Goods Movement on a Changing Streetscape

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Our Research

• Understanding last-mile and last-50 ft goods movements
• Examining how freight is interacting with other street users
• Studying the impacts of local policy initiatives for goods movement
• City logistics solutions

• Field observation
• Open data
New York City

- Largest city in the US
  - Population: 8.5 m (city); 20+ m (region)
  - Diverse local economy
- Extreme vertical density → suburban
- Regional gateway
  - Largest port complex on the East Coast
  - 3 major airports
  - Middle of the Northeast Corridor
- 90+% goods move by truck
Local Transportation Policy Priorities

- Vision Zero
  - “Complete streets” improvements
  - Reduced citywide speed limit – 25 mph

- 80 x 50 Plan
  - Alternative modes
  - Alternative fuels

- Congestion Management
Recent Demand Changes

- TNCs (e.g. Uber, Lyft, Via)
- Rapid bikeshare expansion
- Low speed electric vehicles
  - Electric-assist bikes
  - No dockless bikes/scooters... yet... in Manhattan
On-Demand E-Commerce

- Home and office delivery
- Recentralization of warehousing

Effects on:
- Goods movement
- Personal travel
- Traffic
- Emissions
NYC DOT Citywide Mobility Survey

- Annual mixed-method household survey

- Four delivery types
  - Groceries
  - Prepared food
  - Personal items
  - Other packages
Grocery Shopping Behavior

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Fior Perez and Carla Tejada
Parking

- Extreme vertical density in some areas
- Violation = cost of doing business
- Stipulated fine program
Commercial On-Street Parking

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Pierre Escand and Quanquan Chen
Off-Street Parking

- Outdated regulations
- Under-sized docks
- Under-dimensioned roadways
- Crossing conflicts
- Usage for trash storage and other purposes
- Queuing before & after entry
Clear Curbs Initiative

• Goal: improve travel speeds

• Manhattan

• Brooklyn

• Queens

• Industry response mixed but limited

1% of vehicles → 32% of tickets!

Yaxin Zhang and Thomas Simon
Parking in Residential Areas

- Little parking
- Little turnover
- Parking on arterials

- Neighborhood Loading Zones
  - Resident pushback
  - Passenger loading
  - Service vehicle occupation
Loading

- Sidewalk/travel lane/bike lane obstructions

- Informal micro-distribution
  - Travel lanes
  - Sidewalks
  - Bikelanes
Bike Network Growth

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Navigation

• Extensive overlap with bus and bike networks

• Intersection re-design

• 14th St bus/truck-way
Parking on Re-Designed Streets

- Space
- Curb access
Current and Future Strategies: Demand Management

- Off-hour deliveries
- Lockers and pick-up points
- Building management
- Multi-modal solutions
  - Barge
  - Cargo cycle
- Consolidation/formal micro-distribution
Navigation

- Designated through and local truck routes
- Length and width restrictions
- 53’ semi-trailers
Conflicts with Non-Motorized Users

• 25 cyclists killed in 2019 (150% more than 2018); 10 involved trucks

• Media/advocacy focus on “reckless” drivers, enforcement
Current and Future Strategies: Safety

• Signalization
• Infrastructure
• Vehicle technologies and equipment
• Education
What’s Next?

• Congestion pricing (transit financing)
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Complete Streets Considerations for Freight and Emergency Vehicle Operations

https://www.metrans.org/news/freight-complete-streets
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