A photograph of a person with dark curly hair, wearing a red hoodie, blue jeans, and a black backpack, standing on a sidewalk and looking at a smartphone. They are on a green and white kick scooter. To their right is a bike-sharing station with several blue bicycles docked. The station has teal-colored racks with white polka dots. In the background, there are trees, a yellow school bus, and a white car.

MOBILITY HUB PLANNING AND IMPLEMENTATION GUIDEBOOK

FINAL DRAFT

June 16, 2022



Acknowledgments

We are grateful for the support and guidance of the following individuals and organizations:

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- » Cole Hiniker (Metropolitan Council)
- » Daniel Peña (Metropolitan Council)
- » Kelly Morrell (Metro Transit)
- » Sonja Burseth (Metro Transit)

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- » Aaron Bartling (MVTA)
- » Alan Herrmann (Scott County)
- » Anna Flintoft (Metro Transit)
- » Bill Dossett (Nice Ride Minnesota)
- » Brian Isaacson (Ramsey County)
- » Danielle Elkins (City of Minneapolis)
- » David Fenley (MN Council on Disability)
- » Frank Douma (UMN CTS)
- » Ella Rasp (Musicant Group)
- » Emily Jorgensen (Washington County)
- » Emma Siegworth (City of Saint Paul)
- » Janelle Schmitz (City of Woodbury)
- » Joseph Morneau (Dakota County)
- » Kristin White (MnDOT)
- » Max Musicant (Musicant Group)

- » Matt Fyten (SouthWest Transit)
- » Merritt Clapp-Smith (CAAPB)
- » Michael Krantz (Metro Transit)
- » Michael Martin (City of Maplewood)
- » Michael Opatz (Maple Grove Transit)
- » Nur Kasin (City of Plymouth)
- » Paul Schroeder (Hourcar)
- » Peter Musty (CAAPB)
- » Raymond Eliot (Metro Transit)
- » Russ Brooks (City of Minneapolis)
- » Russ Stark (City of Saint Paul)
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Read Me: How To Use The Guidebook



Getting to Know Mobility Hubs

Getting around the Twin Cities can be challenging. Whether popping over to the nearest store, traveling a couple miles, or making the trek to downtown Minneapolis or Saint Paul, our transportation system is designed to get you places by car quickly. Arriving by transit, bike, or a shared ride is frequently anything but easy. **Our city, county, Minnesota Department of Transportation, and transit agency partners require a new approach to better connect people to mobility options, destinations, and their community.**

Mobility hubs organize mobility services and information around public gathering spaces. Whether you are at downtown Hopkins, Macalester College, or at the corner of Chicago and Lake, people should have diverse mobility options, clear connections, and an elevated travel experience that make it quick and seamless to get from place to place. Whether walking or rolling, riding a bike or scooter, taking the bus or train, sharing a ride, or even charging your electric car, mobility hubs will help connect customers to their destination and community.

A Guide to Shape Mobility Hubs Throughout the Region

Investing in mobility hubs requires thoughtful planning from implementers. From the customer's perspective, travelers desire a relatively seamless and consistent experience—whether they start their trip in Minneapolis, Maple Grove, or Woodbury. The region lacks a commonly adopted process or framework for planning, designing, and implementing mobility hubs. A common framework is needed to establish a set of consistent, regionally significant hubs, as well as to assist agencies or local governments with the implementation process.

This Mobility Hub Planning and Implementation Guidebook offers advice to Twin Cities communities and public agencies to advance mobility hubs from concept and planning to implementation and management. It highlights strategies to improve and formalize mobility hubs that have been operating in some form for years already. Expanding on initial direction in Thrive 2040's Transportation Policy Plan, the Twin Cities Shared Mobility Action Plan, Minneapolis's Mobility Hub Pilot Program, and the Twin Cities Shared Mobility Collaborative, this Guidebook establishes hub typologies, identifies a set of regionally significant mobility hubs, provides planning toolsets, and outlines implementation pathways.

How To Use The Guidebook

This Planning and Implementation Guidebook was developed to provide comprehensive technical assistance on planning strategies, kit of parts menu selection, design considerations, implementation strategies, and management techniques for hub locations across the Twin Cities region.

Regional stakeholders identified where mobility hubs of different sizes and contexts are operating today or will be located in the near future. However, new mobility hubs may present themselves as growth occurs and people's mobility needs change over time. Ultimately, these three modules will guide you and help achieve regional and local objectives for current and future mobility hubs.



Module 1: Plan It

Module 1 covers the basics about mobility hubs and how they function in different contexts. This includes key guidance that planners and implementers should know.

This module defines mobility hub problem statements, use cases, and the local and regional outcomes that drive hub planning, design, and management. The module shares essential methods of engagement and analysis that center community voices and equity during planning and co-creation processes at the local level.



Module 2: Design It

Module 2 illustrates context-appropriate specifications for mobility hubs, including mobility services, transportation infrastructure, technology, and place-based elements.

Implementation guidance includes a “kit of parts” detailing design considerations, when to include them, and where they should be located, as well as direction on how to match viable mobility services to local context and needs.



Module 3: Make It Happen

Module 3 documents how to go from a plan to an operating mobility hub.

The module offers guidance on implementation pathways, phasing approaches, management tools, maintenance strategies, and partnership development. The module also builds a framework to adapt to change over time.

Choose Your Own Adventure!

You are a public agency or community organization in the Twin Cities region. You and your implementation partners have decided that the mobility hub, or hubs, in your community should be built or retrofitted to better connect people to regional transit, enhance local mobility, and build stronger community anchors.




Just Diving In - County Planner Jay

Full Run Down





Execution Focused - Developer Dani

Customized Implementation

Well-resourced - Transit Planner Wyatt

Direct Guidance




Mission-oriented - Community Advocate Miles

Direct Guidance



But where do you start?

How might you develop, nurture, calibrate, and grow the functionality of your mobility hub or network of hubs? What are the local ingredients to ensure regional coordination, consistency, and seamless travel?

While there is no single “right way” to build a mobility hub, this guidebook offers best practices, useful experiences, and helpful tools to help you plan and implement hubs. Organizations that use this Guidebook should tailor their implementation path to the needs and aspirations of the community they serve. Some of you may want more help than others, so use this a la carte.

The Metropolitan Council encourages you to use this Guidebook where you need the most help to ensure mobility hubs are well-planned, consistent with other hubs across the Twin Cities region, and attractive projects for funders.

Some Guidebook users will need a full run down of how to plan and implement mobility hubs. Other users will seek guidance on an a la carte basis.

How Did We Get Here? Mobility Hub Momentum In The Twin Cities

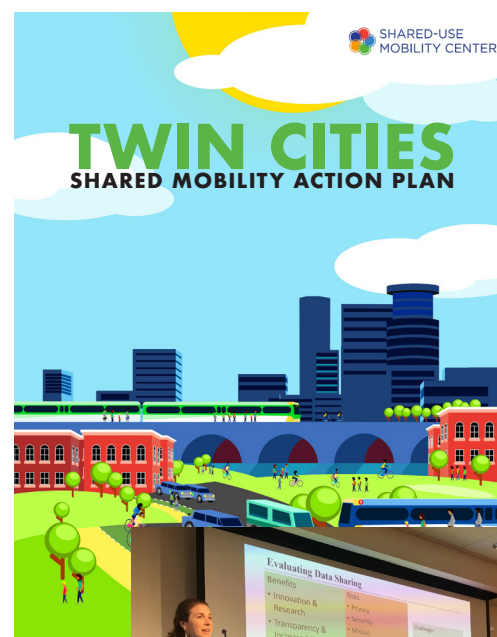
Whether it's the growth of bike share, light rail and arterial bus rapid transit, piloting dockless shared scooters and bikes, or the expansion of homegrown HOURCAR car share, the Twin Cities region is a national leader in delivering multimodal transportation options.

In 2017, the Shared Use Mobility Center (SUMC) published a regional Twin Cities Shared Mobility Action Plan that sought to leverage shared mobility services and better coordinated delivery of mobility services to achieve two bold goals:

- » Reduce single-occupancy-vehicle (SOV) use by taking 50,000 daily cars off the road in ten years
- » Ensure equitable deployment of shared mobility options that serve the public transit market

In 2019, Metro Transit developed a roadmap for shared mobility strategic initiatives to complement public transit services. The central goal of the strategy is to enable more people to travel without the need for a personal automobile. Both the Twin Cities Shared Mobility Action Plan and Metro Transit's Shared Mobility Strategy identified mobility hub planning, development, and deployment as a central strategy to deliver on these goals.

The Twin Cities Shared Mobility Collaborative then convened a group of regional stakeholders to advance the mobility hub concept, leading to several agencies planning and actively implementing mobility hub pilots and projects (see examples on the following pages).



Examples: Recent and Planned Implementations



LRT Blue Line station with Nice Ride docks, connection to bus transit, and rideshare options.

Source: CDG



Maple Grove Transit Station re-envisioned as a mobility hub.

Source: Aaron Lavinsky



Future mobility hub pilot at Chicago-Lake Transit Center.

Source: Metro Transit



Minneapolis' Mobility Hub Pilot at 12 locations in 2019 and 25 in 2020, with more in the future.

Source: City of Minneapolis



Evie Car Share at EV Spot charging locations in Saint Paul and Minneapolis will anchor hub investments.

Source: Evie Carshare



The ABC Ramps have turned a park-once opportunity into a mobility hub.

Source: ABC Ramps



Module 1: Plan It



What Are Mobility Hubs?

Mobility hubs are places where people can connect with multiple modes of transportation in a safe, comfortable, and accessible environment, facilitating convenient and reliable travel.

Mobility hubs co-locate diverse transportation options and community amenities to help people quickly access a shared vehicle, connect between travel services, and orient themselves when they arrive. They are meant to be accessible and inclusive spaces for people to experience the simplicity of multimodal trip planning.

Mobility hubs are critical to facilitate connections between the hub and nearby destinations. To create attractive travel options, transit and shared mobility options must be able to compete with the convenience of the private automobile. This requires thoughtful, human-centered design aimed at eliminating barriers such as location, cost, access, or payment methods.

Implementing a network of hubs will address the region's multimodal access goals associated with *Thrive MSP 2040*. These investments will also increase the resiliency of the transportation system as it emerges from the global COVID-19 pandemic.

A traveler's experience depends on the amenities, customer support, and mobility services offered at each hub. At its core, however, a mobility hub should support and reflect the surrounding community's needs.



While high-capacity transit stations stand out as exemplary candidate mobility hubs, neighborhood-scale hubs are just as important to ensure both regional and local trips are supported by centralized mobility connections.

Source: Metro Transit

Hubs Large, Small, and Everything Between

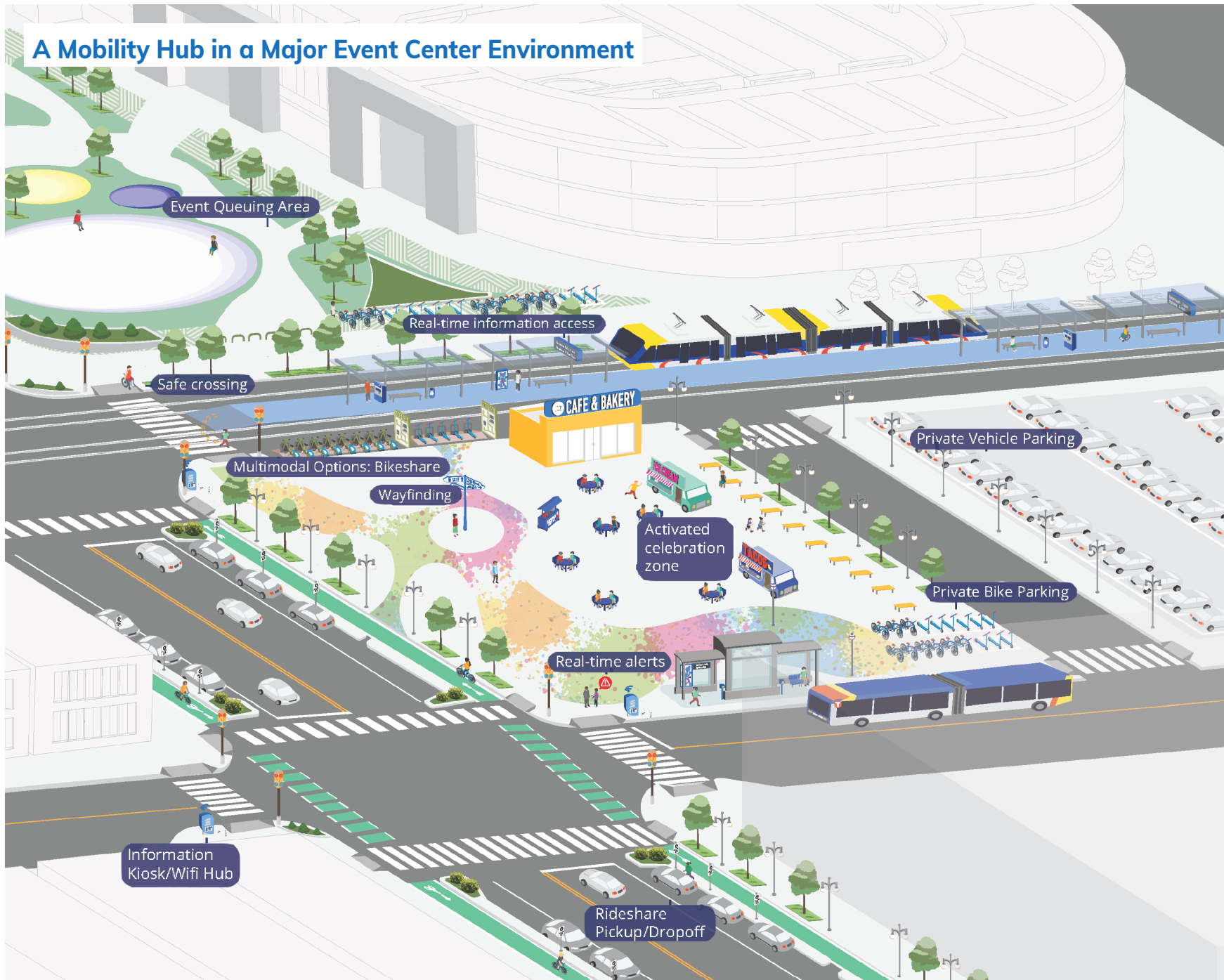
Some mobility hubs will integrate into a transit-oriented development or a transit center, while others will seamlessly blend into a neighborhood corner. Mobility hubs should come in many sizes and configurations. Land use, the density of transit connections, and the street grid are the primary factors that will determine the scale, layout, types and level of mobility amenities, and the complexity of connections at mobility hubs.



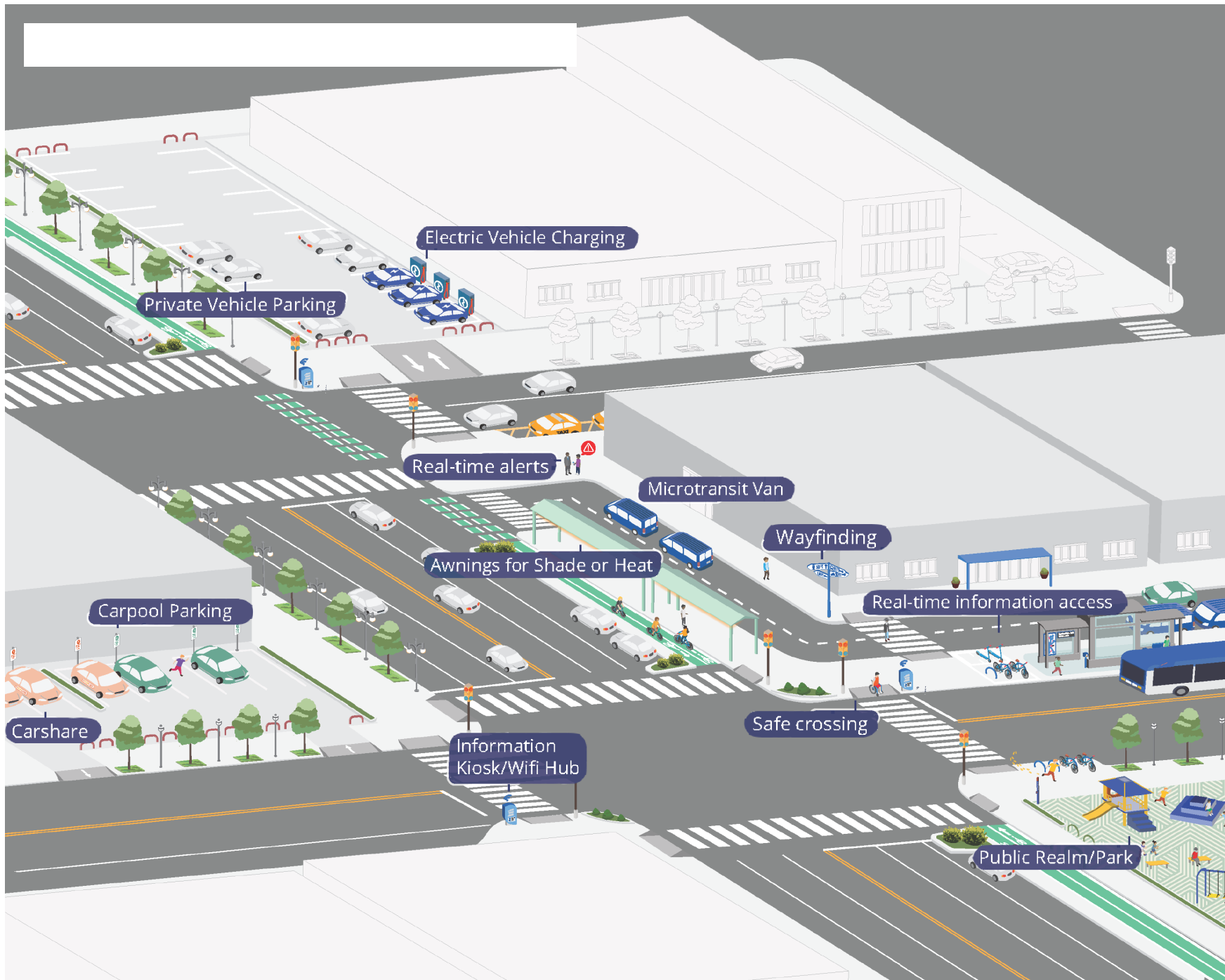
Source: City of Minneapolis

Mobility hubs may also differ by the type of anchor services and transportation infrastructure. While most mobility hubs in the Twin Cities region are anchored to frequent and high-capacity transit, other major facilities and community anchors act as natural conveners for mobility and access. These include community centers with poor access to transit, major parking facilities like the ABC Ramps, large event centers, or college campuses.

The three representations of mobility hubs over the next pages depict how hub configurations and elements may differ by location.







Where Are Mobility Hubs in the Twin Cities Region Today?

The Twin Cities region is home to thousands of mobility access points and hundreds of hubs that connect people to mobility and community amenities today. The region's multi-layered mesh of transit routes creates myriad points of connection that need to be coordinated and organized for access.

The Metropolitan Council worked with regional partners to develop a methodology to identify, categorize, and prioritize mobility hub locations across the seven-county region. These 453 locations, depicted in Figure 2, generally represent the following key transit and mobility characteristics:

- » High-capacity transit stations
- » Transit centers
- » Park and ride locations
- » Frequent transit stops
- » Areas of concentrated mobility demand¹
- » Emerging Suburban Edge and Rural Centers²
- » Areas for investment opportunity³
- » Previously identified candidate hubs⁴

The data-driven hub siting methodology identifies potential locations for mobility hubs and codes them into one of seven mobility hub types (see Module 2). From this list of hub types, local agencies and communities may need to refine locations and the hub design to best meet local needs and context. The Metropolitan Council will continually evaluate mobility options, quality of connections, ridership, major activity centers, job concentration, equity considerations, and other indicators to determine if hub prioritization can or should be updated.

1 These include regional hospitals, university and college campuses, sports and entertainment centers, regional shopping centers, and major employers.

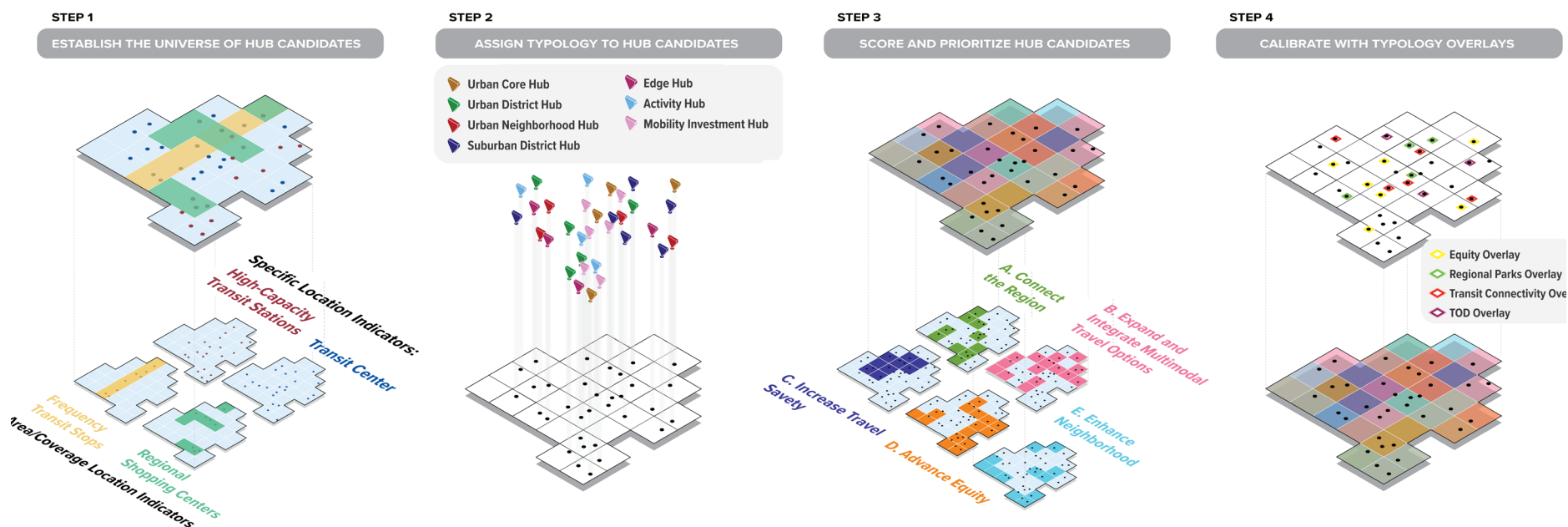
2 Hubs located in communities designated as Emerging Suburban Edge or Rural Centers identified in the ThriveMSP 2040 Community Designations dataset.

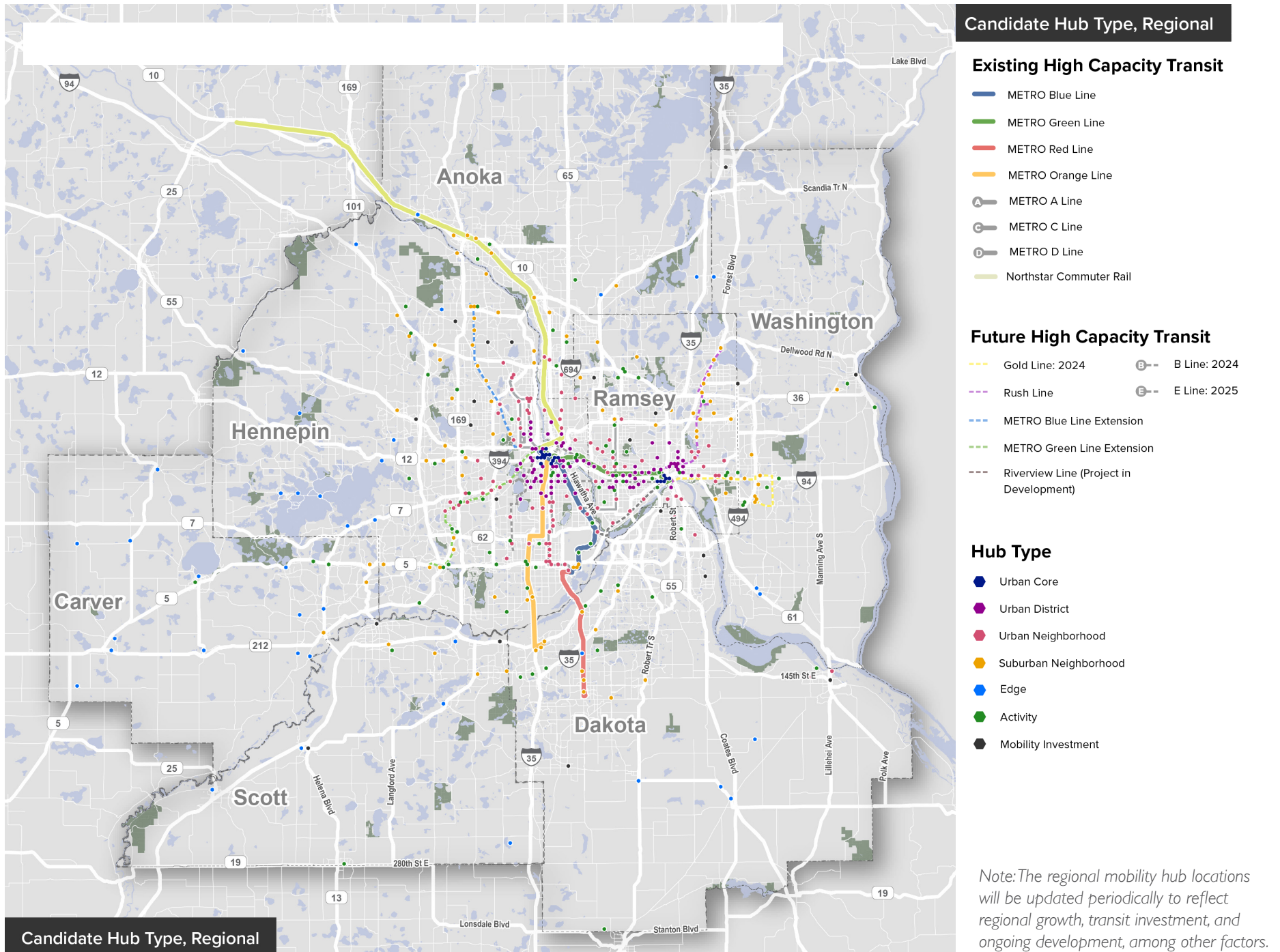
3 Hubs located in Areas of Concentrated Poverty (as defined by the Metropolitan Council in the Equity Considerations for Place-Based Advocacy and Decisions in the Twin Cities Region dataset) and farther than half-mile of frequent bus service.

4 Hub locations that were previously implemented and recommended by regional stakeholders (including Minneapolis neighborhood mobility hub pilot locations, ABC Ramps, Evie Spot charging station sites, and Shared Mobility Collaborative candidate hubs).

The siting analysis is a starting point for long-term monitoring of mobility hub locations, policy alignment, and determining the appropriate services, amenities, and management approaches for different types of mobility hubs. Metropolitan Council staff will use this methodology and maintain a data-driven hub prioritization process over time and make it available to all interested regional partners. This mobility hub prioritization process also seeks to transparently display how mobility hubs are sited, prioritized, and potentially funded through the programs like the Regional Solicitation.

This Guidebook identifies the universe of mobility hubs in the Twin Cities region using a data-driven analysis plus a manual spot-checking process. Each hub location has a rich database of information that illustrates hub type, propensity of different shared mobility options, hub overlay conditions, and the core transit characteristics at each location. The Regional Mobility Hub Database is in Appendix A.





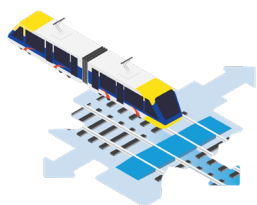
Setting a Vision, Outcomes, and Objectives for Successful Mobility Hubs

Metropolitan Council partnered with cities, counties, transit agencies, and other stakeholders to establish consensus on how to plan, design, implement, deliver, and maintain mobility hubs. By developing consistent implementation guidelines, the region seeks to achieve the following five key local and regional outcomes. These outcomes and their corresponding objectives align with the 2040 Transportation Policy Plan's goals.

Which of these outcomes resonate with your local goals? These outcomes and objectives can help you frame your hub project and align investment and siting decisions with regional mobility goals.



Connect the Region



Mobility hubs will provide convenient, affordable first- and last-mile access to transit, while facilitating seamless

transfers across modes, including current and planned Twin Cities high capacity (e.g., transitways) and frequent transit stations. The backbone for mobility hubs is the transit network that needs to connect people to places they want to go. Additionally, areas of mobility need—where there is no frequent transit service and residents have limited vehicle availability—will serve as opportunity locations for future mobility hubs.

Successful mobility hubs:

- 1) Increase access to major destinations, event centers, and (existing and future) job centers
- 2) Increase travel time reliability and predictability
- 3) Create direct linkages within and between areas to reduce out-of-direction travel and transfers
- 4) Support neighborhood connections to smaller commercial corridors and daily needs (e.g., health care, grocery, daycare)

Expand and Integrate Multimodal Travel Options



Mobility hubs give people better mobility options that compete with driving alone. Mobility hubs simplify

sustainable travel choices by creating convenient and intuitive connections to and between walking, bicycling, transit, and shared mobility trips and/or giving neighborhoods access to new mobility options.

Successful mobility hubs:

- 1) Reduce drive-alone mode share
- 2) Increase access to frequent and high-capacity transit
- 3) Inform people of their transportation options and community resources

Increase Travel Safety



Mobility hubs will enhance safety for people accessing Twin Cities regional public transit and mobility services.

Safe, all-ages-and-abilities walking, rolling, and bicycling connections to mobility hubs ensure that all people can safely access mobility options and feel comfortable in their environment. Mobility hubs should also incorporate local and regional Vision Zero policies and focus improvements along high crash corridors and at intersection hot spots within mobility hub areas. Hub design and community partnerships help build a culture of safety, repair the destabilizing effects of disinvestment, and deconstruct the region's history of over-policing.

Successful mobility hubs:

- 1) Reduce fatal and serious injury pedestrian and micromobility crashes
- 2) Enhance people's sense of personal safety when using non-auto transportation options

Advance Equity



Mobility hubs will provide more sustainable mobility options in areas poorly served by the Twin Cities

transit networks, in areas not supported by private shared mobility options, and in communities experiencing disproportionate transportation cost burden. Mobility hubs will reduce transportation-cost burden by increasing the availability and affordability of mobility options.

Anti-harm is a tenet of mobility hub development. Mobility amenities will be built around trusted community centers and organizations working at the intersections of mobility, housing affordability, displacement, and other downstream indicators of inequity.

Successful mobility hubs:

- 1) Fill gaps in the existing transit network
- 2) Support universal design and access
- 3) Increase the combined affordability of transportation and housing costs

Enhance Neighborhoods



Mobility hubs add value, convenience, and delight to the travel experience with intuitive and accessible information, visible and direct connections between mobility options.

Mobility hubs should be attractive public spaces that reflect and enhance the identity and cultures of the neighborhoods they serve.

Mobility hubs will provide a high-quality customer experience through people-centered amenities, vibrant and inclusive public spaces, and integrated wayfinding, travel information, and payment options. Integrated travel information, trip planning, booking, and payment platforms will create a consistent experience across all hubs.

Placemaking and place-keeping strategies apply to hubs of a variety of scales from regional hubs teeming with transit riders and tourists to community destinations underserved by transit where people already have a reason to gather.

Successful mobility hubs:

- 1) Celebrate place
- 2) Support existing social and civic infrastructure
- 3) Ensure a high-quality experience

What Are Mobility Hubs Trying to Solve?

Hundreds of naturally occurring mobility hubs operate in the Twin Cities region today—some more accommodating than others. Targeted hub investments, strategies, and policies are needed to solve specific mobility and place-based problems. Mobility hub enhancements should specifically address localized mobility, information, equity, and community needs, while advancing the five regional and local mobility hub outcomes. Hub implementers should clearly define and address the use cases of current customers, while anticipating future use cases that respond to changing mobility needs.

Common Mobility Hub Problems to Solve

The following problem examples represent only the most common challenges that targeted mobility hub investments and policy should address. Additional, place-specific problems should be identified as part of a comprehensive mobility needs analysis that should anchor hub implementers' planning process.

Mobility Deficits

Many neighborhoods in the region have access to limited transportation options to meet their diverse mobility needs. Likewise, the Metro Transit hi-frequency service area covers a vast area of the Twin Cities region. SouthWest Transit, MVTA, Plymouth Transit, Maple Grove Transit, University of Minnesota Transit, and Metropolitan Council Contracted Services add to the available transit options in the region, but gaps still exist. Twin Cities residents and visitors often face the following mobility problems:

- » Gaps in the local and regional transit network make public transit inconvenient for certain trips.
- » There are not enough mobility options close to where people live, work, or access daily needs. Shared mobility services cannot be found nearby.
- » Waiting to connect to transit or waiting for a ride is uncomfortable because of weather, poor lighting, and other safety issues.

- » The streets surrounding the mobility hub are unsafe and difficult to navigate. Some passengers do not feel safe waiting at mobility hubs.
- » Connecting across public and private mobility options is not intuitive or, worse, connections are not available.

Information Deficit

- » Riders do not know when the next bus/train is coming or what options are available when they need them.
- » Mobility options, their apps, and the infrastructure to use them are confusing especially for first time users.
- » Transferring across modes and using different hub services requires multiple apps/accounts.
- » Using apps to access or track mobility options requires access to a smart phone, computer, WiFi, and/or mobile data.



Whittier neighborhood mural.

Source: Minneapolis College of Art and Design

Equity and Community Building Deficit

- » Mobility options do not serve the needs of the neighborhoods in which they are located.
- » Mobility hub amenities are designed for primarily white, able-bodied, male, higher-income, middle-aged, English speaking, and commuter audiences.
- » Residents worry that further investment in mobility hubs will displace them and their neighbors.
- » Mobility hubs do not enrich, bring together, or reflect the community.
- » Most hub elements require a smart phone with data and bank access, which many do not have consistently.
- » Failing to attract, or losing, investment by local governments, developers, and private mobility providers.

Common Mobility Hub Enhancements

The way people use a mobility hub can range widely from hub-to-hub and might change depending on the time of day. At one hub, bridging gaps between transit service and final destinations may be the most important function. Another hub may focus on giving an underserved neighborhood access to carshare and shared electric micromobility options at a central access point. The problems hubs solve and how they function may change over time. Adapting the design and the elements included (based on on-going evaluation and feedback) will let mobility hubs continue to successfully serve the community.

- » Improve or provide new first- and last-mile solutions (including the infrastructure to support them)
 - Ensure safe crossings for people walking, rolling, biking, and accessing mobility options
 - Prioritize safe connections to activity centers and frequent transit routes
- » Provide multimodal connections at mobility hubs
 - Support shared mobility providers on public/transit property
 - Co-locate mobility options within walking/rolling/biking distance of the mobility hub anchor
 - Establish multi-year license agreements with private mobility partners committed to community integration
- » Include supportive community and place-keeping elements
 - Integrate culturally relevant programming
 - Activate public spaces by investing in staffing, retail, etc. to make it easier to walk, roll, rest, socialize, and enjoy oneself
 - Install closely spaced pedestrian scale lighting to increase visibility
 - Provide climate protection with transit shelters



Source: City of Minneapolis



Source: SouthWest Transit

- » Integrate multimodal and multi-service fare payment
 - Fair and equitable access to mobility, information, and community resources
 - Include accessible language, instructions, and wayfinding for all mobility options
 - Provide real time arrival and service announcement information access via signage, app, alerts, etc.
 - Integrate public and private mobility information
 - Publicly accessible WiFi and device charging
 - SMS support services
 - Offer non-digital access, subsidies, incentives, and other financial barrier reduction strategies
- » Utilize equitable planning framework for mobility hubs
 - Pay community-based organizations to be a presence at the site for customer support, space activation, and maintenance
 - Support existing social and civic infrastructure for community-driven and context-sensitive mobility solutions
 - Ensure inclusive public space design for all ages and abilities



Source: TransitScreen / Actionfigure



Source: City of Minneapolis

What Are the Basics of Mobility Hub Planning and Design?

While the user experience at mobility hubs should be relatively consistent across the region, the scale, elements, and configuration of hubs will vary greatly by location. With so many moving pieces, where do you start?

Hub planners will need to answer eight structural questions when developing and designing their hub:

- 1) How might you configure your mobility hub?
- 2) How might you organize and prioritize hub elements at each location?
- 3) How might you implement hubs at different scales?
- 4) How might you adapt hubs as neighborhood and mobility conditions change?
- 5) How might you center equity in mobility hub planning and design?
- 6) How might you establish a branded mobility hub environment?
- 7) How might you manage demand at hubs?
- 8) How might you measure hub performance and iterate?

The pages that follow summarize the key site-by-site calibrations that hub implementers should consider.



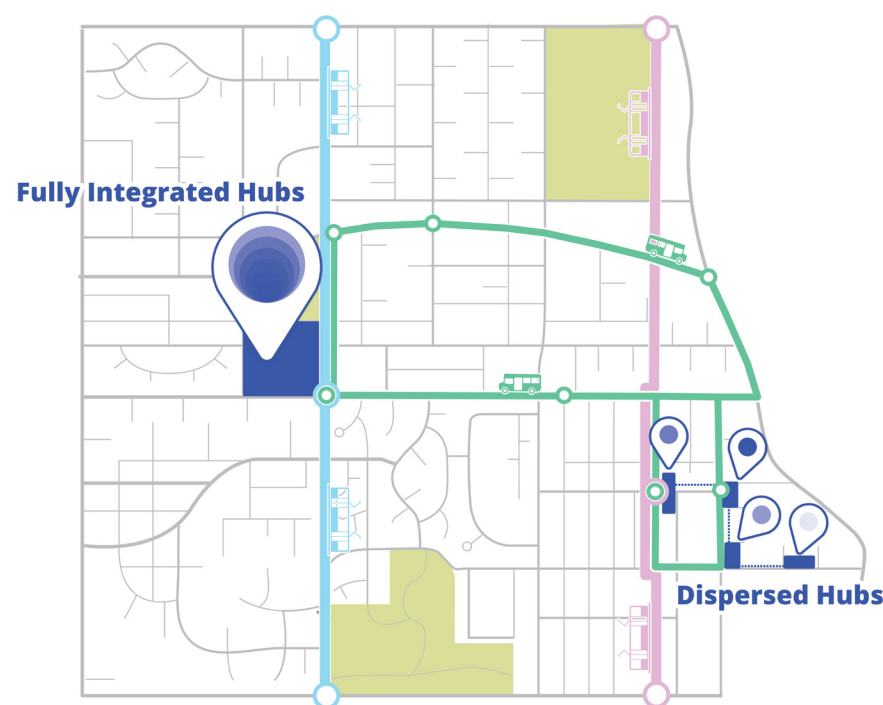
Source: Hourcar

How might you configure your mobility hub?

How are so many mobility amenities co-located into a single point? This is one of the primary mobility hub design challenges, and the answer depends on the available space and competing demands at each location. Mobility hubs can be configured in a fully integrated or dispersed but connected layout.

- » **Fully integrated hubs** are self-contained on one site or within a single development (e.g., a park-and-ride or a METRO light rail station) with sufficient space to house many services and amenities. Fully integrated configurations can be applied within a larger scale facility or at a smaller, more neighborhood scale facility with a more concentrated mix of options. Sample use case: Maple Grove Transit Center
- » **Dispersed hubs** are spread across several blocks and can site hub elements at nearby developments, at a centralized transit facility, and in the public right-of-way. Dispersed hubs are in places with limited leftover space and many competing uses of limited curb space. Dispersed hubs might be located in more urbanized parts of the region or in suburban locations where there is limited off-street property. Dispersed hub configurations will be more common where property is limited and right-of-way is constrained. Sample use case: West Broadway and Emerson in Minneapolis

Each hub configuration entails a different level of operational complexity, programming, coordination, and exposure to risk. Dispersed hubs are more complex from a legibility, operational, management, and performance measurement standpoint, and require more coordination. While planning a mobility hub, implementers should consider property partnership or leveraging opportunities, identify underutilized public spaces, and new ways to allocated curb space. These concentrations of space will serve as the footprint for your mobility hub.



Some mobility hubs are contained in one location, others offer mobility features across several blocks.

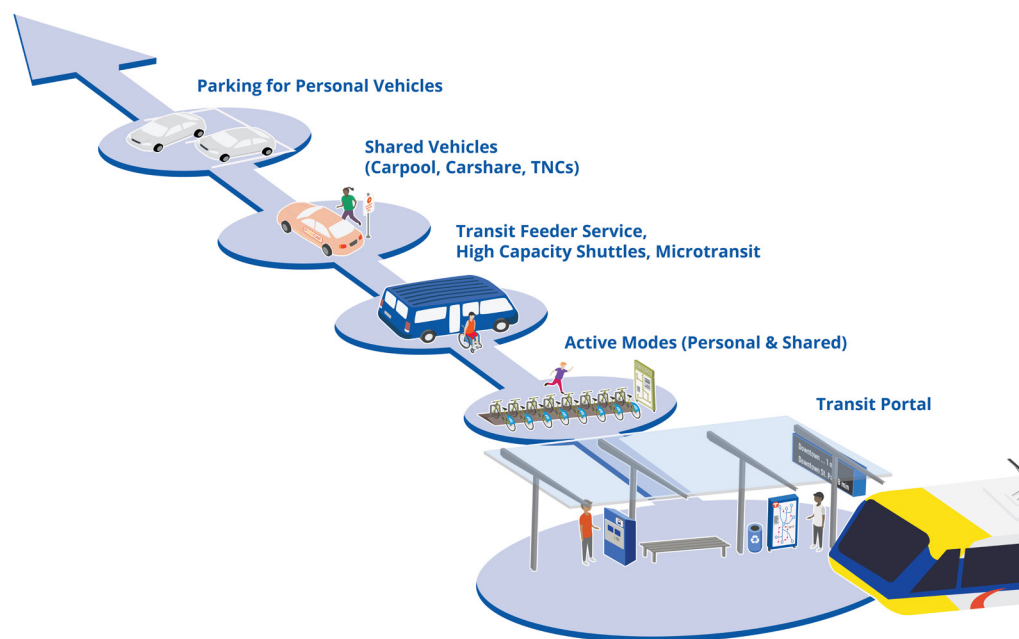
How might you organize and prioritize hub elements at each location?

The two primary functions of a mobility hub are to co-locate and organize mobility amenities. Without a clear access and operating plan, hub environments can be challenging to navigate, lack adequate space among competing modes, or, worse, create unsafe conflicts between services.

The region needs to adopt a basic framework to organize and prioritize space at hubs. We call it an access hierarchy. **Access hierarchies help prioritize hub element siting and determine which elements are most desired depending on land use and the surrounding context.** In most cases, transit is just one factor at mobility hub sites. While public transit—and high-capacity transit in particular—is the centerpiece of regional mobility and the mobility hub network, mobility hubs are not solely focused on connections to and from the transit network. Allocating space to support other desired travel options, services, and amenities is just as important.

Access priorities should align with agency policy objectives. The most prime curb and facility locations should prioritize amenities and services that advance climate mitigation, affordability, and equity.

- » Publicly operated and low carbon anchor services should serve as the base of the access hierarchy. These services should be the closest proximity to transit portals and major demand generators in the hub area.
- » The most proximate curbs should also be considered for enhanced pedestrian connections, All Ages and Abilities bikeway extensions, or transit priority interventions like transit-only lanes. Particularly when designing dispersed hubs, agencies should prioritize active modes—such as personal bikes, bike share, and scooter share—along the most proximate blocks to the anchor transit facility.
- » Pick-up and drop-off areas for transit feeder service, shuttles, and microtransit should be designated along curbs in close proximity to transit portals.



A conceptual representation of a values-based access hierarchy at a mobility hub. Prioritizing active modes requires mitigating or eliminating potential conflicts with larger vehicles—most notably ridehail and taxi vehicles accessing the curb. Implementation partners should thoughtfully identify potential conflicts and safe locations for active transportation services.

How might you implement hubs at different scales?

Mobility hubs are only as useful as the network of hubs that they connect to throughout the Twin Cities region. Mobility hubs can be tailored to the intersection, neighborhood, or major facility. In each case, design features, programming, mobility options, and modal integrations should be designed to solve context-specific mobility challenges and customer needs.

Typically found in a lower-density neighborhood context along corridors served by one or two frequent transit routes, neighborhood-scale hubs give people immediate access to a variety of mobility options. They also extend the reach of public transit and remove the first- and last-mile gaps to and from public transit that prevent people from ditching their cars. Neighborhood-scale hubs often align with locations that are:

- » Largely residential or neighborhood-serving retail; and
- » Not served by Northstar, Blue, or Green line rail stations; and
- » Either served by frequent bus routes of varying quality of service or underserved by fixed-route transit but observe significant mobility need and inequity

On the other end of the spectrum, major mobility hub locations are often co-located with a significant transit center or park and ride, a major destination or density of destinations, or within a significant development like Target Field.



The ABC Ramps Mobility Hub represents a large-scale mobility hub that serves very specific regional and local mobility needs.

Source: ABC Ramps

How might you adapt hubs as neighborhood and mobility conditions change?

Mobility hubs are testing grounds—dynamic environments that should be continually tested, evaluated, and augmented. Mobility hub design, operation, and management need to be flexible enough to address changing conditions and economic dynamics.

Economic conditions within and around the hub area can change over time. Travel needs and the way people move and use the hub can also shift over time. We are in a particularly critical moment to understand shifting behaviors and shared mobility demand resulting from the COVID-19 pandemic

Test, Demonstrate, and Pivot/Scale

Implementation does not always have to be in the form of a brand new, fully built mobility hub. An incremental approach that starts small with a strategic pilot installation can gain support over time for certain elements, such as adopting new curb management techniques or demonstrating emerging transportation modes.

The temporary and tactical nature of demonstration installations—like the City of Minneapolis' program—can allow for quicker implementation than more permanent and robust mobility hubs. Pilot installations that expand and adjust over time can take advantage of existing project construction or phasing, short-term or time limited funds, and help fill smaller, more niche community needs. When building your initial hub design, you should factor in elements that can be scaled or enhanced over time to ensure seamless improvements and positive hub performance over the long-term.



The neighborhood mobility hub pilot in Minneapolis is an excellent example of a small-scale hub that tailors of mobility options, wayfinding, and place-based programming to the specific site.

Source: City of Minneapolis

How might you center equity in mobility hub planning and design?

Mobility hubs promise convenient, reliable, and sustainable travel. In the absence of meaningful community engagement and centering their needs, however, that promise may be exclusive to a small subset of the community. In some cases, it may even perpetuate past harms or reinforce long-standing practices that have historically excluded Black, Indigenous, and People of Color (BIPOC) and low-income individuals from the decision-making process. To shift this paradigm, it is imperative for implementers to center equity through thoughtful community engagement and human-centered design when planning for and designing mobility hubs.

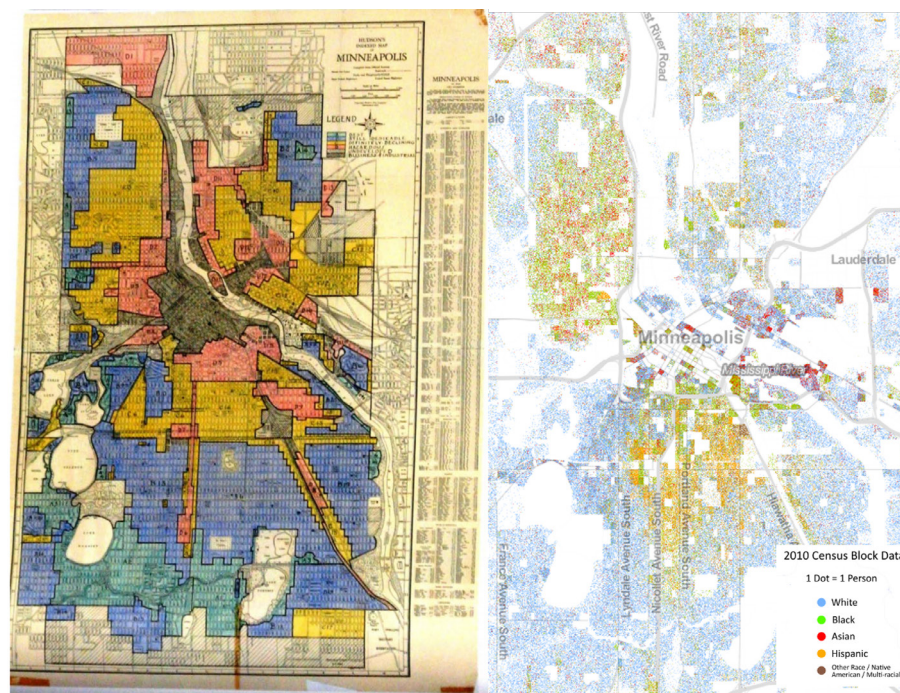
The Metropolitan Council offers equity context, case study examples, and guidance for the mobility hub implementation partners to consider when designing and implementing hubs of different typologies. This guidance is intended to enrich communities with a focus on BIPOC and non-English speaking communities seeking to reach their full potential based on their mobility and community development needs. **Mobility hubs should offer amenities for everyone that use them, but have a targeted focus on mobility support and community infrastructure BIPOC, low-income, and non-English speaking communities.**

Ending our History of Mobility Inequity

When advancing work on mobility hubs, implementation partners should learn from the past to develop hub plans that truly center community and value inclusivity. But, what are some of the lessons learned from our past?

Racially Restrictive Covenants and Redlining

Past and current policy decisions at the federal, state, and local levels have long-lasting impacts. Racially restrictive covenants, used to bar people who were not white from buying or occupying property, were first introduced in Minneapolis in 1910.



Historic redlining in Minneapolis impacts where people of color live and how they can move today.

The widespread adoption of these covenants concentrated the city's growing Black population into a few small neighborhoods near the Northside and in Seven Corners while large areas became predominantly white. In the 1930s, the practice of Redlining, driven by racial discrimination in mortgage lending, reinforced the demographic and wealth patterns established by racially restrictive covenants. Federal housing administrators required restrictive covenants in federally funded development projects. Lenders also denied loans for properties in predominantly white and racially mixed neighborhoods, preventing African Americans, Jews, and communities of color from securing home loans in most of the city. These legal tools came to inform where transportation investments were made and who benefited from them.

Highway Construction

Redlining in neighborhoods such as Hawthorne and Seward in Minneapolis were often targeted for “slum clearance” to make way for highways and other roadway projects. These new roads expanded mobility for suburban homeowners while gutting, destroying, and displacing communities of color. In the 1960's, several freeways and highways including I-35W, I-94, and State Highway 55 were built in areas that were home to 27% of the City's white population, but 82% of the Black population. Across the Twin Cities, the construction of I-94 alone displaced nearly 1,000 homes and businesses, bisected Prospect Park into two, and cleared 35% of Seward. Similar to Prospect Park, the Rondo neighborhood was replaced by the construction of I-94. In the early 20th century, it was home to most of Saint Paul's African American residents. Rondo Avenue served as the neighborhood's thriving commercial corridor that supported Black-owned businesses. Homes that were previously a short walk to shops now overlook a six-lane highway serving commuters traveling between Minneapolis and Saint Paul.

Gentrification and Displacement

In recent years, explicitly racially discriminatory planning practices have been discontinued, though a surge in reinvestment has led to racial, cultural, and economic displacement of many of the same communities. Historically redlined neighborhoods, which were still more likely than other areas to be comprised of lower-income and BIPOC residents today, face greater risk of residential displacement with the rise of median home prices. This often translates to increased transportation costs, increased exposure to poor air quality, longer commute times, and less access to essential services. Since 2000, Minneapolis lost roughly 15,000 housing units (~8.5% of all units) that are considered affordable for those earning 50% Area Median Income (AMI), due to increased housing costs and rents.

Who is getting it right?

The region can learn from shining examples of co-designing mobility hubs for mobility, resiliency, harm mitigation, and anti-displacement. The case studies below align with the problem statements listed on pages 19 and 20, their overall impact on the surrounding community, and lessons learned that can be adapted to the mobility hubs context. Though many of this project's problem statements are reflected across all case studies, special attention is given to those that fall under Problem Area 3: Equity and Community Involvement Deficit. Lessons gathered from these case studies should guide your equitable mobility planning and design. Case studies represent three types of opportunities, including:



Programs - A program is a set of activities that provide or support a service. Programs are also ways to express a policy.



Processes - An action or behavior that could include approaches to engagement, program and pilot development, or the role of community partners in the planning process.



Hub Features - Digital or physical infrastructure implemented within a mobility hub. This can include informational kiosks or free WiFi at hub sites.

Nice Ride Neighborhood Program

Opportunity Type: Program + Process + Hub Feature

Minneapolis and Saint Paul, Minnesota



*Group ride coordinated as part of Nice Ride's Neighborhood Program.
Source: Nice Ride Minnesota*

From its first year of operations in 2010, Nice Ride prioritized addressing equity concerns in the bike share system. It was evident that while there was high access and utilization in some neighborhoods, residents of other neighborhoods, particularly those with higher proportions of poverty and/or BIPOC populations, did not use or access the system to the same extent.

In 2014, Nice Ride launched Nice Ride Neighborhood (NRN), a pilot program to explore ways of addressing these disparities. Launched in three neighborhoods (North Minneapolis, Frogtown, and East Side Saint Paul) with lower ridership in Nice Ride's bikeshare system, the pilot sought to expand access to bicycling and grow ridership through an extended-term bikeshare program (rather than Nice Ride's short-term, 30-minute term) combined with an active, personalized program of group rides and social connection.

Participants had use of a high-quality bicycle and supporting equipment, which included a bike lock, backpack, and lights, for the entire summer season. The pilot was structured around work with trusted, local community liaisons who recruited and engaged participants, and who maintained a regular schedule of organized group rides. Participants committed to ride at least two times per week, attend at least four NRN group events, attend a final event, and return the bicycle at the end of the season. Upon completion, participants received a \$200 voucher toward purchase of a bike at a local cycling shop.

Results

A total of 145 people participated in the program. The pilot was successful, with participants enjoying their involvement, and documentation of behavior changes and shifts in perceptions of bicycling, including an increase in bicycling for transportation and exercise. Additionally, the program documented evidence of participants' intentions to continue bicycling after the program's end.

The evaluation process also illuminated barriers to participating in the traditional Nice Ride program. While participants expressed generally positive feelings about having these bikes in their neighborhood, the majority had never used a traditional Nice Ride bike and cited barriers that include need for a credit card, lack of knowledge of the service, and lack of access.

Challenges

Participants identified some areas for improvement including streamlining communication between Nice Ride, community liaisons, and participants and having more organized and punctual events. Participants also suggested increase the number of opportunities for group rides, either by convening more often, at

different times, and/or with smaller groups, and developing a more individualized and flexible system for participants to obtain the initial incentive (\$200 voucher to a bicycling shop) for participation.

Lessons Learned For Mobility Hubs



Creating active and engaging programs where people can interact first-hand with different service and mobility options, such as group rides or training programs, are effective ways to understand barriers and bolster confidence in using services.



Embed social interactions within engagement and education programs—create opportunities to meet new people and build relationships through recurring activities to help build momentum for continued commitment.



Provide high quality meals as part of each convening to show appreciation for participants.



Ensure trusted community liaisons have a visible leadership role to expand engagement and participation from community members.



Designate program participants as community ambassadors to create sense of community ownership and to cement their role as future disseminators of information.

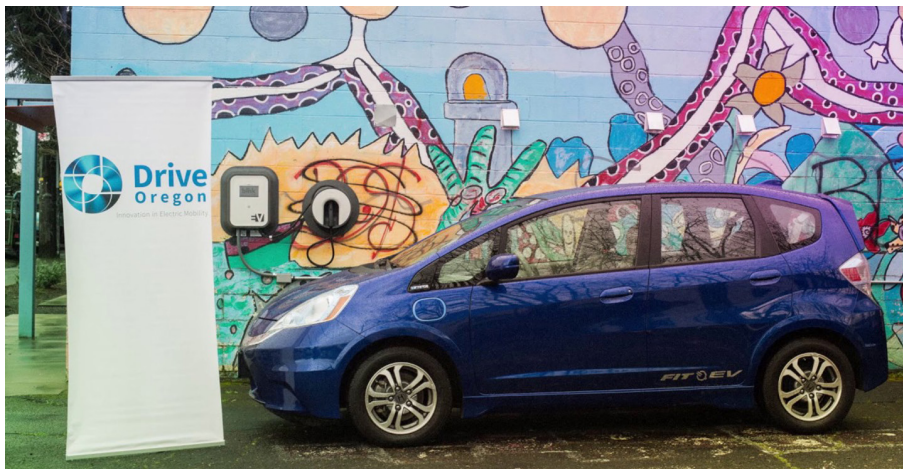


Ensure high-quality equipment is made available to community members to try and experience its potential benefits.

Hacienda CDC Peer-to-Peer EV Carshare Pilot

Opportunity Type: Program + Process + Hub Feature

Portland, Oregon



[*Hacienda CDC Carshare vehicle.*](#)

Between March and December 2017, Hacienda Community Development Corporation (CDC), Pacific Power, the CarCharging group, and Forth Mobility worked together to pilot the first peer-to-peer electric vehicle carsharing program. The goal of the program was to introduce additional affordable and clean transportation options in lower-income communities while demonstrating the economic and environmental benefits of electric cars. Administered by the Hacienda CDC with support from Forth Mobility, the program offered three used Honda Fit electric vehicles and chargers to residents and staff of the Vista de Rosas affordable housing complex in the Cully neighborhood, a predominantly Latinx and immigrant community with limited access to transit and alternative transportation options.

One car was available for Hacienda CDC staff and two were available to residents through Turo, a peer-to-peer carsharing

platform. Community members had access to free on-site charging. Hacienda CDC could use funds generated through the program at their discretion to fund other work. Because Turo requires in-person key drop-offs, Hacienda CDC staff managed reservations throughout the pilot and screened requests to prioritize people living in the Cully neighborhood over individuals from outside the community. Additionally, Hacienda CDC staff checked vehicles for damages and recorded the mileage when vehicles were returned, like a traditional rental car service. The program budgeted \$18,500 for outreach and marketing materials, four workshops, and one ride and drive event¹.

Results

Community residents completed 66 rides and 12 Hacienda CDC employees drove almost 2,000 miles during the pilot. The program received a total of 167 reservation requests—96 of those requests were missed and a handful were denied because a car was not available, or the request did not occur within the Cully neighborhood. Hacienda CDC earned \$1,252 from resident rentals. Compared to the community cars, the Hacienda CDC employee car had greater, sustained utilization throughout the project. More than half of their staff participated and completed over 70 rides, resulting in \$1,023 in savings on mileage reimbursements over the course of the project.

Challenges

Many of the program's challenges arose from restrictive user requirements, limitations of the technology platform, and the organizational capacity of project partners. The program was

1 Forth Mobility. *The Future of Car Sharing: Electric, Affordable, and Community-Centered: The Community Electric Vehicle Project*. Appendix A: Approximate Budget. June 2018.

designed around the Turo platform, which required users to have access to a smartphone, a valid driver's license, a social security number, and a credit card for payment. Many residents had access to a smartphone but were unfamiliar with using a mobile app or website to pay for and access transportation options. Limited access to driver's licenses, particularly amongst undocumented community members, was also a significant barrier to the project and for underserved communities across the state—in Oregon, undocumented immigrants cannot legally obtain a license. Additionally, participation in traditional financial institutions is lower in these communities where access to a credit to debit card is limited. And while interface content was available in Spanish, non-English and non-Spanish speaking residents still found it inaccessible.

Turo's service model was limited to full day, not hourly, rentals and required in-person key handoff. Rental requests expire if they go unanswered for eight or more hours— requests that came in after Hacienda CDC business hours were unfulfilled, contributing to low vehicle utilization and project revenue.

Hacienda CDC staff found screening, managing, and facilitating reservations to be incredibly labor intensive. Ongoing staff changes made it difficult to sustain consistent program support. Later in the project, Hacienda CDC hired more staff who were fluent in Spanish and were quick to build strong relationships with residents that helped to increase vehicle utilization.

Lessons Learned For Mobility Hubs



Host multiple informal learning sessions led by trusted community organizations about shared mobility platforms and new transportation technologies used in pilots.



Ensure there are dedicated project staff in all participating partner organizations and ensure they have adequate funding to support the work.



When identifying project partners, evaluate their organization capacity relative to anticipated project needs.



Designate unrestricted funds for community-based organizations (CBOs) and communities of color to use at their own discretion to deliver community benefits that extend beyond mobility.



Provide alternative payment methods such as cash or a loadable transit card and explore new financial solutions that help individuals build credit.



Select technology platforms that offer flexibility or customization to align with program and community needs.

Car Sharing and Mobility Hubs in Affordable Housing

Opportunity Type: Program + Process

Bay Area, California



MTC partnered with TransForm to install [EV Car Sharing](#) locations at 3 affordable housing sites in the Bay Area.

The Metropolitan Transportation Commission (MTC), the Bay Area's transportation planning, funding, and coordinating agency partnered with TransForm, a nonprofit focused on climate change and social equity through transportation and housing solutions, to design and implement the Car Sharing and Mobility Hubs in Affordable Housing pilot project. The program aimed to increase mobility for low-income residents to access jobs, healthcare services, and schools; reduce private vehicle ownership and transportation costs; reduce greenhouse gas emissions; and develop strategies for right-sizing parking for affordable housing projects. The program piloted an array of mobility services, including EV car share, bike share, travel information screens, and discounted transit, for residents of three affordable housing communities.

MTC and TransForm partnered with on-site organizations who were seen as trusted partners in their respective communities and whose work closely aligned with the pilot's objectives. Residents and staff at each site guided project design and implementation to ensure targeted investments and service offerings aligned with community needs. Each site designated a coordinator to inform and guide the community transportation needs assessment process. Site-Level Teams (SLTs) made up of 10 residents at each site supported implementation and community outreach. SLTs were compensated for their time and expertise with gift cards or stipends.

Before implementing mobility hubs services, the project team conducted a community transportation needs assessment to:

- » Understand residents' current transportation habits, needs, and challenges in accessing various mobility options;
- » Gauge interest in using new shared mobility options; and
- » Collect baseline data to track progress towards project goals.

The needs assessment leveraged the strengths and expertise of project partners. On-site staff and SLTs led outreach, conducted surveys, performed data entry, and served as project ambassadors to their neighbors. TransForm co-created the survey with on-site staff that SLT staff vetted to ensure questions and wording were easy to understand. Community surveyors, some of whom were bilingual Spanish speakers, were hired to do door-to-door outreach and to conduct surveys at community events. The project team also completed one-on-one interviews with residents and facilitated focus groups to understand the needs of specific groups at each site. Outreach and engagement strategies were tailored to each project site.

Results

The cost of the community transportation needs assessment totaled \$21,553.64. This included compensation for on-site staff, data entry, survey translation, printing, food for meetings and focus groups, and gift cards for survey completion and focus group participation². Across all three sites, 583 residents completed paper surveys and 36 residents participated in focus groups or one-on-one interviews as part of the community needs assessment.

From the needs assessment, the project team learned many residents regularly use public transit and had limited access to a car. Residents were interested in new shared mobility options like ridehailing but had major concerns around cost and how to use these services. Residents cited other barriers, including limited information on discounted transit programs and perceived safety risks around walking, rolling, biking, and taking transit.

Challenges

The project team found the community transportation needs assessment required more funding and staff support than originally anticipated. The project team had to train residents on how to conduct in-person surveys and compensate surveyors for their work. While this was a significant up-front investment, allowing residents to lead in-person surveys created a sense of community ownership, strengthened relationships between residents and the project, and eased privacy concerns. While it required more time and staff resources than online surveys, paper surveys were more accessible for the target audience and gave residents opportunities to ask questions about the project.

² TransForm. *Car Sharing and Mobility Hubs in Affordable Housing Pilot Project – Community Transportation Needs Assessment, Process, Results, and Lessons Learned* (39). June 2020.

Adequate funding was needed for printing and translations—it was later found that language needs differed between the project sites, with some requiring more translations than others.

Lessons Learned For Mobility Hubs



Conduct racial equity analyses to understand the disproportionate impacts on people of color.



Tailor community engagement and outreach to target audiences. Select the most accessible format and ensure adequate funding is available.



Leverage the community needs assessment process to empower the community—hire, train, and compensate community members and form relationships with residents.



Set aside a healthy budget for the needs assessment and other logistical needs for engagement such as survey translations, surveyor training, and food and childcare at in-person community events.

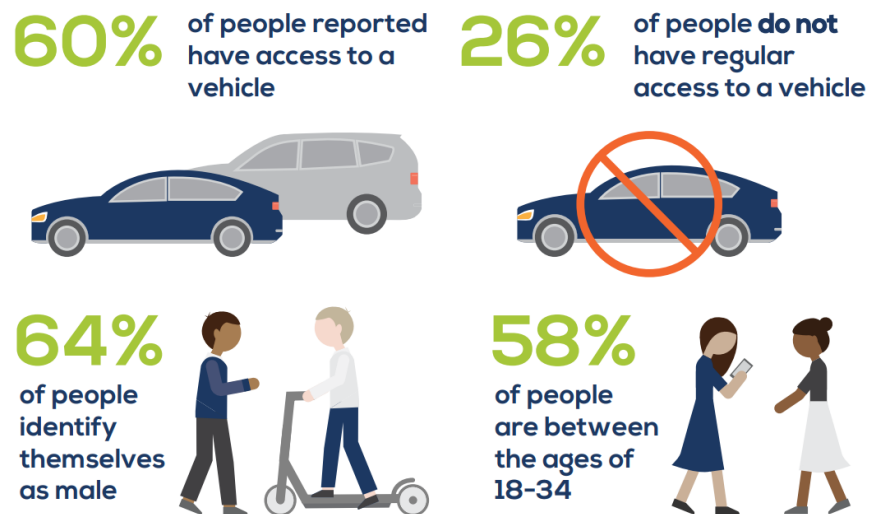


Integrate community members throughout the project, from scoping to recommendations development, to ensure investments and programming reflect community needs.

LADOT Dockless Mobility Program Core Advisory Board

Opportunity Type: Program + Process

Los Angeles, California



Graphic of Ridership Profile during 1st-Year of Dockless Mobility.
 Source: LADOT

In preparation for the second year of its Dockless Vehicle permit program, the Los Angeles Department of Transportation (LADOT) conducted a community conversation process in partnership with an ad-hoc advisory committee called the Core Advisory Board (CAB). Comprised of six leaders from community-based and advocacy organizations in the fields of public health, environmental justice, criminal justice, older adults, and people with disabilities, the CAB helped to identify the immediate needs of mobility-disadvantaged communities and establish equity principles to guide mobility initiatives and policies. They also advised LADOT leadership and provided a community-based perspective for how to use and apply safeguards for the Mobility Data Specification (MDS).

The project team used an array of tactics to engage the CAB and understand their views of transportation equity and dockless mobility. Strategies included hosting informational webinars and listening sessions, conducting surveys, and one-on-one interviews. Specific strategies were matched to stakeholders based on level of desired engagement. The project team identified equity implementation practitioners, such as public agency leaders and some Community-Based Organizations (CBO) staff, for interviews to be able to ask specific follow-up questions around best practices and lessons learned. Interviews also enabled participants to describe in fuller detail their thoughts on historic inequities, broadly exposed systemic failures, and critical considerations for restructuring the city's transportation systems. Interview questions touched on a broad range of topics including accountability, diversity of priorities and perspectives, intersections of mobility with other issues, and inclusive decision-making.

Webinar participants were primarily advocates and CBO staff. All engaged non-government participants were compensated for their time. The webinar included an educational component around dockless mobility, LADOT's equity approach, MDS, and select topic areas. Webinar participants were also given a survey and were asked to provide specific input on the principles around which transportation agencies should build an equity strategy.

Results

While the feedback garnered from the webinar, survey and interviews was varied and diverse, major themes still surfaced. Participants brought up historic inequities from systemic racism and selective funding and investment not based upon actual needs; concerns around dockless mobility affordability, access, data security, and enforcement; the disproportionate impact of COVID-19 on Black and brown communities as well as essential

workers and other vulnerable populations; and the need to infuse equity at every level of an agency's process.

Most participants shared personal opinions on dockless mobility, but discussions often deviated to other current issues or historical harms they felt were more pressing. Many noted dockless mobility is simply a small case study for a much bigger need for LADOT to dig deeper into equitable processes and outcomes. The point was made repeatedly that scooters are not devices that can be used by all people and that any equity solutions premised on access to more scooters would be inherently inequitable. Participants also raised concerns regarding government access to data and data privacy more generally as well as the cost and inequitable distribution of devices in the city.

Challenges

The project team found it is necessary to invest time, staff resources, and funding towards building capacity within the CAB. Many CAB members had a general understanding of transportation challenges within Los Angeles, but few had the technical understanding necessary to provide well-informed guidance to LADOT on niche topics such as data privacy and Mobility Data Specifications (MDS). Bringing in experts to answer questions and providing background materials to ground conversations helped to establish a baseline understanding of more technical topics.

The project team also came to understand that while community members recognize transportation as a critical thread in our social fabric, they may focus on more other pressing human needs and societal issues. It is therefore important to draw connections between how transportation decisions are made and their impacts to other issues, such as housing, job displacement, and disparate access to opportunities.

Lessons Learned For Mobility Hubs



Partner with a diverse group of public agencies, CBOs, and advocacy groups who can speak to social issues (e.g., public health, education, housing) and their intersections with mobility.



Ground your work with equity principles co-created with community partners.



Dedicate time and resources for capacity building before digging into technical topic areas. Establish open lines of communication to allow for the frictionless exchange of information.

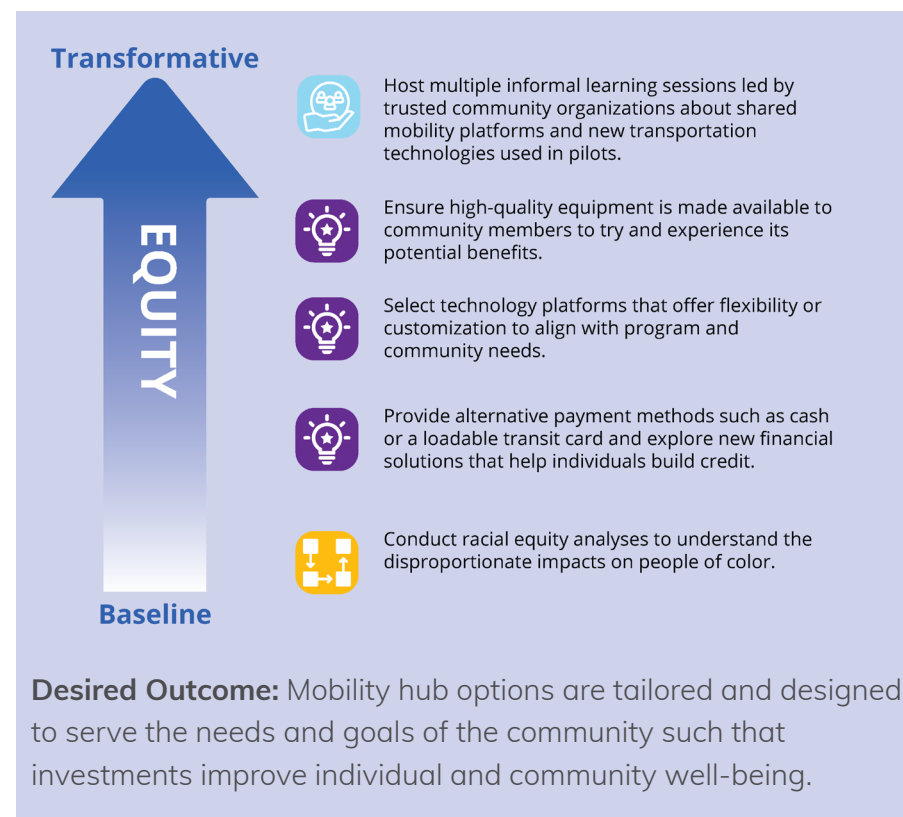


Evaluate whether the benefits address issues across multiple sectors and whether it creates positive impacts across multiple aspects of people's lives.

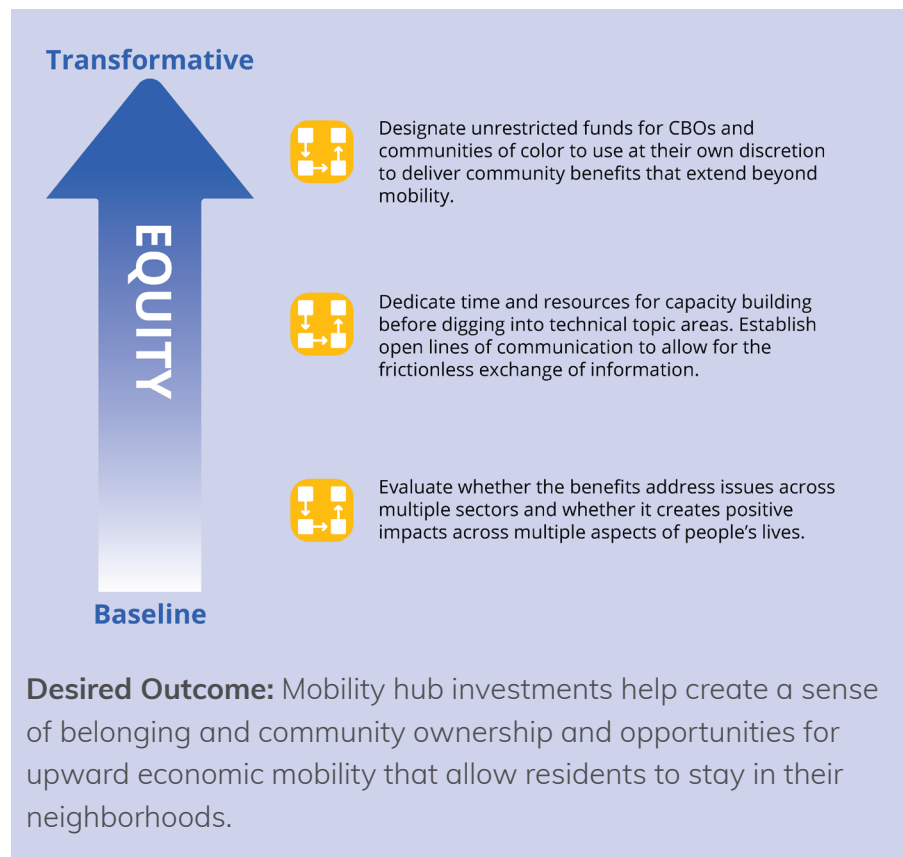
Your Guide to More Equitable Mobility Hub Outcomes

The following equitable mobility recommendations range from programs, processes, and features that should be considered at mobility hubs regardless of location. Recommendations are mapped along a spectrum that illustrates which are baseline considerations versus more transformative actions. Baseline action items are the essential building blocks to equitable planning and design. These are strategies agencies should perform at a minimum and are preliminary steps agencies should take to begin addressing the problem statements. Transformative actions challenge inequities at a structural level and require substantive shifts in power from institutions to communities and individuals. Employing more transformative actions will get agencies closer to achieving more fair and just outcomes. Both ends of the spectrum are important, though depending on an agency's starting point, some approaches may be easier to achieve in the near-term than others.

Problem Statement 1: Mobility options do not serve the needs of the neighborhoods in which they are located. Mobility hub amenities are designed for primarily white, able-bodied, male, well off, middle-aged, English speaking, and commuter audiences.



Problem Statement 2: Residents worry that further investment in mobility hubs will displace them and their neighbors.



Problem Statement 3: Mobility hubs do not enrich, bring together, or reflect the community.

Desired Outcome: Mobility hub investments prioritize community-led ideas. Decision-making is shared with community members at every phase of a project or program, from establishing guiding principles to needs assessment, outreach, and program evaluation.



How might you establish a branded mobility hub environment?

Mobility hubs deserve a sense of arrival and a clear articulation of the hub environment. Branding and wayfinding at mobility hubs establishes those easily identifiable spaces where transportation options and information can be found. Expanded information at the hubs on how to access transportation modes can help make it easier to complete a multi-leg or multimodal journey.

People make transportation choices based on convenience, reliability, and ease of use.

Mobility hubs can help overcome trip uncertainty and encourage use of travel options that meet regional goals for greater sustainability. Branding and wayfinding at mobility hubs establishes those easily identifiable spaces where transportation options and information can be found. Expanded information at the hubs on how to access transportation modes can help make it easier to complete a multi-leg or multimodal journey.

The best mobility hub experience is not necessarily one that achieves the quickest connection or the fastest door-to-door trip. Mobility hubs should be attractive public spaces that reflect and enhance the identity and cultures of the neighborhoods they serve. Mobility hubs will provide a high-quality customer experience through people-centered amenities, vibrant and inclusive public spaces, and integrated wayfinding, travel information, and payment options.



The Look and Feel

Consistent branding and design across hub locations is important to establish both a sense of a place at the hub and consistency for the customer. The most important factor of hub branding is the look and feel. The look and feel is an identity, a gateway signal, and a clear explanation of services by visual and other sensory cues.

Hubs must:

- » Be recognizable from a distance, acting as a landmark or beacon for a concentration of expected mobility resources and opportunities;
- » Provide a predictable expectation that hub features at any given location across the region are the same or similar as a hub in another area;
- » Help users navigate to and within a hub, with appropriate wayfinding, orientation, and informational signage;
- » Signal to travelers how to use hub elements if they are unfamiliar with certain available options.

Consistency across hubs in different parts of the region informs travelers that each mobility hub is part of a larger network that can be used to connect people to their destinations. The larger the mobility hub network becomes, the better people will recognize the hubs in a new neighborhood, city, or country and the higher the usage of transit and non-car travel opportunities will be. The reliability and routine in encountering and using them can grow over time.



City of Minneapolis Pilot Hub Location Branding. The GoHub signage at Minneapolis' pilot mobility hub locations includes the recognizable NiceRide and Metro Transit logos among the icons of available transportation options.

Source: City of Minneapolis

Messaging and Naming

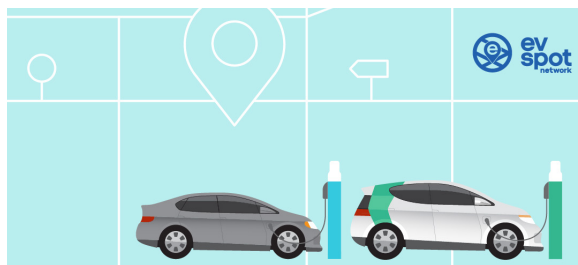
Mobility hub messaging should center around the core definition of what a mobility hub is and does, adapted with clear messages targeting specific audiences for each hub type and use case. Regardless of implementation partner, this core message should be consistent for all materials – branding, talking points, website, and printed materials.

Ideally, mobility hubs should have a consistent naming convention that is regionally relevant and recognizable. At a minimum, a branded name should signal that hubs help people move and connect with community.

Iconography and Themes

Implementation partners should use common and regionally recognizable icons, colors, and other visual identifiers at every mobility hub to signal the transportation modes and amenities available at that hub. Clear standards applied uniformly also makes design and maintenance more predictable for all implementation partners.

- » International recognized pictograms will be universal and easily understood for quick comprehension, especially for those with limited English proficiency or for passengers with special needs, e.g., people who have limited visual, auditory, or physical abilities; people with strollers or heavy bags; families and large groups; international travelers; and others who will need clear guidance.
- » The iconography and logos of agencies and operators whose service is available at that hub on wayfinding signs at the street-level within the mobility hub area provides clarity and a sense of arrival.
- » Color schemes and other visual features should be as consistent as possible across jurisdictional boundaries.



A consistent look and feel helps orient users.

Source: Evie and City of Saint Paul

Wayfinding Principles

Wayfinding at mobility hubs should be natural to the visitor and frequent customer alike and provide a seamless experience for every trip, regardless of how someone arrives or departs the hub area, and regardless of a passenger's age, ability, knowledge of, or comfort with Twin Cities transportation systems.

Wayfinding at mobility hubs, like at all transit stations, should provide orientation, navigation, and information at the right moments to all passengers and potential customers. While each individual mobility hub will have its own opportunities and challenges depending on its type, services available, and surrounding land uses, the wayfinding system available should be:

- » **Complete** – Users get the information they need, organized in a hierarchical order easy to process, understand, and remember.
- » **Eye-catching** – Useful and well-located, signs should not be distracting, overbearing, or block paths of movement. Signs should be mounted within natural sight lines where people expect them.
- » **Clear** – Signs should be easy to understand, with simplified language and typography and iconography that is comfortable, legible, and readable.
- » **Compassionate** – The design should be for a broad audience, allowing people of all backgrounds, English-speaking ability, and reading levels to navigate using the signage.

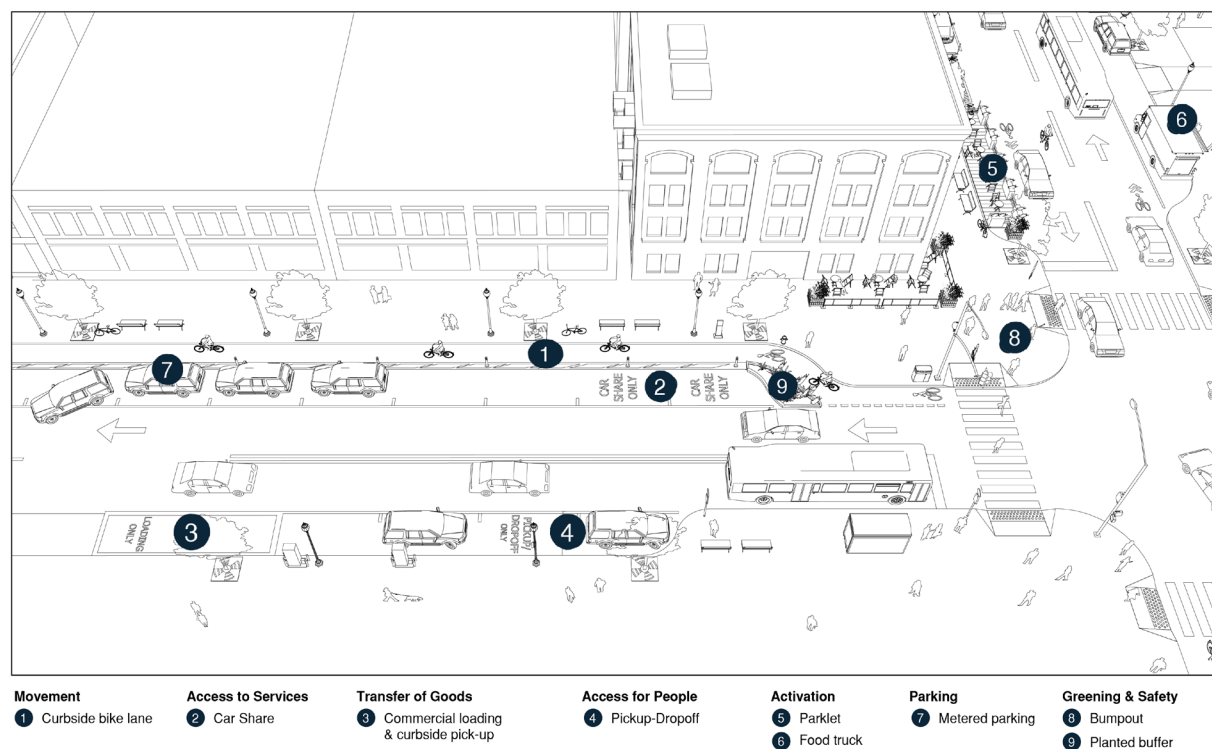
Mobility hub wayfinding signage should coordinate with the local jurisdiction's existing wayfinding system. This means adding mobility hub directional information to existing or planned local pedestrian, vehicular, and bicycle wayfinding signs within a reasonable radius of the hub: up to ½ mile from the mobility hub area for pedestrians; one to two miles for cyclists; and up to three miles for vehicles.

How might you manage demand at hubs?

Improving the transit trip, providing new shared mobility services, and expanding mobility information at hubs alone will not immediately connect the region, reduce emissions, and shift behavior. If driving remains a convenient option, then Twin Cities residents will not adjust their daily behavior to the more sustainable modes found at mobility hubs.

Mobility hubs are a natural complement to transit-oriented development, parking, curb management, and travel demand management (TDM) initiatives from municipalities, counties, employers, and major institutions. Beyond co-locating transit, bike share, car share, scooters, and other mobility services and hub amenities, applying mobility incentives, pricing signals, and demand management policies will increase access to mobility options, increase transportation affordability, and aid people as they make mode choices.

These foundational strategies will greatly increase the success of mobility hubs. More detailed policy and demand management guidance is in the Mobility Hub Typology in Module 2.



Source: Nelson\Nygaard

How might you measure hub performance and iterate?

Neighborhood conditions and travel behavior patterns within and around a mobility hub area will change over time. Implementation partners will need to routinely evaluate, enhance, and adjust mobility hubs to continually meet community needs.

Tracking performance, monitoring operations, maintaining mobility elements, and iterating on hub design is essential to the success of a hub. Performance measures help track progress toward the mobility hub outcomes at individual locations and the regional level. Mobility hub performance measurement systems should measure the spectrum of mobility and community outcomes that local cities, transit agencies, and community organizations seek to achieve. While mobility hub performance measurement should consist of a mix of quantitative and qualitative data sources, data standards can simplify measurement and offer a mix of real-time and historic looks at performance.

Regional performance measures track whether the mobility hub network is achieving our regional and local mobility hub objectives. Determining whether the correct mix of elements, features, and programs at each hub helps support local outcomes requires tracking metrics at the individual hub level.

Quantitative and qualitative metrics can vary by hub, or by hub typology, to align with specific problems in that location. However, there are several key performance indicators (KPI) that should be collected both prior-to-installation and routinely post-installation at every hub in the network. Establishing thresholds and standards at each hub type can help decide when to transition from pilot installations to permanent investment or when to expand mobility offerings.

Understanding hub performance also helps Metropolitan Council and its implementation partners evaluate which hub elements are more impactful under which conditions and guide local jurisdictions on how to refine the design, implementation, and management of their hubs. Hubs are intended to be flexible and adapt to surrounding context: making performance-driven design and operational changes will create a direct link between hub features, use, and alignment against stated outcomes. Performance-driven design and flexibility also allows for hubs to be scaled – in size or mix of elements – as demand increases or as hub contexts evolve.

Measurement Methods

Mobility hub implementation partners should work together with Metropolitan Council to establish a data platform and dashboard where performance measures are regularly reported and visualized. This platform should be accessible to relevant decision-makers and hub managers to aid in transparency and continual evaluation of hubs.

Private Operator Data MOUs

For data created by services from private operators, data sharing should be required in contracts whenever possible. Data should be formatted using the [Mobility Data Specification](#), a standardized structure similar to GTFS or GBFS. When not embedded in permits or contracts, you should develop partnerships using memoranda of understanding (MOU) to clearly specify and collect anonymized

data. Privacy and competitive concerns may prevent the ability to present all this data to the general public. Data useful for planning and evaluation of hub design and performance includes:

- » Trip origin and destination pairs (from micromobility providers)
- » Miles traveled per trip (on average, or a gross total)
- » Count of unique and repeat users
- » Multimodal volume counts (these can also be structured for easy upload to a data platform and be made available to the public).

Public Life Data Protocol

The Public Life Data Protocol is a standardized format for collecting and tracking metrics related to activity and movement through public spaces, such as existing mobility hubs or mobility hub candidates. The data collection methods used by cities across the globe both count and map multimodal activity patterns and characteristics of who is carrying them out, including age, gender, and ethnic background. Intercept surveys with suggested questions can help track perceptions of how hubs are achieving regional and local hub outcomes.

Similar [evaluation](#) is already taking place in Minneapolis for the neighborhood mobility hub pilot. Along with the hub Ambassador Pilot Program, intercept surveys and public life data collection can highlight what is working, how travel behavior may be changing around hubs, and where and what improvements community members would like to see at specific hubs.

Evaluation Frequency

KPIs and other metrics should be collected and analyzed on an annual basis, at minimum, and quarterly for more responsive evaluation and iteration. A 3-month survey can determine key design fixes to better help mobility hubs address local mobility problems. A 12-month study can evaluate changes in behavior or travel patterns for hub area residents and employees. By reporting the same data over time, patterns can emerge of how hubs mature and how hub performance may diverge based on type or in different sections of the region. These patterns can highlight priority hubs that require investment or redesign. Decision thresholds for KPIs can be set for when a hub design should be reevaluated in greater detail.

The following tables indicate performance measures tied to each mobility hub outcome.

Table 1 Performance Measures: Connect the Region

Measure	Data Collection Method	Goal
# of daily transit boardings and alightings	Automated Passenger Counts (APC)	Increase
# of new transit transfers at hubs	Automated Passenger Counts (APC)	Increase
# of average daily and peak microtransit and shuttle boardings and alightings	MOU data share or other feed specification	Increase
Bike share, scooter share, and car share average trip distance/trip duration for trips starting or ending at the mobility hub	General Bikeshare Feed Specification and Mobility Data Specification	Monitor
# of TNC pickups and drop-offs (PUDO) events	MOU data share, visual survey, video	Increase
Average shared micromobility dwell time at mobility hub	Mobility Data Specification	Decrease

Table 2 Performance Measures: Expand and Integrate Multimodal Travel Options

Measure	Data Collection Method	Goal
# of additional bike parking spaces	Survey, manual counts	Increase
Arrival mode share to hub	Intercept survey or travel diary	Increase in non-auto modes
Average daily bike parking utilization rate	Survey, manual counts	Increase
Average access distance (miles) of hub user	Intercept survey or travel diary	Decrease
EV charger utilization (average daily vehicles charged) and charge time	Charging network API, MOU with EV Spot	Increase

Table 3 Performance Measures: Increase Travel Safety

Measure	Data Collection Method	Goal
Peak hour daily use/ pedestrian counts	Public Life Data Protocol (see Gehl Institute guides)	Increase
Annual collisions, serious injuries, and deaths	Police reports	Decrease
# conflicts between vehicles, pedestrians, and cyclists	Manual or camera counts	Decrease
Comfort	Intercept survey	Increase

Table 4 Performance Measures: Advance Equity

Measure	Data Collection Method	Goal
Age-diversity of hub users and surrounding community	Intercept survey or travel diary	Increase in youth and elderly
Racial diversity of hub users and surrounding community	Intercept or visual public life survey, Census data	Increase in BIPOC
Income diversity of hub users and surrounding community	Intercept or visual public life survey, Census data	Increase in low- income
% of income spent on transportation	Intercept or visual public life survey, Census data	Decrease
Average household vehicle ownership	Intercept survey or travel diary	Decrease

Table 5 Performance Measures: Enhance Neighborhoods

Measure	Data Collection Method	Goal
Customer satisfaction score	Survey	Increase
% of space dedicated to public realm, lingering, and non-mobility functions	Public Life Data Protocol (see Gehl Institute guides)	Increase
Small business retail revenue at mobility hub	Survey	Increase
Private investment in public mobility	Survey	Increase
Value of amenities integrated into adjacent development/properties	Survey	Increase



Module 2: Design It



Kit of Parts

Mobility hubs assemble context-specific shared transportation services, transit connections, amenities, and experiences. As an implementer, your role is to select from a menu of common amenity features to meet the unique mobility needs of each hub area.

This kit of parts is both a mobility menu and a starting point for you and your implementation partners, featuring four layers:

- 1) Mobility Elements
- 2) Technology and Information
- 3) Place Amenities and Cultural Assets
- 4) Foundational Demand Management Strategies

Mobility hubs co-locate transportation options such as bike share, car share, ridehail pickup and dropoff, and bike parking alongside bus stops and rail stations. A variety of mobility, technology, and place amenities can be included in and supported by a mobility hub. Flexible in their design, mobility hubs can integrate plug-and-play features that nimbly accommodate local context and needs.

Figure 2 on the next page illustrates the most common elements of the kit of parts and where they are most appropriate in the regional mobility hub typology. This list does not include all possible elements, as site specific planning and design will determine the most context-appropriate implementation.

Mobility hubs will constantly evolve as community patterns, individual preferences, and travel habits change. The Guidebook describes a cross-section of mobility, information, technology, and place amenities, and foundational demand management strategies needed to unlock the value of mobility hubs.

As illustrated in the representative examples below, each hub will feature amenities and enhancements that are appropriate for urban, suburban, and special land use conditions.

Figure 2 Kit of Parts and Recommended Applications

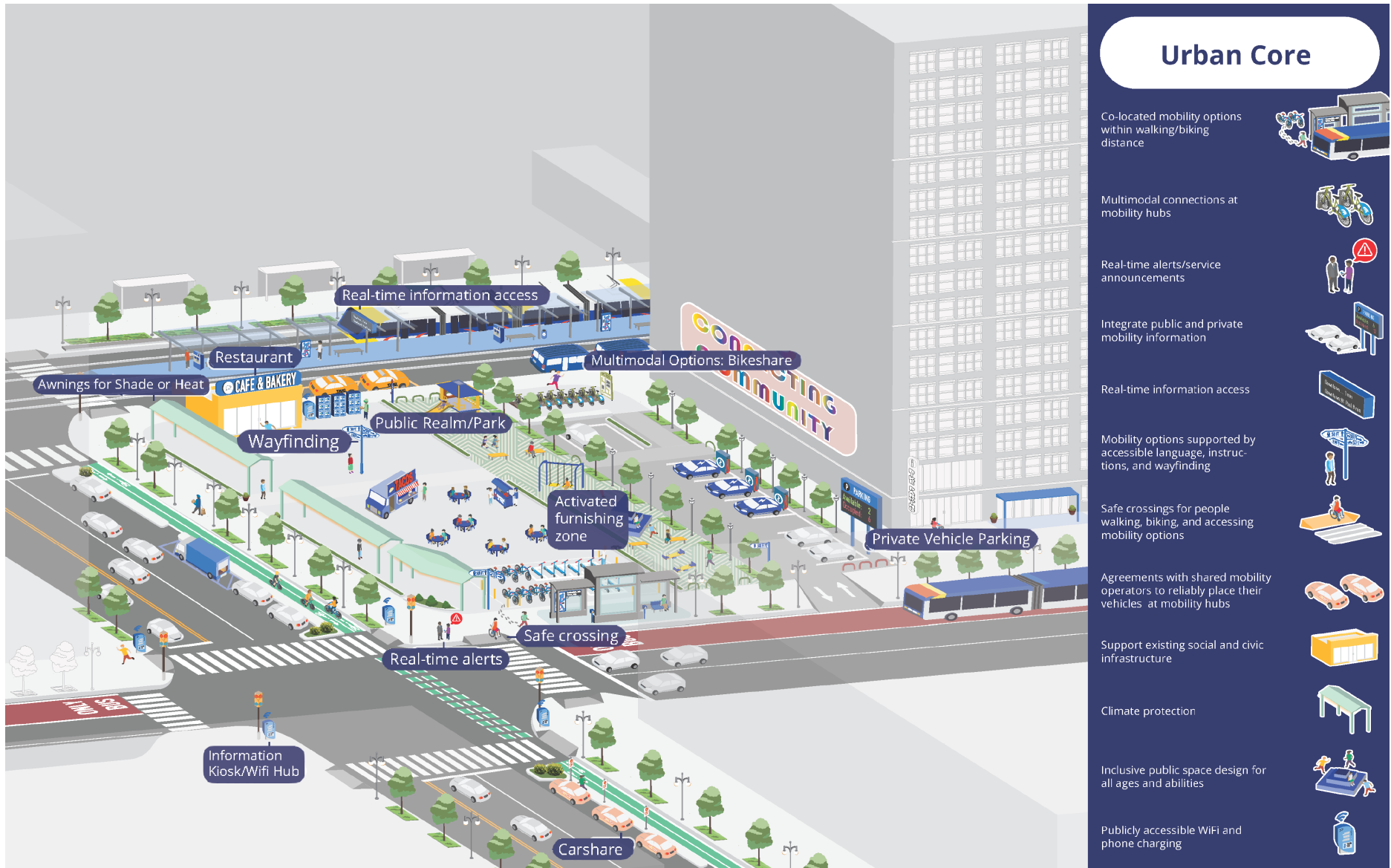
Common Elements	Urban Core	Urban District	Urban Neighborhood	Suburban District	Activity	Edge	Mobility Investment
Bike share	See Service Matching and Decision Tool for Each Mobility Hub Type						
Scooter share							
Moped share							
Microtransit and on-demand transit							
Car share							
Secure bike parking	✓	✓	✓	✓	✓	✓	✓
Pick-up/Drop-off	✓	✓	?	?	✓	?	?
Winter mobility options	?	?	?	?	?	?	?
Real-time travel information & alerts	✓	✓	✓	✓	✓	✓	✓
Public Wi-Fi hubs	✓	✓	?	?	✓	?	✓
Parcel and delivery lockers	✓	✓	?	✗	?	?	✗
EV charging infrastructure	?	?	?	?	?	?	?
Smart curb and parking technology	✓	✓	?	?	✓	✗	✗
Wayfinding	✓	✓	✓	✓	✓	✓	✓
Vendor space	✓	✓	?	?	?	✗	?
Seating and place amenities	✓	✓	✓	✓	✓	✓	✓
Hub lighting	✓	✓	✓	✓	✓	✓	✓
Public activation	✓	✓	✓	✓	✓	✓	✓
Heated spaces	✓	✓	✓	✓	✓	✓	✓

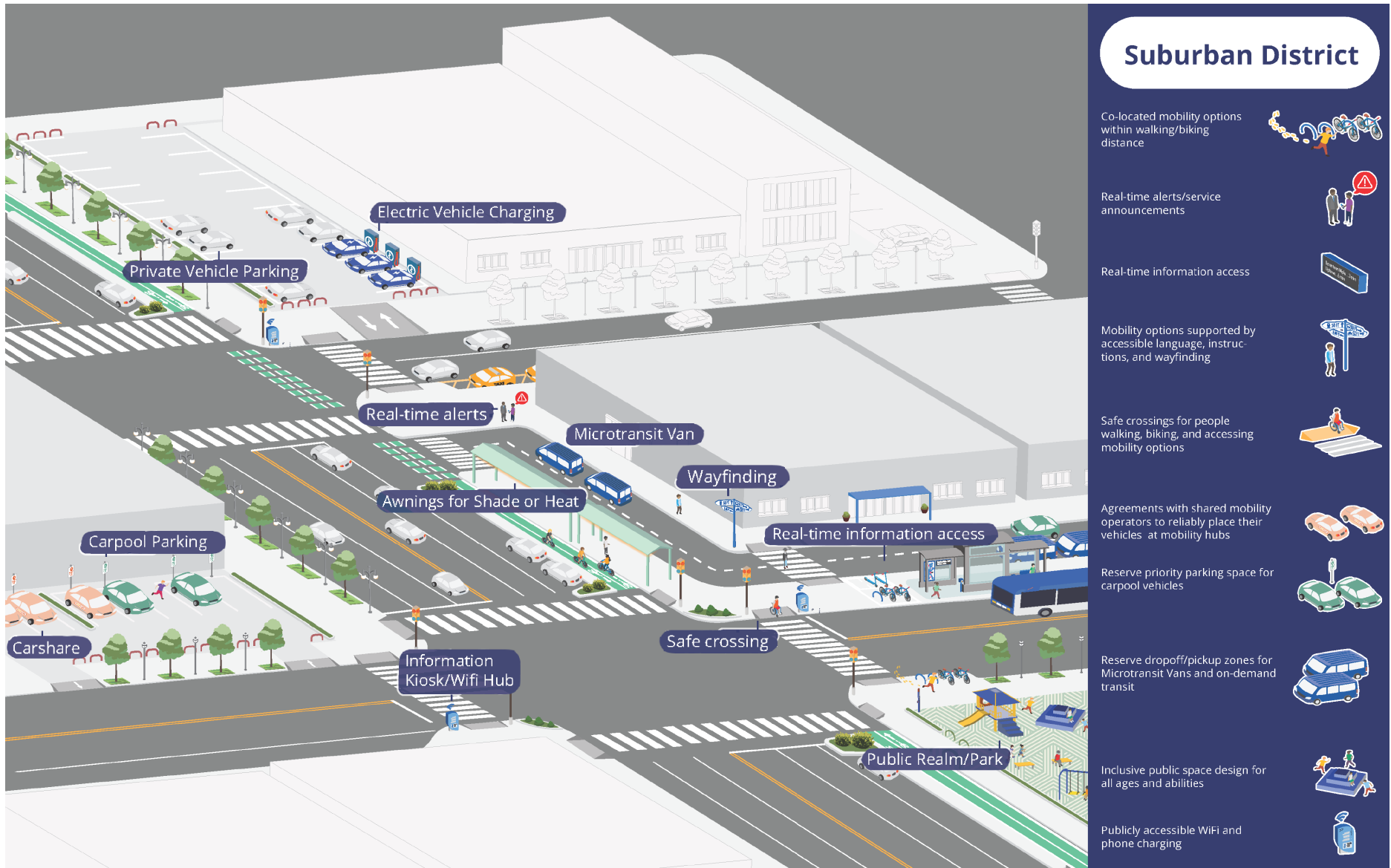
Key

✓ Recommended

✗ Not Recommended

? Optional







Activity Hub

Co-located mobility options within walking/-biking distance



Real-time alerts/service announcements



Real-time information access



Mobility options supported by accessible language, instructions, and wayfinding



Safe crossings for people walking, biking, and accessing mobility options



Agreements with rideshare operators to reliably establish pickup/dropoff zone



Support existing social and civic infrastructure



Publicly accessible WiFi and phone charging



Ample private bike and scooter parking space



Layer 1: Mobility Elements

Bike Share



Bike share is a shared transportation service where bicycles are made available for shared use to individuals on a short-term basis for a price. Bicycles can be standard or electric assisted bikes and can be returned to dedicated stations, locked to allowed public infrastructure, or anywhere within a system's service boundary. In 2021, Minneapolis' non-profit bike share program, Nice Ride, had 1,062 docked classic bikes and 1,209 electric-assisted bikes supported by 185 docking stations and 215 lightweight parking stations. Bike share can also be expanded to include adaptive and cargo bikes to support more ridership and trip types.

Use Cases

- » Daily commute trips
- » Local errands
- » First- and last-mile connections
- » Recreational rides
- » Tourism and sightseeing

Siting and Implementation

- » Bike share stations can be located within a transit facility (if space permits), in the public right of way, or on private property.
- » Bicycle share stations should be within easy reach of the transit waiting area but must not block accessible paths and landing pads, bus door opening zones, shelters, fire hydrants or posted information.
- » Locate stations in areas with good lighting.

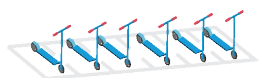


Source: Metro Transit

Considerations

- » Bike share stations should be encouraged in hubs where existing or planned dedicated bike lane, bus-bike lanes, or off-street trails are easily accessible. Locating stations near bike lanes helps connect less experienced riders to low-stress routes between destinations.
- » Station locations should be easy to reach and service. They should have adequate sun exposure, if using solar power, and be accessible to rebalancing and maintenance vehicles.

Shared Scooters and Mopeds



Shared scooters and other types of motorized scooters,

such as mopeds and seated scooters give people access to small, rideable vehicles available for short-term rentals. Shared scooters are typically returned to designated areas or anywhere within a system's service boundary. In 2020, Minneapolis added a lock-to requirement, meaning every device must lock to a sign post, bike rack, or meter hitch outside of pedestrian clear zones. From 2020-2021, Lyft (co-branded with Nice Ride) and Bird were licensed to provide shared scooters in Minneapolis. Bird and Lime were licensed to provide shared scooters in Saint Paul. For the first time, the Cities of Minneapolis and Saint Paul jointly released a new RFP for a Shared Bike and Scooter Program for 2022. New micromobility options at mobility hubs will require additional parking infrastructure and rider education to ensure organized parking conditions. Lock-to requirements and allocated parking space at mobility hubs will minimize obstructions at transit boarding areas and pedestrian clear zones across the region.

No seated scooters or mopeds are available in the shared fleets operating in the Twin Cities region today. Future expansion to the region could shift people from car trips of up to five miles or eliminate trips with complicated transit transfers.

Use Cases

- » First- and last-mile connections
- » Recreational rides
- » Errands
- » Short trips (1-3 miles for shared scooters)
- » Longer trips (up to 5 miles for seated scooters)

Siting and Implementation

- » Situate scooter charging stations and dedicated micromobility parking stations near transit station entrances, but clearly demarcated from other parking and loading facilities.
- » Parking areas can be geofenced so that shared micromobility parking is required at specific locations within a geofenced mobility hub.
- » Parking can be located within a transit facility, if space permits, in the public right-of-way or on private property. Parking can be installed both on the curb or in the footprint of one or more

automobile parking space, which can accommodate up to 14 standing shared scooters or 6-8 seated scooters (depending on vehicles size and parking/deployment demand).

- » Parking areas can be designed to include a variety of markers and barriers to increase visibility and protect equipment.
- » Locate parking in areas with good lighting.

Considerations

- » Should be encouraged at hubs with dense networks of dedicated bike lanes and/or off-street trails. Protected bike infrastructure in mobility hub areas can help reduce sidewalk riding.
- » Given their range and ability to attract a broader demographic, mopeds are viable across a broader cross section of mobility hub types than scooters.
- » Poorly parked scooters can cause problems for people getting around on our sidewalks, especially for wheelchair users and people with low-vision.
- » Enforcement and fleet rebalancing are important to ensure that micromobility devices are parked properly and equitably deployed throughout a community.

Secure Bike Parking



People biking to and from mobility hubs need safe and secure places to park and lock up their bikes. Visible, convenient, and secure facilities support multimodal travel to and from mobility hubs. Bike parking can take the form of unsheltered bike racks, bike cages, or bike lockers depending on the use case of each mobility hub.

Outdoor unsheltered bike racks are an appropriate solution for short-term bike parking. Short-term bike parking serves those who leave their bicycles for relatively short periods of time, typically for shopping or errands, eating or recreation. They should be ubiquitous, visible, and offer a moderate level of security. Secure parking areas such as bike lockers and cages offer longer-term storage that better protect bikes and their accessories from weather and theft. Secure parking areas typically enable parking for two hours or longer.

Use Cases

- » First- and last-mile connections
- » Recreational rides
- » Errands
- » Commute to work or school
- » Short trips (1-2 miles)
- » Medium length trips (up to 5 miles)

Siting and Implementation

- » Short-term bike parking can be located within a transit facility, if space permits, in the public right of way or on private property. While it is preferable to place bike parking off-street for snow clearing purposes, bike racks and corrals can be in the street area adjacent to the curb in locations with limited sidewalk space to make use of on-street areas that are unsuitable for auto parking.
- » Short-term bike parking should be within easy reach of the transit stop waiting area but must not block accessible paths and landing pads, bus door opening zones, shelters, fire hydrants or posted information.
- » Bike lockers and cages are usually located inside transit stations or in the pedestrian zone.
- » All forms of bike parking must be well lit at night and accessible 24 hours a day.

Considerations

- » Bike parking should be encouraged in hubs where existing or planned dedicated bike lane, bus-bike lanes, or off-street trails are easily accessible.
- » Areas with high incidence of bicycle theft may justify specific security features such as specialty racks, tamper-proof mounting techniques, or active surveillance.
- » Consider seasonal on-street bike corrals in high demand hub areas. One automobile parking space can serve up to 10 bikes.

Microtransit and On-Demand Transit



App-enabled microtransit and other on-demand transit services are dynamically routed transit services, often with no fixed stops. Microtransit routing optimizes based

on current demand, service zones, and/or schedules based on rider reservations or real-time trip requests. SW Prime launched microtransit services in 2016, Minnesota Valley Transit Authority began microtransit service in 2019, and Metro Transit plans to pilot a microtransit service in 2022. Likewise, Plymouth Transit, Maple Grove Transit, and Metro Mobility operate demand responsive services that have on-demand characteristics, and will likely see microtransit-like customer experience enhancements in the future. There is a fluid relationship between dial-a-ride programs, on-demand services, and the role they play at mobility hubs.

Microtransit can be designed to complement fixed route service or capture riders looking to access high-capacity transit services. Low density areas can be difficult to serve with a large bus, and on-demand technology using smaller vehicles offers a low-cost innovative solution to serve areas with lower demand.

Microtransit can serve different geographic markets, including:

- » **Zone-based markets:** Rides are provided anywhere within the zone boundaries.
- » **Hub-based:** Rides are provided between specific hubs.
- » **Corridor-based:** Rides are provided along a specific corridor within the service area. Pick-ups and drop-offs must be along the corridor.
- » **Hybrid:** A combination of the above three zone designs.



Source: SW Transit

Use Cases

- » First- and last-mile connections
- » Expand access for reverse commuters to suburban job centers, jobs with non-traditional work shifts, and educational centers
- » Provide alternative to fixed routes in low density area or in areas with no existing transit

Siting and Implementation

- » Microtransit pickup and dropoff activity should occur as close to the hub transit access point without interfering with bike and scooter share operations.
- » Stops at the mobility hub can be shared with fixed-route buses
- » Follow Metro Transit Better Bus Stop design guidelines

Considerations

- » Fares and transfers should coordinate with fixed route service, including any discount programs

Car Share



Car share services provide access to shared automobiles and light trucks for short-term rental. Both two-way/station-based and peer-to-peer car share models and free-floating/one-way car share models are available in the Twin Cities. HOURCAR, Evie Carshare, Zipcar, and Turo are the available car share platforms in the

Twin Cities region.

Use Cases

- » Local errands
- » Trips involving large cargo items or heavy items
- » Medium and long-distance trips (more than 5 miles)
- » Extended-time trips
- » Group/family trips

Siting and Implementation

- » Car share vehicles should be grouped together in 'pods' of at least two vehicles.
- » Parking spaces can be located in the public right of way or on private property. The minimum size parking space per car share vehicle is 20' in length by 7' in width.
- » Each dedicated car share space must be identified with signage.
- » Vehicles should be located in highly visible locations and wayfinding signage should be incorporated on site directing public to and from the mobility hub.



Source: Hourcar

Considerations

- » Car share operators can help identify where demand warrants locating additional car share vehicles. Operators may not want to locate a car share vehicle at a location if there is no demand.
- » With the appropriate public subsidy levels, peer-to-peer and community-controlled car share models might be viable in low-income locations where there are limited public transit options and high concentrations of multifamily housing, social services, and community resources.

Pickup/Dropoff Locations



Pickup and dropoff (PUDO) zones are dedicated curbside spaces to help facilitate the loading and unloading of passengers. These zones are targeted towards ridehailing companies, taxi services, shuttles, and

microtransit services, but are open for anyone to use for kiss-and-ride activities. PUDO zones are time limited, typically three to five minutes, and require that the driver remain with the vehicle during loading. PUDO zones help correct unsafe behavior such as double parking and vehicles blocking crosswalks. Mobility hubs should allow for easy transitions between ride hailing and public transit services to ensure that ridehailing complements existing transit services as a first- and last-mile mode, instead of replacing them for an entire trip.

Use Cases

- » Medium and long-distance trips (more than 5mi)
- » Late-night trips or during hours when transit is unavailable
- » Trips to areas with inconvenient/lack of transit access
- » Time-sensitive trips
- » Trips with dependents or packages
- » Trips during inclement weather

Siting and Implementation

- » Passenger pickup and dropoff area should be clearly signed and located away from transit boarding areas.
- » Much like bus stops, PUDO zones located at the beginning and end of blocks require less curb space.
- » PUDO zones should be ADA accessible, and the curb should be free from excessive clutter such as parking meters, bike racks, and other potential obstacles.
- » While PUDO zones can be located a short walk away from transit stations, proper walkway networks and wayfinding signs are required to make sure the pedestrian experience in accessing the PUDO zones is safe and legible.

Considerations

- » The timing of the PUDO zone can be adjusted to reflect demand.
- » PUDO zones can be used for other loading purposes, such as commercial loading during lower passenger loading demand hours.

Winter Mobility Options



Hub implementers should consider siting new and emerging mobility services and amenities that can operate year-round. Passenger mobility services, such as Metro Transit bus and rail service, ridehail, car share, and microtransit can connect people to mobility

hubs during inclement weather and snow events. Other new services that give people access to fat tire bikes (through a bike library), snow-enabled vehicles, and snowshoe rentals can provide additional more active mobility options to connect to transit. This will require temporary hub parking and distribution areas that are transitioned to underutilized bike parking and scooter parking areas during winter months.

Hub implementers should consider using light and other prominent physical features to continue branding mobility hubs when snow is covering portions of the mobility hub.



Source: Metro Transit



Source: City of Minneapolis

Layer 2: Technology and Information

Technology and information systems are key components of shared mobility platforms and modes. Integration of these systems into the configuration of mobility hubs will help make them more accessible, useful, and successful. Common elements include:

Real-Time Travel Information and Alerts



Real-time information, delivered through an app, digital signage, or interactive kiosk provides accurate information on the actual availability of nearby mobility options, allowing hub users to choose the options that work best for them, reduce their wait times

and improve their travel experience. Travel alerts and real-time notifications of service disruption are also essential features to keep people informed and shift travelers to alternative mobility options.

Use Cases

- » Provide passengers with accurate wait times at stations or hubs with low frequency
- » Inform tourists and new transit riders

Siting and Implementation

- » When consolidating real-time information into an app or web-based platform, transit agencies should look beyond transit service and incorporate the various mobility options available at mobility hubs. Incorporate the General Transit Feed Specification (GTFS), General Bike share Feed Specification (GBFS), the Mobility Data Specification (MDS), and other emerging data feeds for mobility and curb management.
- » Locate within easy sight of the transit stop waiting area but must not block accessible paths and landing pads, bus door opening zones, shelters, fire hydrants or posted information.

Considerations

- » Real-time departure information and service availability should be available in audio and visual formats, and in languages other than English to improve accessibility for all users.
- » Real-time departure information should consider incidents and/or routing changes that might impact a rider's experience.

Public Wi-Fi Hubs



Public Wi-Fi-enabled at mobility hubs helps users connect to shared mobility platforms without relying on their data plans, facilitates productive use of users' time as they wait, and encourages use of shared public spaces. Often integrated into information kiosks and other hub identifier panels, public Wi-Fi hubs offers clear mobility and civic

benefits for people with limited or no data plans.

Use Cases

- » Quick reference trip planning without a smartphone
- » Accessing mobility apps options using Wi-Fi

Siting and Implementation

- » Public Wi-Fi hubs should be in areas with low data plan penetration and near concentrations of low-income and BIPOC hub users.

Considerations

- » Test public Wi-Fi hubs at a limited number of locations before scaling across the region.
- » Consider a regional street furniture solicitation to democratize Wi-Fi across the region, standardize information kiosks and other hub identifier panels, and identify advertising revenue streams that could fund mobility hub enhancements.



Free WiFi Hotspot in a Berlin Subway Station.

Source: nuBerlin

Parcel and Delivery Lockers



Delivery services are seeing the most significant surge in demand of any app-based mobility service. Courier Network Services (CNS), or crowdsourced delivery, connect people to web- or app-purchased goods using for-hire delivery drivers. Couriers deliver orders and packages using their personal or shared cars, vans,

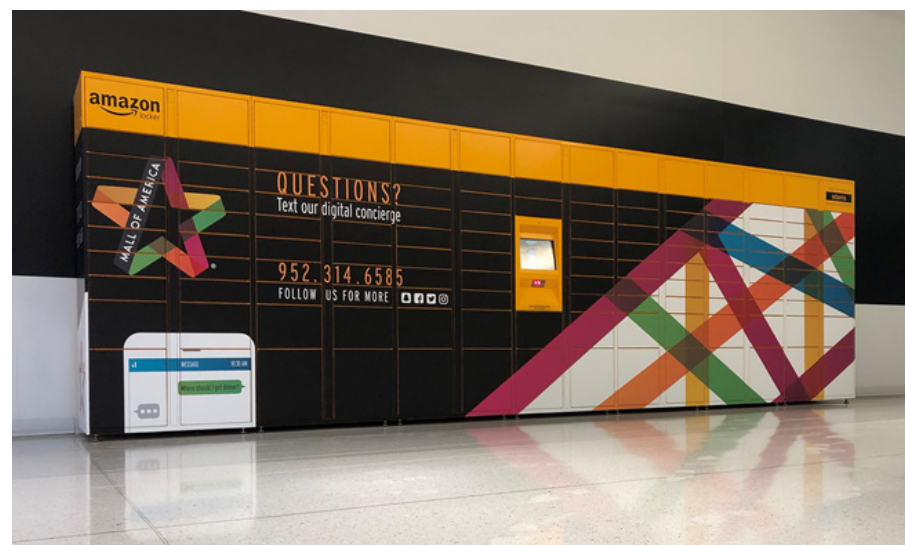
bicycles, mopeds, and other freight-enabled modes.

Use Cases

- » Efficiently distribute packages and coordinate consumer delivery activity.
- » Securely deliver online orders any time of day
- » Locating delivery lockers at mobility hubs offers convenience to users by providing a secure place to receive their deliveries when away from home with the additional convenience of not having to make an extra trip for pick-up.

Siting and Implementation

- » Lockers are most successful near high-volume transit stations, dense employment centers, and commercial areas.
- » All forms of delivery lockers must be well lit at night and accessible 24 hours a day.
- » Lockers can be located within a transit facility, if space permits, in the public right of way, or on private property.



Source: Mall of America

Considerations

- » Work with delivery companies to identify which mobility hubs are prime delivery locker locations.
- » Form partnerships with delivery companies and community groups to help with maintenance.

Electric Vehicle Charging Infrastructure



The number of electric vehicles (EVs) on the road will increase dramatically in the coming years, and with that the need for more EV accommodating infrastructure. EV charging stations provide mobility hub users the opportunity to park or access an electric car share vehicle (like Evie Carshare), charge their EV while accessing transit or other transportation options at a hub. Incorporating EV charging will help electrify mobility services and reduce greenhouse gas emissions. Mobility hubs should prioritize access to DC fast chargers to enable quick charging.

Use Cases

- » Provide charging access to residents' without at-home capacity
- » Provide access to electric car share services

Siting and Implementation

- » EV charging stations require grid connections and, often, electrical infrastructure upgrades. Coordinate with the local utility in selecting a site and charging level and understanding the costs.
- » Wayfinding signage should be incorporated to and from the mobility hub.
- » Curbside application should be limited, focusing on areas with limited off-street parking and in mixed-use commercial areas.
- » Installations should be coordinated with neighborhood groups.
- » Enable “plug-and-play” electrification for mobility and infrastructure providers through make-ready requirements at new development or as part of corridor redesign/reconstruction.



EV Spot Network chargers.

Source: Evie and City of Saint Paul

Considerations

- » The charging station should be networked and equipped with smart features.
- » While the number of vehicles that can be charged at each station depends on the charger level, it is recommended that EV stations be grouped into pods.
- » Provide adequate charging station information including maintenance requirements, station status, cost to charge, and signage and provisions of emergency contact information.
- » If EV charging stations are not a viable short-term solution for a mobility hub location, consider providing EV ready infrastructure for possible future expansion.

Smart Curb and Parking Technology



Smart curb and parking technologies help manage and pay for parking or curb access in the vicinity of a mobility hub. Transactions are quicker and getting to and from stalls is made more efficient. Smart curb and parking solutions include smart meters, pay-by-phone, street sensors, curb loading permit vending, mobile apps, and parking guidance and reservation systems.

Use Cases

- » Manage parking demand
- » Improve business access for people that need to drive
- » Reduce search-for-parking traffic congestion
- » Distribute curb loading permits
- » Redistribute travelers to other mobility options

Siting and Implementation

- » Smart parking is often integrated with real-time information solutions to help motorists find available parking spaces and plan their multimodal trips more reliably.

Considerations

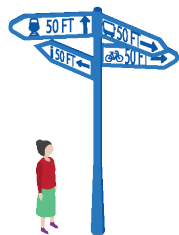
- » Investments in smart parking technology should be backed by a comprehensive parking study that examines community characteristics, parking inventory, occupancy, and turnover.
- » Smart parking and curb technologies should be used to generate revenue to fund mobility hub capital and operating expenses.



App-based parking payments can improve parking efficiency and manage demand at mobility hubs.

Source: Parkmobile

Wayfinding/Modefinding



Informational signage helps contextualize mobility hubs by visually connecting them with the surrounding neighborhood, other hub locations, and available transportation options. Wayfinding should be present at mobility hubs of all types and sizes.

Use Cases

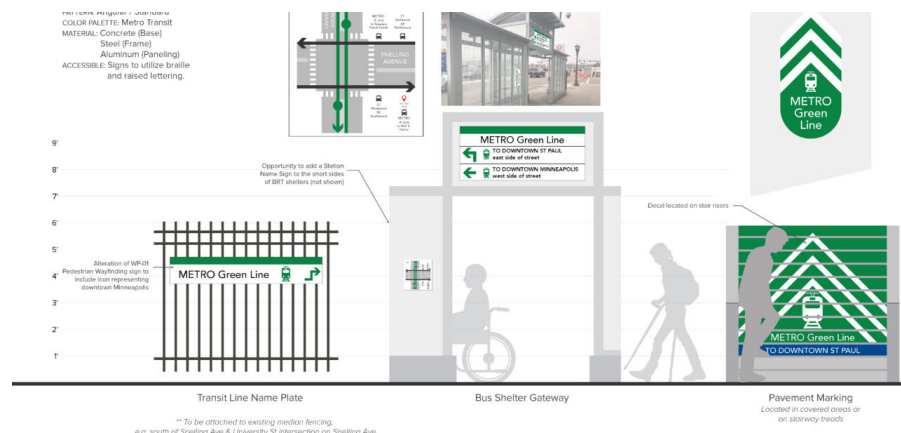
- » Facilitate users reaching their destinations by indicating the direction and distance to and from a mobility hub.
- » Provide a platform for sharing neighborhood events, meetings, and other important information.

Siting and Implementation

- » Wayfinding information should have a pedestrian-oriented lens, be clearly visible and easy to understand.
- » Wayfinding can take many forms including branded signage, neighborhood maps, bus schedules, information boards and digital displays.

Considerations

- » All forms of wayfinding need to consider universal design standards to provide access for people with disabilities and include information in multiple languages.
- » The community should be involved in developing neighborhood specific information.
- » Any wayfinding elements should remain visible in winter conditions.



Source: Metro Transit

Layer 3: Place Amenities and Cultural Assets

Mobility hubs have great potential for contributing to the activities, sense of place, and overall vibrancy of locations where they are sited. Public space activation and public art features make a mobility hub more enjoyable for its users and contribute to the community's vision overall. Potential elements include:

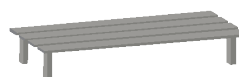
Vendors



Programming mobility hubs with cart-based vendors, food trucks, and other types of retail activity can transform waiting areas into welcoming active spaces. Vending at a hub can be a year-round or seasonal activity, depending on available shelter. Vendors should be selected in coordination with the

neighboring community and prioritize local businesses whenever possible. Consider installing parklets and seating areas in tandem with food-vending to increase user comfort and dwell time. Carts and trucks are usually located within the street right-of way and might require access to electricity and other utilities.

Seating and Place Amenities



Seating, visual elements, and common architectural features contribute to the stickiness of a hub—whether people will choose to stay in the hub place beyond their

transfer. Seating should support a more comfortable waiting experience, but also opportunities to rest, eat, socialize, or even watch live concerts and cultural programming. Architectural elements, like the blue boxes in Minneapolis' mobility hub pilot help people understand that they are at a hub, but they can be used as a leaning feature, a seat, lunch table, and more.

Hub Lighting



Hub lighting is essential to brand the space, but also ensure that users feel comfortable, and can see the various hub amenities available to them. Hub lighting should be pedestrian-scaled, illuminating specific hub features as well as bikeways, walkways, and crossings. Hub lighting can also be used as a wayfinding tool and a way to brighten high priority mobility options at the hub.

Public Space Activation



Parklets, plazas, pocket parks and other forms of permanent or temporary activation repurpose part of the street into a pedestrianized public space. Public space activations help organize and encourage people to gather and socialize. Activations introduce new streetscape features such as seating, plantings and art, thus creating a comfortable location to transition between modes and wait for transit. These spaces play an important role in neighborhood placemaking (or placekeeping), encouraging community interactions, and contribute to vibrant street life. Furthermore, these elements can become a recognizable marker of the investments being made in a mobility hub.

The region should also consider hosting human and cultural services to support people's intellectual, health care, economic, and civic needs. Human service integration might include temporary access to health care clinics and vaccinations, as well as library partnerships to help people access books and service information (similar to the City of Minneapolis's library partnership at mobility hubs).

The amenities in a parklet should avoid blocking fire hydrants, manholes, or utility access points. Plazas and pocket parks can be year-round or seasonal and should be installed in coordination with neighborhood groups and adjacent businesses.

Heated Spaces and Sun Protection



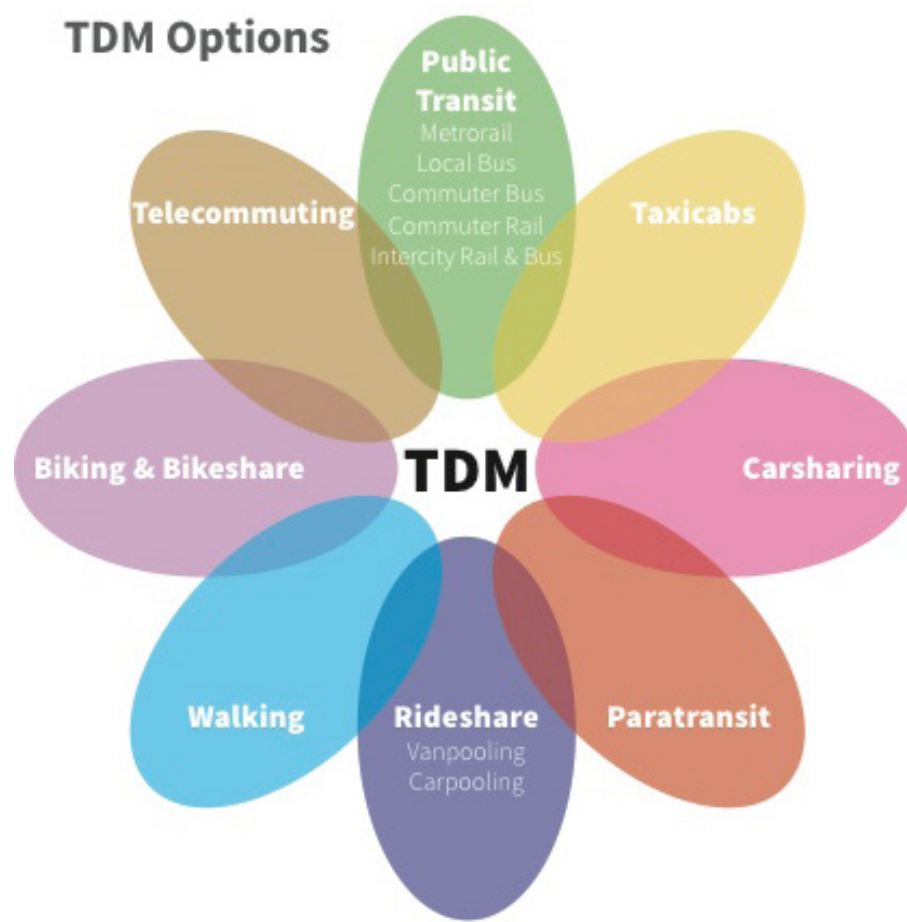
Hub connections should be comfortable and dignified year-round. The region's colder months should not deter people from accessing mobility hub transportation options. Likewise, people using hubs should be protected from the sun's heat and UV rays during the region's warmer months. Heated shelters, awnings, functional and architectural shade structures, and other physical features can signal to traveler that hubs are open for connections year-round and that their travel experience is valued.

Layer 4: Foundational Demand Management Strategies

Successful demand management at mobility hubs requires that both transportation and land use strategies employed by implementation partners reinforce one another and are designed to change behavior and support better mobility.

A comprehensive travel demand management (TDM) foundation paired with well-designed circulation and access at mobility hubs can encourage the use of mobility services. A comprehensive TDM foundation, combined with TOD and smart intensification of land uses at a mobility hub can enhance neighborhoods, advance equity, and expand multimodal travel options. Developers and municipalities following Metropolitan Council TOD Policy and coordinating with the Office of Transit-Oriented Development can integrate appropriate TDM at existing and future mobility hubs.

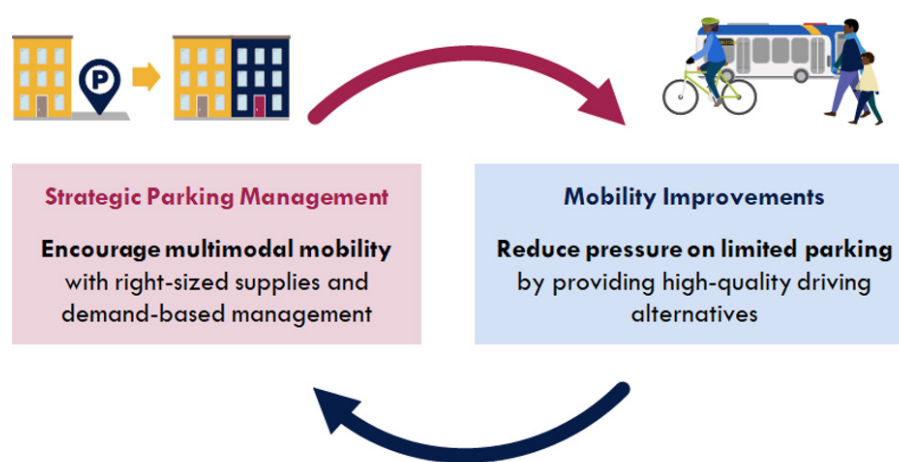
Metropolitan Council is conducting a Regional Travel Demand Management Study that will look for new strategies for TDM in the region. Metropolitan Council expects the study to be completed in early 2023 and may result in updates to this document and other regional plans and policies.



Source: Mobility Lab

Parking and Curb Management

- » **Priced Parking:** Priced parking is one of the most effective measures for managing and reducing parking demand in areas where you want to prioritize walking, rolling, biking, and use of transit and other shared mobility services. Employees and residents who work or live in an area with priced parking and near a mobility hub will likely develop an alternate plan for access than visitors. Parking around a mobility hub should be priced according to convenience and the level of demand and include both off-street parking facilities such as park-and-rides and on-street curb parking.
- » **Park-and-Ride Pricing:** Park-and-ride parking availability and demand-responsive pricing should be managed to expand access to transit across the region, while strategically integrating mobility services at hubs with context-sensitive station access hierarchies. Off-peak rates can be set where applicable and can help to reduce Vehicle Miles Traveled (VMT) in areas where transit can be competitive with driving into downtown locations.
- » **Curb Management:** Curb spaces have historically been used to move vehicles, store personal vehicles, and load/unload commercial vehicles. More varied curb uses – passenger pickup/dropoff, bike/bus lanes, bike parking, shared bike/scooter zones, parklets, and curb/sidewalk extensions – have emerged and gained popularity. Management of this space at mobility hubs should be intentional, active, and innovative – with a focus on optimizing the value that these spaces provide in terms of access and mobility.



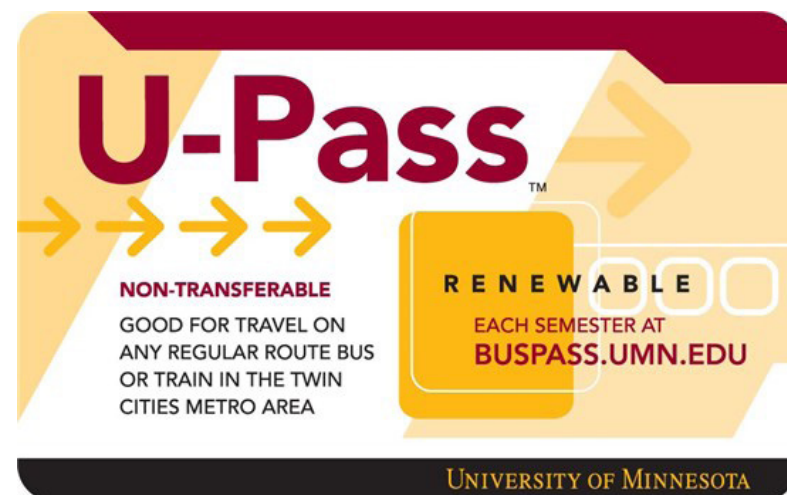
Source: Nelson\Nygaard

- » **Unbundled Parking:** Unbundled parking separates the cost of parking from other leases, which allows tenants to make a more deliberate choice about their parking and transportation needs. Unbundled parking provides more flexibility for tenants and can support affordability in TODs by allowing residents or employers/employees to opt out of paying for parking.
- » **Right-Sized Parking:** Lower or eliminated parking minimums for developments, particularly near high-quality transit or mobility hubs, can encourage the use of alternative options. Saint Paul's recent elimination of parking minimums serves as a blueprint for regionwide adoption.
- » **Priority Carpool or Vanpool Spaces:** Within park-and-ride facilities or other facilities at or near mobility hubs, premier spaces reserved for carpool or vanpool vehicles may encourage pooling, especially when combined with other programs or subsidies.

Incentives and Subsidies

The incentives and subsidies that make up a TDM foundation at mobility hubs will require substantial coordination and partnership between private entities, public jurisdictions, and mobility service providers.

- » **Transit Subsidies:** Monthly funds to cover some or all of the commute costs to take transit in the region can be automatically loaded onto Go-To cards for employees or students commuting on Metro Transit, SouthWest Transit, MVTA, and Plymouth Transit to encourage regular transit use. Pass discounts can be integrated into employee and student commute management platforms and integrated into ticket purchases for major events at stadia or performance centers. Employers offering a pre-tax transportation benefit let the cost to commute be taken out of the employee's salary before taxes, which helps reduce costs. Most programs are facilitated by third party benefit administrators and can help get transit pass subsidies directly to individuals. Similarly, Metro Transit's residential pass program, which provides discounted passes to multifamily unit tenants, can support mobility hub programming at transit-oriented or adjacent developments.
- » **Shared mobility subsidies:** Subsidies can encourage hesitant new riders to try shared micromobility for the first time or can help make bike share use an attractive and cost-competitive alternative to driving or ridehailing over shorter distances. Most impactful on residents and employees surrounding a mobility hub, bike share subsidies can be dispersed via property managers or as part of an employee benefit.
- » **Car share subsidies:** Car share companies like HOURCAR provide a fleet of vehicles that mobility hub visitors could reserve and use via smart phone. Mobility hub locations at EV Spot parking spaces can help hub users with occasional trips (e.g., mid-day errands or off-site meeting), eliminating a common barrier to non-driving commutes. HOURCAR offers monthly individual memberships, as well as business memberships.



The U-Pass and Metropass partnership between Metro Transit and the University of Minnesota deeply discounts transit fares for students, staff, and faculty.

Source: Metro Transit

Policy Change

- » **TDM Ordinance:** TDM policies such as municipal or county ordinances requiring developments of a certain size and/or including certain land uses to provide, operate, or subsidize transportation alternatives can benefit and be benefitted by mobility hub services and amenities. Through zoning, a formally approved TDM plan, fixed requirements, or a points-based suite of strategies are typically incorporated into the approvals process for development proposals. Minneapolis's TDM update includes several mobility hub features as applicable demand management strategies for larger developments and uses. See [Ordinance 2021-023](#) for details.
- » **Mobility Hub Overlay:** Hub implementers need to understand the long-term implementation trajectory of hubs and use the zoning code to patch together services and amenities over time. Overlay zoning, such as a transit overlay zone, is an effective tool to dictate which hub amenities are integrated into new developments, while aligning the development community around the mobility hub concept. Overlays can sync with ongoing TOD activities throughout the region.
- » **Support Bicycle and Pedestrian Access:** Supporting bicycle and pedestrian access is essential for many other TDM strategies and will require partnership between municipalities across the region. Pedestrian and bicycle access and connectivity strategies include the funding or construction of pedestrian and bicycle amenities and infrastructure on roadways and at intersections that people would use to access hubs. Examples of pedestrian and bicycle access and connectivity features include bike lanes, bike boxes, sidewalks, curb ramps, crosswalks, bicycle signal heads, and pedestrian-hybrid beacons. Bike lanes and sidewalks should provide direct access to the mobility hub and connect to the greater bicycle and pedestrian networks.

Education and Programs

- » **Real-Time Information Provision:** Real-time information on transportation options helps inform travel decisions by different modes. Information can include nearby transit and arrival times or availability of ride sharing in the area. Displays should be located at arrival points and near platforms or bus stops, displaying arrival and departure information and availability of ridesharing, bike share, and car share.
- » **Guaranteed Ride Home:** Metropolitan Council runs a GRH program for people who commute to work or school by bus, train, carpool, vanpool, bicycle, or by walking a minimum of three days a week. Registered participants receive monetary reimbursement for cabs up to four times a year up to \$100, subsidizing the cost of an emergency alternative.
- » **Carpool Matching:** Metro Transit offers a regional ridematching database to encourage and lower the barrier for employees to find carpool and vanpool opportunities with trip matching services to pair and introduce commuters who travel the same route, either one-time or routinely.

Employer and Institutional TDM

Many TDM programs are also popular amenities for tenants, employers, employees, and visitors that help with attraction, retention, and satisfaction.

- » **On-site TDM Coordinator:** An on-site coordinator provides transportation resources, answers questions, receives feedback on transportation and parking, and can provide commute concierge services. This position is essential for managing ongoing programs, including consistent monitoring and surveying.
- » **TMA/TMO Membership:** Institutions and property managers can either join an existing transportation management association or organization (TMA/TMO) within the region or collaborate to develop one of their own to leverage shared resources and take over management of transportation options offered on their campuses and at the mobility hub. The TMO can help with TDM education, outreach, and monitoring of mobility service performance, in line with hub performance measurement.
- » **Commuter Challenges, Prizes, and Reward Programs:** Annual, monthly, or special programs can encourage non-single occupant vehicle commute options found at mobility hubs. Metro Transit sponsors an annual award event to celebrate and recognize employers, organizations, and individuals.
- » **Bicycle Showers and Lockers:** Bicycle showers and lockers make commuting by bicycle more convenient and reliable. These end-of-trip facilities are typically located within office buildings and can be incorporated with other on-site amenities such as bike parking facilities or fitness centers.



Indoor bike room, with parking racks, spare parts, and bike repair area, in Downtown Minneapolis.

Source: CDG

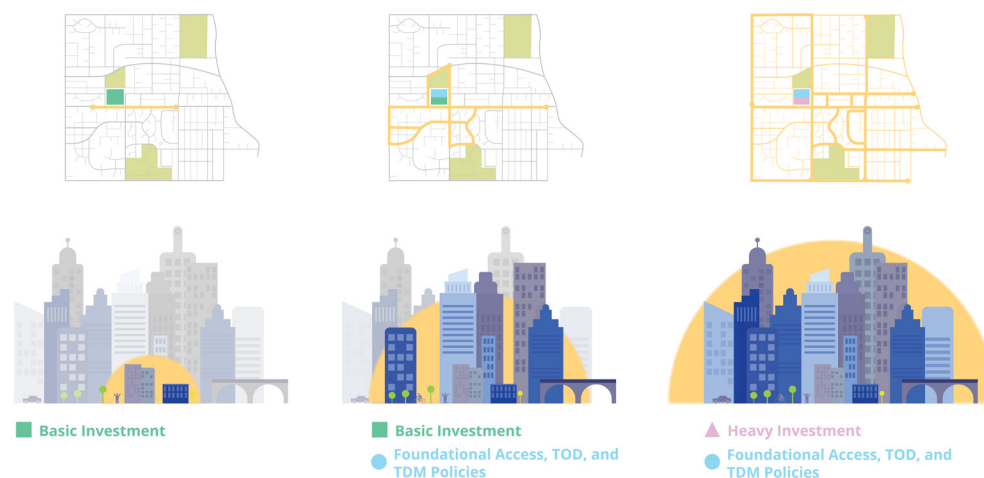
VMT Reduction Potential at Mobility Hubs

Mobility hubs are a key tool to achieve the transportation-related air emission reduction objectives of the *Thrive MSP 2040 Transportation Policy Plan*, and can support the region's efforts to reduce daily vehicle miles traveled (VMT) per capita. By enhancing access to mobility options, mobility hubs make it easier for users to replace car trips with low-carbon modes. Reducing the amount of VMT on traditional automobiles generates many benefits, including alleviating traffic congestion, reducing air pollution and greenhouse gas (GHG) emissions, improving public health through increased exercise, and enhancing interactions within our communities.

While the VMT reduction potential of individual hub modes, services, and amenities has been documented, there is a gap in research on the cumulative VMT impacts of mobility hub investments. Figure 2 documents the VMT reduction potential of mobility hub modes and services included in the Kit of Parts. As illustrated below, the reduction associated with each mobility option depends on the adoption of trip reduction policies, the level of investment at the mobility hub, surrounding land uses, frequency of use, and the types of trips it offsets. The more transit-oriented the hub and the broader policy environment, the higher the VMT reduction potential.

Note: Technology and Information and Place Amenity elements complement Mobility elements for VMT reduction. There is no research to suggest that these elements result in VMT reductions on their own, but they provide value in potential effectiveness, enhancement of mobility measures, community utility, and more.

Figure 3 Summary of Mobility Element VMT Reduction Impacts



More VMT reduction benefits are realized as more mobility investments and foundational policies are implemented. This graphic represents that the region can shift localized VMT reduction impacts to more regional VMT reduction impacts as foundational policies are adopted and greater hub investments are made.

Source: Nelson\Nygaard

Element	Low VMT Reduction Range	High VMT Reduction Range	Source and Notes
Walking	0%	6.4%	<ul style="list-style-type: none"> » California Air Pollution Control Officers Association (CAPCOA) GHG Handbook, 2021: T-17 Provide Pedestrian Network Improvement, 6.4%; T-19 Expand Bikeway Network, .5% » CAPCOA (2010): SDT-1 Provide Pedestrian Network Improvements, 0-2%
Bike share	0.02%	0.06%	<ul style="list-style-type: none"> » CAPCOA (2021): T-21-A Implement Pedal (Non-Electric) Bike share Program, .02%; T-21-B Implement Electric Bike share Program, .06%; T-21-C Implement Scooter share Program, .07% » CAPCOA (2010): TRT-12 Bike-Sharing Programs (grouped with LUT-9 Improve Design of Development, 3-21.3%)
Scooter and moped share	0.06%	0.07%	<ul style="list-style-type: none"> » CAPCOA (2021): T-21-A Implement Pedal (Non-Electric) Bike share Program, .02%; T-21-B Implement Electric Bike share Program, .06%; T-21-C Implement Scooter share Program, .07% » CAPCOA (2010): TRT-12 Bike-Sharing Programs (grouped with LUT-9 Improve Design of Development, 3-21.3%)
Bicycle parking	0%	4.4%	<ul style="list-style-type: none"> » CAPCOA (2021): T-9 Provide End-of-Trip Bicycle Facilities, 4.4% » CAPCOA (2010): SDT-7 Provide Bike Parking with Multi-Unit Residential Projects (grouped with LUT-9 Improve Design of Development, 3-21.3%)
Car share	0.04%	0.18%	<ul style="list-style-type: none"> » CAPCOA (2021): T-20-A Implement Conventional Car share Program, .15%; T-20-B Implement Electric Car share Program, .18% » CAPCOA (2010): TRT-9 Car-Sharing Program, 0.4-0.7%
Microtransit	0.3%	13.4%	<ul style="list-style-type: none"> » CAPCOA (2010): TRT-11 Provide Employer-Sponsored Vanpool/ Shuttle
Pickup/dropoff locations (PUDO)	-	-	<ul style="list-style-type: none"> » While PUDO zones are unlikely to reduce VMT, they help reduce conflict with curb users and direct loading activity away from travel lanes.

The Twin Cities Mobility Hub Typology

The features, access conditions, and use cases of each mobility hub depends on the land use context, available multimodal network, and specific transportation needs of the adjacent community. Mobility hubs work best in locations that meet certain land use and activity thresholds.

The Twin Cities regional mobility hub typology was developed to inform hub planning, design, elements and service selection, and access hierarchies at each location type. Hub types include:

- » Urban Core
- » Urban District
- » Urban Neighborhood
- » Suburban District
- » Activity
- » Edge
- » Mobility Investment

The typology includes overlays that are used to further nuance implementation guidance (including key features in the design), funding, operation and even the planning process. There might be multiple overlays at a single mobility hub location and it will be the key to balance all the demands at the site. Typology overlays are discussed in more detail on page 94.

Rooting the Typology

The Twin Cities regional mobility hub typology aligns with MnDOT's Land Use Contexts—a methodology that established zones to describe locations where mobility hubs are expected to function more effectively—and is informed by the Metropolitan Council's community designations in the Metropolitan Urban Service Area (MUSA) and Rural Service Area (RSA). MUSA includes communities ranging from the urban cores of downtown Minneapolis and Saint Paul to edge communities planning for staged growth and expansion. This land use and transportation context framework helps organize how the mobility hub kit of parts can be best implemented.

Hubs in the Twin Cities region are distributed across the different communities and contexts that make up the region, including:

- » The dense urban environments of the Saint Paul and Minneapolis downtowns, and the commercial and residential districts surrounding them
- » First-ring suburban locations such as Edina, Robbinsdale, Richfield, and Crystal
- » Second-ring suburban locations such as Maple Grove, Woodbury, Apple Valley, or Eden Prairie
- » Freestanding historic towns that are now part of the region – such as Chaska, Hopkins, North Saint Paul, and Rogers.



Types and intensity of land uses vary across the landscape of all individual communities in the Twin Cities Metropolitan Region.

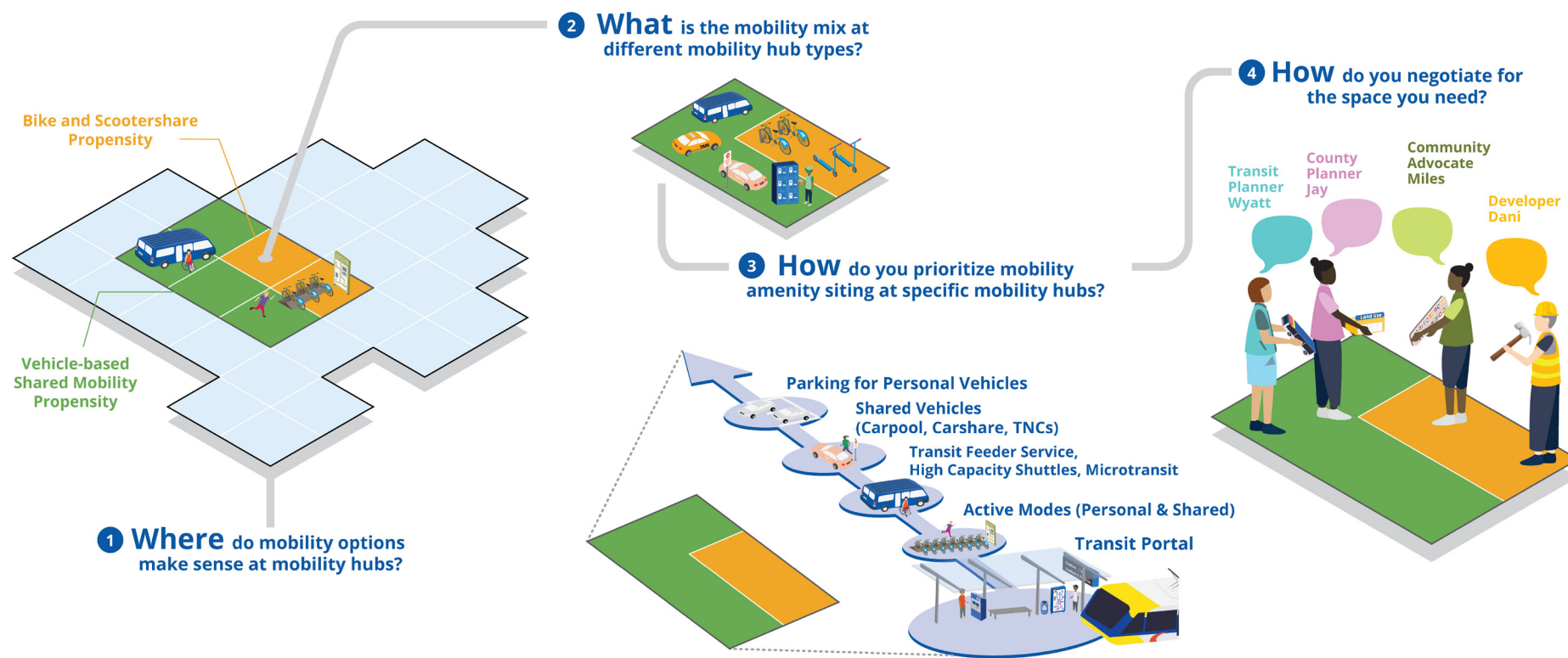
Some contexts will work better for establishing Mobility Hubs.

Source: CDG

Building and Siting the Mobility Mix

Mobility hubs provide access to combinations of transit, shared mobility services, and associated infrastructure—or the mobility mix. But what is the right mix for your mobility hub? And how should that mix be prioritized? Figure 3 illustrates the four-step process to determine what modes are likely viable at a mobility hub, and then prioritize the highest and best use of a hub's most limited spaces. Community and stakeholder engagement should steer every step of the Mobility Mix process.

Figure 4 The Process to Build and Site a Hub's Mobility Mix



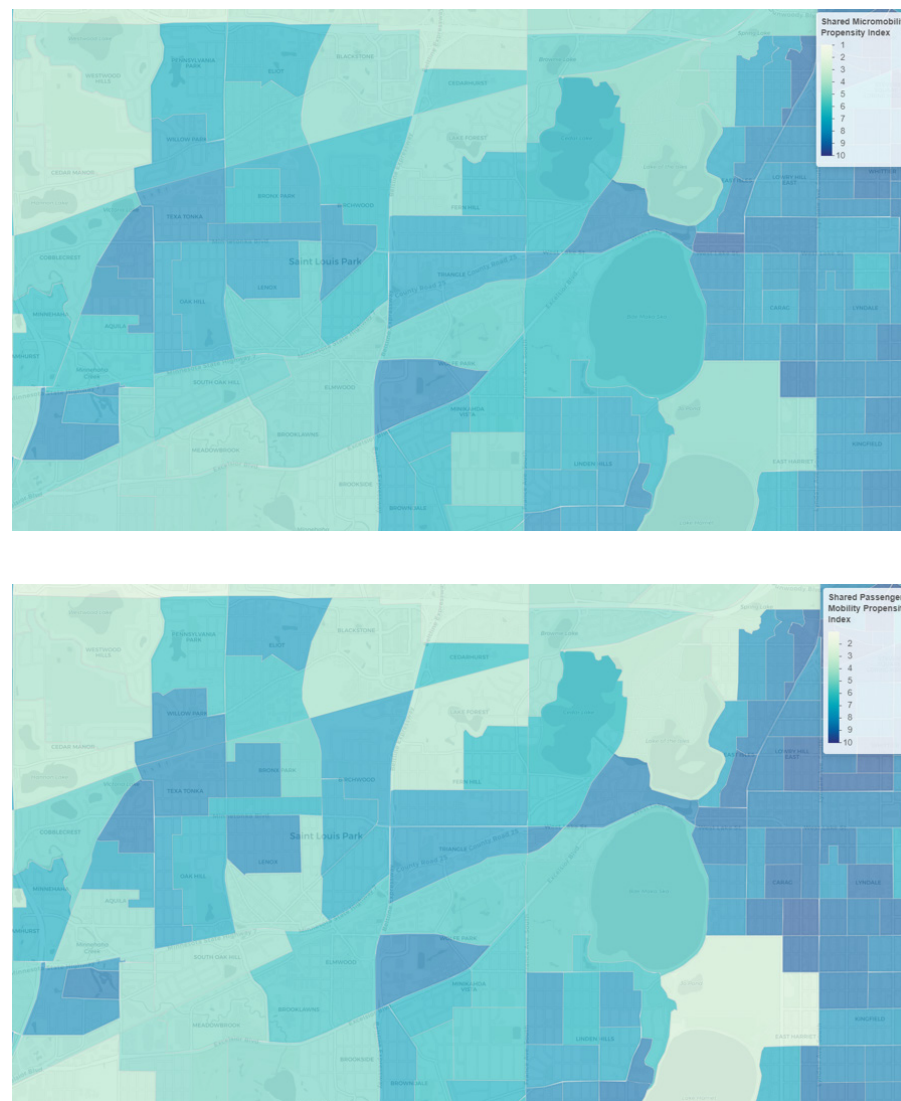
Step 1: Determine where different shared mobility services make sense

Step 1 reveals where there is potential demand for different types of shared mobility services (e.g., bike share and scooter share, as well as car sharing and microtransit services). The region established separate [shared micromobility](#) and a [vehicle-based shared passenger mobility](#) propensity mapping tools to indicate where these transportation services are most viable at mobility hub locations across the region¹. Implementers can use these maps to understand which services can thrive at their hub location(s), which might not work, and which services need additional subsidies and policy interventions to ensure sustainable operations.

Mode	Average Trip Distance
Walk	0.25 Miles
Bike	1-1.5 Miles
Scooter	1-1.5 Miles
Microtransit	5-7.5 Miles
Carshare	One-way: 5-10 Miles Roundtrip: 20-35 Miles

¹ This is a high-level, order-of-magnitude tool. This analysis does not factor policy, regulatory or subsidy structures that might boost the viability of different shared mobility models in location with moderate or lower demand. Detailed service planning is needed to determine suitable operating conditions in each community.

Fig. 5 Shared Mobility Propensity Tools - Focus: St. Louis Park



The propensity maps illustrate that there is relatively higher demand for shared passenger mobility (bottom—car share, microtransit, and other shared ride services) than shared micromobility (top—bike and scooter share) in Saint Louis Park and the far west portions of Minneapolis.

Step 2: Select the modes and services in your mobility mix.

For each hub type, there are certain hub features that should either be included, considered for inclusion, and others that might not be applicable (except in unique cases). For example, some hub locations classified as a Suburban District, Edge, or Mobility Investment hub type might not be able to support bike share stations, except where community-controlled bike share or bike libraries are viable.

Step 3: Prioritize your mobility mix according to the access hierarchy.

Amenity siting and curb management within each mobility hub type should align with regional policy objectives and access priorities defined by Metro Transit and local jurisdictions. Regardless of hub type, design should prioritize active modes—such as personal bikes, bike share, and scooter share—closest to the anchor transit facility or otherwise core of the hub. This reflects Metro Transit’s station circulation system hierarchy² describing directness of route and proximity to platforms. While specific site and market conditions vary, hub implementers should prioritize the most prime curb and property locations for hub elements that advance local and regional mobility hub objectives.

Step 4: Negotiate to secure space and install hub amenities.

Once implementers identify how the mobility hub space should be prioritized, work begins to negotiate temporary or long-lease access to curb space, sidewalk space, private property or development, and public property (such as transit facilities).

² [https://metro council.org/Transportation/Publications-And-Resources/Transit/TRANSITWAYS/Station-and-Support-Facility-Guidelines/transitwaysUserGuidesTransitwayStationsSupport-\(1\).aspx](https://metro council.org/Transportation/Publications-And-Resources/Transit/TRANSITWAYS/Station-and-Support-Facility-Guidelines/transitwaysUserGuidesTransitwayStationsSupport-(1).aspx)

Urban Core Hubs

Urban Core hubs are located in the central business districts of Minneapolis and Saint Paul with an established mix and scale of development, multiple destinations, and the highest residential and employment densities.

Hubs are surrounded by compact, fully developed neighborhoods with retail, offices, and residential uses often stacked within buildings of multiple stories. Hubs should be at the center of a mix of transportation infrastructure and services, pedestrian activity, bicycle activity, transit ridership, and motor vehicle traffic all occur at high volumes. Travelers are connected to both local and regional destinations.

Key Characteristics

- » High transit connectivity
- » Rich variety of destinations
- » High visitation and use
- » Complex connections and operations
- » Subterranean, street-level, and skyway access

Sample Locations

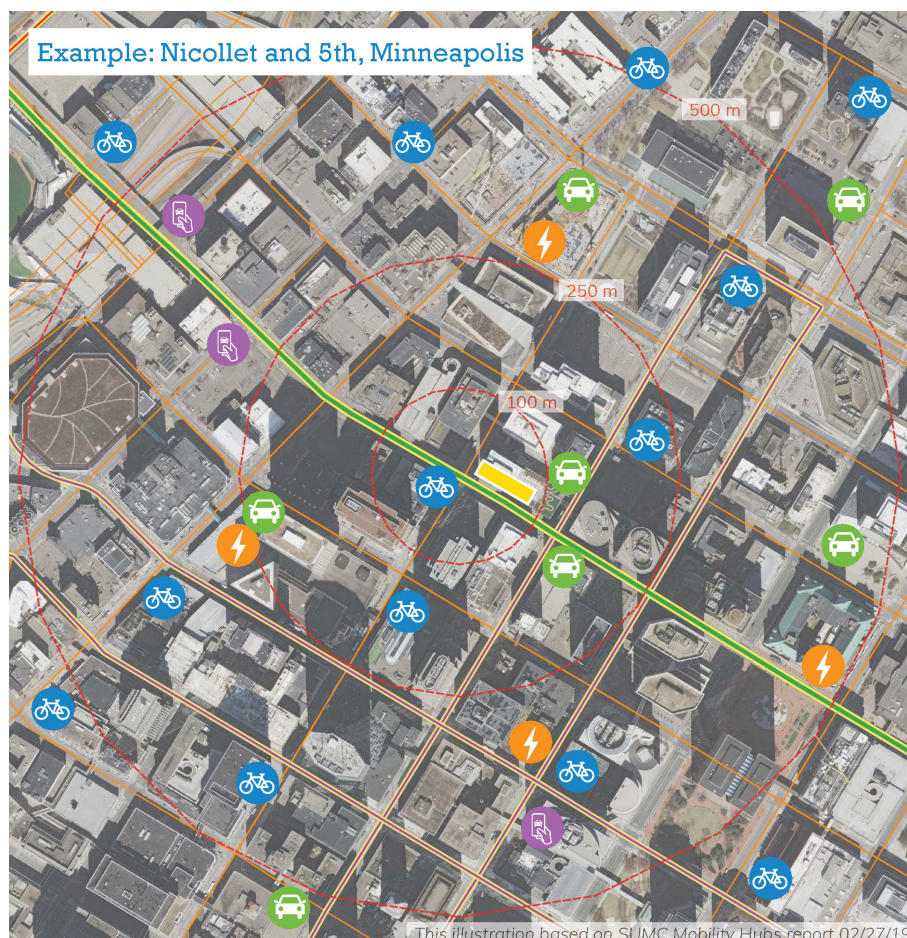
- » Primarily in downtown Minneapolis and Saint Paul



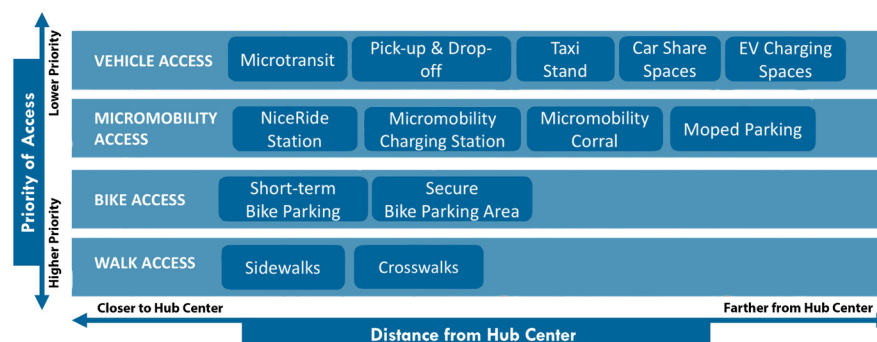
Downtown Minneapolis.

Source: CDG

Context Dashboard	Low	Med	High
Density & Height			✓
Mix of Commercial / Retail & Office			✓
Multifamily Residential		✓	✓
Single Family Residential	✓		
Pedestrian and Bicycle Activity			✓
Bike and Scooter Share Propensity			✓
Vehicle-Based Shared Mobility Propensity			✓
Frequent Transit Service			✓
Motor Vehicle Traffic			✓
Curb Demand			✓
Off-Street Parking Supply			✓



Service Matching and Decision Tool



Foundational Demand Management Strategies for Mobility Hubs

- » Priced parking
- » Curb management
- » Unbundled parking
- » Transit subsidies
- » TDM ordinance
- » Mobility hub overlay
- » Real-time information displays
- » TMA/TMO membership

Urban District Hubs

Urban District hubs are in fully developed community commercial centers surrounded by high to medium residential and employment densities.

These mixed-use neighborhoods with strong transit service and supportive walkable and bicycle-friendly environments experience high daily visitation.

Key Characteristics

- » Fully developed community commercial centers with access to transit and pedestrian orientation
- » Moderately complex connections and operations
- » Mix of uses, high visitation and use

Sample Locations

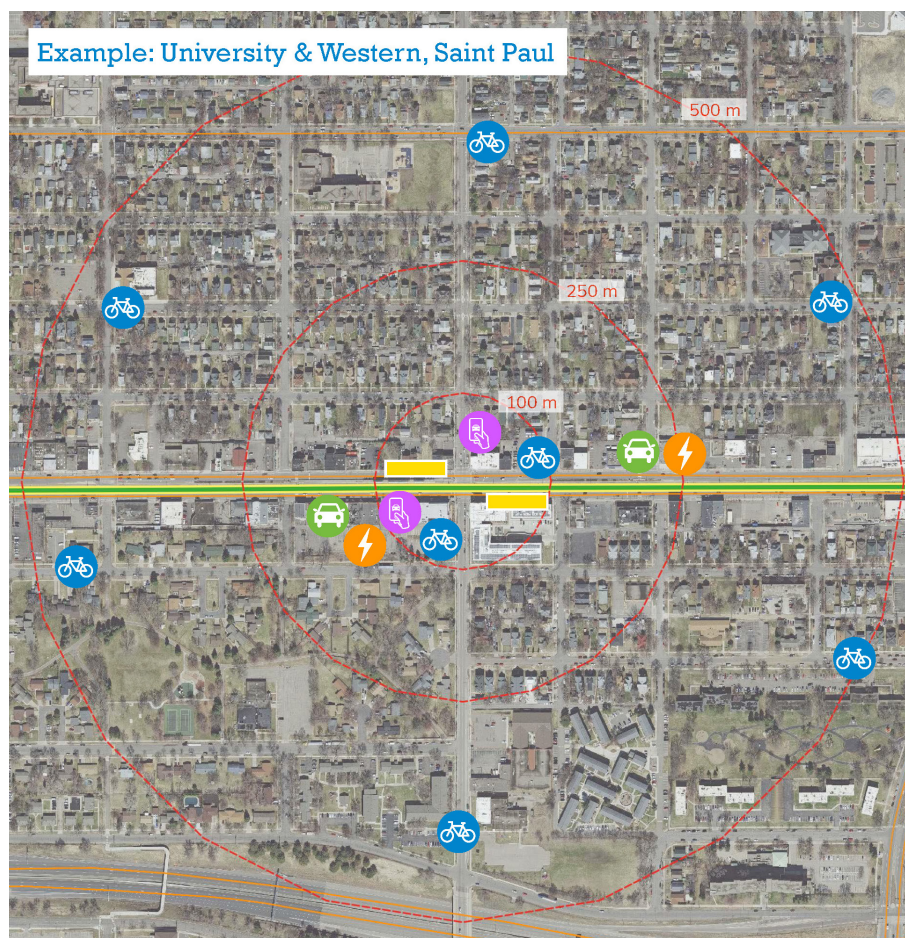
- » University and Western, Saint Paul
- » Lake Street and Hennepin Avenue in Minneapolis
- » 50th and France in Edina/Minneapolis



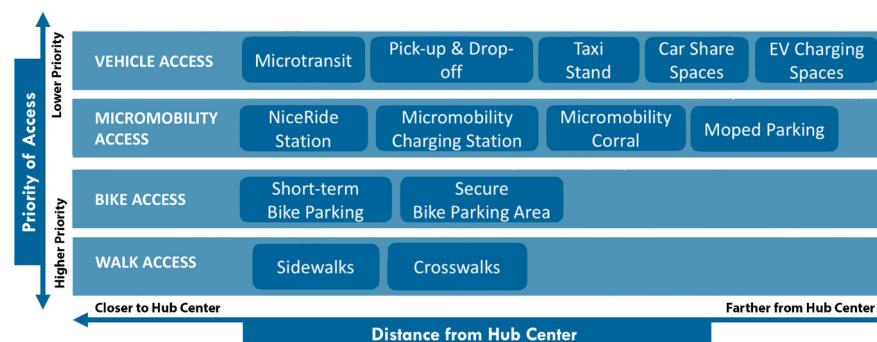
Lyndale Avenue, Minneapolis.

Source: CDG

Context Dashboard	Low	Med	High
Density & Height		✓	
Mix of Commercial / Retail & Office		✓	
Multifamily Residential	✓	✓	
Single Family Residential	✓		
Pedestrian and Bicycle Activity		✓	✓
Bike and Scooter Share Propensity		✓	✓
Vehicle-Based Shared Mobility Propensity		✓	✓
Frequent Transit Service		✓	
Motor Vehicle Traffic		✓	
Curb Demand		✓	
Off-Street Parking Supply		✓	



Service Matching and Decision Tool



Foundational Demand Management Strategies for Mobility Hubs

- » Priced parking
- » Curb management
- » Unbundled parking
- » Right-sized parking
- » Transit subsidies
- » Shared mobility subsidies
- » TDM ordinance
- » Mobility hub overlay
- » Real-time information displays
- » Commuter challenges, prizes, and reward programs

Urban Neighborhood Hubs

Mostly residential areas fully developed and near active main street districts with local shops and other destinations closely spaced and served by frequent transit and limited parking.

These hubs may also be near transit hubs or high-capacity stations, with a TOD orientation, functioning as centers for local economic activity.

Key Characteristics

- » Mostly residential
- » Some TOD orientation
- » Fully developed, near active main street districts
- » Access to high-capacity / high-frequency transit

Sample Locations

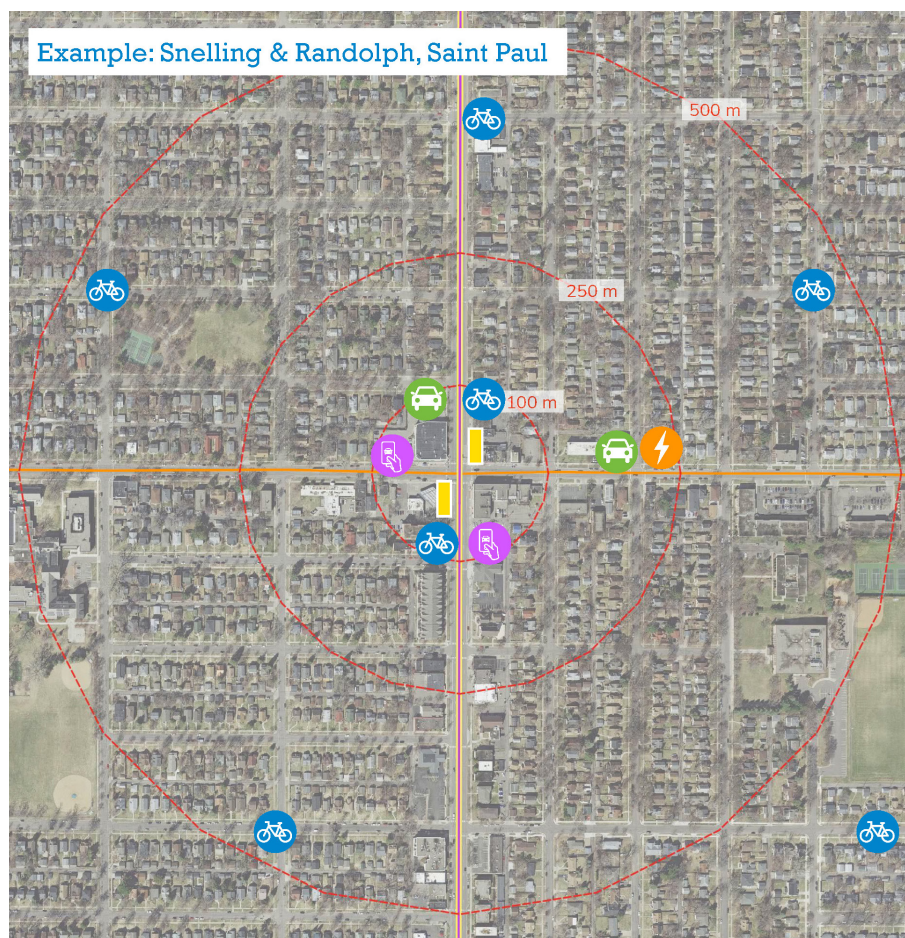
- » Snelling and Randolph in Saint Paul
- » Cedar-Riverside in Minneapolis
- » Downtown Hopkins



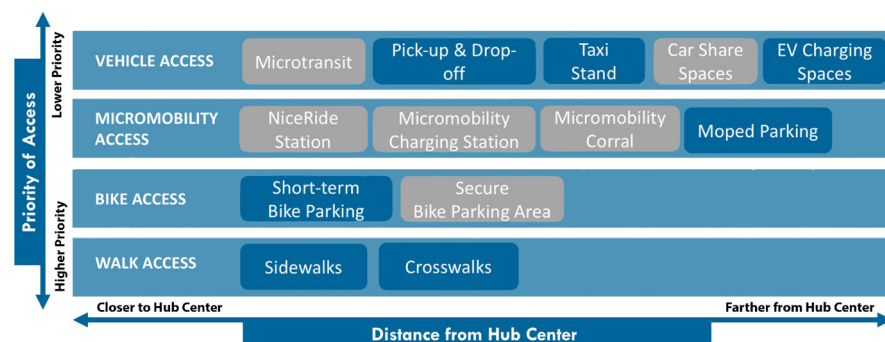
Downtown Hopkins.

Source: CDG

Context Dashboard	Low	Med	High
Density & Height	✓	✓	
Mix of Commercial / Retail & Office	✓	✓	
Multifamily Residential	✓		
Single Family Residential		✓	✓
Pedestrian and Bicycle Activity	✓	✓	
Bike and Scooter Share Propensity	✓	✓	
Vehicle-Based Shared Mobility Propensity		✓	
Frequent Transit Service		✓	
Motor Vehicle Traffic	✓	✓	
Curb Demand	✓	✓	
Off-Street Parking Supply	✓	✓	



Service Matching and Decision Tool



Grey tiles indicate that some locations are not suitable without additional subsidy or other type of support.

Foundational Demand Management Strategies for Mobility Hubs

- » Priced parking
- » Curb management
- » Unbundled parking
- » Right-sized parking
- » Transit subsidies
- » Shared mobility subsidies
- » TDM ordinance
- » Mobility hub overlay
- » Real-time information displays

Suburban District Hubs

Suburban District hubs are in areas with low residential density and are near focal retail, commercial and office uses. While not always, development around these areas may be more recent and street grids may be less connected than in urban areas.

These areas may have significant opportunities for mixed-use redevelopment centered around access to commercial centers and high-frequency transit.

Key Characteristics

- » Growing TOD orientation
- » Fully developed focal location, near/in active districts
- » Varying access to high-frequency transit

Sample Locations

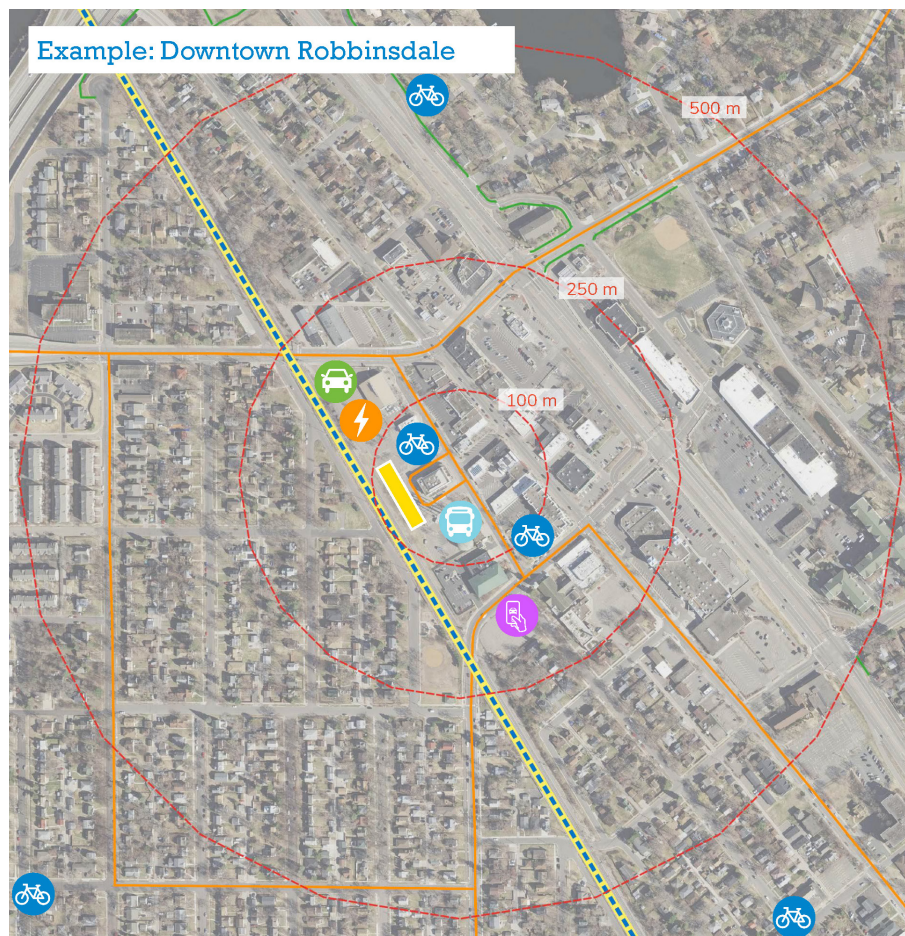
- » Downtown Robbinsdale
- » Eden Prairie Town Center



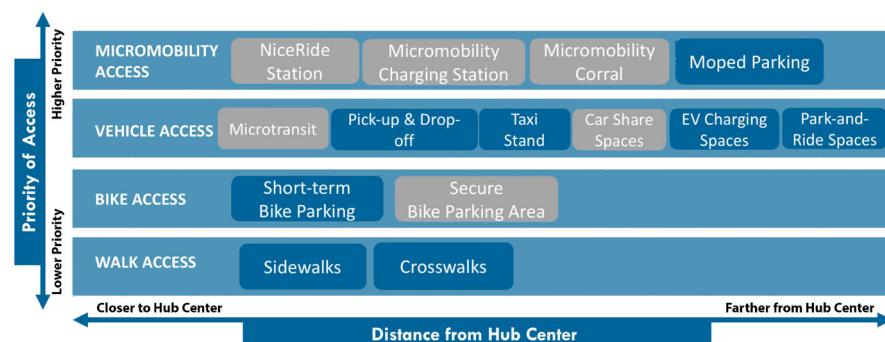
City Center in Plymouth.

Source: CDG

Context Dashboard	Low	Med	High
Density & Height	✓		
Mix of Commercial / Retail & Office	✓	✓	
Multifamily Residential	✓		
Single Family Residential		✓	
Pedestrian and Bicycle Activity	✓		
Bike and Scooter Share Propensity	✓		
Vehicle-Based Shared Mobility Propensity		✓	
Frequent Transit Service	✓		
Motor Vehicle Traffic	✓		
Curb Demand	✓		
Off-Street Parking Supply		✓	✓



Service Matching and Decision Tool



Grey tiles indicate that some locations are not suitable without additional subsidy or other type of support.

Foundational Demand Management Strategies for Mobility Hubs

- » Priced parking
- » Unbundled parking
- » Right-sized parking
- » Transit subsidies
- » TDM ordinance
- » Mobility hub overlay
- » Real-time information displays
- » Guaranteed ride home
- » TMA/TMO membership
- » Commuter challenges, prizes, and reward programs

Edge Hubs

Rural centers and emerging suburban moderately developed areas with low residential density and are close to commercial and retail uses.

These hubs may be in areas of more auto-oriented design, where travelers connect to regional transit opportunities at Park-and-Ride facilities, with car share, or on bike share.

Key Characteristics

- » Moderately developed
- » Main Street areas with a mix of commercial, retail, and office
- » Varying access to transit

Sample Locations

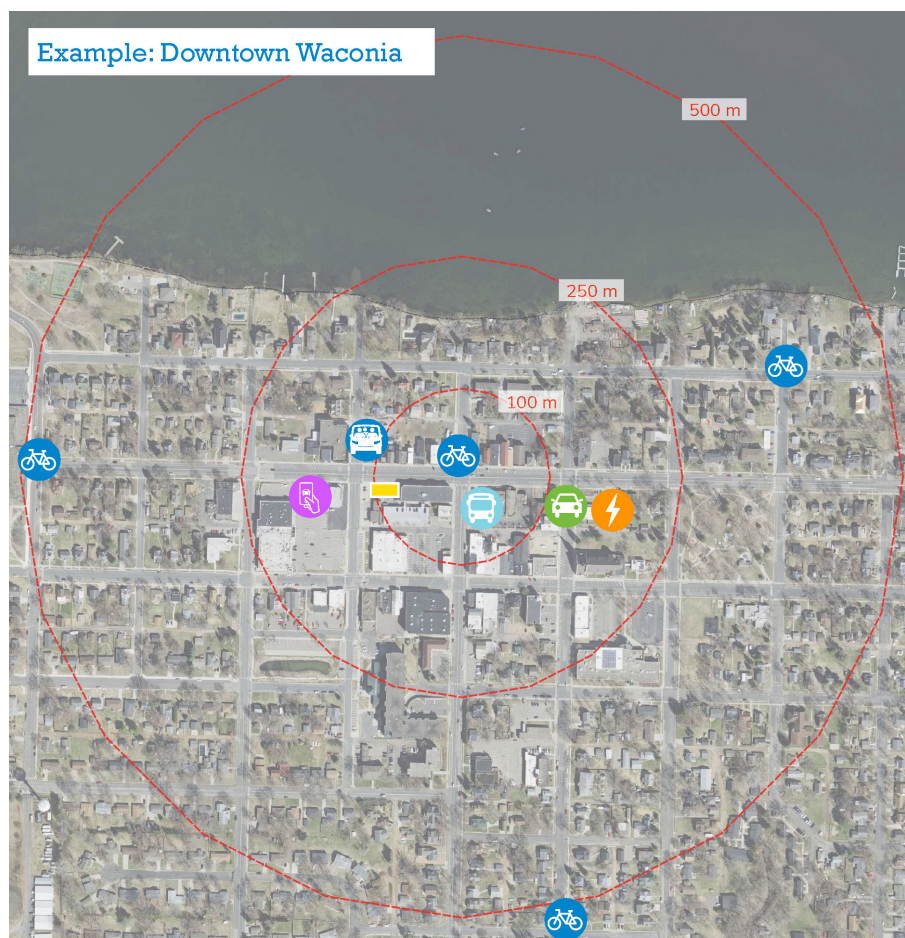
- » Downtown Waconia
- » Downtown Maple Plain



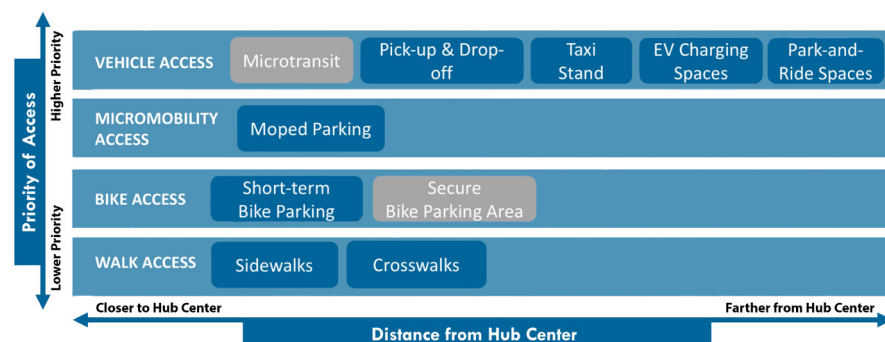
Downtown Waconia.

Source: Moxie LLC

Context Dashboard	Low	Med	High
Density & Height	✓		
Mix of Commercial / Retail & Office	✓	✓	
Multifamily Residential	✓		
Single Family Residential		✓	✓
Pedestrian and Bicycle Activity	✓		
Bike and Scooter Share Propensity	✓		
Vehicle-Based Shared Mobility Propensity	✓	✓	
Frequent Transit Service	✓		
Motor Vehicle Traffic	✓		
Curb Demand	✓		
Off-Street Parking Supply		✓	



Service Matching and Decision Tool



Grey tiles indicate that some locations are not suitable without additional subsidy or other type of support.

Foundational Demand Management Strategies for Mobility Hubs

- » Curb management
- » Right-sized parking
- » Park-and-Ride pricing
- » Mobility hub overlay
- » Transit subsidies
- » Carshare subsidies
- » Support bicycle and pedestrian access
- » Real-time information displays
- » Guaranteed ride home
- » Carpool matching

Activity Hubs

Activity Hubs are located at places that can generate a large number of trips at specific or sporadic times.

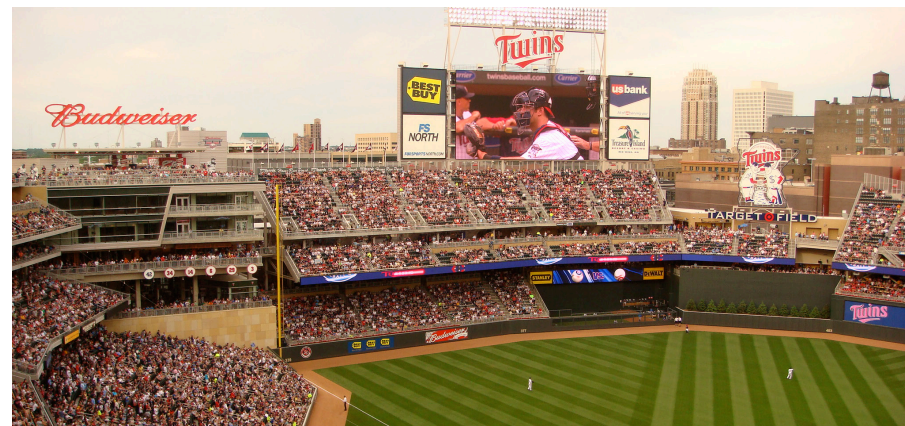
Facilitating access to shared mobility options at these locations improves the availability of travel options and can improve traffic operations by reducing congestion. Elements to include at these locations include bike share, scooter share, and app-based ride sharing. Because users at these locations may be less familiar with shared travel options, enhanced and more prominent wayfinding may be useful.

Key Characteristics

- » High use at sporadic times in the day or week
- » Varying access to high-capacity and high-frequency transit

Sample Locations

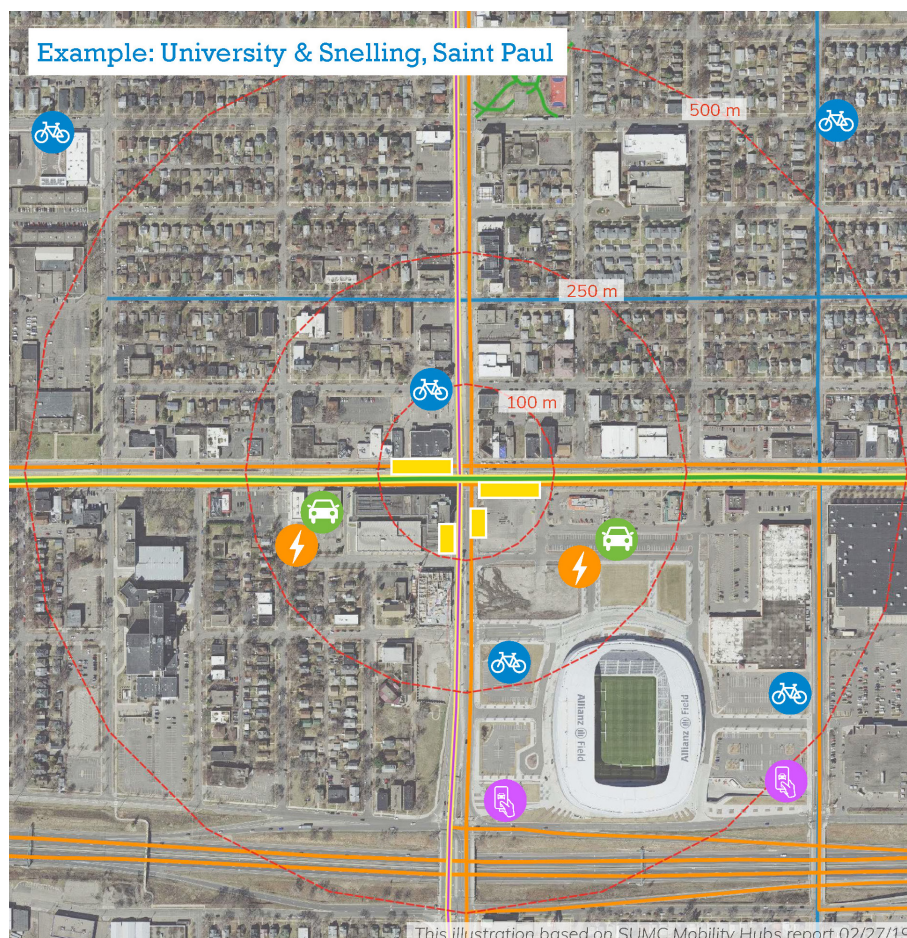
- » Employment districts, regional parks, sports venues, concert halls, malls, universities, or other large event centers, , including:
 - University of Minnesota, Twin Cities
 - Macalester University
 - North Hennepin Community College
 - Bryant Lake Regional Park
 - Target Field
 - Allianz Field
 - Mall of America



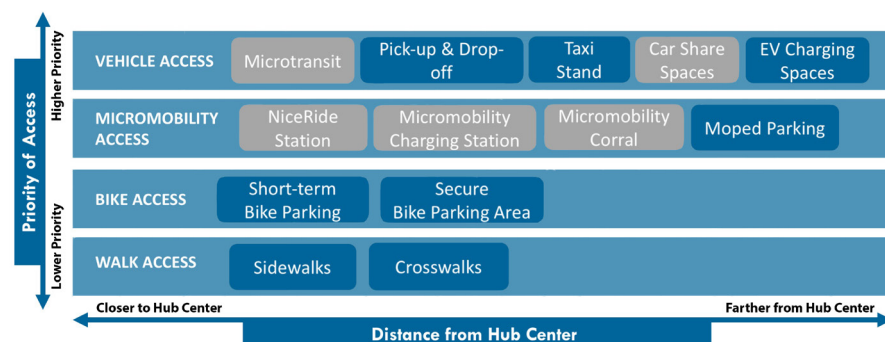
Minnesota Twins Stadium.

Source: CDG

Context Dashboard	Low	Med	High
Density & Height	✓	✓	
Mix of Commercial / Retail & Office		✓	✓
Multifamily Residential	✓		
Single Family Residential	✓		
Pedestrian and Bicycle Activity		✓	✓
Bike and Scooter Share Propensity		✓	✓
Vehicle-Based Shared Mobility Propensity		✓	✓
Frequent Transit Service		✓	✓
Motor Vehicle Traffic		✓	✓
Curb Demand		✓	✓
Off-Street Parking Supply		✓	✓



Service Matching and Decision Tool



Grey tiles indicate that some locations are not suitable without additional subsidy or other type of support.

Foundational Demand Management Strategies for Mobility Hubs

- » Priced parking
- » Unbundled parking
- » Right-sized parking
- » Priority carpool or vanpool spaces
- » Transit subsidies
- » Mobility hub overlay
- » Support bicycle and pedestrian access
- » Real-time information Displays
- » Guaranteed ride home
- » On-site TDM coordinator
- » TMA/TMO membership
- » Commuter challenges, prizes, and reward programs
- » Bicycle showers and lockers

Mobility Investment Hubs

Mobility Investment hubs have great potential for helping to address equity goals and satisfy at least some of the transportation needs of low-income households and/or transit-dependent households (households who lack regular or reliable access to an automobile).

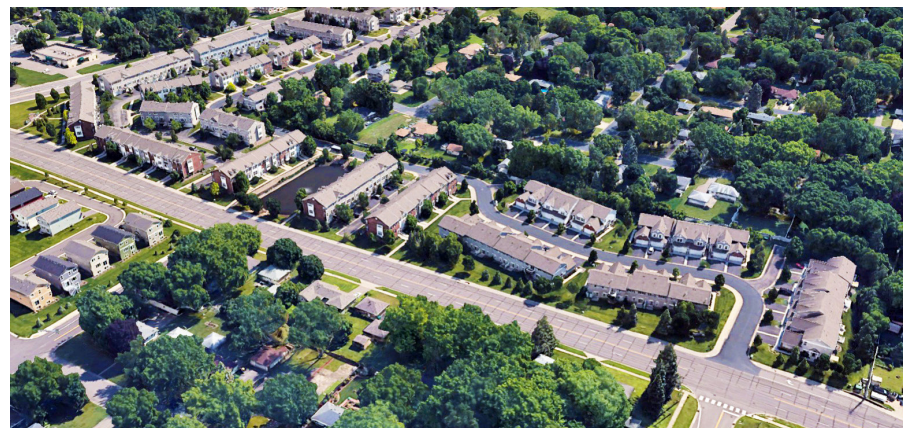
These areas have high concentrations of employment or residential density to support many mobility hub elements, but limited access to frequent or high-capacity transit today. Hubs in areas designated for culturally appropriate equity or place-based advocacy and decisions may experience displacement risk, requiring a concerted effort to engage in equitable planning processes.

Characteristics

- » Poverty rate greater than 40%
- » High combined population and employment density
- » Limited access to high-frequency transit

Sample Locations

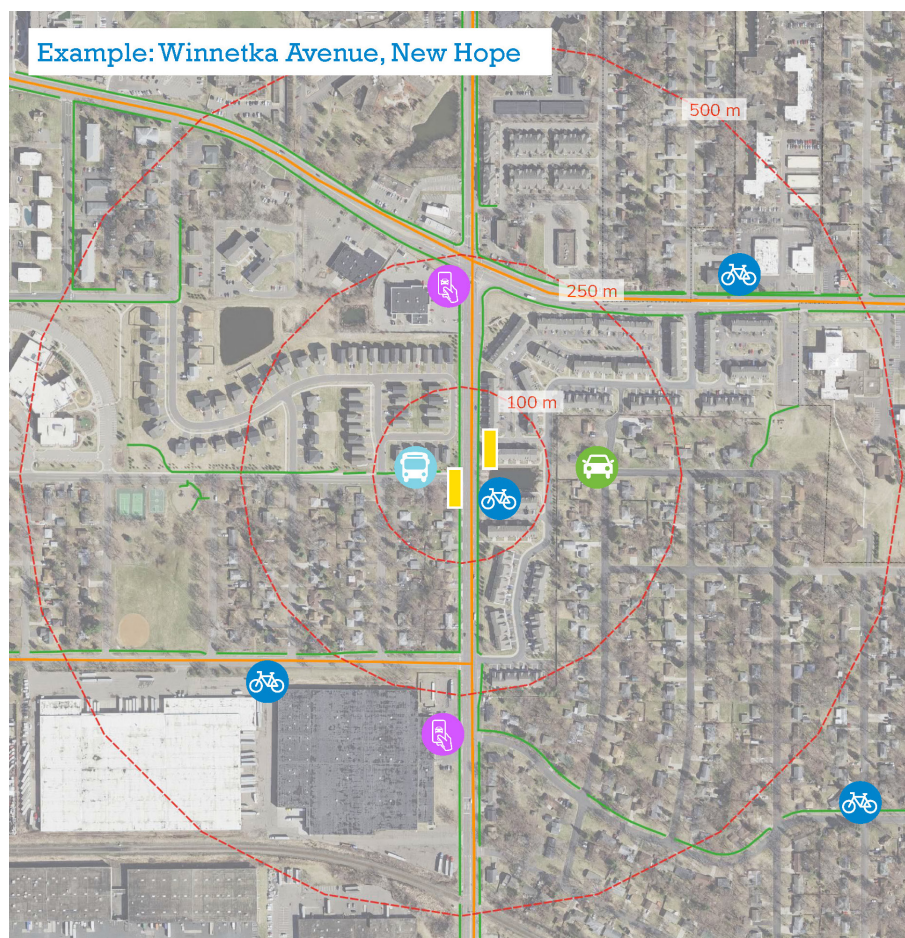
- » Areas noted in the Metropolitan Council “Equity Considerations for Place-Based Advocacy and Decisions in the Twin Cities Region” dataset



Winnetka Avenue, New Hope.

Source: Google Earth

Context Dashboard	Low	Med	High
Density & Height	✓	✓	
Mix of Commercial / Retail & Office	✓		
Multifamily Residential	✓	✓	
Single Family Residential		✓	✓
Pedestrian and Bicycle Activity	✓	✓	
Bike and Scooter Share Propensity	✓	✓	
Vehicle-Based Shared Mobility Propensity		✓	
Frequent Transit Service	✓		
Motor Vehicle Traffic	✓		
Curb Demand	✓		
Off-Street Parking Supply	✓	✓	



Service Matching and Decision Tool

- » Highly dependent on-site context
- » Viable shared mobility options span community-controlled shuttles, car share, bike share, and ridehail services
- » Likely limited to on-site amenities

Foundational Demand Management Strategies for Mobility Hubs

- » Transit subsidies
- » Shared mobility subsidies
- » Carshare subsidies
- » Support bicycle and pedestrian access
- » Bicycle showers and lockers

Hub Overlays

The seven hub types capture the appropriate functionality, mix of design elements, element prioritization, and complementary demand management guidance based on each hub's mobility context. However, some specific context features and locational factors require further implementation consideration. Hub overlays help further calibrate each hub's mix of mobility services, amenities, and operation.



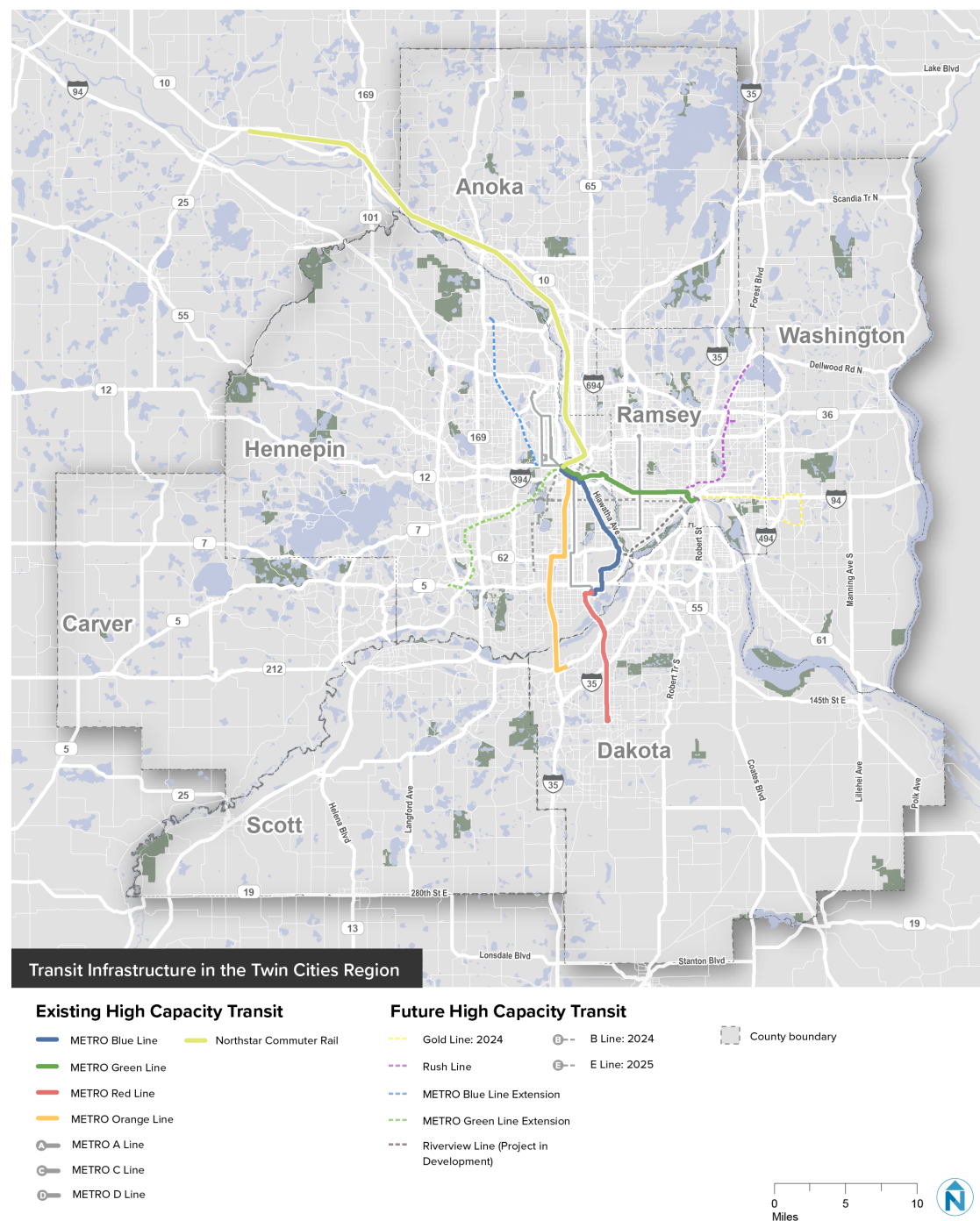
Source: City of Minneapolis

Transit Connectivity Overlay

Metro Transit, a service of the Metropolitan Council, is developing an expanded network of high capacity, high frequency transit routes. Existing service and these new routes will be served by a variety of transit technologies, including light-rail (LRT), bus rapid transit (BRT), and standard buses, sometimes with dedicated lanes or transit signal priority. Transit stations along these routes play an important role at the start and end of many trips and for transfers between lines, making them key points within the regional mobility hub network.

LRT and BRT stations already feature enhanced waiting areas and placemaking elements including seating, heated shelters, wayfinding, and bicycle parking. Most LRT station areas also already include provision of other mobility hub elements (e.g., bike share, scooter share, pickup/dropoff zones, and microtransit).

Existing station areas for high capacity, high frequency transit routes are prioritized for implementation of mobility hubs. These hubs should, in addition to baseline components relevant to their mobility hub type, include elements that enhance convenience and expand options for users.



Transit Oriented Development (TOD) Overlay

Transit-Oriented Development (TOD) is walkable urban development supported by high quality, frequent transit service. TOD includes a mix of residential, retail, employment, and recreational choices, allowing people to live and work in vibrant places with less dependence on a personal car.

TOD, supported by non-transit mobility hub elements, plays a vital role in maximizing the impact of transit investments, increasing regional competitiveness, advancing equity, and improving public health outcomes. Mobility hubs impact elements of land use, housing and community development and can be instrumental in providing connections beyond the current transit system. When mobility hub amenities are planned and designed in tandem with TOD, mobility offerings can be tailored to specifically support each community and transit stop.

Mobility hubs within a quarter mile (5-minute walk) of an existing TOD area are prioritized for implementation and should, in addition to baseline mobility hub components, include elements that reduce TOD residents' need for car ownership and storage (e.g., car share, bike share, secure bike parking, and real-time information displays).

Sample Locations: Locations near Green Line stations in Saint Paul and the University of Minnesota East Bank campus



Source: CDG

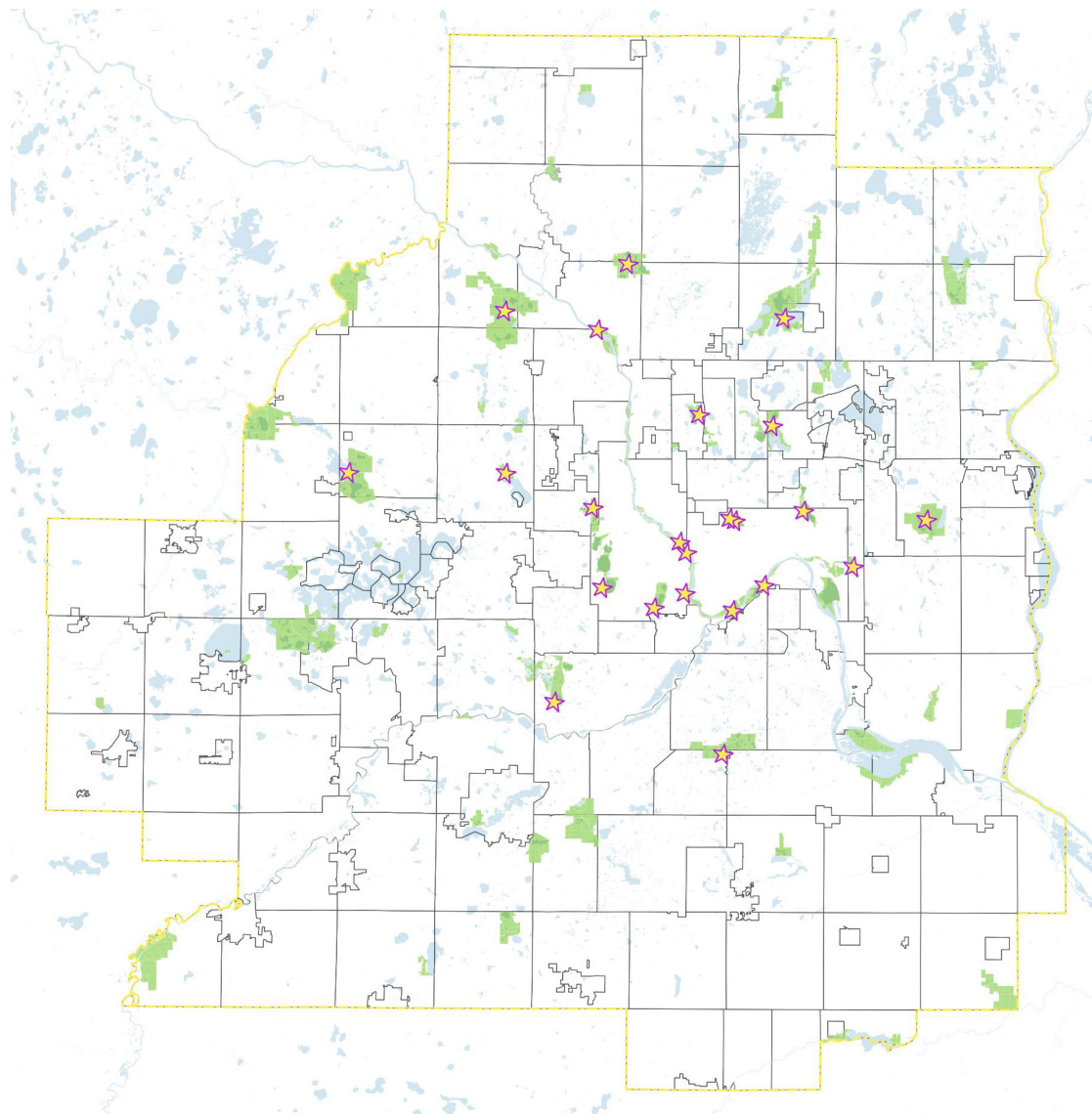
Regional Parks Overlay

The Twin Cities Region includes numerous parks and other natural assets. Several Regional Parks enjoy high rates of visitation (exceeding 400,000 annual visitors). About half of those Regional Parks are located within or in close proximity of the region's core cities and transit assets.

Mobility hubs at these locations could help facilitate access and enjoyment of these regional assets for members of households with limited mobility options (including low-income households and transit-dependent populations). Because users at these locations may be less familiar with shared travel options, enhanced and more prominent wayfinding may be useful.

Elements to consider include bike libraries or other bike share applications, enhanced wayfinding, and ridehailing or other on-demand transit services.

Sample Locations: Minnehaha Park; Minneapolis Chain of Lakes; Theodore Wirth; Lake Phalen

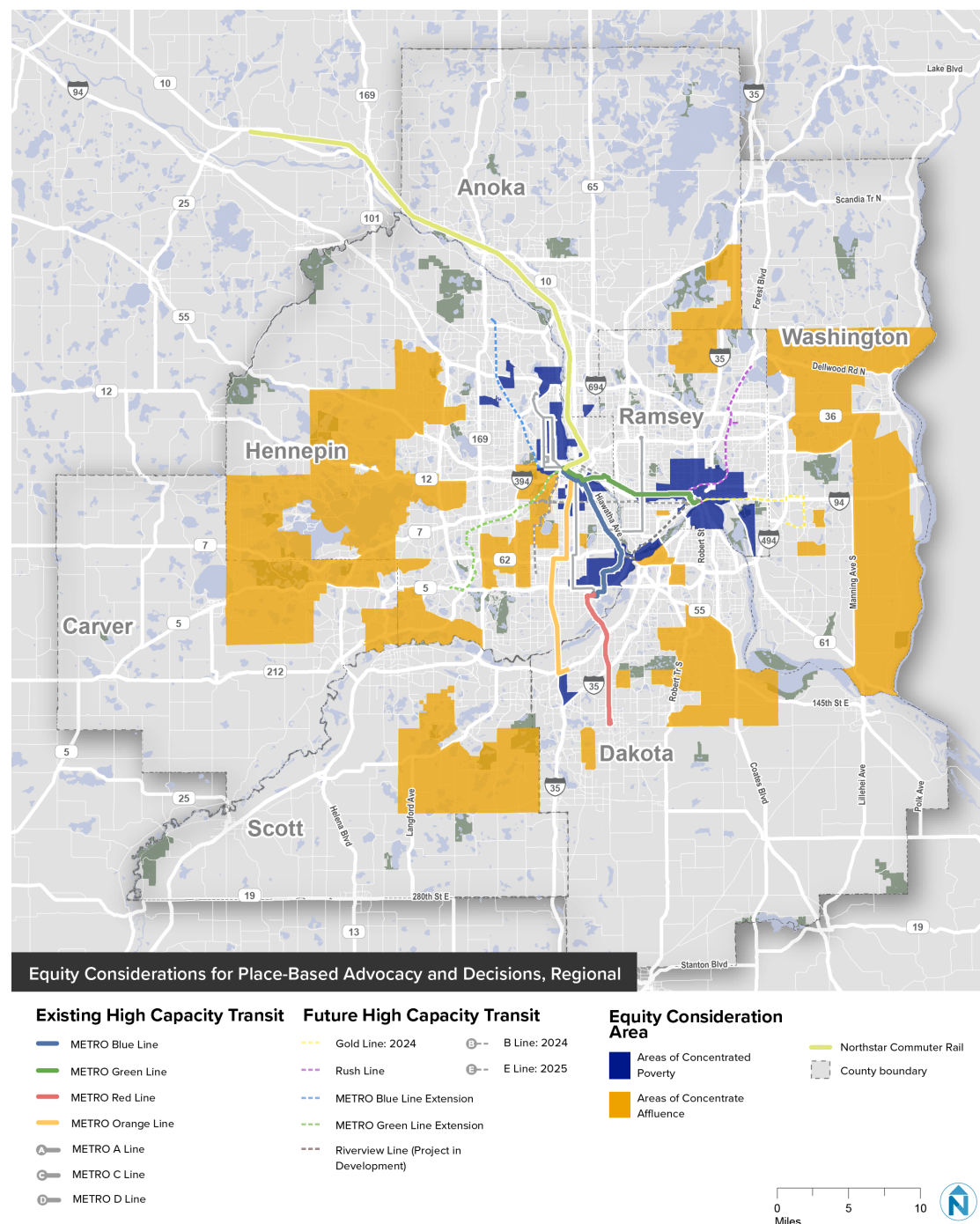


Equity Overlay

As discussed in Module 1, mobility hubs enhancements could potentially address inequities and satisfy some of the transportation needs of low-income households, transit-dependent households (households who lack regular or reliable access to an automobile), and populations living in areas previously disadvantaged by prior transportation and housing infrastructure investments.

Several locations within the Twin Cities region include concentrations of low-income households. Numerous elements can be included as part of mobility hubs in the region. Some elements may be more useful for addressing the needs and aspirations of equity populations than others.

Careful consultation with members of equity populations, as well as local and regional experts in systems and policy development, including at Metropolitan Council and other regional agencies, will be necessary before finalizing designs and operational responsibilities at individual hub locations. The equitable mobility hub design and planning guidance in Module 1 can help identify processes and elements that best serve distinct populations.





Module 3: Make It Happen



Build Your Team

Mobility hub planning and implementation requires constant collaboration and leveraging skills, authority, and capacity across a broad range of partners.

Each mobility hub project will have a team of public agency, private sector, community, and mobility provider partners. Your team of implementation partners are as diverse as the kit of parts that serve the mobility hub.

Early in the planning process, the project lead(s) should convene its team of ongoing partners to clearly determine pre- and post-implementation roles, responsibilities, and expectations. Regardless of their role before or after implementation, partners should be engaged throughout the process.

While some partners would satisfy multiply roles, it takes a multi-disciplinary team to plan, design, implement, and manage a mobility hub. From here, you can build out a governance and management plan for each mobility hub project.

Figure 6 Hub Partners and Roles

Potential Partners	Summary of Roles
<ul style="list-style-type: none"> » FHWA/FTA » Minnesota Department of Transportation » Metropolitan Council » County TOD/Transportation Planners » City planners » Public agency program managers » Metro Transit and other local transit agencies (planners, facilities, and site operators) » Private mobility providers » Technology vendors » Developers » Property owners/managers » Parking operators » Mobility operations staff » Neighborhood associations » Community-Based Organizations » Place-based-organizations (e.g., housing authorities, development corporations, etc.) » U of M and other research partners » Contracted professional services 	<ul style="list-style-type: none"> » Hub project manager (site or network-level) » Planning and design team » Public and stakeholder engagement leads » Funding partner » Development integration, property manager, and site hosting » Construction and installation » Partnerships coordinator (local businesses, housing, mobility provider, public health, etc.) » Public space activation coordinator » Site programming coordinator » Shared mobility and curb managers » Shared mobility providers » Parking and hub operations » Transit agency coordinators » Ambassador » Evaluation and iteration lead

Find Your Path To Implementation

Hub implementation pathways and tools range from strategic long-term planning to opportunistic. While the previous module aims to provide consistency in hub planning and design, the pathway to implementing your project will likely differ from hub to hub or even corridor to corridor.

The mobility hubs you design and build should evolve over time to best represent the dynamic neighborhoods and people they are meant to serve. Fully realizing a mobility hub plan can take time and the design will iterate over time as new capital projects, grant funding opportunities, development projects, newly enacted local policies, and new transportation services affect a location. Pathways can work in tandem at a single location, utilizing an incremental and iterative approach to building out a community's vision for a hub. Some hubs might take one implementation pathway to make initial enhancements (e.g., piloting) and then use a second pathway to formalize or modify the hub's amenities (e.g., enhancements through zoning code implementation).

The following pages describe some common pathways to implementation.



*Shared bikes previously provided at a mobility hub in Eden Prairie.
Source: SouthWest Transit*

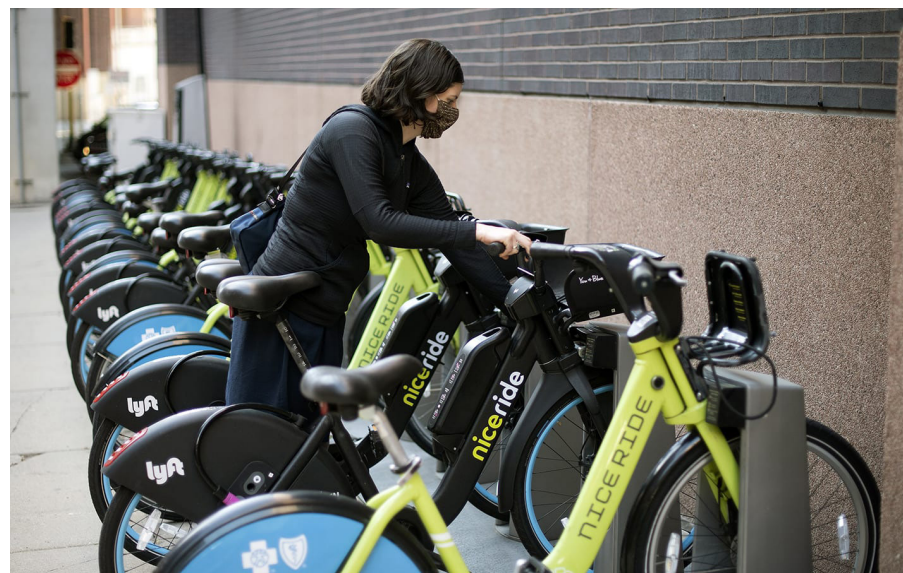
Pathway 1: Retrofit an existing location

Hundreds of mobility hubs in the Twin Cities region are operating today—some more effectively than others. Retrofitting of an existing hub (e.g., a transit station area) to include additional mobility features and community amenities beyond the anchor transportation services. Retrofitted hubs can take two forms:

- » **Layering:** Strategic restructuring of space and offerings. This is an incremental and tactical approach to certain retrofit projects, wedging amenities into identified underutilized spaces at existing stations, stops, parking facilities, plazas, and more.
- » **Revamping:** Major service and infrastructure investment. Revamp retrofits are often longer implementation efforts programmed into capital improvement cycles or with grant funds.

Reallocating the function of hub spaces may require coordination and partnership across public agencies, especially when reprogramming on-street or sidewalk space to a new function. This includes making the financial trade off to reduce paid or permitted parking to enable and manage new loading, dedicated docking, and communal sitting, resting, or dining space. At more dispersed hub locations, implementers can find peripheral spaces one or two blocks from the hub anchor point to wedge in additional hub features, connected with thoughtful site design and wayfinding.

Another form of a retrofit is priority lane improvements. Critical gaps in the bike and transit network and new connections should be identified during planning and targeted for investment. Implementers can also reprioritize street space to extend bike lanes and add transit only lanes at the doorstep of mobility hubs.



The ABC Ramps Mobility Hub is an excellent example of a retrofitted mobility hub.
Source: ABC Ramps

Pathway 2: Pilot and demonstrate new features

Mobility hubs should be flexible and adapt to surrounding conditions. The level of investment should scale up over time—starting with low-cost and temporary testing before making more significant retrofits. Mobility hub elements can be piloted to test the long-term viability of shared mobility modes (see step 1 of Building and Siting the Mobility Mix), new features considered for inclusion, wayfinding practices, popup retail and parklets, and more. The City of Minneapolis is a national leader in low-cost pilot mobility hub investments through its neighborhood mobility hub pilot program.

The demonstration pathway can help the region learn about how community programming or activation techniques may work in similar locations or hub types and to investigate specific winter weather features that will work in the Twin Cities climate. Implementers should consider winter weather demonstrations and potentially partner on testing in different parts of the region.

Demonstrations also expand access to funding, implementation, and operating capacity, especially when they involve multiple partnerships. Semi-permanent features should be applied in phases, with routine evaluation to regularly rethink configurations, operating procedures, or even mobility provider regulations. Elements can be scaled or enhanced over time to ensure seamless improvements and positive hub performance over the long-term.



Painting a parklet at the Penn & Lowry neighborhood mobility hub in Minneapolis, including a Metro Transit stop and a lightweight Nice Ride station in November 2020.
Source: Metro Transit

Pathway 3: Encode hub enhancements

City and County agencies can obligate developers to cover the upfront and ongoing costs of hub development or maintenance (including place amenities, technology, and mobility services). These investments can either address a portion of or full mobility hub implementation, depending on the existing siting conditions and ongoing mobility hub needs.

Hub amenities can be required both programmatically and physically through building or permitting codes. A mobility hub overlay, similar to a transit overlay zoning district that encourages TOD) would require a menu of mobility hub features in future or retrofitted developments. These tools can encode curb, parking, and TDM priorities into the fabric of new developments. If applied regionally, overlay zones could be a tool for regional consistency in hub development across the mobility hub network.

Mobility hub amenities can be required as mitigation tactic to offset impacts of a development project or infrastructure project as condition of the environmental impact statement or development site plan review negotiations. Mobility hub investments can be included as a specific transportation mitigation action, or funding offsets can be applied to hub investments elsewhere, given appropriate fund rules.

Employer, institutional, and multifamily residential TDM requirements tied to new construction or mode share targets can allow mobility hubs to be used as a method for decreasing single-occupancy vehicle trips. Mobility hub amenities and integrated mobility design are a solution to manage demand for low occupancy, high carbon trips for both employers and multifamily housing.



Bike parking was one of the required transportation mitigation strategies for Allianz Field in Saint Paul.

Source Populous

Pathway 4: Integrate into projects and developments

Hub design and construction can be integrated with other capital projects or designed and planned locally as part of high-capacity transit expansion and station area planning. The routine cycle of street reconstruction and redesign projects can be opportune times for mobility hub amenity installation and maintenance. The existing public outreach channels associated with planned projects can be used to evaluate the community's appetite for mobility solutions. Transit agencies and cities can spur network connectivity by implementing mobility hubs at select transit stations as they are redeveloped or improved. Implementation partners will need to think about how city-owned assets such as curbs can be used in a collaborative way with transit-agency property to make a hub successful. Mobility hubs proposed at stations along transit investment or expansion routes, such as the Gold Line, should be designed to complement the existing or proposed services, as well as provide flexibility for the future as station areas evolve.

Mobility hub elements installed through existing or ongoing projects and plans are unlikely to have the benefit of being required by code or ordinance but can add additional benefits and return on investment for developers and municipalities. Mobility hub features added through integration at infrastructure projects or new developments can act as a selling point to future residents, the community or public agencies, by bringing added value and showcasing the projects' willingness to meet community needs by going above and beyond requirements.



Integrated Transit Screen at Gallery Place in Washington DC.

Source: Greater Greater Washington

Pathway 5: Leverage partners for build out

Partnerships between governments, public agencies, and private entities, including mobility service providers or community-based organizations can add value to mobility hub implementation by direct linking between the anchor service and first- and last-mile services. Municipal right-of-way or transit facility permitting processes can enable new services to operate according to mobility regulations or service level agreements. Permit programs can also dedicate space at or on hub property in exchange for site specific deployment requirements, operational thresholds, and trip performance levels.

Community leaders, or other neighborhood-level institutions, can provide programming and/or lead on-going maintenance of spaces in and around the mobility hub as a paid or voluntary responsibility delivered by community guardians or ambassadors, governed by an MOU or another applicable legal framework that defines expectations, service levels, and funding. Partnerships with community-based organizations can also help ensure programming is maintained and carefully curated for the specific community the mobility hub serves. Community members can gain access to new options that will help people connect to public transit, provide additional choices, better customer experience, and ensure a more resilient transportation system.

Public-private partnership value can be generated at a mobility hub through direct contractual financial arrangements, land value uplift or joint development, expanded access to consumers, and/or new marketing or advertising opportunities for local businesses.



Shared mobility permit programs enable private mobility services, like shared scooters to serve key points in the regional transportation system.

Source: Star Tribune

Establish Management and Operational Plans to Ensure Resiliency

Mobility hubs offer great potential for addressing existing mobility needs, reorienting patterns of transportation use and investment, and supporting economic development, placemaking and quality of life initiatives. The choices made in their design - layout, location, landscape, selection of services offered, wayfinding and connected walk/bike networks - will have great impact on how well they fulfill this potential.

But beyond those facility choices, it will be the everyday maintenance and operation policies and practices applied to hubs - from how shared mobility fleets are kept in good working order to how the physical space of the hub is kept up - that will mark the quality of experience available to users, and that will ensure they are an asset that can be accessed and enjoyed year-round.

Over the long term, a consistent and reliable set of operations and maintenance priorities and practices, applied as a uniform standard throughout the region, will determine whether or not this important set of investments live up to citizen expectations and successfully leverage their city-changing and place-making potential.



Source: Metro Transit

Potential Challenges and Interjurisdictional Coordination

A successful mobility hub in the Twin Cities region will involve the participation of many different entities and stakeholders - from individual providers of shared mobility fleets to right-of-way owners who manage curb and sidewalk access where hub elements are located to transit agencies providing service between hubs to utility companies supplying power for hub lighting and displays to cellular vendors providing wireless connectivity to facilitate information flows and convenience for users and to community members who may visit, operate, or maintain a hub.

It's important to recognize at least two broad sets of potential challenges:

- » Potential conflicts between private mobility vendors offering services at a hub (who respond to their company's orientation toward sales and profit) and the public agencies who own the physical location, provide transit or other mobility services, fund the development and maintenance of the hub, who orient their work toward larger public policy goals that may not directly correspond to the sales goals or profit interest of the private mobility vendors
- » Potential issues between the public agencies with a role at the hub - where, for example, use of specific right-of-way owned by a city needs to be coordinated with a regional agency's goals for mobility hubs, the operational and maintenance standards of a transit provider, and maintenance services to be provided by a specific department within the city

Developing a clear, concise, and transparent set of protocols that outline rights, responsibilities, and fair and mutually-agreed upon mechanisms for resolving disputes will help set a productive path for implementation and the long-term successful operation of a hub.



City of Minneapolis scooter parking.

Source: City of Minneapolis

Creating Resilient Hubs

Mobility hubs are envisioned as facilities making important contributions to individual and regional travel and mobility. Hubs are reliable, dependable components of the region's travel landscape.

Consistent with that role, mobility hubs must therefore be resilient and successfully navigate changes and challenges in the conditions they operate within.

Two general types of changes are contemplated:

- » Anticipated or recurring, predictable changes (such as winter, or yearly events such as the State Fair or community festivals)
- » Unforeseen challenges (such as the Covid-19 pandemic, a transit strike, or public demonstrations near a hub)

Key Tools for Resiliency

Two key tools are needed for successfully navigating through challenges that may arise and affect one or several mobility hubs:

Partnership and Shared Sense of Mission

A shared sense of mission and responsibility for the success of a hub is key and will bring partners, even those with competing agendas, back to the table to work together and resolve issues that may not have been foreseen, and thus may not be included in a contingency plan. Other tools, like a Management Plan (described below), are also essential, but this may be the most important component of all, as it is evidence of the commitment and relationship between all of the agencies and vendors involved in the setup, maintenance, and success of an individual hub and the system overall. .

Management and Contingency Plans

A Management and Contingency Plan is a tool that identifies potential issues (ranging from routine maintenance issues to recurring / seasonal changes, or unforeseen events) and sets out a process and responsibilities for dealing with them.

For the identified scenarios, and with as much detail as is necessary, the Management and Contingency Plan identifies:

- » Potential needs
- » Desired outcomes or standards of performance
- » Responsible parties

General Maintenance

Establish a Maintenance Budget

Preventive maintenance reduces hazards and future repair costs. Maintenance costs and responsibility for maintenance should be assigned when projects are planned and budgets developed. Typical annual maintenance costs for transportation assets range from three to five percent of infrastructure replacement costs - for example, a \$100,000 facility should include a \$5,000 annual maintenance budget. Life-cycle cost analysis is recommended to determine the net value of using longer-lasting, higher-quality materials during construction if they reduce yearly maintenance expenditures.

Publish the Maintenance Plan

A Maintenance Plan should be included within a hub's overall **Management and Contingency Plan**.

The Maintenance Plan is a tool to identify maintenance needs and responsible parties. A Maintenance Plan that includes the recommended maintenance schedule and activities for all the elements included in a proposed facility should be in place before a hub is constructed and installed. Additionally, a Maintenance Plan should include a means for hub users to report

maintenance and related issues and ensure that the designated partner is able to promptly address them.

A facility's Maintenance Plan answers basic operational and staffing questions such as frequency of maintenance tasks and who is responsible for items including (but not limited to):

- » Filling potholes or damage to sidewalks in the area of the hub
- » Removing / repairing malfunctioning shared mobility vehicles or equipment
- » Removing downed or dangerous trees
- » Responding to vandalism and trespassing
- » Removing litter
- » Replacing stolen or damaged signs
- » Watering and weeding landscaping
- » Acting as the main contact
- » Paying bills and expenses

Maintenance activities for each individual hub should be identified ahead of time and ownership or responsibility for each item assigned before the hub is installed. When new elements are added responsibility for their upkeep should be identified and the

entire Maintenance Plan for that specific hub should be revised accordingly.

Develop a User-initiated Maintenance Request System

Mobility hub users will likely be the first to notice hazards, maintenance issues, and opportunities to improve the system. A consistently-deployed, formal mechanism for receiving requests for maintenance can help focus and prioritize investments, avert deterioration of agency and partner investments, provide effective management, and reinforce a sense of ownership among users for mobility hub locations and assets.

A user-friendly service request mechanism that offers the ability to report issues by app, phone, or online can help streamline communications between hub users and asset owners resulting in the prompt addressing of the issue. A public marketing campaign can help increase public awareness and use of the reporting mechanism. Inclusion of the tool (using QR code or shortcut) inside mobility hub areas and wayfinding is also recommended.

Utilize a Year-Round Approach

As important components of the Twin Cities Region transportation landscape, mobility hubs should be planned and maintained with the expectation that they will need to remain useful, accessible, and inviting to users year-round.

Design Considerations for Year-Round Use

Winter is a core part of the region's identity and should be fully considered as mobility investments are planned in order to realize a fuller return on these investments and improve conditions for people year-round. When planning mobility hubs, it will be important to consider location and design of transit shelters, public art, wayfinding signage, and other elements to:

- » Block wind
- » Maximize exposure to sunshine
- » Enliven visual interest and the cityscape overall through the use of color and lighting
- » Provide supporting infrastructure that provides year-round interest, user comfort, and supports the desired year-round life and placemaking activity of mobility hubs



*Big Lake Park and Ride, clear of snow.
Source: Metro Transit*

Prioritize Snow and Ice Removal

A community's mobility hubs should be identified as priority destinations for winter maintenance with the city (or another designated entity) assuming responsibility for snow and ice-clearing operations (this arrangement should be specified in the hub's Maintenance Plan).

Removal of snow and ice will be a critical component of pedestrian and bicycle rider safety when accessing hubs. The presence of snow or ice on sidewalks, curb ramps, or bikeways deters pedestrian and bicyclist use of those facilities to a much higher degree than cold temperature alone.

Seniors and other vulnerable adults will avoid walking or rolling in locations where ice or snow accumulation creates slippery conditions that may cause a fall or create maneuvering difficulty. Curb ramps that

are blocked by ice or snow effectively sever access to pedestrian facilities for wheelchair users and seniors. Additionally, inadequately maintained facilities may force people walking, rolling, or biking to take a route that is unsafe, uncomfortable or inconvenient.

Clear Pedestrian and Bicycle Access Routes

Maximize the efficiency of maintenance investments by identifying locations where accumulation of snow or ice would significantly impede pedestrian, wheelchair, or bicycling access and safety, and prioritize these locations for clearing immediately after any storm event. In many communities these are known as "Winter Network Routes."

Snow and ice removal should be planned with the expectation that walking, rolling, and bicycle facilities to and from each hub will continue to be used during winter months. Snow and ice should be cleared from each hub and from connecting sidewalks, bike lanes, and shoulders used by pedestrians and bicyclists. Pedestrian and bicycle facilities including sidewalks, gutters, and curb ramps should not be used to store snow removed from streets.

Leverage Partnership Opportunities

It can take a village to plan, design, implement, and manage a mobility hub. Yet, effective partnerships on hub governance and management are critical to ensure they are well-integrated, inviting, and encourage to get people out of cars and into public transit and other shared mobility options.

Improvement Districts

Improvement Districts are non-profit organizations created to deliver place-based services and localized improvements. Improvement Districts are often funded through special assessments, property tax levies, member dues, and/or charitable contributions. Often already delivering some of these services within their assessment area, within the context of mobility hubs, these districts and non-profit corporations could deliver critical services, including:

- » Place programming and public art
- » Light capital improvements, such as street furniture, bike racks, micromobility parking, and more
- » Landscaping and other maintenance activities
- » Ambassadors, customer service, and travel training

- » Sanitation and public space cleaning
- » Wayfinding and map management
- » Brand management, marketing, and communications

Transportation Management Organizations

Metro Transit and the region's Transportation Management Organizations (TMOs) can extend their work connecting employees and community groups to transportation resources and promoting alternatives to driving into mobility hub outreach as well. The information on mobility opportunities and incentive programs marketed by Move Minnesota, Move Minneapolis, Commuter Services, and Anoka County TMO should also include how to find and use mobility hubs for a smarter and more sustainable commute. TMOs can also help fund hub construction or maintenance within the areas their employer members are located and can

partner with hub implementers to conduct performance measurement and evaluation at hubs.

Institutional Programs

Universities, major employer campuses, entertainment centers, and even housing property managers can be key partners to help leverage TDM and muster mobility services to support mobility hubs. Campus populations at these institutions tend to have higher propensities to make use of microtransit or micromobility options. These travelers are primed to try new options and already demand frequent transit service. Informal mobility hubs at or near employer and college campus are used constantly, often without notice, by travelers transitioning from buses and trains to scooters, ridehailing, and microtransit services. Employers and universities can help fund, manage, and promote hubs to their affiliates.

Safe Routes to Transit Partnerships

Similar to Safe Routes to School programs, Safe Routes to Transit (SR2T) plans put an emphasis on safety for pedestrians and bicyclists: in this case, safer routes to transit stations, stops, or mobility hubs to generate increased transit access and ridership. Typical eligible projects include constructing new sidewalks or curb ramps, sidewalk widening, traffic control devices, pedestrian signals, improved lighting, and other traffic calming measures. For example, as part of a pedestrian safety initiative, the New Jersey Department of Transportation (NJDOT) launched a grant program for Safe Streets to Transit that provides funding to counties and municipalities for investments within a half-mile of transit facilities.

Public Consortiums

A collection of public and private partners can work together to form a new entity aimed at providing mobility hub services and amenities. The City of Pittsburgh developed an innovative initiative, the Pittsburgh Mobility Collective (PMC), to invite, encourage, and support private mobility providers to serve first- and last-mile connections to and from mobility hubs and major demand centers with the intention of reducing drive alone trips. Selected through a competitive procurement process, the PMC brings together micromobility services and charging stations, microtransit, car share, integrated booking and payments, and data platforms to support public transit and their Healthy Ride public bike share system.

Mobility Activation Zones

Mobility hubs, equity-centered programming and partnerships, and innovation demonstrations can be established in place-based mobility activation zones across the region, particularly in locations fitting the mobility investment hub type where community-based services can fill existing transit, microtransit, or micromobility gaps. Municipal departments and private enterprises can partner to test new features.

Partnering with Shared Mobility Providers

Cities across the Twin Cities region have built mobility and infrastructure partnerships with shared mobility providers to expand mobility options and connect people to and from transit. Whether car share, shared scooters and bikes, or other higher capacity shared passenger services, cities and transit agencies can leverage assets, public resources, and funding to operate new services and invest infrastructure to meet public mobility objectives.

Cities like Minneapolis and Saint Paul have built strong partnerships with private mobility companies, testing new regulations, innovative service agreements, and more efficient uses of public right-of-way while expanding mobility options throughout neighborhoods. Mobility hubs are a natural place to convene, house, and market these permitted or contracted services. But more mobility should not be at the expense of better integration at mobility hubs.

Cities and transit agencies should collaborate with mobility service providers on regulations and operating requirements to ensure permitted mobility services integrate into mobility hubs throughout the region. The region should test new types of infrastructure, information systems, and digital tools with shared mobility vendors—especially at mobility hubs. In exchange, the region should offer multi-year license agreements to partners committed to integration in exchange for new mobility investments. The Kit of Parts provides clear guidance on how shared mobility services should be organized, but mobility hub implementers should provide clear expectations for the performance, operation, and management of shared mobility partners at mobility hubs.



An example of new digital and physical parking infrastructure developed in partnership with a shared mobility provider (Lyft).

Source: Nice Ride Minnesota