VISION STATEMENT

Cities can leverage the emergence of ride-hailing services to achieve broader policy goals, such as providing alternatives to car ownership, first- and last-mile services to complement public transit, and improved mobility for underserved populations. At the same time, the growth of ride-hailing services has had and may have negative impacts on city transportation and the environment. In order to avoid those negative impacts—congestion, pollution and loss of critical services for the disabled and disadvantaged—cities need to work with ride-hailing services and their regulators closely. Together through NACTO, city transportation leaders are collaborating to understand how cities are working with ride-hailing services today and what the potential is for tomorrow.

RIDE-HAILING SERVICE ISSUE OVERVIEW

The transportation service marketplace is growing rapidly, with new and innovative services and choices. This is creating both exciting opportunities and unforeseen challenges for cities as they work to ensure mobility, equity, access, and reliability across their systems. By far the largest new entry in this marketplace comes under the heading of “ride-hailing services,” also known as “transportation network companies” (TNCs), with Uber and Lyft as the largest examples in the US. While the effect of ride-hailing services on the overall urban transportation picture remains unclear, their popularity among customers is fueling rapid growth. NACTO cities, representing many of the largest markets for ride-hailing services in the country, are working together to identify approaches to working with these companies with regard to both mobility goals and in terms of other overarching city policies on the environment, economic growth and equity.

What are ride-hailing services?

Ride-hailing services were first brought to market in 2009 through Uber, and in 2012 through Lyft, both of which provided an app connecting drivers and riders. Most apps have various improvements on traditional taxicabs, such as electronic dispatch, a way for drivers and passengers to rate each other, and dynamic pricing functions to encourage drivers to meet demand for rides during peak periods. The current regulatory framework varies widely from city to city.
A survey of members in late 2015 identified five major areas for concern within city governments in regards to ride-hailing services, with emphasis on the overall role of cities in managing the emerging mobility marketplace:

» How city policies can ensure personal safety and keep a continuous focus on reducing injuries and fatalities from crashes.

» What types of data and data analyses cities can use to track the effect of ride-hailing services on diverse city policy goals.

» How cities can create a level playing field that provides similar protections for customer experience, fraud prevention and labor exploitation, as those already existing for taxicabs and other for-hire vehicles.

» How cities can ensure that accessibility goals for low-income people and people with disabilities—currently met through taxicab regulation—continue to be met.

» How ride-hailing services can complement transit instead of competing with it in a seamless multi-modal system.

As one of the largest shifts in technology for urban transportation, ride-hailing services are also a harbinger of further innovations on the horizon—notably autonomous vehicles. As people increasingly shift the activity of driving to either a ride-hailing service driver or an autonomous computer, cities will have to both reassess how motorized vehicles interact with public space in the city and how travel choices under a new pricing regime will change. This first resource paper focuses generally on how cities are addressing the shift to a new fleet of for-hire vehicles made possible by ride-hailing services, both in terms of their effects on the traditional taxicab industry and on urban transportation choices in general.

CITY POLICY BACKGROUND

The Range of Possible Policy Outcomes

Before discussing how cities are working with the emerging ride-hailing service market, it is helpful to understand what types of policy goals may be implicated and how. As is clear from the somewhat contradictory lists, many of these effects remain unknown at this time.

Possible Positives

» Reduction in vehicle miles traveled (VMT) and greenhouse gas emissions due to decreased auto ownership.

» Increased use of public transportation by improving first/last-mile access.

» Reduction of parking space needs.

» New mobility options for non-drivers, including older people, younger people, people with disabilities, and people without access to a vehicle.

» Improved traffic safety by reduced drunk driving and through the opportunity to require driver training on city policies like Vision Zero.
Possible Negatives

» Increase in congestion, VMT, and greenhouse gas emissions due to “empty” vehicle trips.

» Loss of current taxicab services required by law (wheelchair accessible vehicles, service in low-income neighborhoods, dispatch without smartphones).

» Less walking, cycling, and transit use due to competition, impacting the public health and environmental benefits of active transportation.

» Reduction in the safety and quality of driving through lowered training/licensing requirements and increased turnover of drivers.

Pre-Existing Regulatory and Transportation System Frameworks

Cities are approaching ride-hailing services generally with a pre-existing system for both regulating for-hire vehicles (usually taxicabs) and a transportation system that already includes those vehicles. These are important path-dependent precursors to establishing new policies for ride-hailing services. Questions cities are asking themselves include:

» What are the current state and/or regional regulations affecting ride-hailing services?

» Which ride-hailing services are already operating in the city?

» Are there existing livery or taxi regulations? If so, how recently have they been reviewed? Is there a process in place for review? (e.g. commission, staff, etc.)

» What transportation options are currently available? What is the mix between public and private services today? Are some neighborhoods not well-served by public transit and/or private shared modes? Are some communities or demographics not well-served by public transit and/or private shared modes?

» What are barriers to incorporating ride-hailing services into the regulatory framework for taxicabs and other for-hire vehicles? Is there political will to support ride-hailing services? Are ride-hailing apps currently accessible to community members?

» Will ride-hailing services complement other policy goals, like sustainability, economic development, and equity?

» Will ride-hailing services work as a complementary service for public transit?

» What mix of services might be most effective in helping the city achieve its transportation vision?

CITY ISSUE 1: SAFETY

Regardless of the regulatory framework that governs ride-hailing services, cities must ensure that both drivers and vehicles meet minimum safety standards and develop mechanisms that provide sufficient safeguards to ensure that standards are met. Traditional models of background checks and vehicle inspections have positives and negatives relative to ride-hailing service methods. For example, ride-hailing services depend on user feedback to rate drivers and often cite drivers with low ratings, which can include bad or dangerous driving, driver fraud, or bad customer service. While passengers may praise the system, drivers may be punished without due process.
Key Questions for Cities

» How will driver background checks occur and who will conduct them?
» What are the consequences for driver fraud?
» What disqualifies a driver and who will make that determination?
» How can ride-hailing service policy implementation be verified by cities and the public?
» How will ride-hailing services play a partner role in Vision Zero and other street safety initiatives?
» What training will be required? How will services and drivers be held accountable for safety?

Ensuring Personal Safety: Driver Background Checks

Driver background checks are common practice in for-hire vehicles, and ride-hailing services do not argue their importance. Background checks are critical to ensure the safety of passengers in the vehicle and other people walking, biking, and driving in the roadway. Ride-hailing services have contended that existing background check processes create a barrier to entry for new drivers, creating a dampening effect on the potential positive outcomes of ride-hailing services in cities.

The type of background check conducted to permit drivers varies, with the main distinction being between a biometric fingerprint background check and a document-based background check, using driver license and/or social security numbers. Cities must consider the right method for the initial screening background check as well as a mechanism to conduct on-going oversight for drivers who pass the first screen. In Austin, Texas, voters rejected a proposition that would have allowed ride-hailing services to operate without conducting fingerprint-based background checks on drivers. In New York City, all ride-hailing service drivers need a license from the Taxi and Limousine Commission—a mandatory process that includes fingerprinting, a drug test, a defensive driving course and wheelchair training—and all vehicles must meet certain requirements and be registered with the TLC. Some research has found evidence for the benefits of biometric background checks.1 Another recent study points to the need for further research on background checks and the absence of any definitive evidence favoring one method over the other.2

Approaches to Driver Background Checks

<table>
<thead>
<tr>
<th>Ride-Hailing Services Lead Oversight</th>
<th>Cities &amp; Ride-Hailing Services Partner</th>
<th>Cities Lead Oversight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allow ride-hailing services to conduct their own driver background checks using the FBI database checked against driver social security numbers.</td>
<td>Require ride-hailing services to provide information, such as driver’s license numbers, to the local jurisdiction. <strong>Example:</strong> Portland, OR</td>
<td>Local agency performs background checks using the same methods used to permit taxi drivers. <strong>Example:</strong> New York, NY; Houston, TX; and Austin, TX require all drivers to be fingerprinted.</td>
</tr>
<tr>
<td></td>
<td>Require ride-hailing services to provide a random sample of driver fingerprints. <strong>Example:</strong> San José and San Diego, CA require one percent of drivers serving the airport to provide their fingerprints.</td>
<td></td>
</tr>
</tbody>
</table>


Another scenario for consideration is when a driver who passes all the necessary background checks and receives permission to drive for a ride-hailing service later commits a crime or serious driving violation. Similar to other for-hire vehicle services, cities may explore requiring automatic notification that allows the local agency to suspend or cancel the driver’s ability to work as a ride-hailing service driver or require ongoing reporting from ride-hailing services on this matter.

Effective January 1, 2016 ride-hailing services are required to participate in the California Department of Motor Vehicles Employer Pull Notice (EPN) program, which provides timely notice when any of the following are added to a driver’s record: convictions; crashes; failure to appear in court; driver’s license suspension or revocation; and any other action taken against the driving privilege.

**Promoting Safe Driving: Vision Zero**

Many NACTO cities have adopted or are in the process of adopting Vision Zero policy goals, adding to both the urgency and magnitude of safety efforts that have always been a hallmark of city transportation agencies. Many cities have focused safety outreach and education on the ranks of professional drivers that operate in cities, including taxi drivers, contractors, and delivery drivers. Ride-hailing service drivers offer a captive audience for safety training, monitoring, and messaging. A common interest in reducing traffic deaths for cities and ride-hailing service companies, who would then also reduce insurance claims, offers a positive jumping off point for discussion.

Houston, TX is currently piloting a project where ride-hailing service companies use geospatial data to track driver behavior for safety. GPS data, in addition to demand trends, can reveal unsafe driving practices. Combining route data with timestamps reveals the average speed along a route. Recent advances in telematics gather and report data on driver speed at specific moments along a route. Telematics can also reveal other driver behavior, such as hard stops and unsafe rates of acceleration.

In New York City, ride-hailing service drivers must limit their shifts to 12 hours to ensure that they are alert and engaged. The California Vehicle Code\(^3\) similarly restricts shifts of all for-hire vehicle drivers to 10 hours in a 15-hour period. In Los Angeles and San Francisco, ride-hailing service drivers using the Waze app get alerts when they approach intersections with high numbers of pedestrian crashes.

Cities can also require certain driver safety training as part of the ride-hailing service driver application process. San Francisco has developed a professional driver training course and requires taxi driver training to include modules on safely sharing the road with people walking and biking. As part of the Taxi and Limousine Commission licensing process, New York City requires all drivers to watch “Drive Like Your Family Lives Here” a video telling the story of five families whose lives have been devastated by fatal traffic crashes, produced by the Taxi and Limousine Commission in partnership with NYC DOT and local advocacy groups Transportation Alternatives and Families for Safe Streets. Recently, San Francisco introduced the same video during driver training and has seen significant benefits.

**Next Steps**

- Cities have just begun to explore in depth issues related to driver verification and vehicle inspections. The reputation-based system for passengers to rate drivers may begin to weed out bad actors, but it is not yet definitive. Further, insurance requirements vary and are typically set in state legislation. For a detailed look, see “Between Public and Private Mobility: Examining the Rise of Technology-Enabled Transportation Services,” Special Report 319 of the Transportation Research Board of the National Academy of Sciences.

---

\(^3\) California Vehicle Code Section 21702
» Explore third-party data partnerships that could allow anonymous, aggregate data on driving behavior (speed, hard braking, acceleration) to be mapped. This kind of telematics data is likely predictive of underlying crash factors (fail-to-yield, etc.) and could help cities engineer safety solutions on high-crash corridors without compromising trade secrets or driver privacy.

» Facilitate development and implementation of enhanced driver safety training & accountability framework.

**CITY ISSUE 2: DATA AND ANALYSES**

Trip data is critical to measuring and understanding transportation behavior. Policymakers rely on robust data about walking, biking, transit, taxi, and vehicle trips to inform agency research, analysis, planning, and policy. Analysis of travel datasets can help a city judge whether existing infrastructure is adequate, whether design changes are necessary, and compare before and after conditions. Travel datasets can provide insight into overall levels of traffic congestion and can reveal geographic areas that need more mobility options.

Taxi data can inform these transportation concerns, and can also help city officials measure the quality of taxi service itself. Conclusions drawn from analysis of taxi data reveal the relative effectiveness and safety of the service. They tell cities if taxi drivers serve different communities equally and fairly. They help cities determine whether they need to adjust fares or change the number of cabs on the road, and the extent to which they should do either. The data analysis can also reveal areas for improvement in the general passenger experience of a trip.

Access to ride-hailing service data would allow city officials to better understand this new mobility option, both as a standalone service and as part of the larger transportation ecosystem. With robust data on ride-hailing service trips, cities could analyze where and when trips are being made, trip mileage and duration, geographic coverage, wheelchair accessible vehicle availability, and the relationship of ride-hailing service trips to other modes in the transportation network, including walking, bicycling, and transit.

A further concern for cities is the ability of police departments to work with ride-hailing services on quick turnaround requests for information. Typically, police departments have already developed relationships and methods for working with local taxicab services, whereas national ride-hailing services with legal counsel off site may be difficult to reach in the case of fast turnaround criminal inquiries.

**Key Questions for Cities**

» What data are you currently using from existing for-hire vehicles like taxicabs, and how?

» How does the current level of data reporting from ride-hailing services compare to the desired level?

» What resources exist to analyze ride-hailing service data if it were available?

» Which topics are of utmost importance around safety, sustainability, or labor, and what are the key questions for inquiry into those areas?

**Data Requirements**

Most jurisdictions require ride-hailing services to report some amount of data. While ride-hailing services may prefer in-house data analysis, studies based on undisclosed data are unlikely to be accepted as proof for public policy decisions, and challenges arise when policymakers seek additional data. Objections to data reporting generally come in three forms:
Privacy: A company may also have concerns regarding the privacy of its drivers and passengers.

Solution: Data that identifies sensitive personal information can be anonymized.

Cost: Reporting new types of data may result in new expenses to the company asked to provide it.

Unfair competition: A company may fear that a dataset includes information valuable to a competitor, and may fear undercutting its own revenue.

Solutions: A city can execute a non-disclosure agreement with individual companies dictating which data may and may not be revealed to third parties. Alternatively, the city can work with ride-hailing service companies to provide their data to a trusted intermediary like a research organization or university who will handle analysis.

Approaches to Gathering and Analyzing Data

<table>
<thead>
<tr>
<th>Cities Lead Analysis</th>
<th>Cities Partner with Researchers</th>
<th>Cities &amp; Ride-Hailing Services Partner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rely on anonymized, ZIP Code level data that ride-hailing services are willing to share.</td>
<td>Partner with third-party institutions and non-profits which execute non-disclosure agreements in exchange for access to data. The third party uses the data to investigate specific research questions.</td>
<td>Create data-sharing agreements with ride-hailing services in exchange for keeping the data confidential under a trade-secret umbrella.</td>
</tr>
<tr>
<td><strong>Example:</strong> Boston, MA</td>
<td><strong>Example:</strong> Research on ride-hailing services travel patterns currently being conducted by the National Resources Defense Council in partnership with the University of California, Berkeley.</td>
<td><strong>Examples:</strong> California Public Utilities Commission; Portland, OR; Washington, DC</td>
</tr>
</tbody>
</table>

CITY ISSUE 3: LEVEL PLAYING FIELD

Taxicab companies across the United States are concerned that they are at risk of losing their business due to competition from ride-hailing services, and that they are unable to compete due to inflexible regulations. Taxicab owners have seen the price of medallions fluctuate wildly, falling to historic lows in the recent past. Regulations have also been blamed for hindering technological adaptation among taxi providers because they have historically sheltered them from competition.

Policymakers have a vested interest in fostering competition among taxi companies and ride-hailing services to ensure good customer service, equitable and fair coverage, and competitive pricing. If policymakers want to encourage or allow taxicab companies to adopt the basic innovations of ride-hailing services, then existing regulations must change. Cities have choices: to loosen regulations on the taxi industry; to tighten them on ride-hailing services; or to do some combination of both. These are also critical considerations in regards to other modes, like shuttles and some transit lines. In some states or regions, cities may also be limited in their regulatory jurisdiction. Cities can make great strides toward a level playing field by focusing reform efforts in a handful of areas.
Existing Regulatory Frameworks and Ride-Hailing Services

Each state, region, and city has a unique set of regulatory requirements on for-hire vehicles such as taxicabs and limos. Many require fees to be assessed on each fare for pickups, sometimes based on locations such as airports, but also related to other funds for transportation, such as wheelchair-accessible transportation options. These fees have been contested by ride-hailing services in some markets because they say they should not apply to their drivers, who are contracted differently than taxicab drivers.

Fees targeting peak hour travel could reduce congestion and reduce competition with transit, where service is typically best during the morning and evening peak hours. Fee structures that are clearly linked to policy goals, such as supporting low-income access to other mobility services, can help to even the playing field while promoting city policies. Cities currently charging a fee on ride-hailing service rides include Portland, OR, Seattle, and Chicago.

Another body of regulations is related to licensing of the fleet of for-hire vehicles (via medallions, for example). Ride-hailing services that work with non-professional drivers (like UberX or UberPop) have been able to avoid or work around these barriers in many markets, causing consternation among existing fleets and drivers. This issue is covered below under “Fleet Size.”

Finally, many cities, regions or states have public bodies that must approve any increase in fares or changes to fare structures, while ride-hailing services have used innovative fare structures like dynamic “surge” pricing to improve supply during times of high demand. This issue is covered below under “Dynamic Fare Setting.”

Leveling the Playing Field for Taxis

<table>
<thead>
<tr>
<th>Deregulate Taxis</th>
<th>Maintain Existing Regulations</th>
<th>Stricter Regulations on Ride-Hailing Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase the taxi fleet or remove caps and fare regulations altogether and allow the market to set them.</td>
<td>Retain existing regulations on taxicabs regardless of level playing field issues; no new regulations on ride-hailing services.</td>
<td>Require benchmarks or other measures that will even the playing field by limiting the ride-hailing service fleet.</td>
</tr>
</tbody>
</table>

Example: Long Beach, CA

Key Questions for Cities

» How strong is the desire of city leadership to protect or to regulate the taxi industry in light of a changing marketplace?

» Is city leadership willing and able to regulate ride-hailing services or should efforts focus on deregulating the taxi industry? If the latter, how much?

» Where is the bar set for providing accessible trips for taxis versus ride-hailing services?

» Should ride-hailing services be required to show other options, such as taxis, in the app environment?

» What city public interest objectives are not being met and what regulatory changes are necessary to ensure they can be met?
**Fleet Size and Dynamic Fare-Setting**

Rules that cap the size of taxicab fleets and set fares can prevent taxi drivers from competing with ride-hailing service drivers for passengers. Fleet caps are based on the assumption that a surplus of cabs will push taxi driver income down to unsustainable levels. Uber has sponsored research contradicting this idea and showing their drivers’ hourly gross earnings meeting or exceeding those of taxi drivers and chauffeurs.

Ride-hailing service fleets use pricing that varies to encourage vehicle fleets to expand and contract throughout the course of a day in response to dynamic fares and demand. When more passengers need a ride, the fleets expand. When demand subsides, the fleets contract. Ride-hailing services control the number of vehicles on the road by temporarily “surging” fares when demand outpaces supply (to incentivize more drivers into the market and to temporarily reduce demand), and lowering fares back to a base rate when the number of cars becomes equal to the number of passengers. The efficacy of surge pricing for “right-sizing” the for-hire vehicle fleet at any given moment has not been shown to be unequivocal at this point, though forthcoming research may shed some light on the issue.

Taxicab companies are currently limited from using surge pricing, since they operate under local regulations with taxicab fare schedules set by the local regulatory body in U.S. cities. Changes to this schedule are infrequent, and often many years pass between adjustments. Use of a rate schedule, and the process by which it is set, prevents taxi drivers from adopting the dynamic fare policies of ride-hailing services, resulting in uneven matching of supply and demand.

The combination of a flexible vehicle fleet and dynamically changing fares gives ride-hailing service companies and drivers a financial advantage over taxi drivers. Upon introduction of ride-hailing services into cities, the customer pool expands because new passengers are drawn to lower fares and the shorter wait times that come from having a larger fleet. Taxicab owners and companies cannot take advantage of these innovations because local regulation stands in their way.

Allowing a flexible taxi fleet and dynamic fare setting will only level the playing field if the local taxicab dispatch technology improves to a level of sophistication similar to that of ride-hailing services. Regardless of the path a city may choose, it will be faced with a choice on how to implement a new system. A city can either leave it to the individual taxi owners, companies and drivers to choose whether to sign on to new technology, or it can require all taxi drivers to participate.

**Making Taxis Accessible by App**

<table>
<thead>
<tr>
<th>No City Involvement in App Development</th>
<th>City Leads App Development</th>
<th>Ride-Hailing Services Lead App Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rely on existing dispatch apps like Curb, Flywheel, and Flitways to operate without requiring that taxis be app-accessible.</td>
<td>Build a taxi dispatch app from scratch that will capture all cabs in the fleet, regardless of company, and require that taxi companies use it. <strong>Example:</strong> Washington, DC</td>
<td>Require ride-hailing services to dispatch taxicabs alongside private ride-hailing service vehicles. <strong>Examples:</strong> Washington, DC; New York, NY</td>
</tr>
</tbody>
</table>
CITY ISSUE 4: ENSURING ACCESSIBILITY

Most, if not all, cities require that taxi drivers serve all passengers equally. Specifically, taxi drivers must provide a certain minimum level of service to passengers who use wheelchairs and residents of less affluent neighborhoods. When left to market forces, these populations go underserved.

A specific issue for ride-hailing services is the ability of drivers to give negative ratings to passengers, potentially shutting them out of services. For equity purposes, it is critical to ensure that passengers have some recourse to obtain mobility services.

Ensuring service for wheelchair users is available is a challenge for ride-hailing services since wheelchair-accessible vehicles (WAVs) cost more than standard taxicabs. To account for this in the taxicab industry, a city will often cross-subsidize equal service requirements, setting fares higher than they would be set if drivers did not have such requirements. To provide equal access to passengers who use wheelchairs, many cities require their local taxicab fleets to operate a minimum number of WAVs. No more than 10 percent of any city’s taxi fleet is presently comprised of WAVs, although a recent legal settlement requires at least 50 percent of New York City’s taxicabs to be WAVs by the year 2020.

Ensuring Ride-Hailing Services Are Wheelchair-Accessible

<table>
<thead>
<tr>
<th>Require Referrals</th>
<th>Require Restitution</th>
<th>Require Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Require that ride-hailing services allow passengers to indicate that they need an accessible vehicle and require that they refer the passenger to an alternate provider if they cannot provide the wheelchair-accessible service.</td>
<td>Levy an accessibility tax on ride-hailing services, the proceeds of which subsidize the operation of for-hire WAVs.</td>
<td>Require a portion of the ride-hailing service fleet be wheelchair-accessible.</td>
</tr>
<tr>
<td><strong>Example:</strong> Minneapolis, MN requires that ride-hailing services keep a record of the number of passengers who request a WAV, and the number of times a ride-hailing service actually makes the referral required by law.</td>
<td><strong>Example:</strong> Mississippi and Texas each charge an annual $10,000 tax on ride-hailing services. (Taxi and limo companies are charged the same fee). Chicago collects $0.10 from each ride completed in a ride-hailing services vehicle that isn’t capable of handling a wheelchair, as well as a $100 annual fee for each vehicle that isn’t wheelchair-accessible.</td>
<td><strong>Example:</strong> New Orleans, LA requires that three percent of the ride-hailing service fleet be wheelchair-accessible.</td>
</tr>
</tbody>
</table>

CITY ISSUE 5: PROMOTING A SEAMLESS MULTI-MODAL SYSTEM

Increasing vehicles on the street during peak hours—to serve unmet demand for taxicab services—is not supportive of most NACTO cities’ policies to emphasize transit over private vehicles, especially during congested times. Adding vehicles to the roadways during these times worsens congestion and can hinder the function of bus and other on-street transit modes. These impacts could be mitigated or eliminated if ride-hailing services focus on carrying multiple passengers during peak times and complementing, rather than competing with, transit routing.
As the transportation service market changes and grows, existing transit providers can benefit from coordination with other services like ride-hailing services. Ride-hailing services have been shown in recent research to provide complementary services to transit, whether at different times of day than the transit peak, such as late night, or as a first-mile, last-mile connection for individual trips.

One of the largest barriers to a seamless customer experience between different modes is the lack of a unified fare system, although apps such as moovel provide ways to purchase multiple fares through a single interface.

Information sharing is critical to achieve coordination between modes. If customers are unaware of their travel options, they may not know how to access the different services available to them for travel. Map applications are beginning to bridge the gap for this information, but many current and potential riders are unaware of these tools, or rely on transit providers and less-robust default applications for their travel routing needs.