CHAMBLEE
Self-Driving Shuttle

City of Chamblee, Georgia

Smart Solutions Workshop

December 7, 2018
Chamblee Development

City of Chamblee Transit Oriented Development (TOD)

<table>
<thead>
<tr>
<th>Name</th>
<th>Residential Units</th>
<th>Retail/Office</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parkview Phase I &amp; II</td>
<td>597</td>
<td>80,000 SF</td>
</tr>
<tr>
<td>Mercy Park</td>
<td>79</td>
<td>45,000 SF</td>
</tr>
<tr>
<td>Trackside</td>
<td>0</td>
<td>93,000 SF</td>
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<tr>
<td>The Olmsted</td>
<td>283</td>
<td>334,613 SF</td>
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<tr>
<td>SLX Atlanta</td>
<td>311</td>
<td>18,000 SF</td>
</tr>
<tr>
<td>Attiva Malone</td>
<td>205</td>
<td>25,000 SF</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,475</strong></td>
<td><strong>595,631 SF</strong></td>
</tr>
</tbody>
</table>

Legend

- DevelopmentActivity selection

Chamblee MARTA Station
Chamblee Self-Driving Shuttle

What?

Self-driving shuttles are fully autonomous vehicles that carry between 8-16 people and typically operate at top speeds of 25 mph. They are ideally suited for first/last mile solutions on quiet, lower speed streets and can operate in mixed traffic.
Chamblee Self-Driving Shuttle

Why?

1. Marketing
2. Increased Mobility
3. Sustainability
4. Parking Demand

The City of Chamblee aspires to be a healthy, vibrant, safe environment where residents live, work, play and grow in a diverse community valuing families and neighbors, respecting the historic qualities of our city.

City of Chamblee Comprehensive Plan, 2016
Economic goals. Being one of the first in the region to pilot SAVs on public roads will strengthen the identity of Chamblee as a center for innovation and forward thinking. The cool and newness factors of the technology will attract people from across the region, helping to support a thriving business environment.
Chamblee Self-Driving Shuttle

Mobility goals. An SAV pilot project also directly supports the fourth goal in the Comprehensive Plan: develop and maintain strong multi-modal connections. Convenient and attractive multi-modal options help reduce the parking challenges in Chamblee’s historic downtown district, while also enabling residents to choose the mode most appropriate for each specific trip (walk to the grocery store, drive to work, transit to dinner, etc.).
Environmental goals. Essential to supporting a healthy lifestyle is a healthy environment. Thirty-one percent of greenhouse gas (GHG) emissions in the Atlanta region come from transportation, as described by the Atlanta Climate Action Plan. As electric vehicles gain market share, reductions in transportation-related greenhouse gas emissions will decrease, helping to achieve regional transportation related GHG reduction targets and improving air quality.
Parking infrastructure. As the downtown core densifies, the City does not require additional parking to be provided, increasing the necessity of convenient transit connections and bicycle and pedestrian infrastructure. Improving connectivity from community-wide parking infrastructure to the downtown will increase the economic vitality of the downtown core.

From the Chamblee UDO: “Parking structures shall be constructed with a level base and with flat floor plates on every above-ground level.”
Chamblee Self-Driving Shuttle

Why Chamblee?
1. Millennials
2. Density
3. Housing Type
4. Diversity
5. Connectivity
Chamblee Self-Driving Shuttle

Notable Features:

» Tight enough of a turning radius (13-15 feet) to drive on existing streets

» Operates in both directions, eliminates the need to turn around

» Works with a mobile app for on demand calls and real time monitoring

» Wheelchair accessible and working to offer more accessibility features and compliance with Americans with Disabilities Act (ADA) regulations

» Redundant breaking mechanisms

» Emergency stop button on-board

» Direct telecom connection to central command hub for passengers
Chamblee Self-Driving Shuttle

How?

April 9, 2018: Chamblee Self-Driving Shuttle Feasibility Study and Concept Plan

Fall 2018/Spring 2019: “Georgia Smart Communities Challenge” Self-Driving Shuttle Operations Plan
Seven Routes were evaluated during the study
Chamblee Self-Driving Shuttle
Feasibility Study & Concept Plan

Highest-Ranked Routes:

• Peachtree Station
• Third Rail/Assembly
Chamblee Self-Driving Shuttle
Feasibility Study & Concept Plan

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- Peachtree Station
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Chamblee Self-Driving Shuttle
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Cost?

Costs are constantly changing due to rapidly changing technology and vehicle manufacturing/operator environments.

**Capital Expenses**
- Vehicle capital costs
- Route mapping and digital surveying
- Charging station(s)
- Secure storage
- Dedicated Short Range Communication (DSRC) units along route
- Station/stop signage and related infrastructure improvements
- Interface with traffic signals

**Operating Expenses**
- Concierge/Ambassador for early stage operation
- Program management/operations control
- Maintenance and cleaning
- Fare collection
- Insurance

EST $1 million to $1.5 million per year
Chamblee Self-Driving Shuttle
Georgia Smart Communities Challenge

Chamblee is one of four communities in Georgia selected for the Georgia Tech Smart Communities Challenge.

**Purpose:** Bring together industry and public agencies to help local governments implement smart development.

**Chamblee’s Partners:** MARTA; City of Doraville; Assembly CID and Stantec.

**Research Partner:** Ellen Dunham-Jones, Georgia Tech
Study Includes the Following Components:

- **Impact Study** related to sprawl, equity, safety and public health (Georgia Tech);
- Study related to **funding models, regulatory impacts & “unknown unknowns”** of SAVs (Georgia Tech);
- **Operations Plan** (City/Stantec);
- **Preliminary Engineering** (City/Stantec);
- **Best-Practices** Manual (City/Stantec).
Chamblee Self-Driving Shuttle
Georgia Smart Communities Challenge

Operations Plan
• Final Alignment;
• Priority Treatment;
• Schedule;
• Number of Vehicles;
• Storage and Charging;
• Infrastructure Needs;
• Cost Estimates.
Chamblee Self-Driving Shuttle

Next Steps?

• Complete Operations Plan
• Investigate Funding Sources
Chamblee Self-Driving Shuttle Concepts

Future stage conceptual illustration with improvements including: lane markings denoting the shared street as a “Chamblee Smart Street,” proper signage for pedestrians and drivers, sharrows for cyclists to also share the road, street trees, pedestrian-scaled lighting, improved sidewalk conditions, strategically cloted driveways to reduce unexpected interference with the self-driving shuttle, pedestrians, and cyclists alike, as well as new development opportunities.

Future stage conceptual illustration with improvements including: lane markings denoting the shared street as a “Chamblee Smart Street,” proper signage for pedestrians and drivers, an off-street multi-use path for cyclists and pedestrians, new district identifying signage, street trees, pedestrian-scaled lighting, improved sidewalk conditions, art sculpture opportunities, and a high quality intersection with a traffic signal (only if found necessary upon further analysis).