

# Micro-Transit Feasibility Study Hall County, Georgia

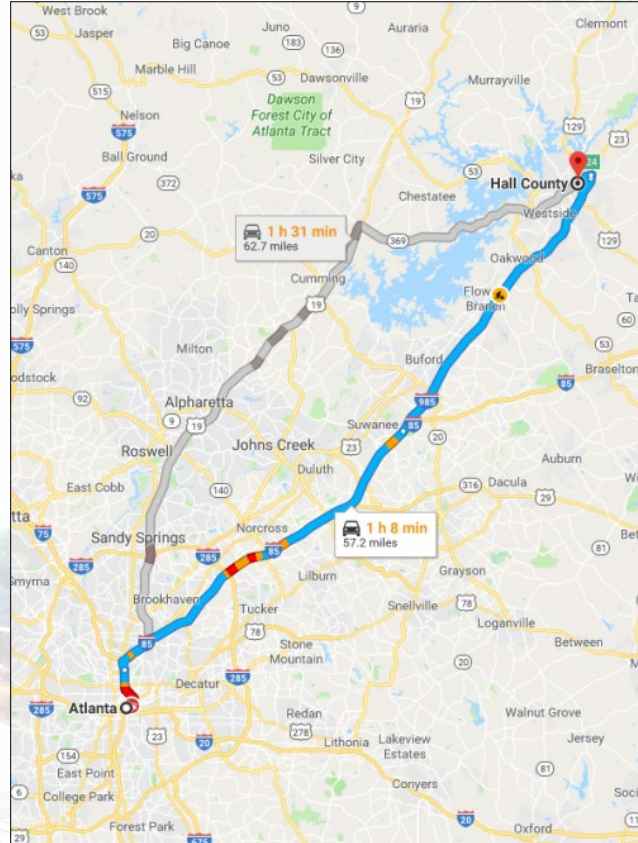
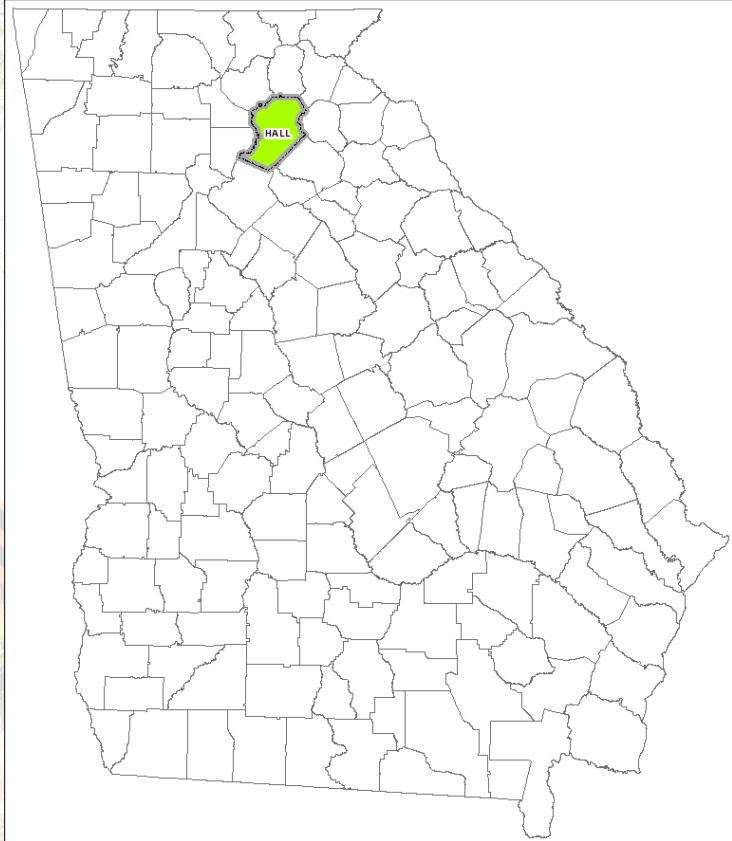
Georgia Planning Association, Spring Conference, March 27, 2019



GHMPO



# Hall County



Hall County is located 50+ miles northeast of Atlanta



# Hall Area Transit System Profile

- City of Gainesville population: 37,291 (2017)
- Hall County population: 199,335 (2017)
- Classification: Small Urban
- Demand response service: Dial-A-Ride – since 1985
- Fixed route service: Gainesville Connection – since 1999
- City/County provide local match for Section 5307 & 5311 funds
- No 3<sup>rd</sup> party operator
- Vehicles used: Ford Goshen Cut-A-Ways – Diesel
- 10 full-time staff
- 15 part-time staff



# Hall Area Transit (HAT)

## Gainesville Connection

- Fixed route bus service
- 350 bus stops in Gainesville/Oakwood
- Six fixed routes
- Weekday service
- Operating hours 6:00 AM – 6:00 PM
- One-hour frequency/headway
- 11,400 monthly trips
- 50%-50% funding: FTA & Gainesville



## Hall County Dial-A-Ride

- Hall Countywide demand response vanpool
- 429 square miles
- Curb-to-curb/door-to-door
- Weekday service
- Operating hours 7:00 AM – 5:00 PM
- 2,000-2,500 monthly trips (2017)
- 50%-50% funding: FTA & Hall County



# Ridership & Cost

## Gainesville Connection

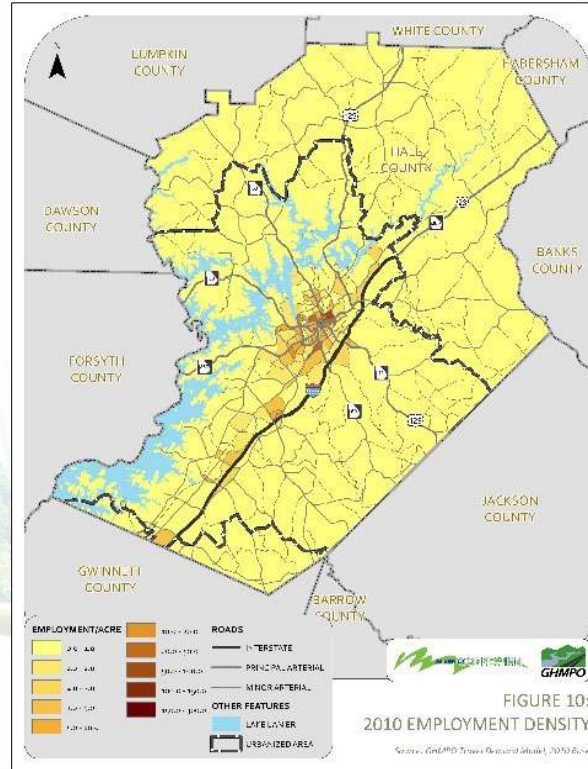
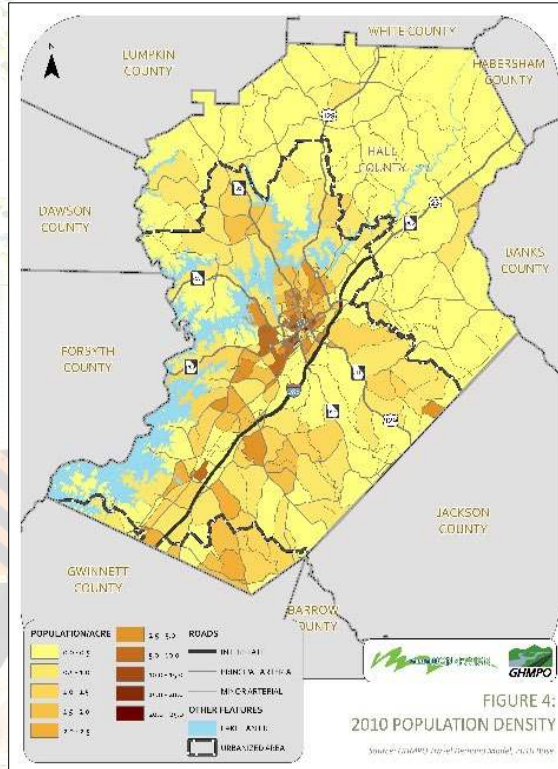
Year	Cost	Trips	Cost/Trip
2017	\$804,803	137,294	\$3.50
2016	\$745,763	141,590	\$3.05
2015	\$740,858	149,642	\$4.65
2014	\$714,390	146,797	\$4.87
2013	\$723,774	155,733	\$4.87
2012	\$731,497	240,190	\$4.95
2011	\$753,331	215,433	\$5.27
2010	\$633,533	142,530	\$5.86

## Hall County Dial-A-Ride

Year	Cost	Trips	Cost/Trip
2017	\$616,360	24,962	\$24.69
2016	\$623,717	25,627	\$24.34
2015	\$590,646	26,900	\$21.96
2014	\$569,100	26,647	\$21.36
2013	\$613,956	25,345	\$24.22
2012	\$586,010	27,116	\$21.61
2011	\$559,283	25,992	\$21.52
2010	\$561,467	28,119	\$19.97



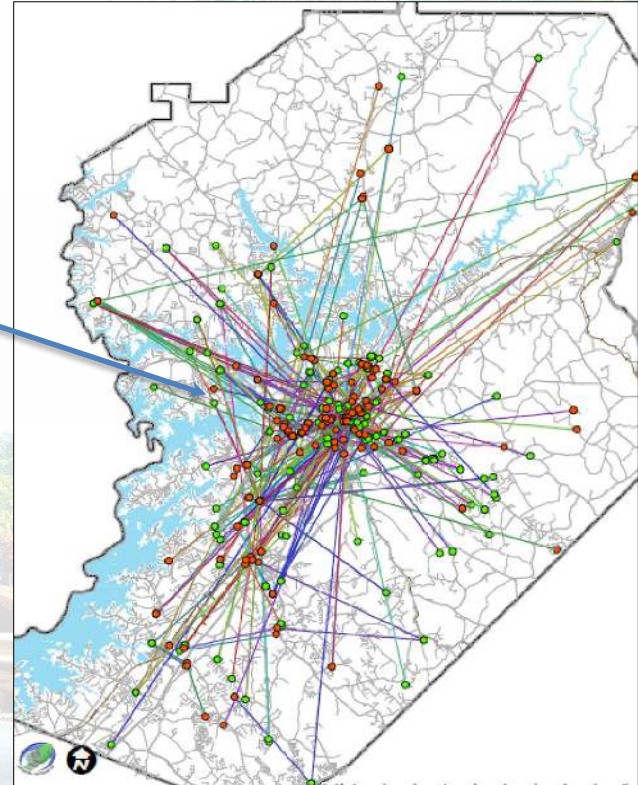
# Gainesville Connection Service Area Characteristics



- Low density development
- Residential, primarily single family and rural
- Employment: mostly industry and service related
- With very little office or high density
- Higher densities in Gainesville

# Hall County Dial-A-Ride Service Area Characteristics

- 429 square miles
- 54<sup>th</sup> largest county in land mass
- Trip pattern very random
- Trip origins vary
- Top destination points:
  - 35% aging services
  - 30% medical
  - 17% employment
  - 8% shopping
  - 6% education
  - 4% activities





# Micro-Transit Study Background

- Gainesville urbanized area is considered a small urbanized area
- Gainesville is projected to become a large urbanized area following the 2020 Census
- Becoming a large urbanized area will mean a significant loss of federal transit funding
- What transit service is feasible in the face of reduced funding and how to provide it?

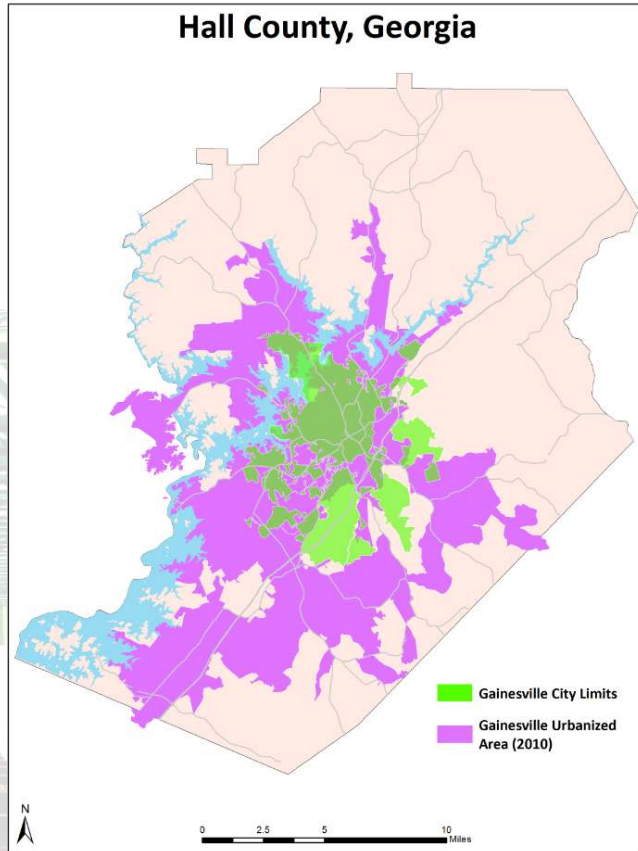


# Micro-Transit Service

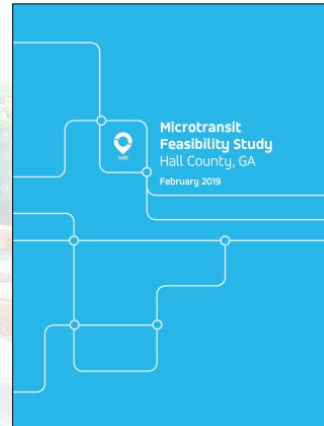
## What's Possible?

- Turnkey operation to:
  - Replace all or part of Gainesville Connection
  - Replace all or part of Dial-A-Ride
- Partial turnkey operation to:
  - Supplement Gainesville Connection
  - Supplement Dial-A-Ride
- Technology
  - Purchase license to use AP
  - Gainesville Connection/Dial-A-Ride provides micro-transit service

# Hall County Micro-Transit Feasibility Study



- Feasibility of micro-transit service in:
  - Entire Hall County (400 square miles)
  - Gainesville urbanized area (130 square miles)
  - Gainesville City Limits (35 square miles)
- Hours of operation
- Quality of service
- Replace or supplement existing Gainesville Connection and/or Dial-A-Ride





# Feasibility Study Methodology

- Study consisted of three steps:
  1. Identifying opportunities for micro-transit
  2. Projecting demand
  3. Simulating scenarios to determine a micro-transit configuration that meets HAT's goals

# Identifying Opportunities for Micro-Transit

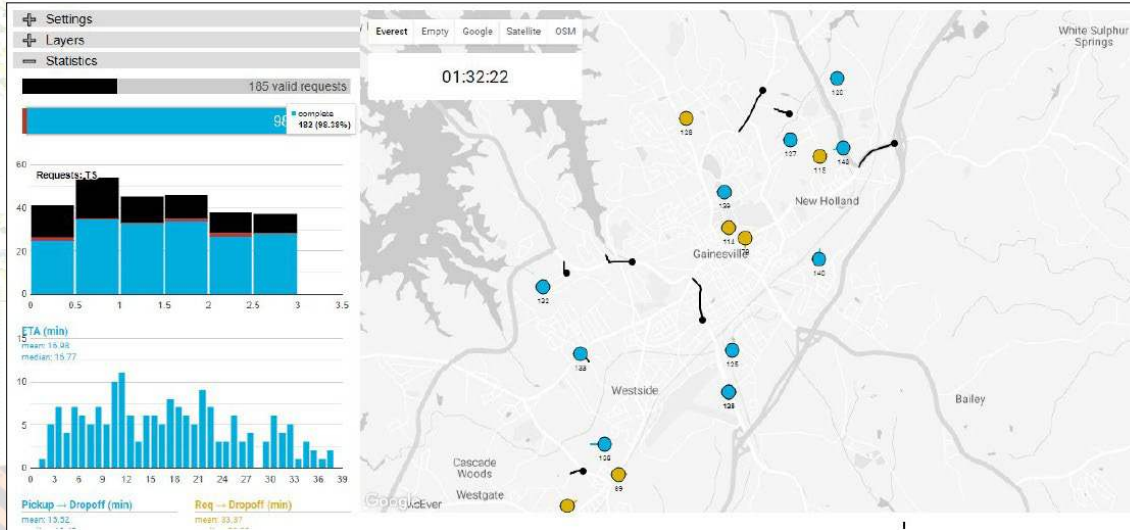
- Micro-transit can achieve the following goals for HAT:
  - Provide transit in previously underserved areas (transit deserts)
  - Provide suburban mobility
  - Retire under-performing fixed route services
  - Provide first- and last-mile connections to fixed route services
  - Mitigate traffic congestion
  - Reduce parking congestion
  - Upgrade a paratransit offering
- HAT's primary goals for micro-transit:
  - Upgrade existing Dial-A-Ride service
  - Replace under-performing fixed route services



# Projecting Demand

- Demand was projected using historic Dial-A-Ride and fixed-route ridership
- Real-world ridership will depend on the following factors:
  - Travel patterns
  - Alternative modes of travel
  - Demographics
  - Pedestrian infrastructure
  - Seasonality of demand
  - Employment density
  - Residential density
  - Retail and entertainment density
  - Fare structure
  - Parking availability
  - Marketing budget and effectiveness
  - Weather conditions
  - Congestion levels

# Micro-Transit Simulation



Six-step simulation process:

1. Set service area
2. Generate underlying road map
3. Determine traffic speeds
4. Set “terminals”
5. Generate “virtual bus stops”
6. Set simulation parameters



# Micro-Transit Simulation

- The following 5 scenarios were simulated:
  1. Replace the Dial-A-Ride service
  2. Replace all six Gainesville Connection routes
  3. Replace three underperforming Gainesville Connection routes
  4. Replace the Dial-A-Ride and all Gainesville Connection routes (combination of 1 & 2)
  5. Replace the Dial-A-Ride and three underperforming Gainesville Connection routes (combination of 1 & 3)

# Summary of Results

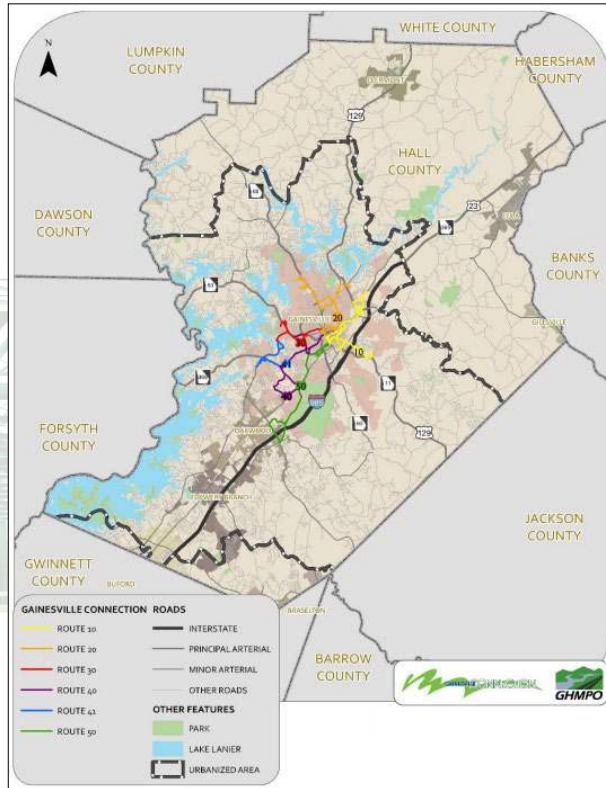
Scenario	Expected Trips/Day	Recommended Micro-Transit Fleet Size	High Demand (2x Existing Demand) Fleet Size
1) Upgrade DAR*	40-70	5-6	7-8
2) Upgrade 6 GC* Routes	600-900	14-15	21-24
3) Upgrade 3 Underperforming GC* Routes	200-350	7-8	9-11
4) Combination of 1 & 2 – Upgrade DAR* & All GC* Routes	600-1,000	16-18	24-28
5) Combination of 1 & 3 – Upgrade DAR* & Underperforming GC* Routes	250-400	9-10	14-16

\* DAR = Dial-A-Ride

GC = Gainesville Connection

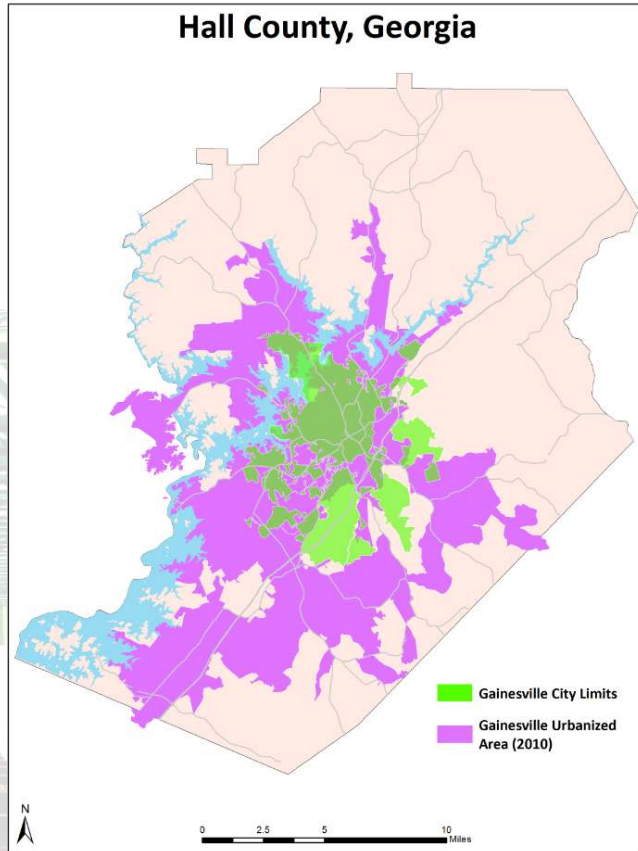


# Recommendations



- Scenario 5 – Upgrade Dial-A-Ride and 3 Gainesville Connection routes **RECOMMENDED CHOICE**
  - Retain Hall County’s three highest performing bus routes
  - Use micro-transit to replace all other routes, along with Dial-A-Ride service
  - Recommended micro-transit fleet: 9-10 vehicles
  - Recommended fixed route fleet: 3 vehicles (one vehicle per route)
  - Estimated ridership: 20%-50% increase in ridership

# Recommendations



- Provide micro-transit service in entire Hall County
- Launch service with hours that match current service hours (Mon-Fri, 6:00 AM-7:00 PM)
- Design a service with average wait times of around 15 minutes, with maximum wait times of 35-40 minutes
- Scenario 5- highest quality of service that fits budget



# Micro-Transit Operating Models

Three alternatives to choose:

- **Transportation as a Service**

*Vendor provides everything- micro-transit technology, drivers, vehicles, and operations management*

- **Transportation as a Service – using HAT vehicles**

*HAT provides vehicles; vendor bears operating costs*

- **Software as a Service**

*Vendor provides micro-transit technology; HAT uses its own drivers, vehicles, and dispatchers*

Next Step: Solicit pricing proposals from providers for comparison.



# Micro-Transit Feasibility Study Hall County, Georgia

Sam Baker, AICP

Transportation Planning Manager

Gainesville-Hall Metropolitan Planning Organization

Telephone: 770-297-2604

Email: [sbaker@hallcounty.org](mailto:sbaker@hallcounty.org)



GHMPO





**Gwinnett**

# GCT MicroTransit Pilot

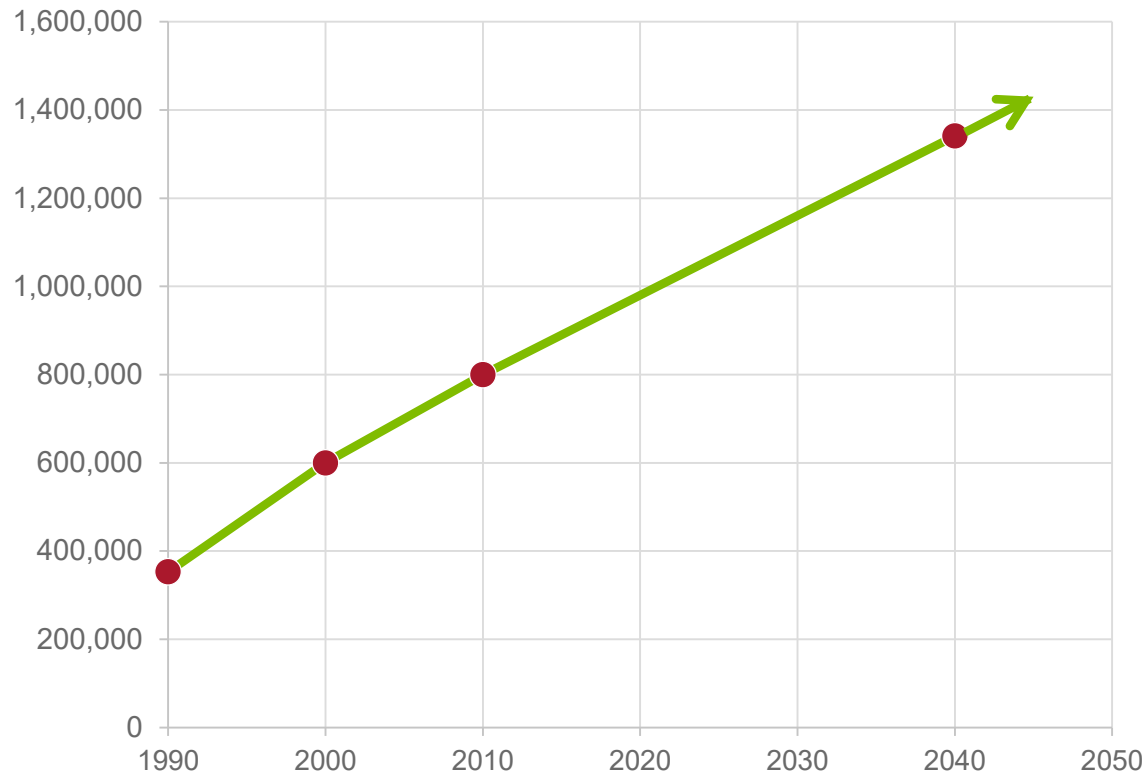
March 27, 2019

GPA Spring Conference

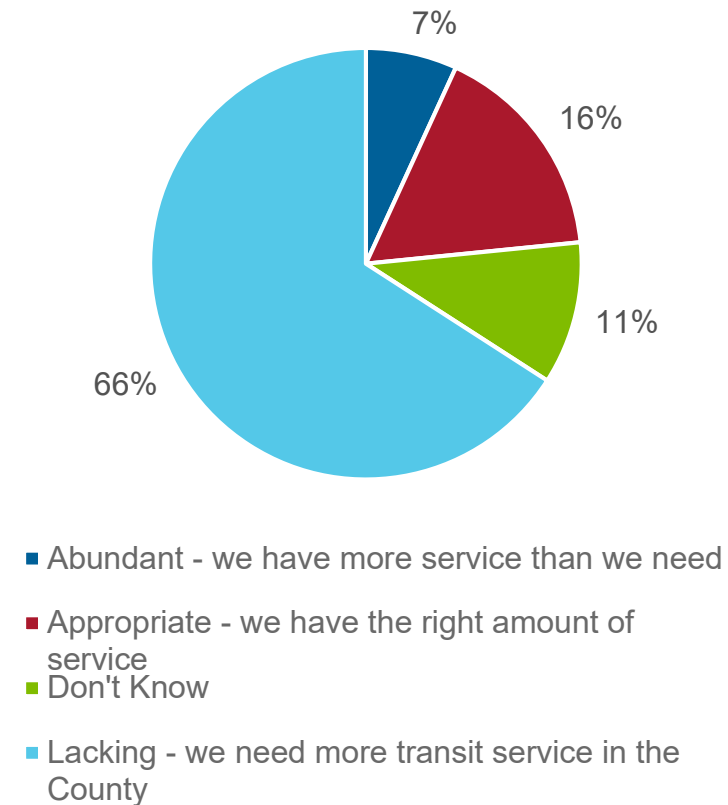
# Why Transit, Why Now?



Gwinnett Population Growth

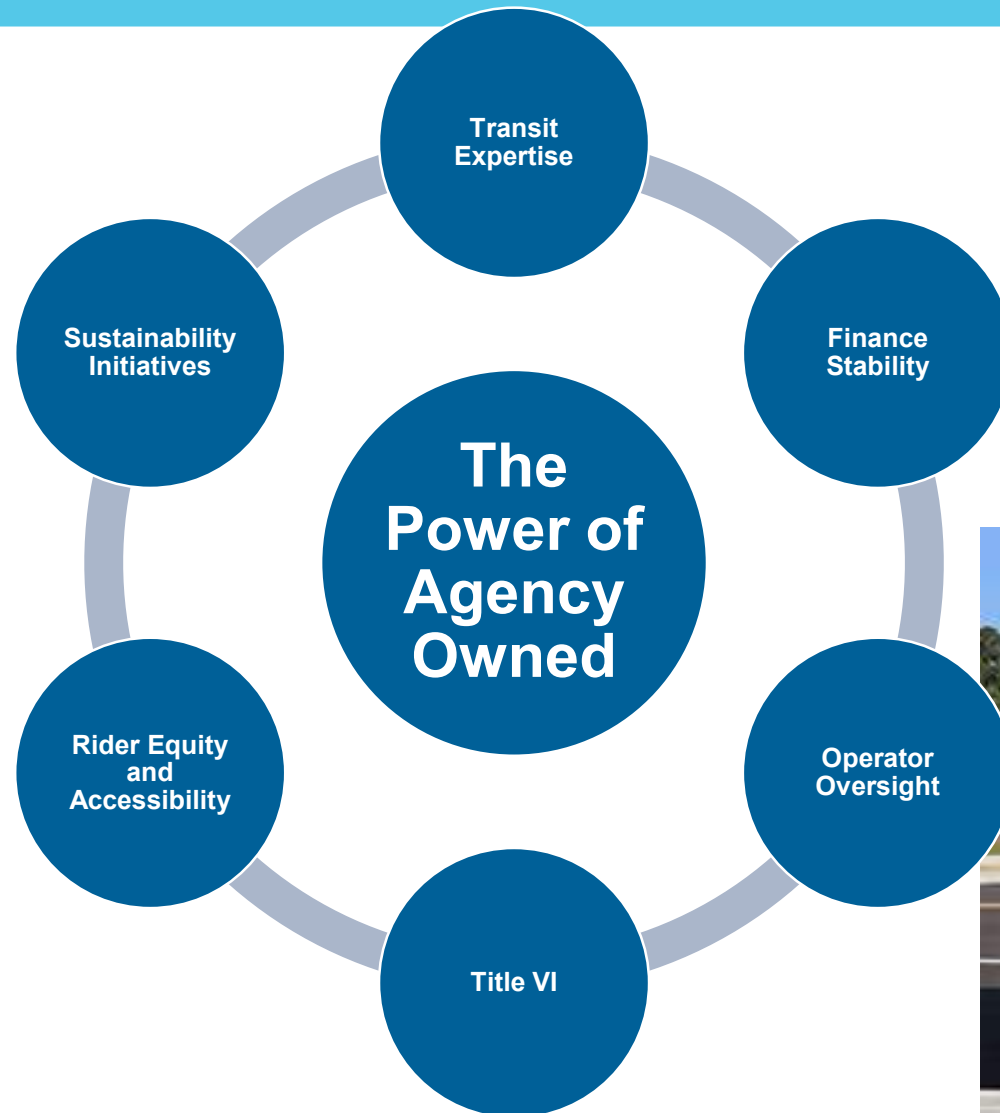


Community Support for More Transit





# Why Agency Owned MicroTransit



# The Pilot



- Partnered with TransLoc for the Pilot
- Pilot included Scenario Simulations
- Full Support for Technology Deployment
- TransLoc walked us through the implementation process step by step

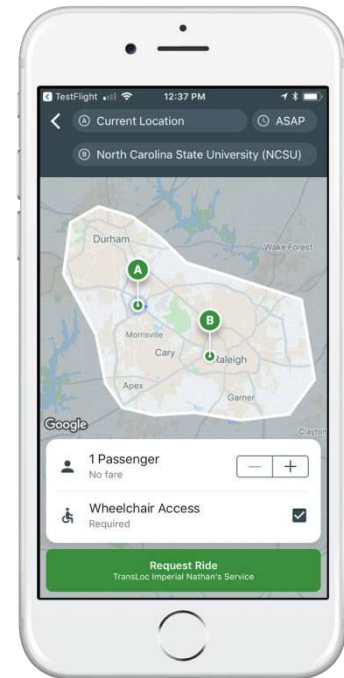
**TransLōc<sup>®</sup>**



# Advantage of a Pilot



- Opportunity to test drive the program
- Support proof of concept
- Determine contracting methods
- Determine policy for the program



# GCT Pilot Scenario Analytics



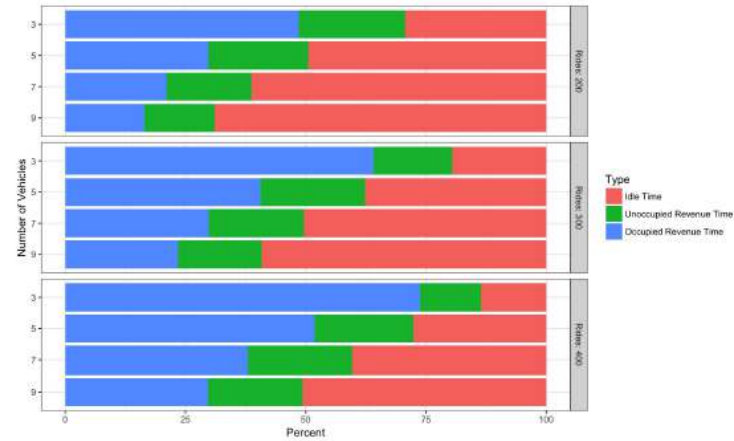
## Operating Efficiency

Snellville

Rides	Vehicles	Vehicle Utilization (trips per vehicle hr)*	Vehicle Miles Traveled	Average Miles per Vehicle	Revenue Hrs per Vehicle
200	3	4.1	814	271	11.4/16.1
200	5	2.5	1,012	202	8.1/16.1
200	7	1.8	1,117	160	6.2/16.1
200	9	1.4	1,175	131	5/16.0
300	3	6	924	308	13.3/16.5
300	5	3.7	1,240	248	10.1/16.2
300	7	2.7	1,420	203	8/16.2
300	9	2.1	1,531	170	6.6/16.1
400	3	7.9	959	320	14.5/16.8
400	5	4.9	1,420	284	11.8/16.3
400	7	3.5	1,699	243	9.7/16.2
400	9	2.8	1,840	204	8/16.2

## Time Utilization

Snellville



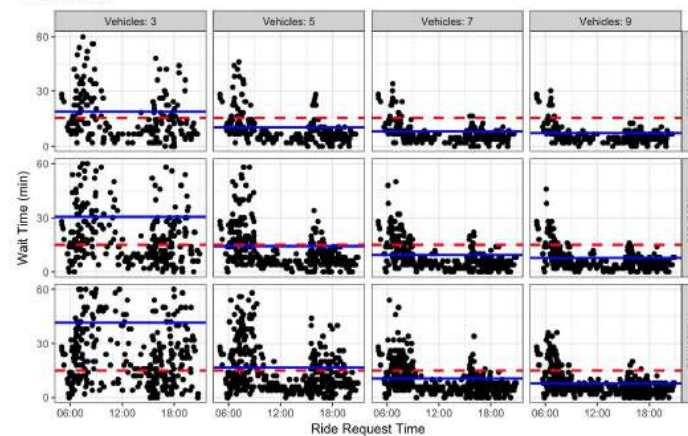
## Ride Quality

Snellville

Rides	Vehicles	Average Wait Time (min)	95%ile Wait Time (min)*	Average Ride Duration (min)	95%ile Ride Duration (min)*	Average Total Trip Time*	95%ile Trip Time (min)*
200	3	18.5	52.1	13.4	32.2	32	76
200	5	9.8	28	9	18	18.8	40
200	7	7.5	22.1	8	16	15.5	30.1
200	9	6.6	22	7.8	14	14.4	30
300	3	30.6	98.1	19.8	54	50.4	122.1
300	5	14.3	42	11.3	24	25.5	62.2
300	7	9.4	26	9.1	18	18.5	40
300	9	7.7	22	8.5	16	16.2	38
400	3	41.6	127.6	25	68.4	66.7	164
400	5	16.7	46.1	13.3	34	30	68.1
400	7	10.5	26	9.8	22	20.3	40.1
400	9	7.9	24	8.8	18	16.7	34.1

## Wait Times

Snellville





# Why this Solution for Gwinnett

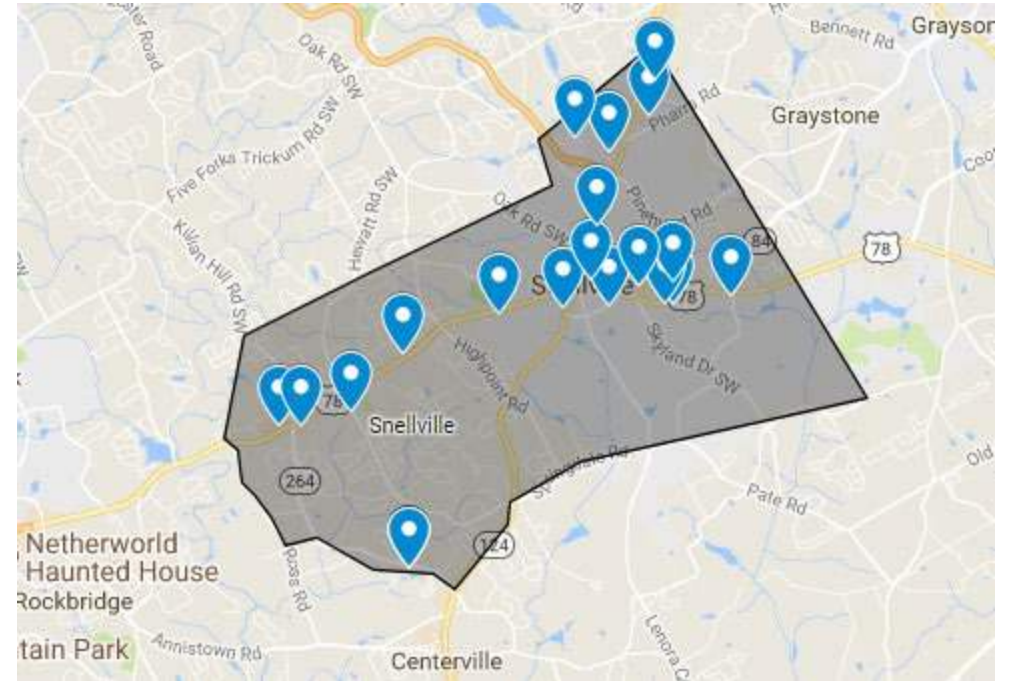


- Portions of the County with suburban design are difficult to serve with traditional transit means
- Refreshes an old model with technology
- Can be integrated with the rest of the network

# Why a MicroTransit Solution



- On-demand, curb to curb, point to point service
- One Zone which is approx. 17 sq. miles
- Reservations made at time of trip
- Pilot connects to two GRTA routes, 3 Walmarts, Hospital and numerous schools
- Weekdays, 6:00 AM - 8:00 PM
- Saturday, 7:00 AM – 7:00 PM



# Current Pilot/Feedback



- Positive overall
- Service continues to increase
- First month issues mainly involved staff training and policy development, rather than technology



# Pilot Results – Reporting



Rides by Status

Rides by Source

Rides by Hour

Ride Duration

Ride Wait Time

**Total Passengers**

Vehicle Mileage

Total Mileage

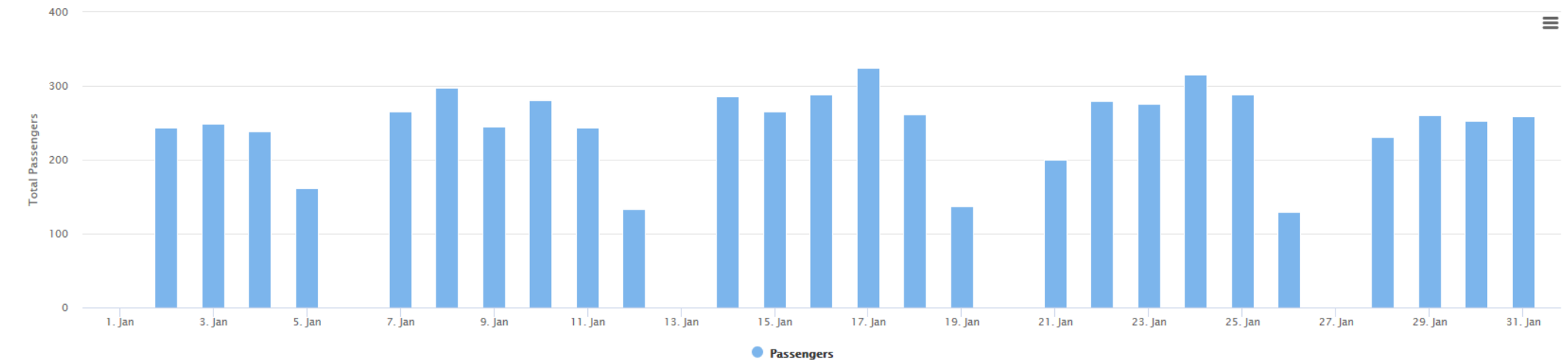
Origins & Destinations

Fare Payment

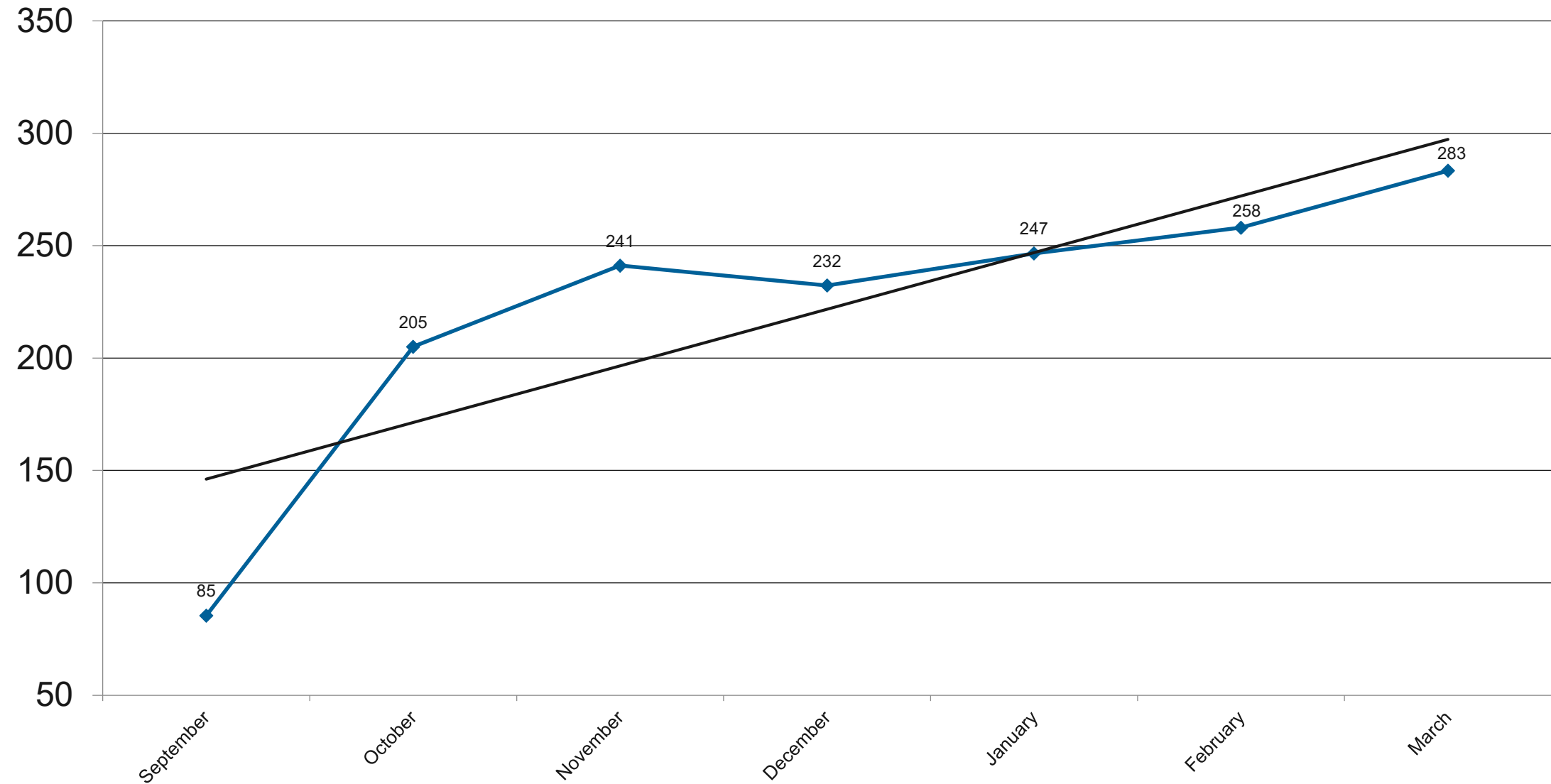
## Total Passengers

This report shows the total number of passengers who boarded and completed rides in a day.

Service: All services Start Date: 01-01-2019 End Date: 01-31-2019



# Pilot Results – Average Daily Trips





# Next Steps



- Run pilot will end April 30th
- Evaluate program, pro and cons
- Competitively procure technology
- Redeploy into Snellville and if funding is identified then Buford
- Work on items such as fare integration with Cubic System



Karen Winger, ACIP CCTM  
[karen.winger@gwinnettcounty.com](mailto:karen.winger@gwinnettcounty.com)

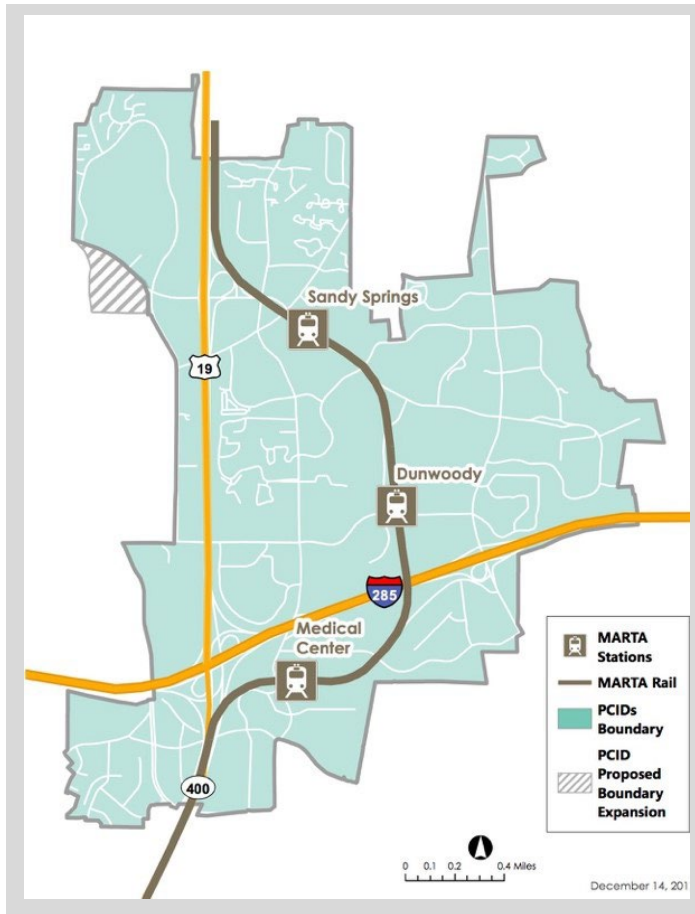




# PERIMETER MICROTRANSIT TECHNOLOGY PILOT

March, 2019

# PERIMETER CONNECTS



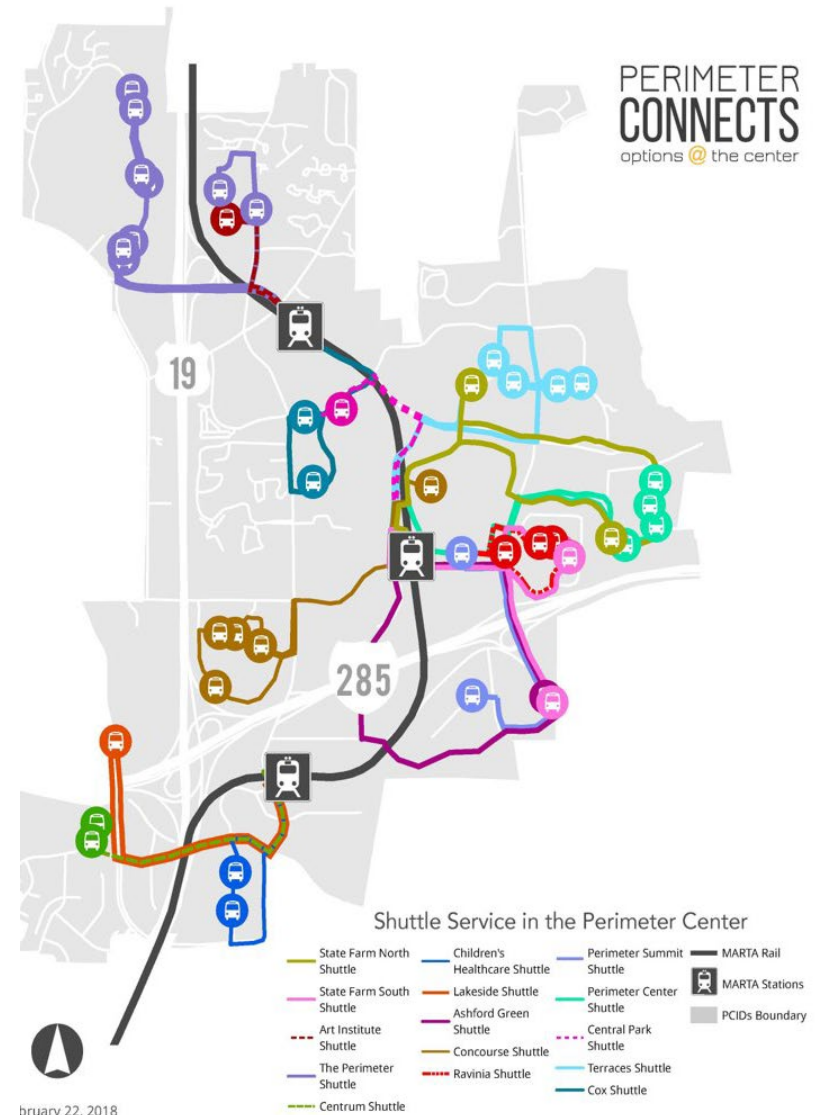
- Perimeter Connects is the Transportation Management Association serving the Central Perimeter market.
  - It is a program of the PCIDs
- 130,000 employees
- 5,000 companies
- 3 MARTA stations + 4 Xpress Routes





# Last-Mile Solutions

- 18+ employer/PM shuttle routes connecting to transit
  - Varied schedules + stops
  - 5 operators
- Limited real-time info
  - Apps
  - Internal web portal
  - Screens at security
- Most passengers never know when shuttle is arriving



# Market Research

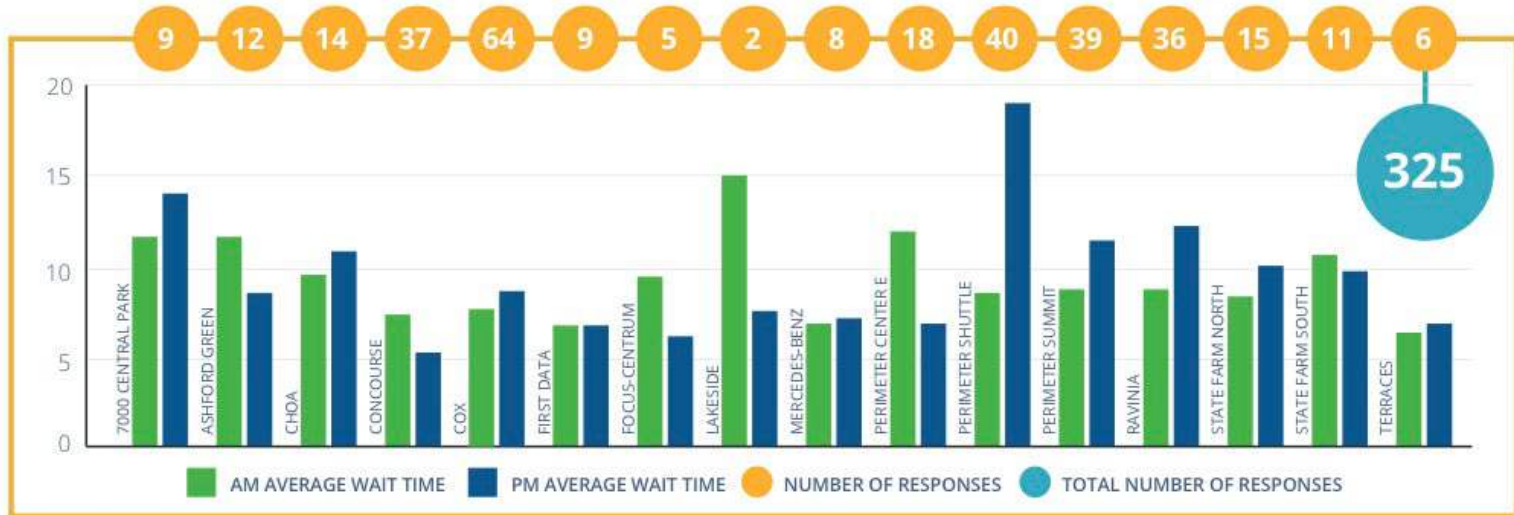


SURVEYED RIDERS RATED THEIR SHUTTLE EXPERIENCE ON AVERAGE AS:



**92%**

OF RIDERS WOULD CHECK THEIR SHUTTLE ARRIVAL TIME VIA SMARTPHONE OR WEBSITE, GIVEN THE OPTION





# How Can Perimeter Connects Improve Existing Shuttles?

- Create a pilot using technology to improve customer service and shuttle operations on existing shuttles



**Microtransit?!**





# Goals of the Microtransit Pilot

- Provide improved **customer service** for existing and future shuttle riders:
  - One tech platform for all Perimeter shuttle riders to identify and board correct shuttle
  - Provide all participating Perimeter shuttle locations in real time
  - Riders can guarantee their seat (pre book via computer, app, or phone call)
  - Time savings through dynamic routing; skip stops when no one has booked a ride
  - Easy to use (just like uber and lyft!)

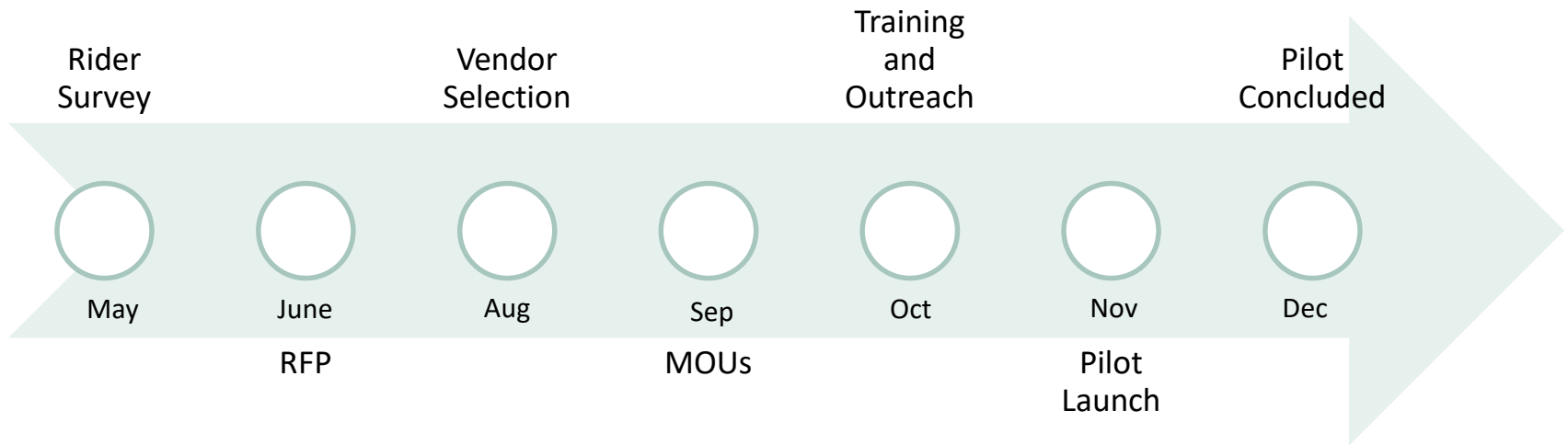


# Goals of the Microtransit Pilot

- Improve **operations**:
  - Improve shuttle operations to adjust timing to coincide with actual rider needs
  - Offer service to more locations instead of on a fixed route, specifically during off-peak hours
- Possible **future** benefit:
  - Allow Funders to charge for enhanced services if desired



# Pilot Timeline





# Perimeter Shuttles





# Pilot Partners



- Pilot Phase 1:
  - Perimeter Glenlake
    - UPS
    - Embassy Row
    - Glenlake Pkwy
- Planned Phase 2:
  - Cox Enterprises
  - State Farm
  - Ravinia
  - Concourse
  - 64 Perimeter Center East



# Communication

- Primary
  - In person: extensive on-shuttle outreach
  - Rider flyers
  - Shuttle posters
  - Webpage (FAQ, walk-through, and more)
- Secondary
  - Lobby posters
  - Digital display slides
  - Email announcements

## Your shuttle service has changed

An upgraded shuttle service and real-time tracking have arrived.

Request your ride:

Download the Perimeter Shuttles app today

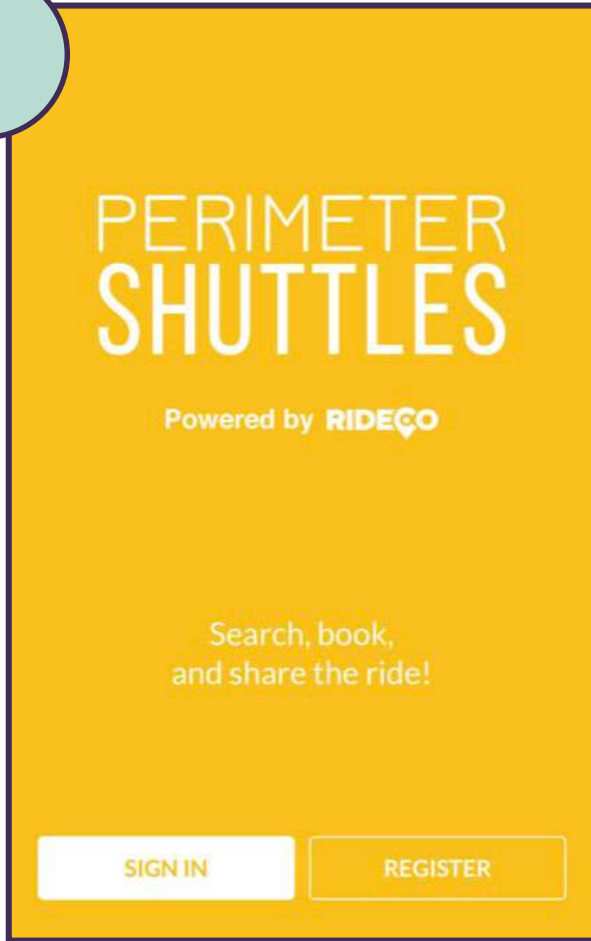
Visit [www.perimeterconnects.com/shuttleapp](http://www.perimeterconnects.com/shuttleapp) to download the app and learn more.





# How it worked

1



PERIMETER SHUTTLES

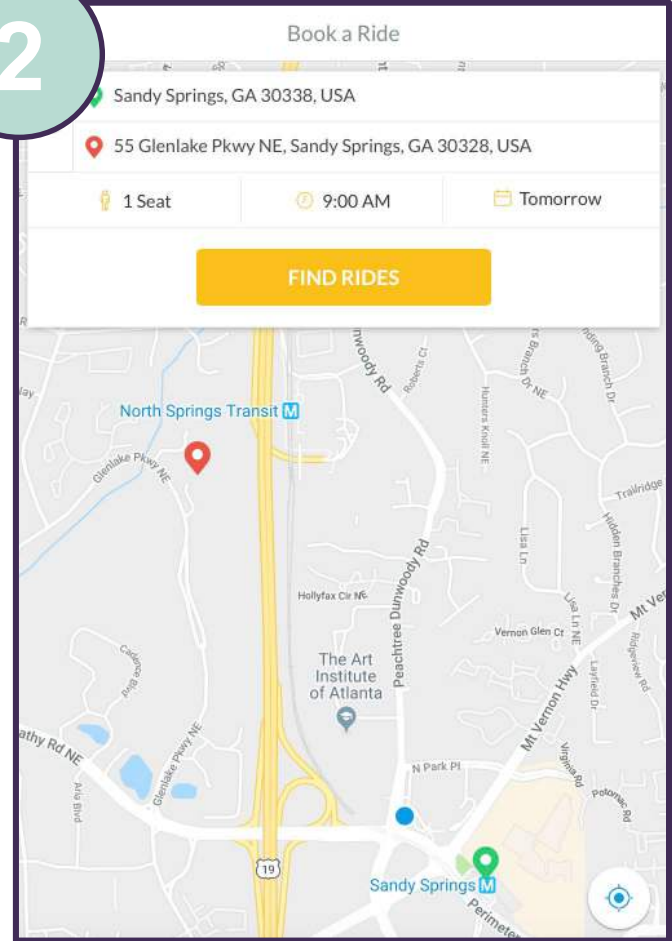
Powered by RIDEGO

Search, book,  
and share the ride!

SIGN IN REGISTER

The image shows a landing page for Perimeter Shuttles, powered by RIDEGO. The page has a bright orange background. At the top, the text 'PERIMETER SHUTTLES' is written in large, white, sans-serif capital letters. Below this, in smaller white text, it says 'Powered by RIDEGO'. Further down, the text 'Search, book, and share the ride!' is centered. At the bottom of the page, there are two white buttons with orange text: 'SIGN IN' and 'REGISTER'.

2



Book a Ride

Sandy Springs, GA 30338, USA

55 Glenlake Pkwy NE, Sandy Springs, GA 30328, USA

1 Seat 9:00 AM Tomorrow

FIND RIDES

North Springs Transit M

Sandy Springs M

The Art Institute of Atlanta

The image shows a 'Book a Ride' interface. At the top, it says 'Book a Ride'. Below that, there are two location fields: 'Sandy Springs, GA 30338, USA' and '55 Glenlake Pkwy NE, Sandy Springs, GA 30328, USA'. There are three selection fields: '1 Seat', '9:00 AM', and 'Tomorrow'. A large orange button labeled 'FIND RIDES' is centered below these fields. Below the button is a map showing the area around Sandy Springs, GA. A red pin marks the destination at 55 Glenlake Pkwy NE. A blue pin marks the origin at North Springs Transit. Other landmarks like 'The Art Institute of Atlanta' and 'Sandy Springs M' are also visible on the map.

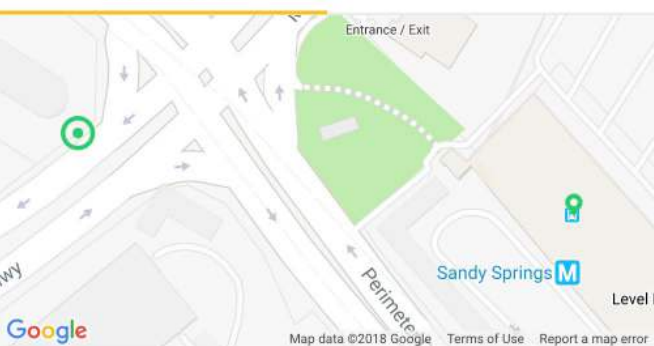


# How it worked

3

Book a Ride      Select a Ride

PICK-UP SPOTS      DROP-OFF SPOTS



Perimeter Glenlake \$0.00

- Sandy Springs MARTA Station (Coppertop)
- Sandy Springs MARTA Station
- 55 Glenlake Pkwy NE

PICK-UP: 8:40 AM - 8:46 AM      ARRIVES BEFORE: 9:23 AM

Perimeter Glenlake \$0.00

- Sandy Springs MARTA Station (Coppertop)
- Sandy Springs MARTA Station
- 55 Glenlake Pkwy NE

PICK-UP: 9:40 AM - 9:46 AM      ARRIVES BEFORE: 10:23 AM

4

My Rides

UPCOMING      PAST

Tomorrow 1

Perimeter Glenlake

Sandy Springs MARTA Station (Coppertop)

55 Glenlake Pkwy NE

8:40 AM - 8:46 AM ..... 9:23 AM

11/13/2018

BOOK MORE      MY RIDES

Ride Booked!

Perimeter Glenlake

- Sandy Springs MARTA Station (Coppertop)
- Sandy Springs MARTA Station
- 55 Glenlake Pkwy NE



# | PILOT RESULTS

Three weeks in, we knew it wasn't working



# ■ Pilot Results

Know  
your  
riders

- Consistency over convenience
- Schedules; didn't want to arrive early and couldn't arrive late
- Smartphones/data



# ■ Pilot Results

Required  
Dynamic  
Routing  
to  
Succeed

- Property Managers were nervous to “drop a stop”
- The built environment didn’t really allow flexibility in routing



# ■ Pilot Results

Drivers  
have  
to be  
on  
board

- Requires more training than you realize
- Drivers must turn on the app! And consistently check in passengers
- Drivers will interact with the app while driving no matter how much you tell them not to



# Lessons Learned

1. Add - Don't Replace
2. Consistency is King
3. Understand Riders
  - Degree of Schedule Variation (or not!)
  - Unique Needs
4. Be Clear and Specific About Your Tech Requirements
5. Drivers Are #1





# How to Ensure Success?

1. Start small (but big enough)
2. Define relationships and roles
3. Train your drivers and buy them breakfast
4. Communicate it too much
5. Be there. In person.
6. Have open line to tech
7. Band-aid approach



# Questions?

Joddie Gray, President  
[grayj@urbantrans.com](mailto:grayj@urbantrans.com)

