2019 ITS-NY Annual Meeting

June 13-14, 2019

"ITS Applications: Technology Advancements and the Human Connection"

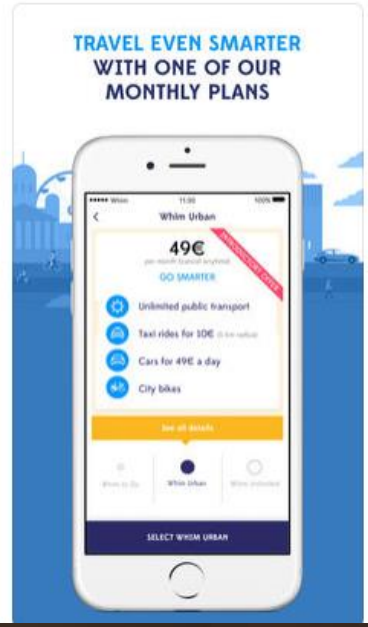
Panel 5: The Future of Mobility – MaaS and MOD

Panel Moderator:

- **Steven Levine, Executive Director, TRANSCOM**

Speakers:

- **"Challenges of Planning Mobility-as-a-Service for All." Dwight Mengel, Chief Transportation Planner, Tompkins County Department of Social Services**
- **"Via Transportation Roles in Support of MOD and MaaS." Kristin Shevis, VP Partnerships – North America, Via**
- **"Building the Digital Curb." Jacob Baskin, CTO, Coord " Juvena Ng**
- **"The Current and Potential Future State of MaaS." Carol Schweiger, President, Schweiger Consulting LLC**



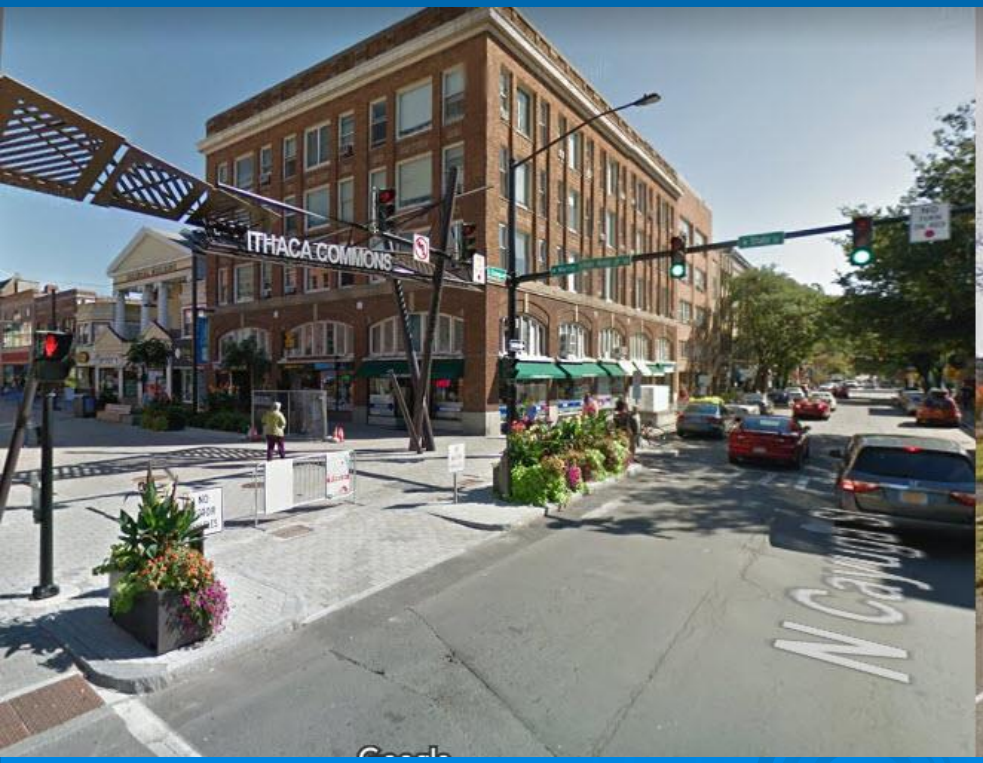
Summary

Whim users are able to reach our customer care by submitting a request through the app or the web (HelpCenter):

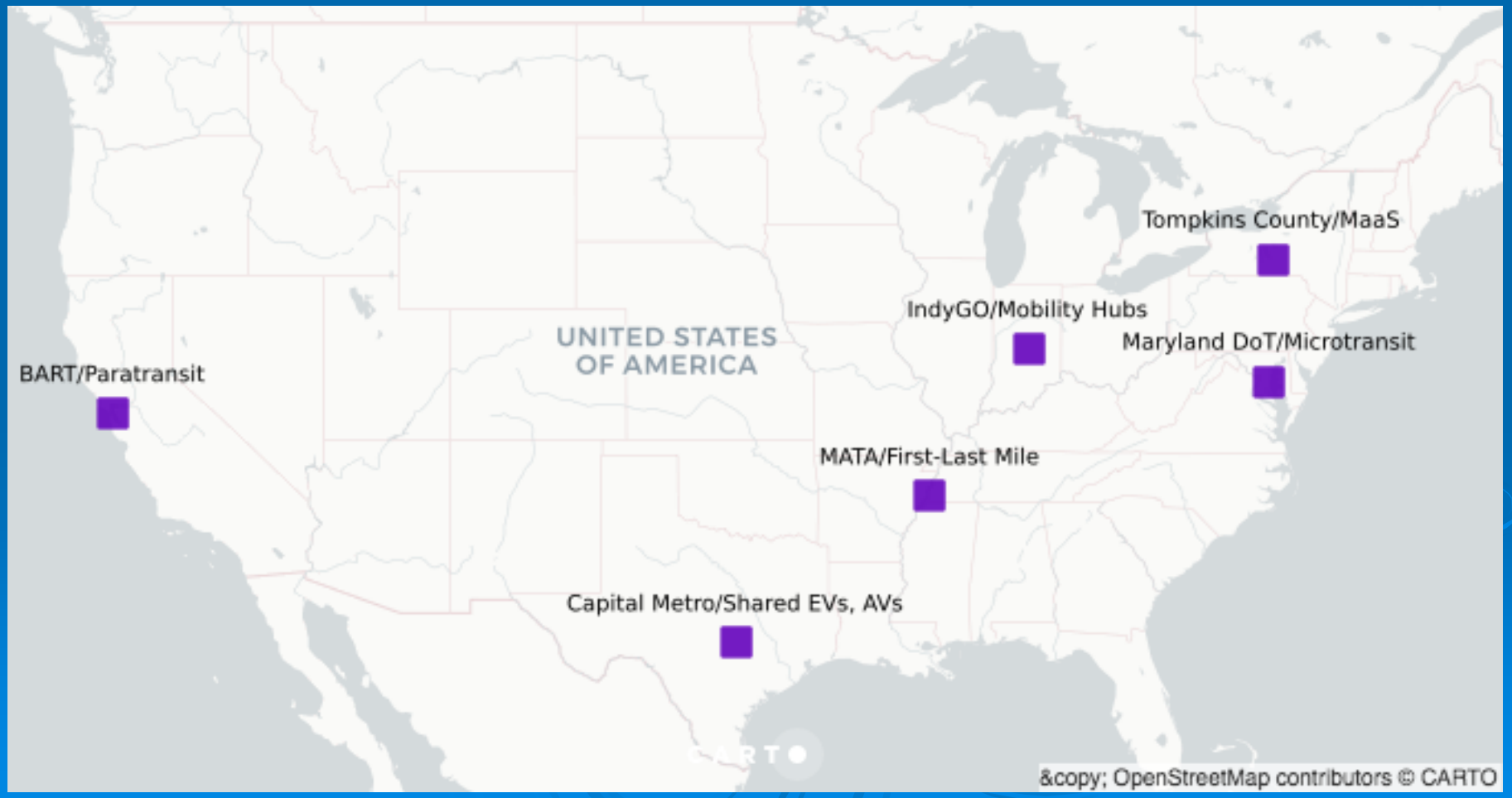
Submit a request through the app
Submit a request through the web

Mobility as a Service (MaaS)

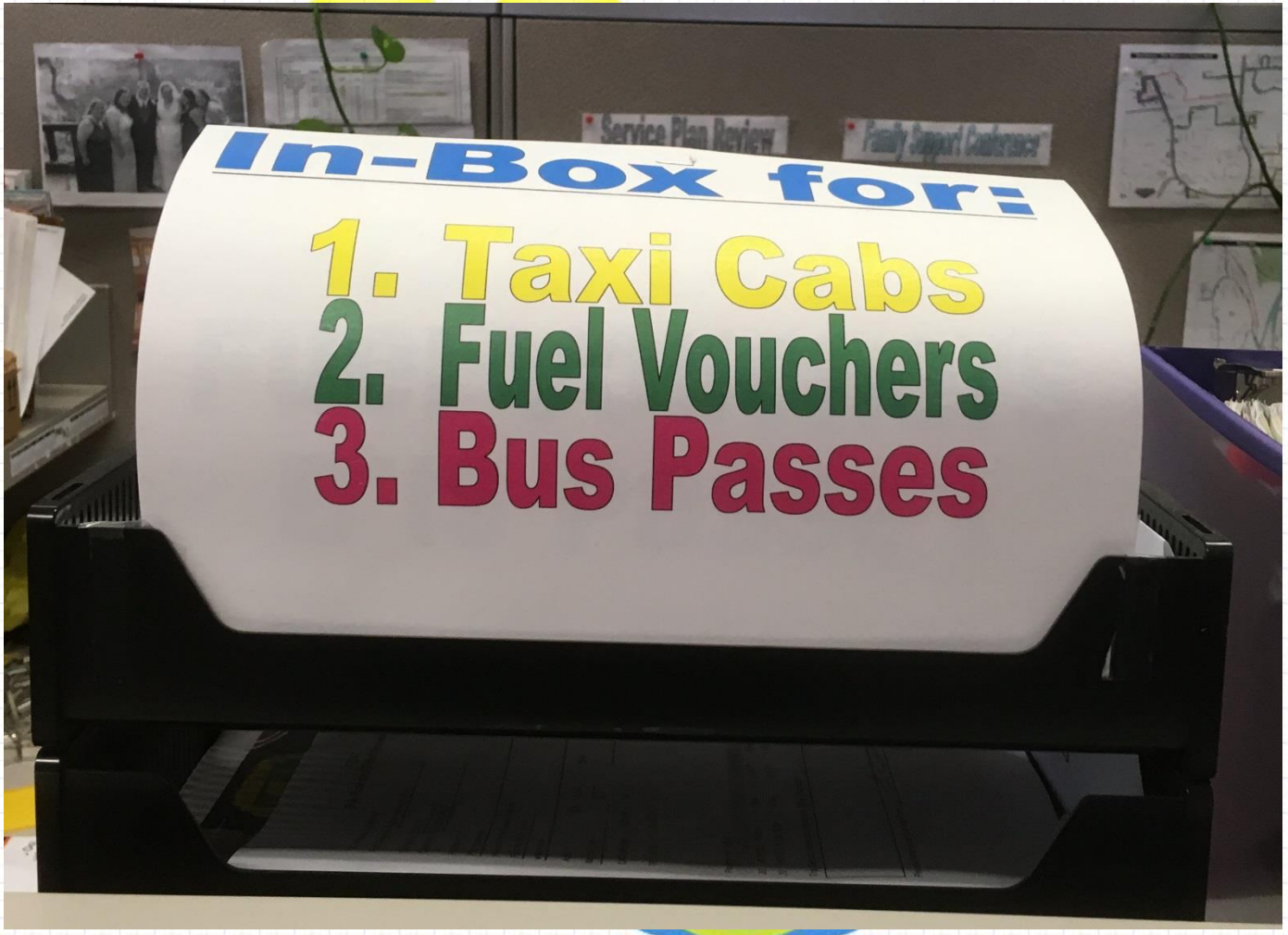
A Tool for Small Urban & Rural Communities



In 2018, Tompkins County's MaaS proposal was selected for FTA's Mobility on Demand On-Ramp Program.



Mobility Coordination Center



Dwight Mengel, Chief
Transportation Planner
Tompkins County, NY
3/6/2017

MaaS as Customer Service Integrator

"… shift from selling features & benefits to building relationships with consumers…"

Value Propositions

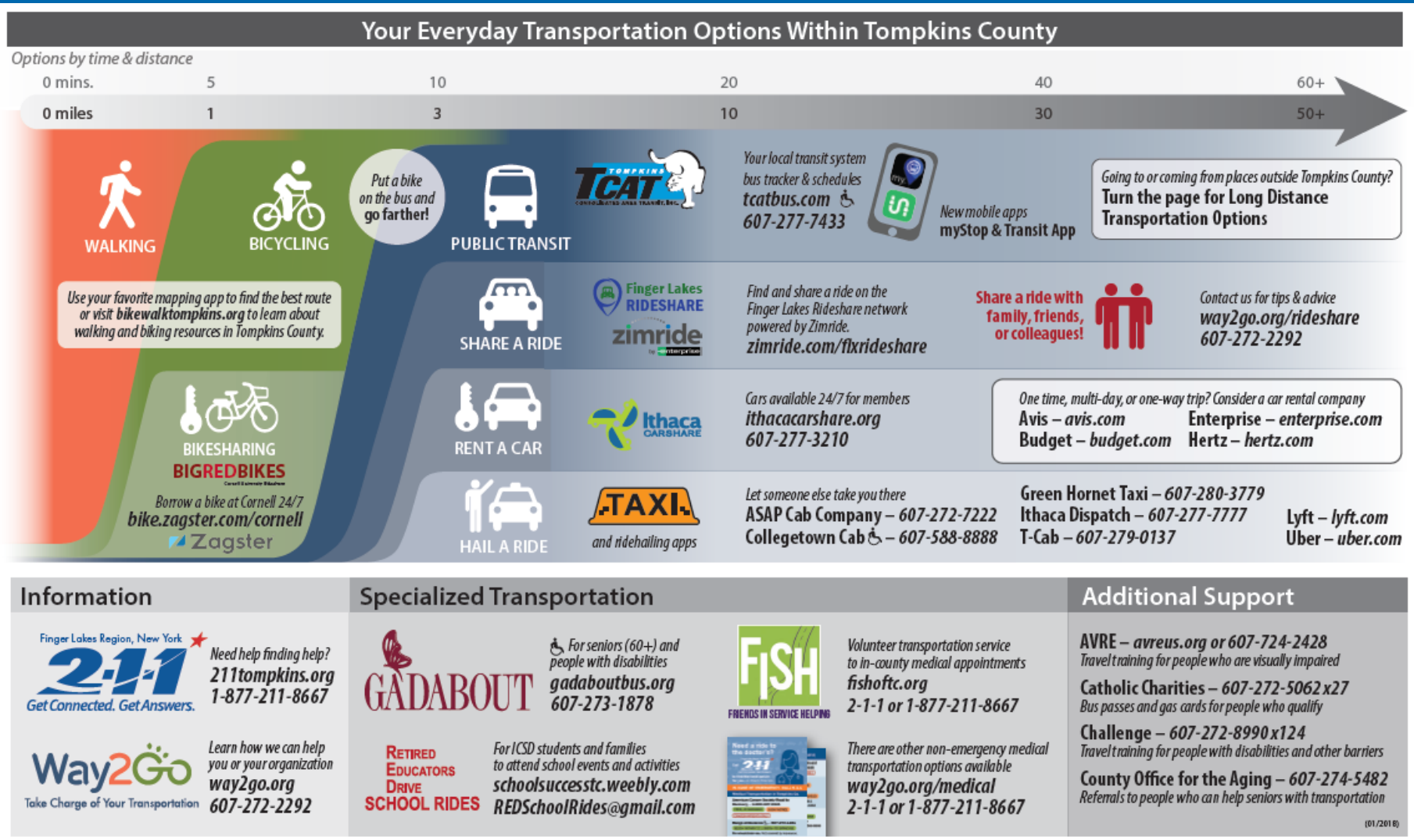
MaaS

- Mobility Education
- Member Organization
- Financial Services
- Customer Services
- Innovation & Adaptation

Value Propositions

- Mobility Education
- Member Organization
  - Member recruitment
  - Governance/ Operations
- Financial Services
  - Individual Mobility Plans, estimates of annual use & budget
  - Monthly Budget Billing or Single Payments
  - Coordinate Fare Payment with mobility operators & customers
  - Streamline how Public agencies purchase travel for clients
  - Credit volunteer driver mileage reimbursements as revenue
  - Credit employer subsidies as revenue
- Customer Service
  - Concierge Service 24/7 & Guaranteed Ride
  - Feedback to mobility operators
  - Business Co-Marketing & Discounts
- Continuously improve mobility services
  - Multi-modal Trip Planning

Family of Mobility Services



	Mobility Menu	Unit Cost	Unit
	Annual Adult Bus Pass	$ 450	Annual
	Annual Youth Bus Pass	$ 110	Annual
	Ithaca Carshare "Its my car" Plan	$ 8	Hour
	Ithaca Carshare "Just in Case" Plan	$ 11	Hour
	Car Rental	$ 55	Day
	Taxi trip - City	$ 8	Urban Trip
	Taxi trip - Rural	$ 20	Rural Trip
	Bicycle Maintenance	$ 50	Voucher
	Electric Bike Purchase	$ 2,000	HE Bike
	Bike Purchase	$ 700	Bike
	Rideshare Driver – Miles	$ 0.54	Mile
	Rideshare Rider – Miles	$ 0.15	Mile
	GADABOUT Paratransit	$ 4	Trip
	Vanpool Membership	$ 125	Month/Seat
	Guaranteed Ride	$ 30	Annual

Small City Household

1 car, 2 adults, 1 youth, Walkscore = 96

Small City Family Mobility Budget	
Carshare	$ 900
Annual Bus Passes (2)	$ 560
Taxi	$ 192
Bicycle Maintenance	$ 100
Guaranteed Ride	$ 30
Member Support	$ 178
Annual Total	$ 1,960
Monthly Payment	**$ 163**

Rural Household

1 car, 2 adults, 1 child, Walkscore = 0

Rural Family Mobility Budget

Vanpool Membership	$	1,500
Carshare (Discount Plan)	$	480
Taxi	$	200
Guaranteed Ride	$	30
Member Support	$	121
Volunteer Driver Revenue	$	(400)
Vanpool Program Subsidy	$	(600)
Total	$	1,331
Monthly Payment	**$**	**111**

Shared Mobility Strategy to Boost Mobility Supply in Rural Communities

Riders

Provide:
Paying for gas

Benefits:
- Eligible for ride subsidy
- First/Last Mile Solution
- Carpool Commuting
- Increasing mobility accessibility and affordability

MaaS Center

Features:
- App/Web based platform
- Real-time tracking
- Ride Reservation
- Phone Dispatch
- Pays mileage reimbursement
- Guaranteed Ride

Drivers

Provide:
- Rides
- Volunteer Services

Benefits:
- Earning money - Mileage Reimbursement
- Helping People

Critical Issues

- MaaS Organization

- Business Model, Funding, Pilot Projects
- Mobility Payment Methods
- Public Sector transactions, orders & payments
- Mobility Sales & Budget Billing
- Process payments to service providers

- Member recruitment and customer service
- Trip Management, Referral & Fulfillment
- Customer Experience Mapping
- Concierge Service & Guaranteed Ride 24/7
- Marketing, Business Co-Marketing & Discounts

- Technology Strategy – Smartphone Apps + vehicle location/arrivals + customer notifications
- Continuous improve mobility services and driver recruitment

TIME TO
GET REAL

TOMPKINS MAAS TASK: MULTI-MODAL TRIP PLANNING

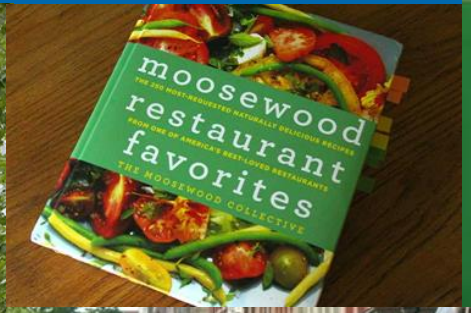
6/13/2019 version 2.1

OVERVIEW

1. Project Background and Description

People need comprehensive information to plan trips and real-time information to complete their travel. Currently, Tompkins Consolidated Area Transit (TCAT) is the only one of four bus operators with real-time bus location data and open API. Gadabout Transportation Services (paratransit operator) has a project to procure and install a like system. Ithaca Carshare and Lime operate with real-time data. We will ask them to share location data of their vehicles and bikes. Other local mobility operators and services do not produce real-time data or have open API's. Improvements will occur, one operator at a time.

The project begins with an inventory of operator capabilities and an assessment of what improvements to the customer experience can be made in the near term. We will develop an App to simplify the customer experience for multi-modal travel. We will incorporate lessons from TCAT's First/Last mile service pilot. The objective is to continuously improve access to information and reliability of travel for customers.



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25th ANNIVERSARY ITS-NY
Intelligent Transportation Society of New York

Roles for MOD and MaaS

Kristin Shevis

Vice President Partnerships

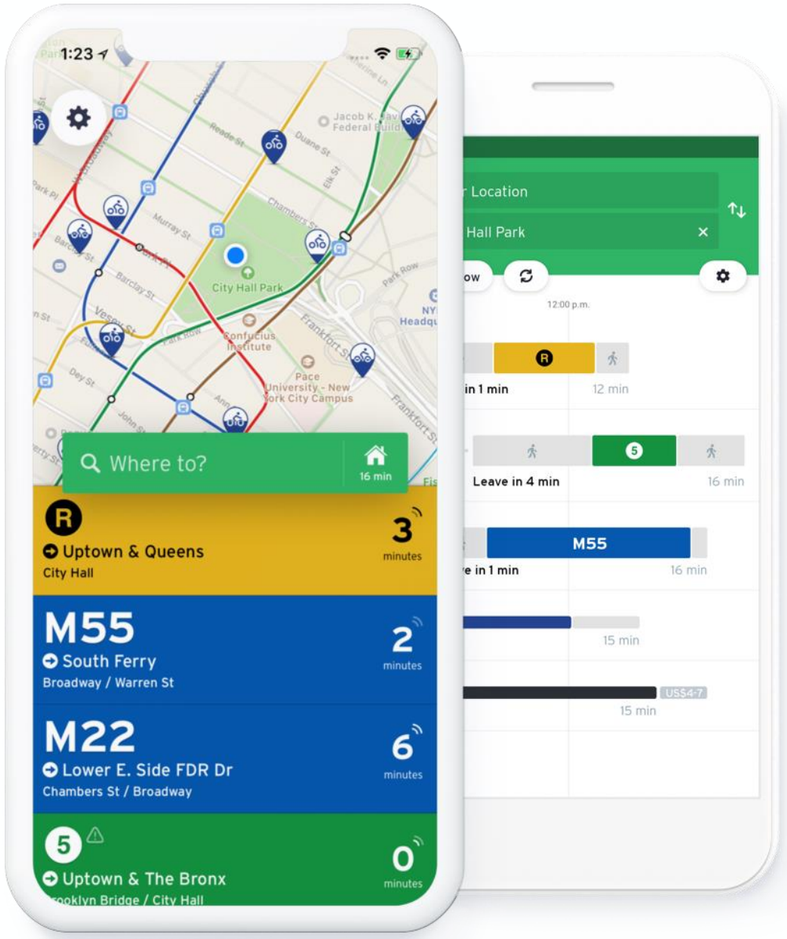
New York, NY

@SheviNY

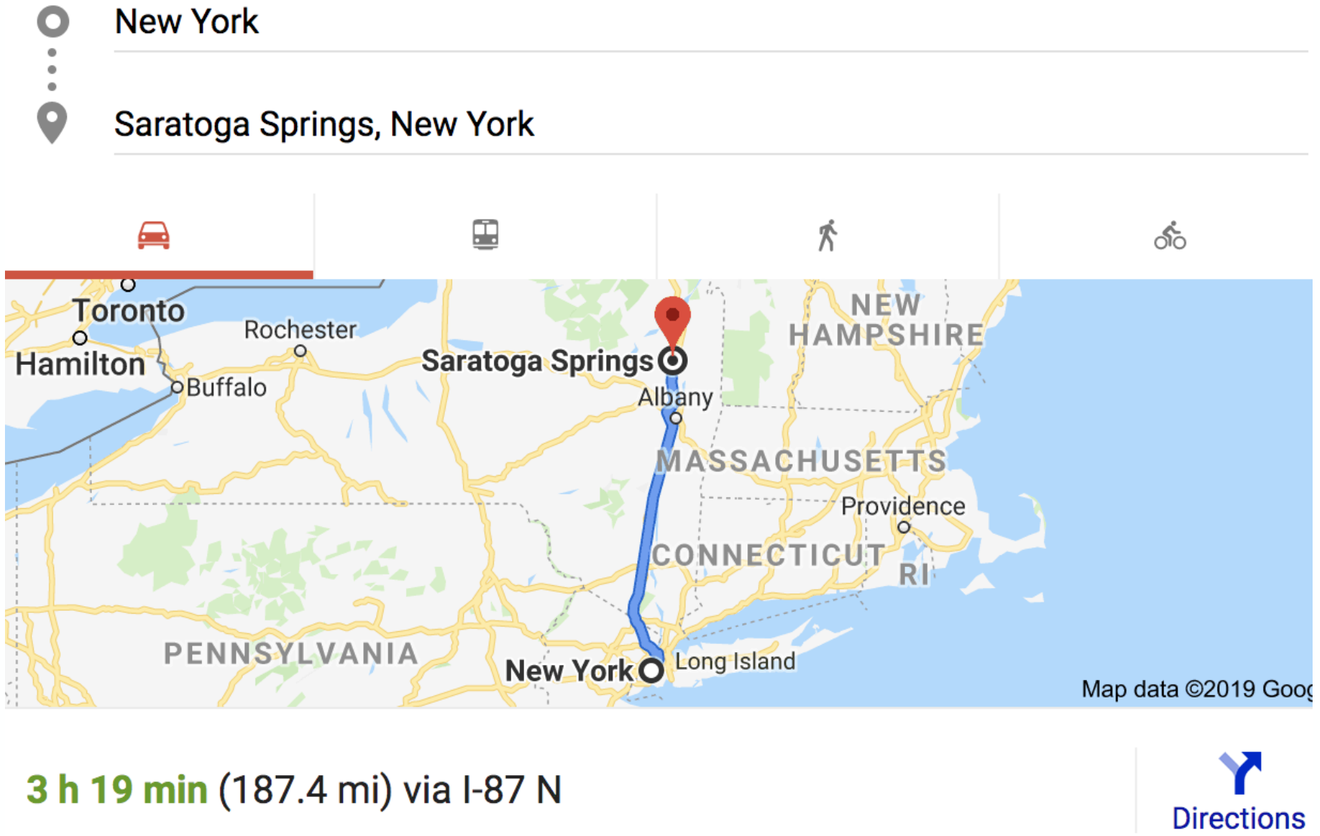
MOD and MAAS

MOD

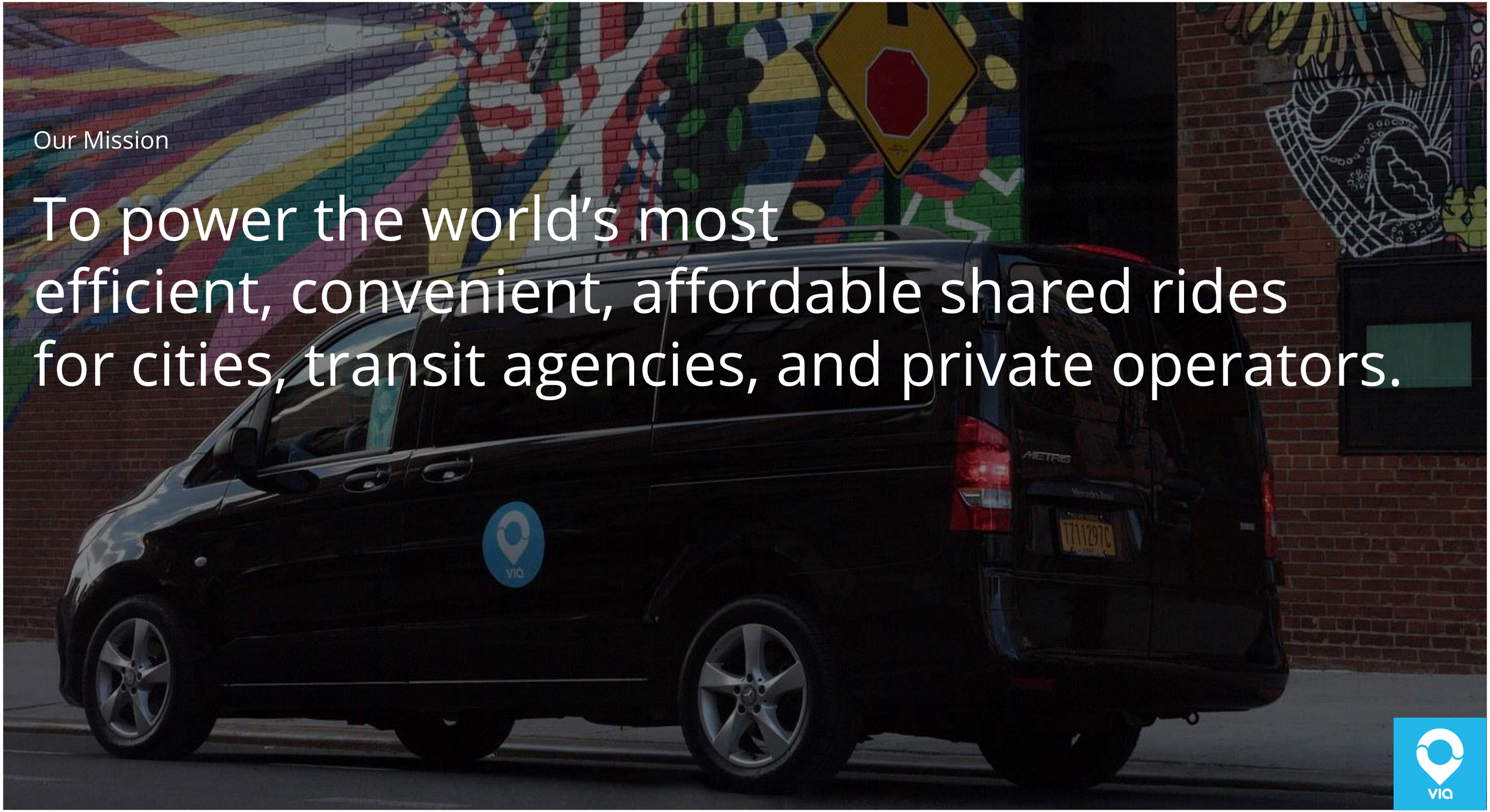
MAAS



MOD as a component of MAAS



Via’s Efforts in FMLM

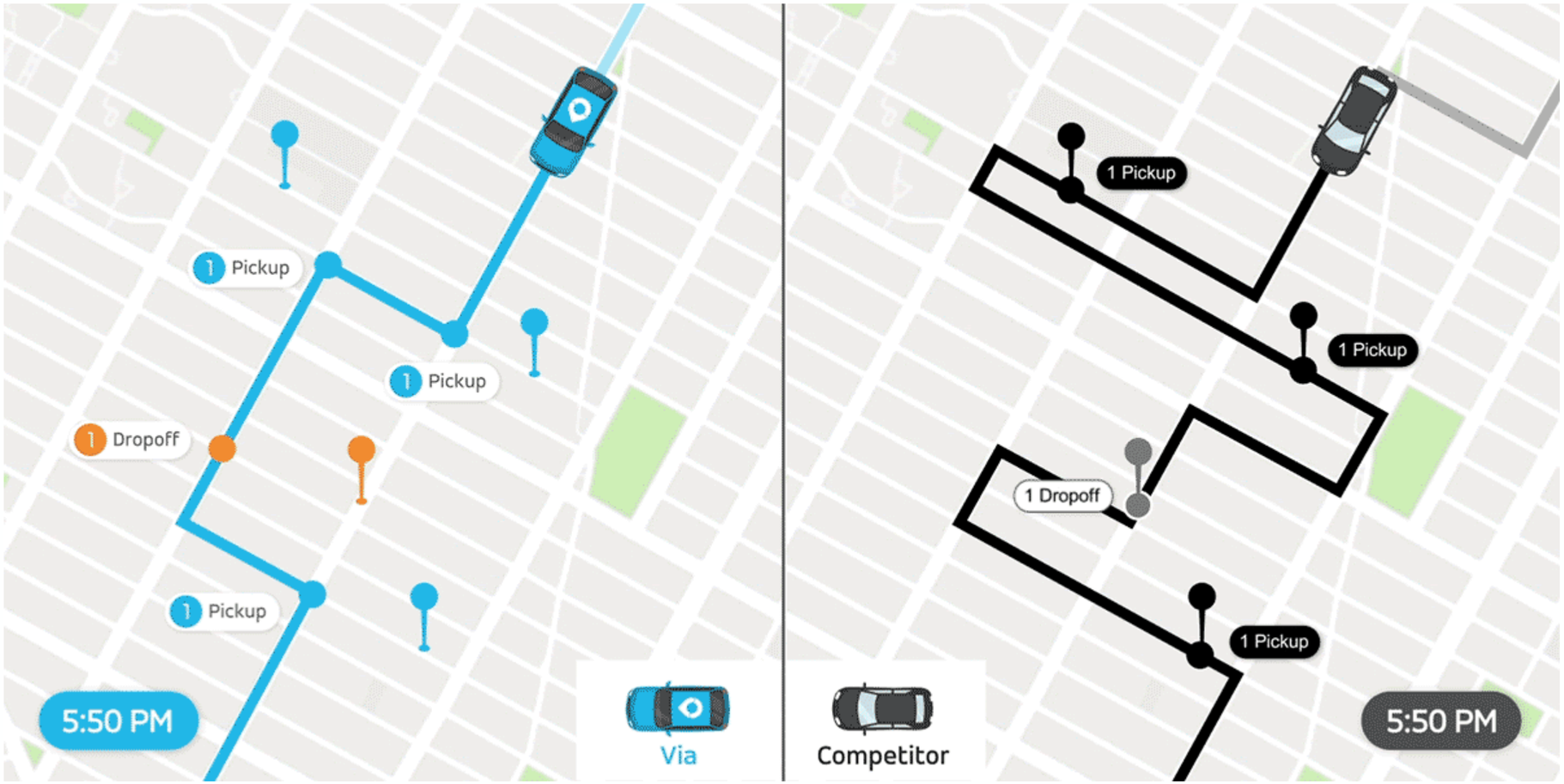


Our Mission

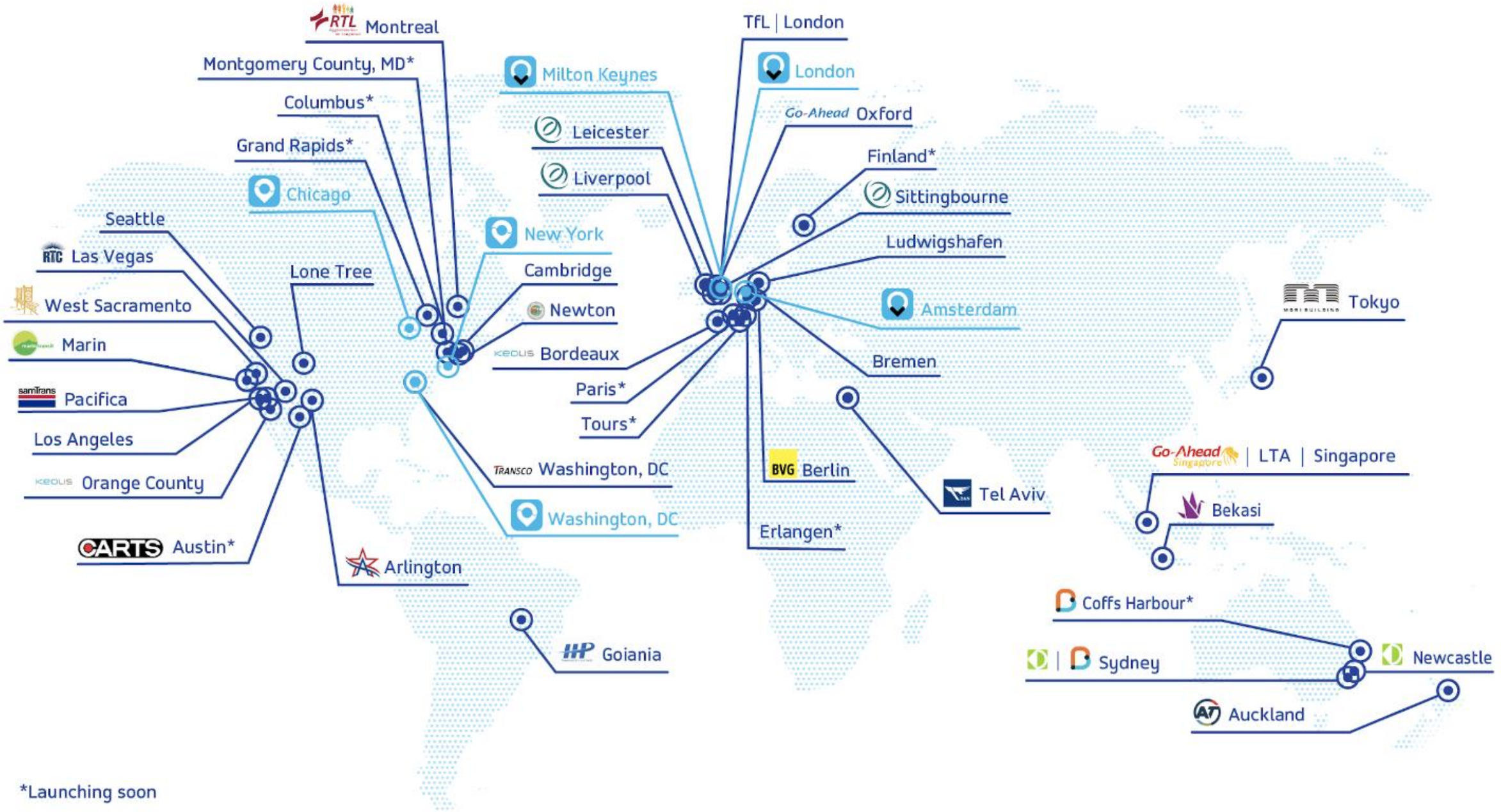
To power the world's most efficient, convenient, affordable shared rides for cities, transit agencies, and private operators.

Via. Proprietary & Confidential

The most efficient network of Virtual Bustops



Via is the world's first on-demand transit system operating at global scale



*Launching soon

Use Cases

First mile & Last mile		Complement existing public transit network and increase access to transit hubs
Optimize fixed transit routes		Complement fixed transit routes and improve service in low density areas and off-peak hours
Paratransit		Lower paratransit service costs and improve ease of booking & rider experience
Campus		Provide transport for commutes, on-campus mobility, and reduce parking demand

Via. Proprietary & Confidential

ArrivaClick

FMLM serving commuters in suburban Sittingbourne, UK

Goals

- Rural/suburban first mile/last mile solution
- Provide access between train station and unconnected employment centers in Kent
- **Replace fixed route circulator**

Results

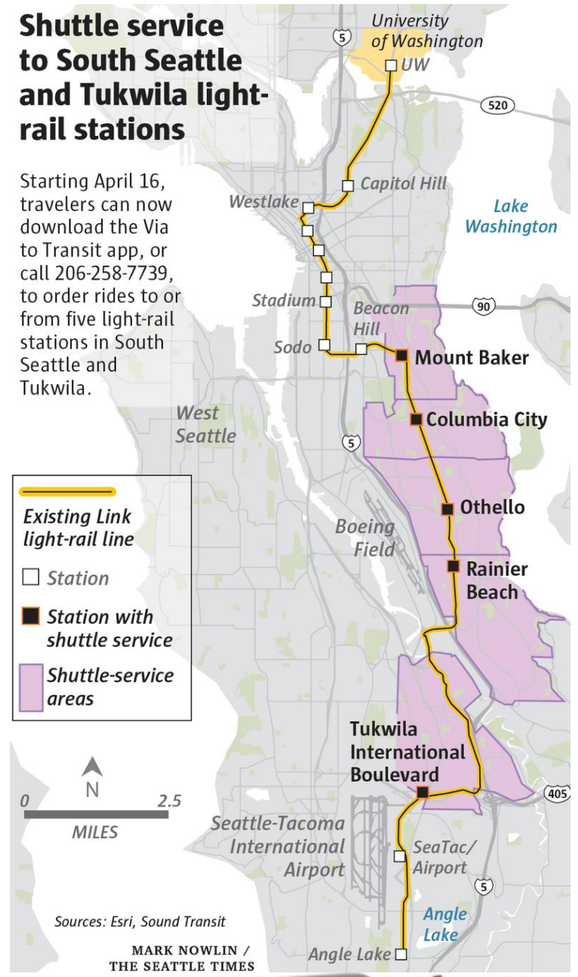
- Provides over 1,300 rides per week
- **All wheelchair accessible vehicles**
- Success has led to launch of additional services in Liverpool and Leicester

Via. Proprietary & Confidential

King County Metro

FMLM for Seattle commuters

- Launched in **April 2019**, experiencing rapid growth since launch
- First/Last mile service connecting commuters to 5 Tukwila light rail train stations
- Partnership with Sound Transit and the City of Seattle; part of the **FTA MoD Sandbox Program**
- Integration with **ORCA fare system** to facilitate seamless adoption and ride experience for existing public transit riders



6,000 +
rides in first month of service

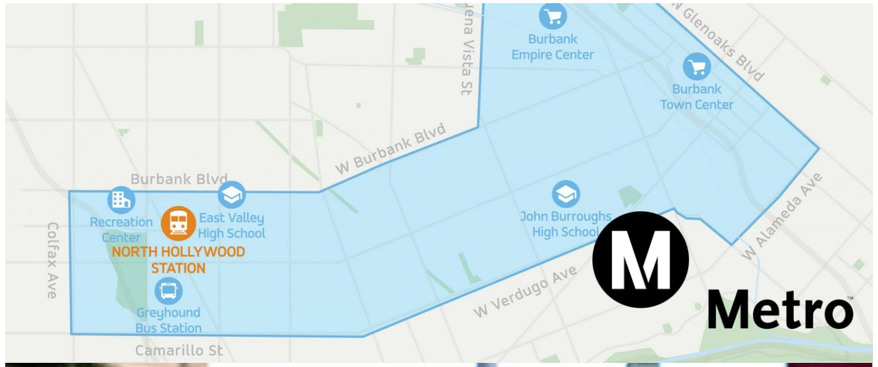
170,000
run-rate annual ridership

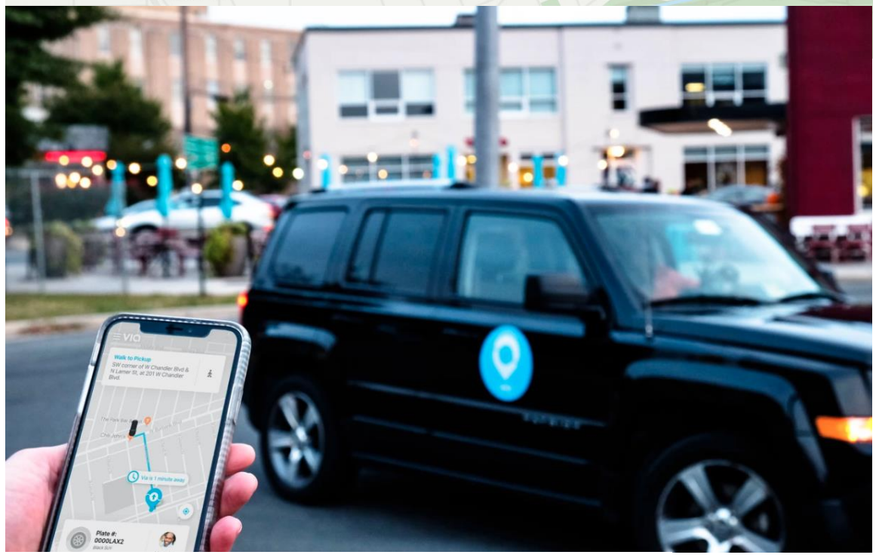
7.5
min average wait time

LA Metro

FMLM for low income riders

- Launched in **January 2019**
- First/Last mile service connecting commuters to 3 MetroRail and 2 Metrolink light rail train stations
- $1.35M FTA grant, part of the **FTA MoD Sandbox Program**
- Goal to improve decreasing public transit ridership by providing FMLM to public transit rail stations
- $1.75 flat fare for MetroTap card holders and support for unbanked riders





Los Angeles is using ride-hailing startup Via to shuttle people to public transit

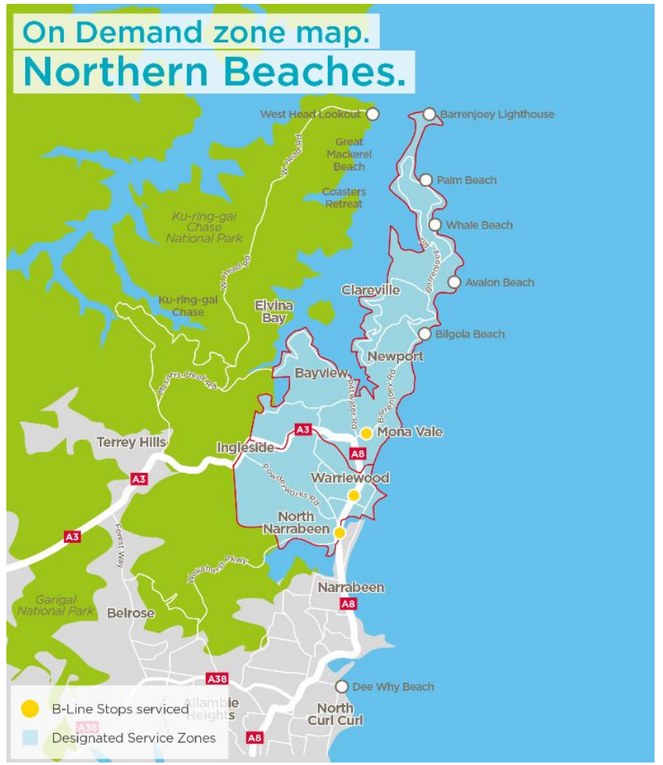
Kirsten Korosec @kirstenkorosec / 21 hours ago

Comment

"This service and partnership is a step toward creating a much-needed solution to one of the biggest challenges facing public transportation, which is bridging transit centers to people's homes and final destinations," said **Metrolink CEO Stephanie Wiggins**. "Microtransit solutions are needed to help travelers with **the first and last mile portions** of their commutes."

Keoride, Northern Beaches & Macquarie Park Sydney, Australia

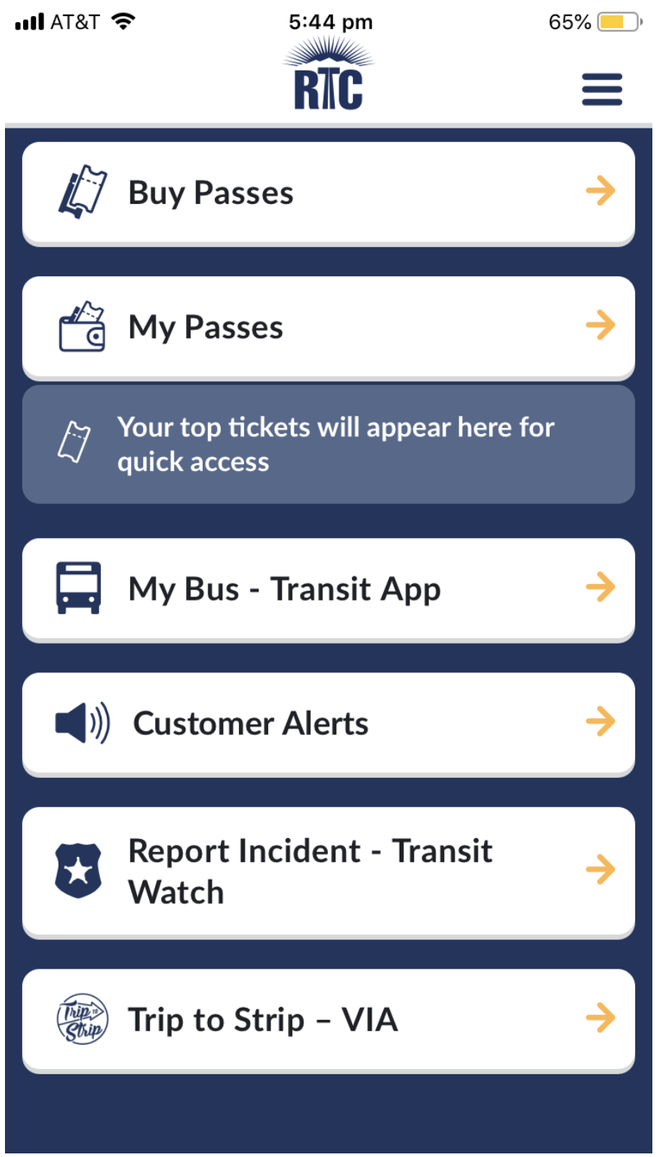
- Launched as part of **Transport for New South Wales' On Demand Public Transport Program** in May 2018.
- Keoride and Via operate microtransit across two distinct zones, with up to **20 vehicles** total (8-10 in Northern Beaches).
- Mix of use cases including **first-and last-mile connections** to BRT stops; intrazone commute; residential discretionary travel.
- Over 95% positive customer feedback; **96% of customers say Keoride is a better travel option than their private car**.
- **2018 Smart City Project award** for "unrivalled ability to provide a faster and more personalized travel experience for the local community"
- **Integrated into TfNSW journey planner**



Las Vegas RTC

Trip to Strip

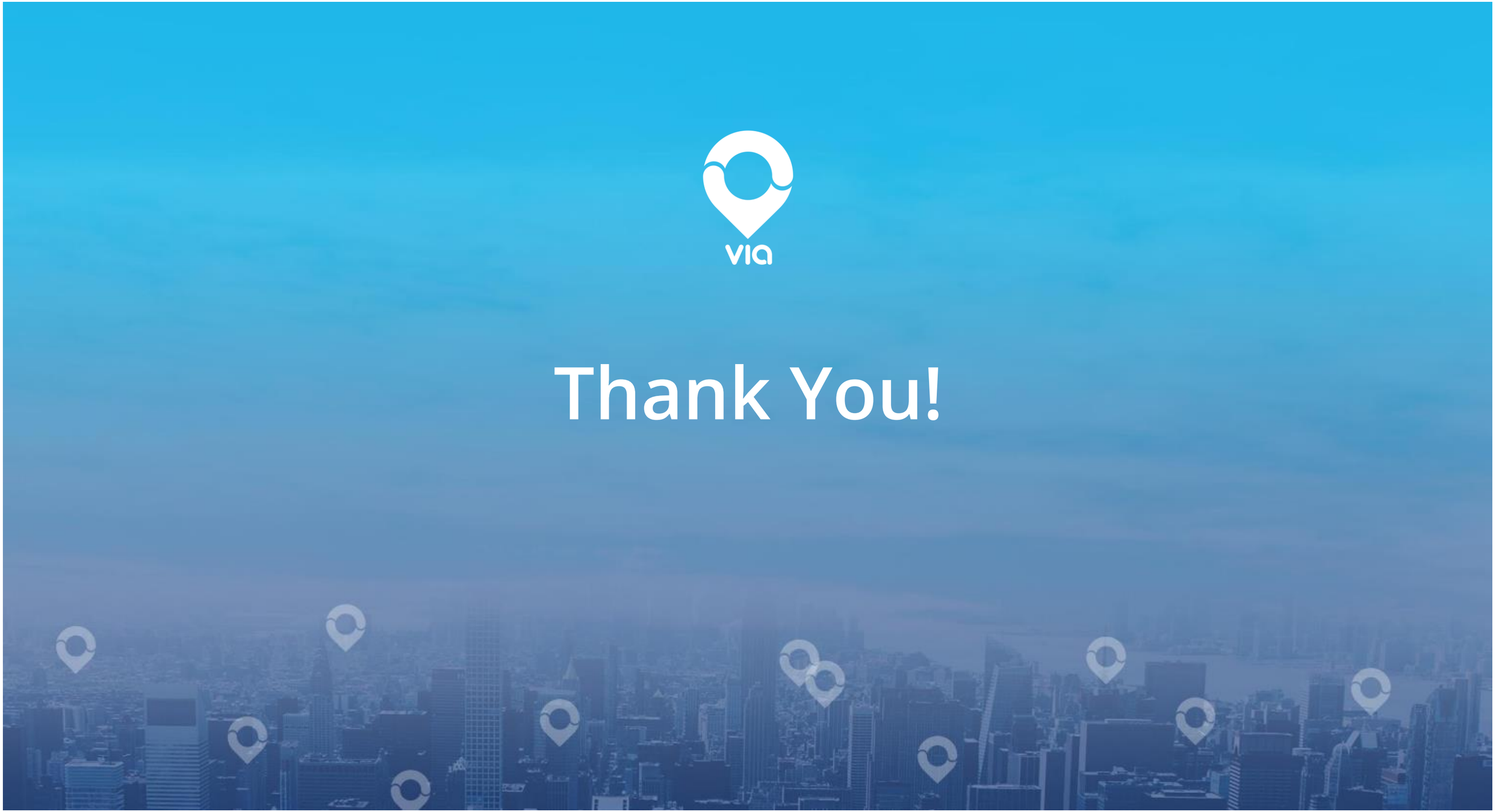
- Launched in **April 2019**
- **Integrated with RTC app**
- 20 vehicles
- **7 x 24 hour service**
- starts at $6 fare , no surge charge



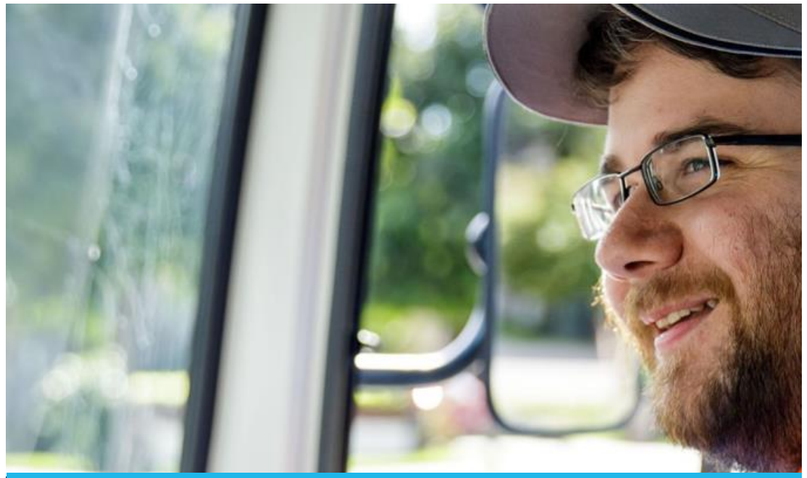
Sharing for our future

“When it comes to cars, what we learned early in life still holds true — sharing makes everything better.”

Lewis Fulton, UC Davis


VIA
Thank You!

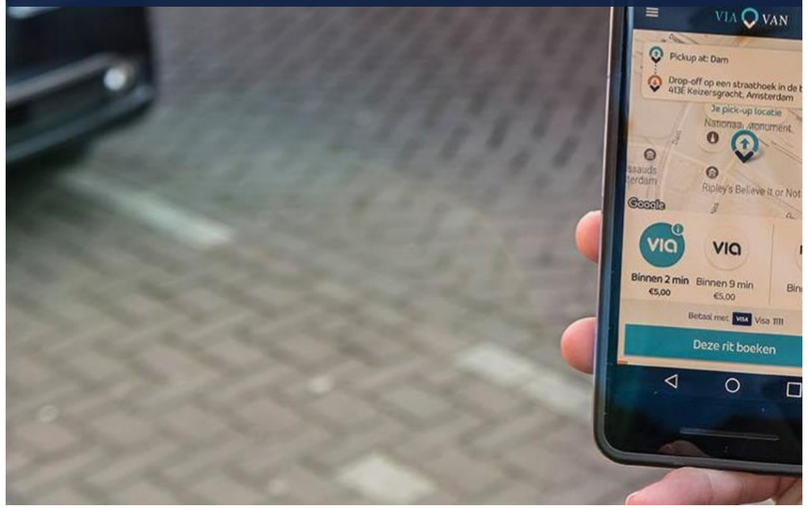
How do we get people to embrace shared rides?



QUALITY SERVICE

ATTRACTIVE PRICING

SMART REGULATIONS



BVG: Berlin

- An end-to-end flexible transportation service, **Via provides vehicle, software, data sharing and administration, BVG provides drivers**
- Launched in **September 2018**
- Complementing public transit with **100+ vehicles, mostly electric** including wheelchair-accessible Mercedes-Benz vehicles (V-Class)
- **Integration with** BVG Journey Planner

500,000
rides since launch (sep 18)

97%
customer satisfaction

100,000
app-downloads

5,000
virtual bus stops

Transportation as a Service (TaaS)

Turnkey solution that includes technology plus drivers, vehicles, and operations management

One-time setup fee
Per vehicle hour cost
Customer service
Local operations team

Software as a Service (SaaS)

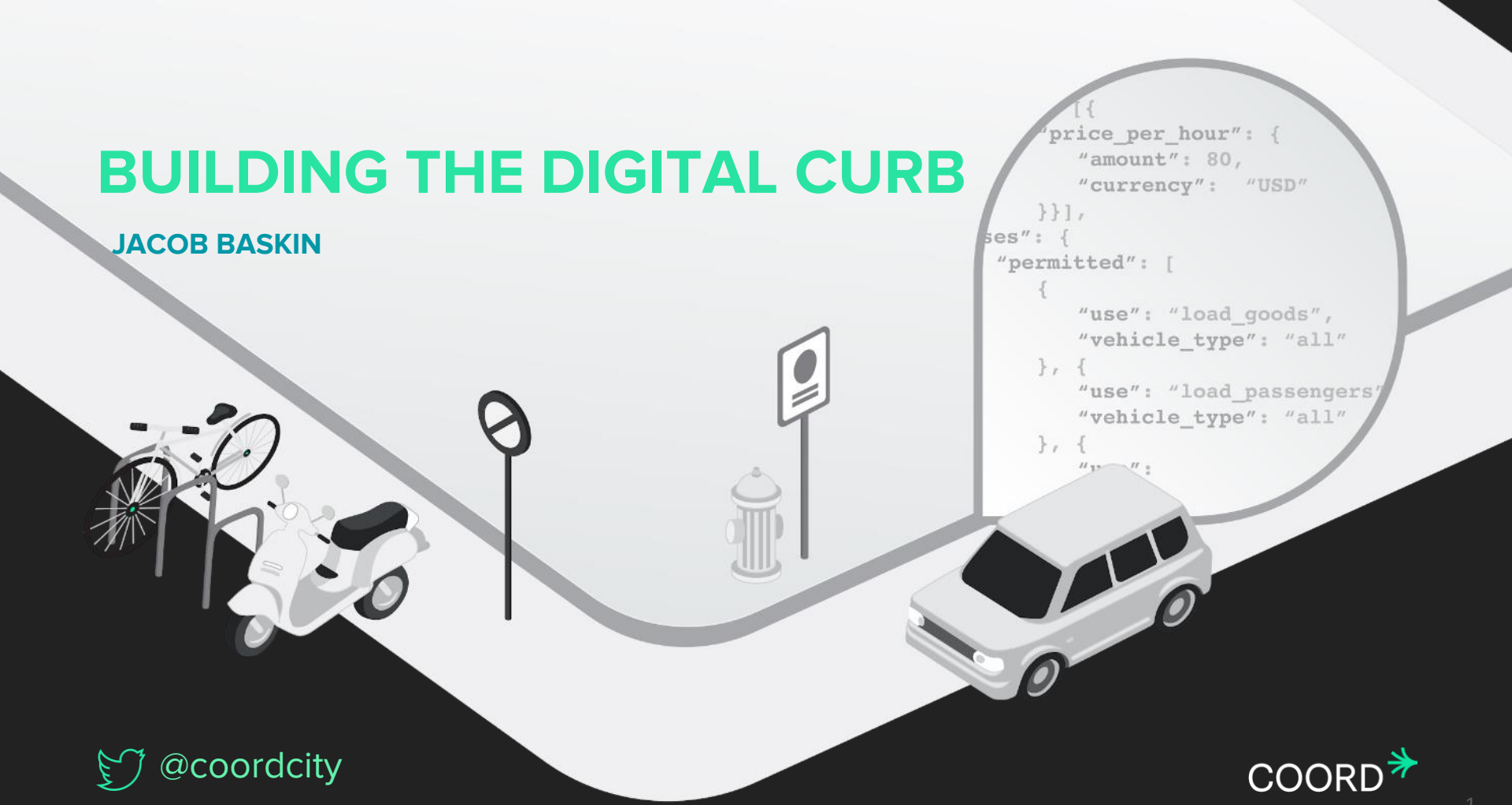
Tools and support for agencies who prefer to use their own drivers, vehicles and operators

One-time setup fee
Training on site
Per vehicle licensing
Small per ride fee

Via. Proprietary & Confidential

BUILDING THE DIGITAL CURB

JACOB BASKIN



@coordcity

COORD

WE NOW LIVE IN AN ERA OF MOBILITY ON-DEMAND

RIDE HAIL

PACKAGE DELIVERIES

FOOD DELIVERIES

SHARED VEHICLES

AUTONOMOUS VEHICLES

COORD

OUR STREETS ARE AT A BREAKING POINT

Credits: 1) KPIX, 2) Tabitha Decker, 3) SF Examiner

Traditionally, the curb is managed physically...

Rules accrue over time in response to piecemeal updates and fixes

The source of truth is the parking sign itself (or painted curb, or pavement marking, or...)

Challenges with flexibility and enforcement for new modes

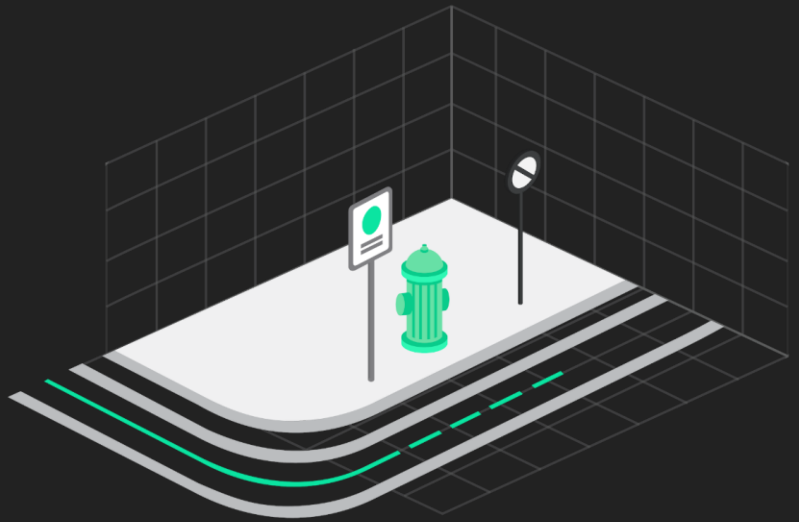
Can we manage the curb digitally?

Curb users have easy access to curb rules

Rules can be adjusted more quickly and flexibly

The curb becomes more productive and **shared between modes + uses**

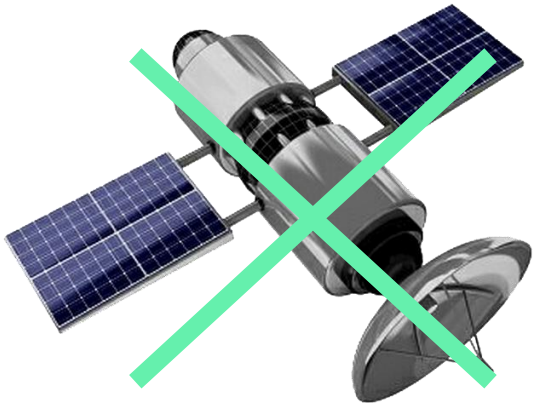
...But first we have to code the curb!



How to collect positional information?

SLOW

INCOMPLETE



INACCURATE

Standardizing how data is collected & formatted

- Using AR tech for accuracy
- 6x faster than traditional survey methods
- Smooth & intuitive design
- No special hardware & minimal training
- Data collected in standardized format

COORD

Building an API

Need to **standardize curb rules** across jurisdictions. What does this mean?

Decode parking signs and other assets (paint, hydrants, etc)

Understand **local bylaws and ordinances**

Standardize taxonomy of **use cases** (what is "standing"?)

Standardize **spatial referencing**

WHAT ARE THE RULES OF THE CURB?

Understanding the Curb: When?

Traditional curb inventories assign a single category to a stretch of curb space, but uses vary by time of day and day of week.

We start by identifying all of the time periods mentioned on a specific curb and compute regulations separately for each of them (e.g.: street sweeping, morning rush hour, daytime on weekdays…)

Regulations can be accessed across time periods or at a specific time

Challenges: school days, snow days, seasonal rules, sporting events, …

Understanding the Curb: Who + what?

Taxonomy of vehicle types: taxi/ride-hail, handicap, passenger vehicle, commercial vehicle, truck, motorcycle, ...

Taxonomy of uses: parking, load/unload goods, load/unload passengers

PUTTING IT TOGETHER

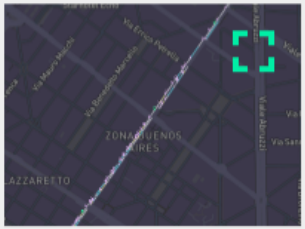
Open Curb Assets: Proposed standard for interchange of asset data (ground truth)

Open source: anyone can contribute + use data or suggest spec updates

Explore the Digital Curb with Open Curbs

Open Curbs is fueled by collaborating cities and private sector innovators who are pa
commitments to providing open access to their curb data surveyed by our tools. User
curb assets from participating surveys for things such as parking signs, fire hydrants,
stops and more.

Browse Datasets:



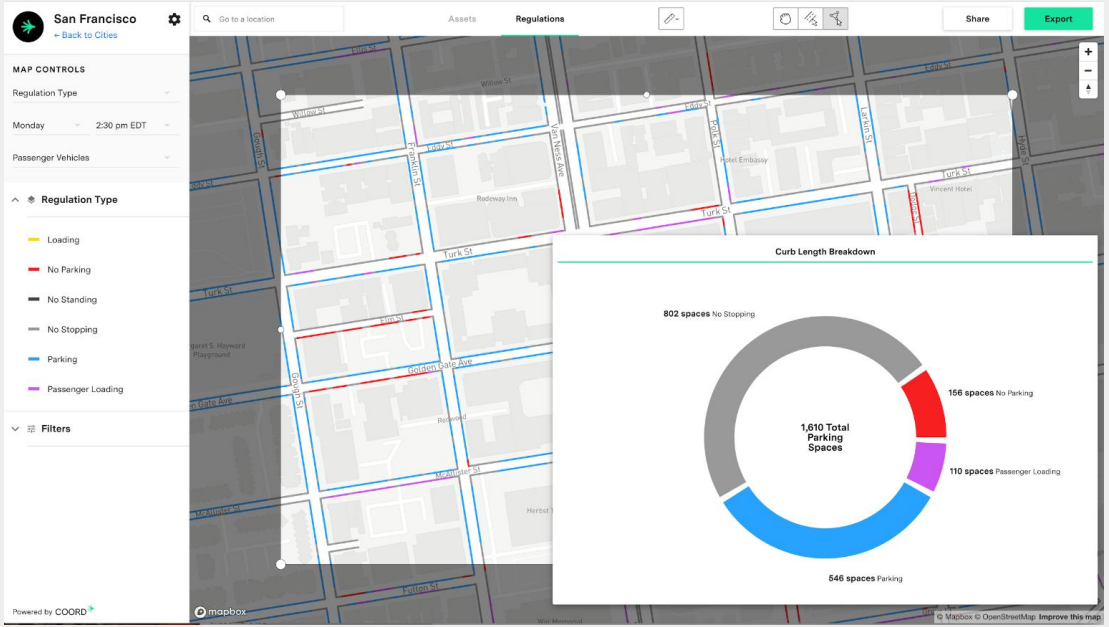
Milano - Corso Buenos Aires

Collected By:
Systematica

Dates Collected:
November 2018—December 2018

COORD

Coord transcribes and interprets curb features to build a digital map...and provides tools to help understand it.



Coord API enables software developers to integrate curb intelligence into their apps in a standardized format across cities


```
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THANK YOU.

Jacob Baskin

jacob@coord.co

@coordcity

THE CURRENT AND POTENTIAL FUTURE STATE OF MAAS IN THE U.S.

Carol Schweiger
President, Schweiger Consulting
2019 ITS-NY 26th Annual Meeting and Technology Exhibition
Friday, June 14, 2019

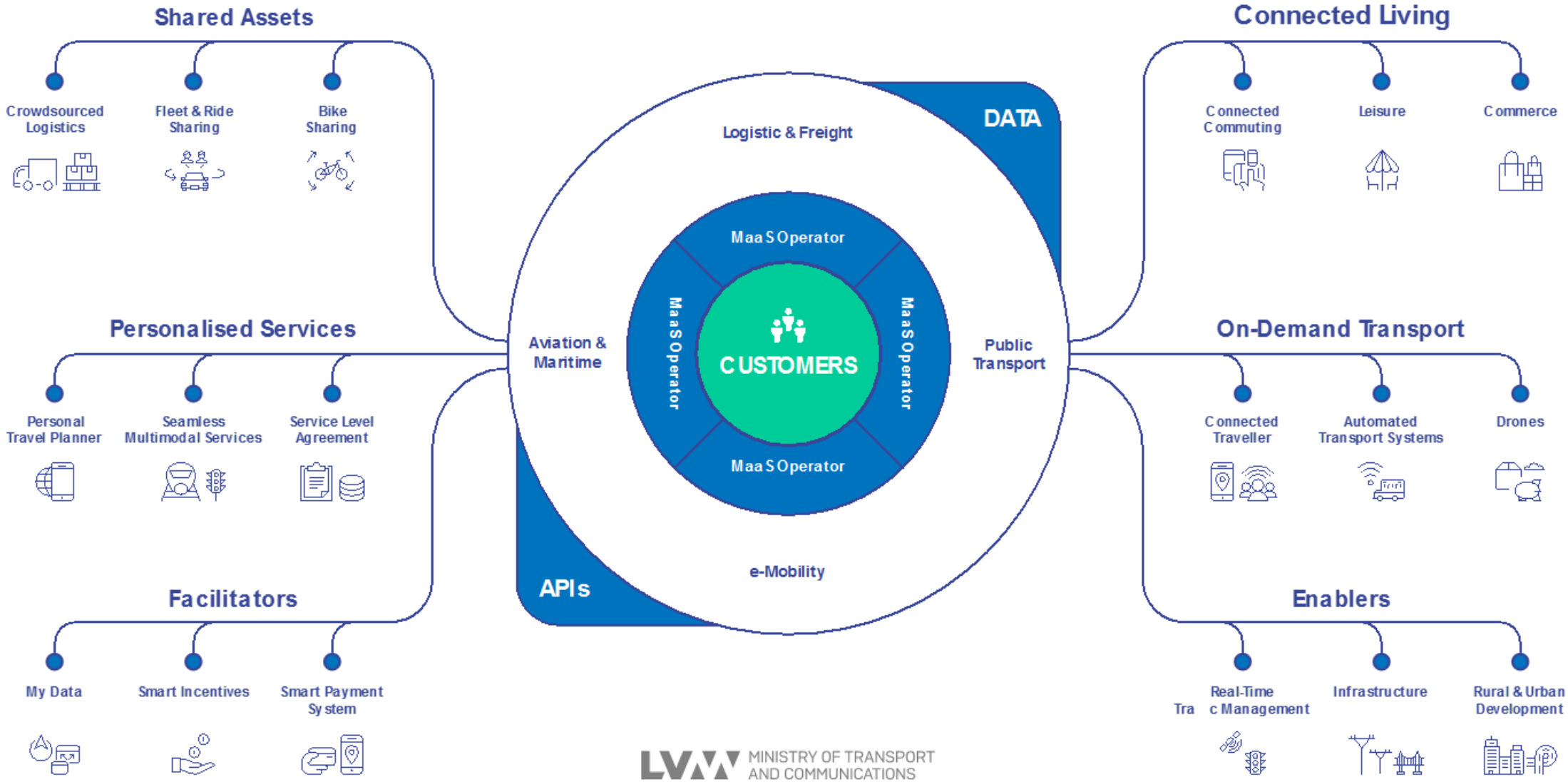
ITS-NY
Intelligent Transportation Society of New York

PRESENTATION OUTLINE

- Definitions
- LA Metro - Equity
- Dallas Area Rapid Transit- P3
- Greater Dayton Regional Transit Authority – Agency provides MaaS
- Tompkins County, NY
- Where is the US in the MaaS Topology?
- Balancing Customer Needs, City Goals & Private Sector Opportunities

ITS-NY
Intelligent Transportation Society of New York

MOBILITY AS A SERVICE



LVM MINISTRY OF TRANSPORT AND COMMUNICATIONS

DEFINITIONS

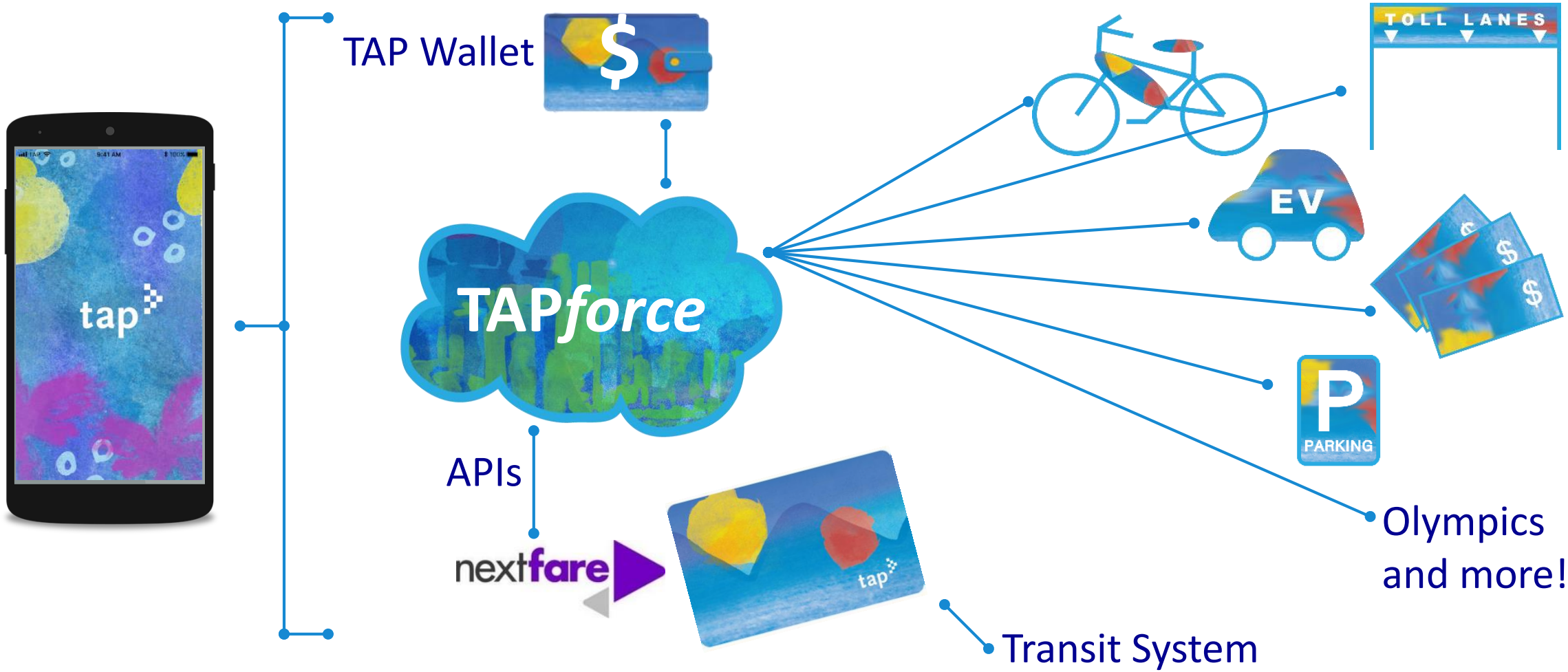
MaaS	Integration of various forms of transport services and their fares into a single mobility service accessible on demand
New mobility services	Ridesourcing, carsharing, bikesharing, microtransit, etc. See SAE J3163 – **Not MaaS**
Transportation Demand Management	Service offerings and incentives to get commuters out of single-occupant vehicles. – **Not MaaS**
Mobility Management	Provide viable alternatives for non-drivers. – **Not MaaS**
Mobility on Demand	Multimodal, integrated, automated, accessible, and connected transportation system in which personalized mobility is key feature. – **Not MaaS**

Source: Jeremy Dalton, "What is "New Mobility" Anyway?" Method City, July 6, 2018, https://method.city/what-is-new-mobility-anyway-581cbabb55a4

MOBILITY ECOSYSTEM

Public Transit	Taxis	Car Rental
Microtransit	Bikesharing	P2P Carsharing/Rental
Ridesourcing	Carsharing	Shared Ride Services
Automated Vehicles	Scooter Sharing	Electric Scooter Sharing

LA METRO'S MULTI-SYSTEM APPROACH



Courtesy Robin O'Hara, Executive Officer, Regional TAP Customer Experience, LA Metro

BENEFIT: OFFER ACCOUNT LOADING CHOICES

Different options for Mobile App, Computer, Call Center and Retail Locations
Connected by APIs to the programs

Courtesy Robin O'Hara, Executive Officer, Regional TAP Customer Experience, LA Metro

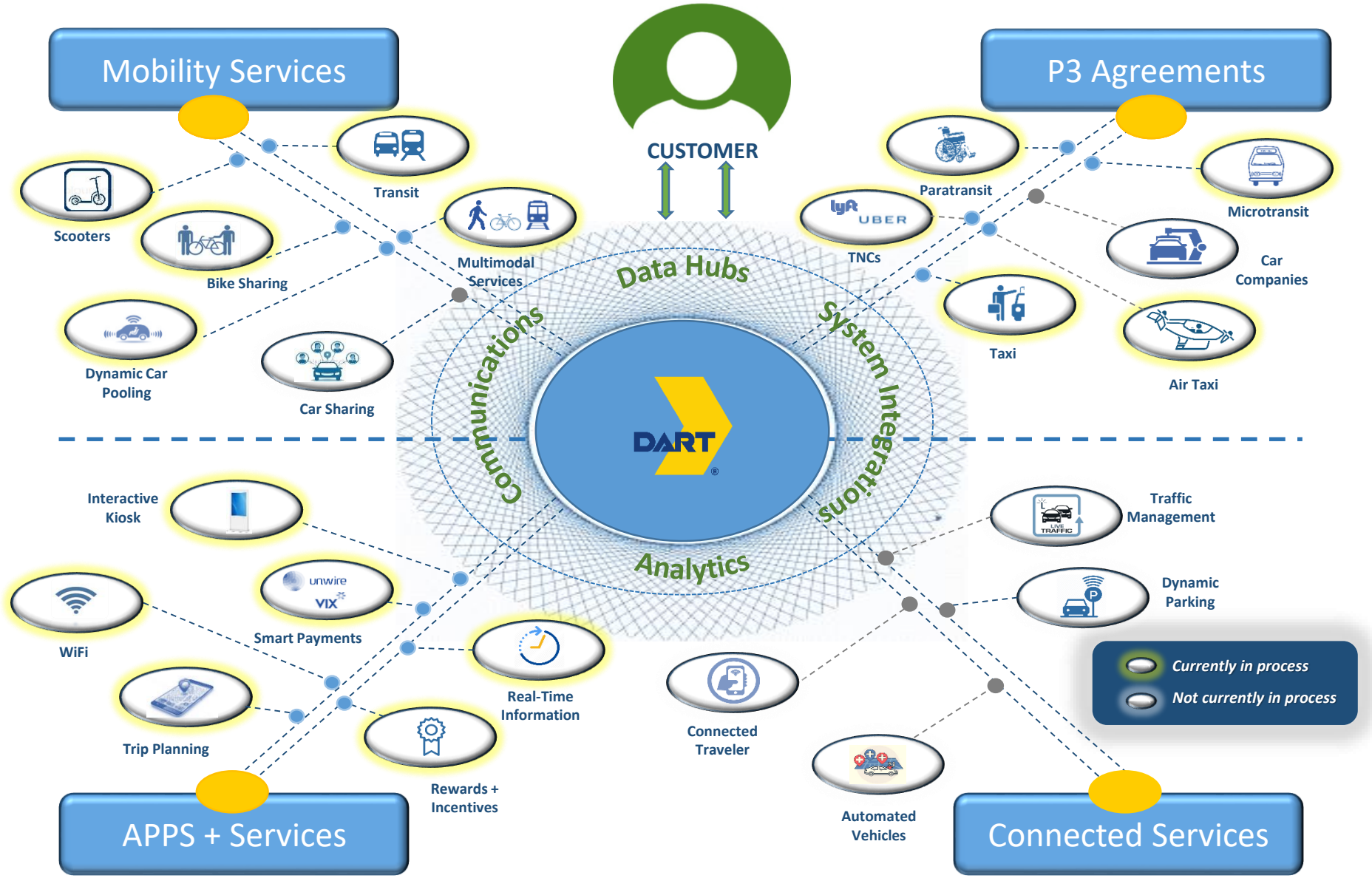
BENEFIT: CROSS-PROGRAM DISCOUNTS

Provides discounts across multiple programs

- One sign-up for customers
- Easy customization
- Configurable by programs such as Metro's Low Income Subsidy Program (LIFE)

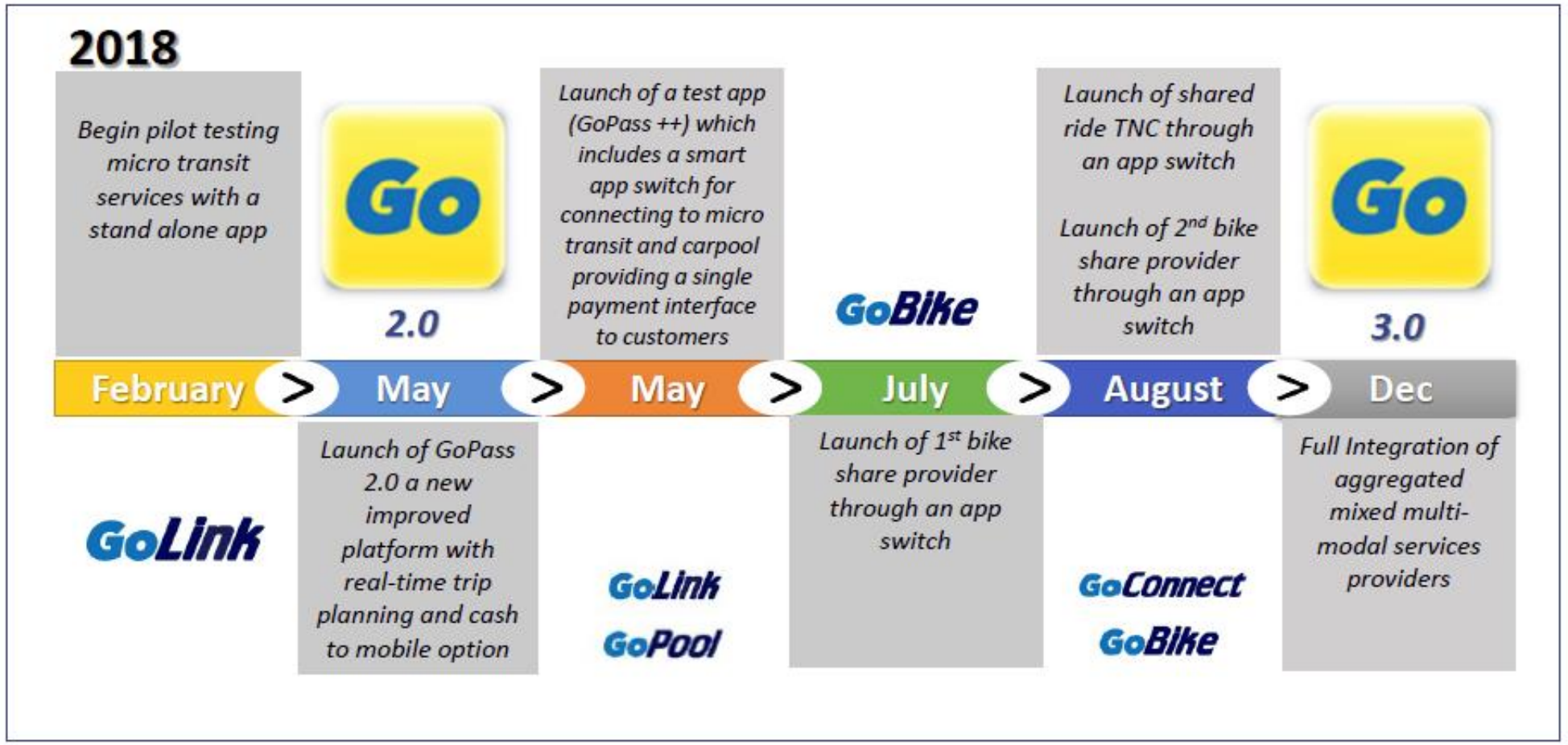
Courtesy Robin O'Hara, Executive Officer, Regional TAP Customer Experience, LA Metro

DART's Mobility as a Service Framework



Source: Tina Mörch-Pierre, Assistant Vice President, Payment Systems & Statistical Reporting, Dallas Area Rapid Transit, "Building MaaS: Technology Challenges and Solution," Shared-Use Mobility Center Summit, March 2019, Chicago

DART'S PATH TO LEVEL 3

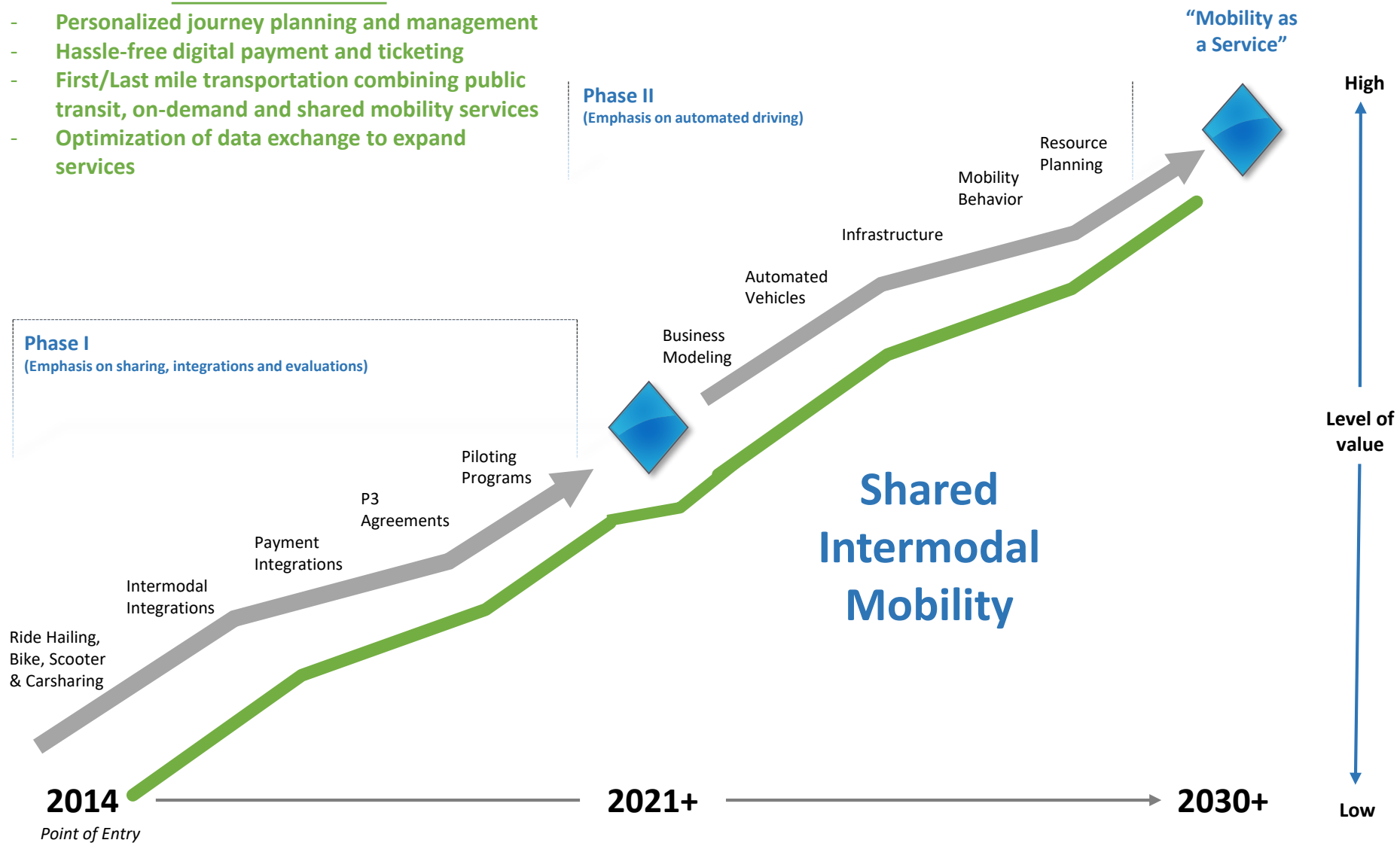


Source: Gary Thomas, President/Executive Director, Dallas Area Rapid Transit, "Mobility as a Service: DART Case Study," June 18, 2018 TRB Webinar, Handouts, pages 84-104

DART's Mobility as a Service Development Cycle

MaaS Definition

- Personalized journey planning and management
- Hassle-free digital payment and ticketing
- First/Last mile transportation combining public transit, on-demand and shared mobility services
- Optimization of data exchange to expand services



Source: Roland Berger – Global Strategy Consulting Firm

GREATER DAYTON REGIONAL TRANSIT AUTHORITY

Service Overview

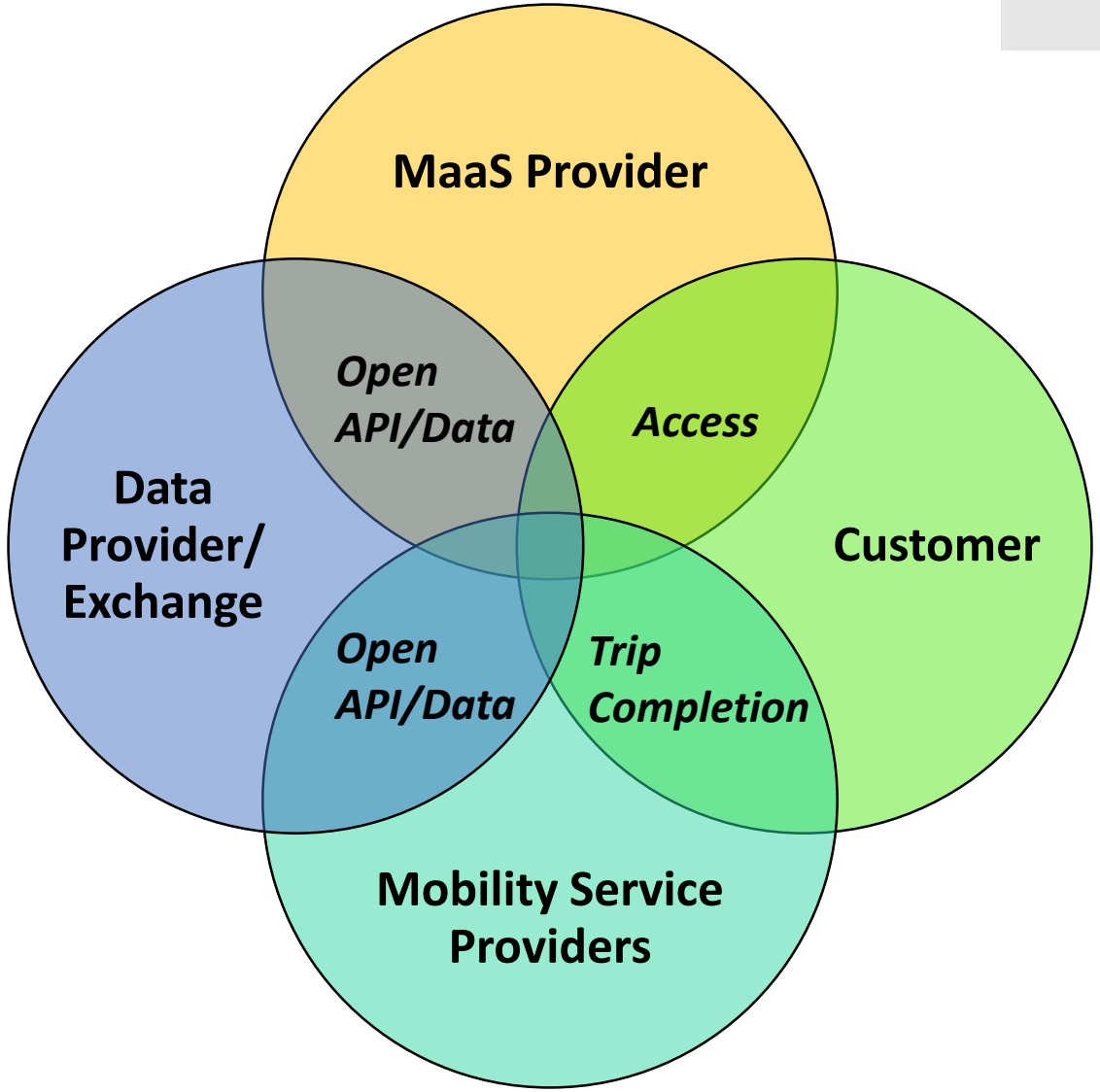
- Montgomery and western Greene counties
- Fixed route, demand response and first/last mile services
- 300 vehicles; 29 routes; 3,000 stops
- 5 transit centers, RTA Connect transfer points, PnR lots
- 9 million annual passengers
- Planned service expansion to 9+ counties

Goals

- Seamless Regional Mobility Ecosystem
- Equitable Access
- Open Data
- Integrated Payment
- ***"All mobility providers will collaborate with us delivering one unified mobility network via Dayton MaaS platform"***

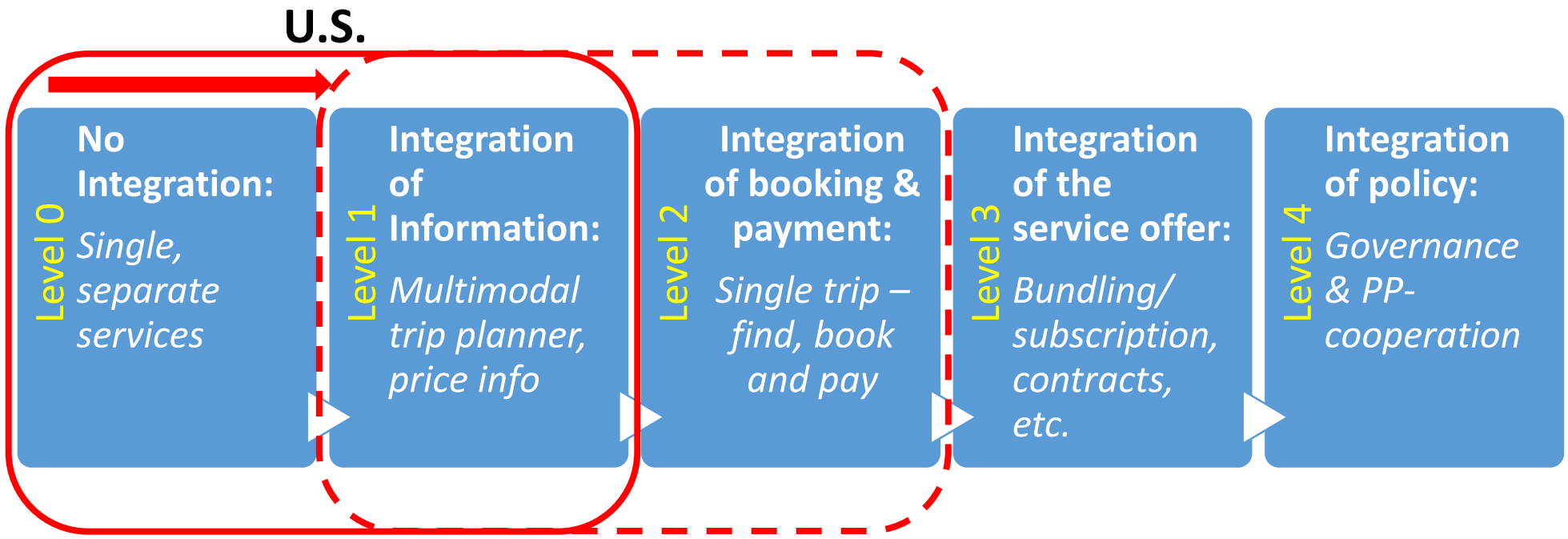
Source: Santosh Mishra, IBI Group and Nick Mantia, RTA, "Mass Transit to MaaS Transit: Are We Ready?" presentation to 2018 APTA Fare Collection/Revenue Management & TransITech Conferences, https://www.apta.com/resources/mobility/Documents/DaytonRTA_FarePaymentSolsSys.pdf

RTA MAAS FRAMEWORK

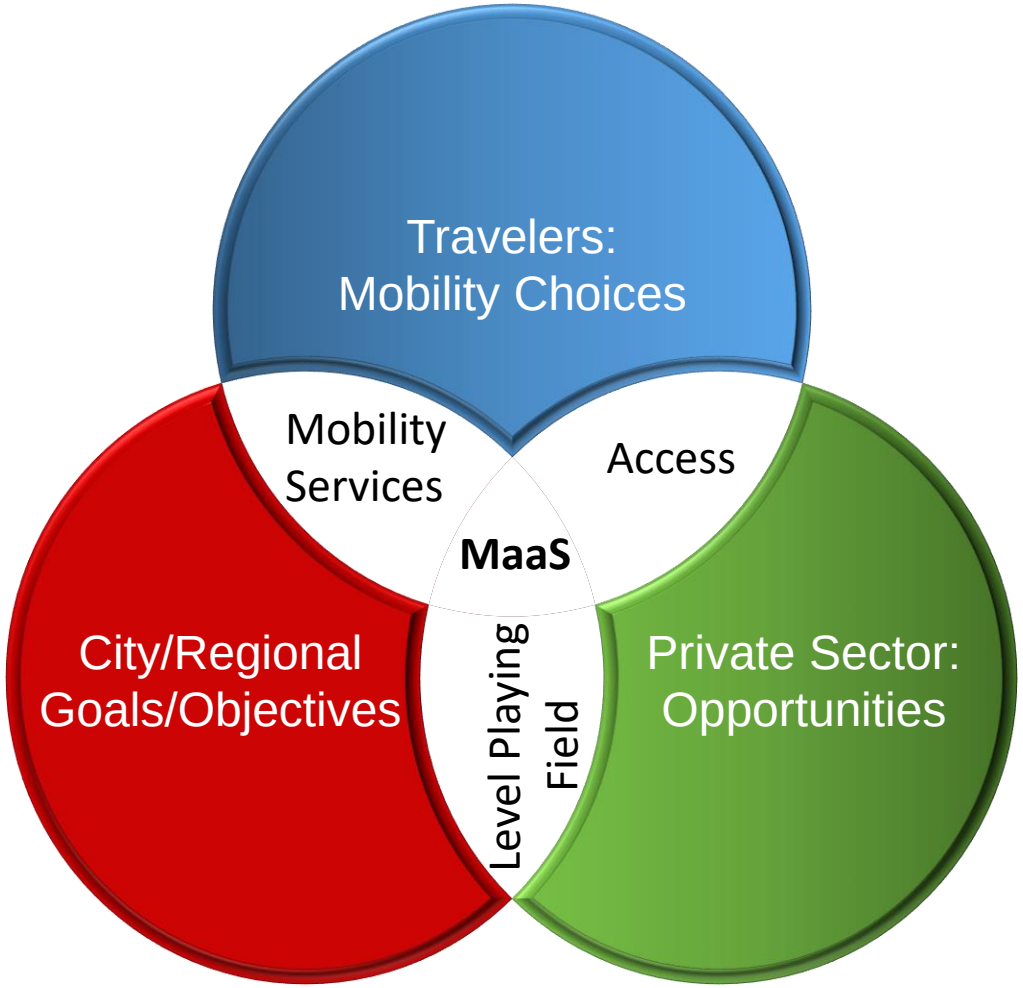


Adapted from Santosh Mishra, IBI Group and Nick Mantia, RTA, "Mass Transit to MaaS Transit: Are We Ready?" presentation to 2018 APTA Fare Collection/Revenue Management & TransITech Conferences, https://www.apta.com/resources/mobility/Documents/DaytonRTA_FarePaymentSolsSys.pdf

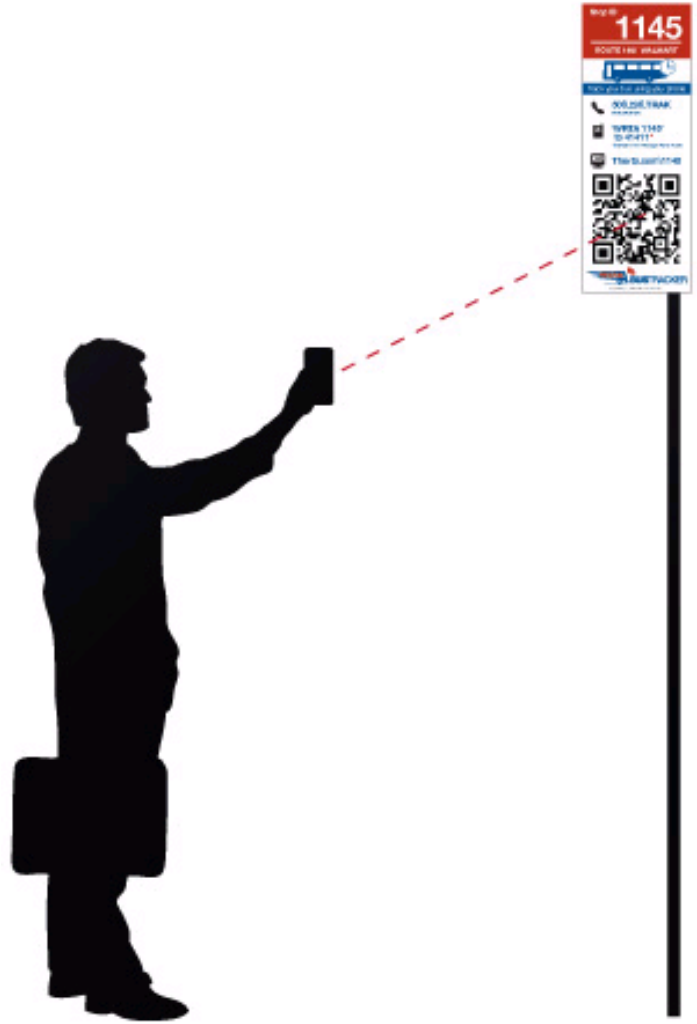
MAAS TOPOLOGY: US MARKET



Source: Jana Sochor, Hans Arby and MariAnne Karlsson, ” The topology of Mobility as a Service: A tool for understanding effects on business and society, user behavior, and technical requirements,” Paper No. EU-SP1013, 2017 ITS World Congress, Montreal



1. Travelers choose mobility services
2. Private Sector provides mobility services or technology to access services
3. The City or Region tries to attain specific goals and objectives

THANK YOU!

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