City of Chamblee & Stantec
Greenlight Program

Driverless Shuttle Feasibility Study
Shared Autonomous Vehicles (SAVs)
Autonomous Busses
Self-Driving Shuttles
Micro-Transit
What is a Self-Driving Shuttle?

**Self-Driving Shuttle Specifics**

- **25 mph** top speed
- **8-16 people** maximum capacity
- **3-10 hours** amount of time on a single battery charge
- **16’x7’x9’** typical size

**Easy Mile**

- EZ10

**Local Motors**

- Olli

**Navya**

- Arma

**Self-Driving Shuttle and Standard Bus Comparison**

- 16 feet
- 40 feet

Manufacturers and Self-Driving Shuttles in the process of testing and launching pilot programs.
What is a Self-Driving Shuttle?

It's a bus without a driver and...

...a streetcar without the cost
90% By weight with 3D printed vehicle using Direct Digital Technology.
Bishop’s Ranch and Las Vegas Driverless Shuttle Pilot Projects & 41 others across North America
Chamblee, GA

Driverless Shuttle Feasibility Study

25% vs 13%

The percentage of millennials/young adults (25-34) who call Chamblee home is nearly double the metro area population of millennials.

Chamblee is far more densely populated than Metro Atlanta (3,720 v. 630 residents per square mile) and is slightly more densely populated than the City of Atlanta.

Nearly half of the population in Chamblee is single.

Only 29% of the population have children under 18 years old.

The largest cultural group of residents in Chamblee are Spanish-speaking Hispanic (45%) compared to only 11% in Metro Atlanta.

Two-thirds of the Chamblee population, compared to one-third of the Metro Atlanta population rents.

The median home value is higher in Chamblee, but there are also fewer single family homes available (as a percent of total).

Chamblee has a similar proportion of residents with a high level of education attainment, but a noticeably higher percentage of residents with limited education attainment.
Transportation Habits

- 70% of participants live in Chamblee, but beyond a 10-minute walk from the MARTA station.

- Top 3 Chamblee destinations:
  - Peachtree Station
  - Chamblee MARTA station
  - Downtown Chamblee

- 91% drive alone

- 42% use MARTA less than once a month

Self-Driving Shuttles

- 87% of participants had heard of autonomous vehicles before the survey.

- 54% of participants had heard of self-driving shuttles before the survey.

- 83% of participants have a somewhat to very positive general opinion of self-driving shuttles.
# City Civic Complex Route

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Ranking</th>
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</thead>
<tbody>
<tr>
<td>Number of residents along route</td>
<td><img src="image" alt="Ranking" /></td>
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<tr>
<td>Number of jobs along route</td>
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<tr>
<td>Number of trips per hour with 2 vehicles</td>
<td><img src="image" alt="Ranking" /></td>
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<tr>
<td>Compatibility with low speed shuttle</td>
<td><img src="image" alt="Ranking" /></td>
</tr>
<tr>
<td>Increase in transit service coverage</td>
<td><img src="image" alt="Ranking" /></td>
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## Legend
- **OK**
- **Good**
- **Great**

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*Image of a map showing the City Civic Complex Route with various locations marked.*

*Company Logo: Stantec*
### Comparative Analysis

<table>
<thead>
<tr>
<th>Feature</th>
<th>City Civic Complex</th>
<th>PDK Airport</th>
<th>Peachtree Station</th>
<th>Chamblee Plaza</th>
<th>Keswick Park</th>
<th>Third Rail/Assembly</th>
<th>CDC/IRS</th>
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<tr>
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**Legend**
- OK
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- Great ★
Preferred Routing

The principal elements:
- Cost
- Multi-modal connectivity
- Alignment with local goals and priorities
- Local support
- Corridor characteristics
- Destinations and employment
- Population
Potential Expansions
Peachtree Road at City Hall
Existing
Peachtree Road at City Hall
Conceptual Illustration of a Future Stage
Peachtree Road at MARTA Station
Existing
Peachtree Road at MARTA Station
Conceptual Illustration of a Future Stage
In a short period of time, SAVs will be cheaper to operate than a regular bus or an equivalently-sized shuttle with a driver.
Next Steps

01. Feasibility & Concept Plan
02. Preliminary Planning
03. Construction, Pre-Implementation, & Testing
04. Opening Day
05. Ongoing Operations & Performance Monitoring
Costs and Benefits

What we know

- Nascent technology – lots to learn
- Operates best in low speed, low volume environments
- Will be less expensive to operate
- Highly adaptable to a range of transit environments
- Must be part of a larger, integrated mobility system
- Likely no impact on densification or parking reduction unless connected to fixed transit
What we don’t know

• Can the current set of manufacturers scale to bring down costs and go mainstream?

• Will these be able to interact with mixed-speed traffic in a pre-AV future?

• Will this replace busses?

• Will they be a legitimate mobility service or just a cheaper streetcar?