



# Goods Movement on a Changing Streetscape

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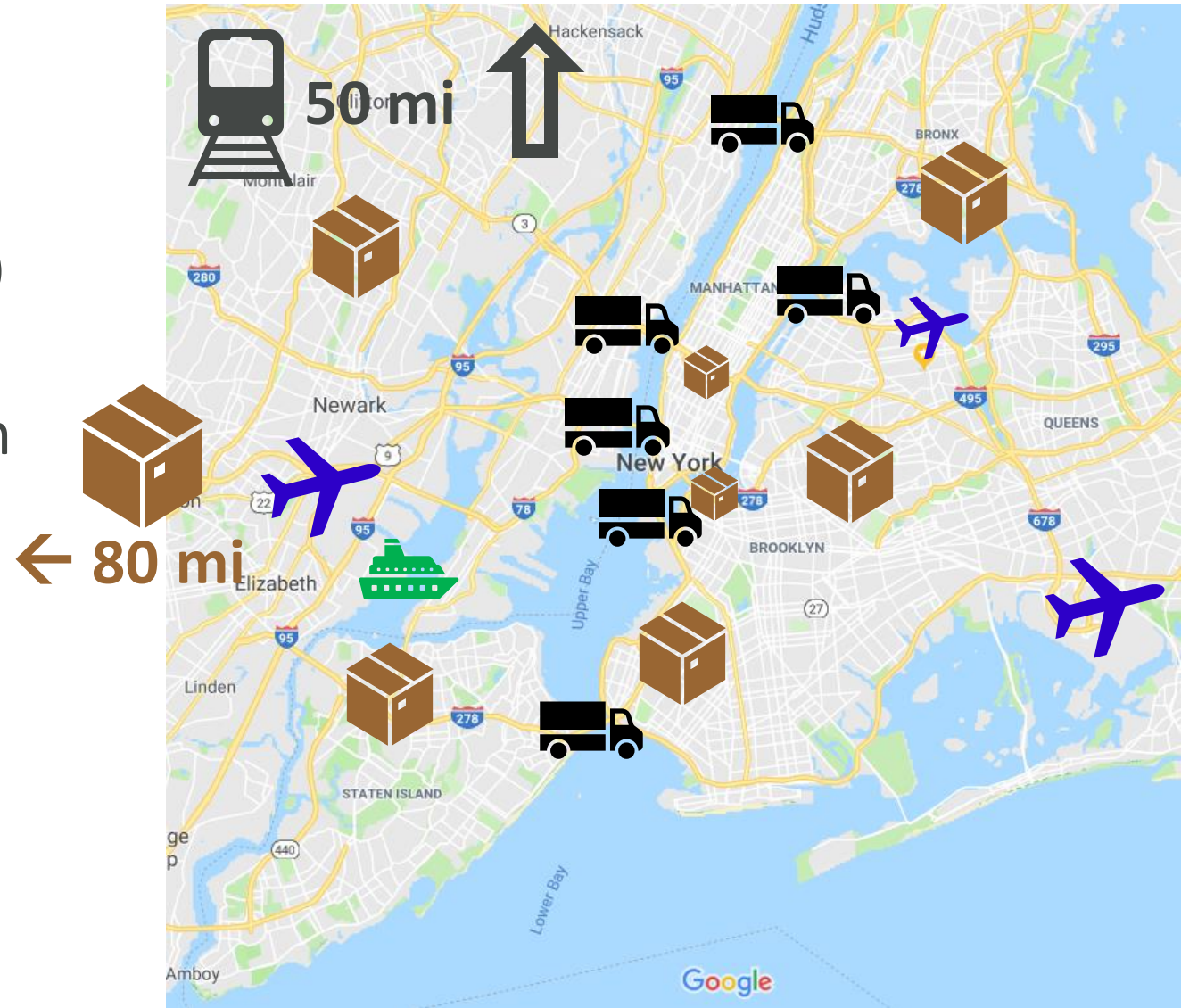
# Our Research

- 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



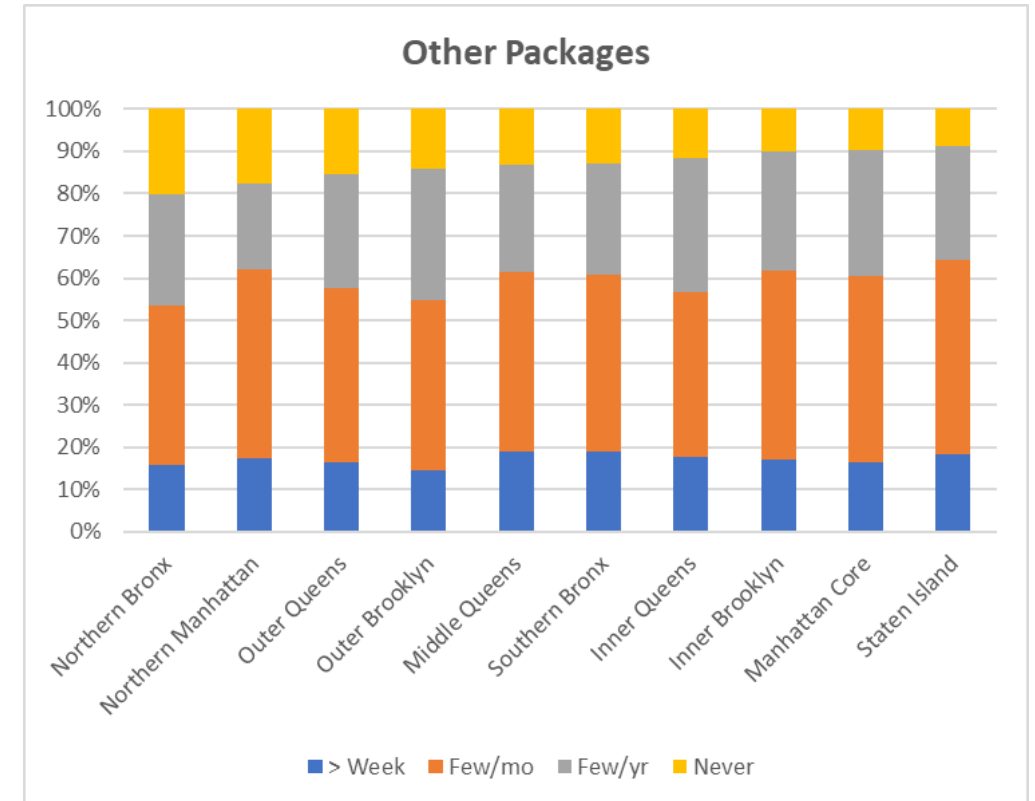
# On-Demand E-Commerce

- Home and office delivery
- Recentralization of warehousing
  
- Effects on:
  - Goods movement
  - Personal travel
  - Traffic
  - Emissions

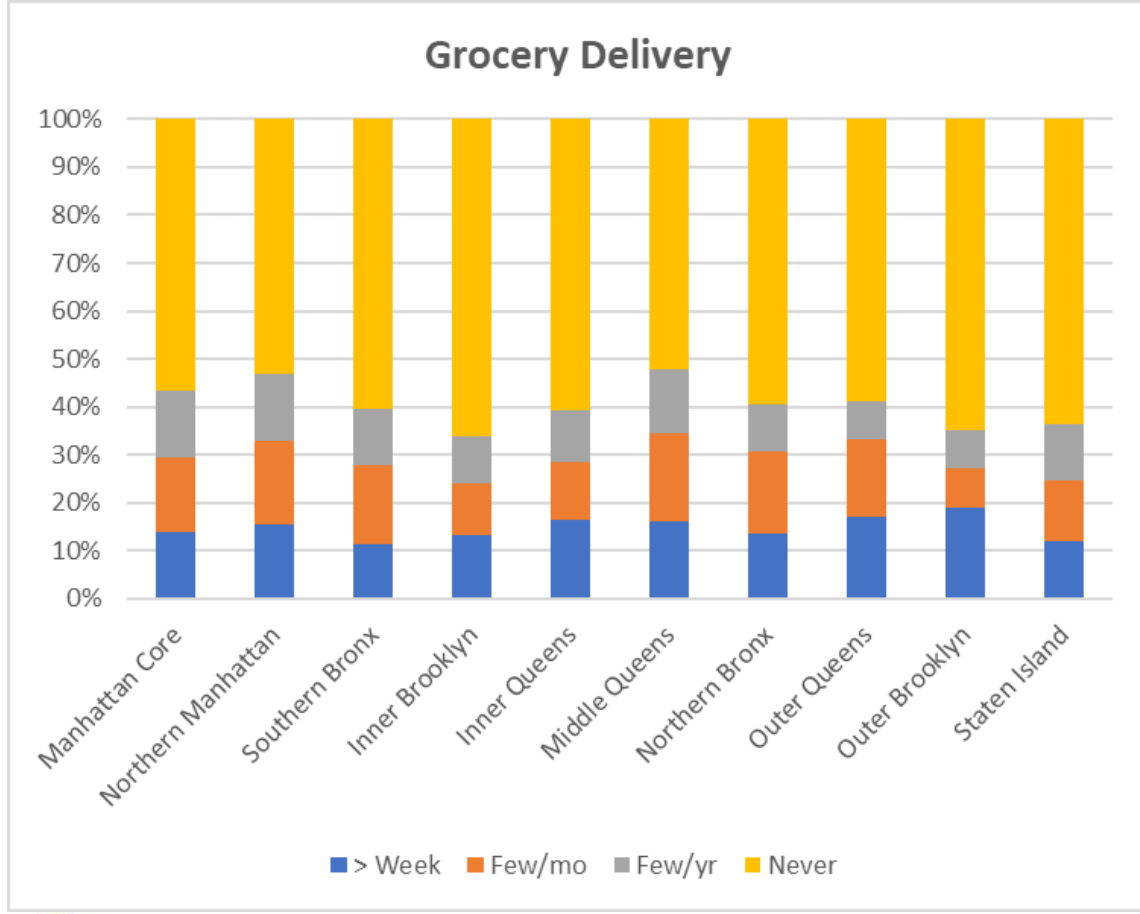
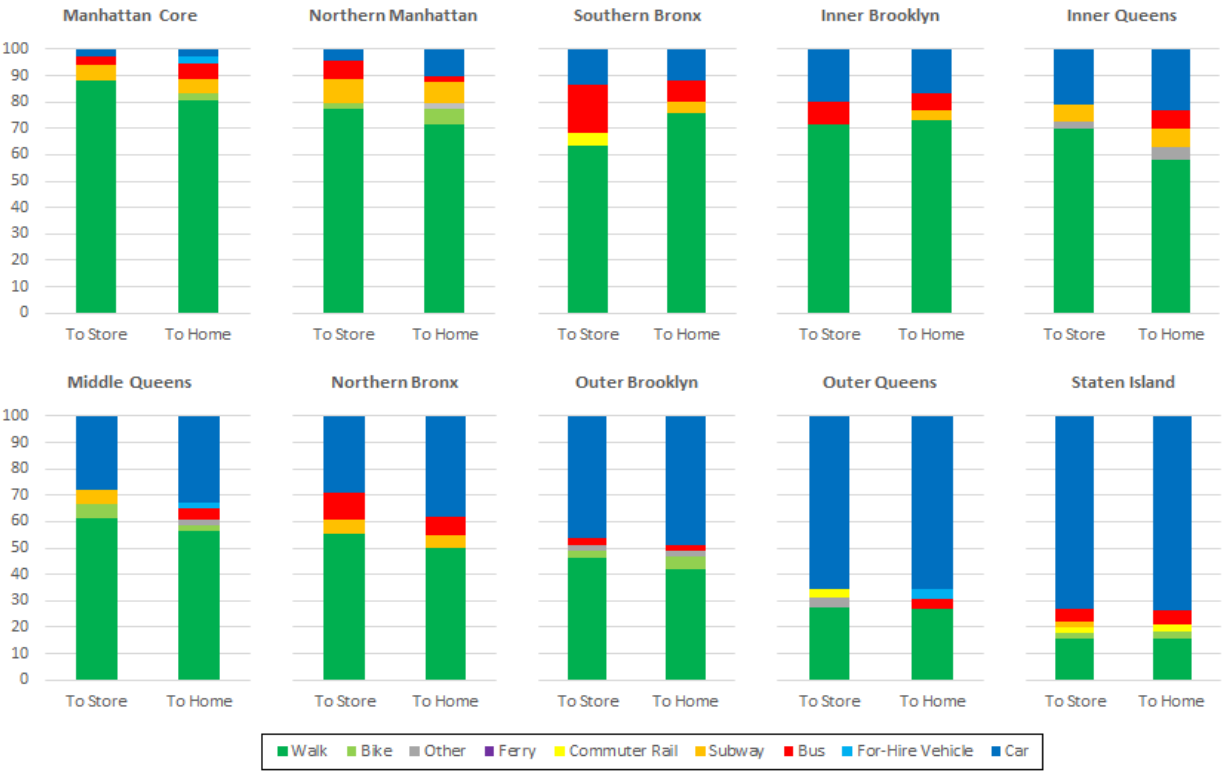


# NYC DOT Citywide Mobility Survey

- Annual mixed-method household survey
- Four delivery types
  - Groceries
  - Prepared food
  - Personal items
  - Other packages



# Grocery Shopping Behavior



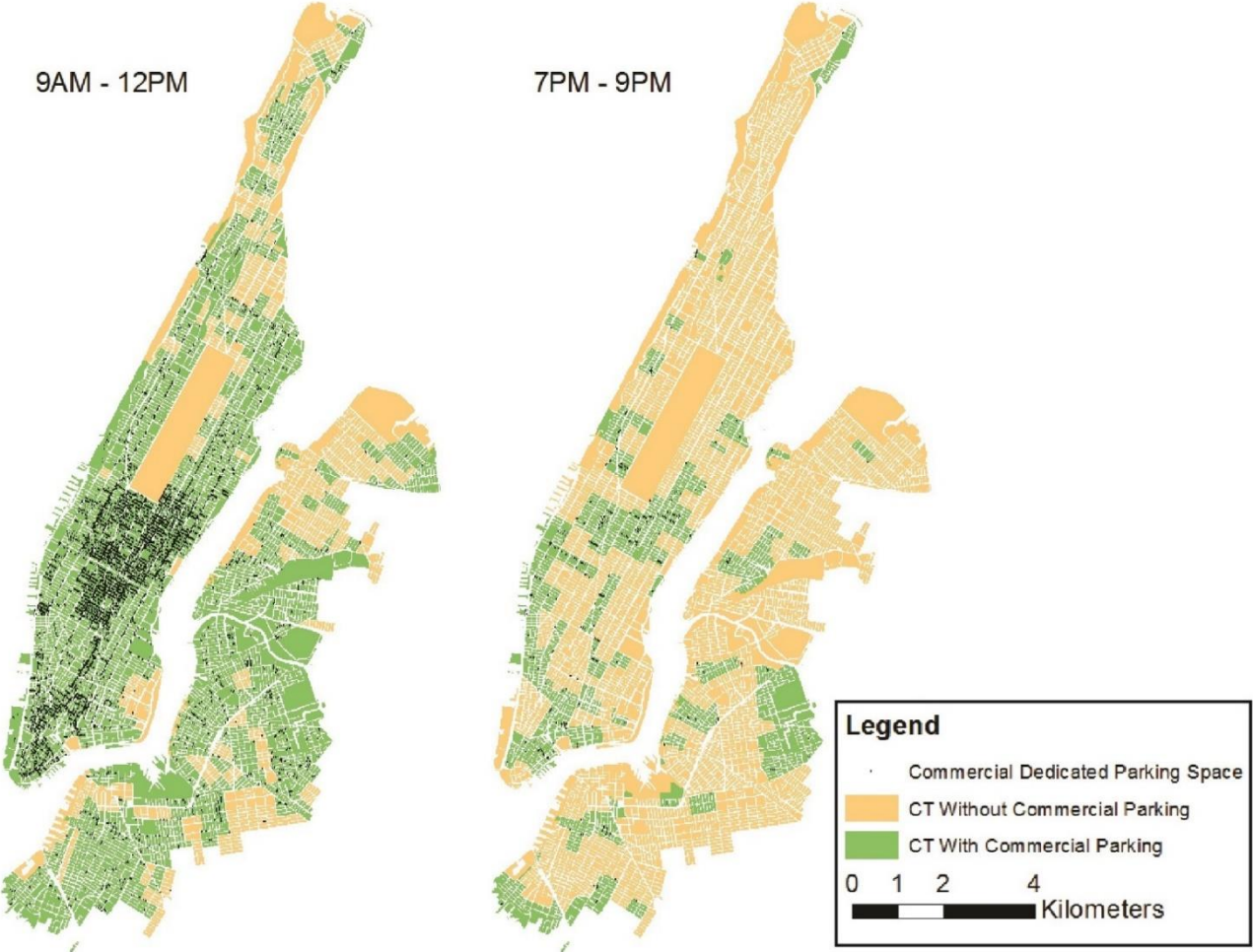


# Parking

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



# Commercial On-Street Parking



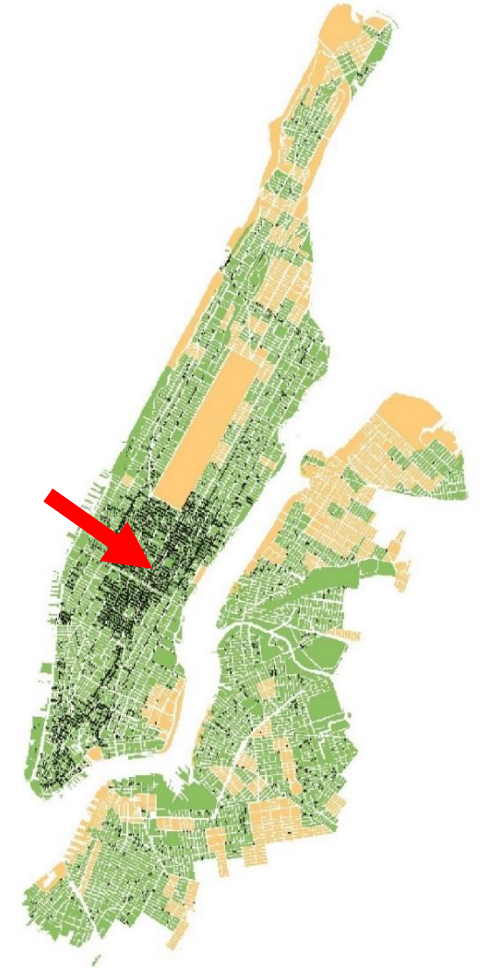
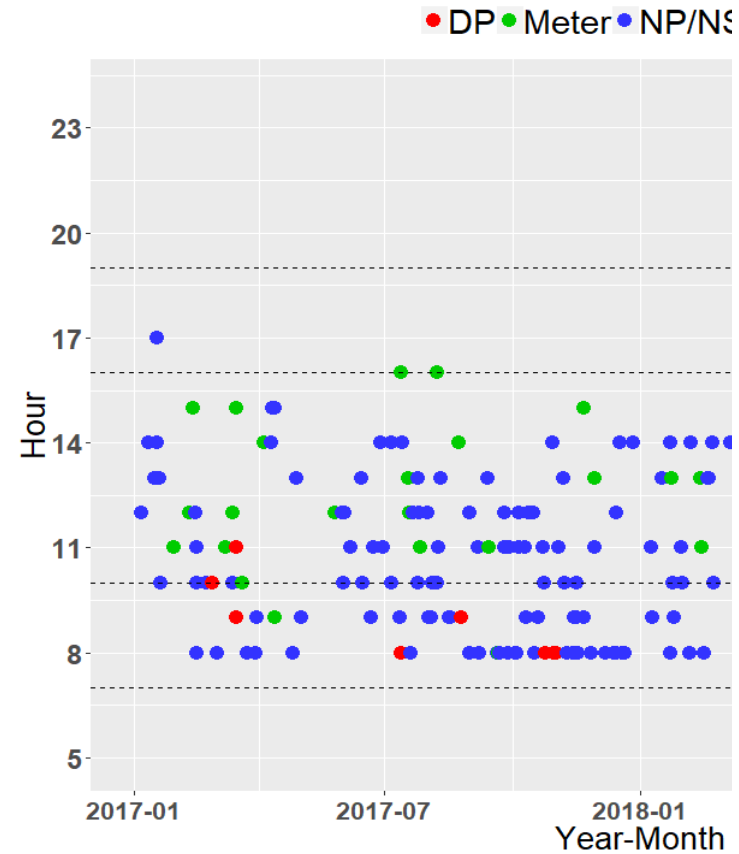
# Off-Street Parking

- 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



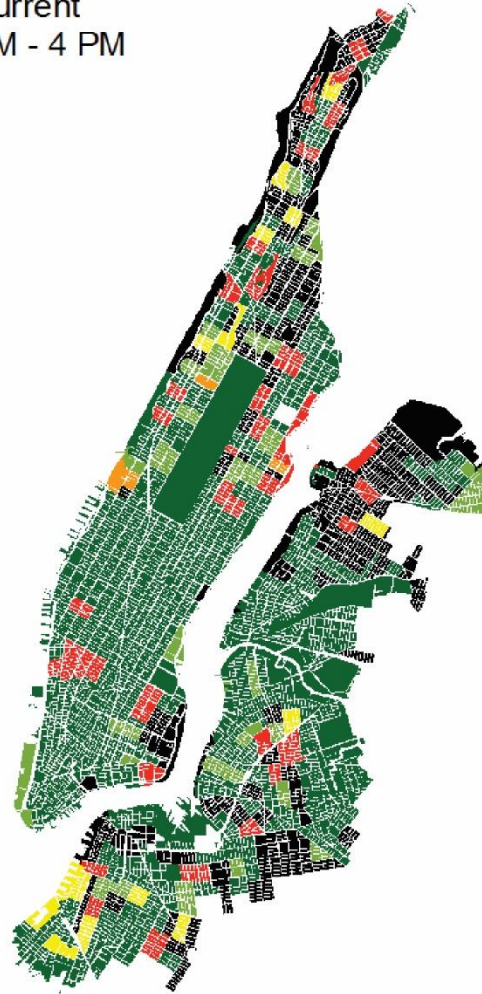
1% of vehicles → 3%

# Parking in Residential Areas

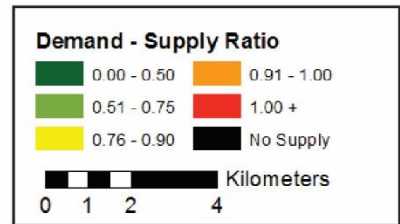
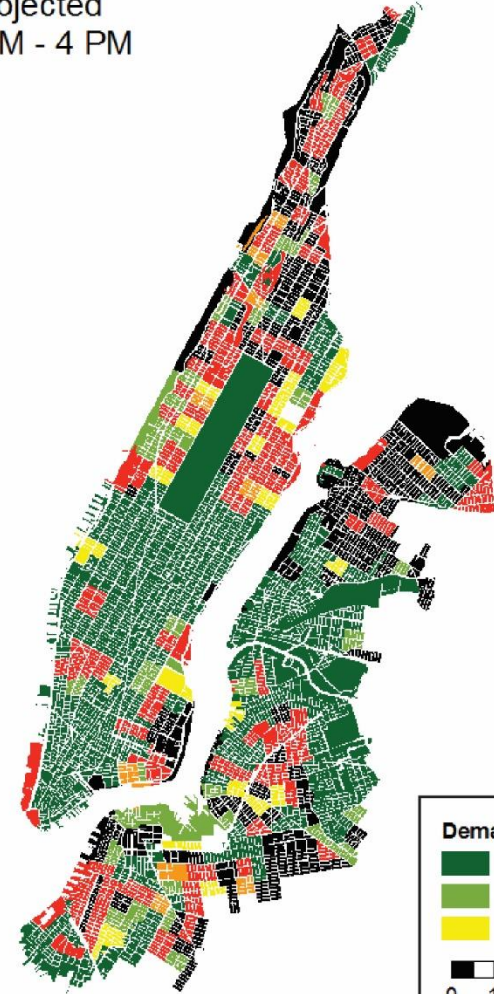
- Little parking
- Little turnover
- Parking on arterials
  
- Neighborhood Loading Zones
  - Resident pushback
  - Passenger loading
  - Service vehicle occupation



Current  
12 PM - 4 PM



Projected  
12 PM - 4 PM

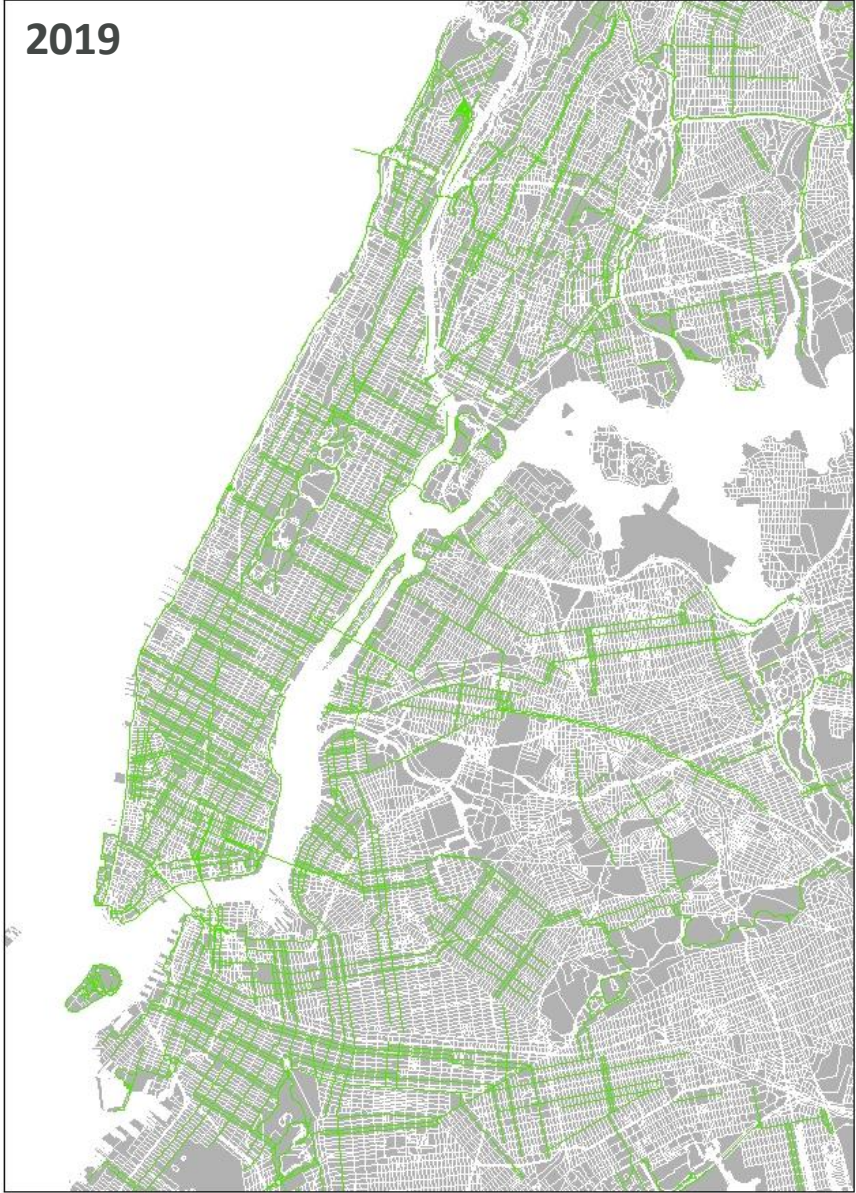
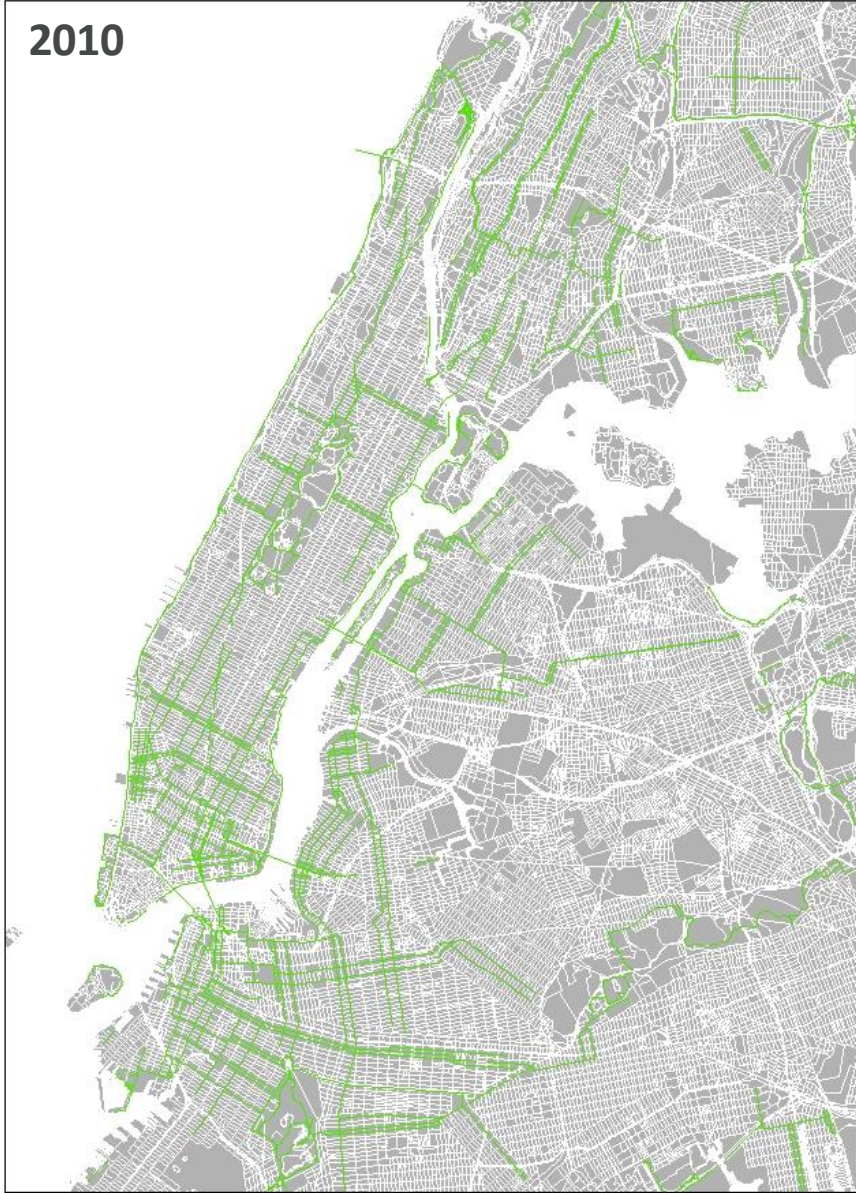


# Loading

- Sidewalk/travel lane/bike lane obstructions
- Informal micro-distribution
  - Travel lanes
  - Sidewalks
  - Bikelanes



# Bike Network Growth



# Navigation

- Extensive overlap with bus and bike networks
- Intersection re-design
- 14<sup>th</sup> 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



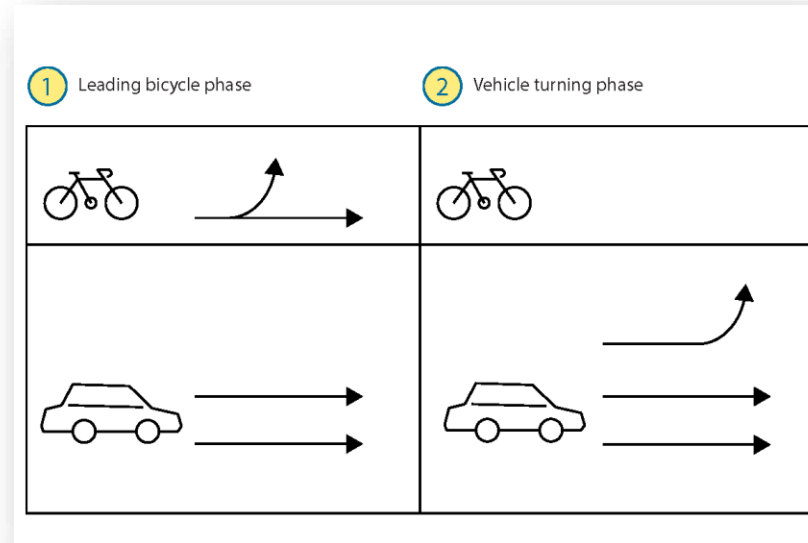
# Conflicts with Non-Motorized Users

- **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)



# Acknowledgements

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## Complete Streets Considerations for Freight and Emergency Vehicle Operations



NYSDOT Project 83178

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



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