# TECHNOLOGY

## Invite New Technology to Advance Transportation Options

It is difficult to know what changes will come to transportation in the next 10 years. If the past 10 years of significant technological advancement in transportation is any indication, to successfully meet our goals we will need to continue to build off our historical investment in the City's core infrastructure. Rapid changes of the past 10 years were driven primarily by the market introduction of the smartphone and phone-based applications on top of improved cellular coverage. The technology paired with shared mobility business models allowed real-time access to widely distributed vehicles and modes. These emerging technology-enabled mobility options are what we are referring to as advanced mobility.

By proactively focusing on the ability of our systems, infrastructure, operations and staff to adapt to further change, we will make sure that these innovations happen with and for us, not to us. We are growing our planning capacity internally and externally by leveraging our community, public and private partnerships. Our vision is that all people in Minneapolis can travel safely, equitably and reliably through both public and private services.

This topic outlines how we will most thoughtfully integrate technology to help us meet our goals. This topic is most commonly defined by these four advancements in transportation, all of which are enabled by new business models and technology:

- Shared fleets (vehicles available to the public for temporary use)
- Electric vehicles (including transit, automobiles, scooters and bicycles)
- Connected infrastructure and connected people (the ability for vehicles, people and traffic systems to communicate through computer systems over wireless networks)
- Automation of transportation (vehicle technology that automates part of driving)

Technology improvements have attracted new business models and accompanying capital into the transportation market that are important for local government to understand and influence. The City will seek partnerships with those entities that share our values and will help us achieve our City goals, creating the right balance of regulation and support for innovation to enable new solutions. It is the City's role to communicate the challenges and set the rules for engagement, so that the private sector can develop the solutions successfully.

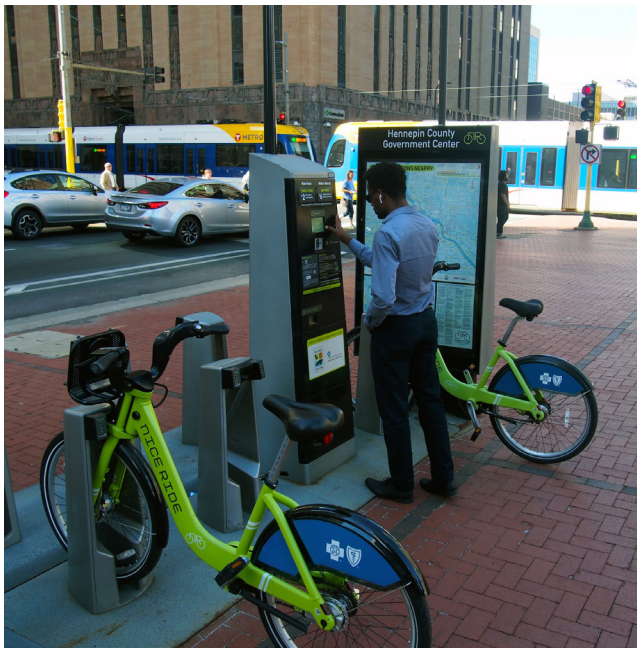
Numerous actions throughout this plan are influenced by new technology advancements. These are noted throughout the document as supporting strategies in this topic area.

**Shared mobility refers to transportation services that are shared among users, either at the same time or one after another and accessed on as an-needed basis.**

**Advanced mobility describes an approach to maximizing travel opportunities through new and evolving technology in safe, equitable and reliable ways, through public and private services and collaboration.**

**Figure 91:** Electronic ticketing


**Figure 92:** Nice Ride technology



## TECHNOLOGY STRATEGIES

1. **Harness technological advancements for citywide benefits, ensuring newly adopted technologies support safe street operations and focus on human-centered design.**
2. **Increase access to shared mobility services by removing the barriers of physical ability, geographic placement, language, payment methods, income and technology and digital literacy.**
3. **Formulate public-private partnerships to implement innovative, ambitious and scalable pilots.**
4. **Require private shared mobility providers, including transportation network companies, to share data that supports the City's ongoing transportation planning and operations work, with a focus on equity and access for all and minimizing greenhouse gas emissions.**
5. **Build a culture of continuous improvement in knowledge, education and communications around new technologies that advance transportation options.**
6. **Encourage and support electric vehicles by developing public charging stations and incentivizing private off-street stations; incentivize power sources from renewable generated electricity.**
7. **Continue to develop internal resources capacity for advanced mobility initiatives.**

## SEE ALSO STRATEGIES:

- **Street Operations Strategy 3** — Plan for efficient and practical operations of people walking, biking and taking micromobility or transit throughout the street design process.
- **Street Operations Strategy 4** — Leverage City resources and partnerships to promote, educate and encourage walking, biking and transit as alternatives to driving.
- **Street Operations Strategy 5** — Price and manage use of the curb to encourage walking, biking and using transit, and to discourage driving alone.
- **Street Operations Strategy 6** — Induce regional mode shift by prioritizing pedestrian, bicycle and transit facilities and operations into capital transportation projects.
- **Design Strategy 5** — Use street design to improve transit operations.

Figure 94: Repurposing space on 4th Street downtown

# STRATEGY 1

**Harness technological advancements for citywide benefits, ensuring newly adopted technologies support safe street operations and focus on human-centered design.**

Increased pressure on our curb space, driven by an increase in land use density, e-commerce deliveries and new advanced mobility modes, is pushing us to manage our right of way in a more sophisticated manner. In order to serve changing customer needs and stay on track toward a low carbon future, we must price and allocate space based on our 2030 goals and priorities and the true value of the space.

The changes we are making to how our streets are designed and operated to accommodate these changes aims to encourage low carbon travel and keep a human focus on our streets. This strategy focuses on using technology to prioritize making walking, bicycling and taking transit easier and safer.

**Figure 93:** Transit Signal Priority provides transit a green first at the traffic signal, reducing delay


**When information is shared between vehicles, infrastructure and/or people, often through a device they carry, they are said to be "connected".**

## ACTIONS

**Actions to harness technological advancements for citywide benefits, ensuring newly adopted technologies support safe street operations and improve the safety and comfort of users.**

| Actions | Supports | Difficulty |
|---|---|---|
| **DO ACTION 1.1**<br>*2020-2023 (YEARS 0-3); ON-GOING*<br>Ensure newly adopted technologies and policies complement and enhance the existing public transportation system. | Prosperity, Mobility | Medium |
| **DO ACTION 1.2**<br>*2020-2023 (YEARS 0-3); ON-GOING*<br>Ensure that all emerging technology pilots adhere to the standards outlined in Technology Action 2.2. *See Technology Action 2.2* | Safety, Equity, Mobility | Low |
| **DO ACTION 1.3**<br>*2020-2023 (YEARS 0-3); ON-GOING*<br>Convert street space for shared mobility services (either high occupancy motor vehicles or micromobility options) and other emerging technologies. These conversions should improve the quality of pedestrians or transit travel. | Equity, Prosperity, Mobility | High |
| **DO ACTION 1.4**<br>*2020-2023 (YEARS 0-3); ON-GOING*<br>Continue to offer Minneapolis as a testing ground for automated vehicle pilots and learn from other cities doing similar work. Pilots should only test a shared model of travel, such as shuttles, and adhere to Technology Action 2.2. *See Technology Action 2.2* | Mobility | Medium |
| **DO ACTION 1.5**<br>*2024-2027 (YEARS 4-7)*<br>Evaluate impacts of automated vehicles on street design and signal operations and vice-versa, with specific emphasis on the safety of people walking, biking and taking transit, adjust guidance as necessary. *See Design Action 1.7* | Mobility | Medium |
| **DO ACTION 1.6**<br>*2028-2030 (YEARS 8-10)*<br>Ensure traffic signal system compatibility with next generation communication systems through cellular or DSRC (dedicated short-range communication channels) and V2X (vehicle to infrastructure/vehicle/everything communications systems). | Mobility, Active partnerships | High |

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## ACTIONS (continued)

**Actions to harness technological advancements for citywide benefits, ensuring newly adopted technologies support safe street operations and improve the safety and comfort of users.**

| Actions | Supports | Difficulty |
|---|---|---|
| **DO ACTION 1.7**<br>*2024-2027 (YEARS 4-7)*<br>Collaborate with partners to research and understand the feasibility of unmanned aerial vehicles (drones) operating in the urban context, including permitting, weather implications, data implications, privacy and local impacts such as noise pollution in federal regulatory decisions. *See Freight Action 7.1* | Mobility, Active partnerships | High |
| **DO ACTION 1.8**<br>*2020-2023 (YEARS 0-3); ON-GOING*<br>Prepare for drones for delivery, as an inspection vehicle or for other means of advancing mobility in the city including removal of trips from the system. *See Freight Action 7.1* | Safety, Prosperity, Mobility, Active partnerships | High |
| **DO ACTION 1.9**<br>*2020-2023 (YEARS 0-3); ON-GOING*<br>Incorporate elements in street reconstruction projects which support advanced mobility, such as electric vehicle charging infrastructure, protected micromobility lanes and designated spaces for pick up and drop off, including flex zones which change purpose by time of day, week or season. | Mobility | Medium |
| **DO ACTION 1.10**<br>*2020-2023 (YEARS 0-3)*<br>Implement Safe Vehicle actions from 2020-2022 Vision Zero Action Plan, focusing on:<br>• Determining how advanced mobility options are shaping the safety of city streets and responding appropriately;<br>• Piloting and managing emerging vehicle technologies with the potential to improve safety; and<br>• Continuing to monitor safety on the City's scooter share pilot and make adjustments to provider requirements, public education, or street design as appropriate.<br>*See Street Operations Action 2.1* | Safety, Mobility | Medium |

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## ACTIONS (continued)

**Actions to harness technological advancements for citywide benefits, ensuring newly adopted technologies support safe street operations and improve the safety and comfort of users.**

**SUPPORT** **ACTION 1.11**

*2020-2023 (YEARS 0-3); ON-GOING*

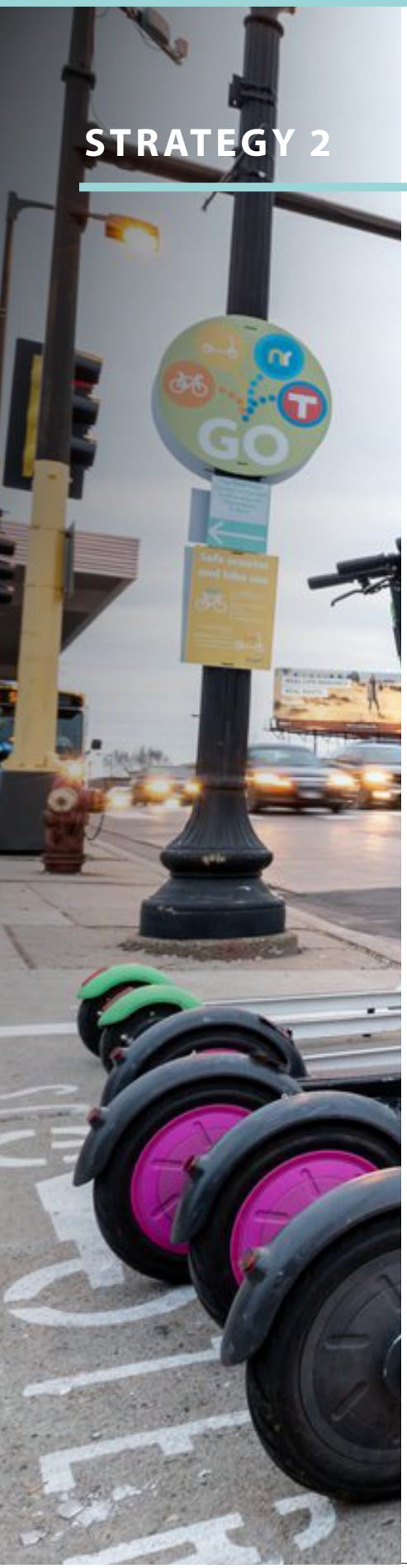
Support partners' research and develop recommendations for integrating and regulating privately operated, automated transit vehicles as well as employing them within government. *See Transit Strategy 1*

Safety, Mobility

Medium

## SEE ALSO STRATEGIES AND ACTIONS:

- **Walking Strategy 8** — Use technology to increase pedestrian visibility and comfort
- **Transit Action 2.8** — Effective bus-only lane operations
- **Freight Action 1.3** — Shared freight lockers
- **Freight Strategy 7** — Regulate new delivery technologies
- **Street Operations Strategy 5** — Price and manage the curb

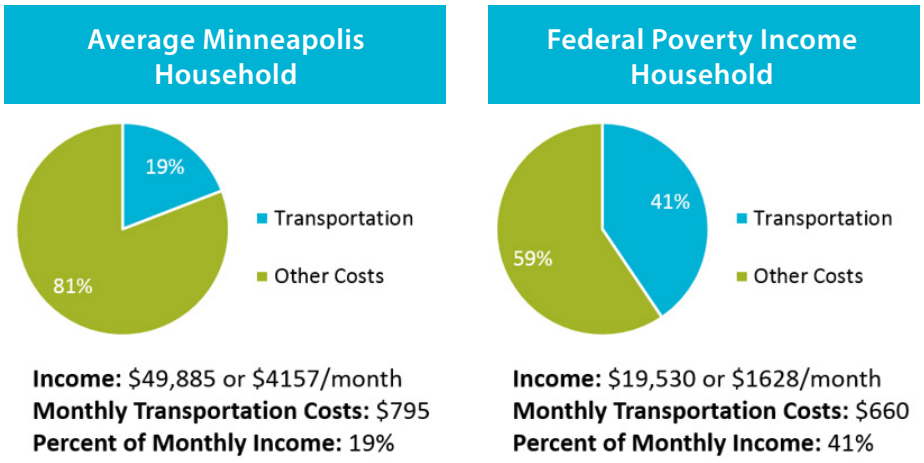


## STRATEGY 2

**Increase access to shared mobility services by removing the barriers of physical ability, geographic placement, language, payment methods, income and technology and digital literacy.**

Shared vehicles and services create options for people who do not have access to or choose not to have a private vehicle. Increasing access to shared fleets is important for shifting travel behaviors and maintaining affordability. The City is focused on ensuring full access to these shared mobility service options for those who could benefit most by removing barriers such as lack of a smartphone, bank account or a driver's license. By partnering with local organizations and other public agencies that are already working on access issues, we are leveraging resources to have the greatest impact.

**Figure 95:** Percentage of household income spent on transportation




Source: 2013 American Housing Survey; American Community Survey 2009-2013 (5 year estimates)

**Figure 96:** HOURCAR car sharing system

**Figure 97:** Nice Ride docked station

## ACTIONS

**Actions to increase access to shared mobility services by removing the barriers of physical ability, geographic placement, language, payment methods, income and technology.**

| Actions | Supports | Difficulty |
|---|---|---|
| **DO** **ACTION 2.1**<br>*2020-2023 (YEARS 0-3); ON-GOING*<br>Maintain and welcome an environment where bikeshare and micromobility options thrive and provide real mobility options and benefits. *See Technology Action 6.4, Bicycling Strategy 9* | Climate, Equity, Prosperity, Mobility, Active partnerships | Medium |
| **DO** **ACTION 2.2**<br>*2020-2023 (YEARS 0-3); ON-GOING*<br>Include conditions in agreements with shared mobility service providers that require equitable access: low-price options, education and outreach about how to access services, geographic distribution with a focus in areas of concentrated poverty with majority people of color, non-English resources, non-smartphone access, ADA access to vehicles and services and multiple payment methods including options for the unbanked. | Equity, Active partnerships | Low |
| **DO** **ACTION 2.3**<br>*2020-2023 (YEARS 0-3); ON-GOING*<br>Work with public and private partners to standardize the low-income eligibility and registration process for shared mobility services. | Equity, Active partnerships | High |
| **DO** **ACTION 2.4**<br>*2024-2027 (YEARS 4-7)*<br>Work with shared mobility service providers to provide adaptive and different sized vehicles where possible and vehicles with additional storage and passenger capacity. *See Bicycling Action 9.1* | Equity, Mobility, Active partnerships | Medium |
| **DO** **ACTION 2.5**<br>*2020-2023 (YEARS 0-3)*<br>Review existing validation requirements for alternatives to having a driver's license to operate shared mobility services where potentially feasible. | Equity | Medium |
| **DO** **ACTION 2.6**<br>*2024-2027 (YEARS 4-7)*<br>Evaluate the reintroduction of car sharing or similar model that allows for one-way trips and analyze city support for viability. *See Street Operations Action 5.8* | Equity, Mobility, Active partnerships | High |

## ACTIONS (continued)

**Actions to increase access to shared mobility services by removing the barriers of physical ability, geographic placement, language, payment methods, income and technology.**

| Actions | Supports | Difficulty |
|---|---|---|
| **DO** **ACTION 2.7**<br>*2024-2027 (YEARS 4-7)*<br>Institute a process to consult with communities, grassroot coalitions and non-profits to evaluate existing services, envision and create new solutions to reduce barriers to shared mobility services that best suit the needs of low-income and underrepresented individuals. | Equity, Prosperity Mobility, Active partnerships | High |


**Figure 98:** Metro transit app on phone

# STRATEGY 3

**Formulate public-private partnerships to implement innovative, ambitious and scalable pilots.**

Technology innovations in transportation are primarily being developed and deployed by the private sector; public agencies have the role of regulating and permitting their use on city streets as right of way managers. The partnerships with both the private sector and other public agencies are critical to our ability to deploy safe and successful pilots. All pilots are selected to help determine permanent advanced mobility implementations.

Mobility as a Service, the concept of a multimodal trip planning and payment as a subscription service through one virtual platform, presents a partnership opportunity. Working with regional partners such as Metro Transit, as well as private service and application providers, to enable the deployment of Mobility as a Service will help people take into account environmental, personal health, financial and time considerations when trip planning. Our approach allows for compatibility with mobility providers and utilizes open data to allow for multiple private platforms.

Financial incentives can change how people travel. This can benefit their health and the environment.

Another key opportunity for partnering regionally is to pilot and deploy mobility hubs. Mobility hubs are physical places where people can connect to multiple modes of transportation to make their trip as safe, convenient and reliable as possible. Most hubs are centered on transit connections, where multiple modes are available to extend the reach of transit. Bicycle and micromobility parking, car share vehicles and wayfinding and real time information are all potential components of mobility hubs.

**Figure 99:** Mobility hub visualization


**Figure 100:** Mobility hub


**Mobility hubs are places where people can connect to multiple modes of transportation to make their trip as safe, convenient and reliable as possible.**

## ACTIONS

**Actions to formulate public-private partnerships to implement innovative, ambitious and scalable pilots.**

| Actions | Supports | Difficulty |
|---|---|---|
| **DO ACTION 3.1**<br>*2020-2023 (YEARS 0-3)*<br>Implement a network of mobility hubs in partnership with Metro Transit. Mobility hubs will be designed to connect transit with other shared mobility services such as bikeshare, scooter share and carshare. Mobility hubs will vary in scale based on context, space and viability and may have placemaking, vehicle charging and wayfinding features. *See Walking Action 8.1, Transit Strategy 5* | Mobility, Active partnerships | High |
| **DO ACTION 3.2**<br>*2020-2023 (YEARS 0-3)*<br>Work with public and private partners and community-based organizations to evaluate future mobility hub locations and ensure that the geographic placement of mobility hubs prioritizes locations in ACP50 areas. | Equity, Mobility, Active partnerships | Medium |
| **DO ACTION 3.3**<br>*2024-2027 (YEARS 4-7)*<br>Collaborate with public and private partners to enable a virtual platform for accessing and paying for transit and shared mobility services, including a multimodal subscription package. *See Transit Strategy 5* | Equity, Prosperity, Mobility, Active partnerships | High |
| **DO ACTION 3.4**<br>*2024-2027 (YEARS 4-7)*<br>Work with the Metropolitan Council and Metro Transit to expand app-based vanpool and carpool. *See Street Operations Strategy 4* | Climate, Prosperity, Mobility, Active partnerships | Medium |
| **DO ACTION 3.5**<br>*2028-2030 (YEARS 8-10)*<br>Work with the Metropolitan Council and Metro Transit to pilot a microtransit service within Minneapolis and the greater Twin Cities region. *See Street Operations Strategy 4* | Equity, Mobility, Active partnerships | Medium |

## SEE ALSO ACTIONS:

- **Transit Action 5.2** — On demand mobility services
- **Technology Action 7.3** — New technologies

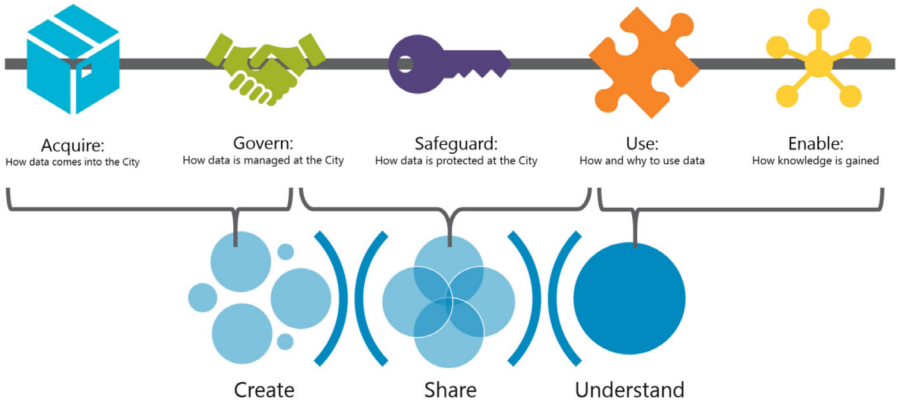

# STRATEGY 4

**Require private shared mobility providers, including transportation network companies, to share data that supports the City's ongoing transportation planning and operations work, with a focus on equity and access for all and minimizing greenhouse gas emissions.**

Access to trip and vehicle data can provide critical information for supporting management of the right of way and future planning of mobility options. Data can also support decision making around additional infrastructure and safety improvements and policy development to support mode shift and greenhouse gas reductions.

In line with the City's Data Policy, the privacy and protection of user data is our top priority. In order to establish and communicate clear and consistent standards of data processing, the City developed a Mobility Data Methodology and Analysis that can be applied across mobility service providers. This allows the City to access, use and share data in a way which is safe, intentional and transparent.

**Figure 101:** City of Minneapolis data policy workflow



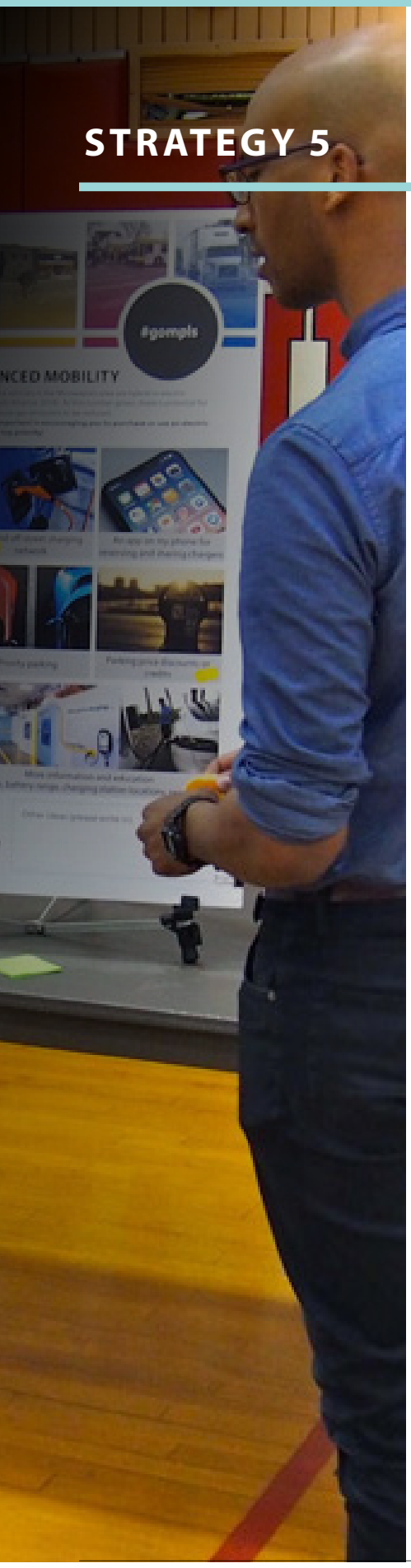
## ACTIONS

**Actions to require private shared mobility providers, including transportation network companies, to share data that supports the City's ongoing transportation planning and operations work, with a focus on equity and access for all and minimizing greenhouse gas emissions.**

| Actions | Supports | Difficulty |
|---|---|---|
| **DO** **ACTION 4.1**<br>*2020-2023 (YEARS 0-3)*<br>Ensure that all data is fully aggregated and anonymized for the protection of users. | Equity, Active partnerships | Medium |
| **DO** **ACTION 4.2**<br>*2020-2023 (YEARS 0-3)*<br>Require data from all shared mobility providers to further City goals that abides by the City's Mobility Data Methodology and Analysis. | Active partnerships | Low |
| **DO** **ACTION 4.3**<br>*2020-2023 (YEARS 0-3)*<br>Analyze data received to understand impacts to safety, trip behavior, equitable access and the environment. | Mobility, Active partnerships | Medium |
| **DO** **ACTION 4.4**<br>*2024-2027 (YEARS 4-7)*<br>Work with public partners to establish a standardized process for data requests and a system to share data across agencies. | Active partnerships | Medium |
| **DO** **ACTION 4.5**<br>*2024-2027 (YEARS 4-7)*<br>Create and publish fully anonymized and aggregated open data sets and public transparency dashboards.<br>*See Technology Action 5.1* | Climate, Safety, Equity, Prosperity, Mobility, Active partnerships | Medium |

## SEE ALSO ACTIONS:

- **Bicycling Action 11.2** — Requiring data sharing from micromobility service operators
- **Bicycling Action 11.3** — Survey of bicycle and micromobility users



## STRATEGY 5

**Build a culture of continuous improvement in knowledge, education and communications around new technologies that advance transportation options.**

Many of the challenges in realizing greater adoption of shared fleets can be addressed through increased awareness and education of available services and how they work. Partnering with mobility service providers through requirements in agreements can help leverage more resources to increase awareness and understanding. Using feedback gathered through education and community engagement throughout our pilots will help us adjust our approach to planning and delivering mobility services.

**Figure 102:** Scooter safety Facebook/Instagram post from City of Minneapolis social media channel

## ACTIONS

**Actions to build a culture of continuous improvement in knowledge, education and communications around new technologies that advance transportation options.**

| Actions | Supports | Difficulty |
|---|---|---|
| **DO** **ACTION 5.1**<br>*2020-2023 (YEARS 0-3)*<br>Create a City of Minneapolis webpage dedicated to new transportation technologies and systems, including information on shared, electric, connected and automated vehicle systems, as well as active pilots, projects and policies. The webpage should include an open data portal for information sharing. *See Technology Action 4.5* | Mobility, Active partnerships | Low |
| **DO** **ACTION 5.2**<br>*2024-2027 (YEARS 4-7)*<br>Partner with the public and private sector to develop a shared mobility curriculum, marketing and outreach programs for employers and employees to prioritize mode shift with transit as the backbone. | Safety, Mobility, Active partnerships | Medium |
| **SUPPORT** **ACTION 5.3**<br>*2020-2023 (YEARS 0-3)*<br>Utilize shared mobility operator partnership agreements to expand engagement and education efforts. | Active partnerships | Low |

## SEE ALSO ACTION:

- **Bicycling Action 10.4** — Adding bicycle and micromobility content to driver's education

# STRATEGY 6

**Encourage and support electric vehicles by developing public charging stations and incentivizing private off-street stations; incentivize power sources from renewable generated electricity.**


**Figure 104:** EV charging stations for bikes, scooters and cars

Source: Metro Transit

While electric cars, trucks and buses will be important to reach climate goals, the adoption of electric vehicles alone will not get us to our goals. Prioritizing the shared element of advanced mobility is key to reduce dependency on automobiles and support walking, biking and transit.

Electric vehicle adoption is important to reduce greenhouse gas emissions, and we have seen hybrid and electric vehicles showing up in greater numbers on our streets – from electric buses, to personal cars, to shared scooters and bikes. It is estimated that by 2040, 55% of all new car sales will be electric.[58] Currently just 2.4% of the cars and trucks in Minneapolis area are hybrid or electric;[59] as this number grows, there is potential for transportation related greenhouse gas emissions to be reduced. Working in tandem with our vehicle miles traveled reduction goal and mode shift goal, this is an important part of meeting our overall climate goal.

**Figure 103:** Transit electric charging station – C Line


Source: Metro Transit

[58] Electric Vehicle Outlook: 2018 Bloomberg New Energy Finance (2018)
[59] Driving Innovation, Auto Alliance (AA) (2018)

**Figure 105:** Electric vehicle charging stations in public right of way

**Figure 106:** City of Minneapolis electric fleet


**Figure 107:** Solar charging Nice Ride station

## ACTIONS

**Actions to encourage and support electric vehicles by developing public charging stations and incentivizing off-street stations; incentivize power sources from renewable generated electricity.**

| Actions | Supports | Difficulty |
|---|---|---|
| **DO** **ACTION 6.1**<br>*2024-2027 (YEARS 4-7)*<br>Assess the projected demand and current supply of the electric vehicle charging network in the city and propose and implement additional charging locations in coordination with mobility hub locations. | Climate, Mobility | Medium |
| **DO** **ACTION 6.2**<br>*2020-2023 (YEARS 0-3); ON-GOING*<br>Ensure all public electric vehicle charging infrastructure is scalable to service multiple vehicle types – including shared cars, bicycles and scooters with minimal right of way space impacts; incentivize or support all private infrastructure to do the same. *See Bicycling Strategy 9* | Climate, Mobility | Low |
| **DO** **ACTION 6.3**<br>*2024-2027 (YEARS 4-7)*<br>Implement renewable energy sourced charging stations (supplemental solar-powered) in place of hard-wired only electric charging stations. | Climate | Low |
| **DO** **ACTION 6.4**<br>*2020-2023 (YEARS 0-3)*<br>Encourage and incentivize the conversion of shared mobility fleets to electric in city agreements. *See Technology Action 2.1* | Climate | Low |
| **SUPPORT** **ACTION 6.5**<br>*2020-2023 (YEARS 0-3)*<br>Partner with public and private entities for education and outreach campaigns which promote the benefits and operation of electric vehicles. | Climate, Active partnerships | Low |
| **SUPPORT** **ACTION 6.6**<br>*2020-2023 (YEARS 0-3)*<br>Work with the Department of Community Planning and Economic Development to require developers to build off-street electric vehicle charging stations in their developments if they include parking. *See Bicycling Action 9.5* | Climate, Active partnerships | Low |

## ACTIONS (continued)

**Actions to encourage and support electric vehicles by developing public charging stations and incentivizing off-street stations; incentivize power sources from renewable generated electricity.**

**SUPPORT** **ACTION 6.7**

*2020-2023 (YEARS 0-3); ON-GOING*

Support partner transit agencies as electric fleets are incorporated including expedited siting of charging locations. *See Transit Action 1.9*

Climate, Mobility, Active partnerships

Low

## SEE ALSO STRATEGY:

- **Freight Strategy 4** — Transition fleets to zero-emissions technology


# STRATEGY 7

**Continue to develop internal resources capacity for advanced mobility initiatives.**

The City is working actively to prepare for what may come. We work with public and private partners and cities around the world to adopt best practices and focus on being at the forefront of technological advancements occurring in transportation. In order to understand the new data and information that advanced mobility affords us, we are building internal capacity to ingest data, with dashboards, visualizations, new tracking tools and the digital mapping of the curb. We are committed to both stimulating innovation and maintaining control of the public right of way while increasing and protecting the safety and security of people using our streets.

**Figure 108:** Digital mapping of the curb

## ACTIONS

**Actions to develop internal resource capacity for advanced mobility initiatives.**

| Actions | Supports | Difficulty |
|---|---|---|
| DO **ACTION 7.1**<br>*2020-2023 (YEARS 0-3)*<br>Develop a City multi-disciplinary team and funding mechanisms to facilitate advancing transportation technology and pilots in Minneapolis. | Mobility | Medium |
| DO **ACTION 7.2**<br>*2020-2023 (YEARS 0-3)*<br>Launch a program to educate City staff, appointed and elected officials and stakeholders on advanced mobility topics. | Mobility, Active partnerships | Medium |
| DO **ACTION 7.3**<br>*2024-2027 (YEARS 4-7)*<br>Create and publicize a refined process for businesses that want to test or deploy new technologies or services in the city. | Mobility, Active partnerships | High |
| DO **ACTION 7.4**<br>*2028-2030 (YEARS 8-10)*<br>Implement a travel behavior study based upon shared mobility modes and seasonal impacts. *See Bicycling Action 11.3* | Climate, Mobility | Medium |