



URBAN MOBILITY DESIGN CAMP REPORT

2017

MaRS Data Catalyst



PROJECT TEAM

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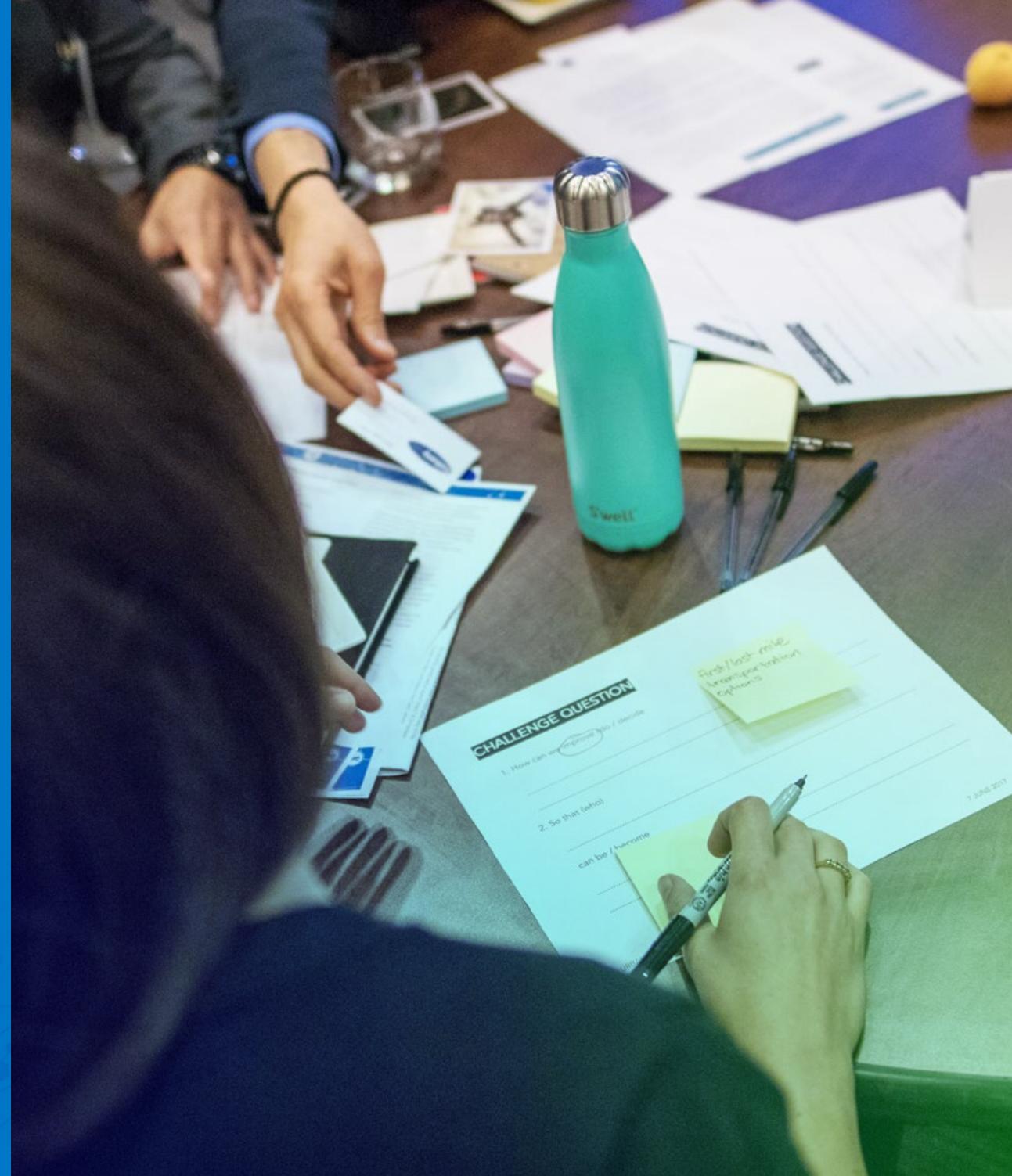
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EXECUTIVE SUMMARY

Currently, the transportation sector in Ontario is in need of innovative, long-term solutions to solve several serious challenges that are negatively affecting the lives of Ontarians every day. Due to extreme congestion and disjointed transportation systems, Ontarians face consistent roadblocks in their daily commutes—even if they take public transportation—that could be avoided with the adoption of impactful innovative solutions. Ontarians are currently seeking reliable, efficient and cost-effective transportation systems. The goal of the Urban Mobility Design Camp, hosted by MaRS Discovery District, was to plan for just that.

The Urban Mobility Design Camp was held with the intention of cultivating impactful, valuable solutions to key transportation issues affecting the Greater Toronto and Hamilton Area (GTHA). The event brought together a variety of stakeholders, which included 130 representatives across public, private and key sectors to enable collaboration, idea sharing and design thinking in three streams: Builders of the Future, Connecting to Care and Moving Minds. Each stream narrowed in on a key transportation issue that affects the livelihoods of Ontarians. This report provides insights into the significant challenges at hand in the context of transportation, outlines the event's key areas of focus, and maps the collaboration process under each stream and the critical solutions that emerged from this productive event.

The transportation challenges in the three streams were presented to stakeholders who were knowledgeable and experienced in their fields. The stakeholders were then asked to develop high-impact, feasible solutions to the problems. During focused discussions, the camp's attendees developed solutions and discussed their ideas to identify context, complexities, considerations and potential outcomes in detail. Ultimately, the implementation of these solutions will require a commitment to greater systems integration, as well as business support and multi-stakeholder engagement. The solutions proposed in this report can only be implemented with a strong commitment to market test and support adoption that propels the current transportation system forward in a sustainable and equitable way.

ACKNOWLEDGEMENTS

The Urban Mobility Design Camp was developed in discussion with Uber Canada, which was the lead sponsor and partner for the event and supported its development. The event would not have been possible without our program sponsors Great Gulf, Intact Insurance, Mattamy Homes and IBI Group, as well as sponsors Canadian Red Cross, University of Toronto Transportation Research Institute, WSP Canada and Ontario Power Generation. This work is a continuation of MaRS' ongoing efforts to enable the adoption of innovation into the transportation sector to address its key challenges.



BACKGROUND

Context

Large urban regions in Ontario, like the Greater Toronto and Hamilton Area (GTHA), have been very successful in providing increasingly attractive opportunities for people to live, work and grow. This success—along with current trends in urbanization—is resulting in rapid urban growth that is projected to continue to increase the number of people living and working in large and increasingly dense urban regions. Ontario will need to explore and invest in testing and adopting location- and context-specific market-ready urban mobility innovations that can better address the growing congestion and emissions challenges that Ontarians are facing today.

When it comes to transportation Ontario is the victim of its own success. Because of the rapid population growth in urban regions, transportation needs have reached unsurpassed levels. Transportation in regions like the GTHA is characterized by chronic congestion and acute pinch points. For example, Ontarians are facing an average of 50% longer commutes due to congestion; north of Toronto, Highway 401 is now **the most congested freeway in North America**.

Congestion and the resultant delays are unfairly impacting the lives of hard-working Ontarians on a daily basis and, in some cases, are further burdening the most vulnerable sections of society. For example: i) some parents can't see their children before they go to bed because they are stuck in traffic (even if they take public transit); ii) students select their courses—and even their educational programs and institutions—based on when and where transportation options are available; iii) patients' healthcare is heavily impacted by their access to transportation options; and iv) youth and lower income workers cannot get to work because they do not have a reliable and/or affordable means to

do so. Congestion unfairly impacts people's quality of life and places a substantial economic cost on the region.

Toronto alone loses **\$11 billion** annually in lost productivity.

As 80 to 90% of personal transportation in the GTHA still occurs in single-occupancy vehicles, parking and related infrastructure constraints also pose huge challenges, as do greenhouse gas emissions. Transportation is the largest and fastest growing source of emissions in urban regions like the GTHA.

Despite the Ontario government's current large investments in transit—several of which will be completed in about five years—the rapidly increasing demand for mobility, the lack of pervasive connectivity to transit (first- and last-mile access) and even the impact of construction on urban regions will make the transportation problem worse before it gets better.

International markets that are facing similar challenges are seeing the convergence of information technology, GPS technology, and mobile and transportation technologies to deliver solutions such as ride sharing, trip chaining and other multi-modal transportation options that offer consumers greater choice, safety and flexibility. These solutions, which are often offered by the private sector (think Uber, Lyft, Car2Go and Hailo), have seen dramatic uptake and double-digit growth. Consumers are rapidly adopting these mobility-as-a-service solutions in dense urban regions where they do not want to be burdened with the costs of car ownership, parking, and lost productivity and leisure time while driving, and where they can take advantage of the convenience of having door-to-door transportation solutions on demand.

However, Ontario has seen limited development and adoption of these types of solutions. Stakeholder discussions have revealed that the complex multi-stakeholder, multi-jurisdictional and heavily regulated nature of the transportation sector in Ontario has been a key limiting factor.

MARS: OUR ROLE IN URBAN MOBILITY

MaRS often works in complex multi-stakeholder and heavily regulated sectors to identify and unlock the systemic barriers that limit the adoption of innovation. MaRS has successfully undertaken interventions and delivered results in the health, energy and innovation sectors in Ontario, all of which involved working with diverse public and private stakeholders.

MaRS has been working in the transportation sector over the last few years to attempt to understand and unlock the systemic barriers that often limit or slow the adoption of innovative solutions. MaRS' transportation work has included **developing policy for the sharing economy**, undertaking a **microtransit feasibility study** and workshop, the creation and development of the **Urban Mobility Design Camp**, conducting transportation user research with Bridgeable, and pilot exploration with The Toronto Atmospheric Fund, the City of Vaughan, the Greater Toronto Airports Authority and Ontario Power Generation.



Raquel Urtasun



Josh Colle

URBAN MOBILITY DESIGN CAMP

On June 7, 2017, Mars hosted the Urban Mobility Design Camp, which brought together key stakeholders to co-create new solutions to key transportation challenges. Throughout the one-day, action-oriented event, diverse teams were guided through a design-led process to work collaboratively on how to connect different modes of transport more efficiently, with the goal of addressing several key challenges.

NETWORKING RECEPTION AND UNCONFERENCE

The evening before the Urban Mobility Design Camp, MaRS hosted a kickoff reception featuring a series of keynote speakers who addressed the future of transportation. The reception created an opportunity for participants to learn more about the exciting work already taking place through intimate unconference sessions.

The keynote speakers included Raquel Urtasun, head of Uber Advanced Technologies Group in Canada, and Josh Colle, Toronto city councillor and chair of the Toronto Transit Commission. The unconference sessions were led by representatives from Arup Canada, Bridgeable, Intact Insurance and Share the Road.

THE URBAN MOBILITY DESIGN CAMP HAD FOUR KEY SECTIONS TO THE DAY

Section I: Panels

Panellists presented the challenges and opportunities that their organizations are facing in delivering community health and accessibility services, facilitating mobility in new building developments, and facilitating mobility to and from large employment zones and education campuses. The three panel streams were presented concurrently.

Streams and panellist organizations:

Connecting to Care: Canadian Red Cross, Revera, SPRINT Senior Care, Toronto Central Local Health Information Network and Bruyère (moderator).

Builders of the Future: Great Gulf Residential, LiveWorkLearnPlay, Mattamy Homes and Arup (moderator).

Moving Minds: Greater Toronto Airports Authority, Ontario Power Generation, University of Toronto/StudentMove TO and CivicAction (moderator).

Section II: Mapping the Environment

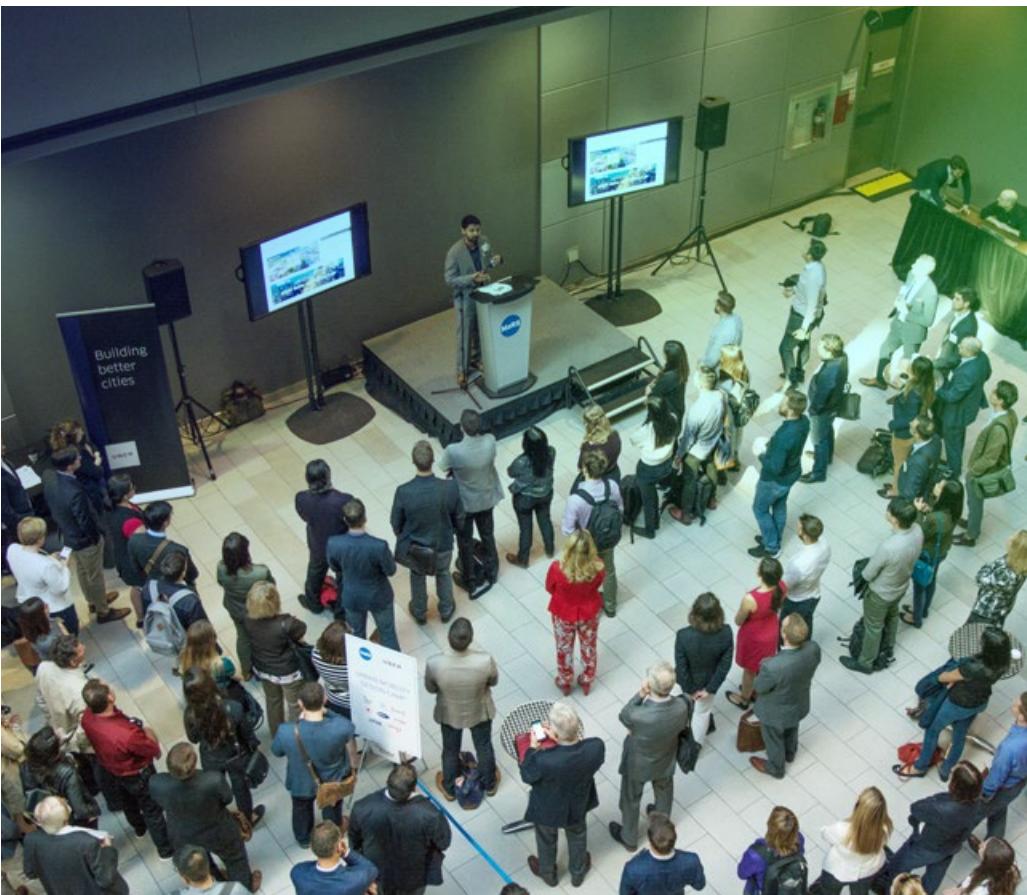
Participants selected and framed the most pressing challenge among each table. They started the day by working with their design teams to identify and develop a deeper understanding of and initial concept designs for the key challenge they wanted to approach.

Section III: Finding a Route

Design teams developed value maps for their key users and stakeholders. They leveraged their diverse expertise through a series of quick, interactive and generative exercises to come up with a number of new solutions that addressed the needs of their chosen challenge.

Section IV: Test Driving

Teams developed a concept design for their idea. Each table identified key design considerations and created a short presentation to outline the expected user and implementer experience associated with their proposed solution.



CHALLENGES

The panelists presented challenges that were broadly classified into three streams. All of the speakers provided challenge presentations for the event and some of the speakers also provided challenge briefs (see Appendix 3). The three challenge streams were as follows.



1. Connecting to Care

This panel focused on challenges that healthcare providers and users face when there are not reliable, intuitive, accessible and affordable transportation options to get to healthcare institutions. Various healthcare service providers detailed their transportation challenges and identified where there may be opportunities to improve the quality, flexibility and efficiency of the services through the use of new transportation solutions and approaches.

Panel: Canadian Red Cross, Revera, SPRINT Senior Care, Toronto Central Local Health Information Network and Bruyère (moderator)



2. Builders of the Future

This panel focused on challenges that developers face when developing properties in transportation deserts, where the only—and often default—option for travel is to drive in single-occupancy vehicles. This panel focused on the specific challenges faced with buildings that are developed and/or to be developed in these areas.

Panel: Great Gulf Residential, LiveWorkLearnPlay, Mattamy Homes and Arup (moderator)



3. Moving Minds

This panel focused on the challenges that employers and education institutions face when access to affordable and reliable transportation is not available to their employees and students. Panellists described the impact of difficult commutes on employee retention, student engagement and productivity. The panel focused on the specific challenges and/or limitations of existing transportation options and how these impact their employees and students.

Panel: Greater Toronto Airports Authority, Ontario Power Generation, University of Toronto/StudentMoveTO and CivicAction (moderator)

KEY IDEAS GENERATED

Connecting to Care

- Free cellphones and data, along with technology education for seniors and those who may be uncomfortable using mobile technology.
- Trip-planning concierge with inexpensive, accessible travel service geared to seniors and those with mobility barriers.
- Integrated trip planner tailored to the needs of users to help facilitate simpler travel.
- Integrated paratransit assistance on a simple fare and pricing model.

Builders of the Future

- Give out a PRESTO card with people's vehicle license to encourage greater use of public transit.
- Mobility pricing gamification to establish new pricing for transit infrastructure and land use, and to obtain better data and acceptability for road pricing.
- An Expedia-like transportation marketplace, where riders and providers can plan for their trips across multiple systems.

Moving Minds

- SuperPRESTO where commuters can buy one card and download one app to access and plan a trip across various transportation options.
- Multi-modal mobility hubs, where large employers become mini mobility hubs connecting transit, ride-sharing services and bike-sharing services.
- Bringing the workplace to the employees, reducing commuting distances and time for employees and fostering productivity through satellite employment hubs.

Further detail and additional ideas generated are presented in [Appendix 1](#).



OVERARCHING THEMES

The following summarizes overarching themes identified across the many unique ideas generated by the teams.

Accounting for the rapidly changing mobility service landscape and associated consumer expectations to realize benefits. As a result of evolving expectations around what mobility services are and how they are delivered, many sectors are increasingly looking to understand how they can improve their service offerings for their users/clientele. The public sector, which has traditionally been charged with the delivery of large-scale transportation services, is also challenged by how to best adapt to meet and leverage new opportunities for collective benefit. The longer it takes to rise to these challenges cohesively, the harder it becomes to adopt innovative mobility solutions in a timely manner, which ultimately jeopardizes realizing the major benefits that shared mobility can provide.

This points to the **need for coordination and redefining the roles and responsibilities in transportation service delivery.** Integrating new transportation services into community transportation planning will require doubling down on efforts to engage diverse users, implementers and transportation stakeholders and, in doing so, may point to new strategies for how such services can be delivered and by whom.

Convincing users, implementers and stakeholders of the applicability and benefit of shared mobility will also be critical. Real and perceived barriers to immediate implementation of shared mobility solutions can—and will—be difficult to overcome given the long-standing primacy of single-occupancy vehicle travel and associated infrastructure designed to encourage its use. These include both user and implementer attitudes and perceptions regarding the convenience, feasibility, pricing and comfort of alternatives (such as carpooling, ride sharing and bike sharing).

Lastly, some sectors, like healthcare, have unique complexities when it comes to accounting for user needs and, furthermore, are complicated by the legacy of how such services have traditionally been delivered. Although the challenges and opportunities triangulate more clearly for this sector in terms of forming a coherent picture of what is needed and why, this underscores the need and urgency to deliver specialized strategies for such sectors.

IMPLICATIONS AND APPLICATIONS OF OVERARCHING THEMES

From the overarching themes identified above, it is clear that nearly all of the solutions to the three challenge streams require greater integration across various modes of transportation for the entirety of the trip. There was also a call to explore new business models to deliver these integrated transportation services at an affordable price for various users and to do so in a sustainable and equitable way.

The ability to adopt these types of solutions at scale given the following key features of the transportation sector will require some coordinated efforts across a range of diverse and varied transportation stakeholders.

Key features of the transportation sector

- Multiple transportation stakeholders, which include several levels of government, municipal and regional planning and transit authorities, and a wide range of public and private sector service providers.
- The need to explore new business models and test their adoption and capacity to scale sustainably based on user preferences and user-centred design.
- The rapid rate of change in the technologies in this space which at times contrast with the current rate of regulatory change needed across the multiple organizations involved.

Adoption of solutions will also require transportation stakeholders to:

- Define the transportation challenge and determine what outcomes define success;
- Rapidly prototype, iterate and market test solutions that are grounded in user-centred design, and that can account for innovative and available market-ready technologies;
- Have an underlying business model that can scale; and
- Have a consistent and robust data collection and project evaluation framework that is able to capture the learnings across these projects and that can produce evidence-based findings to inform policy development and regulatory changes.

MaRS has initiated these efforts to bring together key industry leaders and user groups to undertake the steps required to start this transformation process. MaRS looks forward to rapidly bringing these solutions to market to realize some of the ideas developed above. If you would like to be involved in building and supporting these efforts, please reach out to Sasha Sud, Senior Manager of Transportation and Energy at MaRS, at ssud@marsdd.com and Melissa Felder, Manager of Transportation at MaRS, at mfelder@marsdd.com.



APPENDIX 1 - SOLUTION HIGHLIGHTS

The following are highlights of the ideas proposed by the 16 tables of participants in the Urban Mobility Design Camp.



CONNECTING TO CARE

SENIOR ABILITY

"Using cellphone services to help socially isolated seniors create more personal connections in real life, enabling better mobility"

- Enabling better access to transit services by providing free cellphones and data, along with technology education, for seniors and those who may be uncomfortable using mobile technology.
- Goal is to provide care to seniors (and those in need) by providing them with cellphones in order to empower, advocate and combat social isolation.
- In order to promote this solution, training sessions will need to be offered to willing target communities, such as retirement homes and community centres.
- Initial barriers to this solution include language and mobility barriers, technology phobia, finding leaders who will support a pilot project and getting municipalities involved.
- The success of this solution would be measured by the number of users who sign up, the number of trips planned and the number of weekly active unique users using the platform.
- Important stakeholders to consider include the users, the service providers and the municipalities implementing this project.

SENIOR TRAVEL SERVICE

"Door-to-door accessible trip-planning concierge service for seniors"

- Travel-planning service enhancements geared to seniors and those with mobility barriers, featuring voice command functions and door-to-door accessibility.
- This solution will provide value for seniors because it will encourage independent travelling, a safe and reliable method for wayfinding (navigation), and real-time updates so users can make changes on the go.
- Promotions and communications can be targeted to locations where seniors travel often, like the doctor's office.
- Features will include a cashless system (like PRESTO) and recorded data on previous trips made by the user.
- Improving safety and accessibility for senior travel by enabling voice command assistance will need to be considered.
- Initial barriers to this solution include the need for a multilingual system, the need for a committed municipal implementer and the challenge of user uptake.
- The success of this solution would be measured by the number of users, the decrease in senior-related car accidents, an increase in personal safety, an increase in cost savings for seniors choosing public transportation and shared metrics (such as real-time traffic data, cost per trip etc.).
- Important stakeholders to consider include municipalities, users and transit providers.

TRIP PLANNING PORTAL FOR HEALTH APPOINTMENTS

"Circle of care and mobility: Integrated health appointment trip scheduling with real-time updates and re-routing service enabled by personal health data-sharing between trusted stakeholders"

- An integrated trip planner to improve predictable journeys for healthcare appointments, which will reduce the burden and costs of inefficient bookings, early/late arrivals and patient tardiness.
- Having a seamless, integrated, accessible, reliable and predictable journey planner will enable better care for the health-vulnerable older adult population.
- Will have real-time feedback from both the healthcare service provider and the patient for updates and backup plans.
- The goal is to ensure less missed appointments and to provide pre-pickup and post-drop-off person-to-person service.
- Initial barriers to this solution include the ability and legal permissions required to share medical information, establishing a regional level data centre and developing a supportive provider network.
- Additionally, the design of the portal (front-end app) will need to provide channels of choice (online, phone, text etc.), display transit routes and options with real-time updates, and begin with a pilot to ensure feasibility prior to scaling.
- The success of this solution would be measured by use.
- Important stakeholders to consider include doctors, healthcare providers, transit providers and funding agencies.

DYNAMIC SHARED SHUTTLE SOLUTIONS, HEALTHCARE, ACTIVE LIVING AND MOBILITY SERVICES

"Healthcare providers coordinating healthcare appointments and ride-pooling services for seniors"

- Shared mobility as a healthcare service for seniors: an area-to-area, point-to-point ride-matching solution that enables healthcare providers to book appointments for seniors.
- The service will offer features such as ride matching, dynamic shuttles, a versatile reservation system, and the ability to save preferences and routes.
- Key design features will include a well-defined location/destination pricing system that will offer discounts to certain destinations and a simple and flexible reservation/communication system that general practitioners can connect to (like a mobile booking application with route matching).
- The value is the ability to match geographically close communities that have similar needs.
- Initial barriers to this solution include user uptake and obtaining the support of municipalities.
- The success of the solution would be measured by the number of first-time reservations, completed service use, follow-up appointment compliance, reliable data, regularity of use, problem reports and responses, and increased service growth.
- Important stakeholders to consider include healthcare and mobility providers, support services, sponsors and users.

INTEGRATED TRANSPORT ASSISTANCE FOR PARATRANSIT

"Door-to-door multi-modal paratransit trip planner with real-time updates and re-routing support (for regular travel)"

- Convenient transport assistance for seniors: A single point of access where people with special mobility needs could access multiple providers via a fully integrated and accessible end-to-end service from booking through to riding and drop-off.
- The value proposition is an integrated convenient care for people and reduction of socioeconomic barriers so that seniors can access transit and be able to contribute to the community.
- The desired solution is a single point of access to service-booking that is accessible, has simple pricing (for all demographics and income levels) and has feedback-enabled features.
- Key design features for this solution include a pilot study in a small municipality, two-way feedback on user experience (for the driver and the user), an integrated/loadable card payment system and provider asset inventory.
- Initial barriers to this solution include cost, user uptake and potential resistance, and potential lack of long-term investment.
- The success of the solution would be measured by user data on reliability and ease of access, and ridership.
- Important stakeholders to consider include Local Health Integration Networks, service providers, users and municipalities that will test the solution.





BUILDERS OF THE FUTURE

DRIVERS WITH PRESTO

"Giving out PRESTO cards with driver licenses to help create better data for mobility planning, incentives and innovation"

- Drivers at ServiceOntario offices will be given a PRESTO card along with their vehicle license (a future adaptation may be to build PRESTO into the actual vehicle license card) with the hope that it will encourage drivers to consider taking public transportation.
- The PRESTO card will collect, analyze and disseminate user-based data on public transportation, ultimately enabling better access and use of data.
- Establishing incentives for using PRESTO instead of driving will also encourage the use of public transportation.
- Initial barriers to this solution include the need for policy development, lack of collaboration, privacy issues, general public education about the opportunities for public transportation, the ability of public transportation services to identify and respond to evolving user needs.
- The success of the solution would be measured by the increase in PRESTO usage and implementation.
- Important stakeholders to consider include the Ontario Ministry of Transportation, licensing offices and Metrolinx.

What if... PRESTO data could be integrated with GPS travel data (GPS chip on Metropass or on a synced phone) to track user movement data and provide personalized recommendations on how to optimize the journey using mode shift?

MOBILITY PRICING GAMIFICATION

- Transportation needs to be affordable, efficient and safe, have competitive travel times and be optimal for all ages.
- Involves establishing new pricing for transportation infrastructure and land use.
- The value for this idea is to obtain better data and acceptability for road pricing; a road-pricing pilot would be introduced in a region where each user would be allocated \$10,000 for transportation costs and would then have to pay different amounts for using various modes of transportation, including for personal-vehicle use.
- Prices would be structured to incent shared modes of travel (such as car sharing, bus, light rail, subway etc.).
- Users' travel choices would reveal their preferences around modes of mobility and what they are willing to pay for them when the costs are not hidden.
- The project could direct municipal investments around transportation options and could also inform transportation pricing regulations to achieve socially desirable outcomes.
- Initial barriers to this solution include establishing policies that all parties—including the Ministry of Transportation, municipalities and user groups—will agree upon to test the pilot.
- The success of the solution would be measured by the acceptability of road pricing and user uptake.
- Important stakeholders to consider include the Ministry of Transportation, existing apps/solutions, investors and municipalities.

COMMUNITY SCALE AND PROCUREMENT OF MOBILITY AS A SERVICE (MaaS)

"Community-owned MaaS"

- This solution suggests that communities should integrate old and new mobility services and address the community's personal mobility of choice.
- Each community would buy into a specific set of services that fits with what the users in the community want and/or need.
- Reasons for this solution include the possibilities of data sharing and open data, technology being faster than regulations, and the fact that communities want access to certain services over others.
- A community would be able to buy into a specific set of services tailored to its needs.
- Key design features include the integration of transit subsidies into the subscription and having discounts for lower income users or those located in transit deserts.
- Initial barriers to this solution include policy development and the potential division between communities.
- The success of the solution would be measured by sufficient providers agreeing to the project, sufficient user signup, user growth in numbers, a drop in car ownership and an increase in transit ridership and biking.
- Important stakeholders to consider include mobility providers and users.

TRANSPORT MARKETPLACE TO CROSS BOUNDARIES

"Expedia for local mobility"

- A transportation marketplace where riders and service providers can plan for and understand the payment for their trips across multiple systems.
- Key design features include the ability to match riders to providers, loyalty rewards for using the app, active marketing and access to open data.
- Initial barriers to this solution include establishing policies, a lack of collaboration between stakeholders, the need for user uptake and flexibility.
- The success of the solution would be measured by the number of trips, providers, bookings and reports, as well as the duration of usage.
- Important stakeholders to consider include the riders, people with complex mobility needs, transportation agencies and associated advocacy groups for the identified target market.



MOVING MINDS

OPEN END-TO-END FARE SYSTEM

"A seamless experience across transportation providers"/ "SuperPRESTO" / "ReallyPRESTO"

- Commuters buy one card or download one app to seamlessly access and transition between transportation options across different regions and systems at any time of the day.
- This solution would reduce commuting stress and travel time across long distances where commuters have to exit and connect into multiple transportation systems, where transitions can be quite costly (for example, beginning a leg on the TTC, connecting to GO Transit and then getting back onto the TTC requires the commuter to pay the TTC fare twice).
- The solution could be led by Metrolinx.
- It would not be limited to routes that feed only into the city (for example, from suburban areas into major hubs like Union Station) but would also connect suburban areas (for example, Mississauga and Brampton).
- This idea enables a number of other ideas, where multi-modal transportation options are more valuable to commuters if the experience is seamless and the transitions are efficient.
- This solution challenges the existing fare system and would require multiple transit systems to integrate and build robust partnerships toward a shared long-term vision and goals.
- Fares would be collected by a single agency and then redistributed among the agencies based on established agreements.
- Performance standards and common card and phone readers would need to be consistent across the integrated system, making it intuitive for the users as they transition.
- If an app is developed, Wi-Fi access at terminals would benefit the user experience.
- For any personal data collected, privacy measures would need to be clear and well communicated to users.
- Data would be collected to analyze commuter patterns and to help forecast urban growth and respond with infrastructure and development plans; the data collected could include adoption of the new card or app, changes in ridership and common commuting paths.
- Important stakeholders to consider include the users/commuters, communities, transportation agencies and transit authorities.
- Deeper implications revolve around establishing a model for an integrated transportation system that new transportation models would be able to easily link into, and the value of the aggregated data of end-to-end commuter paths across the GTHA toward urban planning.

SHIFTING COSTS FOR FREE TRANSIT

"Free transit - alternate monetization / "Third-party pay models" / "Efficient errands"

- This solution emphasizes the value of the user/commuter's lifestyle, where transportation is necessary but only a tool to connect a user/commuter between activities; under this framing, the time spent during transportation could be enhanced and made more productive to support lifestyle activities, such as providing opportunities for accomplishing tasks/errands (for example, bundling package pickup points with transportation connections or along routes, pre-ordering items before arrival etc.).
- Users/commuters will feel more productive and less stressed.
- The opportunity to use these services could come at an additional cost, and retailers and service providers could pay for access to the commuting audience, thus creating an alternative revenue model for transit or other transportation providers and either reduce the costs for the general user/commuter or even make it free.
- Reduced or free transportation would be more accessible for people of varying socio-economic statuses.
- An app would complement the system, enabling users to see optimized and dynamic route calculations; free Wi-Fi access during commutes would enable this to be accessible to all users/commuters.
- Data that could be captured includes service cost rates, frequency of use, dollars spent per transaction, cost versus time comparisons across modes of transportation, and user history to generate personalized recommendations.
- Initial barriers to this solution include the difficulty of adapting to and integrating this new business model.

- Important stakeholders to consider include transit operators (such as the TTC and GO Transit), as well as retail and service partners (like Amazon).

- Deeper implications would include: shifting transportation business models to include more services and retailers as a significant part of the client/revenue base, changing the workforce needs of transportation providers; integration into bike- or ride-sharing models may provide more business to retailers and service providers off of major streets and along key routes; socio-economic benefits of free or reduced cost transportation, but also likely an increase in ridership of these transportation types and also an increase in the costs to meet demand and maintain the system.

RIDEShare/MOBILITY HUB

"Filling the gaps in transit with a network of multi-modal mobility hubs across the GTHA" / "Large employers as mobility and life hubs"

- Large employers would act as mini mobility hubs, where connections to transit, ride-sharing services and bike-sharing services would be available.
- The various transportation modes would be integrated under one seamless system and accessible via an app, enabling viewing various modes of transportation and dynamic route options, payments, and easily transitioning between modes.
- Employees would be excited to have alternatives to single-occupancy vehicles that are safe, reliable and convenient, and that offer competitive prices.
- Employers would promote the use of this multi-modal network to their employees, over using single-occupancy vehicles, where this would be an alternative option that would be easier or more efficient for employees to get to work.

- Hubs would be located in areas where there is less transit support and could be driven by data collected from employees, targeting areas where they have transportation needs.
- Data would be collected through the app to learn about user/commuter behaviours and to gain insights into the use of the system.
- Collected data would include trip movement through the system from origin to destination, return rate to the system, and engagement and completion of trips.
- Initial barriers to the solution include governance and funding, too much red tape and competing priorities among stakeholders; there would need to be a clear call to action among stakeholders that they will all need to work together to create a robust solution.
- The success of the solution would be measured by the quality of the integrated system: ensuring that employees are able to access the system when they need it, that they have accurate and up-to-date information on transportation routes and that the integration across transportation services is seamless.
- Important stakeholders to consider include transit operators, local service providers, GO Transit, Metrolinx, the municipalities, users and employers.
- Deeper implications include: the employers' and ride-sharing operators' roles in offering reliable and timely ride-sharing services (without broader or large-scale participation, transportation options would be limited and not likely offer comparable efficiency and value over existing services); the need for developing cycling infrastructure in more suburban and commercial employment park areas; and that a network of mobility hubs can provide data to support future urban and development planning for transit support.

EMPLOYMENT HUB

"Cutting commutes by bringing the workplace to the employees"

- Major employers would create satellite employment hubs, reducing commuting distances and times for employees and fostering productivity.
- Multiple organizations would be co-located with each other and could leverage existing vacant spaces (like closed retail locations), which would bring spending to the area and improve the economic vitality of neighbourhoods with less transit access.
- Employees would be able to spend their time building networks locally, rather than on lengthy commutes, making the employer attractive to talent.
- Accessing these spaces would be done using shared mobility options, further reducing overall emissions and reducing the need for costly parking spots (enabling better land use options for developers).
- The government would be engaged to provide incentives for workplaces to decentralize their workforce and create the hubs; incentives could be based on the reduced distance of travel averaged between each employee.
- Data would be collected on increases in the use of high-occupancy vehicle lanes, employee retention, impressions and email opens for announcements and information on the program, employee performance, usage of hubs, employee satisfaction surveys, greenhouse gas emissions and costs of hub resourcing.
- Key design considerations include incentivizing employers to develop hubs, effective and secure distance communication technologies and practices between hubs, integration of transportation modes under one system, and limitations based on the type of work (for example, computer-based desk work is less complex to decentralize).

- Important stakeholders to consider include employees, employers, government and transportation providers.
- Deeper implications include significant changes to workplace models for employers and employees, and the increase in vitality of neighbourhoods that might normally be underserved by transit.

POP-UP HUB

"Points of enjoyable experiences along the trip"

- Looking specifically at the airport employer challenge, where there are significantly longer legs of a commute, employers would join a mobility-as-a-service pilot project to create experiential hubs at transition points along common commutes.
- At these transition points, pop-up retail and service spaces operating from shipping containers would be available for employees to enjoy their waiting time.
- Shipping containers offer quick infrastructure and would enable the pop-up spaces to be moved according to demand; they are also low cost for retail and service providers, so they would not have to commit long term and the retail/service pop-up could shift based on the interest and demand of the commuters visiting (for example, coffee shops, childcare, healthcare etc.).
- An app would facilitate the optimizing of routes and points of interest for employees and could include transportation provider and payment integration.
- Key design considerations include the fragmentation across municipalities and transit providers, the economic viability of the hubs themselves, and the flexibility to adapt and change as commuter needs adapt and change.

- Data collected would include the number of repeat trips, the percentage change in car ridership, employee satisfaction surveys, employee performance, app feedback systems and the success of businesses at the hubs.
- Important stakeholders to consider include mobility-as-a-service providers, transit providers (including bike and car sharing), employers and users.
- Deeper implications include the piloting of flexible infrastructure to help determine the needs and desires for urban planning at the transitional hubs.



APPENDIX 2 - IMPLEMENTING THE KEY IDEAS

EVENT SUMMARY

STREAM AND CONTEXT	COMPLEXITIES	IDEAS AND PROPOSED SOLUTIONS (FROM DISCUSSION)	STAKEHOLDER CONSIDERATIONS	POTENTIAL OUTCOMES OF SHARED MOBILITY
CONNECTING TO CARE				
<ul style="list-style-type: none"> Increasing number of people living with mobility disabilities (see No. 1) Mobility and the ability to travel is linked to independence, personal freedom and well-being Significant cost and liability associated with providing mobility services and care to vulnerable populations Technology for scheduled and on-demand transportation exists, but has not yet been widely adopted to address this sector Lack of affordable and appropriate transportation options for people over 60 increases risks of social isolation (see No. 2) Safe, non-emergency transportation between care settings and home is essential to ensuring patient safety 	<ul style="list-style-type: none"> Infrastructure and resources vary between different communities; planning can sometimes occur in isolation Wide variance in incomes and the ability to pay for transportation services within this client group Limited uptake of technology among the 75+ population Other compounding factors include the costs of other basic needs, availability and cost of transportation, zoning restraints, and food and nutritional knowledge (see No. 3) Accessible point-to-point transportation options have systematic high cost structures that are difficult to reduce The sector is moving toward the integration of community transportation services, but is currently immobilized due to the legacy structure of how community support services are delivered (i.e. across 13 different agencies) 	<ul style="list-style-type: none"> Senior ability: Pilot free cellphones and data, along with technology education, for seniors and those who may be uncomfortable using mobile technology Trip-planning concierge for 8 to 80-year-olds: Voice-command enabled, inexpensive door-to-door accessible travel service geared to seniors and those with mobility barriers Integrated trip planner/portal tailored to the needs of users, which has the following features: <ul style="list-style-type: none"> - single point of access to service booking; - data-sharing capacity; - simple and flexible reservation/communication system that general practitioners can connect to; and - simple pricing (for all demographics and income levels) Shared dynamic shuttle or area-to-area, point-to-point and well-defined location/destination pricing system to pair geographically close communities/destinations, and provide discounts to certain destinations (healthcare providers) Integrated paratransit assistance that would provide a full trip with real-time updates, re-routing support and a seamless journey all on a simple fare and pricing model 	<ul style="list-style-type: none"> Addressing special needs is paramount (i.e. mobility assistance, wheelchair transport) User needs are varied in that services should be offered in multiple languages and via alternate modes (i.e. telephone) Specialized driver training and vehicle specification is also an important component when it comes to service delivery; however, these can be costly Doctors and healthcare providers may offer another point of entry/channel partner for innovative pilots and programs, as well as additional sources of data for trip planning Funding agencies and traditional community/transport services must be involved so as to leverage existing knowledge, capacity and networks 	<ul style="list-style-type: none"> Significantly reduce current costs of service for the provider and user Increase responsiveness and reduce wait times and time required for advance booking Streamline and integrate healthcare appointments for users and user groups, resulting in improved patient care and safety Provide users with greater confidence and certainty on their travel choice Expedite integration of community transportation services and cross-boundary travel so as to improve travel experience for users Allow healthcare agencies to focus on the core competencies (i.e. long-term care, mobilizing volunteer networks etc.)

STREAM AND CONTEXT	COMPLEXITIES	IDEAS AND PROPOSED SOLUTIONS (FROM DISCUSSION)	NECESSARY STAKEHOLDERS	POTENTIAL OUTCOMES OF SHARED MOBILITY
BUILDERS OF THE FUTURE				
<ul style="list-style-type: none"> New communities are increasingly being built on the outer limits of mature communities and far from transit infrastructure: a new process is needed to combat the first- and last-mile gap challenge People have been offered vehicular-oriented, single-use environments, but they desire people-oriented, mixed-use spaces (see No. 5) Traditional transportation models may not meet the changing demands of today's world: future communities should be constructed to be accessible for people who do not have to—or do not want to—depend on cars 	<ul style="list-style-type: none"> The desire for community transportation planning and integrated transportation solutions requires engaging multiple diverse users, implementers and transportation stakeholders. This presents a coordination challenge, as each actor involved has to undertake a different approach to conducting his or her day-to-day operations around transportation As a result of rapidly changing customer expectations (due to user experience with private-sector offerings), public-sector services are faced with the constant challenge of meeting rapidly changing customer expectations. Moreover, the longer it takes to rise to these challenges, the harder it becomes to coordinate opportunities into one unified system. This makes it difficult for developers to effectively plan and design communities around “best-case” or idealized transportation scenarios 	<ul style="list-style-type: none"> Give out PRESTO cards with driver and vehicle licenses to facilitate public-transit usage (i.e. drivers will obtain a PRESTO card along with their vehicle license to encourage them to take public transportation) Mobility pricing gamification to establish new pricing for transit infrastructure and land use, specifically to obtain better data and acceptability for road pricing (i.e. road-pricing pilot where each municipality will choose how to spend a fixed budget, where each mode is valued differently) Community scale and customized mobility-as-a-service procurement. Key design features would include: integration of transit subsidies into the subscription; bulk buy of services at the community level; and discounts for lower income users and those located in transit deserts An Expedia-like transportation marketplace, where riders/providers can plan for and understand the payment for their trips across multiple systems, as well as avail themselves of benefits like loyalty programs and reduced costs 	<ul style="list-style-type: none"> Provincial government (Ministry of Transportation) due to its critical role on transportation infrastructure and related law Related agencies like Metrolinx, which operates the PRESTO system Municipalities and city planners, as they are key when it comes to the project development and permitting Current and potential service providers, which will be instrumental in designing and offering new services Real estate investors and developers who are keen to explore and enact new thinking in this area And last but not least, residents and associated citizen advocacy groups 	<ul style="list-style-type: none"> Pioneering projects and new data sources result in new precedents and documentation of new trends Citizens enjoy an improved mobility experience due to the improved coordination/integration of transportation providers/journeys to and from their homes Equitable transportation is provided across boundaries and is affordable, efficient, safe and optimal for all ages and communities Municipalities spend less on building new car-centred infrastructure Innovative developers benefit from expedited permitting and higher value/higher sales per sq. ft., and adapt to market trends to reduce vehicle ownership Homebuyers have access to affordable communities without having to buy a car Quality of life and healthy lifestyles are promoted by reducing car dependency and fostering a sense of community vibrancy

STREAM AND CONTEXT	COMPLEXITIES	IDEAS AND PROPOSED SOLUTIONS (FROM DISCUSSION)	NECESSARY STAKEHOLDERS	POTENTIAL OUTCOMES OF SHARED MOBILITY
MOVING MINDS				
<p>How can mobility options change to provide more choice, reduced environmental impact, and improved access to jobs and education? Examples include, but are not limited to:</p> <ul style="list-style-type: none"> • The 300,000 employees travelling daily to and from the Airport Employment Zone (AEZ); • The 175,000 students at Toronto's four universities who travel daily across a region of 8,296 km²; • The 5,500 to 6,000 Ontario Power Generation (OPG) employees commuting in and around Durham region, along with other major employers like GM, Durham Region and Durham District School Board 	<ul style="list-style-type: none"> • Enabling stakeholders (likely large employers) and impacted communities to effectively engage in the implementation of innovative shared mobility services. For example, the AEZ crosses multiple jurisdictions and agencies involved in the planning and execution of transit services, which complicates the ability to create solutions for this area • Real and perceived barriers to immediate implementation of shared mobility solutions can be difficult to overcome. For example, at OPG: 92% of people drive to work; there is limited public-transit access from GO Stations to work sites; and people are concerned about the convenience of carpooling and coordinating rides, especially in rural areas (see No. 6). How do we ensure that equity impacts of shared mobility are mitigated, and public safety is achieved? 	<ul style="list-style-type: none"> • A seamless experience across transportation providers, or SuperPRESTO, whereby commuters can buy one card or download one app to seamlessly access and transition between transportation options across different regions and systems at any time (see No. 5) • "Shifting costs for free transit," which emphasizes the value of the user/commuter's lifestyle, where transportation is necessary but only a tool to connect a user/commuter between activities; alternative public transit revenue models that leverage the retail sector could also be explored • Filling the gaps in transit with a network of multi-modal mobility hubs, where large employers would act as mini mobility hubs where connections to transit, ride-sharing services and bike-sharing services would be available, especially in areas currently underserved by transit • Cutting commutes by bringing the workplace to the employees, where major employers would create satellite employment hubs, reducing commuting distances and times for employees and fostering productivity. Multiple organizations could also be co-located with each other • Pop-up hubs or "enjoyable experiences along the trip," where for significantly longer legs of a commute, employers would join a mobility-as-a-service pilot project to create experiential and short-term hubs at transition points along common commutes 	<p>In addition to the provincial government (Ministry of Transportation) and agencies like Metrolinx/PRESTO, key stakeholders include:</p> <ul style="list-style-type: none"> • Employees and students, in particular their needs, travel patterns and preferences, and their relative capacity/ability to pay; • Employer perspectives, influence and expected involvement/support for related initiatives; • Connection with existing transit and the role of municipal transportation agencies in enabling this connection; and • Potential additional opportunities in other sectors, for example by leveraging retail and service partners • Additional mobility service providers (i.e. bike sharing and car sharing) would also be necessary to explore in order to provide a full ecosystem of options 	<ul style="list-style-type: none"> • Facilitate access to jobs and remuneration • Facilitate access to talent and instruction • Strengthen employee retention and satisfaction • Strengthen student enrollment and engagement • Enables economic prosperity and supports a healthier home/work environment

No. 1: Over 15% of Ontario's population has a disability, including more than 40% of people over age 65. About 1.85 million people in Ontario have a disability. That's one in seven people. Over the next 20 years, as the population ages, the number will rise to one in five Ontarians. More than half of the population has a friend or a loved one with a disability, and is influenced by them when deciding which businesses to solicit.

No. 2: Those over age 60 are often considered to be at higher risk of becoming transport captives. (United Way of the Lower Mainland, 2011, "United Way Seniors Vulnerability Report")

No. 3: The idea of food deserts, where those in greatest need of nutrition often have the least access to such goods (and are resigned to eating "gas station" meals).

No. 4: As per the Builders of the Future Challenge Brief prepared by Mattamy Homes.

No. 5: Data could be collected to analyze commuter patterns and to help forecast urban growth and respond with infrastructure and development plans. Data collected could include adoption of the new card or app, changes in ridership or common commuting paths.

No. 6: For example, solving the last-mile challenge in less dense areas like Durham and/or the wide range in the origin of commuters to places like the University of Ontario Institute of Technology, Ontario Power Generation and the Greater Toronto Airports Authority.

APPENDIX 3 - CHALLENGE BRIEFS



MOVING MINDS

GTAA

How can we improve transit connectivity for employees travelling to/from the Airport Employment Zone (AEZ) and the airport **so that** congestion in the area and environmental impacts are reduced, while access to jobs is improved?

This matters to employees, employers, and government **because** access to jobs, access to talent, and investments in transportation infrastructure enable economic prosperity and support a healthier environment.

We have tried/made progress in raising awareness of the importance of better connecting the airport and the surrounding airport employment zone to the regional transit network.

What makes matters more complicated or complex is the fact that the area surrounding Toronto Pearson (called the AEZ) crosses multiple jurisdictions and agencies involved in the planning and execution of transit services. As well, the AEZ doesn't currently have the density of downtown Toronto, making the so-called "last-mile" a particular challenge that will require more innovative solutions.

But there is hope, GTAA is advocating for planners and decision-makers to plan these lines so they connect to the airport as its planned regional transit centre.



We will know we are making progress when there is:

- Increased choice through enhanced network connectivity for employees to access the airport and the airport employment zone.
- Increasing proportion of employees using transit, to and from the airport and the airport employment zone.

Other Information:

- A recent study by the NEPTIS Foundation identified that the area surrounding Toronto Pearson—called the AEZ—is Canada's second-largest concentration of jobs after downtown Toronto. The NEPTS study further showed that the AEZ accounts for about 1 million car trips per day—and less than 10 per cent of trips into and out of the AEZ are by transit.
- GTAA is advocating for planners and decision-makers to make existing and planned lines connect to the airport at its planned regional transit centre. This will take a long term time frame to develop and deliver.
- The GTAA is the operator of Toronto Pearson; GTAA is a non-for-profit entity and no taxpayer subsidies fund the airport's operator or development.
- Toronto Pearson is Canada's largest airport in terms of total passenger traffic, having served 44.3 million passengers in 2016.
- Toronto Pearson is one of the country's most important economic assets, providing connectivity to 67% of the world's global markets.
- This connectivity gives our region a competitive advantage over those without this type of direct link to international markets, generating significant benefits for the area around the airport, the province and the country at large.

- And, of course, with that comes jobs. Direct jobs at Toronto Pearson have grown from 40,000 in 2011 to over 49,000 today. Moreover, Toronto Pearson facilitates 332,000 jobs around the province through trade, tourism and foreign direct investment. Just as Ontario's vibrancy drives traffic increases at Toronto Pearson, the airport in turn acts as a major engine of the province's growth. Toronto Pearson will have reached mega hub status by 2035, at which time we expect the airport to facilitate some 700,000 jobs across the province.
- What does this all mean for the province of Ontario?
 - A study by Frontier Economics indicates that Toronto Pearson facilitates 6.3% of Ontario's province-wide GDP, equal to about \$42 billion.
- With the current forecasts of GDP growth and with the prospect of Toronto Pearson increasing its share of the North American connecting traffic market, it is estimated that by 2035 there could be more than 80 million passengers passing through Toronto Pearson each year. The effect thereof would be to support up to 8.5% of Ontario's GDP.

ONTARIO POWER GENERATION

How can we adopt a mobility options **so that** it offers more choice and alternatives to single occupancy car commutes for the 5,500 - 6,000 OPG employees at the Darlington Nuclear Station, Darlington Energy Complex and GM buildings in the Durham region?

This matters to employees because:

- They face parking constraints and are having challenges with contractor and staff access to work sites.
- They lack vehicles and/or are interested in more affordable, convenient and sustainable modes of transit.

This Matters to OPG because:

- Better access to transportation solutions can improve employee satisfaction, retention and younger employee recruitment.
- This can reduce GHG emissions to support the Climate Change Action Plan and also inform OPG's interest in exploring transportation electrification solutions.

This matters to Durham Region **because** it has seen increased traffic during peak hours due to the increased staff supporting Darlington's refurbishment.

We have tried/made progress by sending out a survey to staff to determine the potential for and the feasibility of exploring, designing and adopting shared mobility. Key findings were that:

- 92% of people drive to work.
- No public transit access from GO stations to work sites.
- People are concerned about the convenience of carpooling and coordinating rides, especially in rural areas.

The next step is to determine and test the best mobility options for our staff.

What makes matters more complicated or complex is:

- The wide variety of locations from which our employees commute. For example the largest populations are commuting from a range of locations such as: Oshawa, Bowmanville, Whitby, Courtice, Toronto, Ajax, Pickering, Markham and Port Hope.
- Program solutions developed should be able to test for and identify key success factors that can help the pilot scale beyond a pilot (have an underlying business model that is replicable) and/or should inform what considerations should be noted to when trying to scale program beyond pilot.
- A wide variety of key elements and actors will need to be engaged to enable pilot testing and the scaling of solutions. These include but are not limited to:
 - Metrolinx
 - OPG
 - Durham Region Govt.
 - UOIT - who is facing similar challenges around student access
 - Exploring electric vehicles incorporations in solutions

But there is hope because from the survey, we have determined there is significant interest in a program.

- 61% would be willing to take transit if convenient and available.
- 58% would be willing to carpool if available.
- 63% willing to give rides to fellow employee if on the same route.

We will know we are making progress when
by testing mobility solutions, looking at employee adoption and participation rates, the resulting reduced amount of traffic and cars parked in the parking lots, and from employee feedback.

DARLINGTON NUCLEAR SITE LAYOUT





CONNECTING TO CARE

TORONTO CENTRAL LHIN

How can we improve access to healthy and affordable foods **so that** people experiencing food insecurity in Toronto can be healthier? Healthy, affordable, and culturally appropriate food is important to individuals, families, communities, and society.

This matters to individuals, families, communities, and society **because** it has an important impact on our health, wellbeing, happiness, and success. In Toronto, some people live in “food deserts”: neighbourhoods where residents have little or no access to stores and restaurants that provide healthy and affordable foods. Other people face mobility challenges that prevent them from accessing healthy and affordable food.

We have tried/made progress in some areas related to food security, **What makes matters more complicated or complex** is the various factors that impact it. Such as income inequality, costs of other basic needs, availability and cost of transportation, zoning, the interests of food suppliers, and food and nutritional knowledge.

But there is hope, innovative transportation solutions could unlock new ways of getting people to food or food to people in order to improve their health.

We will know we are making progress when people have access to the food they need to be well and innovative transportation solutions play a key enabling role.



SPRINT SENIOR CARE

How can we transform community transportation **so that** we improve client experience, accommodate all trip requests and ensure equitable access?

This matters to community transportation service providers who want to ensure we meet our clients' needs; our clients themselves (seniors, adults with special needs and caregivers); health care stakeholders (TC LHIN, hospitals, primary care, adult day programs) and funders (City of Toronto, United Way). This matters **because** the ability to travel is linked to independence, personal freedom, and well-being, and - a lack of affordable and appropriate transportation options increases risks of social isolation. Those over age 60 are often considered to be at higher risk of becoming "transport captives." (**United Way BC, 2011, "Seniors Vulnerability Report"**).

We have tried/made progress in moving towards integration of community transportation services, but have become immobilized due to the legacy structure of Community Support Services which are the health service providers of community transportation.

What makes matters more complicated or complex is that we are exploring further integration with 13 agencies.

But there is hope because the TC LHIN has endorsed and funded an integration review. The early signs are that moving towards further integration that contemplates a centralized model will ensure we meet our goals.

We will know we are making progress when we create improved client experience and are able to accommodate all trip requests, when we see clients benefit from the removal of artificial boundaries and when service provision is viewed from a broader perspective-providing equal opportunity to all TC LHIN residents, instead of prioritizing the needs of individual agency clients. This would allow for more effective use

of community resources, resulting in more trips being accommodated, the ability to extend hours of service and a greater degree of social equity in providing the same level of service to all Toronto Ride clients.

ADDITIONAL INFORMATION

Toronto Ride is a voluntary collaborative partnership between 13 not-for-profit partner agencies, providing assisted door-to-door community transportation services within the Toronto area to seniors over 55, as well as adults with disabilities who have not traditionally been eligible for Wheel-Trans. The partnership, established in 1998, includes the sharing of best practices, finding common ground on policies and procedures, and coordinating service delivery. SPRINT Senior Care is the lead agency of Toronto Ride.

The partnership is governed by a Memorandum of Association (MOA), which was developed to define the partnership's purpose, establish policies and procedures and reporting structure. The purpose of the association as outlined in the MOA (amended October 1, 2015), is to:

Provide on an on-going basis an efficient, coordinated, affordable and easily accessible non-emergency community transportation service to clients residing within the Toronto Central Local Health Integration Network (TCLHIN) boundary, by which seniors and persons with disabilities can access the health care system and services and certain social/recreational functions, such as shopping and community programs;

Coordinate and liaise with groups and institutions in Toronto so as to help ensure that community transportation services are provided as and when required by seniors and persons with disabilities to the extent of available resources;

Work together in cooperation and collaboration via sharing of agency transportation resources and mandatory use of a centralized scheduling system software;

Ultimately achieve recognition for Toronto Ride as the 'third spoke' of the existing public transportation system currently provided by TTC/Wheel-Trans and the non-emergency service of Emergency Medical Services for seniors and adults with disabilities who are ineligible for or unable to use TTC Wheel-Trans or EMS services; and organize the members and operate Toronto Ride upon the terms, conditions and structure as stated in the MOA.

Standard Operating Terms (SOTs) were also developed when the Toronto Ride partnership was formed to standardize a high-quality service provided to clients across the City. The SOTs detail processes and procedures related to transportation service delivery, finance and statistics, human resources, emergency procedures, and communication and promotion, all aligned with the organization's purpose as outlined in the MOA. As indicated in the 'Members' Responsibilities' section of the MOA, all members shall "contribute and commit all of its transportation resources to the operation of Toronto Ride and allocate its transportation resources in accordance with the SOTs".

Each of the agencies that form part of the Toronto Ride partnership offer a number of services to their clients, including day programs (e.g. adult day programs) and services (e.g. Meals on Wheels) for seniors and other clients in need within their community.

Funding for community transportation is provided to each agency through various sources. The TC LHIN provides the majority of funding for transportation service delivery for all agencies. This is supplemented by other funding streams including the City of Toronto and the United Way. Funding for vehicles is not provided by these organizations and

agencies must therefore find other sources (e.g. donations) to fund capital. While each agency has access to a common scheduling software program (managed centrally by SPRINT Senior Care) and has agreed to follow the common SOTs, the vehicles continue to be owned by the agencies and the drivers and transportation coordinators are employed at the agency level and not by Toronto Ride.

The TC LHIN has indicated strong support for voluntary health service provider (HSP) integration that would result in improved care experiences and health outcomes for clients and patients residing within the TC LHIN.



CANADIAN RED CROSS

How can we and the sector at large collaborate effectively to explore traditional and non-traditional means of transportation in our communities to meet the needs of our clients? How can we improve collaboration, planning and coordination? This includes transportation provided by the public sector, community services delivered by the not-for-profit sector, as well as services provided by the for-profit sector.

What will the aging of our population mean for transportation services in our communities? How does transportation contribute to the health, social and work needs within an aging population?

We have tried working with a broad network of community providers engaged in transportation.

What makes matters more complicated or complex

is that as infrastructure and resources vary between different communities (urban, rural and in between) planning can sometimes occur in isolation. The wide variance in incomes and the ability to pay for transportation services within this client group also adds to the complexity of planning for their needs.

We will know we are making progress when working together, with a mutual desire to build on the current system, we can create a transportation network that will optimize and maximize the use of resources and existing infrastructure to effectively meet client needs. Learning from other communities, both here at home and abroad, will enable us to test new ideas and challenge existing practices. And leveraging volunteers and technology in ways we haven't done before could lead to exciting innovations in service delivery. The opportunities are there - it's time to explore them!



REVERA LIVING

How can we improve access to transportation options for seniors with mobility issues **so that** seniors living with physical disabilities and/or cognitive impairment who can be isolated, can access care and stay connected socially?

This matters to those living with mobility issues, their caregivers, and care providers **because:**

- As our population ages, so does the prevalence of disability. Lack of reliable, safe, and affordable transportation options are barriers.
- Accessing health care.
- Having a good quality of life.
- Disability impacts the lives of many Ontarians, and the numbers of people with disabilities is increasing as the population ages. Today, over 15% of Ontario's population has a disability, including more than 40% of people over age 65. About 1.85 million people in Ontario have a disability. That's one in seven people. Over the next 20 years, as the population ages, the number will rise to one in five Ontarians. More than half of the population has a friend or a loved-one with a disability, and is influenced by them when deciding which businesses to solicit.

We have tried/made progress by having our own transportation vehicles, sending our care providers along with the senior, on-demand transportation services, but they all have limitations in addressing the problem- the transportation options, in addition to the limited offering of door-to-door service, are sometimes:

- Unreliable
- Unaffordable
- Unsafe

The technology for scheduled and on-demand transportation exists, however it has not yet been adopted by public transportation authorities.

What makes matters more complicated or complex is the increases in demand due to rising aging population which is correlated with an increase in number of people living with mobility issues; the cost and liability associated with providing services and care to the vulnerable population, and the current limited adoption of technology among the 75+ population.

But there is hope because more and more companies, whether established or startups, are focusing on providing transportation choices to the aging population. Given the availability of technology for scheduling door-to-door trips, the recent rise of established companies and startups entering the senior market, and the incremental policy changes from the government related to aging and transportation, there is opportunity to enhance transportation options for seniors with mobility issues.

We will know we are making progress when in the early years we see an increasing number of vehicles for passengers with mobility issues and see drivers trained to work with the vulnerable population who can provide door-to-door service.



BUILDERS OF THE FUTURE

GREAT GULF

How can data support policy change to:

- 1. Advocate for the right policies**
- 2. Strongly influence decision makers; and**
- 3. Sustain decisions over time**

We have tried proposing innovative approaches, but the regulatory environment changes slower than the advance of technology and individual preferences change. The established rules are based on outdated information.

We will know we are making progress when pioneering projects and new data sources result in new precedents, and documentation of new trends.



MATTAMY HOMES

How can we create a collaborative process between public and private entities, **so that** future communities are constructed to be accessible for people who do not have to depend on cars? One where residents don't have to choose between affordability and proximity to transit? One that allows for cohesive implementation while continuing to service the community, whether freehold, condo, or other model, for the years to come? Our future communities need a new process to combat the first-last mile gap challenge as they are continuously on the outer limits of development and far from transit infrastructure.

This matters to all stakeholders **because** it can relieve pressure on municipalities' infrastructure spending, offer home buyers access to affordable communities, promote quality of life and healthy life-styles by reducing car dependency, reduce carbon emissions by taking single occupancy vehicles off the streets, and by opening suburban real estate market to new customer segments.

We have tried/made progress with early initiatives that have been tested in various communities (i.e. shuttle services, shared bike programs, etc.) but these unique situations have not permeated or scaled beyond small scale deployments.

What makes matters more complicated or complex is that traditional transportation models are obsolete and inefficient in today's world. The need for change is occurring whether or not government agencies are initiating it (e.g. Uber). The longer government agencies stay reactive instead of proactive to the rise of shared mobility the harder it becomes to implement and regulate it into one unified system. The complexities of these new systems will always be present. However, these complexities are manageable when they are acted upon with foresight, planning, collaboration, and collective execution.

But there is hope where current technology and government agencies are willing to evolve into more integral transit systems, we can create the framework of tomorrow that will keep us moving in the commute of the future.

We will know we are making progress when we see the creation of a committed partnership between the public and private entities to create the framework for a new collaborative process for integrated mobility solutions. Our final metric of success will be when we provide a system that is reliable enough that residents are willing to eliminate cars for their commutes.

