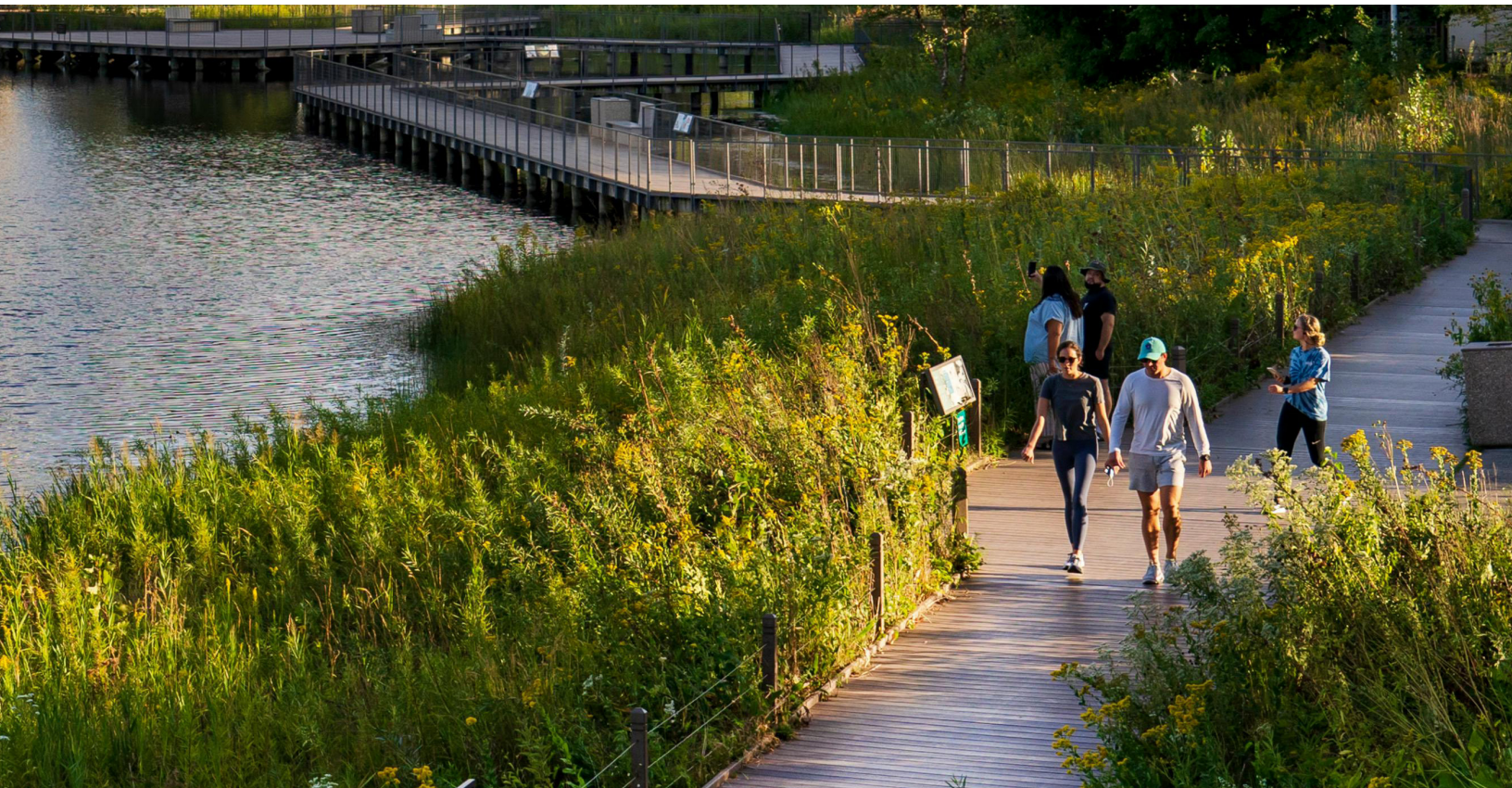


Overview of New Mobility in Illinois

Final 2.15.2024

To support the Existing Conditions Assessment for the Illinois Department of Transportation's Active Transportation Plan, Alta Planning + Design developed this memorandum to provide a high-level overview of new mobility, specifically micromobility. The memorandum summarizes micromobility practices and resources relevant to Illinois communities.



Overview of New Mobility in Illinois

Introduction

New and innovative modes have become a force for change on our streets and sidewalks, redefining what mobility is and adding new demands in areas with limited space. Not only do the modes continue to evolve, but so do the technologies and policies that support them. New mobility, for the purpose of this document, refers to transportation services or modes that are enabled, defined, or redefined by digital technology. Often, they are defined by features such as apps, real-time information, point-to-point trips, on-demand services, multimodal trips, shared fleets or trip services, and electric-powered devices. One form of new mobility, and the primary form this document will focus on, is micromobility.

Micromobility broadly refers to lightweight, low-speed travel modes that serve as personal mobility options. This includes many types of vehicles, from bikes, e-bikes and e-scooters to delivery trikes and one-wheels. While definitions for the term micromobility vary in the U.S. and internationally, the category usually includes both electric-powered and human-powered modes and both privately-owned and shared fleets of those modes. For example, a person may own an e-scooter and use it to get around (electric-powered, privately-owned) or a person may pay to check-out a bike from a bike share program that operates in their community (human-powered, shared fleet).

Shared micromobility programs provide a fleet of shared lightweight, low-speed vehicles available for public use. Programs are often managed and permitted by local governments and operated by private companies or local organizations.

These vehicles are generally rented through a mobile app or kiosks and are meant for short point-to-point trips. Users pay a fee to unlock the vehicles, which are parked in the public right-of-way. Currently, shared micromobility programs are available in over 400 cities in North America, including Illinois cities like Chicago, Champaign-Urbana, Edwardsville, and Carbondale. In 2022, shared micromobility riders in North America took at least 157 million trips.¹

Purpose

The purpose of this memo is to define micromobility and provide an overview of current micromobility practice relevant to Illinois communities. While micromobility often falls under the umbrella of active transportation, there are challenges that arise such as operating characteristics, technology, funding, safety, infrastructure and more.

This document will help address these challenges in a dedicated discussion and equips both state and local practitioners with information and tools to facilitate informed discussions with local communities. The memo covers the following sections:

- › **Micromobility and Active Transportation:** the characteristics of micromobility and the relationship of micromobility modes to active transportation.
- › **Micromobility Topic and Policy Areas:** a discussion of relevant policy, legislation, and practice to inform local decision-making.

¹ North American Bike Share Association (NABSA). 2022 4th Annual Shared Micromobility State of the Industry Report. August 10, 2023



Micromobility and Active Transportation

What is Micromobility?

The term *micromobility* encompasses a vast array of evolving transportation modes, from electric skateboards to delivery trikes, all contributing to reshaping the urban landscape. These modes include e-scooters, bike share bikes, and bicycle-like vehicles, such as e-bikes, one-wheels and cargo bikes. These modes can be privately owned, or part of a sharing scheme of docked (station-based) or dockless vehicles.

New types of devices and design modifications of micromobility continue to emerge. Because of this, it is helpful to think of micromobility based on the characteristics that make this category different from other modes rather than trying to create a final list of what is or is not micromobility. For micromobility, vehicle weight and top speed are the most defining characteristics.

The International Transport Forum (ITF) is a leading international transportation organization that has provided a helpful approach to classifying micromobility. They focus on vehicles that do not exceed a maximum speed of 28 miles per hour and a mass of 77 pounds, whether electric, electrically assisted, and human-powered. ITF describes micromobility (orange box) and active transportation (green box) as part of a larger family of “light mobility” travel options (all modes shown). Figure 1 explains how micromobility modes are distinct from other light mobility modes.

Walk.Roll.Illinois Goals

IDOT’s ATP, Walk.Roll.Illinois, is consistent with the state’s Long Range Transportation Plan (LRTP). The LRTP established 5 performance goals for the transportation system related to economy, livability, mobility, resiliency, and stewardship. These goals provide overarching guidance for the goals for implementing the ATP. As part of the planning process, Walk.Roll.Illinois has identified 7 specific goals for guiding priorities and decision-making around investments in active transportation. The implementation of micromobility and supporting amenities can advance these goals:

- › **Equity:** Ensure the network is accessible to users of all ages, abilities, and backgrounds.
- › **Safety:** Reduce bicyclist and pedestrian serious injuries and fatalities.
- › **Connectivity:** Connect people to essential destinations like schools, jobs, parks, and more through comfortable and continuous bicycle and pedestrian facilities.
- › **Partnerships:** Build new partnerships and strengthen existing relationships to advance walking and biking.
- › **Economic vitality:** Support the creation of economically and culturally vibrant streetscapes that provide opportunities to engage with businesses and commerce and drive economic activity.
- › **Public health & environment:** Promote active modes of travel that improve air quality and reduce chronic disease, fossil fuel dependence, greenhouse gas emissions, and congestion.
- › **Livability:** Support active living environments that provide affordable transportation options and allow people to thrive in their communities and neighborhoods.

Micromobility within the Light Mobility Landscape

Active

Self-locomotion



Micromobility (rideables)

Bicycles



Electric bicycles

Pedelecs



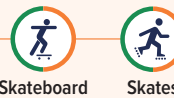
Speed pedelecs



Scooters



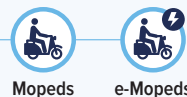
Other rideables



Passive



Powered light mobility



Car-like mobility



- Active Transportation (full or partially human powered)
- Micromobility (low speed / weight)
- Passive Transportation (non-human powered)

Figure 1: Micromobility within the Light Mobility Landscape (adapted from International Transport Forum’s (ITF) summary of the light mobility landscape in their 2023 publication “Towards the Light: Effective Light Mobility Policies in Cities”)

Safety for Micromobility Users

Walk.Roll.Illinois establishes the safety of vulnerable road users as a core priority. People riding micromobility modes are vulnerable road users just like people walking and bicycling. New investments to improve safety of active transportation users may also benefit micromobility users. In some cases, micromobility use may increase the volumes of multimodal travelers in particular areas or on specific streets, further amplifying the need for protected space for people walking, rolling, and riding. Considering the full range of vulnerable road users when planning for safety improvements is in line with the Safe System and Vision Zero approach.

Micromobility devices are designed for use in on-street bikeways and shared-use trails, not sidewalks. Connected networks of bikeways and trails provide micromobility users with safe routes to get to their destination. This also benefits pedestrians and people with disabilities

by separating uses and making bikeway, trail, and sidewalk experiences more predictable. Micromobility users can further support the safety of pedestrians and persons with disabilities by:²

- › **Riding** in bike lanes or low-speed travel lanes rather than on the sidewalk or in crosswalks
- › **Parking** micromobility devices in places that will not obstruct the sidewalk and will maintain a clear path for people walking and rolling, such as at bike racks, docking stations, designated parking hubs, or within the furnishing zone, and
- › Following **trail etiquette** guidance when riding on shared-use paths or greenways, such as maintaining safe speeds and signaling when passing

This memo, through its safety-focused lens, will help Illinois communities account for current and future innovations in mobility while upholding best practices for safety and accessibility.

2 For additional information: American Planning Association. Access Denied. March 2020. [Access Denied \(planning.org\)](https://www.planning.org/publications/access-denied/)

Micromobility Topic & Policy Areas

There are nine key topic and policy areas that Illinois cities, towns, and metropolitan planning organizations (MPO) can consider when addressing micromobility in their communities, as shown in Figure 2.

Each topic and policy area in this section includes a high-level introduction to considerations for micromobility in Illinois communities of all

sizes and levels of active transportation and micromobility innovation, including the following information:

- › **Overview** of considerations
- › **Relevance** to the Illinois Department of Transportation (IDOT) Active Transportation (AT) goals (equity, safety, connectivity, economic vitality, public health and environment, and livability) and how the given topic supports those goals
- › **Resources** for further insights

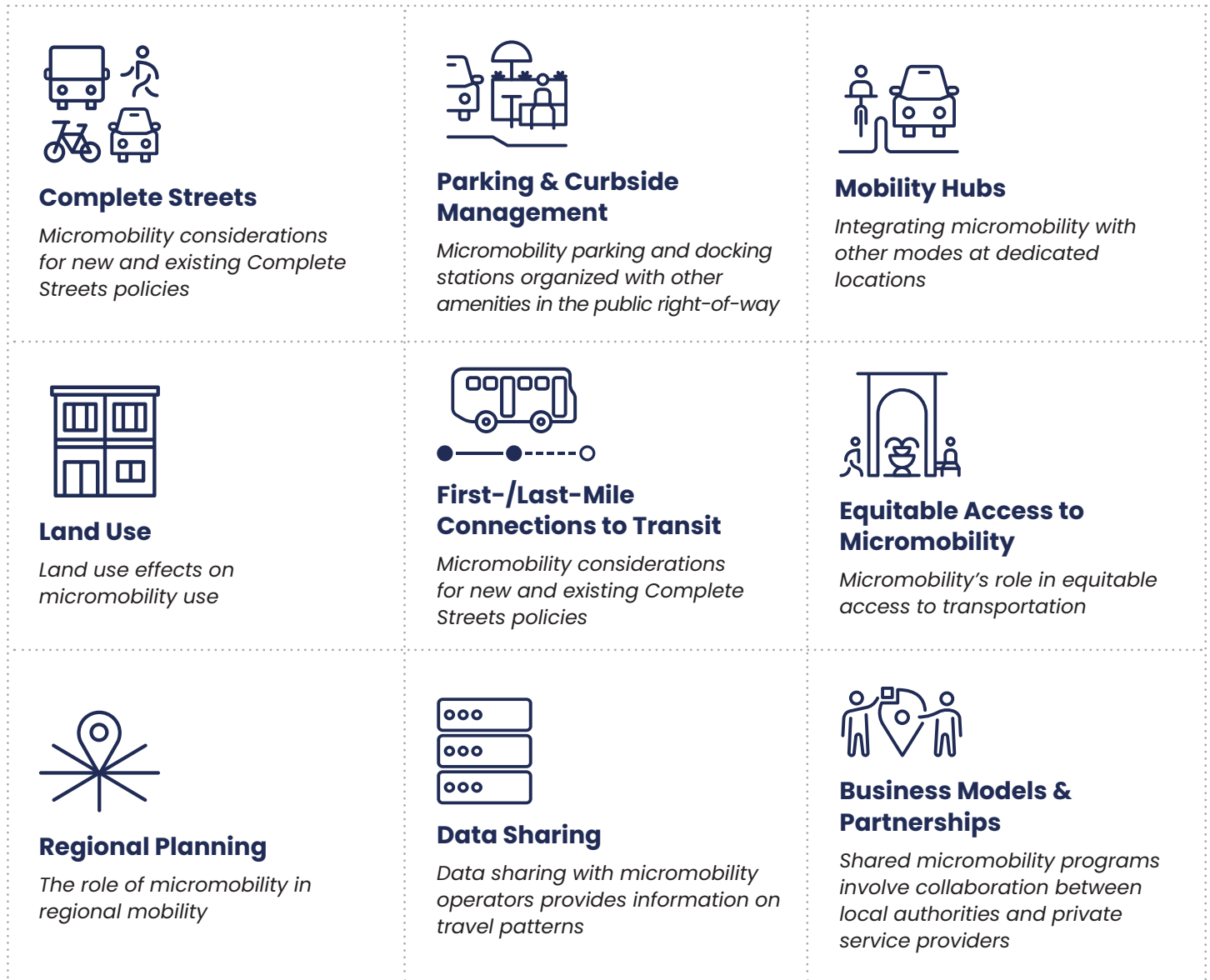


Figure 2: Key Topic & Policy Areas for Micromobility

Complete Streets

Overview

Complete Streets policies have been in place in communities around the country for over two decades. Since the movement began, the variety of modes operating on community streets has changed, and trips consisting of multiple modes and trip chaining are increasingly common. For example, dockless bike share and scooter share (like Lime and Bird) and rideshare services (like Uber and Lyft) have made door-to-door trips possible on a large scale for a variety of modes, rather than requiring people to end their trip at a docking station or parking lot. For micromobility to be effectively integrated in Complete Streets, it is helpful to consider their role on both a network and street level.

- › **Complete Street networks:** Given the limited availability of space within the right-of-way, prioritize access for the people, and modes, who need it the most on a network level, first. While Complete Streets are typically pictured in dense urban areas with space for transit, delivery vehicles, taxis and rideshare, bicycles, and pedestrians, they encompass a spectrum of environments. A slow street with infrequent bus service and a bike share may also represent a complete streets network, meeting the needs of those who use it. Organizing traffic flow for all modes based on functional and land use classifications will help clarify difficult decisions around space and make the path toward a Complete Street more achievable.
- › **Complete Street design:** On the street level, the design of public space profoundly influences user behavior. Embracing a goals and outcomes-based approach to planning, design, and engineering is crucial to ensuring that behavior is positive. By establishing community-based modal priorities, space can be dedicated

in a way that is more likely to meet the needs of all road users. The efficacy of shared bike and scooter programs as low-impact transportation alternatives is contingent upon the availability of safe riding spaces and parking facilities. Intentional design and management of the bike and pedestrian realm is critical to the experience of all road users—whether walking, rolling, waiting for transit, or even driving.

Amid substantial grant opportunities for capital projects in sustainable mobility, there is unprecedented opportunity to support the implementation of active and micro modes. Forward-thinking Complete Street policies that consider all modes, including micro modes, play a crucial role in determining how well modes like e-bikes and scooters enhance or diminish the value of investments in biking and walking.

Relevance to IDOT AT Goals

- › **Safety:** The inclusion of micro modes in Complete Streets guidance will affirm their space in the right-of-way and clarify expectations, reducing likelihood of incidents. The permissance of micromobility will also support more people walking and rolling, thereby increasing safety in numbers, and reducing serious injuries and fatalities for bicyclists and pedestrians.
- › **Connectivity:** Addressing Complete Streets at the network level will increase opportunities to connect people to essential destinations like schools, jobs, parks, healthy food options, medical care, and other key destinations. It will help identify and close gaps for active and micro modes on the street level.
- › **Livability:** Complete Streets that include not just sidewalks and bike lanes, but space and considerations for micro modes, support the creation of active living environments, provide additional affordable transportation options.

Resources

- › Chicago Complete Streets Guidelines: <https://40f4ba.a2cdn1.secureserver.net/wp-content/uploads/2016/02/Complete%20Streets%20Design%20Guidelines.pdf>
- › Chicago Municipal Code Title 9, Vehicles, Traffic, and Rail Transportation: https://codelibrary.amlegal.com/codes/chicago/latest/chicago_il/0-0-0-2645032
- › NACTO Designing for Small Things with Wheels, 2023: https://nacto.org/wp-content/uploads/2023/03/WP_designing_for_small_things_with_wheels_FINAL_March1-2023.pdf
- › NABSA Incorporating Shared Micromobility in Electric Vehicle Charging Projects: <https://www.dropbox.com/scl/fi/rr98t563hbidhxxq8ykvh/Incorporating-Shared-Micromobility-in-Electric-Vehicle-Charging-Projects.pdf?rlkey=iczlhrr4g8efiy12e2a3soz9c&dl=0>
- › Beaverton Complete Streets Policy: <https://content.civicplus.com/api/assets/9785c060-93f2-42b0-90c7-bdb8353cb7e4>

Parking & Curbside Management

Overview

In the realm of urban mobility, the curb has long been a hub of activity—accommodating an array of functions from bike lanes and parking spots to bus stops, ride-hailing zones, electric vehicle charging, and loading areas. The advent of shared micromobility services has further enriched this dynamic landscape and created more competition for a limited amount of space. Curbside considerations for micromobility can be summarized with the following:

- › **Micromobility parking:** Creating parking for services such as bike and scooter shares can be done through expanding the functionality of furnishing zones, converting car parking spaces, or repurposing excess space at the corner of a street with docking stations or parking hubs.
- › **Access to micromobility charging:** The rise of electric-powered micromobility, whether in shared fleets or privately owned vehicles, has underscored the importance of publicly accessible charging stations.
- › **Co-location of transportation services:** Recent years have witnessed a surge in ride-hailing services and novel trends in e-commerce, urban deliveries, and associated pick-up and drop-off activities. This, along with traditional modes like transit, opens avenues for integrating multiple mobility services within a single, convenient location—facilitating seamless multimodal journeys and ensuring convenient access to sustainable transportation methods.

Unregulated curb access can significantly impact municipal objectives, safety, and accessibility. With thoughtful planning, jurisdictions can carve out space for shared micromobility access, parking, and charging facilities while upholding safe and convenient pathways for pedestrians, bicyclists, public transit users, and other valued uses of the curb.

Relevance to IDOT AT Goals

- › **Economic vitality:** Proponents of traditional car parking often have economic vitality at the core of their arguments. This same thought is particularly strong for active and micro modes. Research shows that people choosing active modes tend to shop more often. Creating space for a variety of modes to park in commercial areas will support the creation of economically and culturally vibrant streetscapes that provide opportunities to engage with businesses and commerce.
- › **Safety:** Thoughtful curbside management can prevent unsafe and undesirable situations, such as delivery vehicles parked in the bike lane or e-scooters falling onto the sidewalk.

Resources

- › NABSA Incorporating Shared Micromobility in Electric Vehicle Charging Projects: <https://www.dropbox.com/scl/fi/rr98t563hbidhxxq8ykvh/Incorporating-Shared-Micromobility-in-Electric-Vehicle-Charging-Projects.pdf?rlkey=icz1hrr4g8efiy12e2a3soz9c&dl=0>
- › Shared Mobility Policy Playbook, UC Berkeley: <https://escholarship.org/uc/item/9678b4xs>
- › Seattle Policy (page 20): <https://playbook.t4america.org/parking-street-design/>

Mobility Hubs

Overview

A mobility hub is defined as a strategically designated location that offers a minimum of two transportation services—typically incorporating at least one micromobility option, such as bike share or scooters. What makes mobility hubs particularly effective is their adaptability to different contexts. They can range from highly multimodal urban neighborhoods, where entire communities function as a mobility hub or they can be small, dedicated areas specifically for scooter or bike share parking—strategically positioned adjacent to transit stops, transforming even these compact spaces into effective mobility hubs.

Micromobility modes have an average trip distance of around 1 to 1.5 miles.³ This characteristic renders these micro modes well-suited for first- and last-mile connections between various modes of transportation, not only because of the short distances of those connections but also because

they do not require car parking. Therefore, when part of a shared fleet, they allow the user to choose a different mode on their return trip (meaning, the person is not committed to a vehicle that must return home with them). Whether it is linking up with buses, trains, micro transit services, or car-sharing platforms, micromobility modes and their hubs have become integrated components of urban transportation networks.

Mobility hubs play an important role in the organization of public space. They not only facilitate essential services such as shared e-scooter parking but also create opportunities for integration with other transportation modes, particularly transit and car-sharing services. By encouraging this relationship between different modes of travel, mobility hubs enhance urban mobility efficiency and accessibility. These hubs create a platform for multimodal trip-making and a more interconnected, and user-friendly mobility experience, shaping a more sustainable future for Illinois communities. An example is shown in Figure 3.

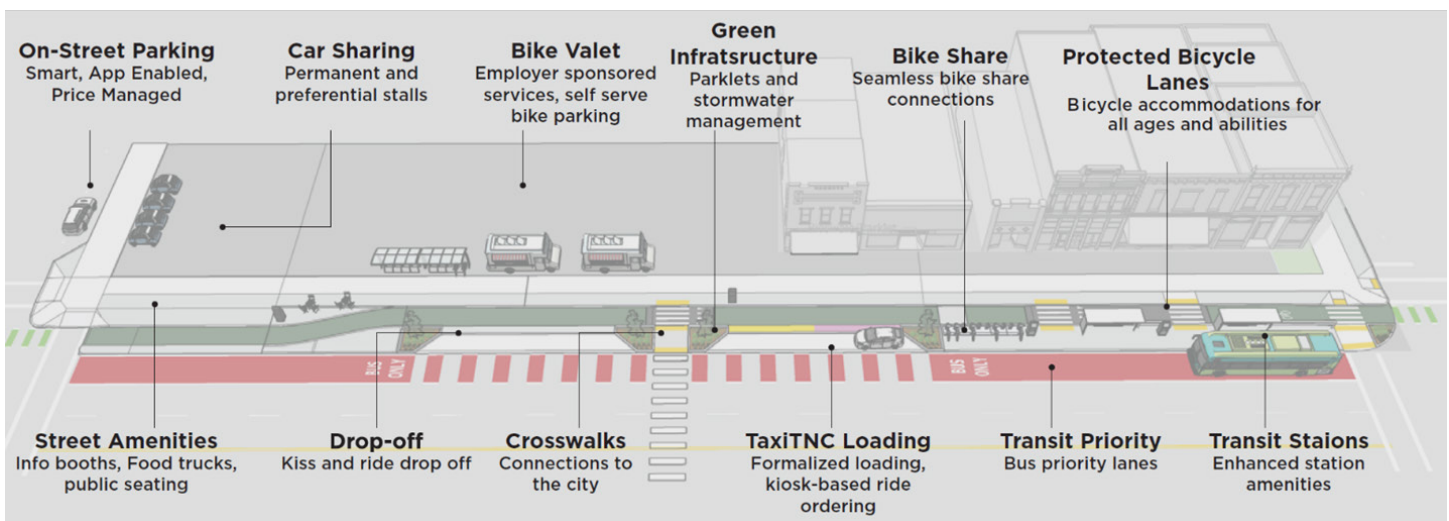


Figure 3: Mobility Hub Services and Features

³ Micromobility average trip distance in the U.S | Statista. <https://www.statista.com/statistics/1220228/average-trip-distance-using-micromobility-products/>

Relevance to IDOT AT Goals

- › **Equity:** By putting thoughtful consideration into the location of mobility hubs in transportation-disadvantaged communities, mobility hubs can support more equitable access to transportation options. This supports a transportation network that is accessible to users of all ages, abilities, and backgrounds.
- › **Partnerships:** Partnerships at mobility hubs among different modes and providers can lead to opportunities to build new partnerships and strengthen existing relationships to advance micromobility.
- › **Public health & environment:** Providing more mobility options that encourage a shift from driving to active modes of travel can improve air quality and reduce chronic disease, fossil fuel dependence, greenhouse gas emissions, and congestion, and increase access to healthy food options, medical care, and more.
- › **Livability:** Mobility hubs can provide additional options for affordable transportation to better meet people's travel needs—supporting the creation of active living environments.

Resources

- › NACTO's 2022 Shared Micromobility in the U.S. and Canada Report: [Shared Micromobility in 2022 | National Association of City Transportation Officials \(nacto.org\)](https://nacto.org/publication/shared-micromobility-in-2022)
- › Peoria Tri-County Emerging Mobility Strategy 2020 Report: https://tricityrpc.org/wp-content/uploads/FINAL_Tri-County-Emerging-Mobility-Strategy.pdf
- › Minneapolis Mobility Hub Pilot Report: [Mobility-Hubs-Pilot-2020.pdf \(minneapolismn.gov\)](https://minneapolismn.gov/files/2020/12/Mobility-Hubs-Pilot-2020.pdf)
- › Portland Bureau of Transportation Mobility Hub Typology: <https://altago.com/resources/19464/>
- › Shared Use Mobility Center (SUMC) Mobility Hubs: https://sharedusemobilitycenter.org/wp-content/uploads/2019/08/Mobility-Hubs_SUMC_Web.pdf

Land Use

Overview

The built environment surrounding the streets can be just as influential as the design of the road itself in determining the way people use the street, their behavior, and the modes they choose to travel there. Land use, and the policies that support its development, can determine the modes that will be most successful there.

In densely populated areas with a high density of key destinations, scooters and human-powered bikes serve as viable alternatives to walking, offering convenient and efficient ways to cover short distances. Micromobility options can also bridge the gap between neighborhoods, reducing reliance on cars and ride-hailing services, enhancing connectivity, and fostering a sense of community across different parts of a city.

The introduction of active and micromobility modes into commercial centers can have a positive economic impact. Pedestrians are more likely to pop into a store after window shopping, people on bikes and scooters have the flexibility to make impulse stops. The availability of micromobility options enhances accessibility, making it easier for people to explore local businesses and contribute to the economic vitality of the area. The Urban Land Institute (ULI) documented this in their 2021 report *Small Vehicles, Big Impact: Micromobility's Value for Cities and Real Estate*.⁴ Similarly, the 2021 research study *Wheels to Meals: Measuring the Impact of Micromobility on Restaurant Demand* found that having a shared e-scooter program in a city significantly impacts restaurant spending with

e-scooter users spending approximately 5.2% more than before having access to the program.⁵

Policies related to zoning, land use, and development codes that may influence micromobility use, access, and safety include:

- › **Car parking requirements:** parking requirements for developments determine the amount of land dedicated to vehicle parking infrastructure and services which influences people's choice of travel mode.
- › **Mixed-use development:** blending residential, commercial, and recreational spaces in mixed use developments creates shorter distance trips from origin to destination which promotes vibrant communities and makes travel by micromobility more practical
- › **Bike parking standards:** minimum requirements for secure bike and micromobility parking influences people's choice in travel mode
- › **Curbside space allocation:** regulations for new developments may determine how loading zones, bus stops, bike lanes, and bike and micromobility parking interact at the curb and how these different mobility functions successfully integrate into the urban landscape.
- › **Incentives for infrastructure and programming:** incentives for the development of programs that support shared mobility, such as mobility hubs, reduced on-site car parking, and travel demand management programs can lead to reduced car parking demand and more use of affordable and low- or no-emission vehicles.

By integrating these initiatives into urban planning efforts, cities, towns, and MPOs can pave the way for more sustainable and accessible developments.

4 Urban Land Institute. *Small Vehicles, Big Impact: Micromobility's Value for Cities and Real Estate*. Washington, D.C.: Urban Land Institute, 2021.

5 Kim, Kyeongbin and McCarthy, Daniel, *Wheels to Meals: Measuring the Impact of Micromobility on Restaurant Demand* (May 3, 2023). Available at SSRN: <https://ssrn.com/abstract=3802082> or <http://dx.doi.org/10.2139/ssrn.3802082>

Relevance to IDOT AT Goals

- › **Connectivity:** Thoughtful revisions to development codes can include providing facilities and amenities that encourage micromobility for new development and connect people to essential destinations like schools, jobs, parks, healthy food options, medical care and more through comfortable and continuous bicycle and pedestrian facilities.
- › **Economic vitality:** Bikes and micromobility are good for business. The introduction of more micromobility to commercial areas may support the creation of economically and culturally vibrant streetscapes that provide opportunities to engage with businesses and commerce.
- › **Public health & environment:** While micromobility itself can improve public health, intentional coordination with developers and local officials can maximize the shift of

trips to active modes of travel to improve air quality and reduce chronic disease, fossil fuel dependence, greenhouse gas emissions, and congestion, and improve access to healthy food options, medical care, and more.

- › **Livability:** Mixed-use and high-density development in particular have potential to join forces with micromobility providers to create attractive active living environments that provide affordable transportation options.

Resources

- › Tulsa Mobility Innovation Strategy: <https://www.cityoftulsa.org/media/18545/tulsa-mobility-innovation-strategy-full-report.pdf>
- › Urban Land Institute Small Vehicles, Big Impact: <https://statics.teams.cdn.office.net/evergreen-assets/safelinks/1/atp-safelinks.html>

First-/Last-Mile Connections to Transit

Overview

People most often arrive at transit stops by walking or driving. Bicycling to a transit stop may seem like an obvious choice; however, encouraging chain trips that combine biking and taking transit (for people using their own bicycles) can be a challenge. Micromobility options like scooters and bike share bridge this gap, catering to individuals who prefer not to worry about secure bike parking at transit stations.

Scooters and dockless bikes strategically placed at transit stops offer an immediate solution for commuters as soon as they disembark, allowing them to conveniently reach their final destinations. This eliminates the hassle of figuring out transportation options after leaving the station and encourages the use of micromobility for the last mile of the journey. By offering readily available micromobility solutions at transit stops, municipalities can reduce congestion caused by car parking, and encourage more sustainable trips from start to finish.

Exploring opportunities for integrated systems or user cards that work with both transit and micromobility can further enhance the user experience. Streamlining payment methods and providing a unified platform for accessing both services encourage commuters to choose these integrated modes, simplifying their journeys and encouraging transit ridership.

Relevance to IDOT AT Goals

- › **Equity:** Expanding access to transit and increasing mobility options in transportation disadvantaged communities will ensure the network is a benefit to users of all ages, abilities, and backgrounds.
- › **Partnerships:** First/last-mile connections allow for new public-private partnerships that support integrating micromobility with transit, and taking a user-centered, customer-first approach to seamless multimodal trip options.
- › **Public health & environment:** Promoting micromobility for short trips will shift trips to active modes of travel to improve air quality and reduce chronic disease, fossil fuel dependence, greenhouse gas emissions, and congestion and increase access to healthy food options, medical care, and more.
- › **Connectivity:** Making connections to transit will broaden the mobility network and connect people to essential destinations like schools, jobs, parks, healthy food options, medical care, and more.

Resources

- › Bedford Park Last Mile Mobility Study (2019): https://learn.sharedusemobilitycenter.org/wp-content/uploads/vobp_phase_i_final.pdf
- › Bedford Park Last Mile Mobility Action Plan: https://learn.sharedusemobilitycenter.org/wp-content/uploads/VOBP_ActionPlanLayout-5.28.2020-single-page_Optimized.pdf
- › Investigating the role of micromobility for first- and last-mile connections to public transport: <https://www.sciencedirect.com/science/article/pii/S2950105923000013>

Equity and Micromobility

Overview

Micromobility can be a powerful tool for improving access to essential destinations and offering a cost-effective means to reach jobs and meet daily needs. Online tools like the US Department of Transportation’s Climate and Economic Justice Screening Tool and North Carolina Department of Transportation’s Transportation Disadvantage Index serve as valuable resources—showing how to identify transportation disadvantage and equity priority areas. These tools aid in identifying where intervention is most needed, laying the groundwork for inclusive micromobility planning. However, achieving equity in micromobility access requires deliberate planning and engagement, particularly in disadvantaged communities.

Implementation efforts should be coupled with programming, education, and outreach initiatives. In the following examples, communities around the U.S. found a variety of ways to improve equitable access to micromobility programs:

- ▶ Paid neighborhood ambassador programs can educate the public on how to use the new modes, as well as increase level of comfort. Portland Metro worked closely with a majority-Asian community experiencing significant barriers to accessing transportation. Building on a previous collaborative effort to create a historically and culturally appropriate approach to transit-oriented-development,⁶ Metro supported a partnership between the local community (the Jade District), the City of Portland, the transit agency (TriMet), and a suite of private mobility services.⁷ This resulted in greater awareness of and access to the City’s

BikeTown program, as well as critical input to shape future mobility programs, such as the need for private mobility services to offer a broader range of language translations in their smartphone applications.

- ▶ Adaptive bike share programs (e.g. hand cycle rentals) and expanded micromobility design innovations (e.g. seated scooters) can also expand who is able to participate in shared micromobility programs. The City of Oakland, CA’s study of accessibility of shared mobility services identified ways to expand access to the services within the existing regulatory and permit structure for shared mobility providers.⁸ Oakland was the first city in the United States to require that permitted scooter share providers offer adaptive scooters for persons with disabilities. Their most recent permit mandates that adaptive scooters have three wheels, a seat and a basket.
- ▶ “Bike Share for All” programs that establish income-based fares and use targeted outreach are common among U.S. shared micromobility programs. Successful initiatives have resulted in more than 20% of bike share members enrolled through the Bike Share for All program.⁹ Multimodal-focused programs are also being tested in some communities, such as Los Angeles Department of Transportation’s (LADOT) pilot of a Universal Basic Mobility Program.¹⁰
- ▶ Prioritizing docked stations in transportation-disadvantaged areas enhances accessibility. Dockless modes require more dedicated efforts to redistribute scooters and bikes on at least a once-daily basis, which leads to more consistency in operators properly distributing devices to transportation disadvantaged communities. Portland, OR recently expanded bike share service to new areas, including East Portland, based on City priorities for

6 [Portland’s Jade District ready to shine way forward for businesses, residents | Metro \(oregonmetro.gov\)](#)

7 [PILOT projects test new approaches to equitable transportation in greater Portland | Metro \(oregonmetro.gov\)](#)

8 <https://altago.com/wp-content/uploads/Oakland-Mobility-Assessment-Report-v4-web-2.pdf>

9 <https://medium.com/oakdot/the-year-in-review-2018-shared-mobility-snapshot-3ed9d34234e6>

10 <https://ladot.lacity.gov/ubm>

racial equity.¹¹ This area of the City, which was previously not included within the BikeTown service area now shows routes with high volumes of shared micromobility trip activity on the City's data sharing platform Ride Report.¹²

Affordability is also a key aspect of equitable access. Below are opportunities for increasing participation of lower-income residents:

- › **Reduced fares:** Residents qualifying for social benefits programs (SNAP, public housing assistance, WIC, FAFSA, LIHEAP) or with an annual household income at or below 300% of the poverty level should access discounted micromobility services. Reduced fares for seniors, students, or persons with disabilities further contribute to an inclusive approach.
- › **Payment options:** Providing diverse payment options, including cash, debit, or credit, and transit cards, makes it easier for individuals from various socioeconomic backgrounds to use micromobility services.
- › **Membership and non-membership programs:** Offering per-ride options, monthly memberships, and pay-as-you-go opportunities widens accessibility, allowing users to choose plans that suit their needs. Initiatives like Pittsburgh Healthy Ride's ConnectCard, enabling free rides up to 15 minutes, exemplify targeted affordability programs.
- › **Smartphone alternatives:** Recognizing the digital divide, providing alternatives like bike keys ensures that individuals without smartphones can seamlessly participate in micromobility programs.

Equitable access to micromobility is best achieved through a comprehensive approach encompassing community engagement, strategic planning, and targeted affordability initiatives. By combining these efforts, communities are enabling access to micromobility for all residents.

Relevance to IDOT AT Goals

- › **Equity:** Thoughtful implementation of micromobility modes for community members who need it the most will make the network accessible to users of all ages, abilities, and backgrounds.
- › **Safety:** Implementing micro modes in disadvantaged areas can be a catalyst for improving the safety of bike/pedestrian facilities that are often lacking in these communities, which would reduce bicyclist and pedestrian serious injuries and fatalities.
- › **Connectivity:** Providing micromobility services for people in transportation disadvantaged areas will make it easier for them to reach essential destinations like schools, jobs, parks, healthy food options, medical care, and more.
- › **Economic vitality:** Providing more transportation access for underserved populations will create economically and culturally vibrant and diverse streetscapes that provide opportunities to engage with businesses and commerce.
- › **Public health & environment:** Improving access to active and micro modes in disadvantaged areas can mitigate barriers to public health including access to healthy food, medical care, and more; improve air quality; and reduce fossil fuel dependence, greenhouse gas emissions, and congestion.
- › **Livability:** Livability and transportation equity go hand in hand. Active living environments make affordable transportation options possible, enabling more community members to access daily needs.

¹¹ <https://www.portland.gov/transportation/news/2022/1/10/pbot-and-lyft-announce-major-biketown-service-area-expansion>

¹² <https://public.ridereport.com/pdx?x=-122.5650393&y=45.5242851&z=11.18>

Resources

- › US Department of Transportation's Climate and Economic Justice Screening Tool: [Explore the map – Climate & Economic Justice Screening Tool \(geoplatform.gov\)](https://www.geoplatform.gov/Climate-and-Economic-Justice-Screening-Tool)
- › North Carolina Department of Transportation's Transportation Disadvantage Index: [Environmental Justice / Transportation Disadvantage Index Tool \(ncdot.gov\)](https://www.ncdot.gov/Environmental-Justice/Transportation-Disadvantage-Index-Tool)

Regional Planning

Overview

Micromobility is most often used for local travel and short trips. Regional planning offers an opportunity to expand the reach of those modes, particularly with electric or pedal-assist bikes and with connections to regional public transportation, such as buses and trains. In considering trip purpose, commuting is a key avenue in which micro modes can support the shift from motor vehicles to these lighter modes in a regional context.

- › **Chain regional trips:** Similar to the recommendations outlined in the **First-/Last-Mile Connections to Transit** section, integration with transit systems—using the same travel user cards and apps, and the same micromobility options across communities—is important for more seamless travel. This facilitates a cohesive regional transportation network with a consistent user experience, encouraging micromobility for commuting.
- › **Direct regional trips:** Electric micro modes, like e-bikes, can expand the distance people are willing to commute by bike. Regional planning for active and micro modes requires safe and direct infrastructure akin to bicycle superhighways. Providing a network of direct and comfortable routes will enable all ages and abilities to lead the shift toward replacing traditional travel choices with micromobility. Where high-commuter share is a goal, minimizing the ease of driving and parking motor vehicles will also motivate the transition to active and micro modes.

Additional ways to encourage regional trips and make active and micro modes the easy choice include implementing intersections with priority for bicyclists and pedestrians such as

roundabouts, shortcuts that make the active network more direct, attractive routes where possible, and strong wayfinding. Addressing the unique needs of micromobility on a regional scale involves an increase in secure parking facilities. Program agreements with regional councils of governments are a starting point for collaboration and coordination, ensuring that regional planning initiatives align with the goals of micromobility expansion.

Relevance to IDOT AT Goals

- › **Connectivity:** Network connectivity through integrating micromobility with transit and longer-distance routes will connect people to essential destinations like schools, jobs, parks, healthy food options, medical care, and more through comfortable and continuous bicycle and pedestrian facilities.
- › **Economic vitality:** Providing opportunities for easier travel across regional communities will expand access to jobs and broaden recreational tourism opportunities, supporting the creation of economically and culturally vibrant streetscapes that provide opportunities to engage with businesses and commerce.
- › **Public health & environment:** Replacing long-distance trips with modes like e-bikes will improve air quality and reduce chronic disease, fossil fuel dependence, greenhouse gas emissions, and congestion, and increase access to healthy food options, medical care, and more.

Resources

- › The Great Trails State: [North Carolina Department of Transportation: Integrated Mobility Division – Great Trails State Plan](#)
- › San Diego Region (SANDAG) Complete Corridors: [SANDAG – Complete Corridors](#)

Data Sharing

Overview

While active transportation data is often limited to traditional sources of data collection—such as census, intercept surveys, counters, and self-reporting—shared micromobility services are operated and managed fleets of vehicles that provide reliable, built-in data collection. This data is often provided to public sector agencies by the shared micromobility operators in the format of either General Bikeshare Feed Specification (GBFS) or the Mobility Data Specification (MDS). GBFS and MDS are two different ways to standardize communication and data-sharing between cities and private mobility providers, such as e-scooter and bike share companies.

This wealth of data from shared micromobility services goes beyond trip start and end points. It includes helpful details such as trip distances, travel durations, user demographics, and usage frequency. These insights are valuable in shaping effective transportation planning strategies. They offer helpful guidance on where to invest in new bike and micromobility lane infrastructure. By pinpointing origins and destinations, planners can identify areas of high demand, indicating the need for enhanced active transportation. Additionally, these data illuminate travel patterns, facilitating the identification of opportunities for first- and last-mile transit access. This intricate understanding of travel demand forms the foundation for effective targeted travel demand management programs. The City of Seattle, WA maintains an interactive data dashboard showing how data provided by multiple shared mobility operators is used to inform permit compliance, program evaluation, and broader transportation planning purposes.¹³

This data can also serve as a powerful tool for enhancing safety measures. Comparing it against safety data, transportation authorities can identify typologies of areas needing safety improvements specific to micromobility users.

The data can be used to improve the reach and performance of mobility programs. Through analysis of the data, operators can fine-tune their operational models, identifying gaps in service or barriers to participation, adjusting the placement of parking hubs and stations, refining parking requirements, or redefining service areas. This level of precision allows for strategic expansions and the refocusing of outreach efforts, tailoring them to specific target audiences. Toronto, ON used ridership data from their existing bike share program to develop a four-year expansion plan.¹⁴

When services are operated by a non-governmental vendor, it is important that requirements for sharing data with local government are in place. Establishing robust requirements for data sharing should be completed during the vendor permitting or contracting process. This collaboration can occur through third-party data platforms, ensuring a smooth flow of information between service providers and local authorities.

Local agencies and MPOs can be encouraged to adopt modeling approaches employing more disaggregated data, including land use and travel networks, and custom impedances reflecting well-understood factors driving behavior change for active modes. Notably, network quality emerges as a crucial consideration for travel options, as demonstrated by the Utah-based Wasatch Front Regional Council, which is developing state-of-the-practice models for modeling bicycling behavior.

¹³ <https://www.seattle.gov/transportation/projects-and-programs/programs/new-mobility-program/scooter-bike-share-data>

¹⁴ <https://blog.altaplaning.com/heres-the-roadmap-to-expand-bike-share-toronto-and-meet-increasing-cycling-demand-f5622b4f1cc3>

This relationship between data, shared micromobility services, and urban planning allows practitioners to understand and respond quickly to new mobility opportunities and challenges.

Relevance to IDOT AT Goals

- › **Safety:** Data sharing can identify hot spots to be redesigned, reducing bicyclist and pedestrian serious injuries and fatalities.
- › **Connectivity:** Data sharing can help highlight areas of low use, identifying areas that may need an improvement in connectivity and supporting people in their ability to access essential destinations like schools, jobs, healthy food options, medical care, and parks.
- › **Partnerships:** Partnerships between local governments and service providers will provide necessary insights to advance walking and biking.

- › **Economic vitality:** Data can also identify areas of high use, indicating areas to maximize opportunities to engage with businesses and commerce.

Resources

- › NACTO Shared Micromobility Permitting, Process, and Evaluation, 2023: nacto.org/wp-content/uploads/2022/12/2022_NACTO_UBDG_Regulating-Micromobility.pdf
- › NACTO Guidelines for Regulating Shared Micromobility, 2019: [Shared Micromobility Permitting, Process, and Participation | National Association of City Transportation Officials \(nacto.org\)](https://nacto.org/wp-content/uploads/2019/08/Shared-Micromobility-Permitting-Process-and-Participation-NACTO-2019.pdf)

Business Models & Partnership

Overview

Shared micromobility programs are usually made possible through involvement of both the public sector (government) and the private sector (business). North America has a young but maturing industry of shared micromobility service providers. For shared micromobility to be available in a community, the role of local governments lies in establishing a viable framework that permits the existence of these services, while ensuring their sustained and effective operation for long-term viability. Typically, this involves creating permitting programs or establishing contracts with selected service providers. Additionally, local governments often allocate annual funding, provide local matches for grant funds, and offer ongoing staff and in-kind resources to support these initiatives.

Figure 4 illustrates how ownership and operations of a micromobility program relate to the local government's level of involvement, both financially and in terms of administrative control.

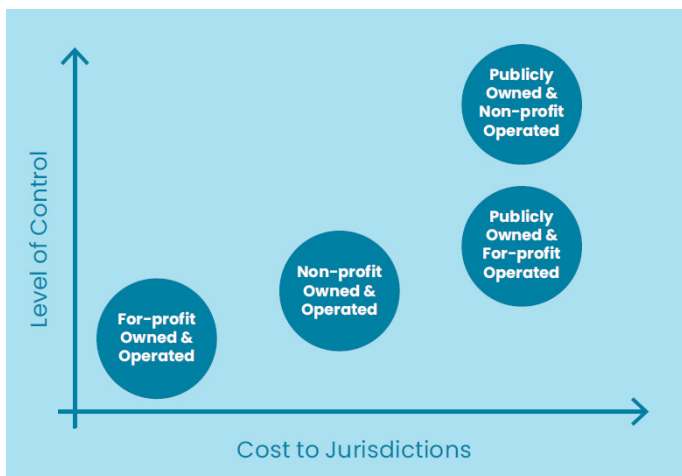


Figure 4: Levels of Government Involvement in Micromobility Programs

Relevance to IDOT AT Goals

- › **Equity:** The level of control that a local jurisdiction has in their local micromobility program and policies will likely directly affect their ability to support equitable access to the service.
- › **Partnerships:** Micromobility programs inherently require partnerships to succeed. Strong partnerships between local agencies and providers will maximize potential for advancing micromobility.
- › **Economic vitality:** Further collaboration across local government departments can link micromobility stations and areas of high use with programs such as parklet and sidewalk seating for restaurants, supporting the creation of economically and culturally vibrant streetscapes that provide opportunities to engage with businesses and commerce.

Resources

- › NACTO Shared Micromobility Permitting, Process, and Evaluation, 2023: nacto.org/wp-content/uploads/2022/12/2022_NACTO_UBDG_Regulating-Micromobility.pdf
- › NACTO Guidelines for Regulating Shared Micromobility, 2019: [Shared Micromobility Permitting, Process, and Participation | National Association of City Transportation Officials \(nacto.org\)](https://nacto.org/wp-content/uploads/2019/07/Shared-Micromobility-Permitting-Process-and-Participation-NACTO-2019.pdf)