

## Task 3: Freight Best Practices – Overview

The Best Practices Technical Memorandum discusses innovative approaches in the freight industry for congestion mitigation and land use coordination in areas with high truck traffic and industrial and warehousing activities.



By 2045 the weight of freight shipments will reach 25 billion tons – a 40% increase from 2017 levels. (*Federal Highway Administration*)

**39%** of U.S. homeowners receive a package at least once a month

**26%** of U.S. homeowners receive a package at least once a week



By cutting empty capacity of trucks in half, U.S. freight emissions could be reduced by 100 million tons per year, resulting in annual savings of \$30 billion in diesel fuel.



### Recommended Approaches



#### Emerging Technologies

- Vehicle automation
- Alternative fuels
- “Smart” communities
- Delivery methods



#### Land Use

- Mixed uses/freight villages
- Walking/biking
- Cluster development
- Quality of life balance



#### Supply Chain Logistics

- Evolving models
- Congestion impacts
- Economic competitiveness
- Changing travel patterns

## Key Findings & Takeaways for Aerotropolis Atlanta CIDs

### EMERGING TECHNOLOGIES



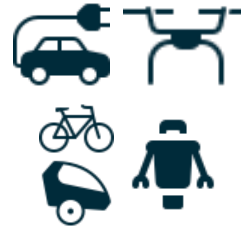
#### Truck Signal Priority

Longer green lights and shorter red lights.



#### Parking Solutions

Variable message signs, information & management systems and curbside sensors.



#### Greenhouse Gas Emissions

Alternative fuels, delivery drones, tricycle delivery vehicles, and delivery robotics.



#### Autonomous Trucks

Driverless trucks are anticipated within the next 5 years.

### LAND USE



#### Fulfillment Centers

Freight movement could grow by 45% by 2040.



#### Mixed-Use Development

Explore innovative site designs such as freight villages and vertical developments.



#### Interregional Collaboration

Government and stakeholder collaboration with strategic regional planning.



#### Smart Growth

Strive towards mixed land uses in areas with high freight intensity.

### SUPPLY CHAIN LOGISTICS



#### Innovate Models

Supply chain models need to account for increased delivery volumes.



#### Explore Partnerships

Insourcing, outsourcing, and public-private partnerships (P3s).



#### Delivery Service Partners

Explore services like Amazon Flex that help with last mile deliveries and improve on-time performance.

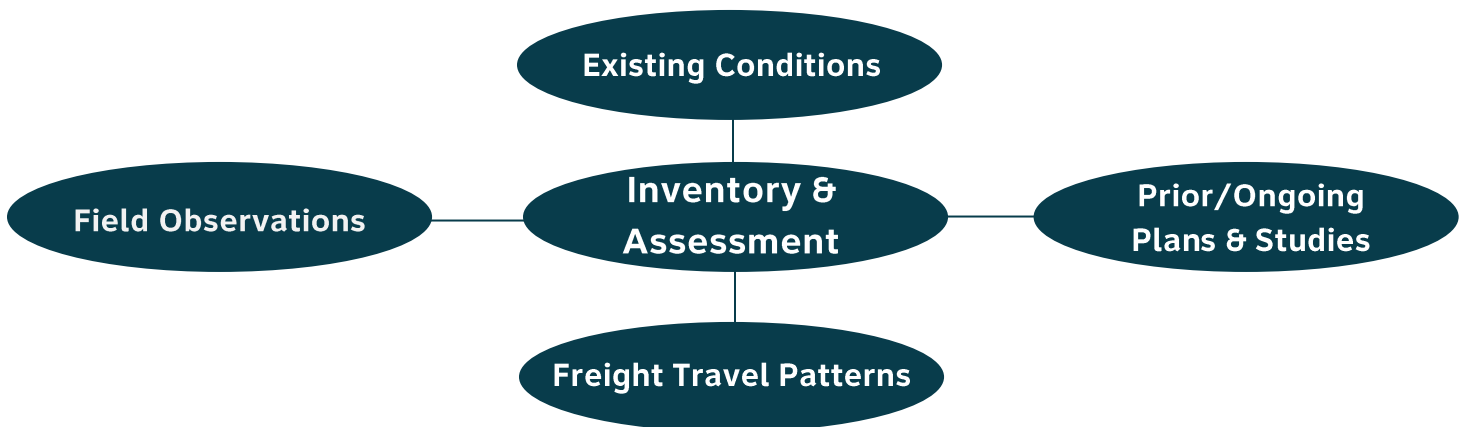


#### Environmental Impacts

Improve vehicle utilization, minimize reverse logistics and reduce supply chain redundancy.

## Task 4: Inventory & Assessment – Overview

The Inventory & Assessment Technical Memorandum summarizes existing conditions and provides both a quantitative and qualitative assessment of key findings and travel patterns in the Aerotropolis. Findings from this document will inform potential projects, policies, and strategies for the Aerotropolis and partner jurisdictions to consider for implementation.



Hartsfield-Jackson Atlanta International Airport is among the world’s top 30 gateways for cargo traffic by dollar value. Total weight of cargo passing through the airport is forecasted to increase **113%** between 2011 and 2031.

**14%** Percent of households in the study area do not have access to a personal vehicle.

**45%** Percent of jobs held by residents in the study area are in freight-dependent industries.

The Aerotropolis is home to 35+ million SF of warehouse and will gain 16 million more SF by 2021.

Camp Creek Pkwy truck volumes are expected to double from 4,900 trucks per day in 2015 to 8,700 trucks per day.

### Key Challenges

- Access to Transportation for Workforce
- Lack of Truck Parking
- Proximity of Residential & Freight-Intensive Areas
- Roadway Capacity and Expansion
- Network Connectivity
- Inefficient Intersection Operations & Geometry
- Lack of Wayfinding and Directional Signage
- Forecasted Growth in Truck Traffic
- Continued Growth of e-Commerce
- Congestion and Safety along Freight Corridors

### Key Opportunities

- Bus Stop Upgrades and New Sidewalks
- Improve Parking Requirements and Policies
- Intergovernmental Coordination
- New and Emerging Technologies
- Leverage Connected Signals for Operational and Safety Improvements
- Intersection Upgrades and Redesign
- New Wayfinding Signage District-Wide
- Cargo Expansion at Airport
- Supporting Access to Freight & Logistics Jobs
- Access Management Policies and Projects

## Key Findings & Takeaways for Aerotropolis Atlanta CIDs

### EXISTING CONDITIONS & FREIGHT TRAVEL PATTERNS



#### Crash Rates

Most key corridors leading in/out of AACIDs have crash rates that exceed statewide averages for roads of the same type - some two times higher.



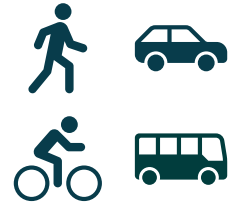
#### Traffic Capacity

Camp Creek Pkwy, Old National Hwy, and S Fulton Pkwy will experience 30% or higher increase in total daily traffic by 2050.



#### Warehouse Facilities

As of Sept. 2019, 25 facilities in the study area had at least 500,000 SF of warehouse and distribution space.



#### Workforce Access

Pedestrian and bicycle routes do not provide consistent and connected coverage. Some bus routes near warehouses lack sidewalk access.



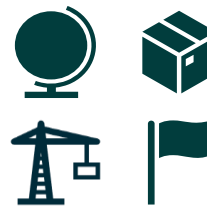
#### Air Cargo

Nearly 90 trucks per day distribute goods from Amazon Prime planes at H-JAIA, and the airport is expanding cargo with new facilities and better use of passenger planes.



#### Access Management

Frequent driveway spacing is prevalent along key truck routes, like Forest Pkwy and Old National Hwy, increasing the risk of turning conflicts and limiting efficiency.



#### Commercial Trips

4.2 million commercial vehicle trips start or end within the Aerotropolis daily due to its strategic location and global importance.



#### Truck Routes & Parking

Truck regulations vary across cities in AACIDs. A lack of designated parking and staging makes pick-up and delivery less efficient and can mean more trucks circling or idling, waiting to pick up or drop off.

### CONCLUSIONS & NEXT STEPS



#### Improve Safety and Operations

Many roadways are already at or near capacity and widening may not be practical. Improvements at intersections can help operations for all vehicles, including freight.



#### Tap into Emerging Technology

Leveraging emerging connected signal technology and ITS initiatives along freight corridors can help alleviate growing traffic and improve efficiency.



#### Strategic Partnerships

As e-commerce grows, demand for home delivery and truck parking will increase. Working closely with public and private sector partners can yield to innovation in facility siting, truck parking, and cargo growth.



#### Projects and Recommendations

The next step in the study is to generate a list of potential projects, evaluate them, and develop a set of short-term and long-term recommendations with competitive projects.