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# Integrating New Mobility into the Regional Transportation System of the Greater Toronto and Hamilton Area

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AQTr

Symposium on New Mobility: Integration and Challenges

February 2, 2017

Lisa Salsberg

Director, Regional Planning



**METROLINX**

An agency of the Government of Ontario

# Greater Toronto and Hamilton Area



**8 242 km<sup>2</sup>**



**6.6 million** (2011)

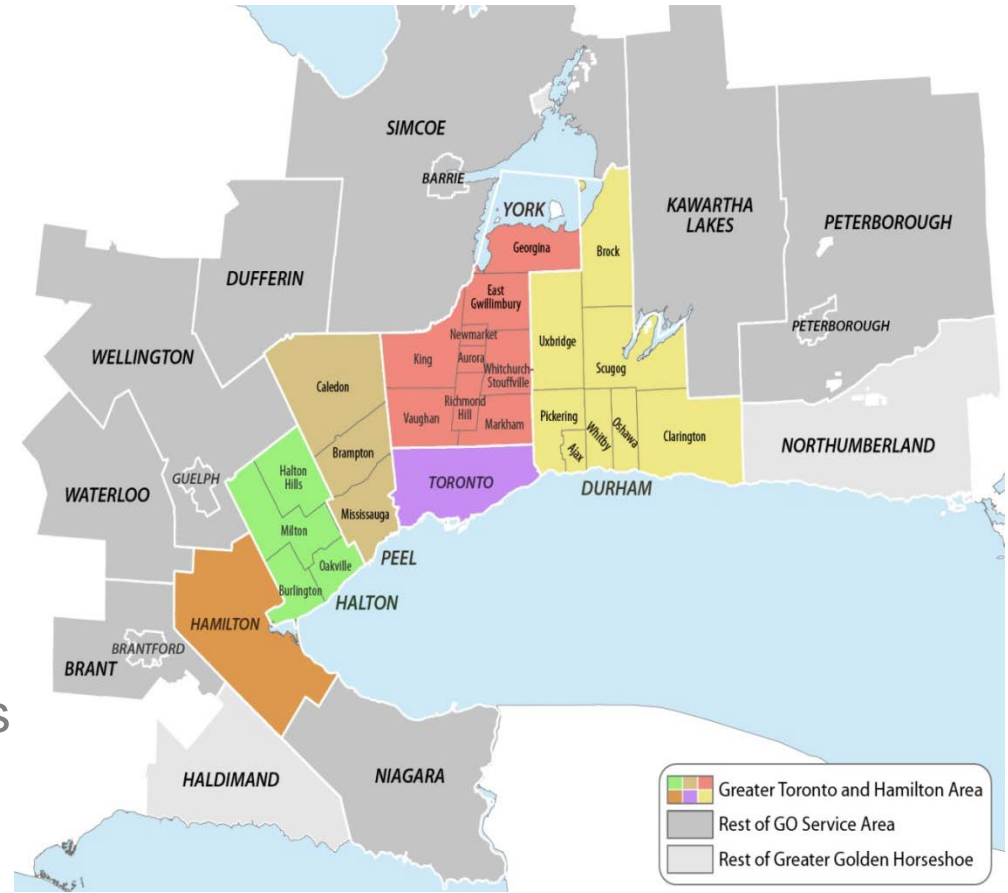
**9 million** (2031)



**4** levels of government

**30** municipalities

**9** municipal transit agencies



# Toronto suffers worst "traffic stretch" in Canada

New study puts Toronto at the top of 14 cities when it comes to the gap between an ideal trip time and stop-and-go reality.



News · GTA thestar.com

## Congestion in Toronto still a headache: report

The Toronto Foundation's annual Vital Signs report highlights the city's congestion woes.

Global NEWS Toronto TV News Programs

World Canada Local Politics Money Entertainment Health Lifestyle Tech Science Sports Video

HEALTH May 14, 2014 7:03 pm

### Better public transit in the GTHA: Our health depends on it

By Carey Marsden

Comments Facebook 7 Twitter Email Print

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THE GLOBE AND MAIL

Home News Opinion Business Investing Sports Life

Home News Toronto

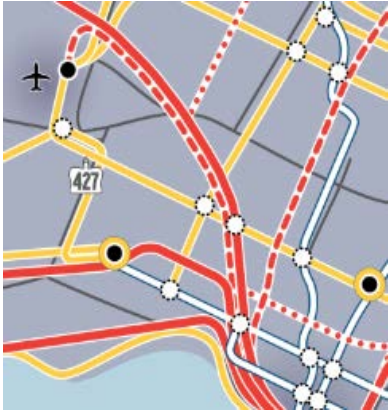
### Why traffic congestion is driving Toronto crazy

OLIVER MOORE - URBAN TRANSPORTATION REPORTER

The Globe and Mail  
Published Saturday, May 03, 2014 6:00AM EDT  
Last updated Friday, May 02, 2014 5:56PM EDT

# Who is Metrolinx?

## Plan



## Build



## Operate



## Connect



# Transportation in the GTHA by Numbers



**566**

km of rapid transit  
in the GTHA



**64**

GO train stations



**668**

million transit  
trips taken in  
the GTHA  
annually



**69.5**

million GO transit  
annual boardings  
(2015)



**3.46**

million cars owned  
in the GTHA



**33**

carpool  
lots in the  
GTHA



**2**

million PRESTO  
customers



**300,000+**

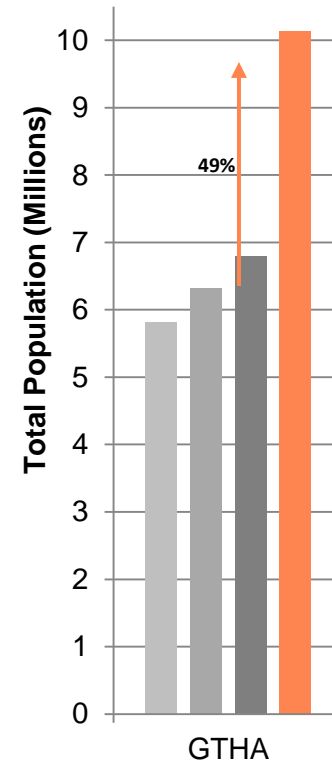
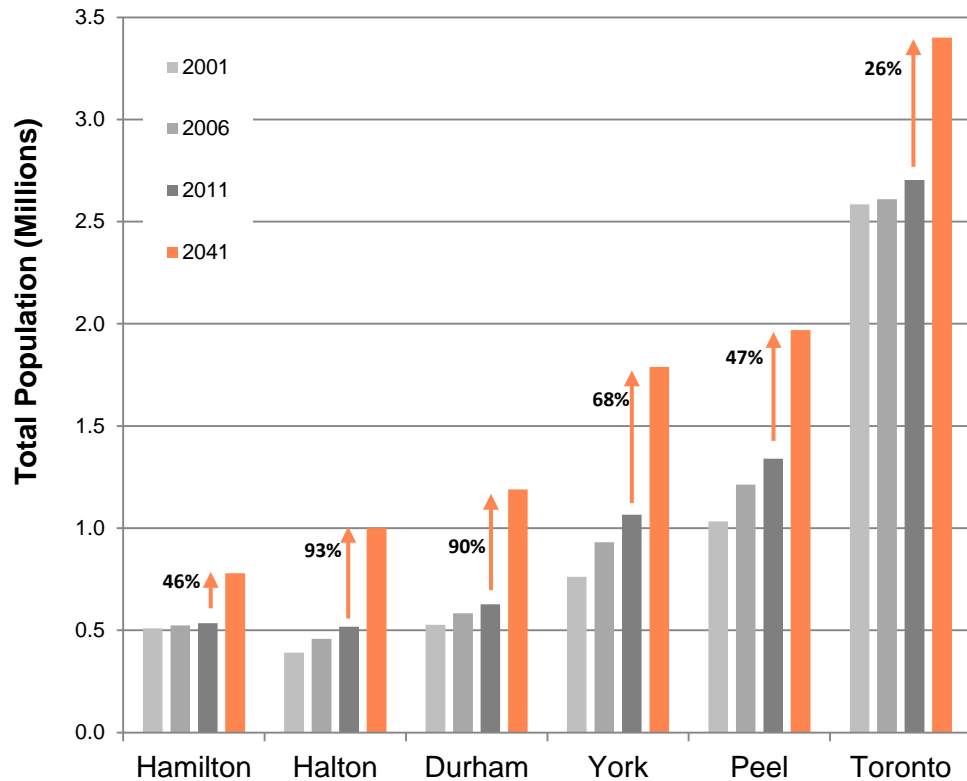
daily Union Station  
transit users



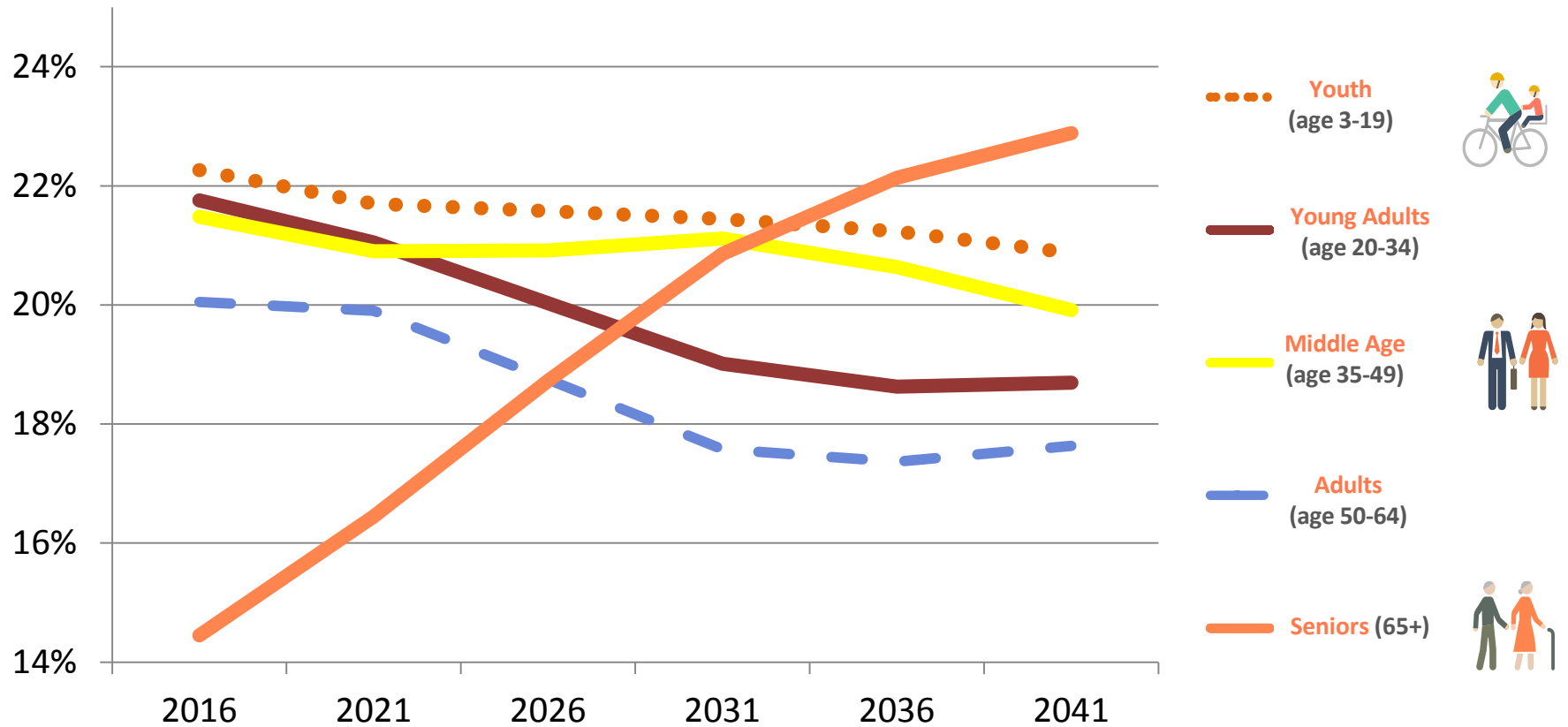
**13.6**

million daily trips  
made by GTHA  
residents

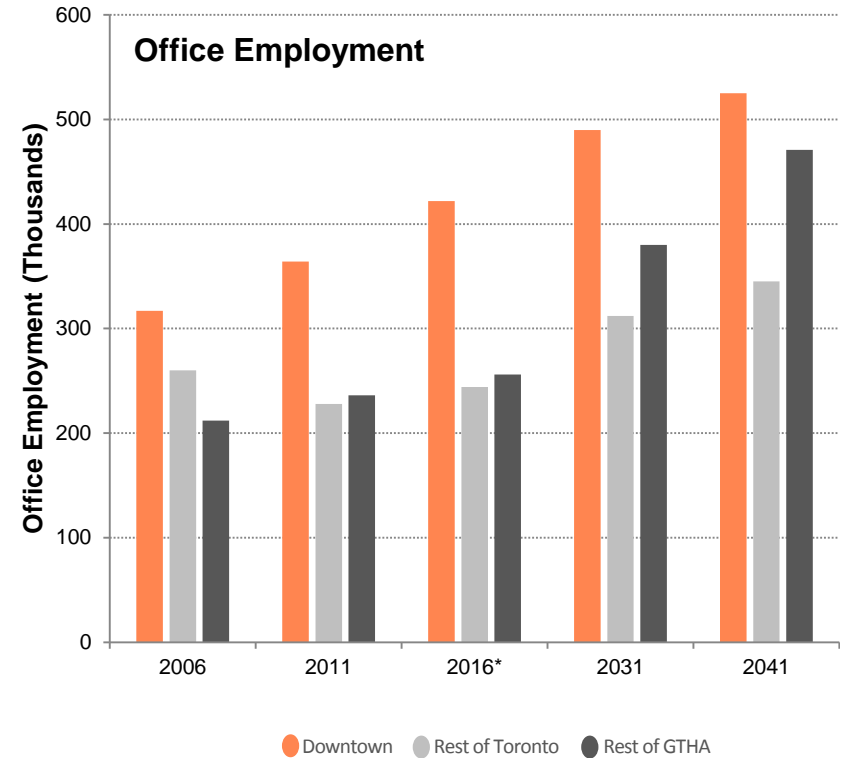
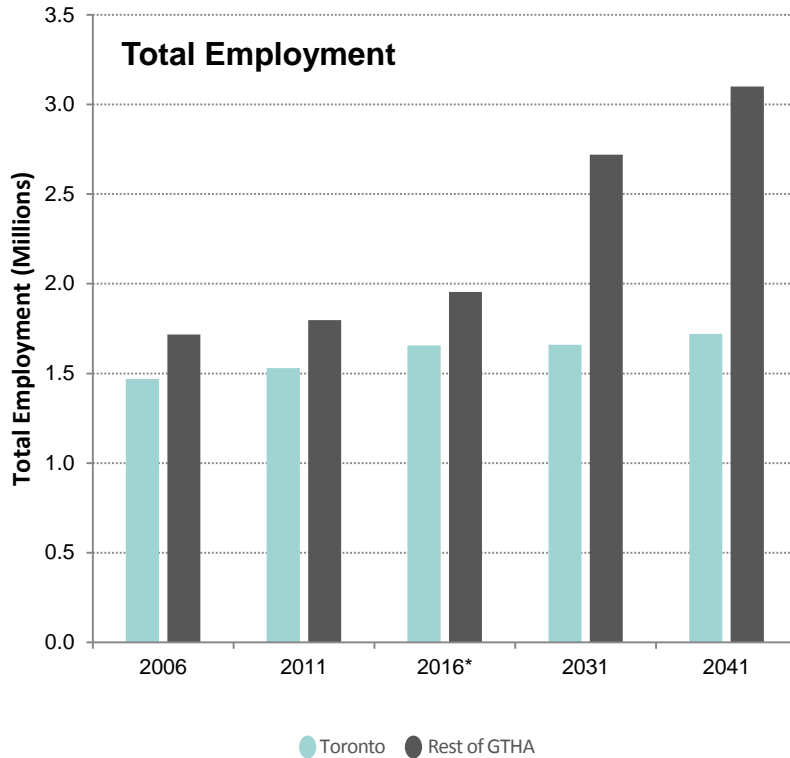
# Population Growth



# Population Growth by Age



# Employment Growth



- *\*2016 data are estimated*
- *Office Employment data: Hemson Consulting Ltd.*
- *2031 – 2041 Total Employment Data: Growth Plan for the GGH, schedule 3*



# Regional Transformation



**Eglinton Crosstown  
LRT 19 km**



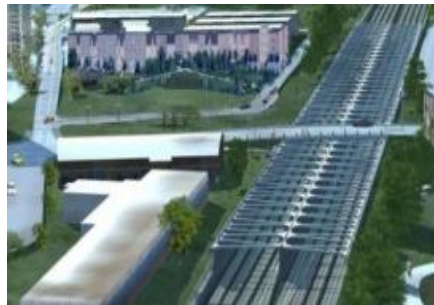
**Viva and MiWay  
BRT 53 km**



**Hurontario and Finch  
West  
LRT 31 km**



**Union Station  
Modernization**



**Regional Express Rail  
150+km**



**PRESTO  
2 million users,  
11 agencies**

# Regional Express Rail

**GO RER will reduce travel times and give people more ways to get where they want to go with:**

Trains up to every 15 minutes



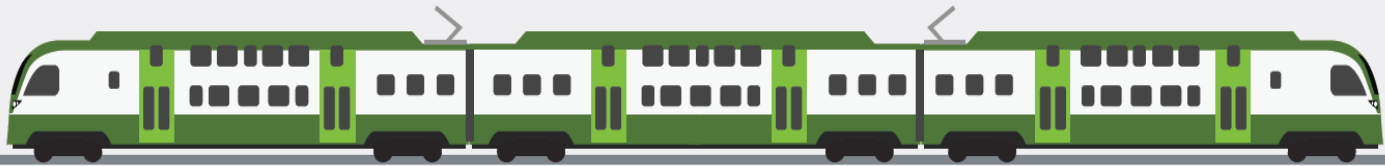
Service in both directions



More all-day service




Faster electric trains



More than **50** large cities across the world use Regional Express Rail systems.

Whether it's the Reseau Express Regional in Paris, the Overground in London, or NSW TrainLink in Sydney, each RER system has these basic traits:

-  Frequent all-day service
-  Uses electric trains
-  Runs on surface rail lines
-  Good connections with local transit



# RER Service Concept: Weekday Rush Hour (Peak Direction)

EXISTING



# RER Service Concept: Weekday Rush Hour (Peak Direction)

GO RER



# RER Service Concept: Mid-Day, Evening & Weekend

EXISTING



# RER Service Concept: Mid-Day, Evening & Weekend

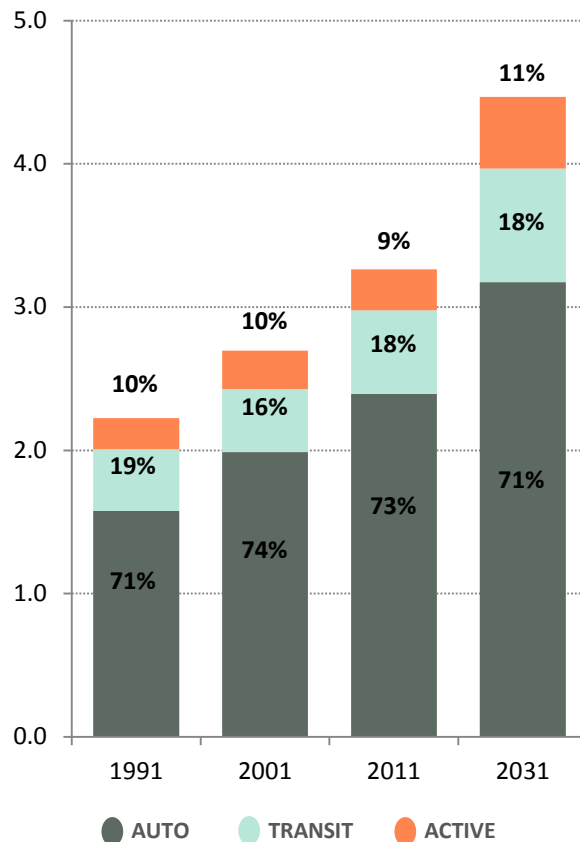
GO RER



# Future Travel Demand (a.m. peak)\*

## Total Trip Growth

AM PEAK TRIPS (MILLIONS)



## Total Auto Vehicle km Travelled



## Auto Vehicle km Travelled / Person



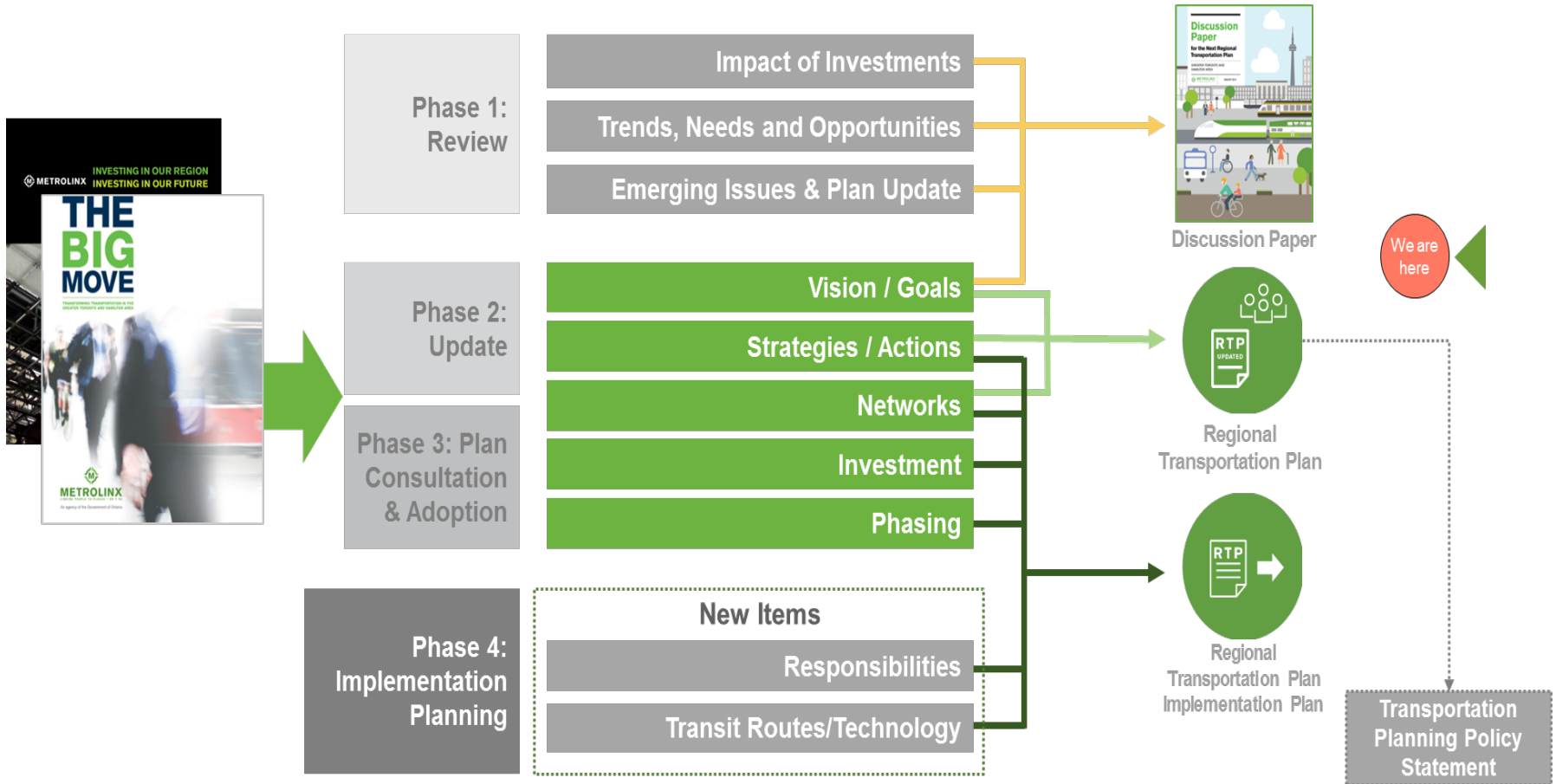
\* Note: 2031 data assume implementation of currently funded rapid transit network.







# The Regional Transportation Plan



# Updating the RTP

Metrolinx is required to review the GTHA multimodal regional transportation plan under the *Metrolinx Act (2006)* at least every ten years, in alignment with Ontario's Growth Plan for the Greater Golden Horseshoe.

A review of *The Big Move* at this time allows Metrolinx to:

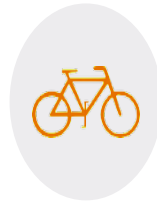
- Evaluate and incorporate evidence-based research, new analysis and innovative approaches
- Assess progress, change and the impacts of committed provincial investments on the region's transportation system
- Continue to strengthen our relationships with stakeholders by advancing and aligning the provincial, regional and local priorities that together can achieve the shared vision for the GTHA's transportation system



# The Next Regional Transportation Plan



Congestion management strategies



Active transportation



Creating safer, more complete streets



Parking strategies



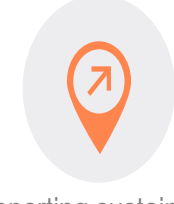
Urban freight



Expanded transportation demand management



Public education



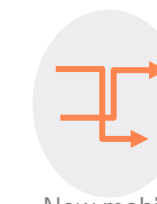
Supporting sustainable regional growth



Frequent transit service



System management

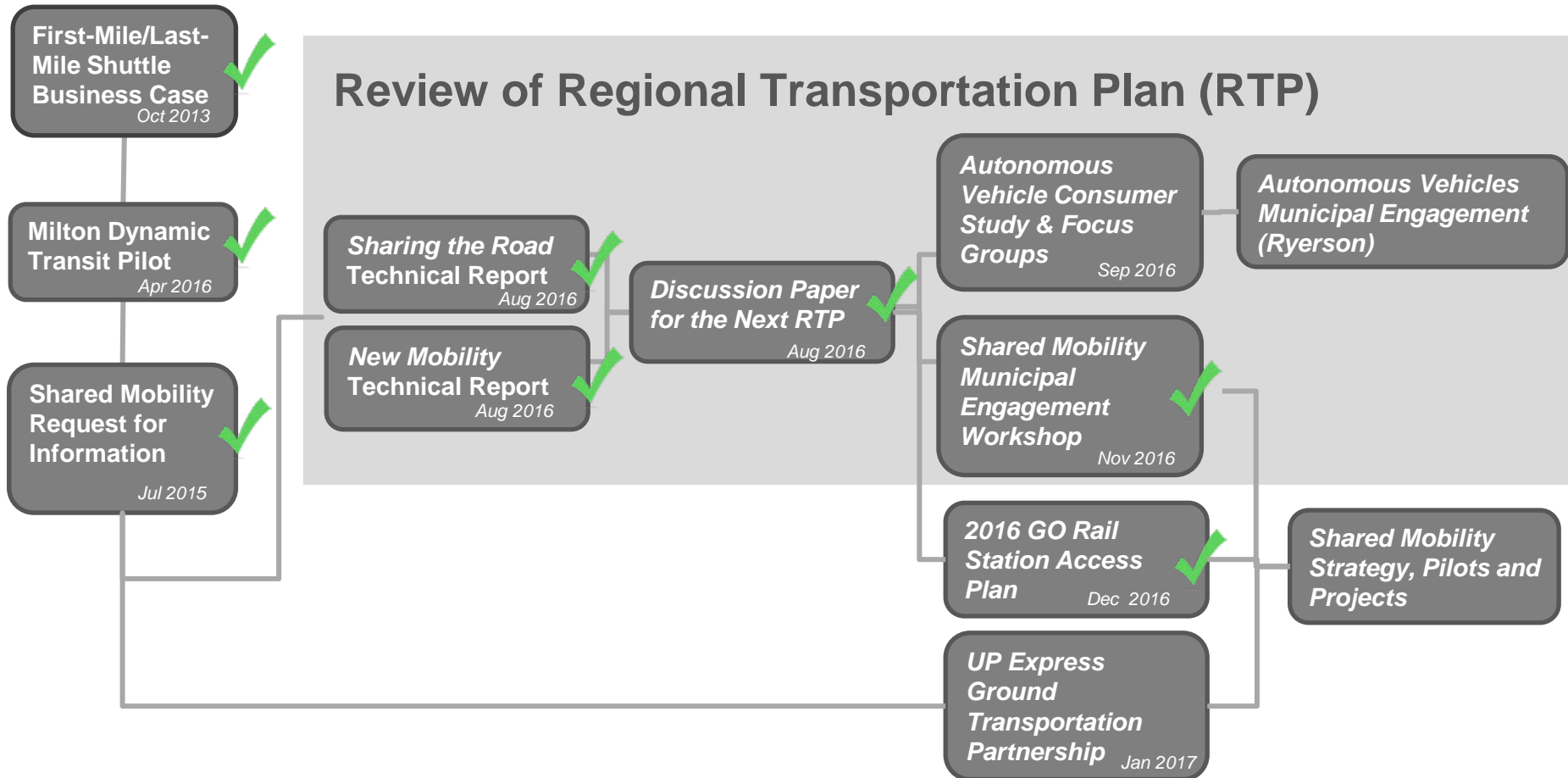


New mobility options



Selective rapid transit expansion

# New Mobility at Metrolinx



# RTP Discussion Paper

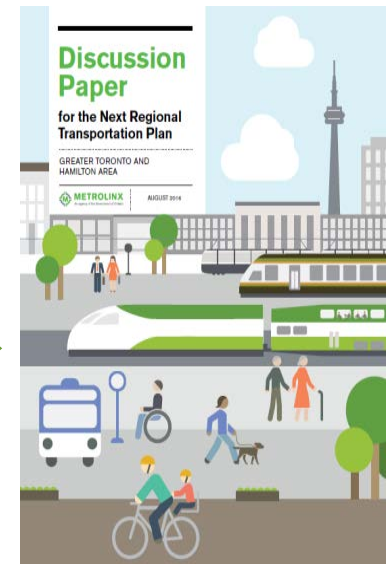
## Technical Background Papers

- Active Transportation Needs and Opportunities
- Goods Movement Issues and Opportunities
- Mobility Hub Profiles and Indicators
- **New Mobility Services Trends and Implications**
- Social Equity Analysis
- Transit Needs and Opportunities
- Transportation Demand Management Needs and Opportunities
- Screening Process
- Draft Updated Vision, Goals & Objectives
- Land Use Context



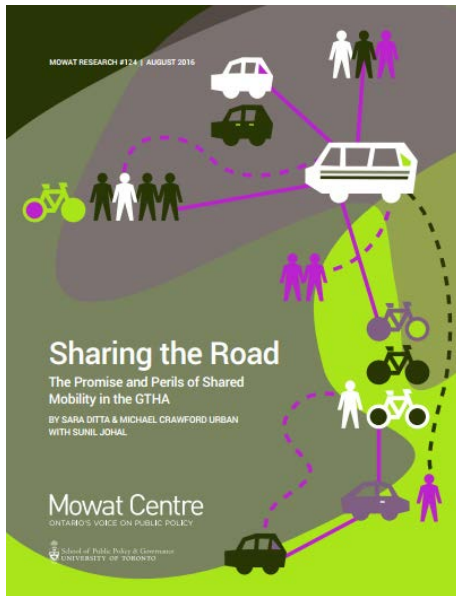
## Partnerships with Academic Researchers

- Access to Regional Transit
- Journeys to School and Work
- Factors Influencing Transit Use
- Regional Intermodal Demand Modelling
- Transportation Demand Management
- Transit Equity
- Health and Transit Access
- Walkability at GO Stations
- Barriers to Active Transportation
- Children's Independent Mobility
- **Shared Mobility**



Read the Discussion Paper  
[metrolinx.com/theplan](http://metrolinx.com/theplan)

# Shared Mobility



## Sharing the Road: The Promise and Perils of Shared Mobility in the GTHA (Mowat Centre)

“Shared mobility offers the GTHA a number of significant positive opportunities that policymakers should seize. However, doing so will require a willingness to explore **new ways of doing business.**”

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# New Mobility

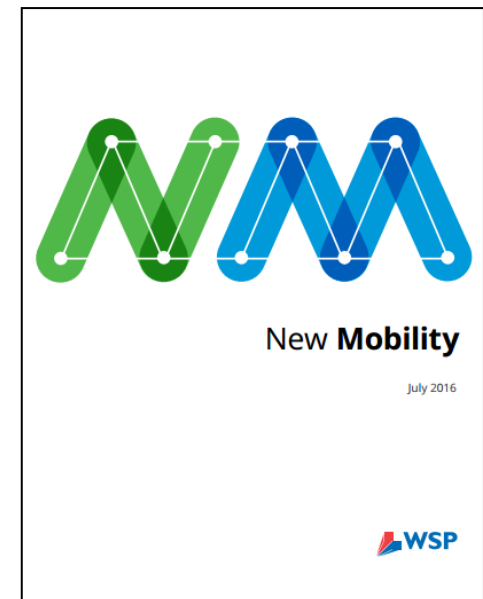
## Trends and Implications

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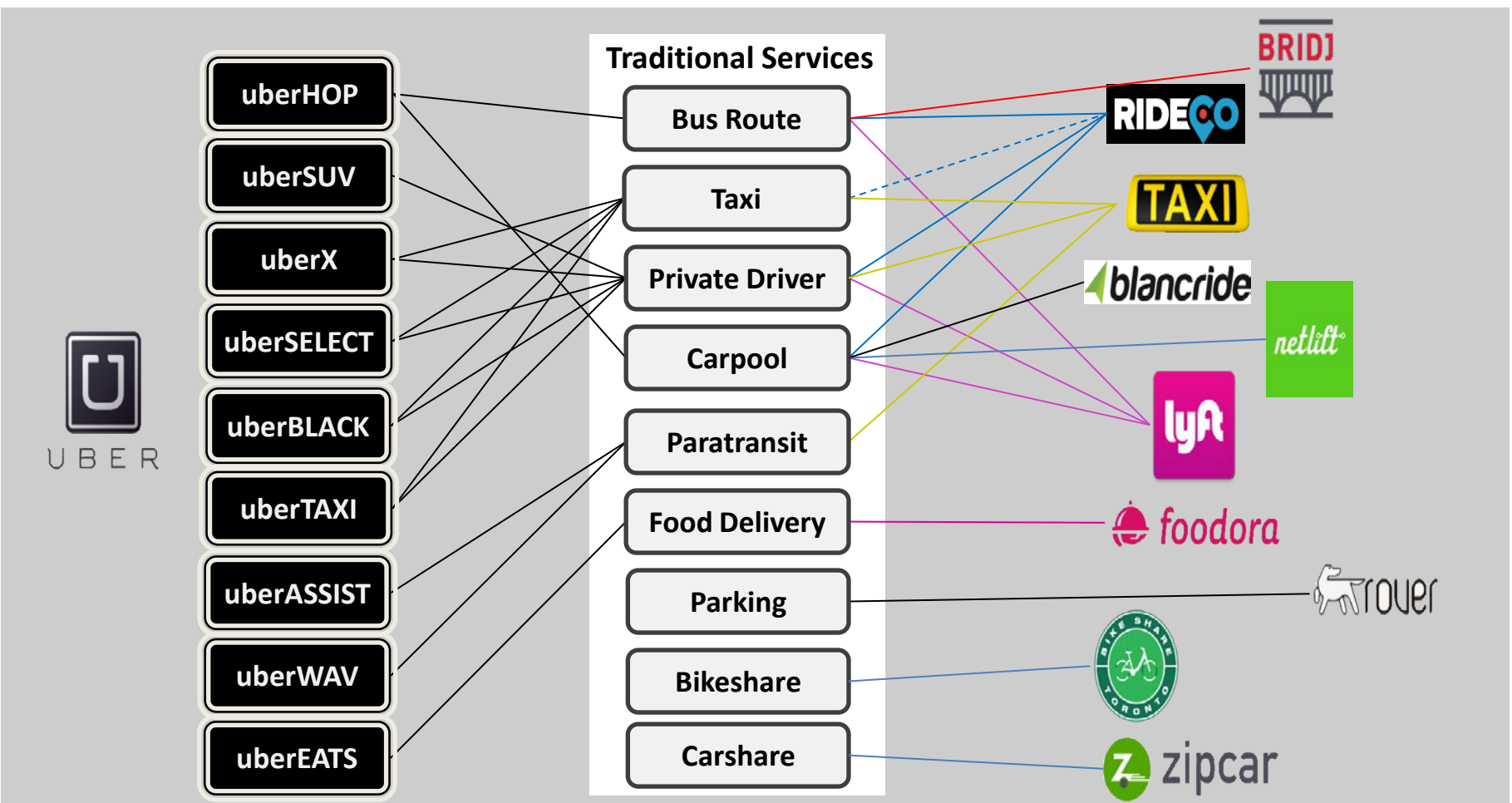
### Key Findings:

Shifts in thinking will be required:

- Vision for region
- Public plan-deliver model
- Designing around the user
- Role of public sector in protecting public interest
- Data stewardship
- Anticipating change



# New and Emerging Business Models







# Ridesourcing Regulations: GTHA



# Challenges and Opportunities



Analytics, Models, Theory



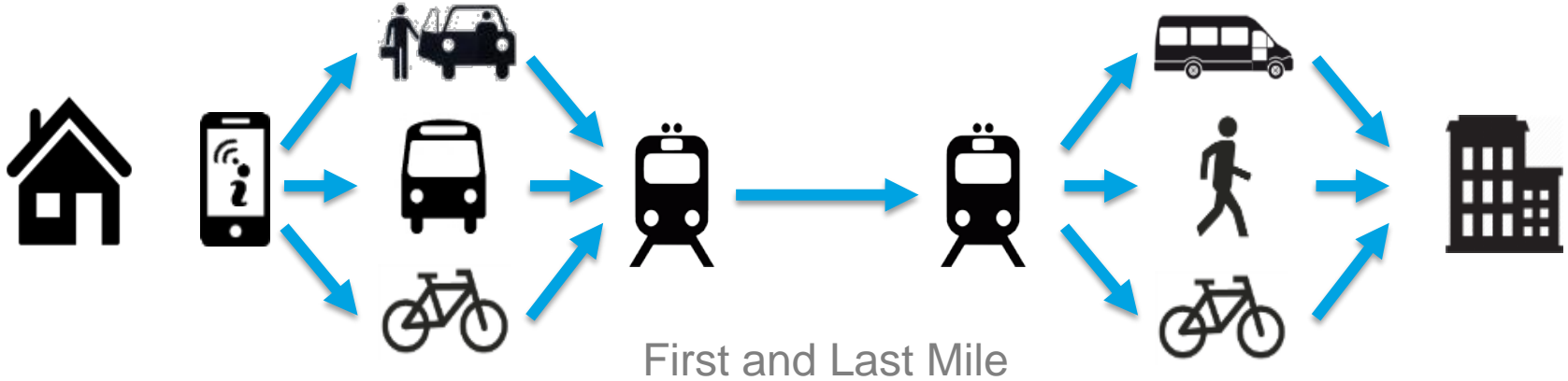
Data Sharing



Access/Equity



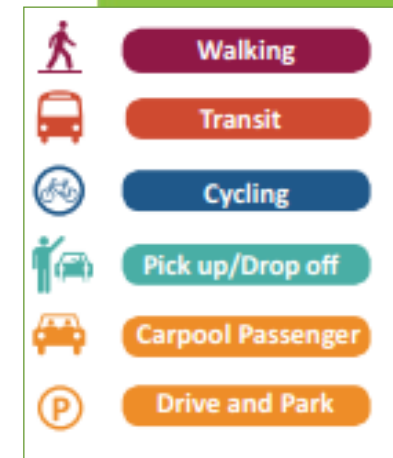
Seamless Travel



First and Last Mile

# GO Rail Station Access Plan

- Takes into consideration the Provincial commitment to RER
  - Reflects increase in service, the addition of new stations, and the associated increase in ridership
- Recommends limiting parking expansion and shifting towards more sustainable modes of access to accommodate and encourage ridership growth
  - Walking, transit, cycling, carpooling, pickup/drop off)



# GO Stations Today



Lack of Walkability



Suburban Station:  
Lincolnville GO



Urban Station:  
Hamilton GO



Current passenger Pick-up/Drop off

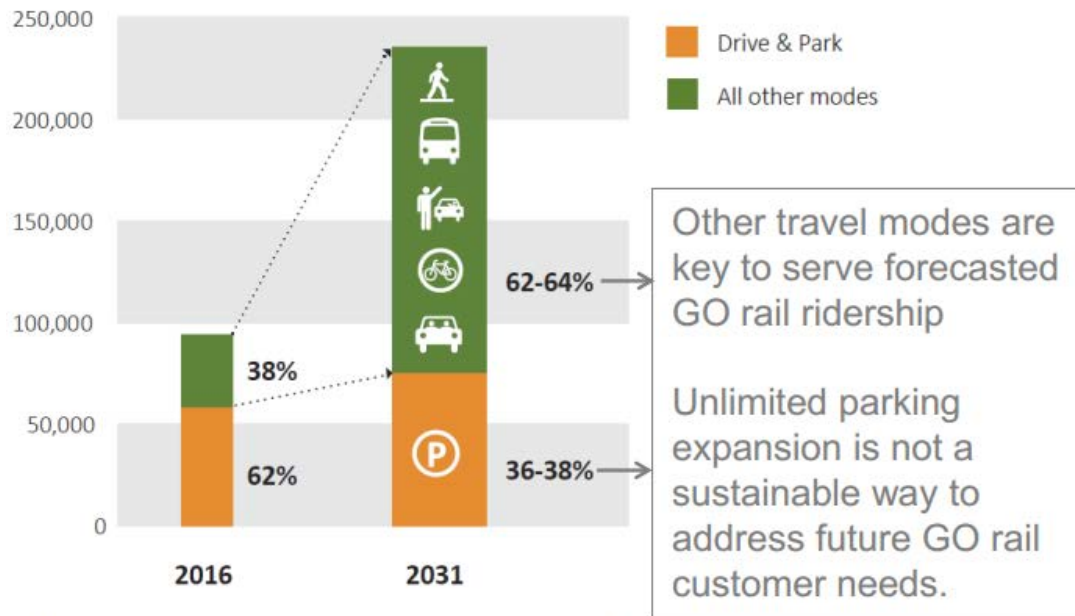


Station Parking at Capacity



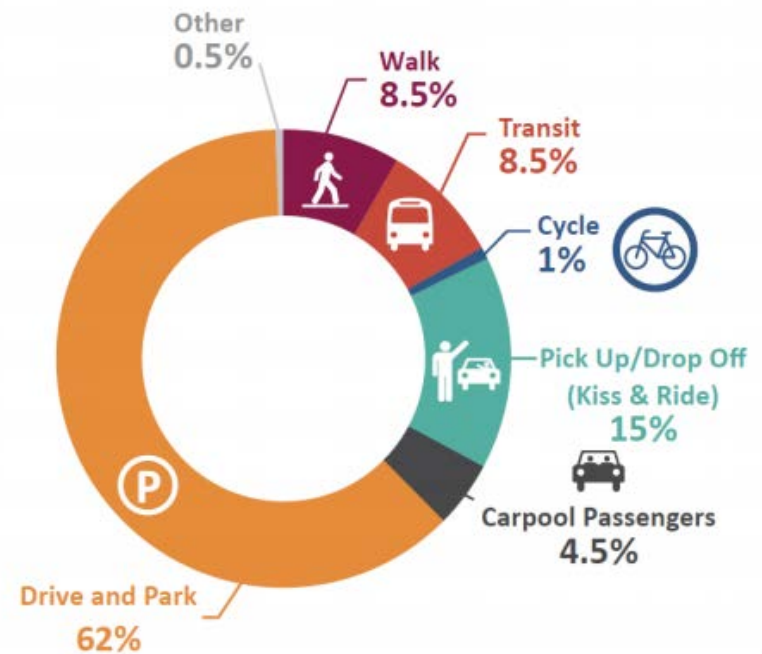
# Station Access is Key to RER Success

## Average Weekday Riders\* and Mode Share



\* Excluding riders beginning their two-way GO rail journey from Union Station  
 ^ Sources: 2015 GO Rail Passenger Survey, 2016 Cordon Count & 2031 RER Ridership Forecast.

## Customers travelling to GO stations (2015)



# Scenarios Evaluated

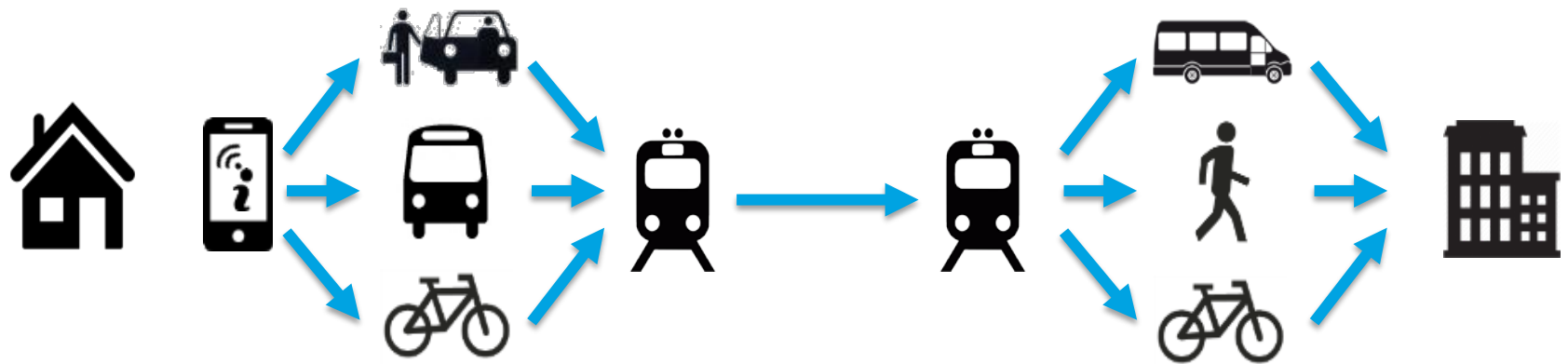
1. **Business-As-Usual**, which prioritizes long term parking expansion while nominally supporting other modes
2. **Incremental Change**, which limits parking expansion and incrementally shifts focus to growing other modes
3. **Big Changes and Partnerships**, which restricts parking expansion and aggressively shifts the focus to growing other modes



## Preferred Scenario: Incremental Change

- Maximizes ridership; provides economic value and strikes a balance between competing priorities and mandates of regional transit service and local context and service.

# First and Last Mile





# Request for Information (RFI)

## *“Shared mobility and on-demand services: Understanding applications to the GTHA”*

- Posted to MERX  
December 12, 2015 - January 12, 2016
- Gather information from service providers on new and emerging transportation solutions in shared mobility and on-demand services
- Gain an understanding into emerging business models and how they can help support local transit and FMLM



### **14 Respondents**

- Microtransit / demand-responsive transit (4)
- ridesharing (3)
- Carsharing (3)
- aggregator (2)
- P2P parking (1)
- autonomous bus (1)

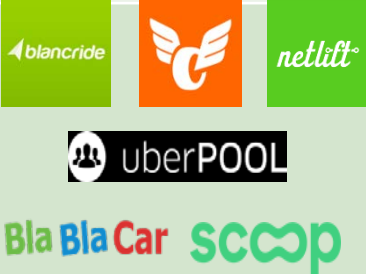


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# RFI Results

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- Results provided a snapshot of the operating models of service providers and details on partnerships with municipalities and transit agencies:
  - Réseau de Transport de Longueuil carpooling in Quebec
  - Carpool Program, San Francisco Bay Area, and Longueuil, Quebec
  - Ridesourcing to Transit: Los Angeles
  - Kansas City Microtransit
- Provided additional information on real-world applications of services, including:
  - FMLM to compliment transit
  - Service in low-density areas
  - long-range and daily commuters
  - support an emergency ride home programs

# Shared Mobility Ecosystem

	Carpooling	Ride-Sourcing	Microtransit
Routing	On-Demand	On-Demand	On-Demand or Fixed Route
Drivers	Non-professional	Non-professional	Professional
Legal Considerations	Legal: <i>Public Vehicles Act, 1990</i>	Municipal by-laws and regulations	Municipal decisions and <i>Public Vehicles Act, 1990</i>
Typical Vehicle Occupancy	1-4 Passengers	1-4 Passengers	4-14 Passengers
Vehicle Type	Personal Vehicle	Personal Vehicle	Personal Vehicle
Typical Trip Length	~10-75 km	~5km	~3-8km
Examples			

# Town of Milton: Dynamic Transit Pilot







# Next Gen of Demand-Response



# Convergence

- Trial product
- Growth pressures
- AM shuttle
- Put on-demand mobility to the test



+



+



- Software dev.
- Payments
- Taxis
- Shuttle buses
- Brand umbrella
- Operating support
- Project management
- Marketing
- GO Co-Fare

# How it Worked

**NOTE:** At 8:08 pm, the Drop-off Zone Service Area is expanded to include areas north of Main St.



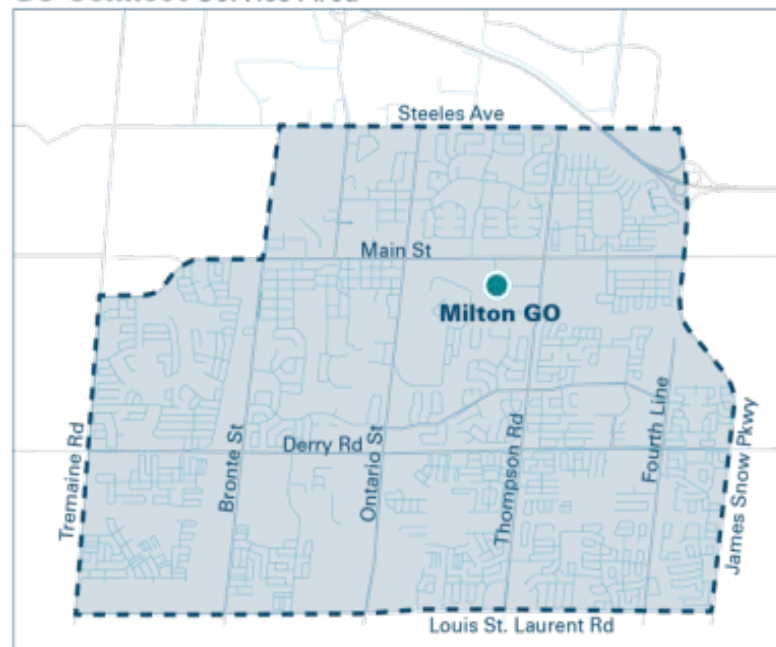
Service to this area is provided by routes 6 and 7

## Evening GO Drop-off Schedule

ZONE 30 WEST	ZONE 31 CENTRAL	ZONE 32 EAST
<b>MONDAY - FRIDAY</b>		
DEPART Milton Go		ARRIVE Milton Go
5:53		6:23
6:23		6:53
6:53		7:23
8:08*		-

\*This trip does not return to the GO station.

## GO Connect Service Area



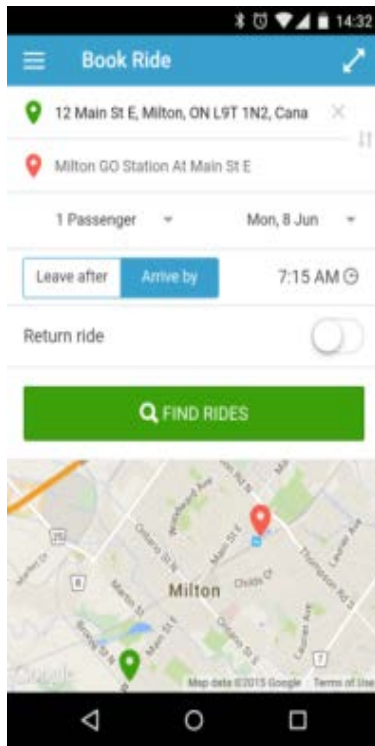
Morning: 06:00 – 08:25

Evening: 16:45 – 20:25

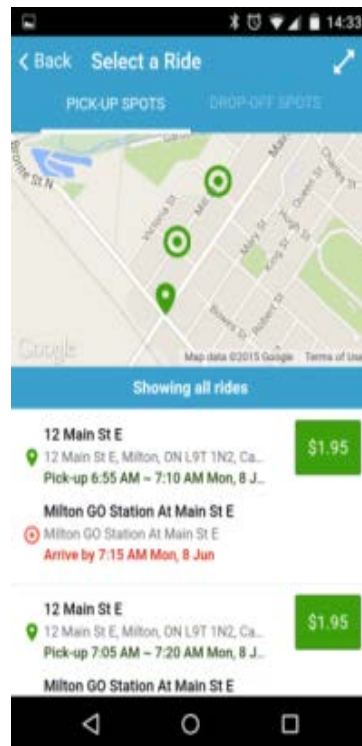


# How it Worked

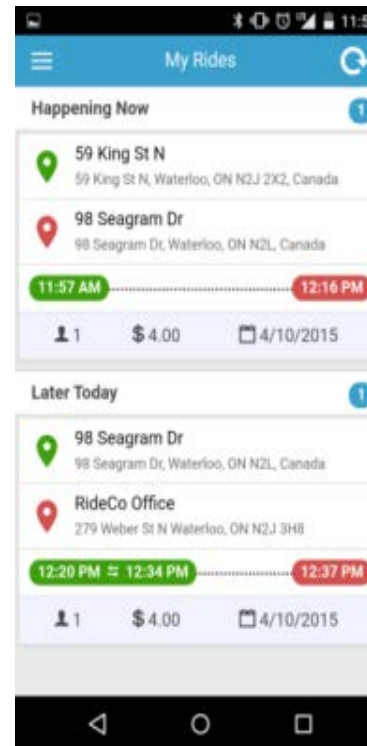
## Request Options



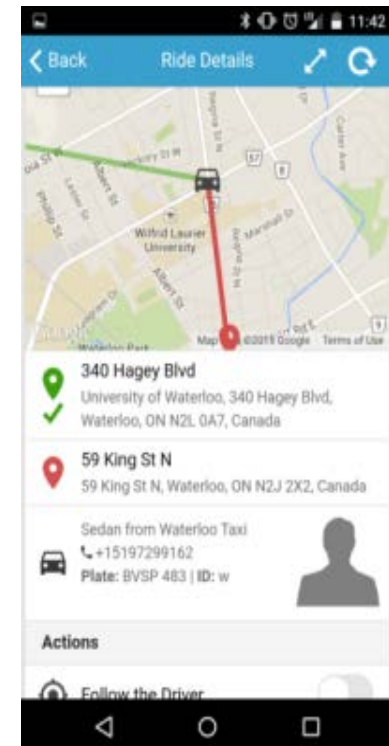
## Select Trip



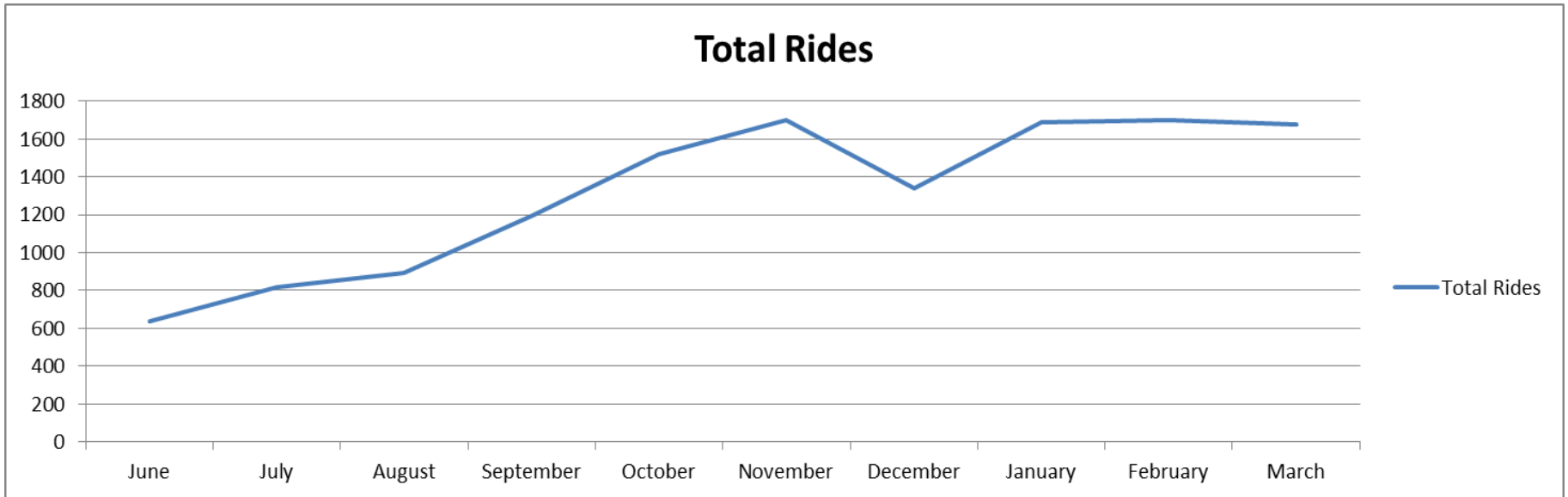
## View Schedule



## Pick-up Alert



# Ridership



**85** Avg. Bookings / day  
(Nov to March)

**62** Avg. Bookings / day  
(June to March)

# Key Features

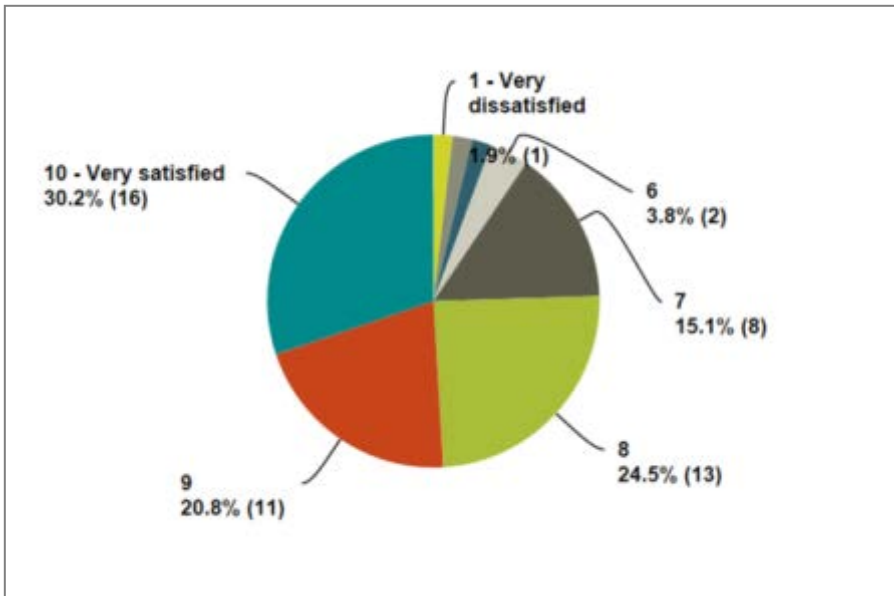
## Vehicle Type



	Door-to-station	Hub-to-station
Book same day	\$\$\$	\$\$
Book early	\$\$	\$

# Results: Customer Survey

## Level of Satisfaction with Pilot Service (1 – 10)



"I'm a fan and have recommended the service to friends who don't want to buy a second car just to get to the station"

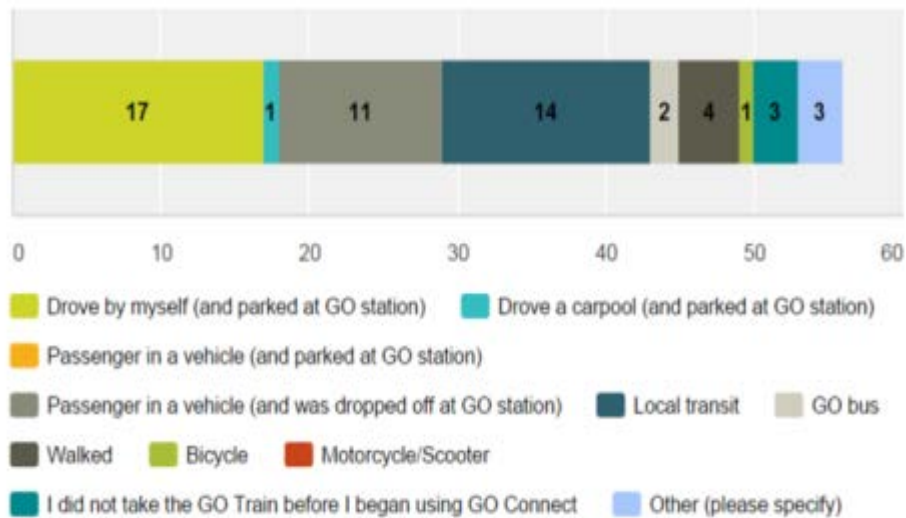
"Please keep this service going. Very useful to many commuters."

"I really like the service primarily for the price."

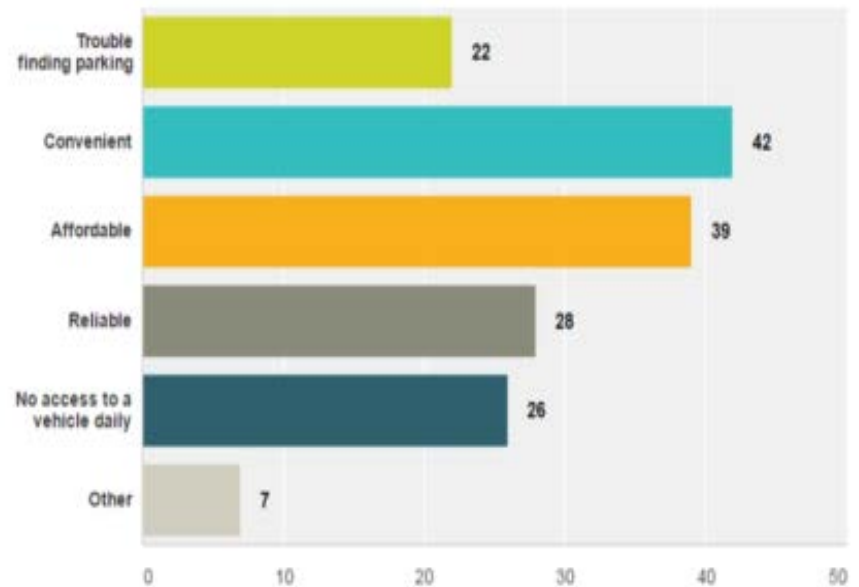
"Saves me a long walk to the station."

# Results: Customer Survey

## Access mode to Milton GO station, prior to the pilot service



## Main reason for choosing to use pilot service



# Key Learnings

**Booking Times** - Advance booking improved efficiency of routing software and can be incentivized through fare structure

**Pricing** - Customers are willing to pay more for a highly convenient premium service

**Vehicle Size** - Need flexibility with vehicle choices and able to adapt demand and customer needs

**Customer Experience** - Customer needs and expectations should be considered while designing the system

**Station Access** - Seamless integration with traditional transit is important for program success



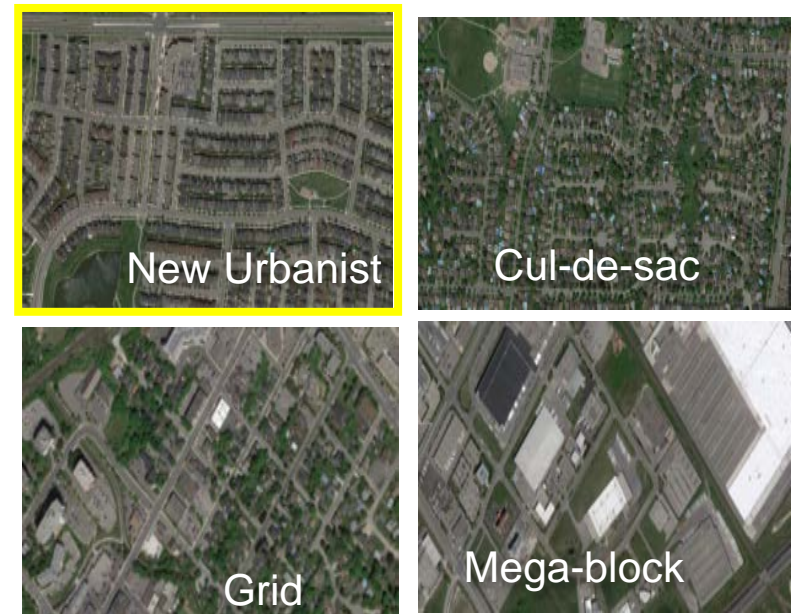


# Key Learnings

## Station Design



## Community Design



- Low traffic congestion
- Dedicated access
- Space for waiting location
- Short walk to/from trains

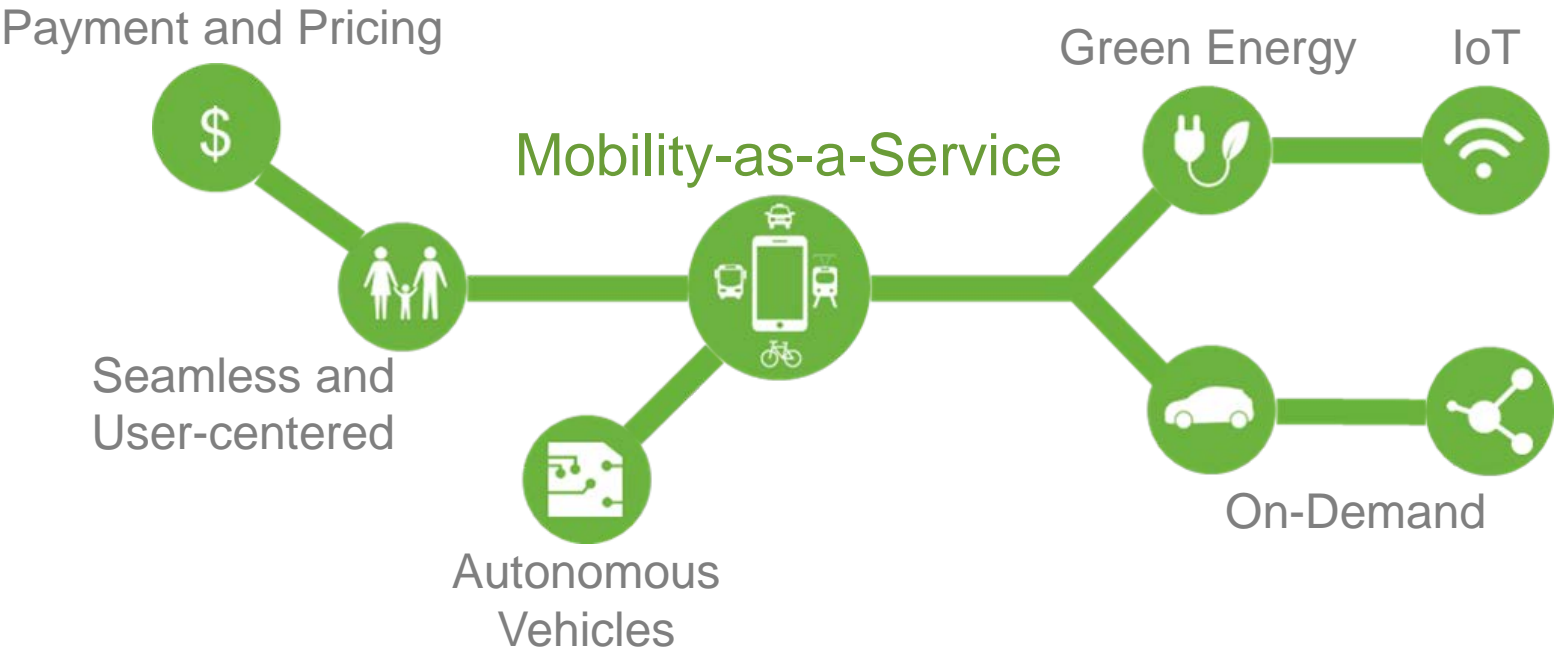


# Ground Transport Provider (UP Express)

- Expression of Interest issued on Jan 3, 2017 seeking a ground transportation provider
- Seeks a FMLM solution for airport travellers to access UP Express
- Partner to provide revenue in exchange for marketing and promotional activities
- Announcement possible in March 2017



# Convergence



***“The more people use shared modes, the more likely they are to use public transit, own fewer cars, and spend less on transportation overall”***

- American Public Transit Association  
and the Shared Use Mobility Centre



Thank you!