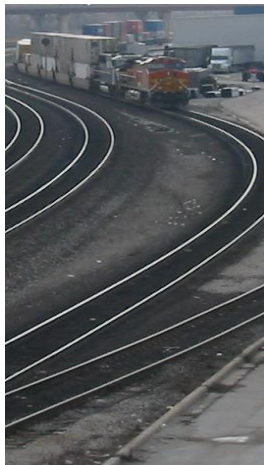


Les Enjeux Locaux et Globaux de la Logistique Urbaine, Paris, October 16 2018.



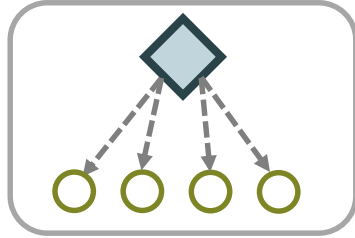
L'INSERTION DU E-COMMERCE DANS LA LOGISTIQUE URBAINE

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Four Modes of Insertion of E-commerce on City Logistics

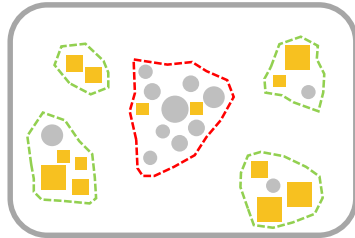
1



Distribution Pattern

Growth in home deliveries.
Changes in last mile logistics (parcels).

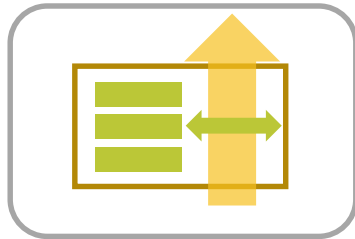
2



Real Estate Footprint

Reduction of the real estate footprint of retail.
Growth of the real estate footprint of distribution.

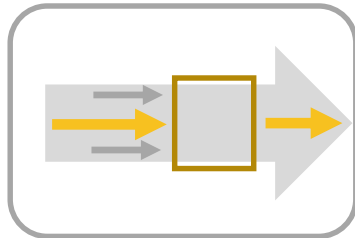
3



Logistical Facilities

New types of logistical facilities (E-fulfillment, Sortation center, Urban logistics depot).
Automation of fulfilment and inventory management.

4



Vertical Integration

Development of 3PL and 4PL services.
Continuity of distribution with higher fluidity and velocity.

Main Forms of Urban Retail Goods Movements

Deliveries to Retail Stores

- Boxes, pallets, roll cages
- Homogeneous loads
- Trucks and vans
- One stop (several for small stores)
- Own account and common carriers
- Distribution centers to retail areas
- Distribution center opening hours

Consumer Shopping Trips

- Bags
- Heterogeneous loads
- Walking, automobiles, public transit
- One stop + trip chaining
- Own transports
- Retail areas to residential areas
- Store opening hours

Home Deliveries

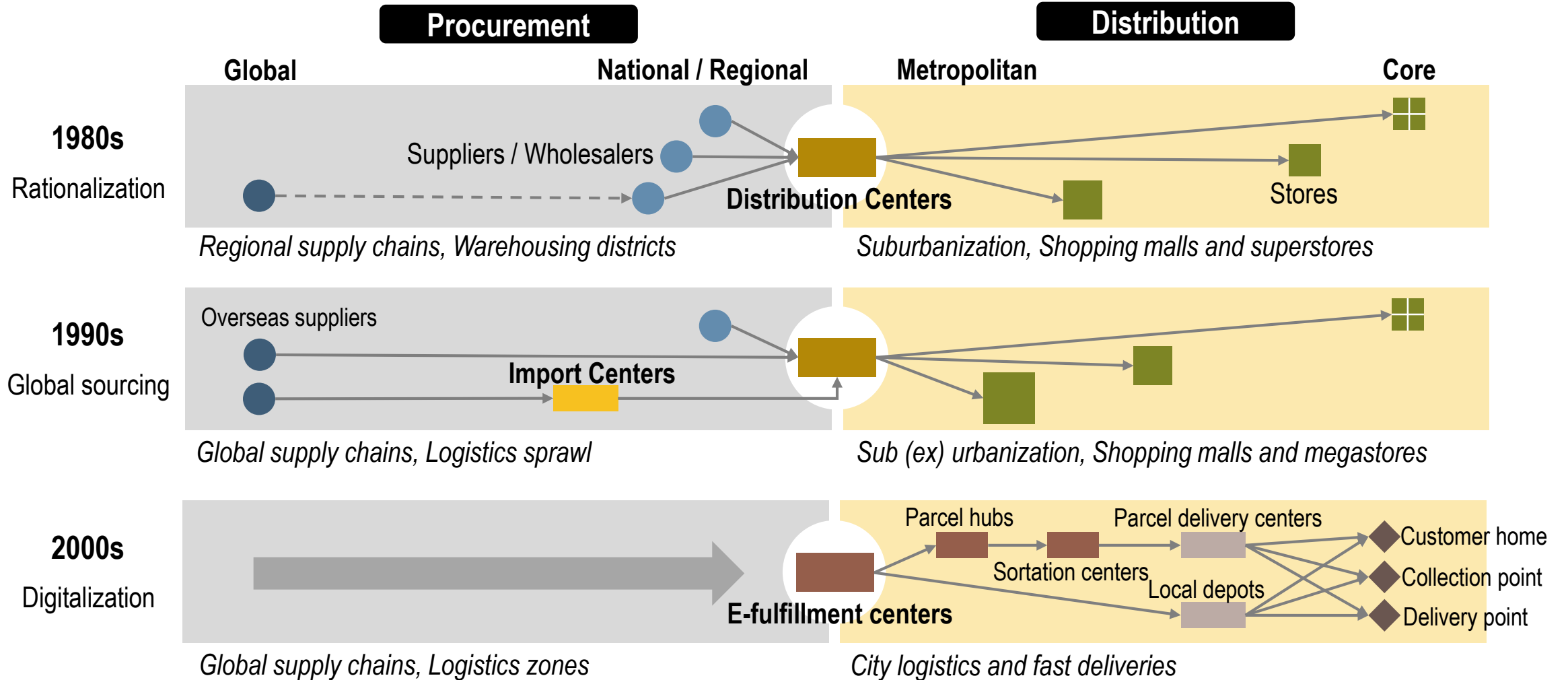
- Parcels
- Heterogeneous loads
- Small trucks and vans
- Several stops (delivery route)
- Postal, courier and parcel companies
- E-fulfillment centers to residential areas
- Unattended deliveries

Conventional

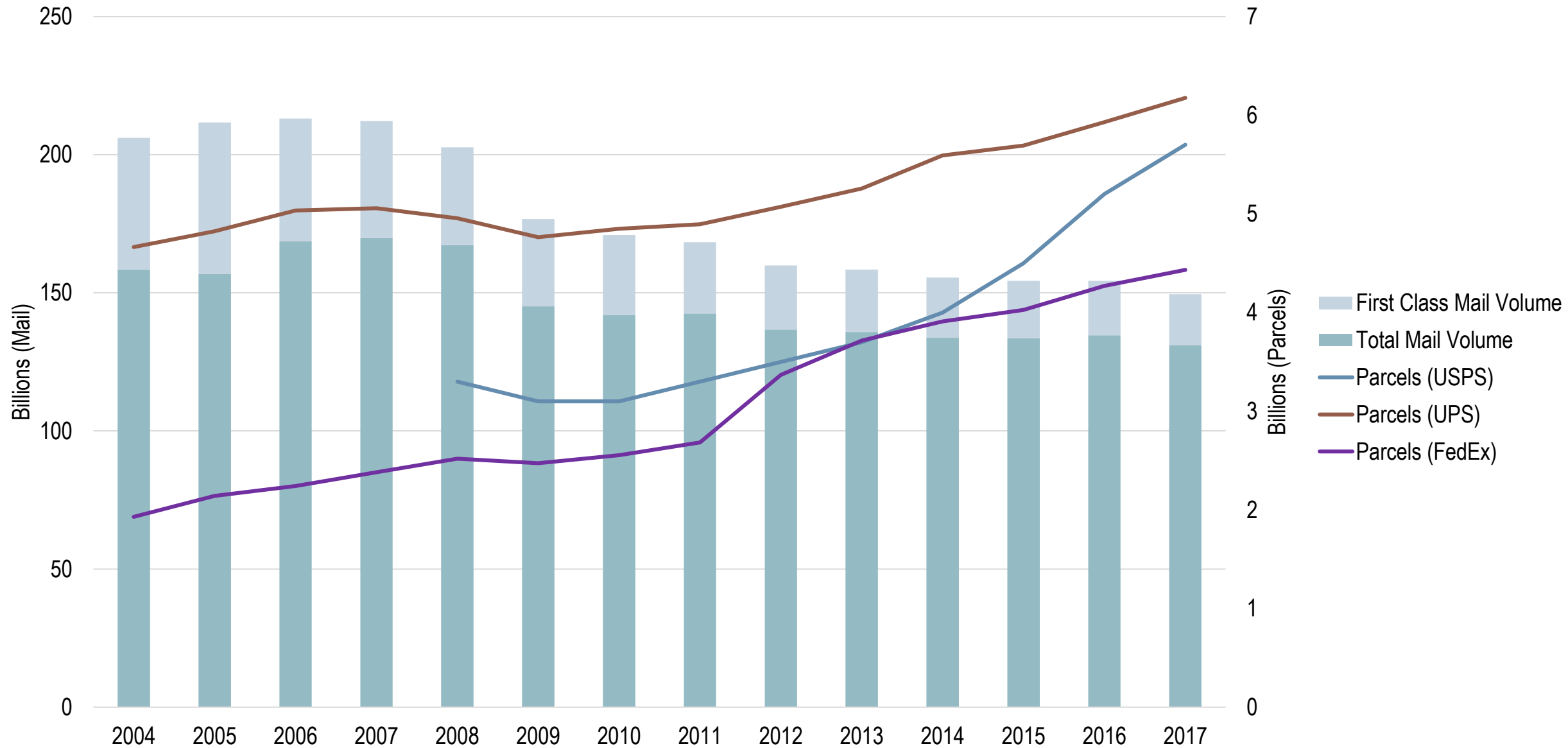
Emerging

5 to 10% of sales

The Two Layers of Evolution of Retail Logistics

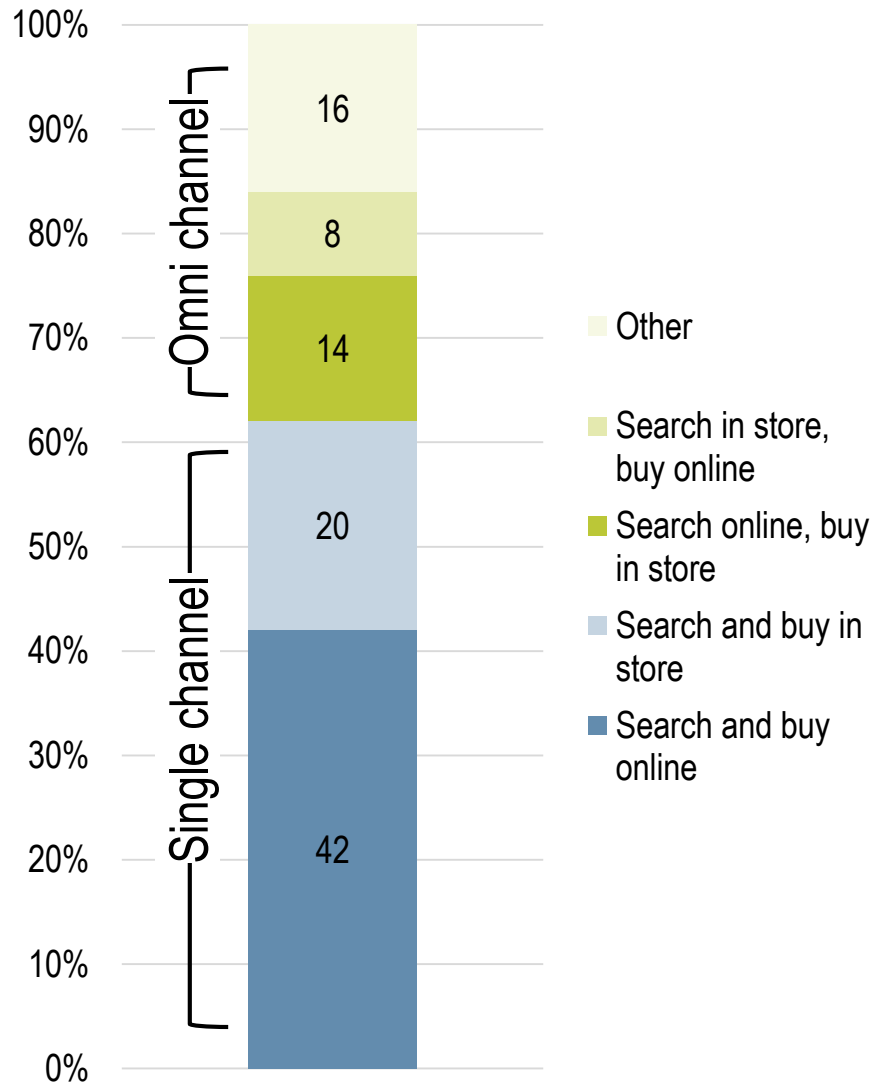


Mail Carried by USPS and Parcels Carried by Major Carriers, United States, 2004-2017 (in billion units)

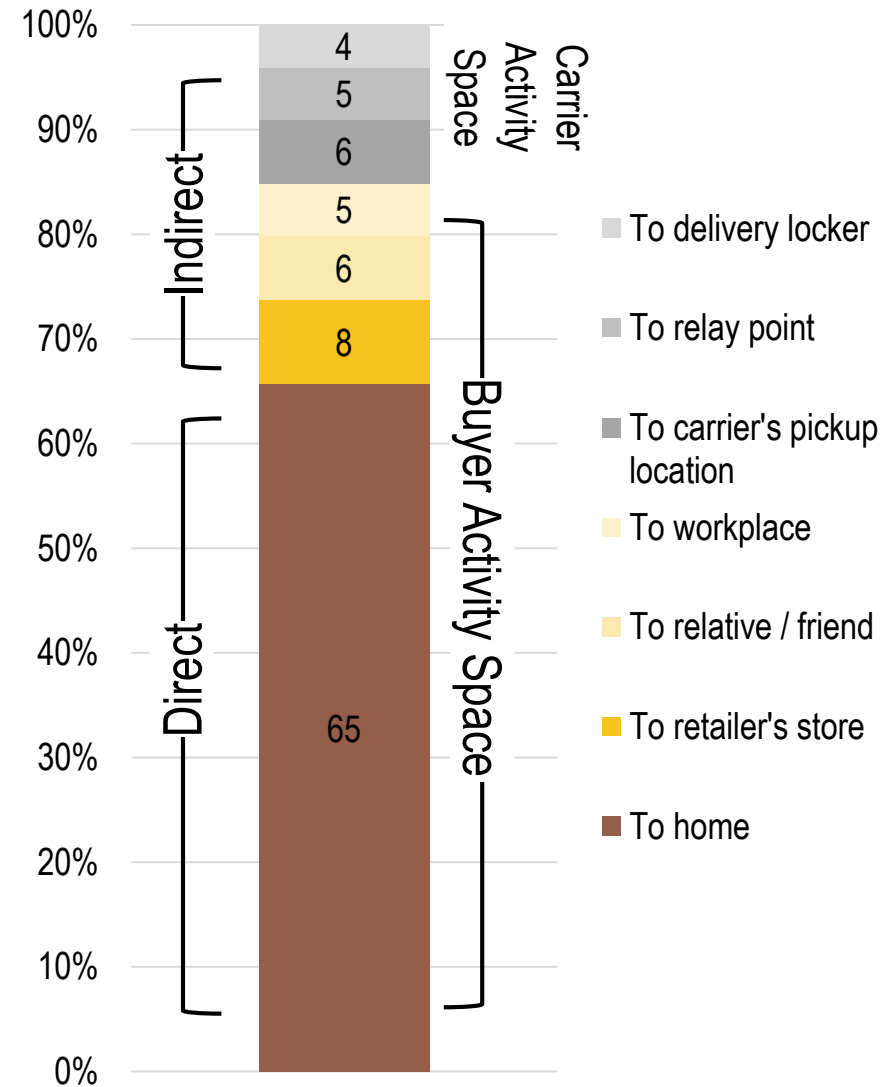


Purchase and Delivery Profile of Online Retail Users, United States, 2016

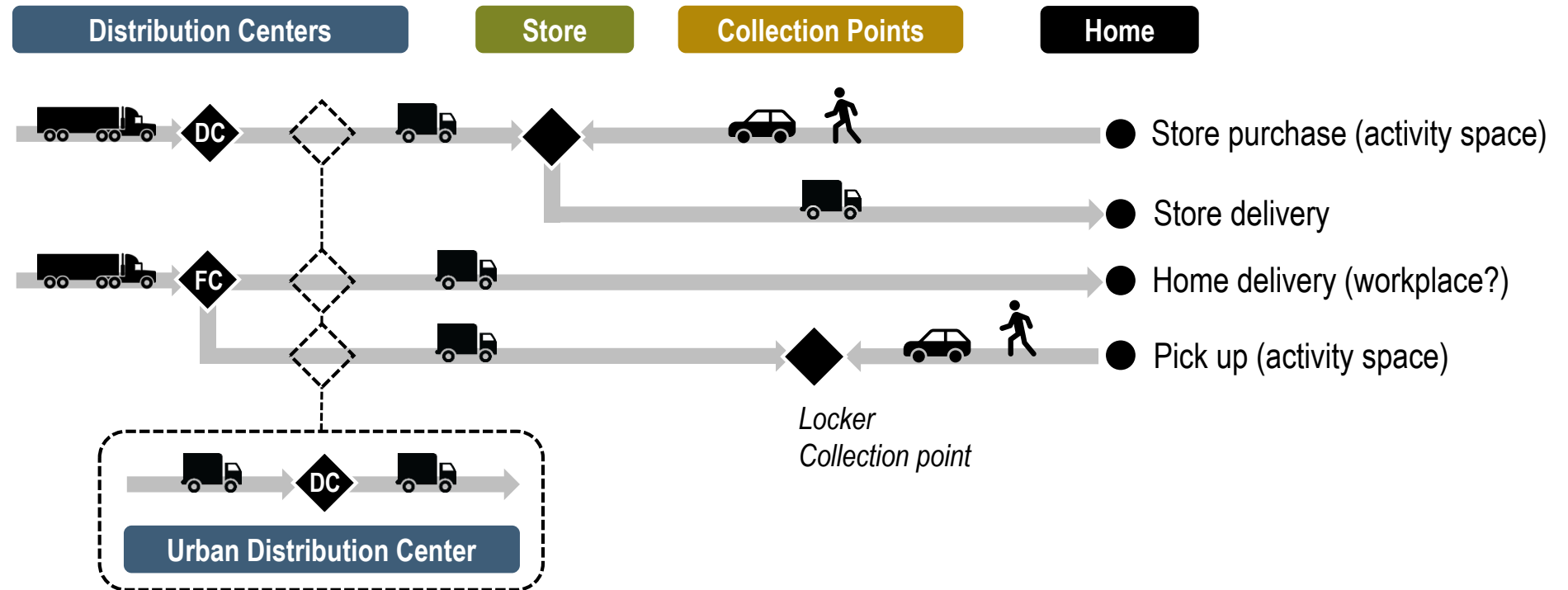
Frequency of Purchases by Method



Preferred Delivery Location



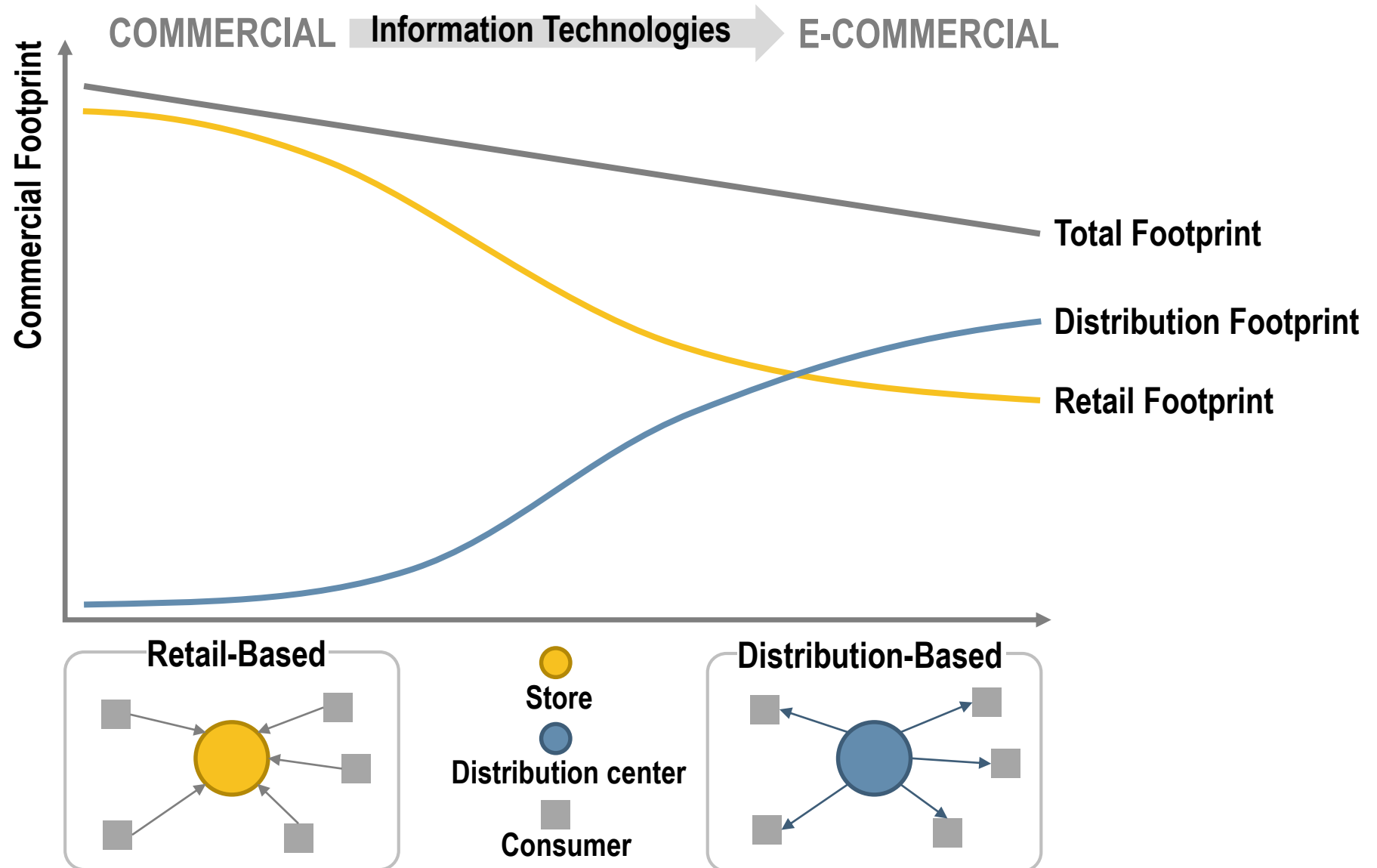
Omni Distribution Channels for E-commerce



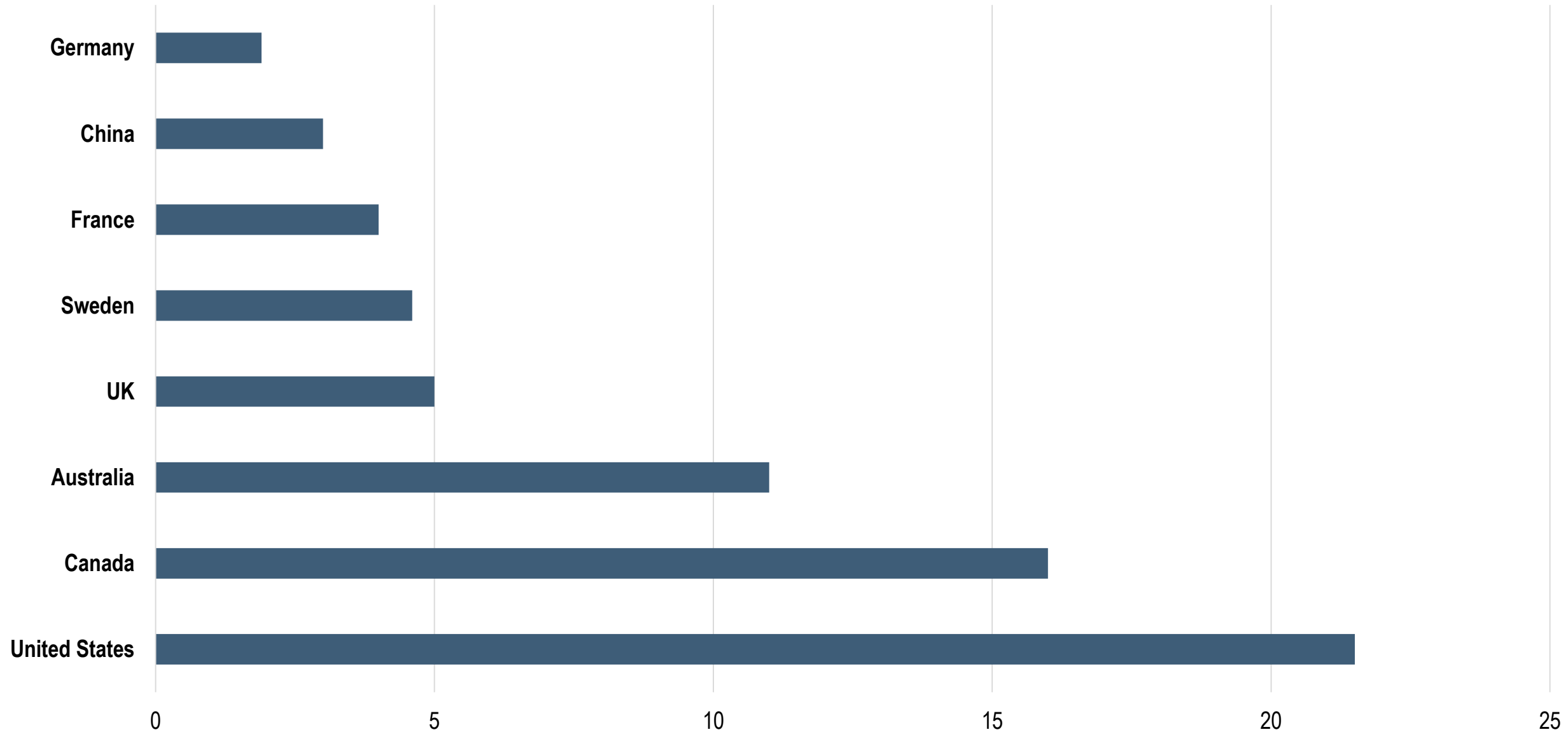
Fast deliveries: Using digital technologies to increase the velocity and flexibility of urban distribution.

- Pre-positioning of goods in urban distribution centers.
- Preparation of store orders.
- Consolidation of food deliveries (restaurants)

Footprint of Retail-Based and Distribution-Based Commercial Activities

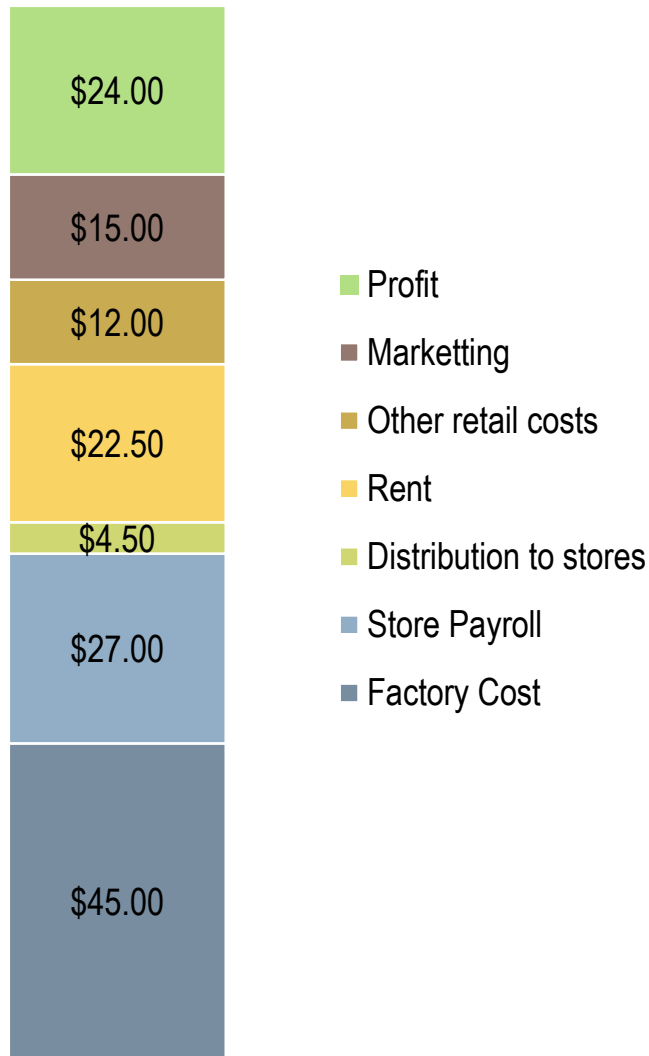


Retail Space per Capita, 2017 (in square foot)

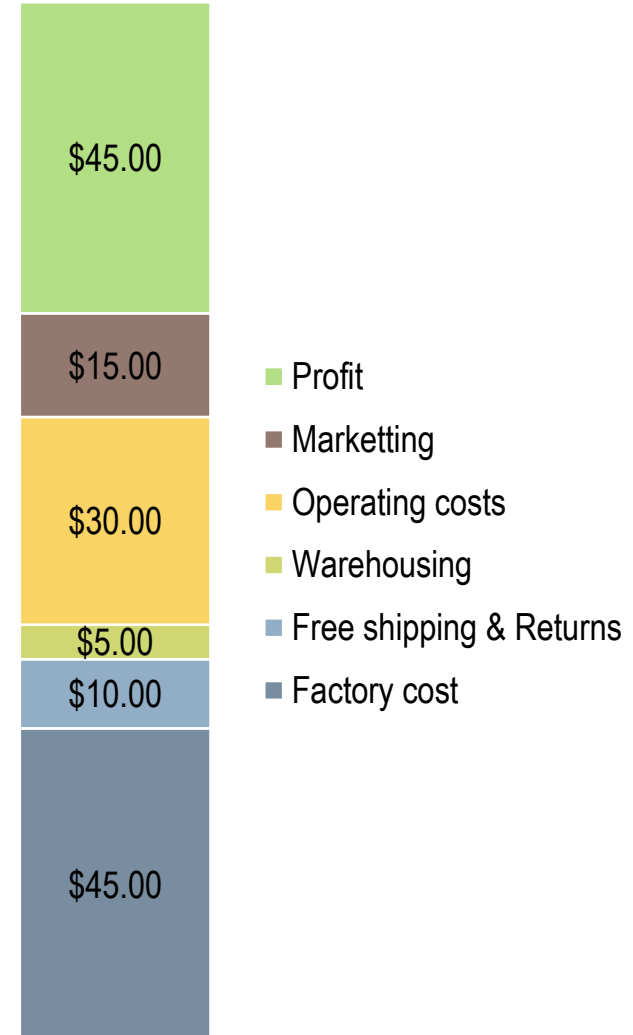


Comparison Between Retail and E-commerce Cost Structures for a \$150 Apparel Piece

Retail Cost Structure

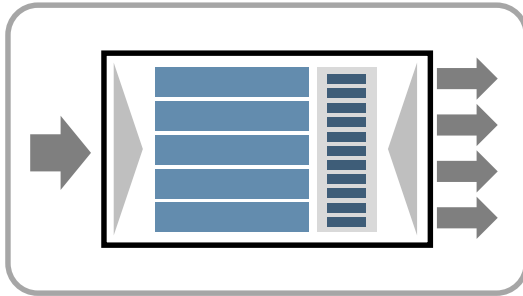


E-commerce Cost Structure



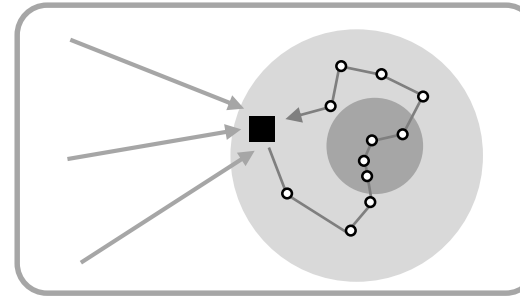
Logistics Facilities Supporting E-commerce

E-Fulfillment Center



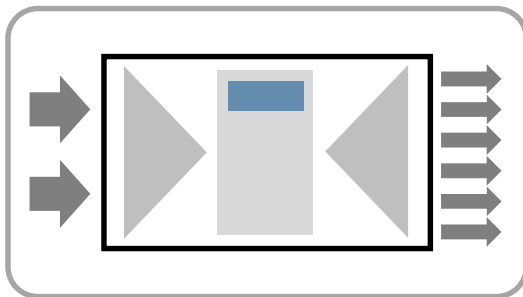
- Large-sized facility.
- Cross-docking configuration common.
- High racks storage.
- Push towards automation.
- Access to a major parcel hub.

Urban Logistics Depot



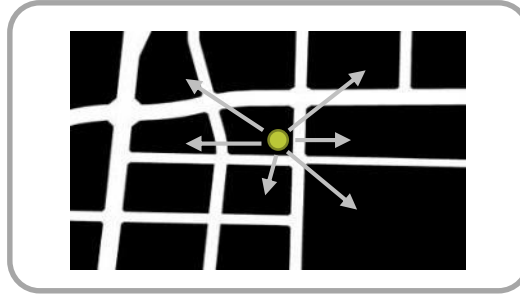
- Medium to small-sized facility.
- Cross-docking configuration for loading vans.
- Periphery of metropolitan areas.

Parcel Sortation Center



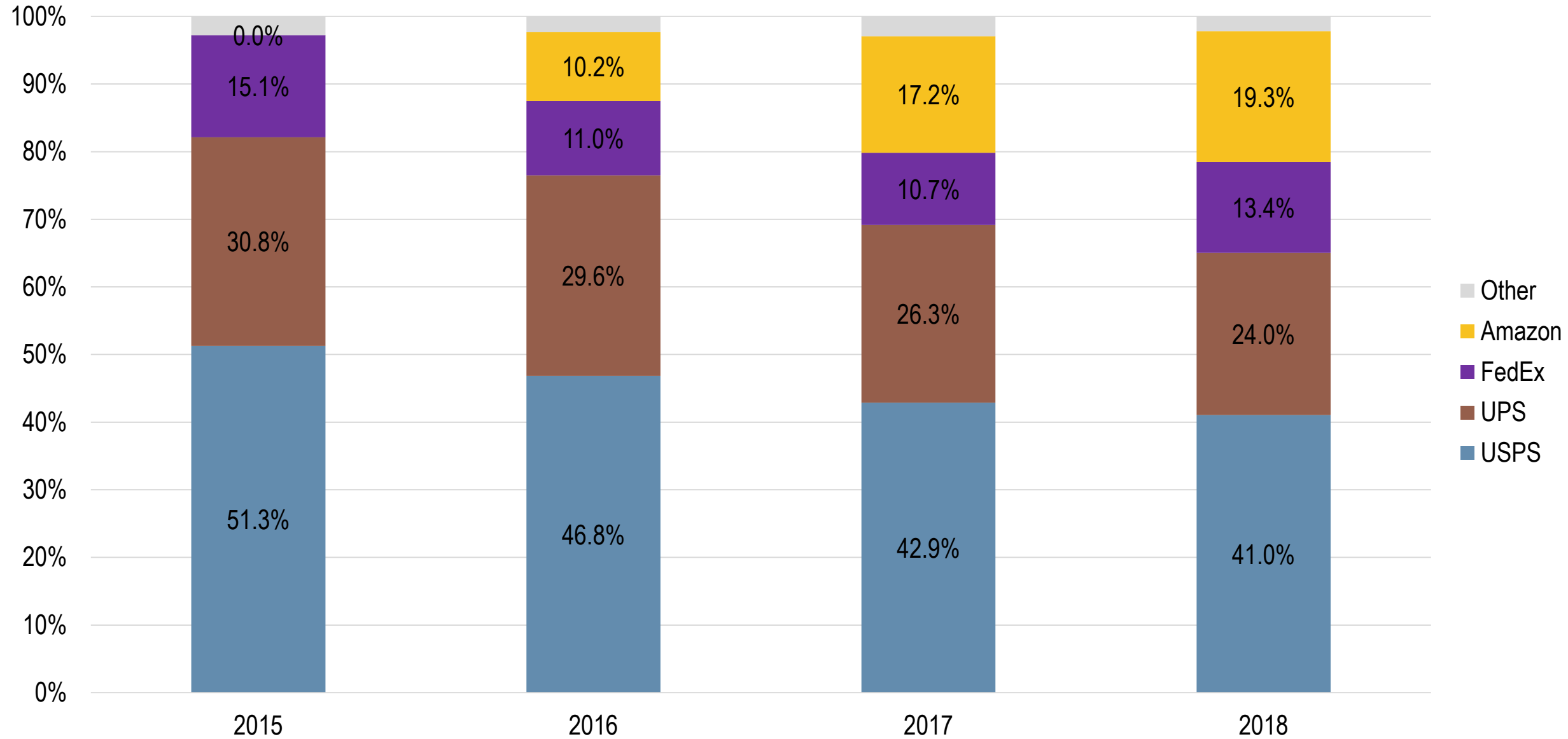
- Large-sized facility.
- Cross-docking configuration for loading trucks.
- Automated and semi-automated sortation.
- Accessibility to regional distribution.

Freight Station



- Small or micro-sized facility.
- Store-like facility (pickup location).
- Locker banks (freight station).
- High density neighborhood locations.

Parcel Deliveries by Carrier, 2015-2018





Conclusion: A Disruptive Transition for City Logistics

- Four dimensions in the insertion of e-commerce into city logistics
 - Distribution patterns
 - Urban footprint of logistics
 - Logistical facilities
 - Vertical integration