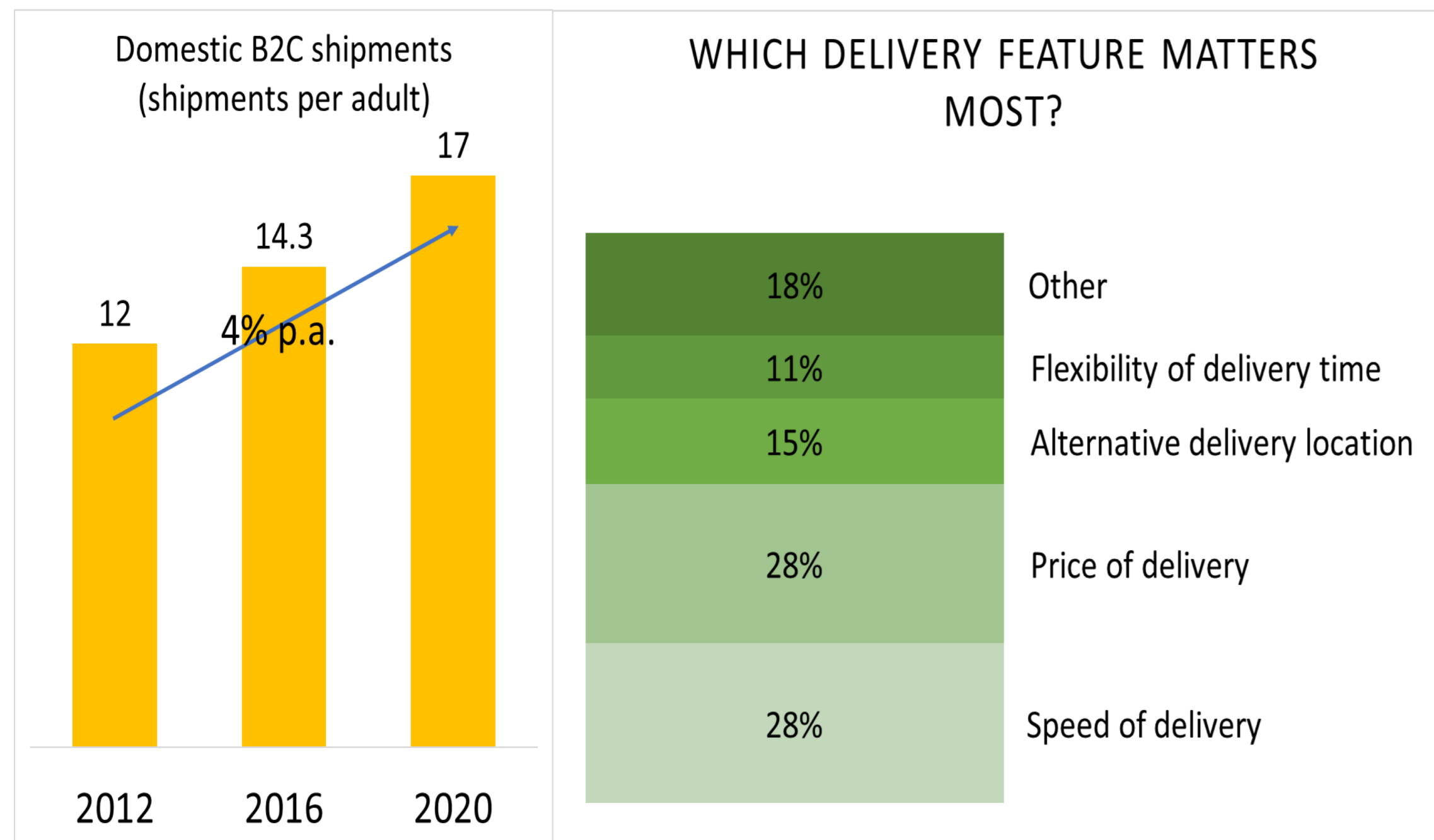


Drones and Trucks for Expedited Deliveries

Student: Brent McCunney, SCM 2019
 Student: Kristof Van Cauwenberghe, SCM 2019
 Advisor: Dr. Mohammad Moshref-Javadi

Motivation / Background

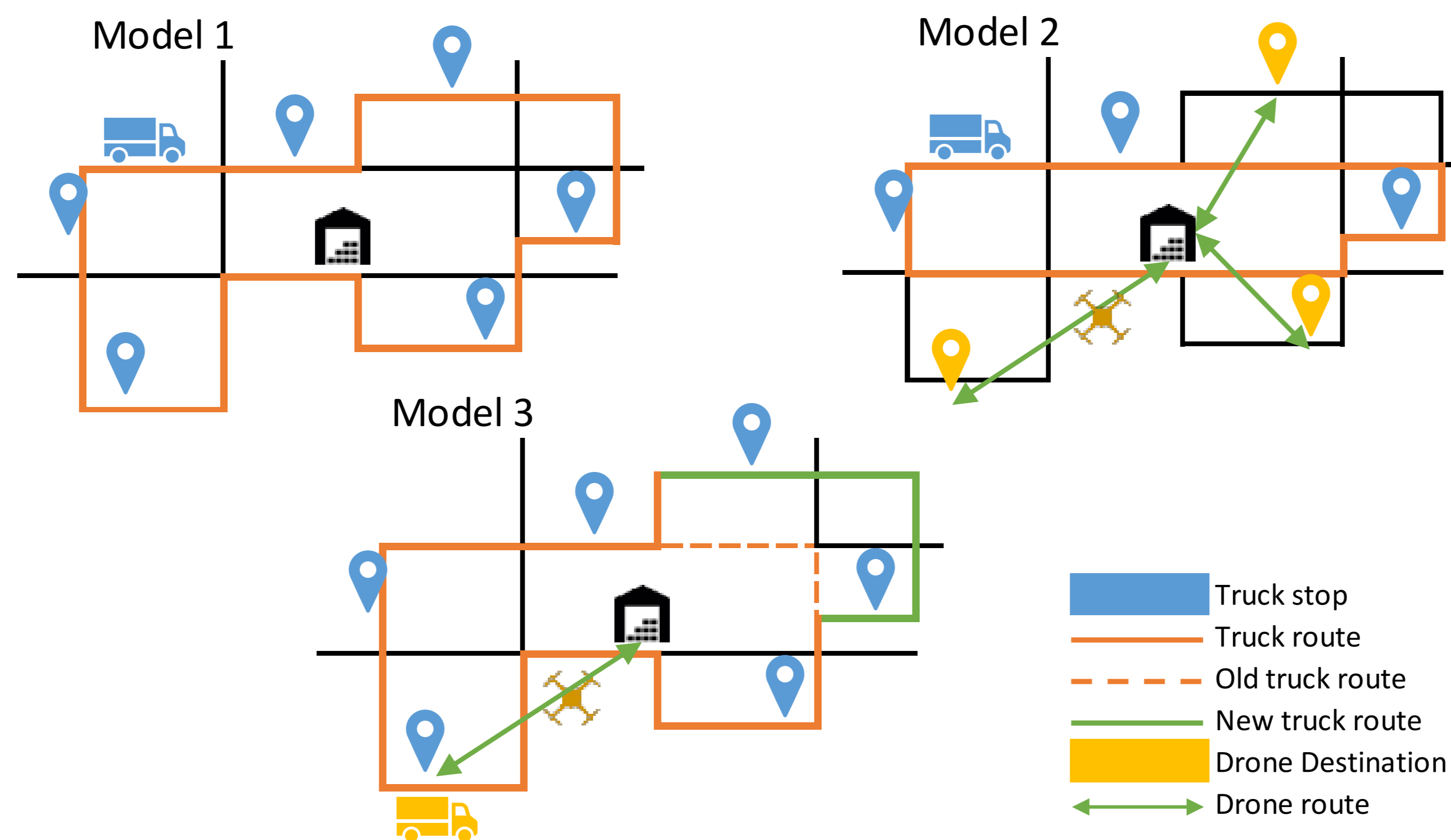
- > Year after year growth of online sales with home delivery
- > Customers demand faster delivery



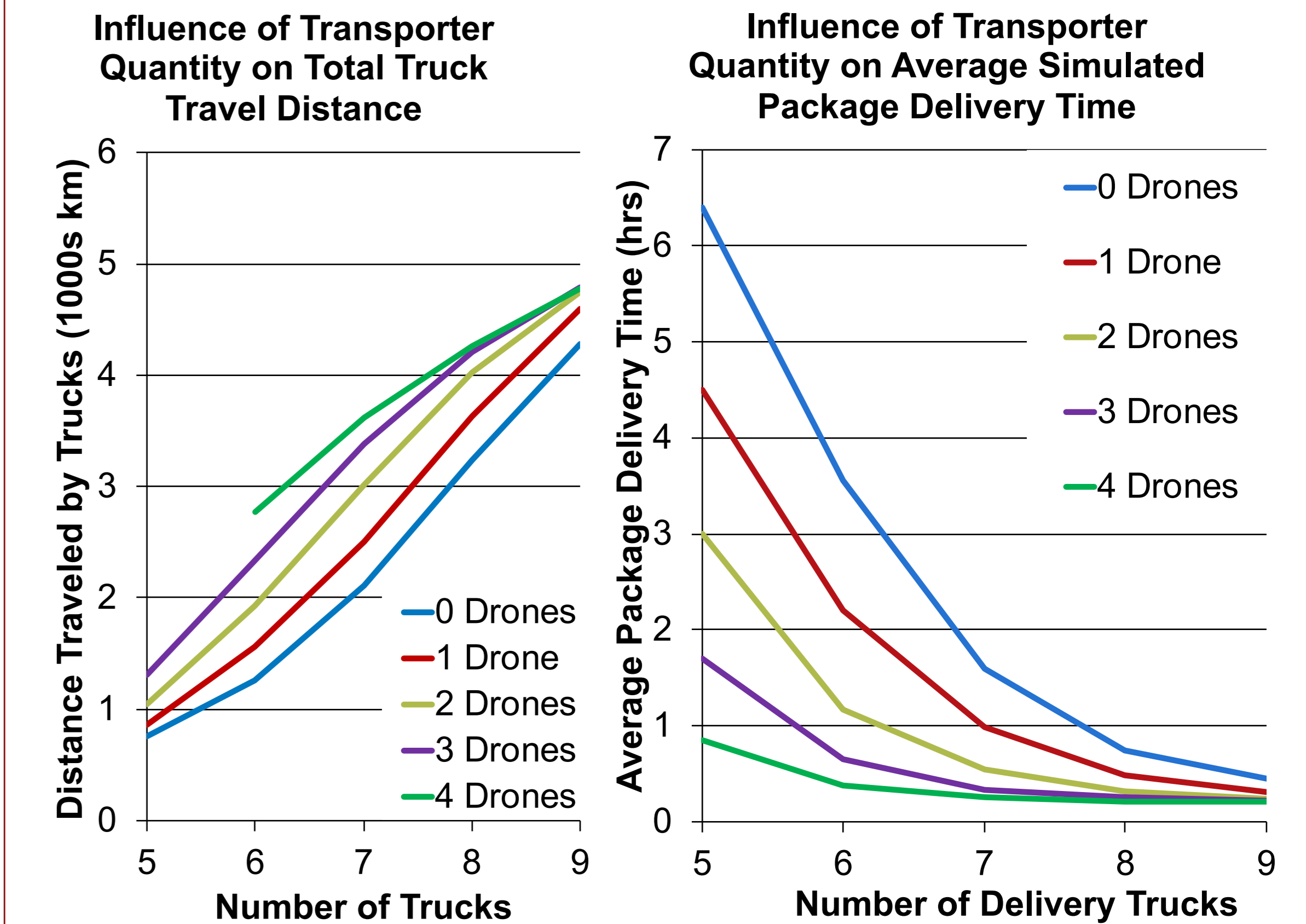
The Problem

- Only studies on very simplified environments with a limited number of customers, drones and trucks.
- Three delivery models in an urban setting and conduct experimental analyses

Methodology



Initial Results



Key Question / Hypothesis

How much can drones reduce delivery times and costs of parcel deliveries in urban environments?

Relevant Literature

- Dayarian, I., Savelsbergh, M. and Clarke, J. (2017) 'Same-Day Delivery with Drone Resupply'
- Dorling, K. et al. (2017) 'Vehicle Routing Problems for Drone Delivery'
- Ulmer, M. W. (Technische U. B. and Strenig, S. (Technische U. B. (2018) Same-Day Delivery with Pickup Stations and Autonomous Vehicles.

Expected Contribution

- New insights and confirm theoretical models.
- Base for future studies that involve vehicle routing and drone deliveries in the urban environment.
- Estimate the impact of changes on currently unknown factors, such as technological advancements and FAA rules.

Brent McCunney



Kristof Van Cauwenberghe

