you would like to recommend that we include in the focus group process?

Thanks so much for taking the time to speak with us today. Have a great day.

IDOT INTERVIEW GUIDE

Hello, my name is XXXX and I am a graduate student in the Department of Urban and Regional Planning at the University of Illinois. Thanks for speaking with me today. This interview is a part of an Illinois Center for Transportation project titled- “Construction of Pedestrian Infrastructure Along Transit Corridors.” This project seeks to identify planning and policymaking barriers to improving pedestrian access to transit in northeastern Illinois. This project focuses on on-street pedestrian infrastructure rather than trails or paths.

We are in the process of creating an inventory of plans, policies, and funding sources regarding pedestrian planning in northeastern Illinois, particularly for suburban communities in the Chicago region. This interview will help us expand upon our preliminary inventory and gain IDOT’s perspective on policies and funding. It will also help us develop a survey that we will send to all municipalities in the region for their feedback in this project’s next phase.

We would like to record the interview for our records. Do we have your permission to record the interview? *[Note: If the interviewee declines recording, we will take detailed notes via laptop during the conversation.]*

Working with Local Communities

I’d like to start out by asking you about the ways that IDOT works with local communities to support pedestrian access.

1. What are IDOT’s plans, programs, and policies for addressing pedestrian access and infrastructure in suburban communities in northeastern Illinois? Please describe these policies.
2. Do you collaborate or provide support to suburban communities in northeastern Illinois about pedestrian access (e.g., through technical assistance to local communities)? If so, please describe the services you provide.
3. Thinking about IDOT’s plans, programs, and policies related to pedestrian access and infrastructure in suburban areas, which of these plans, programs, and policies have been successful? Which of them have not? Why or why not?

Funding

Next, I’d like to ask you about funding sources that support pedestrian planning and infrastructure in Illinois.

3. What are the federal funding sources available in Illinois for planning and/or implementing pedestrian projects and infrastructure? Please describe.
 - a. Can you please tell us the amount of federal funds spent on such projects? (this can be sent later as a follow-up email).
 - b. What was the impact of new transport act (FAST Act) on these sources? Did they change with the new act, and if so, how did IDOT adapt to these changes?
4. What state funding sources does Illinois have available for pedestrian infrastructure projects? Please describe.
 - a. Can you please tell us the amount of state funds spent on such projects? (this can be sent later as a follow-up email).
5. How are the federal and state funds distributed for pedestrian planning and implementation projects? What are the criteria for this distribution?

- a. Do you face any particular challenges in this distribution? If yes, please briefly explain.
6. Are there any funding sources available for pedestrian projects that municipalities and regions in Illinois are not using to their full potential? If yes, please explain.
7. From a preliminary literature review, we found that states like California, Colorado, Iowa and at least 15 other states have dedicated funding sources for pedestrian projects (e.g., sales taxes, other revenue streams). Does Illinois have any such dedicated funding source for pedestrian projects we are not aware of? If so, please tell us about it.

Prioritization

Next, I'd like to understand more about how pedestrian access is viewed and prioritized at IDOT.

8. How does IDOT prioritize pedestrian planning? Please tell me about how this prioritization happens.
9. How important do IDOT leaders think pedestrian planning is, and how does this translate into decision-making and funding allocation?

Barriers

My final few questions are about implementation barriers, which are an important focus of this project.

10. What are the major challenges you've had working with communities to support pedestrian access, particularly in northeastern Illinois' suburban areas? Please describe these challenges. *[If they need a prompt for what types of barriers we're looking for, suggest that examples might include funding, competing priorities, developer views, lack of political will, local support issues, etc.]*
 - a. Have you faced any barriers working with northeastern Illinois communities when implementing pedestrian infrastructure on state-owned right-of-way? If so, please explain.
11. What success stories has IDOT had overcoming barriers to implementing pedestrian projects in suburban locations in northeastern Illinois? Please describe these successes.
12. Do you have any other specific ideas about what could help you overcome these barriers to implementation?

Other comments

13. Do you have any other comments or information that you'd like to share?

Thanks so much for taking the time to speak with us today. Have a great day.

CMAP INTERVIEW GUIDE

Hello, my name is XXXX and I am a graduate student in the Department of Urban and Regional Planning at the University of Illinois. Thanks for speaking with me today. This interview is a part of an Illinois Center for Transportation project titled- “Construction of Pedestrian Infrastructure Along Transit Corridors.” This project seeks to identify planning and policymaking barriers to improving pedestrian access to transit in northeastern Illinois. This project focuses on on-street pedestrian infrastructure rather than trails or paths.

After an initial website scan of selected municipalities in the region, we have prepared an inventory of relevant policies and funding sources regarding pedestrian planning in these places. We have included several CMAP policies in the inventory as well, and this interview will help us expand upon the preliminary inventory. It will also help us develop a survey that we will send to all municipalities in the region for their feedback in this project’s next phase.

We would like to record the interview for our records. Do we have your permission to record the interview? *[Note: If the interviewee declines recording, we will take detailed notes via laptop during the conversation.]*

Policies & Work with Local Communities

I’d like to start out by asking you about the plans, programs, and policies that CMAP has in place to support pedestrian access and infrastructure specifically in suburban municipalities.

1. What are the plans, programs, and policies that CMAP has to address pedestrian access and infrastructure in suburban communities? Please describe these policies.
2. Do you collaborate or provide support to suburban communities in relation to pedestrian access (e.g., through technical assistance to local communities)? If so, please describe the services you provide.
3. Thinking about CMAP’s plans, programs, and policies related to pedestrian access and infrastructure in suburban areas, which of these plans, programs, and policies have been successful? Which of them have not? Why or why not?
4. Do you partner with any organizations to implement pedestrian plans, projects, or policies, particularly for suburban communities? These might include advocacy groups, working groups, committees, or any other organizations that work on issues of pedestrian access.
 - a. If so, please tell me more about your work with these organizations.

Funding

Next, I’d like to ask you about the funding sources that CMAP uses to support pedestrian planning and infrastructure.

5. What are the federal funding sources available for pedestrian planning and implementation? Please describe.
 - a. Can you please tell us the amount of federal funds spent on such projects? (this can be sent later as a follow-up email).
 - b. What was the impact of new transport act (FAST Act) on these sources? Did they change with the new act, and if so, how did CMAP adapt to these changes?

6. What are the state funding sources available for pedestrian projects? Please describe.
 - a. Can you please tell us the amount of state funds spent on such projects? (this can be sent later as a follow-up email).
7. How are the federal and state funds distributed for pedestrian planning and implementation projects? What are the criteria for this distribution?
 - a. Are there any particular barriers to this distribution, particularly with respect to suburban communities? If yes, please briefly explain.
8. Are there any regional funding sources available for pedestrian projects (e.g., sales taxes, other revenue streams)?
 - a. If yes, please tell me how that works.
 - b. If no, how important do you think it would be to have a regional funding source dedicated to pedestrian projects?
9. Are you aware of anything innovative happening at the local level to fund pedestrian planning and implementation efforts? If so, please describe.

Prioritization

Next, I'd like to understand more about how pedestrian access is viewed and prioritized in the Chicago region.

10. How does CMAP prioritize pedestrian planning in the Chicago region? Please tell me about how this prioritization happens.
11. How important do CMAP leaders think pedestrian planning is, and how does this translate into decision-making and funding allocation?

Barriers

My final few questions are about implementation barriers, which are an important focus of this project.

12. From CMAP's perspective, what are the major barriers to implementing pedestrian projects in suburban communities? Please describe these barriers. *[If they need a prompt for what types of barriers we're looking for, suggest that examples might include funding, competing priorities, developer views, lack of political will, local support issues, etc.]*
13. What success stories has CMAP had in overcoming barriers to implementing pedestrian projects in suburban locations? Please describe these successes.
14. Do you have any other specific ideas about what could help you overcome barriers to implementation?

Other comments

15. Do you have any other comments or information that you'd like to share?
16. Finally, we will be holding focus groups in the summer of 2019 to further inform our work with pedestrian access. Is there anyone you would like to recommend that we include in the focus group process?

Thanks so much for taking the time to speak with us today. Have a great day.

APPENDIX C: PEDESTRIAN INFRASTRUCTURE PLANNER SURVEY

Thank you for your willingness to complete this survey, which is part of a project entitled “Construction of Pedestrian Infrastructure along Transit Corridors.” This project is being conducted in coordination with the Department of Urban Planning at the University of Illinois at Urbana-Champaign, Pace Suburban Bus, the Illinois Center for Transportation, and the Illinois Department of Transportation. The purpose of this project is to identify planning and policymaking barriers to improving pedestrian access to transit in northeastern Illinois. The information you provide will help us to understand the policies, funding, and barriers associated with pedestrian infrastructure in your community and the region. The survey should take approximately 20-30 minutes to complete. In this survey, we will be asking about the types of plans, policies, programs, and funding sources that your community uses to support pedestrian infrastructure. You may find it helpful to have some basic information about these resources (e.g., plan names, web links) on hand as you complete the survey. The results of the survey will be summarized in a publicly available policy inventory, a final project report, and an academic research paper.

If you have any questions about the project, please contact: Lindsay Braun, Assistant Professor, University of Illinois at Urbana-Champaign, lmbraun@illinois.edu; Bumsoo Lee, Associate Professor, University of Illinois at Urbana-Champaign, bumsoo@illinois.edu; Jesus Barajas, Assistant Professor, University of Illinois at Urbana-Champaign, barajasi@illinois.edu

General Information

1. Please provide the name of the community you are representing. _____
2. Which of the following best describes this community?
 - a. County
 - b. Municipality (e.g., city, village, township)
 - c. Other (please specify): _____
3. Which of the following best describes your role in this community? Select all that apply.
 - a. Planner
 - b. Engineer
 - c. Community development staff
 - d. Elected official
 - e. Appointed official
 - f. Pedestrian/bicycle coordinator
 - g. Other (please specify): _____

Existing Pedestrian Network

4. Please rate how much you agree with the following statements about your community’s **sidewalks**. *[matrix-style question with the following response options: strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, strongly disagree, don’t know/not sure]:*
 - a. The sidewalk network has good overall coverage.
 - b. Sidewalks are generally present on both sides of the street.
 - c. The sidewalk network is connected to key destinations without major gaps.
 - d. Sidewalks are present **near Pace bus stops**.
 - e. Sidewalks are well maintained.
 - f. Sidewalk widths are adequate.

5. Please rate how much you agree with the following statements about your community's **pedestrian crossings**. *[matrix-style question with the following response options: strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, strongly disagree, don't know/not sure]:*
 - a. Crosswalks are present in locations where they are needed.
 - b. Crosswalks are present **near Pace bus stops**.
 - c. Pedestrian crossing signals are present in locations where they are needed.
 - d. Pedestrian crossing signals are present **near Pace bus stops**.
 - e. Crosswalks are well maintained.

6. Please rate how much you agree with the following statements about **other characteristics** of your community's pedestrian network. *[matrix-style question with the following response options: strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, strongly disagree, don't know/not sure]:*
 - a. The pedestrian network is ADA accessible.
 - b. The pedestrian network **near Pace bus stops** is ADA accessible.
 - c. The pedestrian network is well lit.
 - d. The pedestrian network **near Pace bus stops** is well lit.
 - e. Pedestrian wayfinding signage is adequate.

7. If you would like to provide comments about any of your ratings, please do so below. *[provide an open-ended text box]*

Plans, Programs, and Policies

We are interested in hearing about the **plans, policies, and programs** that your community has in place to support **on-street** pedestrian access and infrastructure.

8. How often are the following types of **plans** part of your community's pedestrian planning process?

For each plan that your community uses, please complete the text box to provide the name of the plan (e.g., "City of XYZ Pedestrian Plan") and/or a web link where we can find more information. *[Matrix-style question with the following response options: always, very often, sometimes, rarely, never, don't know/not sure; include text box if any response other than "never" or "don't know/not sure" is selected.]*

- a. Comprehensive plan that addresses pedestrian infrastructure
 - b. Long-range transportation plan that addresses pedestrian infrastructure
 - c. Pedestrian/active transportation master plan
 - d. Safe Routes to School plan
 - e. Transit accessibility plan that addresses pedestrian infrastructure
 - f. Transit-oriented development plan that addresses pedestrian infrastructure
 - g. Small area plan (e.g., downtown plan) that addresses pedestrian infrastructure
 - h. Other plan _____
9. How often are the following types of **policies** part of your community's pedestrian planning process?

For each policy that your community uses, please complete the text box to provide the name of the policy (e.g., “City of XYZ sidewalk ordinance”) and/or a web link where we can find more information. *[Matrix-style question with the following response options: always, very often, sometimes, rarely, never, don’t know/not sure; include text box if any response other than “never” or “don’t know/not sure” is selected.]*

- a. Complete Streets policy
- b. Zoning code/ordinance that addresses pedestrian infrastructure
- c. Developer regulations related to pedestrian infrastructure
- d. Developer fee-in-lieu programs for the provision of pedestrian infrastructure
- e. Other policy _____

10. How often are the following types of **programs** part of your community’s pedestrian planning process? For each program that your community uses, please complete the text box to provide the name of the program (e.g., “City of XYZ maintenance program”) and/or a web link where we can find more information. *[Matrix-style question with the following response options: always, very often, sometimes, rarely, never, don’t know/not sure; include text box if any response other than “never” or “don’t know/not sure” is selected.]*

- a. Sidewalk gap identification program
- b. Other maintenance/monitoring plans for pedestrian infrastructure
- c. Educational/awareness programs (e.g., general pedestrian education, information on how to access the bus as a pedestrian)
- d. 50-50 community-resident sidewalk funding program
- e. Sidewalk grants for low-income residents
- f. Other program _____

Funding

Next, we are interested in hearing about the **funding sources** that your community uses to support **on-street** pedestrian access and infrastructure.

11. How often does your community use the following **federal funding sources** for pedestrian planning? *[Matrix-style question with the following response options: always, very often, sometimes, rarely, never, don’t know/not sure]*

- a. Surface Transportation Block Grant Program (STBG) (formerly Surface Transportation Program (STP), Transportation Alternatives Program (TAP))
- b. Congestion Mitigation and Air Quality Improvement (CMAQ) Program
- c. Community Development Block Grant (CDBG) Program
- d. Other federal source (please specify): _____

12. How often does your community use the following **state funding sources** for pedestrian planning? *[Matrix-style question with the following response options: always, very often, sometimes, rarely, never, don’t know/not sure]*

- e. Illinois Transportation Enhancement Program (ITEP)
- f. Illinois state motor fuel tax
- g. Illinois Department of Transportation (IDOT) 80% match for sidewalk maintenance
- h. Other IDOT funding
- i. Illinois Safe Routes to School (SRTS) Program
- j. Illinois Department of Commerce and Economic Opportunity (DCEO) funding
- k. Other state source (please specify): _____

13. How often does your community use the following **regional, local, and other sources** for pedestrian planning? *[Matrix-style question with the following response options: always, very often, sometimes, rarely, never, don't know/not sure]*
- l. Regional Transportation Authority (RTA) grants
 - m. County grants
 - n. Chicago Metropolitan Agency for Planning (CMAP) grants
 - a. Capital improvement program (CIP)/capital funds
 - b. General funds
 - c. Developer contributions
 - d. 50-50 community-resident sidewalk funding program
 - e. State Farm
 - f. Other source (please specify): _____

Coordination and Collaboration

14. Does your community partner with any of the following types of organizations, agencies, or individuals to implement pedestrian projects, either within your own community or in collaboration with other communities? Please select all that apply.
- a. Pedestrian advisory committees
 - b. Active Transportation Alliance
 - c. Other advocacy groups (please specify): _____
 - d. Transit agencies (e.g., Pace, Regional Transit Authority (RTA), Chicago Transit Authority (CTA))
 - e. Park districts
 - f. Forest preserve districts
 - g. Health departments
 - h. Other counties/municipalities
 - i. Chicago Metropolitan Agency for Planning (CMAP)
 - j. League of American Bicyclists
 - k. Rails-to-Trails Conservancy
 - l. Individual who serves as a “champion” for pedestrian projects, in either a formal or an informal capacity/role
 - m. Other (please specify): _____

Prioritization

15. How important do leaders and decision-makers in your community think pedestrian planning is? *[not very important, somewhat important, important, very important, don't know/not sure]*
16. We would like to know more about *why* pedestrian planning is viewed as important in your community. Please indicate how important the following aspects of pedestrian planning are to leaders and decision-makers in your community. *[Matrix-style question with the following response options: not very important, somewhat important, important, very important, don't know/not sure.]*
- a. Safety
 - b. Mobility
 - c. Health
 - d. Environment/air quality
 - e. Access to transit
 - f. Equity
 - g. Other (please specify): _____

17. How important do leaders and decision-makers in your community think transit access is?
[not very important, somewhat important, important, very important, don't know/not sure]
18. How important do leaders and decision-makers in your community think first/last mile pedestrian access is to promoting transit use?
[not very important, somewhat important, important, very important, don't know/not sure]
19. How much priority do pedestrian projects receive in the planning and funding process for your community?
[no priority, low priority, medium priority, high priority, don't know/not sure]
20. Are there differences in how leaders/decision-makers and department staff members (e.g., planners) in your community view and prioritize pedestrian planning? If yes, please explain.
 - a. No
 - b. Yes (please explain): _____
21. Please rate your community's capacity to use the following types of data for pedestrian planning and prioritization. [Matrix-style question with the following response options: very high, high, moderate, low, very low, don't know/not sure.]
 - a. Exposure data (e.g., pedestrian counts)
 - b. Injury data (e.g., crashes, injuries, fatalities)
 - c. Infrastructure data (e.g., sidewalk inventories)

Barriers

22. Next, we would like to know about the barriers to implementing pedestrian projects in your community. Please indicate how often the following factors are barriers in your community's pedestrian planning process. [Matrix-style question with the following response options: never a barrier, rarely a barrier, sometimes a barrier, often a barrier, almost always a barrier, don't know/not sure.]

Institutional/Procedural Barriers

- a. Funding
- b. Competing investment priorities
- c. Developer views on pedestrian infrastructure
- d. Political will among leaders/decision-makers
- e. Exceptions to Complete Streets or other policies
- f. Long implementation time frames
- g. Jurisdictional issues with county or state
- h. Resident opposition
- i. Staff capacity
- j. Other institutional/procedural barrier _____

Practical Barriers

- k. Characteristics of existing road network (e.g., width, traffic speeds and volumes)
- l. Characteristics of existing development (e.g., low density)
- m. Physical constraints (e.g., topography)
- n. Property acquisition
- o. Other practical barrier _____

Focus Group Stakeholders

23. We will be holding focus groups in the summer and fall of 2019 to further inform our work with pedestrian access. If we were to hold a focus group in your community, who would you recommend that we include in the focus group process? _____

Other Comments and Contact Information

24. Do you have any other comments or information that you would like to share? _____
25. Please provide your name and email address below if you are willing to be contacted for any follow-up information. _____

APPENDIX D: STAKEHOLDER INTERVIEW GUIDE

Hello, my name is XXXX and I am a graduate student in the Department of Urban and Regional Planning at the University of Illinois. Thanks for speaking with me today. This interview is a part of an Illinois Center for Transportation project titled “Construction of Pedestrian Infrastructure Along Transit Corridors.” In this project, we are working with Pace Suburban Bus, IDOT, RTA, and other stakeholders to identify planning and policymaking barriers to improving pedestrian access to transit in northeastern Illinois. This project focuses on on-street pedestrian infrastructure rather than trails or paths, and specifically on suburban locations.

After an initial round of interviews and a survey of municipalities in the region, we have created an inventory of policies related to pedestrian infrastructure. The next step of our work is to identify barriers that Pace and other community groups experience in implementing pedestrian infrastructure projects. This interview will help us understand the barriers that you face.

We would like to record the interview for our records. Do we have your permission to record the interview? *[Note: If the interviewee declines recording, we will take detailed notes via laptop during the conversation.]*

Interviewee Information

1. Which area(s) of the region do you work with?

Existing Infrastructure

I’d like to start by asking you about existing pedestrian infrastructure in the region.

To Pace representatives:

2. Tell me about the existing pedestrian network in the communities that Pace serves. In general, how would you rate the overall quality of the network?
 - a. Think about how the existing pedestrian network connects to Pace bus stops. Where does it connect well, and why? Where does it not connect well, and why?

To developers:

3. Tell me about the existing pedestrian network in the suburban communities that you work with. In general, how would you rate the overall quality of the network?
 - a. Do you generally include sidewalks/sidewalk improvements as part of your development projects in suburban communities? Why or why not? If you do include pedestrian elements in these projects, please describe them.
 - a. Think about how the existing pedestrian network connects to Pace bus stops in these communities. Where does it connect well, and why? Where does it not connect well, and why?

To planning/engineering consultants:

4. Tell me about the existing pedestrian network in the suburban communities that you work with. In general, how would you rate the overall quality of the network?
 - a. Are there any major concerns or challenges with the existing infrastructure? If so, please describe.
 - a. Think about how the existing pedestrian network connects to Pace bus stops in these communities. Where does it connect well, and why? Where does it not connect well, and why?

To businesses:

5. Tell me about the existing pedestrian network in your community. In general, how would you rate the overall quality of the network?
 - a. How important is pedestrian traffic to your business? Please explain.
 - b. Are patrons able to access your business by foot? Why or why not?

To ADA representatives:

6. Tell me about the existing pedestrian network in the suburban communities that you work with. In general, how would you rate the overall quality of the network?
7. Tell me about your clientele. What types of disabilities do they have?
 - a. *{For each type of disability listed}* How accessible are sidewalks and street crossings to people with X disabilities in the suburban communities that you work with? Please describe.

To active transportation advocates:

8. Which suburban communities are you most active with?
9. Which of these communities have the best existing network? Why do you think this is?
10. Which of these communities have the least developed pedestrian network? Why do you think this is?
11. Are there any major concerns or challenges with the existing infrastructure? If so, please describe.
12. Think about how the existing pedestrian network connects to Pace bus stops in these communities. Where does it connect well, and why? Where does it not connect well, and why?

To other community groups/representatives:

13. Tell me about the existing pedestrian network in your community. In general, how would you rate the overall quality of the network?
 - a. Are there any major concerns or challenges with the existing infrastructure? If so, please describe. **Barriers**

Next, I'd like to ask you about barriers to implementing pedestrian infrastructure, which is an important focus of this project.

To Pace representatives:

14. Are pedestrian concerns generally important in the communities that Pace serves? Please explain.
 - a. [If yes] Are communities generally interested in Pace's specific concerns about connecting pedestrian infrastructure with transit?
15. What are the major barriers to connecting bus stops with pedestrian infrastructure in the communities that Pace serves?

[If they need a prompt, suggest that examples of barriers might include funding, competing priorities, political will, local support, long implementation time frames, maintenance agreements, staff capacity, physical constraints, property acquisition, etc.]
16. How does Pace try to persuade communities that do not place a high value on pedestrian concerns? Has anything been effective? If so, can this method be used for other communities?
17. Does Pace work with communities to address barriers to implementing pedestrian infrastructure?
 - b. If so, how?
 - i. Which strategies have been more effective? Which have been less effective?
 - ii. Have some communities been easier to work with than others? If so, what are the reasons?
 - c. If not, why not?

18. Are jurisdiction issues within a government or between entities a problem in implementing pedestrian infrastructure? If so, how does Pace address these issues?

To developers and planning/engineering consultants:

19. Are pedestrian concerns generally important in the suburban communities that you work with? Please explain.
20. What are the major barriers to connecting bus stops with pedestrian infrastructure in the suburban communities that you work with?
[If they need a prompt, suggest that examples of barriers might include funding, competing priorities, political will, local support, long implementation time frames, maintenance agreements, staff capacity, physical constraints, property acquisition, etc.]
21. Do you work with communities to address barriers to implementing pedestrian infrastructure?
 - a. If so, how?
 - i. Which strategies have been more effective? Which have been less effective?
 - ii. Have some communities been easier to work with than others? If so, what are the reasons?
 - b. If not, why not?
22. Are jurisdiction issues within a government or between entities a problem in implementing pedestrian infrastructure? If so, how do you address these issues?

To businesses and other community groups/representatives:

23. Is the local community generally supportive of pedestrian infrastructure projects? Please explain.
 - a. How much do people walk in your community?
 - b. Are sidewalks used in any other major ways (e.g., street vending, advertisement, social gatherings)?
24. Is the local community generally supportive of transit? Please explain.
 - c. Is transit frequently used in your community? How and by whom?
25. To the best of your knowledge, what are the major barriers to implementing pedestrian projects in your community?
[If they need a prompt, suggest that examples of barriers might include funding, competing priorities, political will, local support, long implementation time frames, maintenance agreements, staff capacity, physical constraints, property acquisition, etc.]

To ADA representatives and active transportation advocates:

26. Are suburban communities generally interested in your concerns about accessibility and active transportation? Please describe.
27. What are the major barriers to implementing pedestrian projects in suburban communities, especially relating to accessibility or active transportation?
[If they need a prompt for what types of barriers we're looking for, suggest that examples might include funding, competing priorities, developer views, lack of political will, local support issues, maintenance agreements, etc.]
28. Do you work with suburban communities to address barriers to implementing pedestrian infrastructure, particularly related to transit access?
 - a. If so, please describe these efforts.
 - i. Which strategies have been more effective? Which have been less effective?

- ii. Have some communities been easier to work with than others? If so, what are the reasons?
- b. If not, why not?

To everyone:

- 29. To your knowledge, are there policies in place that encourage development of pedestrian infrastructure in suburban communities, especially to connect it with transit?
 - a. If so, how effective have these policies been? Please explain.
- 30. Are the communities you work with aware of issues with their pedestrian infrastructure?
- 31. Do the communities have mechanisms in place (apps, public meetings, website comment forms, etc.) to invite feedback about the quality of their sidewalks?
- 32. What success stories has your community or organization had in overcoming barriers to implementing pedestrian projects? Please describe these successes.
- 33. Do you have any other specific ideas about what could help communities overcome barriers to implementing pedestrian infrastructure?

Other comments

To everyone:

- 34. Do you have any other comments or information that you'd like to share?
- 35. Finally, we will be holding focus groups in the fall of 2019 to further inform our work with pedestrian access. If we were to hold a focus group in your community, who would you recommend that we include in the focus group process?

Thanks so much for taking the time to speak with me today. Have a great day.

APPENDIX E: PEDESTRIAN AUDIT WORKSHOP REPORT

A PDF of the full pedestrian audit workshop report is available through the Illinois Digital Environment for Access to Learning and Scholarship (IDEALS) website at the following link:

<https://www.ideals.illinois.edu/handle/2142/109099>.

APPENDIX F: RIDER INTERVIEW GUIDE

Introduction

Quick introduction of phone call participants if needed, then read the consent script. If participants decline recording, explain why we're recording and who has access to it—once they understand we're not distributing it, they may be more amenable to it.

1. How long have you lived in *this town*?
2. How would you describe your neighborhood?
3. How often do you walk for a trip?
4. Which Pace services do you usually use?
 - a. If they ask about bus routes, let them describe which routes they take
 - b. Distinguish between Pace and CTA if necessary
5. How often do you use Pace?
6. Do you use any other mode of transportation besides Pace, like driving or cycling?

Note: All second-level outline bullets should be treated as prompts. That is, don't read them verbatim but use them to follow up if participants don't offer specific information we'd like to know. Also be sure to redirect any statements about Pace service to the access/egress trips. In other words, we want to know about getting to and from Pace, not about service or their experiences when on a vehicle.

Barriers to Transit Access

7. What types of trips do you use Pace for?
8. Think about the last time you took the bus somewhere around *this town*. Would you describe what happened along that trip? Start from the moment you left your house or the place you were coming from, how you got to the bus stop, what happened on the bus, and then what happened from when you got off the bus to where you were going. (*Note: Encourage participants to talk specifically about their last trip. We'll get to generic statements later. Encourage as many people to answer this question as you can.*)
 - a. Time: weekday/weekend; time of day
 - b. Destination type (work, home, store, etc.)
 - c. Origin and destination neighborhood/intersection
 - d. Any transfers?
 - e. Focus on the access/egress portions of the trip
9. What would you say are some of the positive aspects about walking to and from bus stops in *this town*?
10. What are some of the major issues you experience getting to and from the bus?
 - a. Missing sidewalks
 - b. Distance to/from bus stops
 - c. Bus shelters
11. How safe do you feel when walking to or from bus stops? What have others told you of their experiences?

- a. Traffic safety
 - b. Personal security (i.e., safe from violence, robbery, etc.)
 - c. Maintenance (including in winter)
12. Have you ever had to change your walking route to Pace because of something along the way, like an incident with another person, or a safety problem with the sidewalk or crossings? Please tell us about it.
13. Do you have to change your travel at all during the winter because of the weather or temperature? How so?

Identification of positive and negative access

In this section, we shall discuss about places where you feel we could have audited or need improvement.

14. Last fall, we did an audit of conditions for pedestrians in *this town*. (*Tell about the routes, explain findings.*) I'd like you share other places you think that are good examples of making sure people can walk to Pace, and places that you think need to be improved.
15. Of the places you've mentioned, where are the biggest needs for improvement?

Solutions

16. If you ever notice something wrong with your route as you walk to the bus, what can you as a resident do to fix it?
17. Have you submitted a complaint, either to officials in *this town* or to Pace about problems getting to or from the bus stop? (*If yes:*)
- a. What was the complaint?
 - b. How was the process?
 - c. What was the outcome?
18. Suppose you were in charge of *this town* for a month. What and/or where would your three biggest priorities be around walking to and from Pace? How would you solve the problems? (*Suggest this become a brainstorming session. Use locations identified in question 8 to prompt for locations that need improvement.*)

Conclusion

19. Is there anything that we should have asked today about walking to Pace that we didn't but should have? What is that question and how would you answer it?

Thank you for your time today. Your feedback will be extremely valuable as we report back to Pace on what residents see as the biggest challenges to accessing the bus and the ways you think we could improve them. Please feel free to contact me with further questions and updates.

Offer to provide contact information if they have questions. Collect their info if they'd like to get notified of a copy of the final report. Make sure to get address for gift card payment.

APPENDIX G: REFERENCE LOCATIONS FROM RIDER INTERVIEWS

Table 17. Reference Locations from Rider Interviews

City	Location	Observation	Interview
Aurora	Aurora (city)	Positive safety perceptions	4
Aurora	Aurora University	Good pedestrian conditions	1
Aurora	Downtown casinos	Good bus stops	3
Aurora	Freman Elementary School	Poor walking conditions, missing sidewalks	3
Aurora	Galena & Orchard	Uneven sidewalks, no bus shelter	5
Aurora	Lake & Eola	Dangerous pedestrian environment	1
Aurora	Lake St	Good pedestrian conditions	6
Aurora	McCoy & Frontenac	Sidewalks, safe crossings, bus shelter with seats; Trash at bus stop	4
Aurora	N Lake	Sidewalks too close to traffic, poor sidewalk conditions, busy street	1
Aurora	New York & Frontenac	Missing sidewalks, no bus shelter	4
Aurora	Outlet Mall	Good bus stops	3
Chicago Heights	16th St	Poor sidewalk conditions, encroaching vegetation	10
Chicago Heights	95th & Halstead	No bus shelter	1
Chicago Heights	Campbell & 16th St	Walkable neighborhood	10
Chicago Heights	Center & Lincoln Hwy	Bus shelter and bench available	9
Chicago Heights	Chicago & 16th St	Bus stop only on one side of street, busy street, no sidewalk	10
Chicago Heights	Chicago Heights (city)	Positive safety perceptions; poor sidewalk conditions	10
Chicago Heights	Chicago Heights Terminal	Uneven sidewalks, no bus shelter, litter, dirty	2, 5, 9, 10
Chicago Heights	Hall St	Good pedestrian conditions	11
Chicago Heights	Halsted St	Good pedestrian conditions	3
Chicago Heights	Lincoln Hwy	Good pedestrian conditions	3, 5, 11
Chicago Heights	Retail area near I-294	Good pedestrian conditions	1
Chicago Heights	S Halsted & 11th/12th	Icy conditions, Poor sidewalk conditions, uneven sidewalks	6, 11
Chicago Heights	Walgreens (Chicago Rd)	Bus shelter available	2
Chicago Heights	Walmart (Olympia Fields)	No bus shelter	2, 4
Chicago Heights	Western & Beacon	No bus shelter	10
Chicago Heights	Western & Rt 30	No bus shelter	10
Crystal Lake	Coventry subdivision	Good pedestrian conditions	1
Crystal Lake	Crystal Lake (Downtown)	Missing sidewalks, crosswalks needed, longer walk signals needed	3, 4

City	Location	Observation	Interview
Crystal Lake	Main & Congress	No pedestrian crossing signal	1
Crystal Lake	McHenry Community College	Bike/walking path	1
Crystal Lake	Memorial & Congress Pkwy	Discontinuous sidewalks, high speed traffic	1
Crystal Lake	Walmart	Good bus stops	4
Joliet	Cass	No streetlighting	5
Joliet	Cass & Collins	Pedestrian recall buttons do not work	9
Joliet	Cass St Bridge	Dangerous pedestrian crossing	9
Joliet	Courthouse	No bus shelter, icy and snowy conditions; sidewalks available	1, 6, 9
Joliet	East Joliet	Negative safety perceptions, few sidewalks, no pedestrian refuge; no bus shelters	2, 5
Joliet	Gaylord & Rt 30	No bus shelter	1
Joliet	Hickory & Broadway	Walkable neighborhood, sidewalks available; No bus shelter	6
Joliet	Jackson St	Fast moving traffic	9
Joliet	Jefferson	Good pedestrian conditions; Difficult to cross, no pedestrian signals	2, 5
Joliet	Jefferson & Aldi	Pedestrian timer available at crosswalk	2
Joliet	Jefferson & Caterpillar	Signed crosswalk, bus shelter, sidewalks available	2
Joliet	Joliet (Downtown)	Improvements for pedestrians needed; Walkable environment	6, 8, 9
Joliet	Joliet Junior College	Real-time information sign	5
Joliet	Manhattan Rd (Pace 504)	Poor sidewalk conditions	6
Joliet	Old Kent subdivision	Good pedestrian conditions	5
Joliet	Plainfield (Food 4 Less)	Missing sidewalks	9
Joliet	Planfield & Crest Hill	No sidewalks	4
Joliet	Planfield & Rt 30	No sidewalks	4
Joliet	Scott & Clinton	Poor sidewalk conditions	9
Joliet	Walmart	Sidewalks available	7
Joliet	West Joliet	Positive safety perceptions	2
Skokie	Business District	Good pedestrian conditions	5
Skokie	Courthouse	No bus shelter	8
Skokie	Crawford	Streetlighting needed	7
Skokie	Dempster	Fast moving traffic	7
Skokie	Dodge & Church	Well maintained bus stop	5
Skokie	Golf	Fast moving traffic	7

City	Location	Observation	Interview
Skokie	Golf & Milwaukee	No sidewalks	1
Skokie	Howard	Unsafe at night	7
Skokie	Howard & McCormick	No sidewalks	4
Skokie	Keeney & Skokie	Pedestrian crossing signal	2
Skokie	Main St	Fast moving traffic	2
Skokie	Oakton & Skokie	Good pedestrian conditions, Bus shelter available; Icy conditions	1, 5
Skokie	Old Orchard	No sidewalks; Short crossing time	8
Skokie	Pace Routes 215, 250, 208	No bus shelter	7
Skokie	Presbyterian Homes	Convenient bus stop; No crossing signal	5
Skokie	Skokie (City)	Good pedestrian environment	4, 8
Skokie	Skokie (Downtown)	Good pedestrian conditions	3
Skokie	Touhy & Niles Center	Walkable neighborhood	2
Skokie	Touhy & Skokie	Positive safety perceptions	1
Waukegan	10th St	Heavy traffic	8
Waukegan	Belvedere	Good pedestrian conditions	13
Waukegan	College of Lake County	Good pedestrian conditions	6
Waukegan	Franklin & Genesee	Uneven sidewalks; Nearby bus stops	9, 11
Waukegan	Genesee & Grand	Uneven sidewalks, icy conditions	4
Waukegan	Genesee & Washington	Crossing signals available	12
Waukegan	Grand	Heavy traffic, narrow sidewalks; Good pedestrian conditions	5, 9, 11, 13
Waukegan	Grand & Green Bay	Infrequent bus stops	9
Waukegan	Gurnee Mills Mall	Additional bus shelter needed	1
Waukegan	Jackson	Few traffic signals, few bus benches	13
Waukegan	Walmart (Gurnee Mills)	No bus shelter	1

APPENDIX H: PEER SURVEY

Pedestrian Infrastructure—Peer Agencies Survey

Thank you for your willingness to complete this survey, which is part of a project entitled “Construction of Pedestrian Infrastructure along Transit Corridors.” The purpose of this project is to identify planning and policymaking barriers to improving pedestrian access to transit in suburban areas—particularly in northeastern Illinois, served by Pace Suburban Bus—and to develop policy solutions to overcome these barriers. To help develop these solutions, we are seeking input from regions across the U.S. to learn about the strategies that other transit agencies, regional planning organizations, and local planning departments use to address barriers to pedestrian access. This survey should take approximately 15-20 minutes to complete. The questions will address the following general topics:

- **Strategies** that your agency/organization uses to support pedestrian access to transit
- **Barriers** that your agency/organization faces in implementing or supporting pedestrian projects
- Your agency’s/organization’s general **culture** toward pedestrian planning

The results of this survey will be summarized in a final report and an academic research paper. This project is being conducted in coordination with the Department of Urban and Regional Planning at the University of Illinois at Urbana-Champaign, Pace Suburban Bus, the Illinois Center for Transportation, and the Illinois Department of Transportation. If you have any questions about the project, please contact:

- Lindsay Braun, Assistant Professor, University of Illinois at Urbana-Champaign, lmbraun@illinois.edu
- Bumsoo Lee, Associate Professor, University of Illinois at Urbana-Champaign, bumsoo@illinois.edu
- Jesus Barajas, Assistant Professor, University of Illinois at Urbana-Champaign, barajasj@illinois.edu

General Information

26. Please provide the name of the agency or organization you are representing. _____

27. Which of the following best describes this agency/organization?

- Transit agency
- Municipal planning department
- Metropolitan planning organization
- Other regional planning organization
- Other (please specify): _____

28. Which of the following best describes your role in this organization? Select all that apply.

- Planner
- Engineer
- Community development staff
- Elected official
- Appointed official

- f. Pedestrian/bicycle coordinator
- g. Other (please specify): _____

Strategies

First, we would like to learn about the strategies your agency uses to support pedestrian access to transit and to overcome the barriers in implementing pedestrian projects. In the sections that follow, we will ask about four categories of strategies: plans/programs/policies, funding, coordination, and prioritization/evaluation.

Strategy Area 1: Plans, Programs, and Policies

29. Please select the types of plans, programs, and policies that your agency/organization has produced or implemented. (Select all that apply)
- a. Long-range transportation plan
 - b. Regional transit plan
 - c. Transit service plan
 - d. Title VI plan
 - e. Transit corridor design guidelines
 - f. Project-specific studies
 - g. Pedestrian plan
 - h. Complete Streets policy
 - i. Comprehensive plan
 - j. Pedestrian plan
 - k. Pedestrian Access to Transit plan
 - l. Developer regulations related to sidewalk infrastructure
30. How effective is each strategy you listed above in supporting **pedestrian access to transit**?
[Matrix-style question with the following response options: very effective, somewhat effective, somewhat ineffective, not effective, don't know/not sure] Answer responses: each item selected in #3-5
31. Please briefly explain your ratings. How have these plans, programs, and policies been effective or ineffective in supporting pedestrian access to transit?
Text box for each item selected in #3-5
32. Do you have any other plans, programs, or policies that address **pedestrian access to transit**?
 Yes/no
- a. *[If yes]* Please list the name of each plan/program/policy, indicate how effective it is in supporting pedestrian access to transit, and briefly explain why.

Strategy Area 2: Funding

33. How often does your agency use the following **federal funding sources** for pedestrian projects? *[Matrix-style question with the following response options: always, very often, sometimes, rarely, never, don't know/not sure]*
- Surface Transportation Block Grant Program (STBG)
 - Congestion Mitigation and Air Quality Improvement (CMAQ) Program
 - Community Development Block Grant (CDBG) Program
 - Other federal source (please specify): _____
34. How often does your agency use the following **state funding sources** for pedestrian projects? *[Matrix-style question with the following response options: always, very often, sometimes, rarely, never, don't know/not sure]*
- State motor fuel tax
 - State funding match for sidewalk construction
 - Other state program supporting transportation
 - State Safe Routes to School (SRTS) Program
 - Other state source (please specify): _____
35. How often does your agency use the following **regional, local, and other sources** for pedestrian projects? *[Matrix-style question with the following response options: always, very often, sometimes, rarely, never, don't know/not sure]*
- Regional transportation agency grants
 - County grants
 - Regional planning organization grants
 - Capital improvement program (CIP)/capital funds
 - General funds
 - Other regional or local source (please specify): _____
36. Has your agency formed revenue-sharing partnerships with other agencies to implement pedestrian projects or conduct sidewalk maintenance?
- [If yes]* What types of agencies are/were involved in this partnership?
 - [If yes]* Please briefly describe the partnership, how it was created, and how effective it has been.
37. Has your agency formed public-private partnership agreements to implement pedestrian projects or conduct sidewalk maintenance?
- [If yes]* What types of agencies are/were involved in this partnership?
 - [If yes]* Please briefly describe the partnership, how it was created, and how effective it has been.
38. If you would like to comment on any of the funding sources that your agency uses to support pedestrian access to transit, please use the text box below.
Text box

39. Strategy Area 3: Coordination and Collaboration

40. Do you partner with any of the following types of organizations, agencies, or individuals to implement pedestrian projects? Please select all that apply.

- a. Pedestrian advisory committees
- b. Active transportation advocacy groups
- c. Other advocacy groups (please specify): _____
- d. Transit agencies
- e. Park districts
- f. Forest preserve districts
- g. Health departments
- h. Counties or municipalities
- i. Regional planning agencies
- j. League of American Bicyclists
- k. Rails-to-Trails Conservancy
- l. Individual who serves as a “champion” for pedestrian projects, in either a formal or an informal capacity/role
- m. Other (please specify): _____

41. Which agency plays the leading role in facilitating inter-agency collaboration for pedestrian access to transit in your region?

- a. Transit agency
- b. Municipal planning department
- c. Metropolitan planning organization
- d. Other (please specify): _____

42. Does your agency have a policy framework, handbook, or manual to guide inter-agency and inter-jurisdictional collaboration?

Yes/no

- n. *[If yes]* Please briefly describe this resource.
- o. *[If yes]* How successful has this resource been in guiding collaboration? *[Response options: not very successful, somewhat successful, successful, very successful, don't know/not sure.]*

43. If you would like to comment on any of the coordination and collaboration strategies that your agency uses to support pedestrian access to transit, please use the text box below.

Text box

Strategy Area 4: Evaluation and Prioritization

44. Please rate your agency’s capacity to use the following types of data for pedestrian planning and prioritization. *[Matrix-style question with the following response options: very high, high, moderate, low, very low, don't know/not sure.]*

- a. Exposure data (e.g., pedestrian counts)
- b. Injury data (e.g., crashes, injuries, fatalities)
- c. Infrastructure data (e.g., sidewalk inventories)

45. Does your agency use performance measures/indicators to track progress toward pedestrian goals?

Yes/no

a. *[If yes]* Please briefly describe these measures/indicators.

Text box

46. *[If “Transit agency” was selected in #2]* Has your agency developed a formal methodology to prioritize transit projects?

Yes/no

a. *[If yes]* How important is pedestrian access to transit in this prioritization methodology?

[not very important, somewhat important, important, very important, don’t know/not sure.]

47. If you would like to comment on any of the evaluation and prioritization strategies that your agency uses to support pedestrian access to transit, please use the text box below.

Text box

Barriers

Next, we would like to know about any barriers that your agency faces in implementing or supporting pedestrian projects.

48. Please indicate how often the following factors are barriers in your agency’s work to implement or support pedestrian projects. *[Matrix-style question with the following response options: never a barrier, rarely a barrier, sometimes a barrier, often a barrier, almost always a barrier, don’t know/not sure.]*

a. Funding

b. Competing investment priorities

c. Developer views on pedestrian infrastructure

d. Political will among leaders/decision-makers

e. Long implementation time frames

f. Jurisdictional issues

g. Resident opposition

h. Staff capacity

i. Characteristics of existing road network (e.g., width, traffic speeds and volumes)

j. Characteristics of existing development (e.g., low density)

k. Physical constraints (e.g., topography)

l. Property acquisition

m. Other barrier _____

49. For any of the above factors that you rated as a “often” or “almost always” a barrier, please explain why this is a barrier.

Agency/Organizational Culture

Finally, we would like to know about your agency’s culture toward pedestrian planning and how pedestrian needs are prioritized in the decision-making process.

50. How much priority do pedestrian needs receive in the planning and funding process for your agency?
[no priority, low priority, medium priority, high priority, not applicable, don't know/not sure]
51. How important do leaders and decision-makers in your agency think pedestrian planning is?
[not very important, somewhat important, important, very important, don't know/not sure]
52. How important do community leaders and decision-makers think pedestrian planning is?
[not very important, somewhat important, important, very important, don't know/not sure]
53. How important do leaders and decision-makers in your agency think first/last mile pedestrian access is to promoting transit use?
[not very important, somewhat important, important, very important, don't know/not sure]

Other Comments and Contact Information

54. Do you have any other comments or information that you would like to share? _____
55. Please provide your name and email address below if you are willing to be contacted for any follow-up information. _____

APPENDIX I: SUPPLEMENTAL CASE STUDY FIGURES AND TABLES

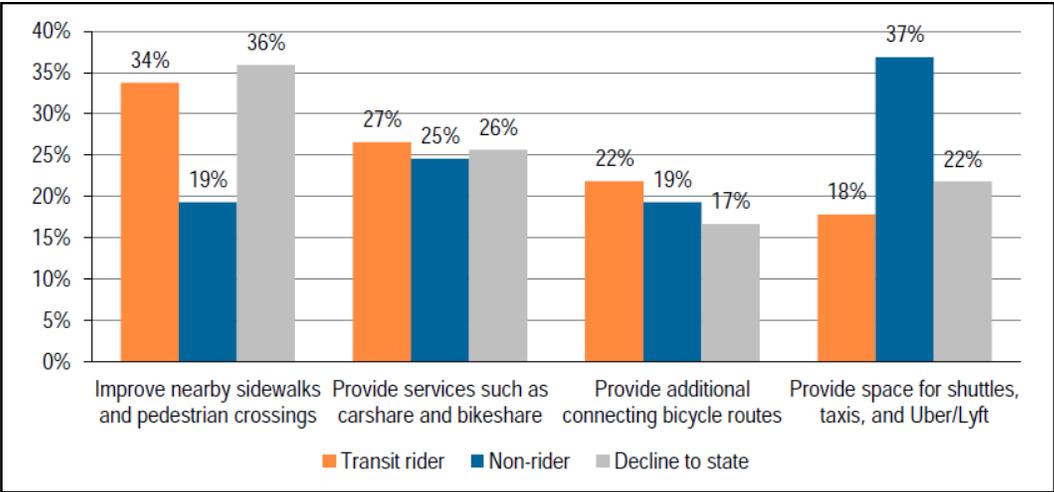


Figure 9. Chart. Connection to transit preference by transit use.

Source: OCTA, 2018c

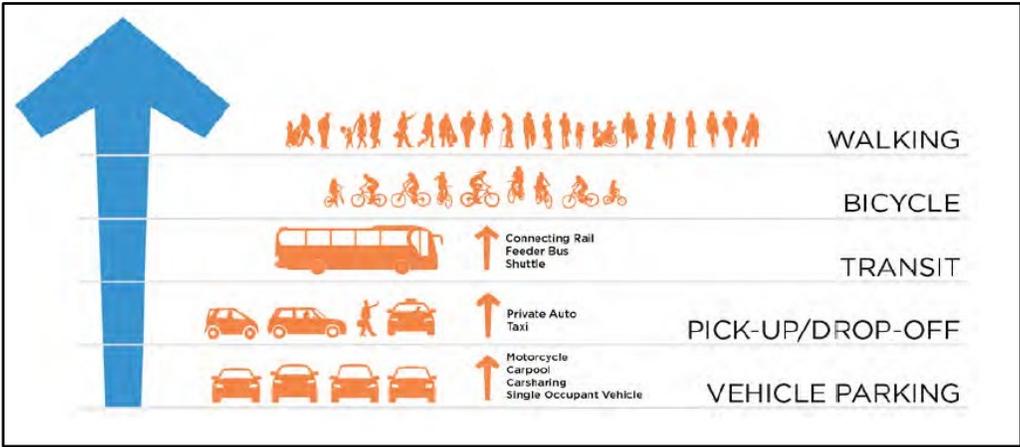


Figure 10. Image. Proposed access hierarchy for Orange County transit centers.

Source: OCTA, 2018c

Sustainability Goals:	Provide an Effective and Efficient Transportation System	Keep Our System Reliable, Safe and Secure	Engage and Support Our Diverse Community	Enhance Quality of Life	Be Innovative and Forward-Thinking
Environmental	Reduce traffic congestion	Provide safe options to encourage non-auto travel	Develop sustainable travel options	Reduce pollutants and environmental impacts	Adopt innovative technologies and best practices
Economic	Keep infrastructure in good repair	Enhance system consistency and dependability	Provide affordable transportation options	Promote energy efficiency and reduce greenhouse gas emissions	Support smart growth
Social	Improve multimodal connectivity	Reduce traffic collisions	Provide an equitable and fair multimodal system	Enhance access and mobility	Use innovation to make all transportation choices easier
Educational	Promote transportation choices	Educate all system users to keep the traveling public safe	Encourage use of sustainable travel options	Support programs that promote environmentally preferable choices	Foster dynamic partnerships with businesses and the community

Figure 11. Image. MCDOT sustainability goals and principles.

Source: MCDOT, 2017

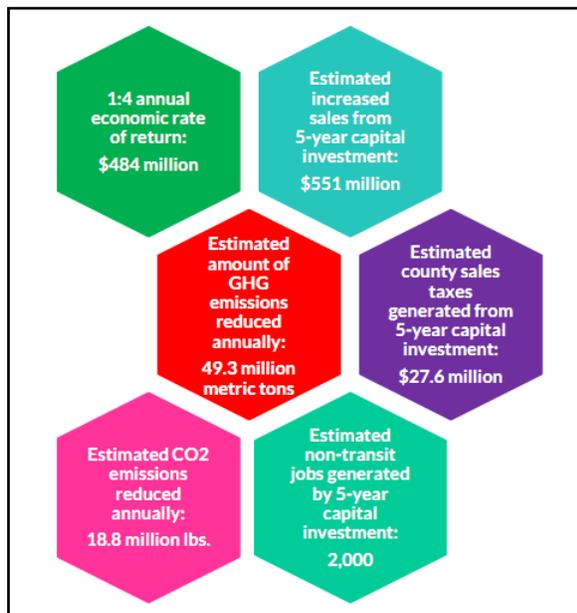


Figure 12. Image. Benefits for Nassau County.

Source: NICE, 2018



Figure 13. Image. Benefits for Nassau residents.

Source: NICE, 2018

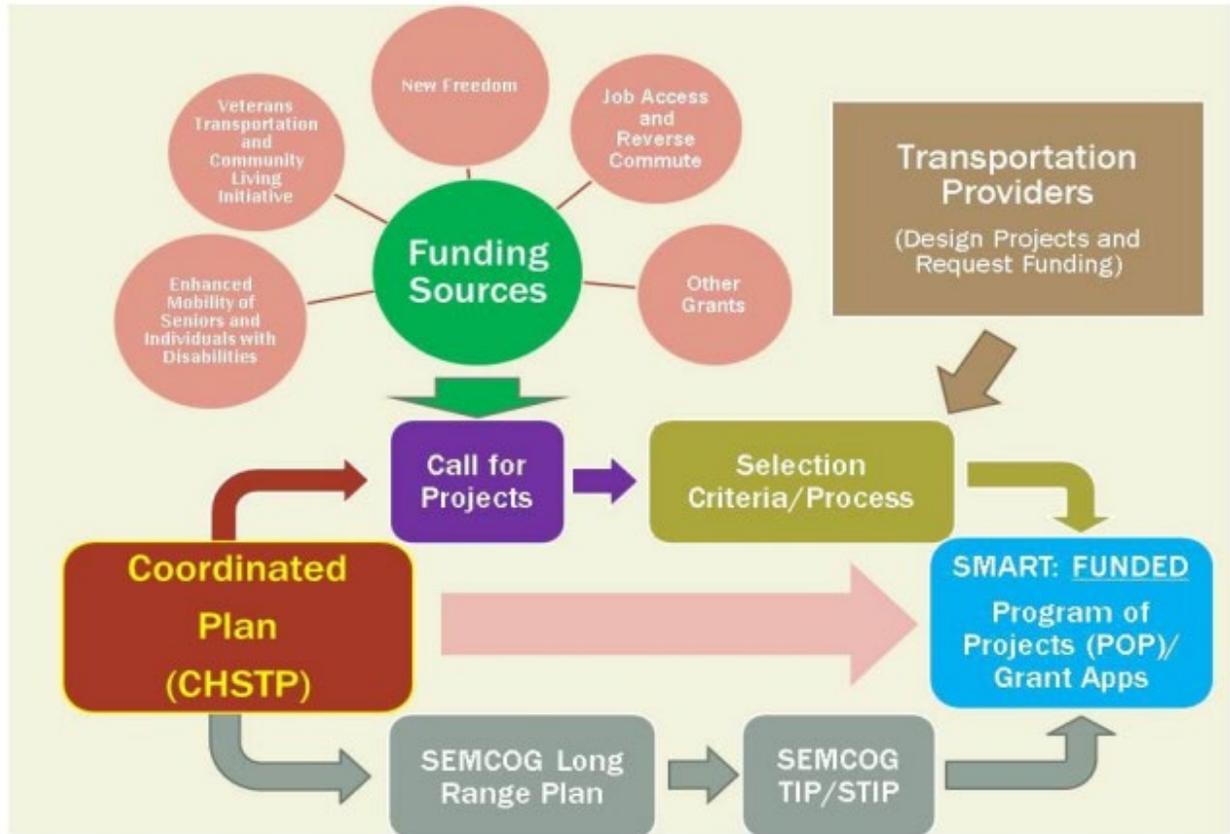


Figure 14. Image. Relation of Human Services Transportation Plan to project funding.

Source: SMART, 2014

Table 18. “Designing with Transit” Chapters of Interest to Particular Stakeholders

Audience	Chapter 2 Transit System	Chapter 3 Community Planning	Chapter 4 Pedestrians	Chapter 5 Streets
City Council Members	X	x		x
Transportation Planners and Commissioners	X	x	x	x
Land Use Planners and Commissioners	X	x	x	
Traffic Engineers	X		x	x
TDM Coordinators	X			
Developers	X	x	x	

Source: AC Transit, 2004

Table 19. AC Transit Policies and Best Practices for Safe Pedestrian Access to Transit

<p>Policy: Develop networks that provide pedestrian access to all locations in a community Best Practice 1: Provide sidewalks on all blocks and assure that they are wide enough Best Practice 2: Make blocks part of a grid pattern connected to other streets Best Practice 3: If blocks end in cul-de-sacs, develop alternative pedestrian access</p>
<p>Policy: Create access to transit which is direct, safe, understandable, and pleasant Best Practice 1: Provide direct pedestrian access from activity centers to transit lines Best Practice 2: Provide adequate lighting and clear sight lines on sidewalks</p>
<p>Policy: Site buildings to provide easy access to transit Best Practice 1: Site buildings next to sidewalks, minimize setbacks Best Practice 2: Retrofit pedestrian-hostile sites with liner buildings to improve sidewalk vitality and site efficiency</p>

Source: AC Transit, 2004

Table 20. SCVTA Criteria for Focus Area Evaluation

Importance	Evaluation Factor	Data	Description	Year
Weighted Heaviest	Transit Ridership	Top 100 Bus Locations by Ridership	Top 100 bus locations (may include intersections with multiple bus stops) based on average daily boarding	2013
	Transit Ridership	ADA Lift Deployment	Annual ADA lift deployment (wheelchair lift) by bus stop.	2013
	Transit Ridership	Top 20 Paratransit Stops	Top 20 most frequently used paratransit locations.	2013
	Barriers	Across Barrier Connections	Recommended ABC's from the <i>2008 Countywide Bike Plan</i>	2008
	Barriers	Pedestrian-Vehicle Collisions	Pedestrian-vehicle collisions resulting in death or severe injury. Data from U.C. Berkeley Transportation Injury Mapping System.	2003-2012
	Socioeconomics	Communities of Concern	Census tracts that meet low income and minority thresholds as defined and/or at least 4 of 8 other factors considered to render people in a census tract as disadvantaged.	2011
	Socioeconomics	CARE	Census block groups with high concentrations of Toxic Air Contaminants that are also home to sensitive populations with income below 185% of the Federal Poverty Level.	2012
	Major Destinations	Government Services	Social Services Agency, Services for Families and Children, Department of Motor Vehicles, Dept. of Employment and Benefits Services, Social Security Administration, US Citizenship and Immigration Services, Courthouses.	2014
	Major Destinations	Major Employers	Top 72 employers, based on employee numbers, in Santa Clara County as per the Business Journal Book of Lists	2012
	Major Destinations	Colleges	All four-year and community colleges.	2012
	Major Destinations	Senior Centers	All senior centers and senior nutrition centers in the county.	2013
	Major Destinations	Schools	All public and private middle and high schools in Santa Clara County.	2012
	Major Destinations	Health Care Facilities	All Hospitals, drop-in clinics, surgical centers, and cancers treatment centers in Santa Clara County.	2012
	Weighted Lightest	Housing	Housing Density	Housing density calculated from the 2010 US Census.
Journey to Work		Residents who commute by Bus	Census 2010 residents by census tract.	2010
Journey to Work		Residents who commute by Rail	Census 2010 residents by census tract.	2010

Source: SCVTA, 2017



I ILLINOIS