

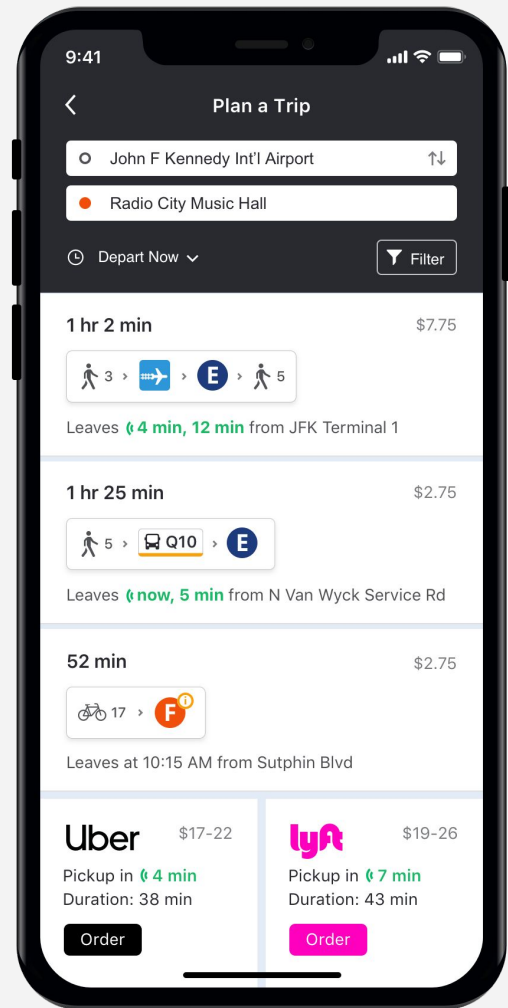


# Leveraging MaaS & On-Demand for Commuter Programs

Michael Funaro  
January 19, 2021

# The Simplest and Most Intuitive **Mobility App** in the World

“ If you need to get anywhere by mass transit, you need Moovit. It will open up a new world for you... ”





**930M+** users  
worldwide

**112**  
countries

**3,400**  
cities

**7.5K**  
transit agencies

**45**  
languages

**360+**  
micro-mobility  
providers



# 695K+

## Moovitors

A global community of Local Editors from 200+ countries

Mapping & maintaining transit systems information together

# A Leader in Accessible Mobility



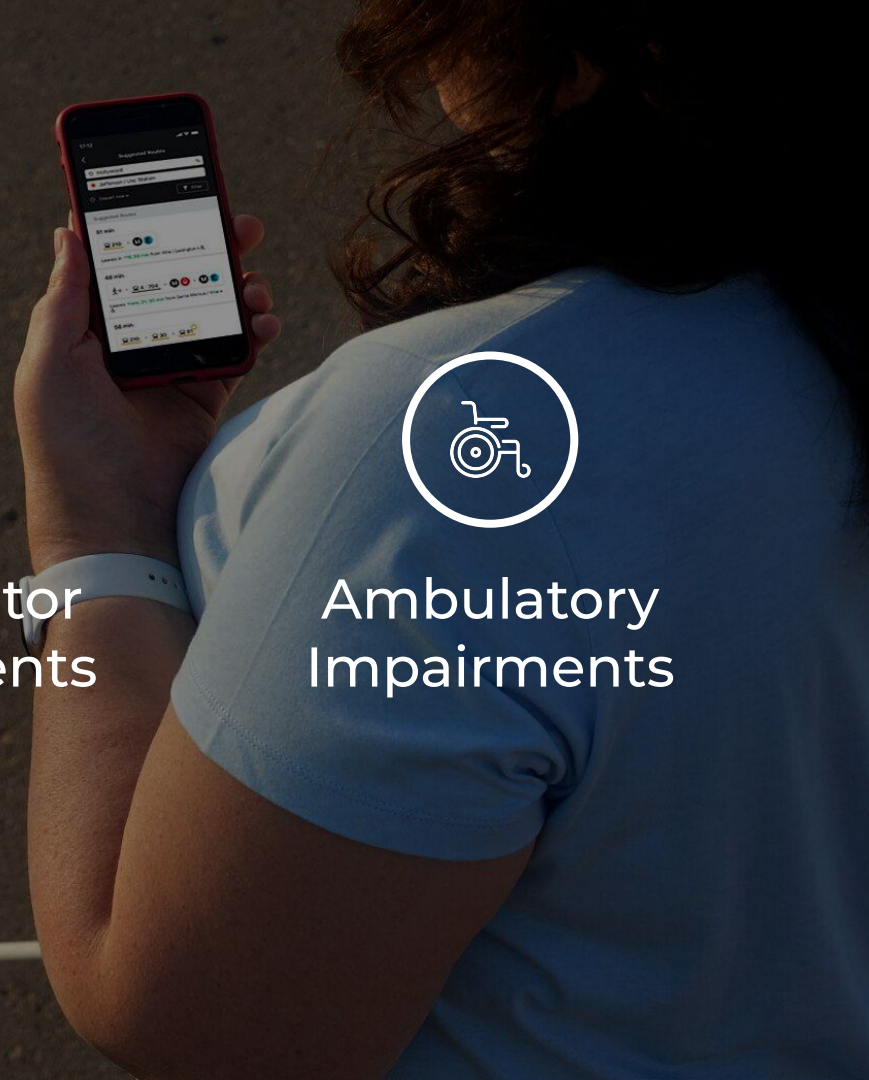
Visual  
Impairments



Hand Motor  
Impairments



Ambulatory  
Impairments



# Powering MaaS for



## Transit Agencies & Operators



## Cities & Municipalities

Department of Transportation,  
Regional/country level



## Campuses



## Private Sector

Employers, Business Districts,  
MaaS providers

# Moovit MaaS Platform



**Branded Apps**



**Payments & Ticketing**



**On-Demand**



**Real-Time for Buses**



**Urban Mobility Analytics**



**Transit Data APIs**



MaaS Platform Control Center

Most Powerful Multimodal Trip Planner

Largest & most accurate transit data repository

Largest people's movement data repository



Parking



Public Transit



Hailing Services



Taxi



Scooters



Dockless Moped



Cycling

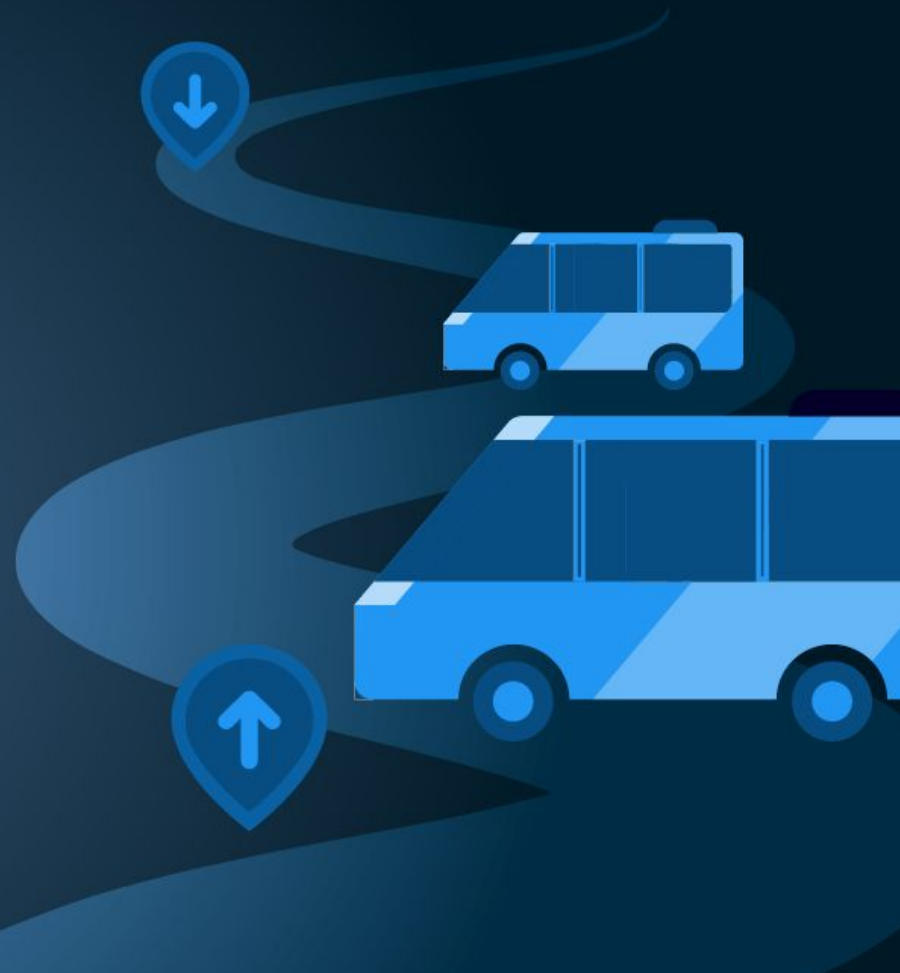


Walking



Autonomous Vehicles

# Introducing On-Demand





# What is an 'On-Demand' Solution?

**Bus**



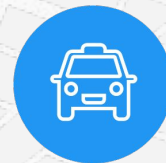
Static schedule  
Static route  
Shared – 50 seats

**On-Demand**



On call – Hailing  
Dynamic route  
Shared

**Taxi**



On call  
Dynamic route  
Private

# Two Types of 'On-Demand'

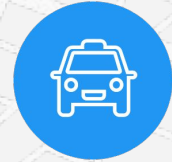
**Bus**



**On-Demand**



**Taxi**



**Smart Shuttle  
Solutions**

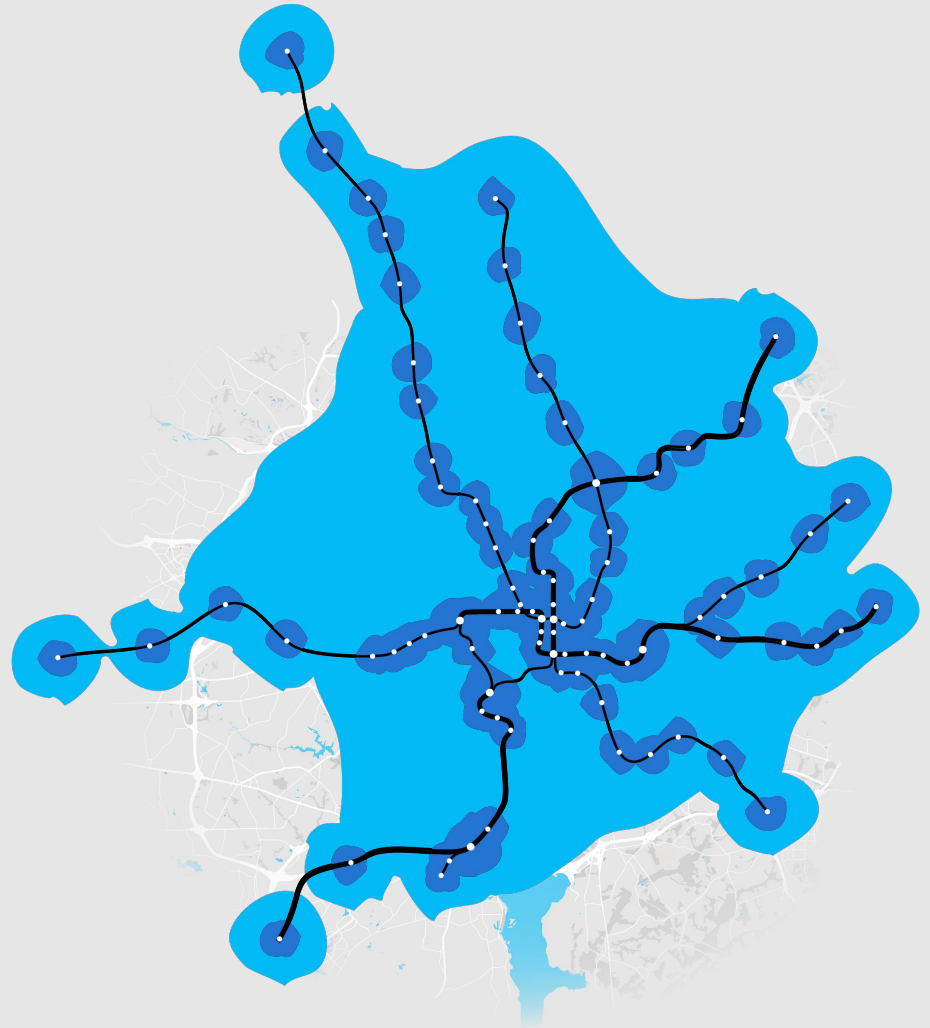
- Pre-scheduled
- Smart fixed routes

**Flexible Demand  
Response Solutions**

- On-demand
- Dynamically-routed

# Traditional Transportation Solutions

- Mass transit route
- Station
- Accessible on foot
- Feeder line coverage



# Slow, Inefficient Local Lines

402 Fairfax Connector

DIRECTIONS

402 Franconia- Springfield

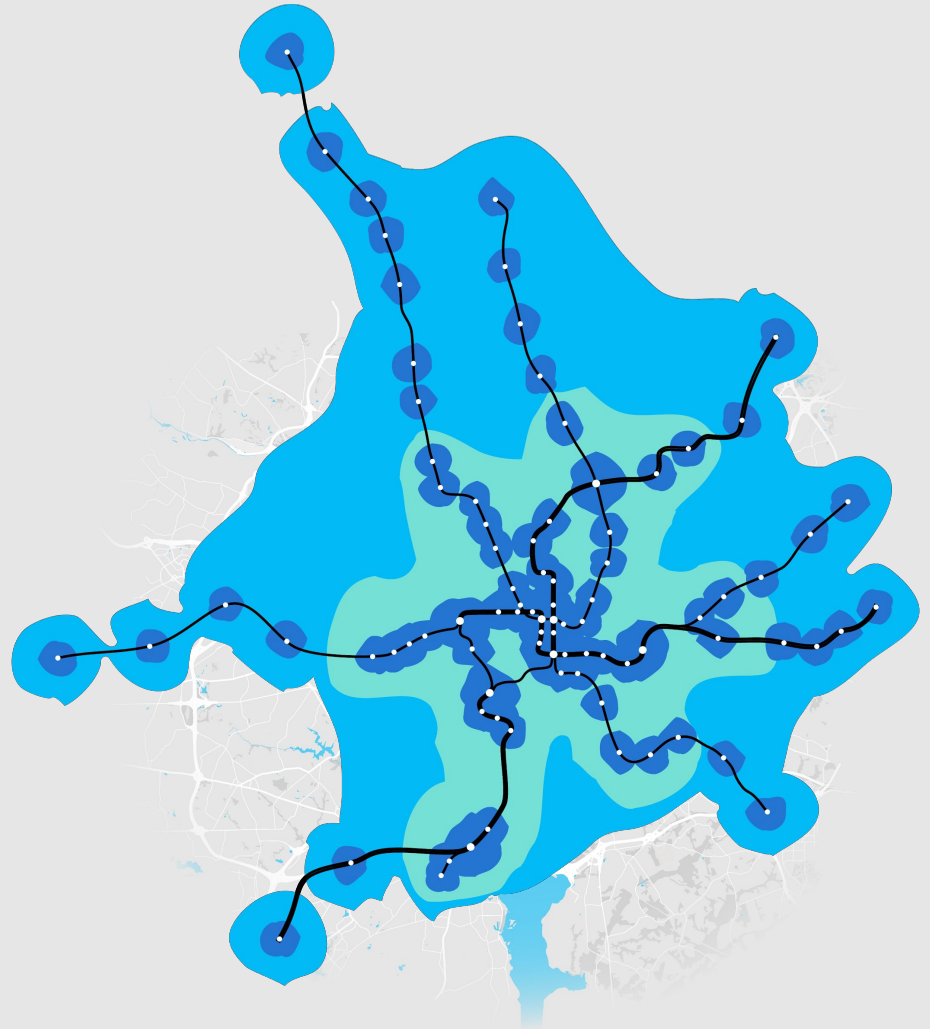
Line option - 77 stops

- Tysons Westpark
- Spring Hill Rd And Tyco Rd
- Greensboro Dr And Spring Hill Rd
- Greensboro Dr And the Rotonda
- Greensboro Dr And Westpark Dr
- Greensboro Dr And Pinnacle Dr
- Tysons Corner Metro Bay F
- International Dr And Fletcher St
- Gallows Rd And Boone Blvd
- Gallows Rd And Madrillon Rd
- Gallows Rd And Merry Oaks La
- Gallows Rd And Madron La
- Wolftrap
- Gallows Rd And Oak St

Scan QR Code

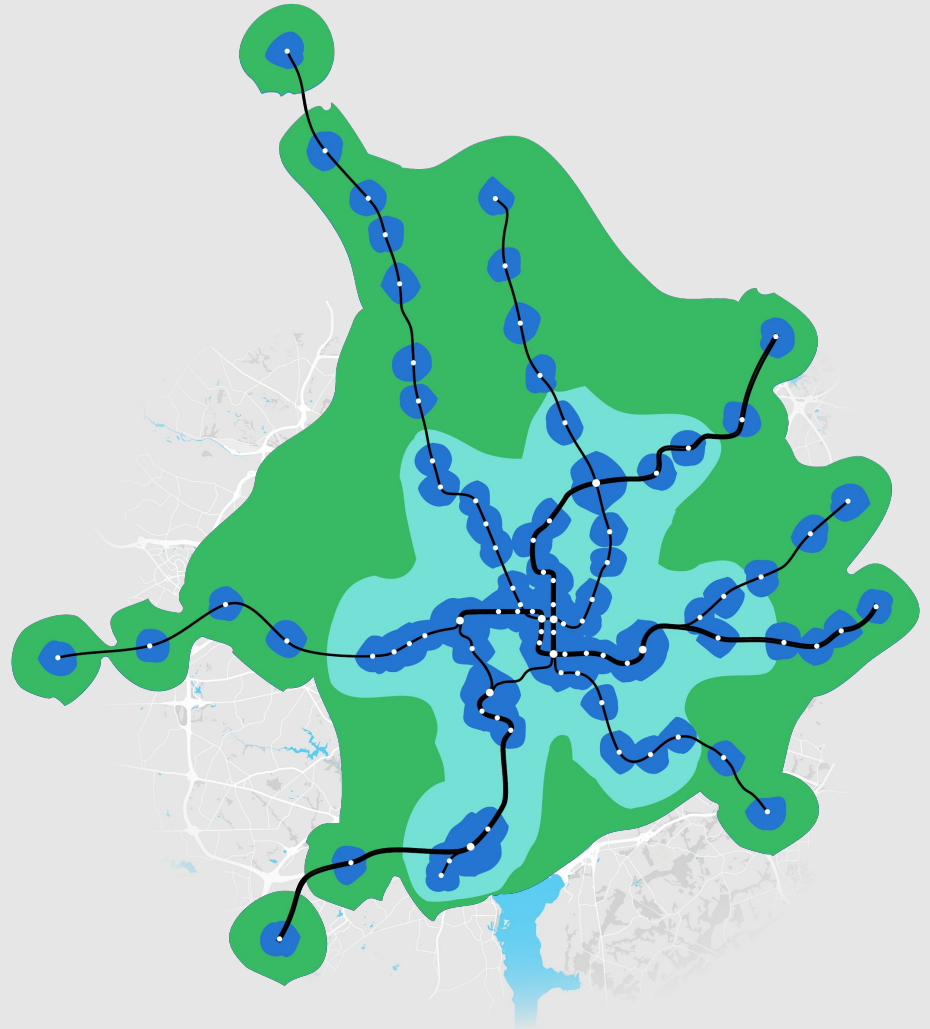
# Micromobility for Short-Range Feeding

- Mass transit route
- Station
- Accessible on foot
- Feeder line coverage
- Micro-mobility coverage



# 'First-/Last-Mile' Gaps at the Start and End of Every Trip

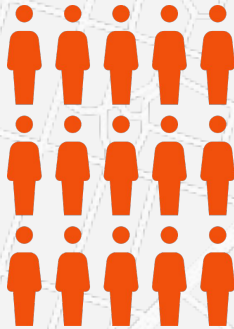
- Mass transit route
- Station
- Accessible on foot
- Feeder line coverage
- Micro-mobility coverage
- On-demand coverage



# On-Demand **Reduces Vehicles** in Urban Areas



**1 vehicle**

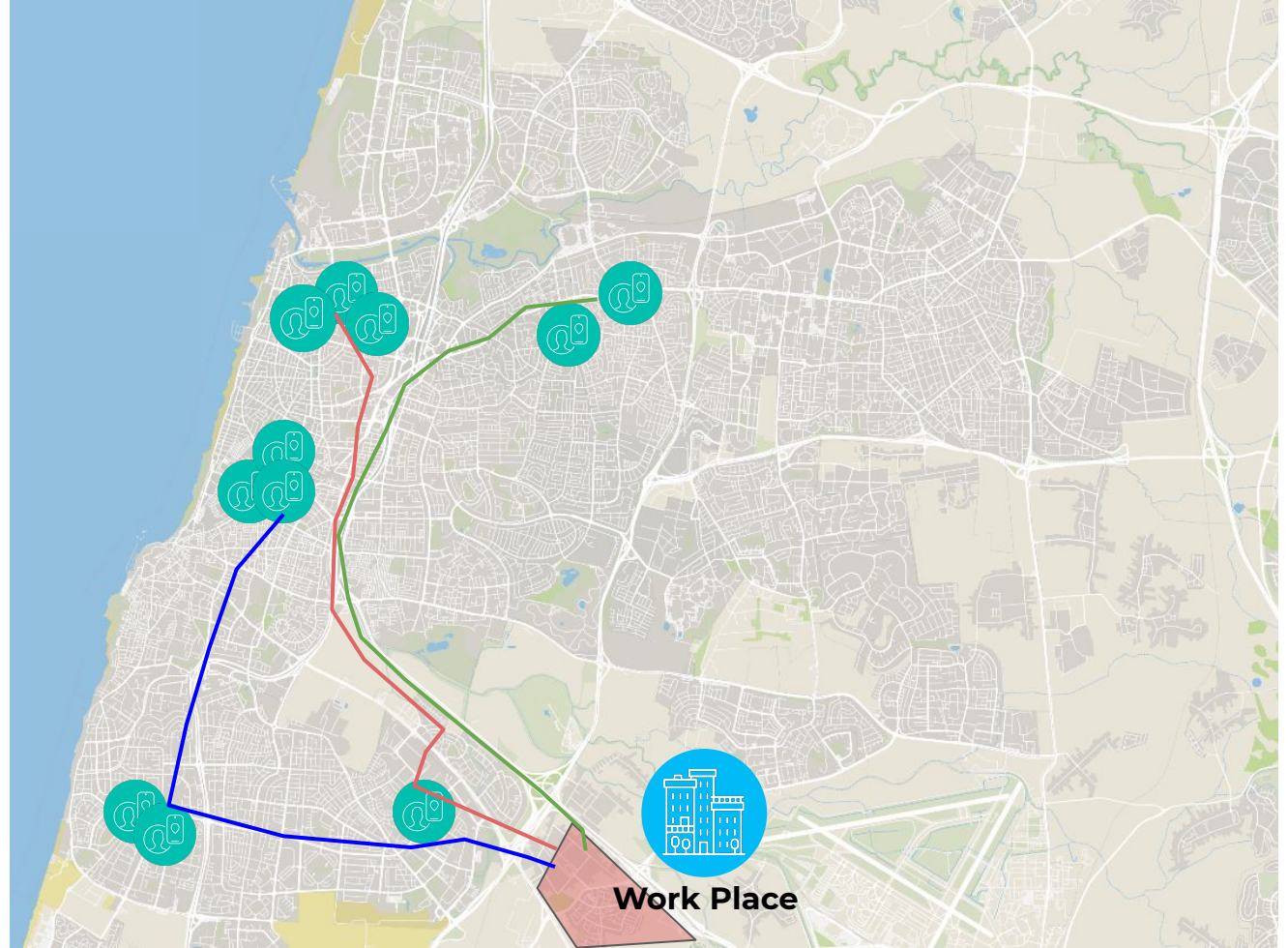


15 passengers



**15 taxis/ride-hailing  
vehicles**

# On-Demand as a MaaS Solution for Business Districts





# Cities & Transit Agencies

- Inefficient fixed-route
  - Transit Desert - high demand / low supply
  - Transit Oasis - low demand / high supply
- Ridership declines
- First-/last-mile connection to transit hubs
- Paratransit and non-medical services



# Employers & Business Districts

- Higher employee turnover due to low accessibility of public transit and congestion at peak times
- Not enough parking places - therefore high price for parking location and high fleet management





## Operators

Increased earnings  
Fewer empty seats  
Fewer miles driven

# Benefits for All

Fast and comfortable ride  
Shared with fewer passengers  
Shorter wait time  
Minimal route deviation  
Low cost

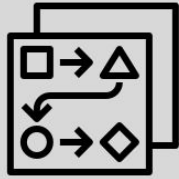
Reduced congestion  
Reduced air pollution  
Time saved for the  
global economy

## Cities/ Municipalities

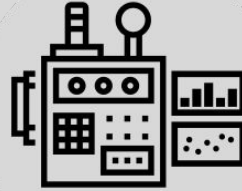


## Riders

# The Moovit Approach to On-Demand



**Data-Driven  
Analysis &  
Planning**

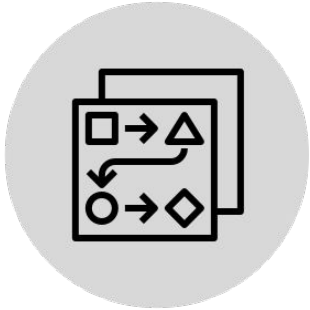


**Comprehensive  
On-Demand  
Solution**



**Complete  
End-to End User  
Experience**

# The Planning Phase



Planning

Match **transit gaps** to your overall **network goals** by harnessing **rich data**, collected from many different sources, to determine optimal service areas and corridors.

# Visualizing Your Network

## Gap Analysis

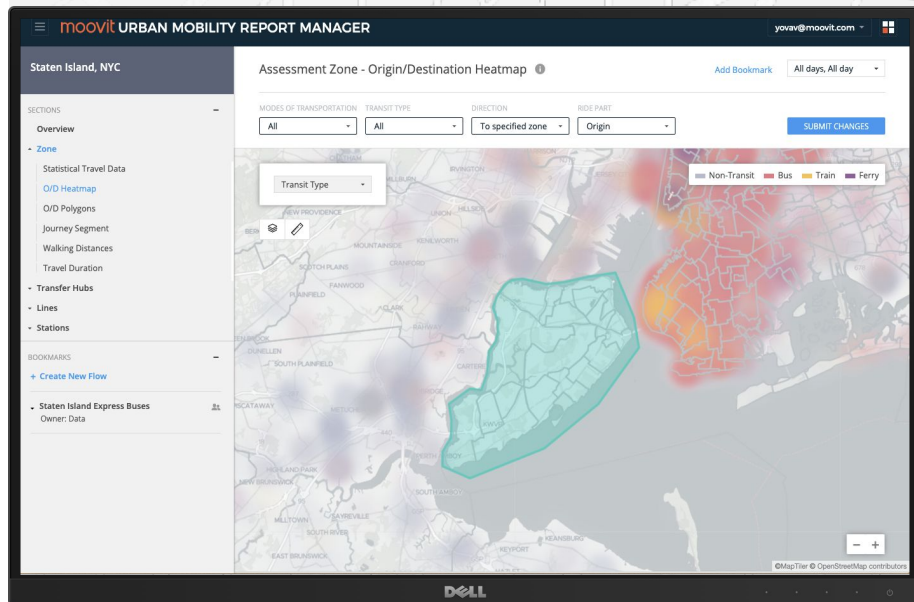
Full analysis of the network to discover unmet needs, gaps, and areas of opportunity

## Corridor Analysis

Break service zones down into smaller, dynamic corridors for improved SLAs and higher efficiency

## Simulation

Right-size operations by optimizing service areas and corridors, running times, fleet size, rider limits, and more

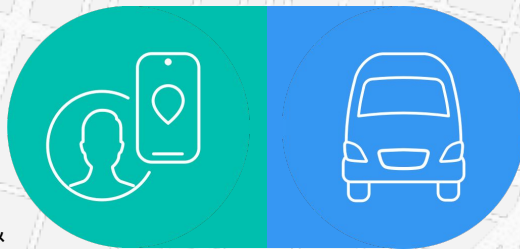


# Definitions and Terminology

## Demand

Orders to the service

Orders in the simulation are based on **current demand** & **expected conversion**



## Supply

Available vehicles



## Service Level



Wait time



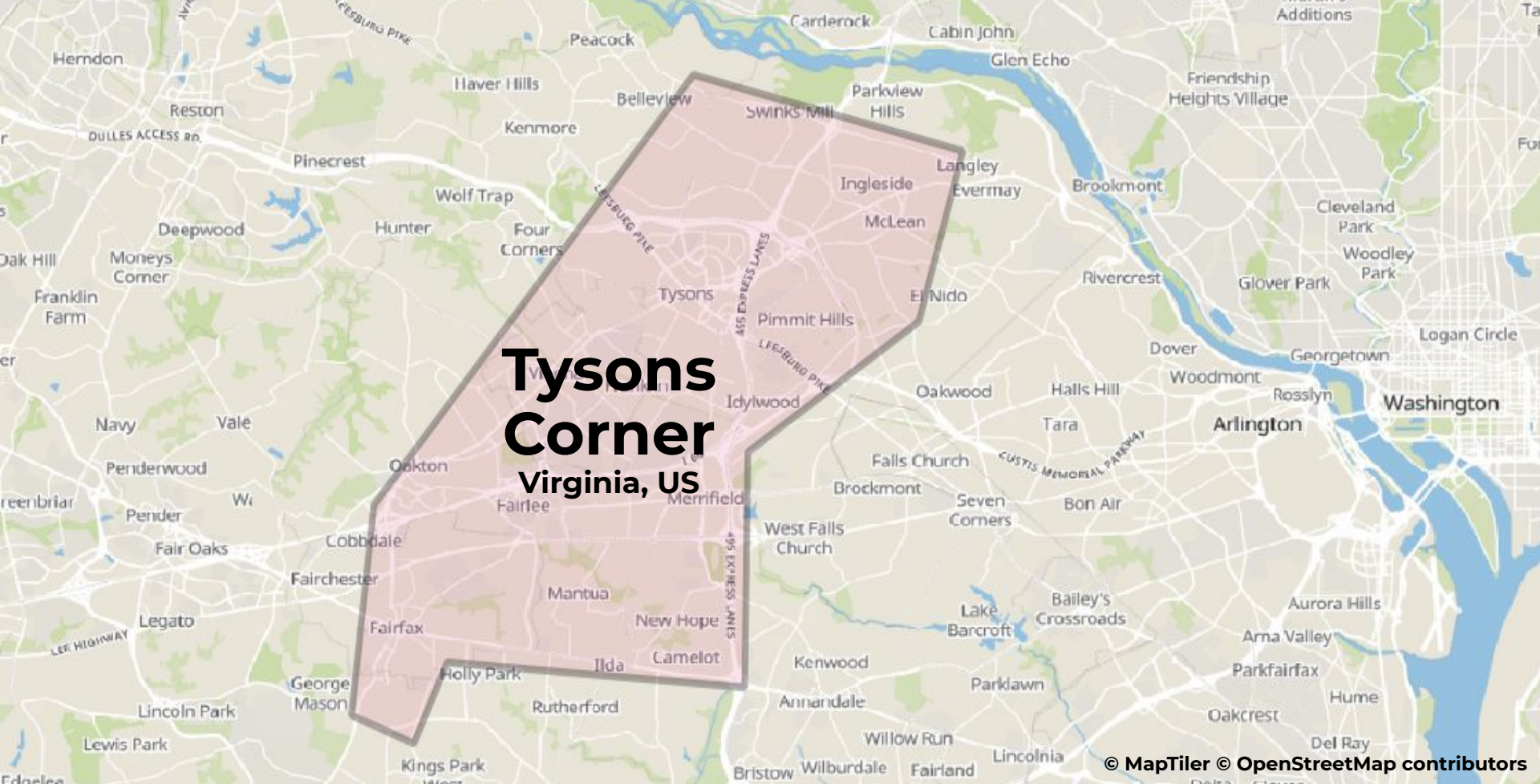
Cost



Deviation



Crowds



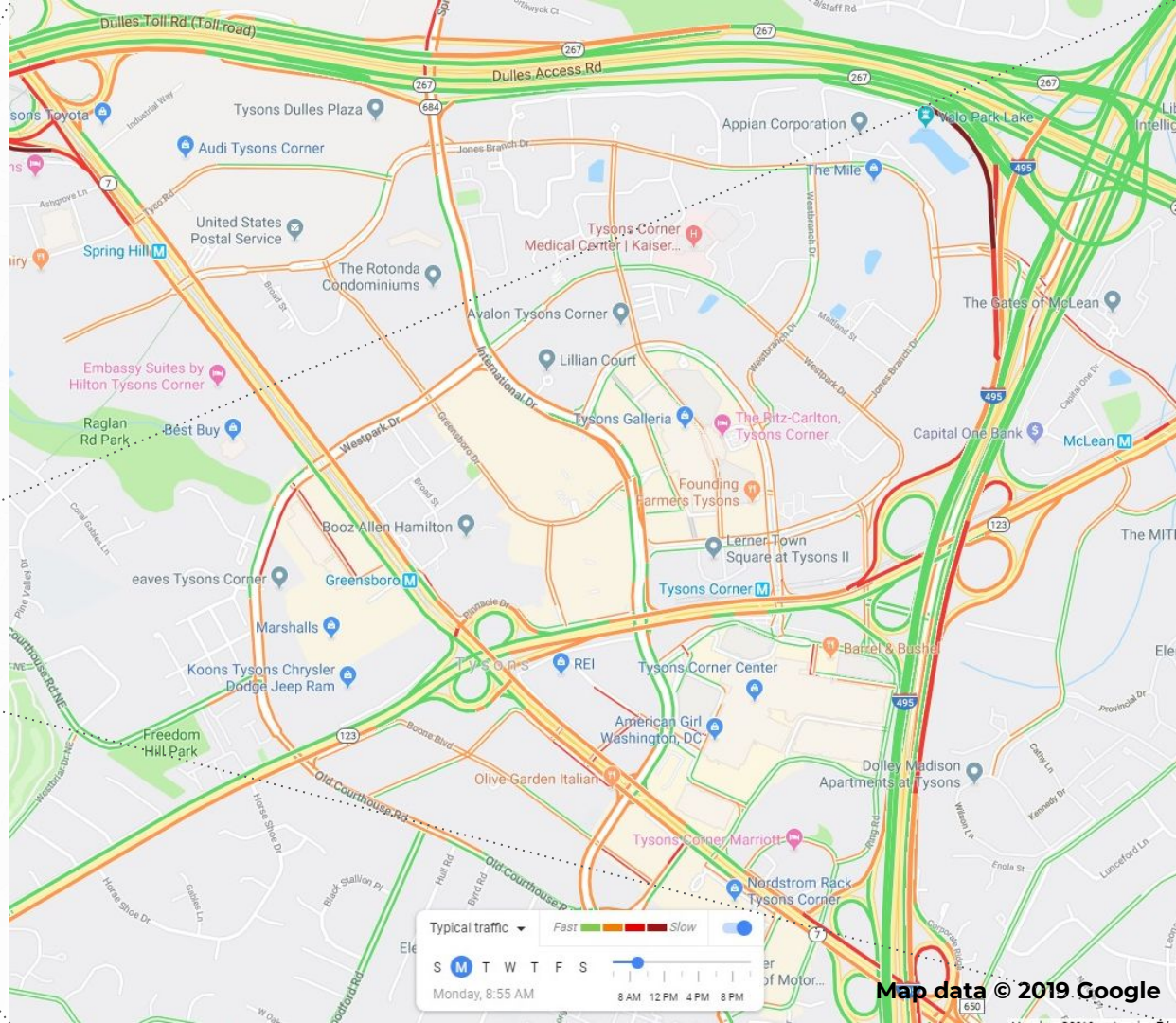
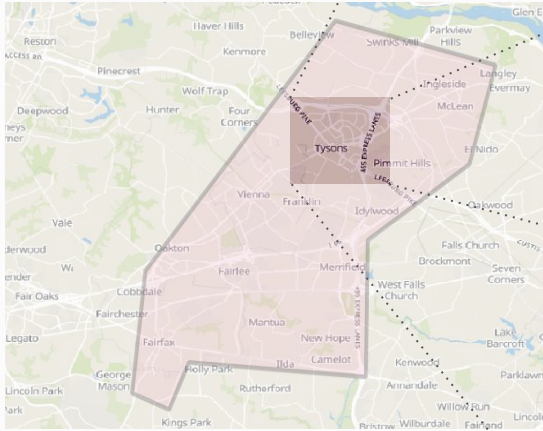
# Tysons Corner Virginia, US

© MapTiler © OpenStreetMap contributors



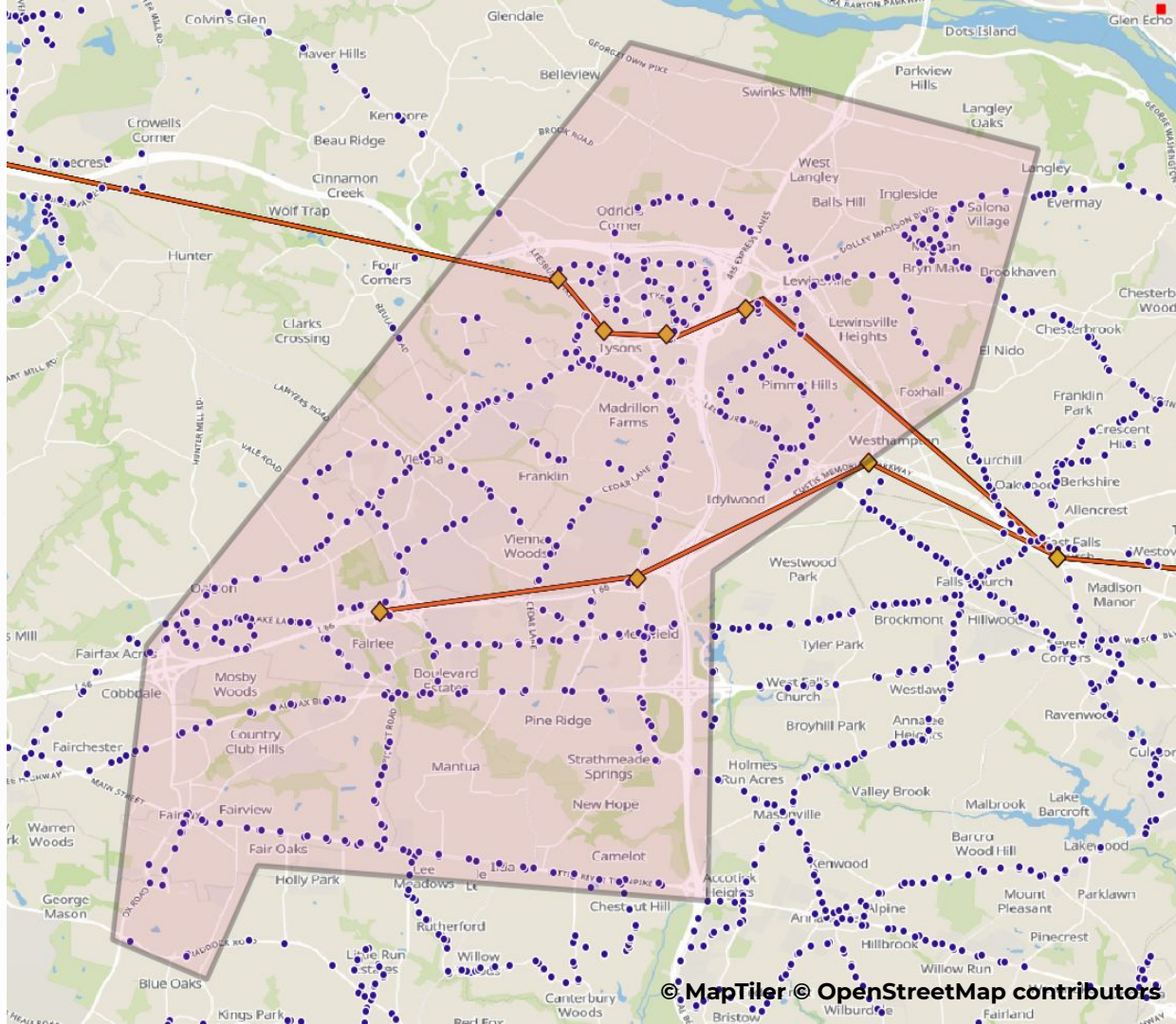
# Tysons Corner Area

# Traffic at 8am



# Tysons Corner Area

# Public Transit

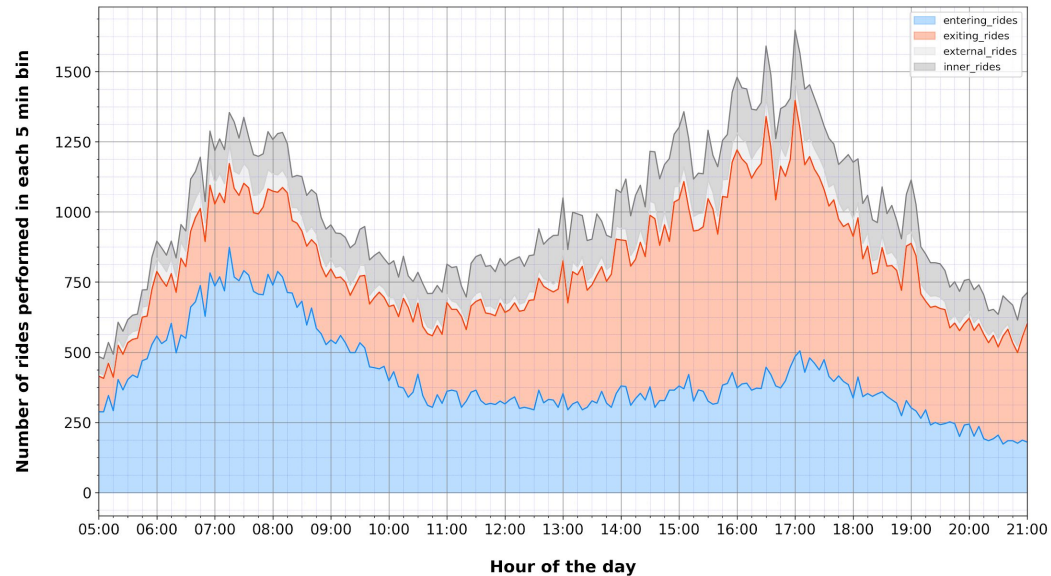


## Tysons Corner Area

# Mobility patterns

Findings:

1. **82%** of passenger journeys are **cross-polygon**



	Morning	Off peak	Afternoon	Night	All day
Entry	59%	37%	30%	40%	40%
Exit	25%	44%	52%	43%	42%
External	5%	4%	5%	5%	5%
Internal	11%	16%	14%	12%	13%
	100%	100%	100%	100%	100%

## Tyson's Corner Area

# Mobility Patterns

Findings:

1. **82%** of passenger journeys are **cross-polygon**
2. Most passenger journeys are made **by car**

## Morning Peak Mode Split

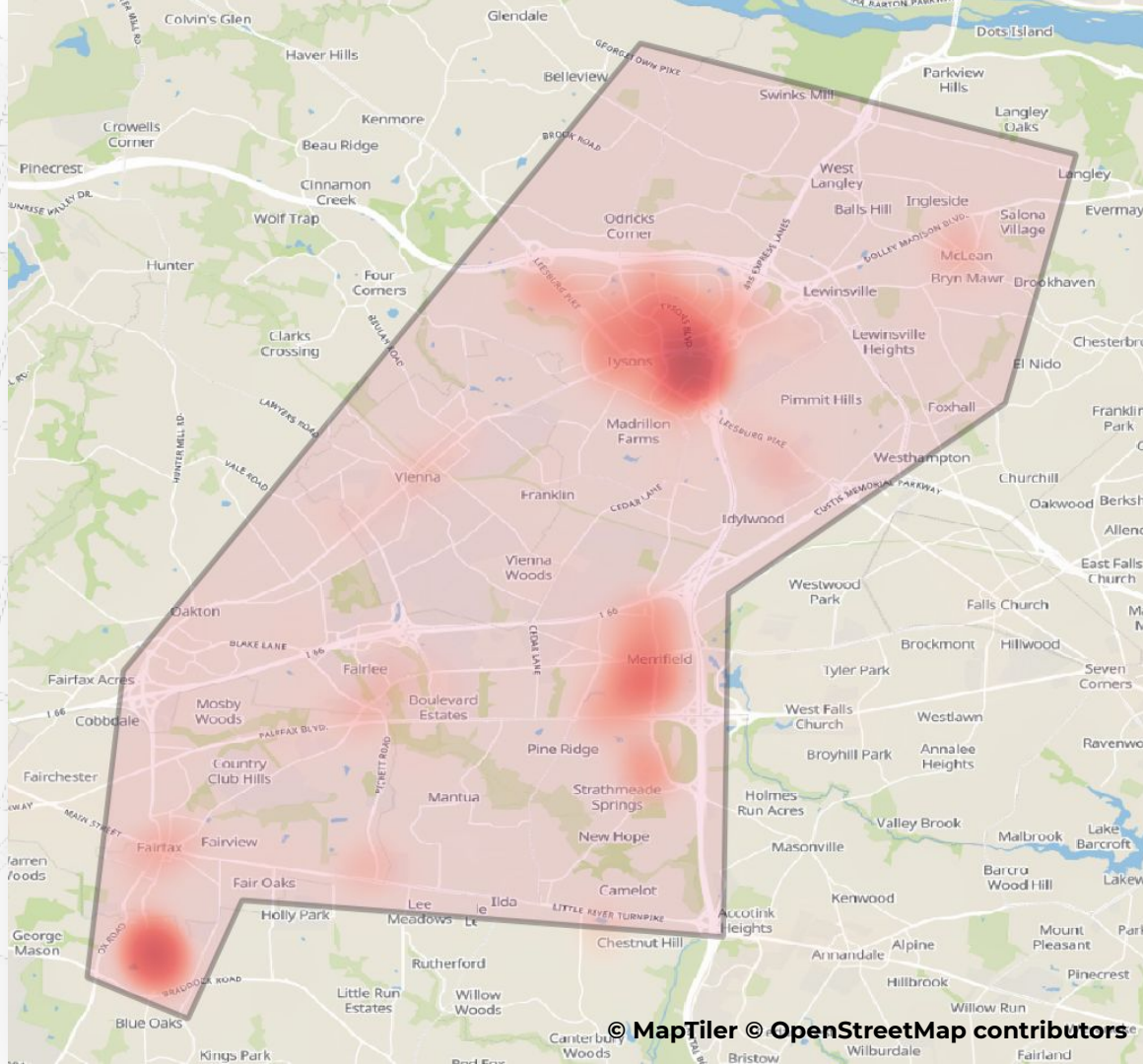
	Bus	Car	Subway	Walk	Total
Entry	2%	53%	4%	0%	59%
Exit	1%	22%	2%	0%	25%
External	1%	0%	4%	0%	5%
Internal	0%	9%	0%	1%	11%
	4%	85%	11%	1%	100%

## Morning Peak Hours

# Destinations

Findings:

1. **82%** of passenger journeys are **cross-polygon**
2. Most passenger journeys are made **by car**
3. Most passenger journeys at morning peak are to **Tysons center**



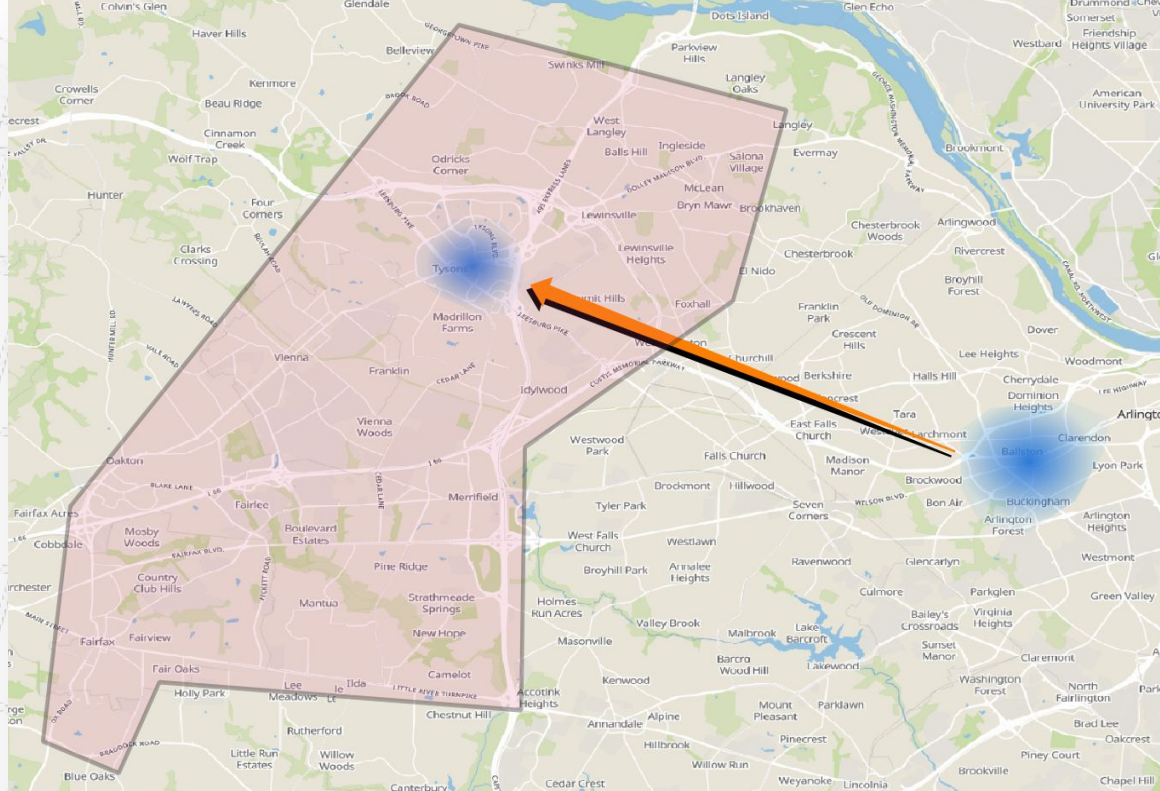
# Tysons Corner Area

# Commute Duration

## Morning Peak Hours

Findings:

1. **82%** of passenger journeys are **cross-polygon**
2. Most journeys are made **by car**
3. Most journeys in the morning peak are to **Tysons Center**
4. Journey time by **subway and car** is similar



### Arlington

	25%	50%	75%
<b>Bus</b>	43	78	115
<b>Car</b>	34	58	111
<b>Subway</b>	40	52	99

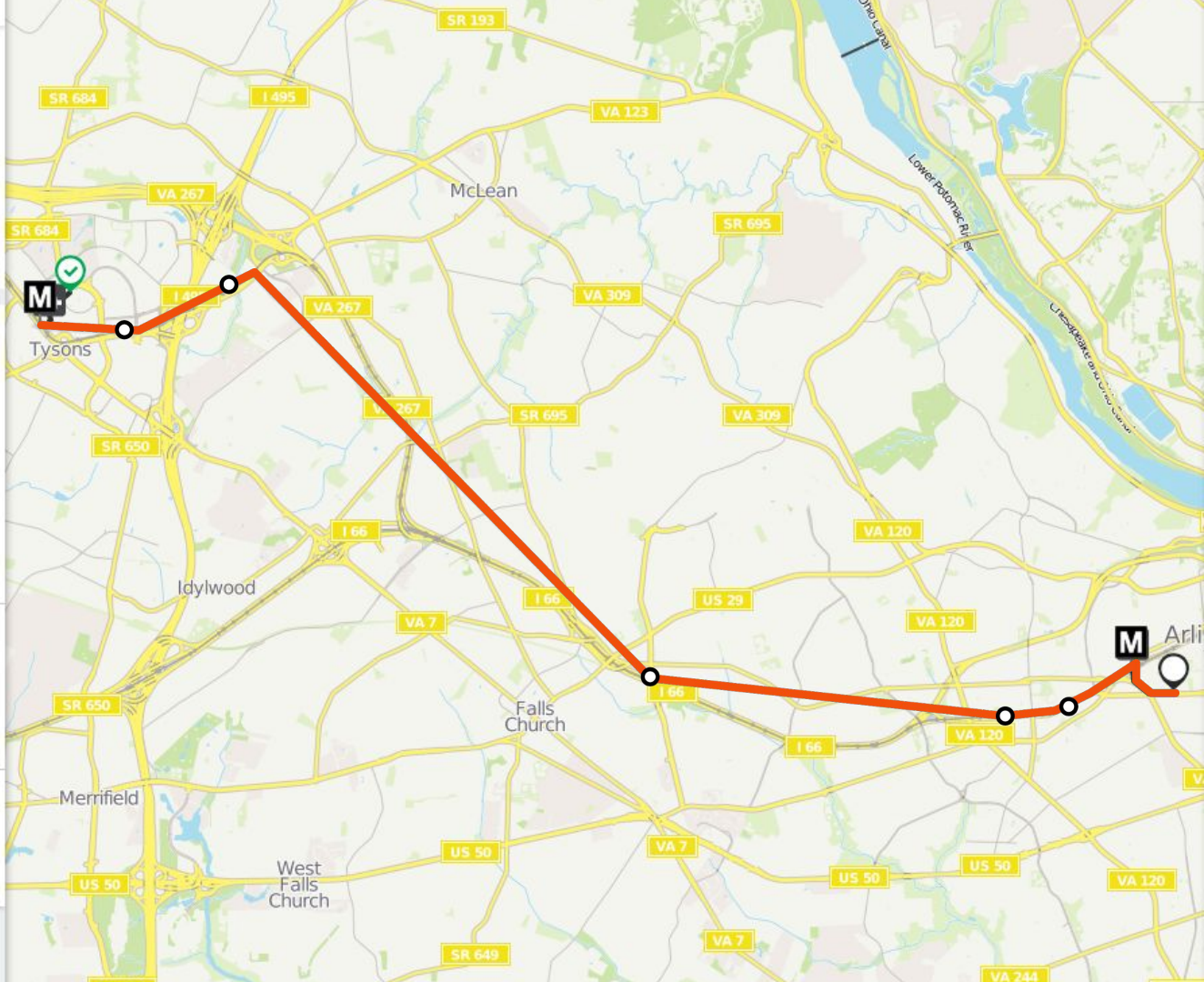
Start from  
**Chosen location**  
Leave at 10:00 AM

**M** Walk to  
**Clarendon**  
730 yd • 9 min

⌚ Wait for  
**SV**  
**METRORAIL SILVER LINE**  
Wiehle Reston East  
Towards Largo Town Center  
**Modified Service**  
10:11 AM, 10:23 AM, 10:35 AM  
[More details & schedules](#)

**M** Ride to  
**Greensboro**  
Exit at Greensboro Station Pl  
6 stops • 18 min

📍 Walk to  
**Chosen location**  
500 yd • 7 min



# Tysons Corner Area

## Findings

1. **82%** of passenger journeys are **cross-polygon**
2. Most passenger journeys are made **by car**
3. Most passenger journeys at morning peak are to **Tysons center**
4. Journey time by **subway and car** is similar



## Assumption

Passengers avoid public transit due to **difficult first/last mile**



## Service target

Improve first/last mile experience



Increase subway usage by converting car riders in order to reduce traffic around Tyson



# Simulation of the service area with 30 vehicles and 1450 orders

### Vehicles

Search Filter Display past: - 10 min +

John	0	▶	1	⌘	14	🏠	0	🚫	0	🚫
Joe	1	▶	2	⌘	9	🏠	0	🚫	0	🚫
Joel	1	▶	1	⌘	10	🏠	0	🚫	0	🚫
Jil	2	▶	1	⌘	17	🏠	0	🚫	0	🚫
Jabez	0	▶	1	⌘	9	🏠	0	🚫	0	🚫
Jace	0	▶	1	⌘	9	🏠	0	🚫	0	🚫
Jacob	0	▶	3	⌘	15	🏠	0	🚫	0	🚫
Jame	0	▶	3	⌘	16	🏠	0	🚫	0	🚫
Jalon	3	▶	0	⌘	11	🏠	0	🚫	0	🚫

### Orders

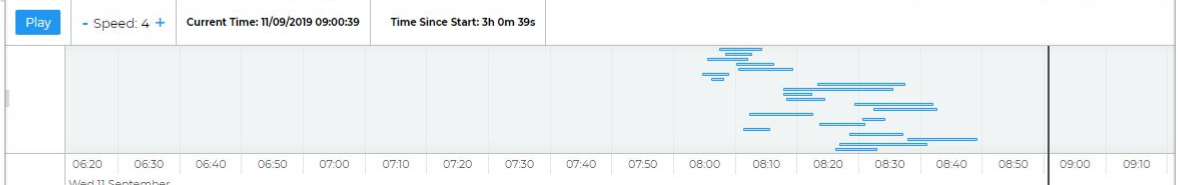
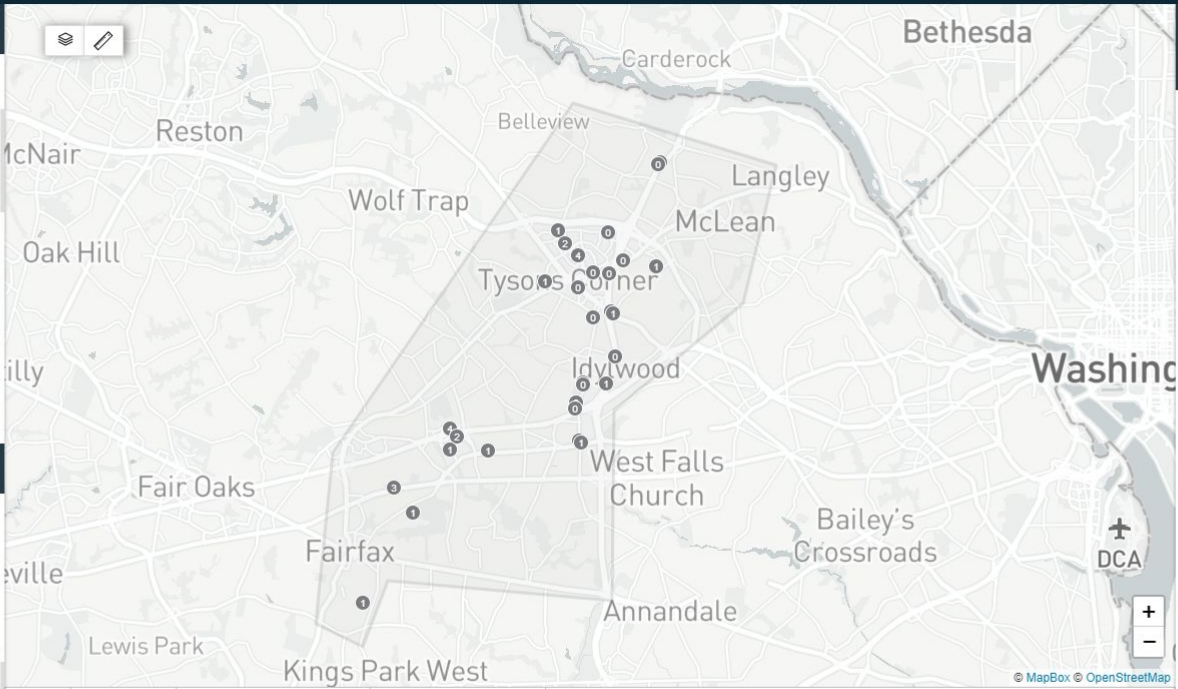
Search Filter

Waiting (31)
Denied (0)
On Vehicle (23)

Dropped Off (299)
Future (0)
Canceled (0)

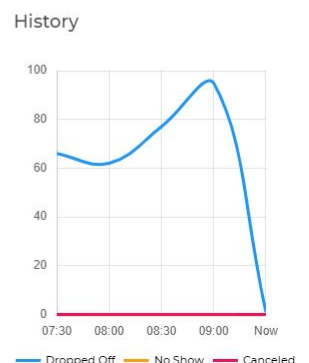
No Show (0)

▶ 12295157	Jacob	08:53 ▶ ETA: 09:27
▶ 84048689	Jalon	08:53 ▶ ETA: 09:02
▶ 66872589	Jake	08:51 ▶ ETA: 09:02
▶ 50014491	Jil	08:48 ▶ ETA: 09:03
▶ 109908378	Jamil	08:57 ▶ ETA: 09:04
▶ 82166993	Jace	08:49 ▶ ETA: 09:01



Dashboard

30	0	299	23
Vehicles Online	Vehicles Offline	Dropped Off	On Vehicle
⌘ Waiting	🚫 Canceled	🚫 No Show	🚫 Denied
31	0	0	0



## Corridors

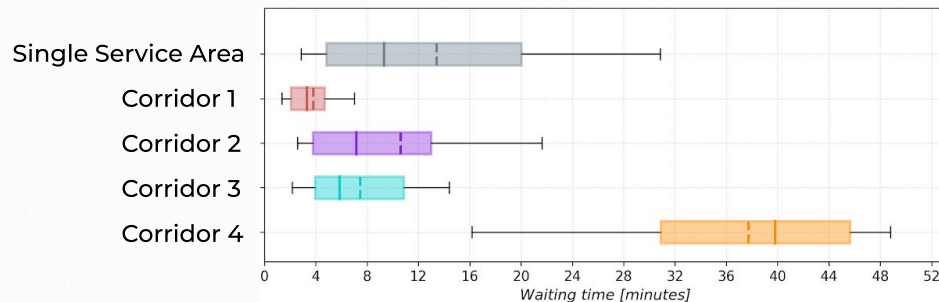
# Performance Summary

**Significant improvement for high demand and strategic areas (Corridors 1–3)**

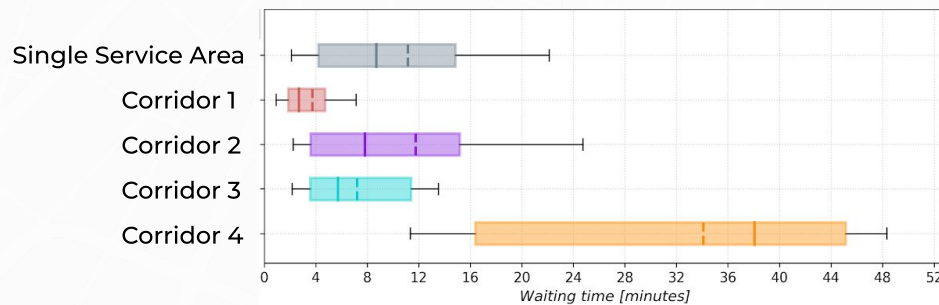
**4–14 min** wait time reduced to **2–8 min** in the morning

**5–19 min** wait time reduced to **1.5–10 min** throughout the day

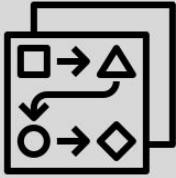
Morning peak wait time: **2–8 min**



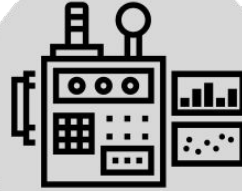
All day wait time: **1.5–10 min**



# Moovit's Unique Approach



**Data-Driven  
Analysis &  
Planning**

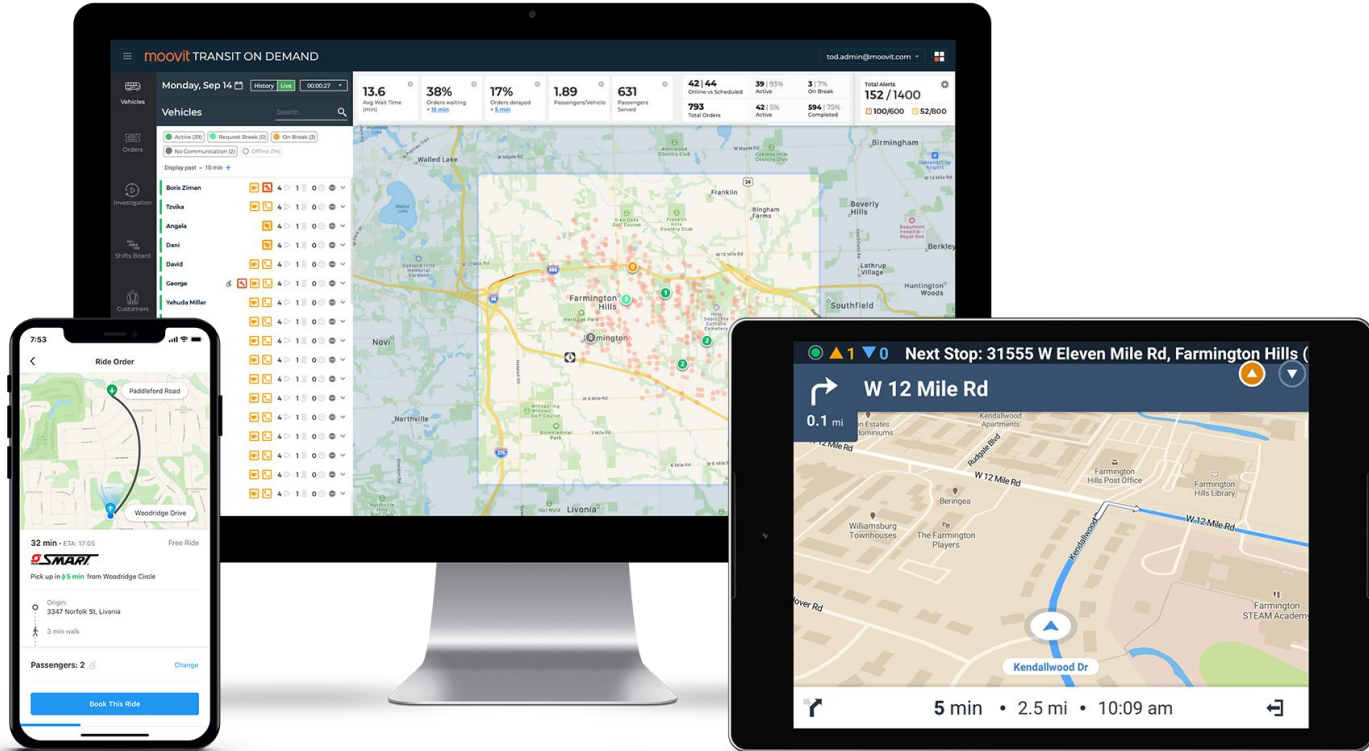


**Comprehensive  
On-Demand  
Solution**



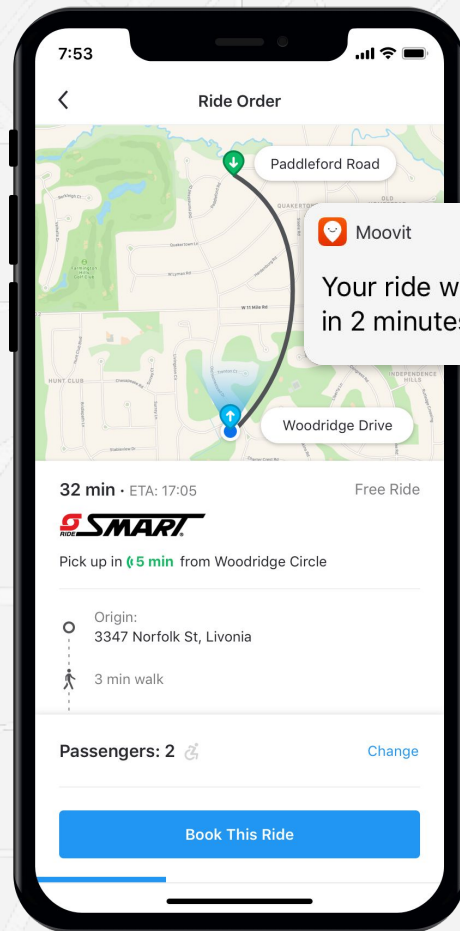
**Complete  
End-to End User  
Experience**

# Solution Components



# Rider App

- Multimodal trip planning allows riders to plan their whole trip, including on-demand
- On-demand routes appear automatically in the app when a rider is in the service area
- Riders enjoy real-time ETA info in the app and receive pickup location and time via text messages
- Update notifications sent via push messages
- Agencies can integrate contactless fare payments solutions for a **full plan, ride, pay experience**



Case Study  
**SMART Bus**



📍 MI, USA

Redefining suburban mobility by replacing Dial-a-Ride to meet riders needs



Branded Apps & Ticketing



Payments & Ticketing



Urban Mobility Analytics



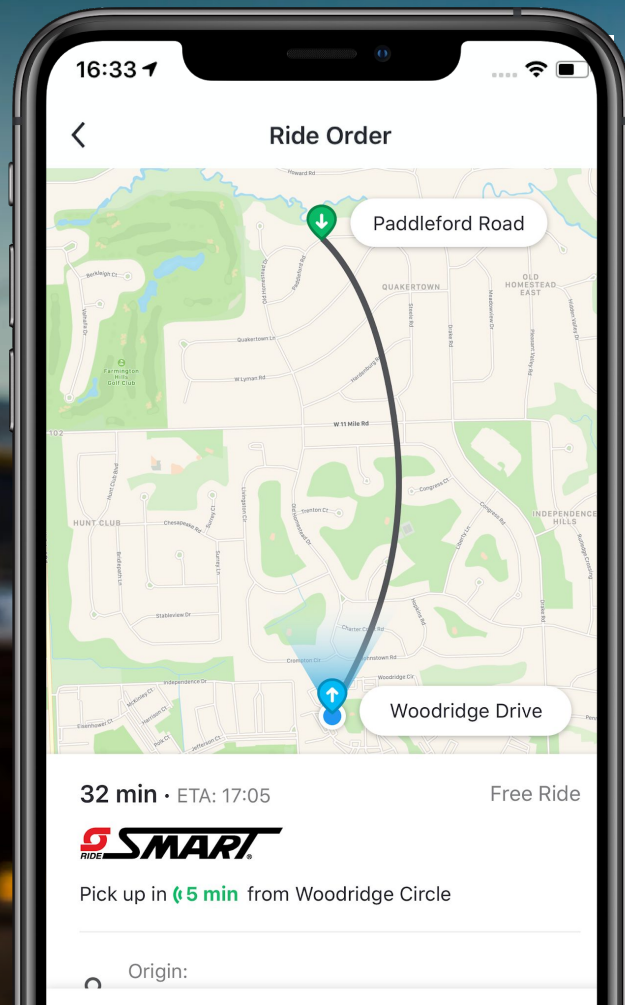
On-Demand



Real-Time for Buses



Carpool



## Case Study

# On-Demand Smart Bus

- SMART Bus replaced their Dial-A-Ride service outside of Detroit with a modern, dynamic on-demand service
  - Dial-a-ride users often had to wait an hour for pickup - now, pickups happen within minutes
- Using the Moovit app, riders can book their Quick Connect On-Demand ride and plan the rest of their journey in one place
- The service was launched during the COVID-19 pandemic, enabling more convenient, safer rides for essential workers and those who rely on public transit



# **Business Districts & Employers**

## **Unique Mobility Needs**



## Case Study



 Israel



Branded  
Apps



Payments &  
Ticketing



Urban Mobility  
Analytics



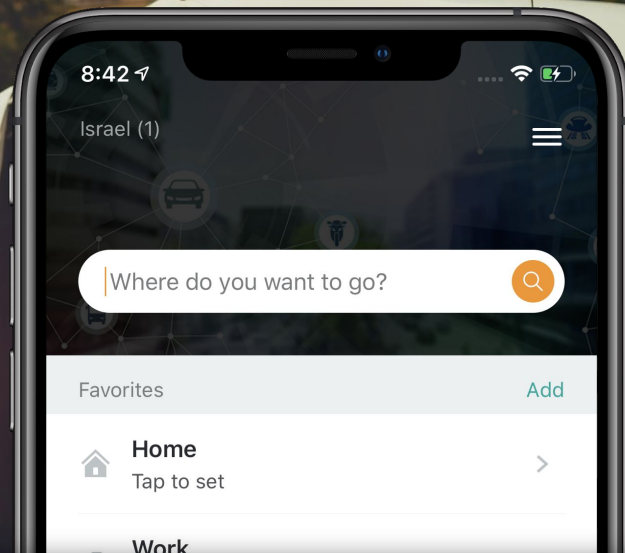
On-Demand



Real-Time  
for Buses



APIs



### We.Ride shuttle

Click to book rides or view your upcoming rides

Book

### Taxi & Ride Hailing



### Request a Taxi

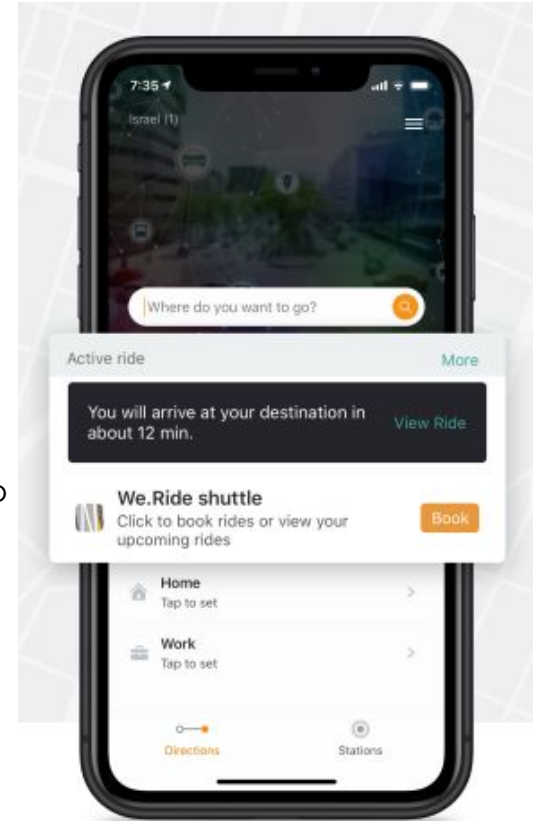
Tap to order a ride

Order

## Case Study

# On-Demand We.Ride

- We.Ride is a MaaS platform, powered by Moovit, created to help reduce traffic congestion in commercial and high-tech areas by increasing and encouraging the use of smart public transport in collaboration with neighboring organizations.
- Western Digital wanted to offer employees alternative methods of transportation that would encourage the use of shared transit methods to reduce reliance on private cars.
- Employer Challenges:
  - Low number of parking spaces means expensive parking costs
  - High employee turnover because of commuting challenges
  - High fleet management costs if they wanted to run their own shuttle service



# Business Districts & Employers: Unique Mobility Needs



## Business Districts

- Low public transit accessibility
- Traffic congestion
- Not enough available parking spaces



## Employers

- High fleet management costs
- Small companies
- Expensive parking costs
- Higher employee turnover

# The Solution



## Employees

### One App for the daily commute

Multimodal Trip planning  
Wallet

**Operators**



### Shuttles

- On-Demand
- Fixed Routes

### Carpool

### Micromobility

### Management console

- Reports
- Budget Management Tool

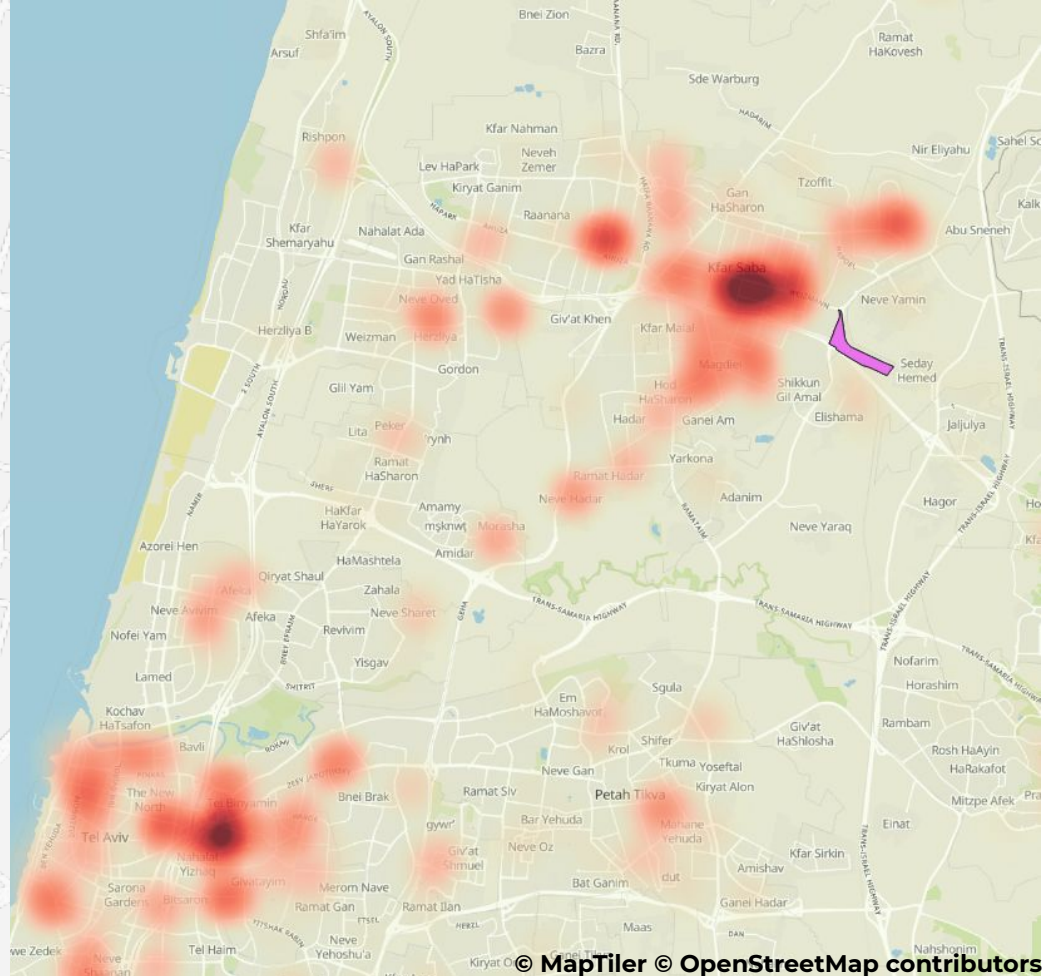
**Employers**



# Analysis process

## Mobility Patterns

Daily commuters origin at morning peak (6-10 AM)

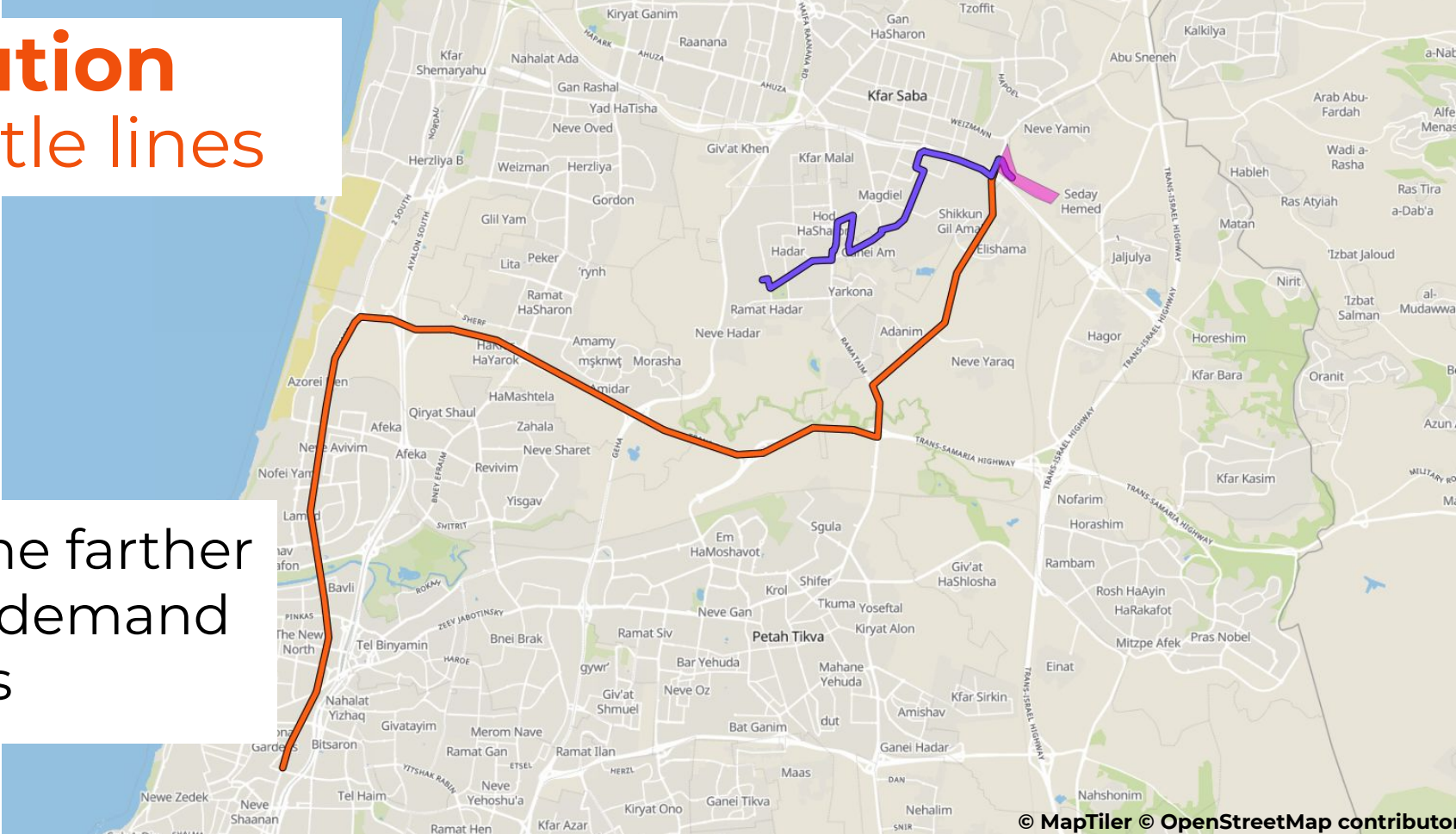


# Solution Shuttle lines



Real-Time for Buses

For the farther high demand zones



© MapTiler © OpenStreetMap contributors

# Solution

## On demand areas



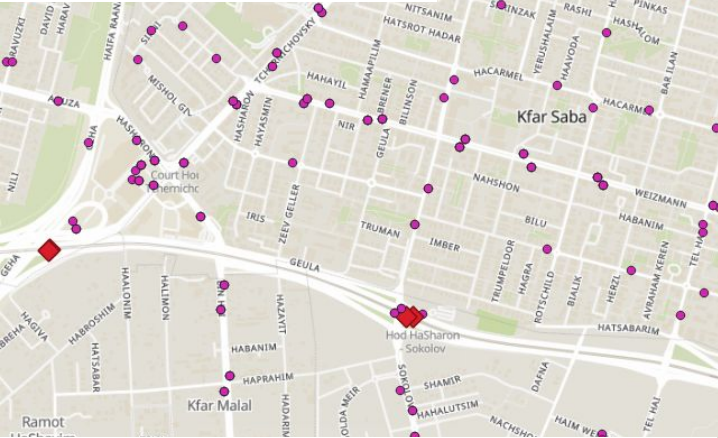
On-Demand

For the closer neighborhoods and train stations

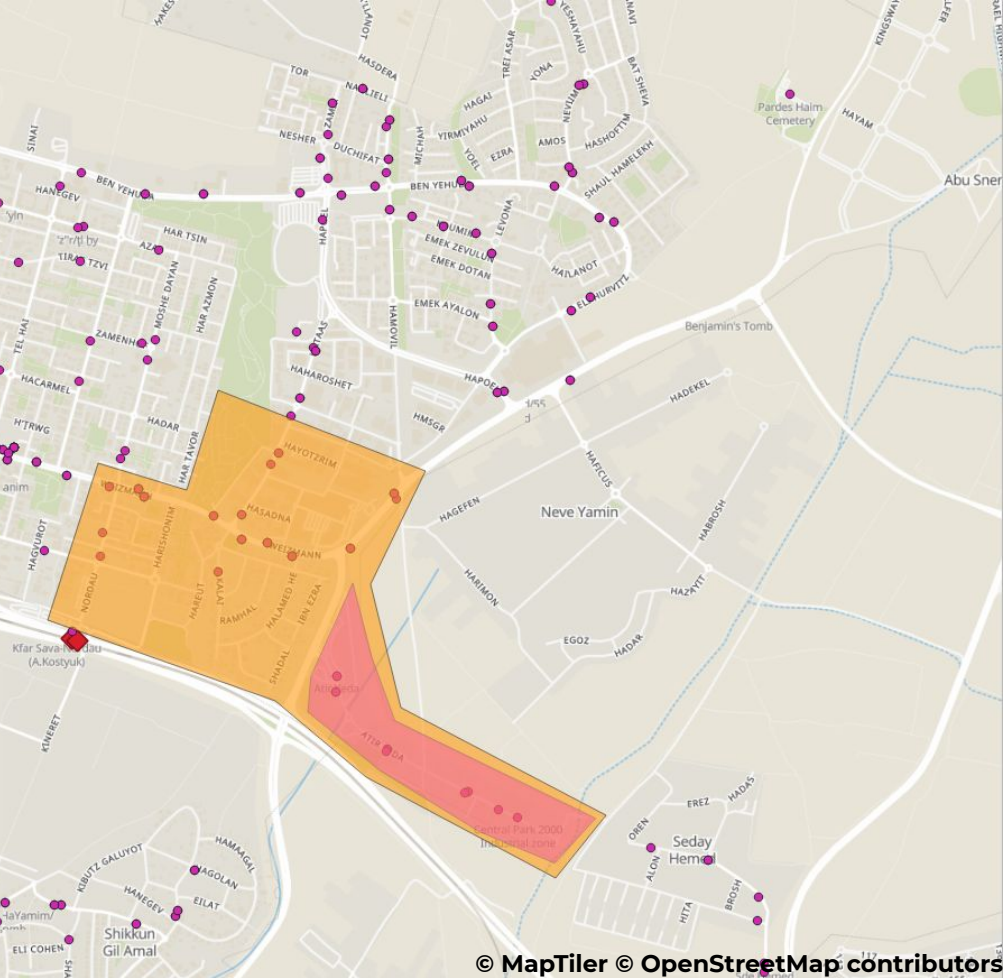


# Solution

## Micro-mobility



- Inside the area
- Nearest train station
- Nearest neighborhood



© MapTiler © OpenStreetMap contributors



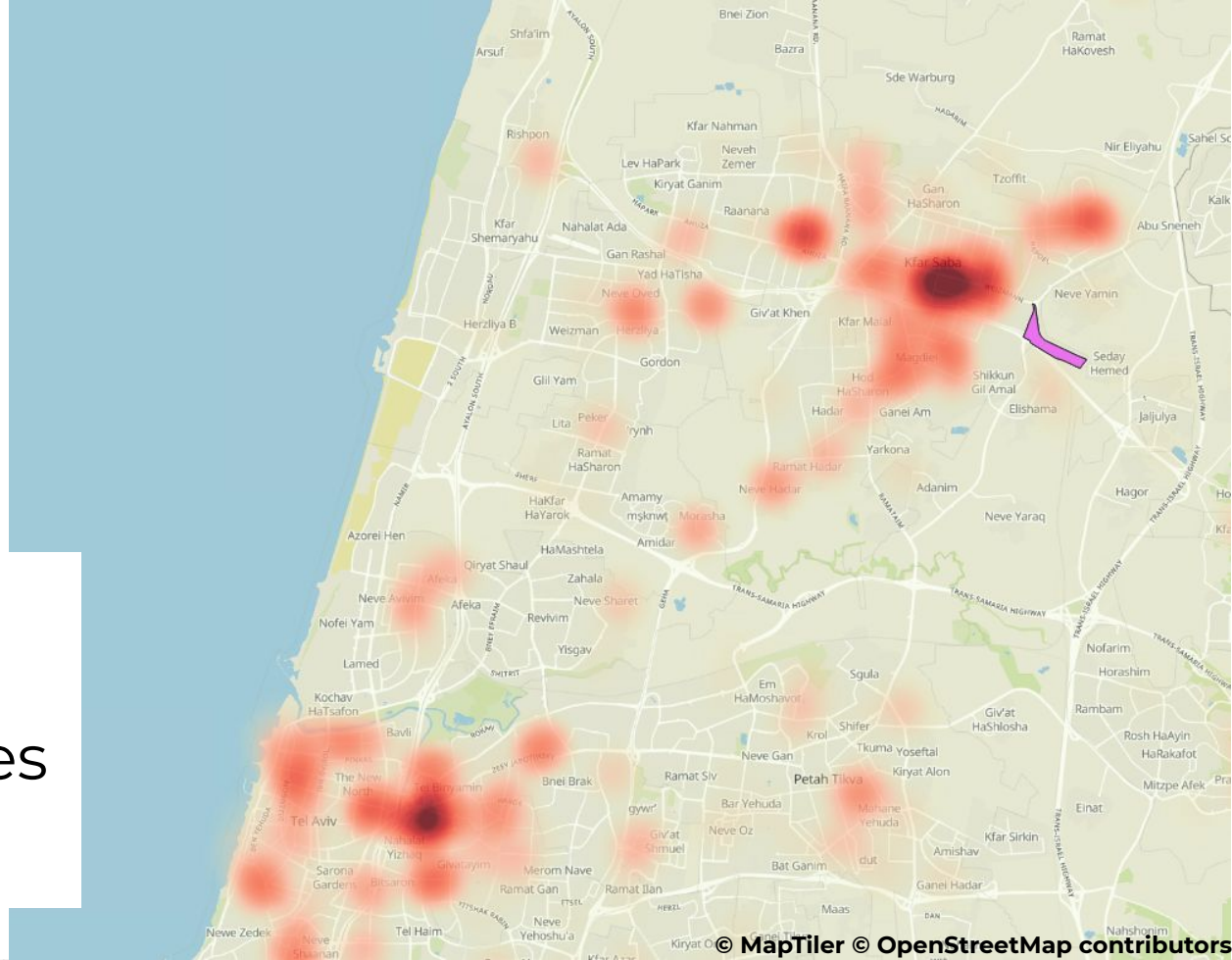
# Solution Carpool



Carpool

Only for employees

Based on employees  
distribution



© MapTiler © OpenStreetMap contributors

# Solution

## Budget Management Tool

### History

[New Transaction](#)

SEARCH

DATE

[Export](#)

Transaction Value Date	Email	Transaction Date	Type	Provider	Subsidized	Employee	Total	Balance	Notes
30/11/19, 23:59	<a href="#">david@moovit.com</a>	20/11/19		Gett Together	▼ 23.45 NIS	▼ 11.55 NIS	▼ 35 NIS	459.3 NIS	
30/11/19, 23:59	<a href="#">david@moovit.com</a>	11/11/19		Gett Together	▼ 23.45 NIS	▼ 11.55 NIS	▼ 35 NIS	506.2 NIS	
30/11/19, 23:59	<a href="#">david@moovit.com</a>	25/11/19		Gett Together	▼ 23.45 NIS	▼ 11.55 NIS	▼ 35 NIS	435.85 NIS	
30/11/19, 23:59	<a href="#">david@moovit.com</a>	18/11/19		Gett Together	▼ 23.45 NIS	▼ 11.55 NIS	▼ 35 NIS	482.75 NIS	
30/11/19, 23:59	<a href="#">david@moovit.com</a>	04/11/19		Gett Together	▼ 23.45 NIS	▼ 11.55 NIS	▼ 35 NIS	553.1 NIS	
30/11/19, 23:59	<a href="#">david@moovit.com</a>	06/11/19		Gett Together	▼ 23.45 NIS	▼ 11.55 NIS	▼ 35 NIS	529.65 NIS	
11/11/19, 13:33	<a href="#">david@moovit.com</a>	30/10/19		Gett Together	▼ 23.45 NIS	▼ 11.55 NIS	▼ 35 NIS	576.55 NIS	
03/11/19, 16:43	<a href="#">david@moovit.com</a>	10/10/19		Rav Kav	▼ 115.9 NIS	▼ 57.1 NIS	▼ 173 NIS	484.09 NIS	

Case Study

# Bank Hapoalim



📍 Israel

Enable essential employees to get to work safely and comfortably



Branded Apps



Payments & Ticketing



Urban Mobility Analytics



On-Demand



Real-Time for Buses



Carpool

## Select Rides

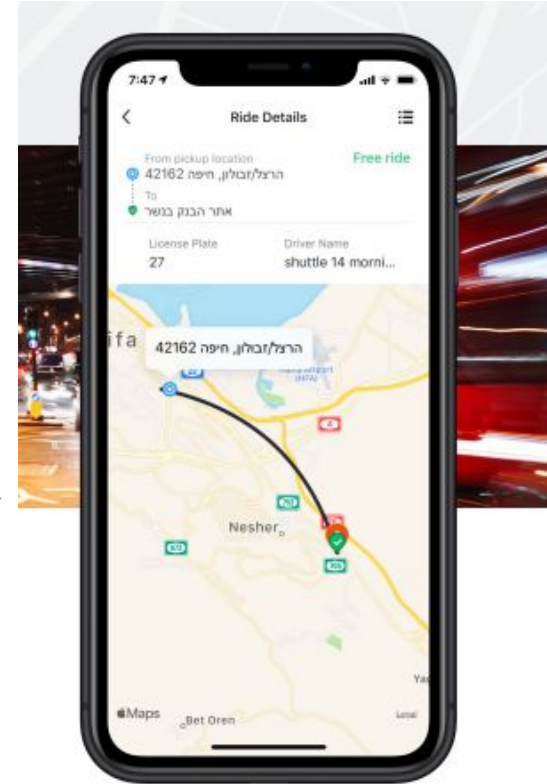
Date	Arrival At Work	Departure From Work
Sun 19/04/20	<input checked="" type="checkbox"/> 08:00	<input checked="" type="checkbox"/> 16:00
Mon 20/04/20	<input checked="" type="checkbox"/> 08:00	<input checked="" type="checkbox"/> 16:00
Sun 26/04/20	<input type="checkbox"/> 08:00	<input type="checkbox"/> 16:00
Mon 27/04/20	<input type="checkbox"/> 08:00	<input type="checkbox"/> 16:00

SUBMIT

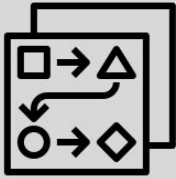
## Case Study

# Smart Shuttles Bank Hapoalim

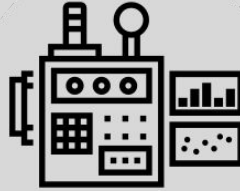
- During COVID-19, Israel's public transportation decreased service in response to low ridership. However, essential workers, including bankers, still needed to get to work.
- Bank Hapoalim wanted to offer its employees who rely on public transit easy access to six bank branches in the center and north of the country.
- They needed a complete solution offering that was easy to use, exclusive to the bank employees, and could be up-and-running as soon as possible.



# Moovit's Unique Approach



**Data-Driven  
Analysis &  
Planning**



**Comprehensive  
On-Demand  
Solution**



**Complete  
End-to End User  
Experience**

# MaaS-Ready, Whenever You Are

- Single platform to digitize and streamline your operations, rapidly expand on-demand services, and introduce new offerings
- Enjoy a much larger ridership base by integrating your solution into the Moovit app
- Integrate Moovit Capabilities into your commuter programs and existing apps



An aerial view of a city with a Moovit route overlay. The route is shown as a series of colored lines (orange, green, blue, yellow, red) connecting various points. The text is overlaid on the center of the image.

**Thank you!**  
We're here to help.

**Michael Funaro**

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