



**IPO755**

**INTERNET SHOPPING AND IT'S  
IMPACTS ON MOBILITY IPO755**

**Jan Francke and Johan Visser**

**KiM Netherlands Institute for Transport**

**Policy Analysis**

**Ministry of Infrastructure and the**

**Environment**

P.O. Box 20901

2500 EX The Hague

**The Netherlands**

+31 704561915

[jan.francke@minienm.nl](mailto:jan.francke@minienm.nl)

[johan.visser@minienm.nl](mailto:johan.visser@minienm.nl)





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# **Outline Poster Presentation**

KiM Netherlands Institute for Transport Policy Analysis

1. Passenger transport is on the move!
2. B2C e-commerce is booming
3. Shopping trips vs. home delivery
4. Logistic organisation
5. Substitution or generation balance?
6. Last mile environmental efficiency?

Abstract in English, Francais & Korean



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## Conclusions and discussion

The **growth** in the **home delivery** channel and the increasingly comprehensive range of services offered by retailers (e.g. click & collect) lead to **changes in the pattern of urban freight flows and vehicle movements in cities.**

The increased level of service may lead **consumers to change their travel behaviour** and to make **fewer car journeys** as their needs are met by sophisticated home delivery systems (or other suitable alternatives).

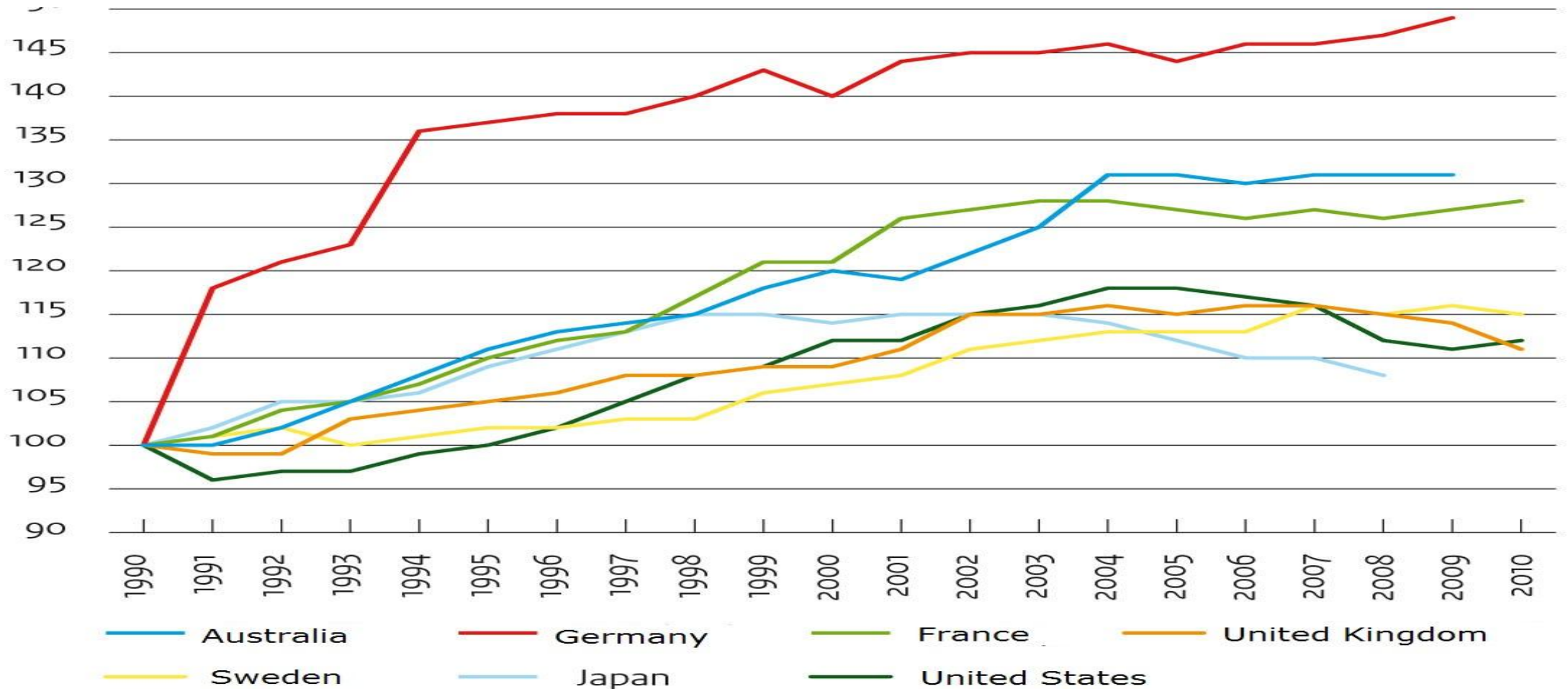
It is important to **identify** and **evaluate** the **potential impacts** of the increased use of **home delivery** on the **sustainability of the city.**



# 1 Passenger transport is on the move!

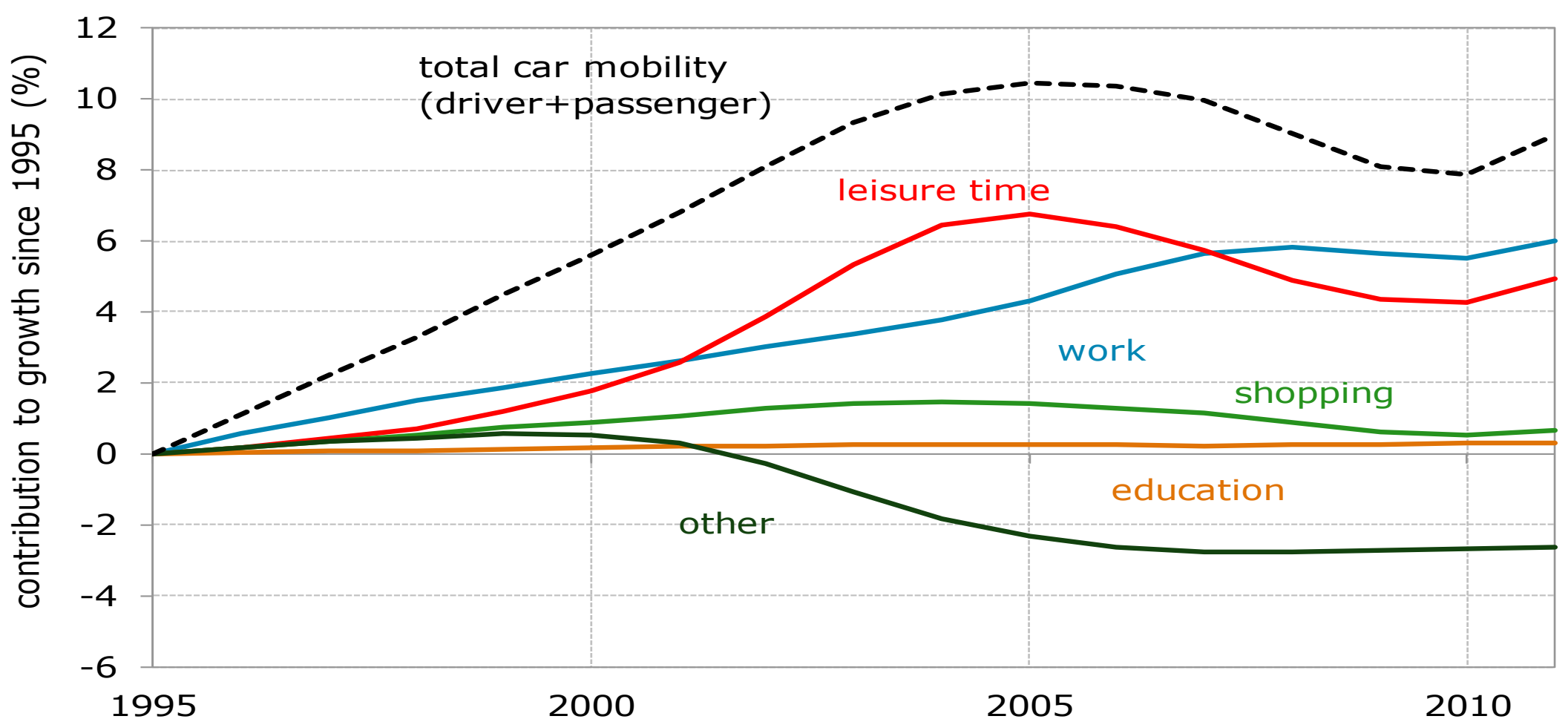
## Car mobility in Western countries: levelling off growth

Passenger car kilometres (both driver and passenger) and light trucks (index1990=100) Source KiM/ITF, 2012



## Car mobility by trip purpose in the Netherlands

Source: KiM

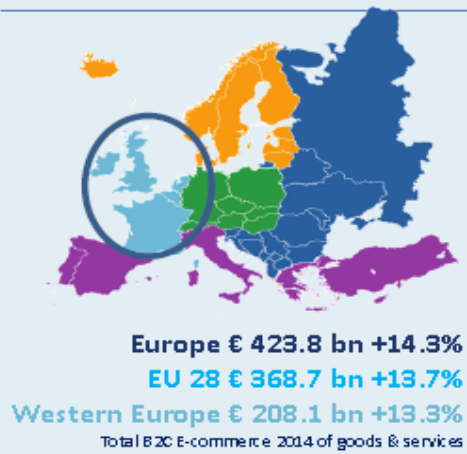




# 2 B2C e-commerce is booming

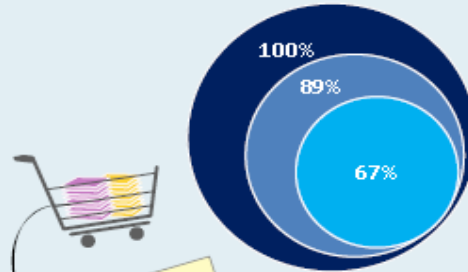
## Western Europe

Key B2C E-commerce Data of Goods and Services at a Glance 2014



Ireland  
United Kingdom  
The Netherlands  
Belgium  
France

Average spending per E-shopper

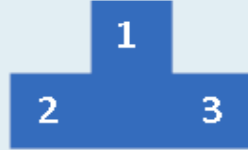


163 million people live in Western Europe  
145 million people use the Internet  
110 million people are e-shoppers

Forecast 2015  
€ 233 bn  
Turnover E-commerce Goods & Services



63.1 million E-households



Ranking Western Europe in turnover (EUR million)

|   |                 |           |
|---|-----------------|-----------|
| 1 | United Kingdom  | € 127,200 |
| 2 | France          | € 56,800  |
| 3 | The Netherlands | € 14,000  |
| 4 | Ireland         | € 5,300   |
| 5 | Belgium         | € 4,400   |
| 6 | Luxembourg      | € 531     |

Estimated 51% of the total population is on social media

5.1% Estimated share of online goods in total retail of goods

### National e-commerce Associations:

- Belgium: be commerce.be
- France: fevad
- Ireland: Retail Ireland
- Netherlands: thuiswinkel.org

89% of the population has Internet access

Executed by: Ecommerce FOUNDATION  
In cooperation with: GfK  
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## Global

Key B2C E-commerce Data of Goods and Services at a Glance 2014



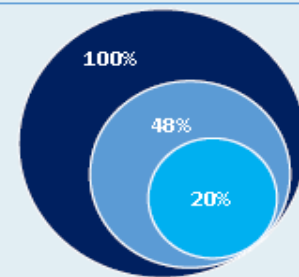
|               |         |      |
|---------------|---------|------|
| Asia-Pacific  | \$770bn | +44% |
| Europe        | \$567bn | +14% |
| North America | \$523bn | +12% |
| Latin America | \$37bn  | +18% |
| MENA          | \$21bn  | +22% |
| Others        | \$25bn  | +24% |

### Top 10 e-commerce countries in turnover (in billions of dollars)

|           |        |
|-----------|--------|
| China     | \$538* |
| USA       | \$483  |
| UK        | \$169  |
| Japan     | \$136  |
| Germany   | \$95   |
| France    | \$75   |
| Canada    | \$28   |
| Russia    | \$27   |
| Spain     | \$22   |
| Australia | \$21   |

\* B2C & C2C goods & services, excluding insurances

USA, China and UK account for 61% of total B2C e-commerce sales in the world



7,223 million people live in the world  
2,737 million\* people use the Internet  
1,139 million\* people are e-shoppers  
\*including people aged 0-14

### GOMSEC

Global Online Measurement Standard B2C E-Commerce

Forecast 2015  
\$2,251 bn  
Turnover E-commerce Goods & Services

5.9% Estimated share of online goods in total retail of goods

Global  
\$1,943bn +24%  
Total B2C E-sales of Goods and Services 2014

Average spending per e-shopper

\$1,707



Share of Internet users accessing the web through a mobile device worldwide

72%

### Cross-border B2C E-commerce

Most popular countries:

|            |     |
|------------|-----|
| USA        | 47% |
| UK         | 38% |
| China / HK | 31% |
| Canada     | 17% |
| Australia  | 16% |
| Germany    | 13% |

\$328bn

"309 million consumers bought cross-border last year and this number is expected to grow in 2015"

2.1 billion active social media accounts worldwide

In cooperation with: GfK

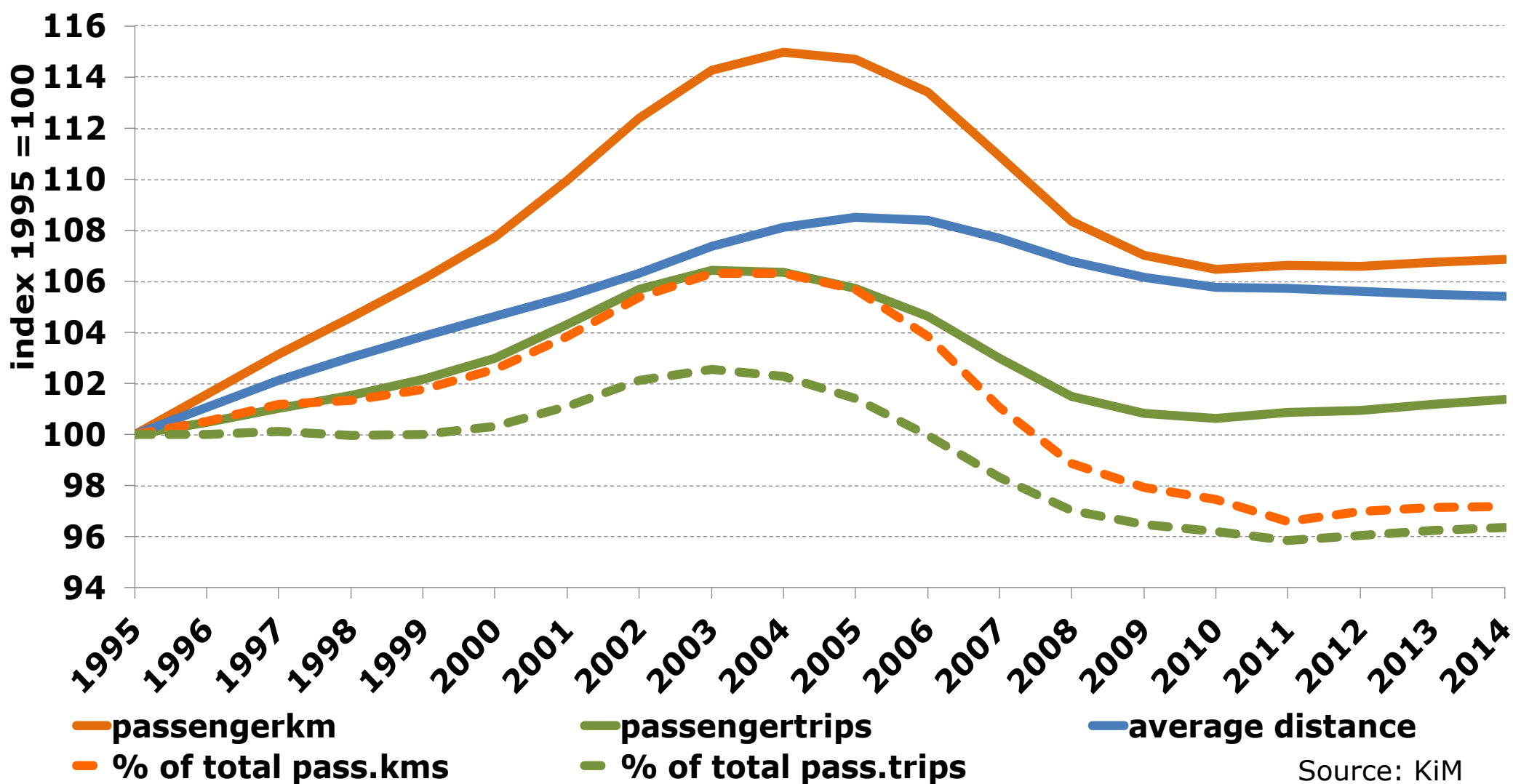
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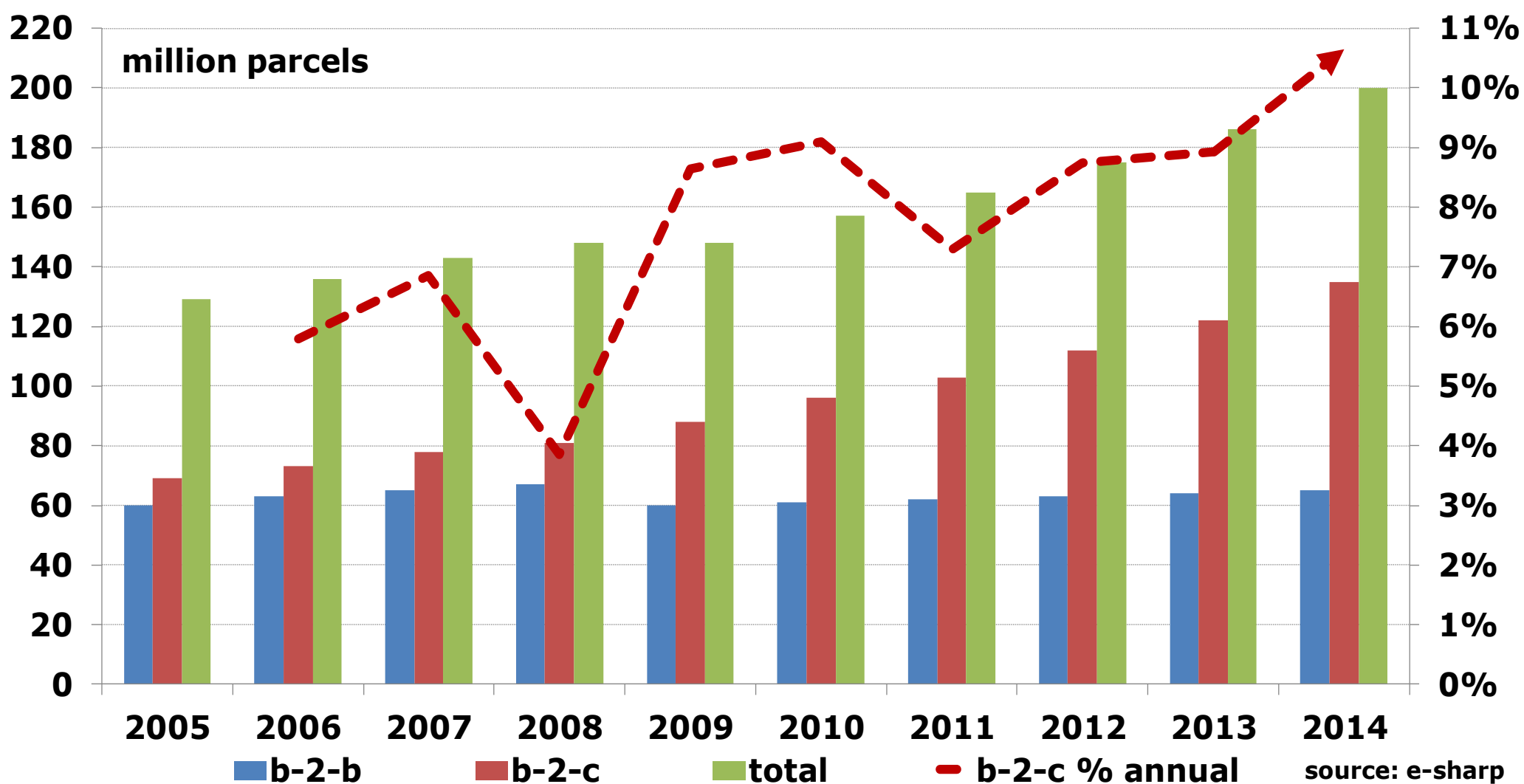
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# 3 Shopping trips vs. home delivery

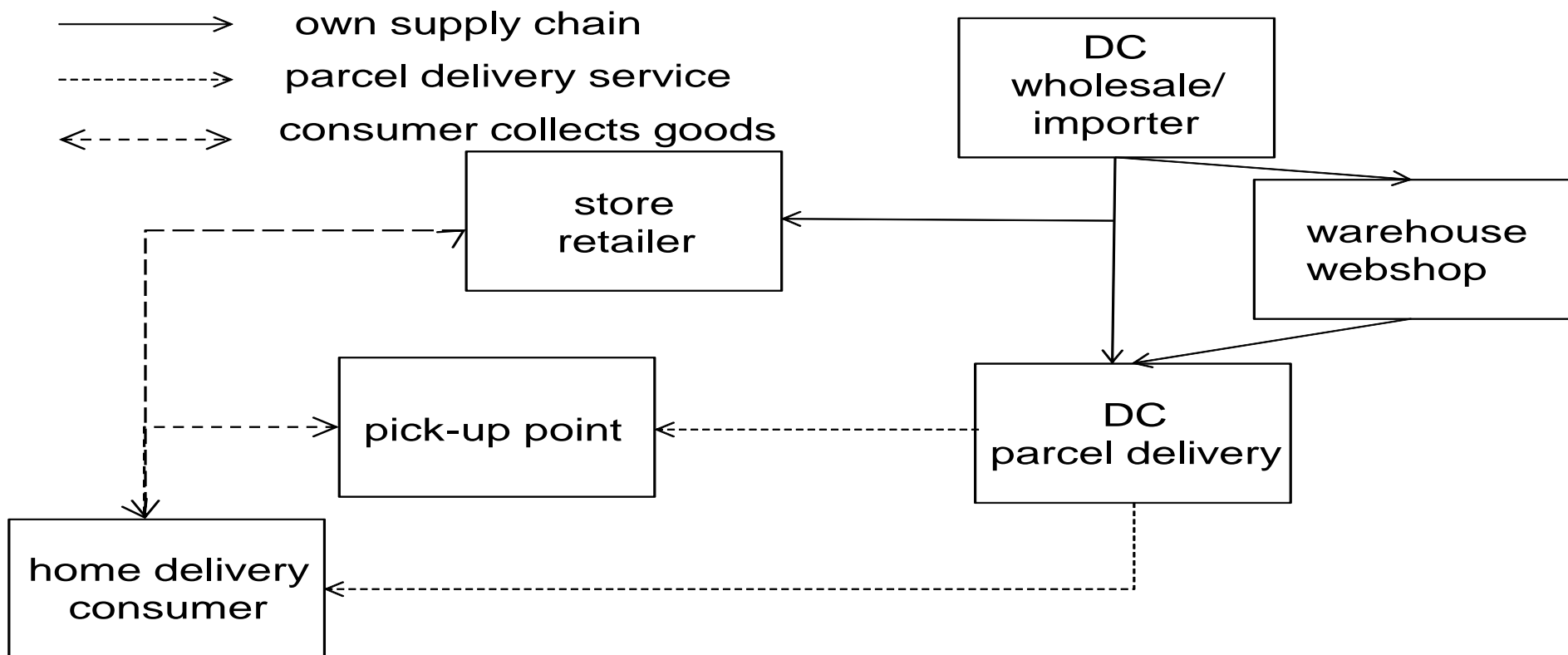


## Home deliveries in the Netherlands

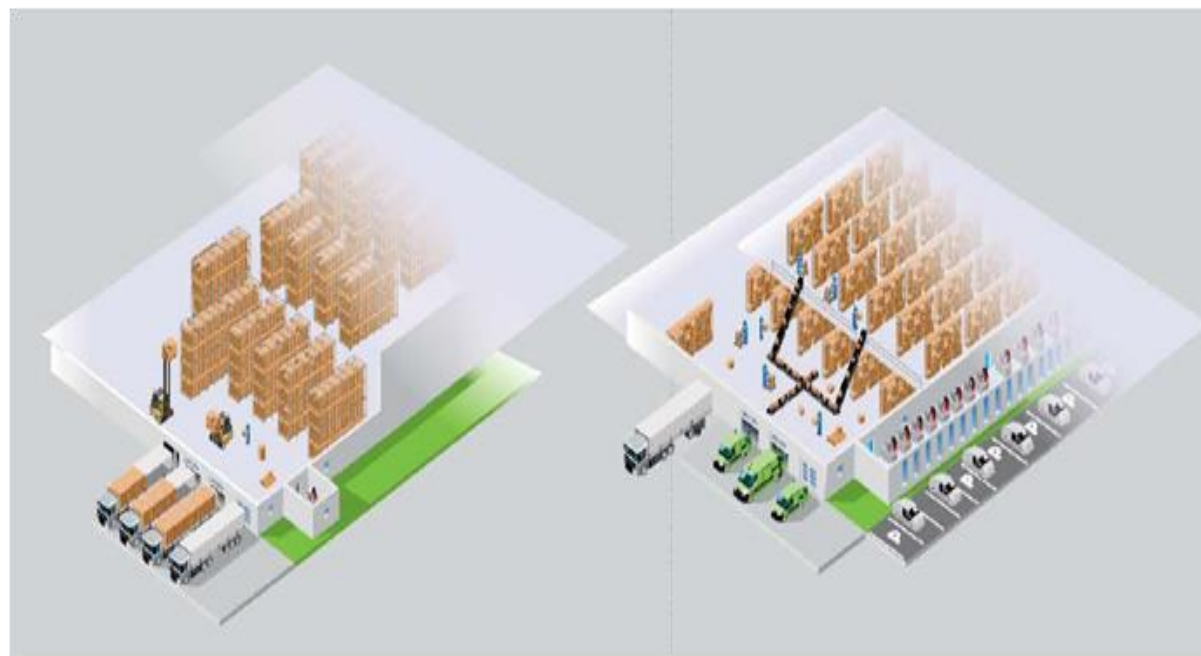




## 4 Logistic organisation



traditional distribution centre (left) and an e-fulfilment centre more and more very large and fully automated (source: CBRE)



### Pick up points and click & collect

- **Pick up points**
  - ✓ Within super markets and stores
  - ✓ Pack stations (unmanned, using lockers)
- Dense network, due to growth of home delivery (NL: 900 in 2006 to 6000 in 2015)
- **Click & collect:** multichanneling traditional retailers
  - ✓ Online sales and pickup at shops
  - ✓ Same day or next day



## 5 Substitution or generation balance?

- Several authors expect internet shopping will substitute a move to a shop by a delivery by a van at home.
- The situation is however complicated: People tend to combine different purposes and various purchases in one trip.
- Delivery at shops is efficient because of high volumes.
- Parcel delivery services bundle different deliveries in one round trip. More deliveries per round trip means a more efficient delivery.
- Lacking empirical evidence for monitoring developments of both passenger shopping trips and home delivery vans:
  - ✓ KiM initiated the Netherlands Mobility Panel to map changes in travel behaviour
  - ✓ KiM intends to support an extended survey on van use by Statistics Netherlands





## 6 Last mile environmental efficiency?

Options for **better consolidation and bundling**:

- **Cooperation by shippers** to consolidate deliveries
- **Cooperation by receivers** (shopkeepers), such as “binnenstadservice” in the Netherlands
- **Cooperation by carriers** on urban, regional or national level



**Green Deal Zero Emission City logistics** in the Netherlands cooperation shippers, receivers, carriers and (local) authorities



Zwolle (bicycle)



Utrecht (electric)



Tilburg (Ing)



Utrecht (boat)



Zutphen (electric)



Deventer (electric)



# ABSTRAIT IP0755

## LES ACHATS SUR INTERNET ET LEURS IMPACTS SUR LA MOBILITÉ

**Acheter sur Internet** est l'une des **tendances actuelles** qui a un **impact sur les mouvements de voyageurs et de marchandises** dans les zones urbaines. En effet, **la proportion des achats effectués en ligne augmente de plus en plus** au détriment des achats traditionnels.

Les **achats en ligne** étant **liés à la livraison à domicile**, on constate un **impact sur le transport des marchandises en milieu urbain**. Le **trafic** vers les **logements augmente**, tandis que le **trafic** vers les **magasins diminue**. Les **transports routiers volumineux** sont **remplacés** par des **petites livraisons à domicile**.

Dans cet article, nous présentons un certain nombre de **faits concernant les achats sur Internet (B2C)** et leurs **impacts sur les voyageurs et les marchandises**, liés aux **comportements d'achat des consommateurs et aux livraisons à domicile**. Nous décrivons de quelle manière **la logistique** et les impacts sur la demande de transport liée à la livraison à domicile sont **en train de changer**.



# ABSTRACT IP0755

## INTERNET SHOPPING AND IT'S IMPACTS ON MOBILITY

**Internet shopping** is one of the trends that are having an **impact on both passenger and freight traffic** in urban areas. The market share of **Internet shopping is growing** at the expense of traditional shopping.

**Online shopping** is closely **connected** with express **home deliveries** and therefore has an **impact on urban freight transport**: more traffic is flowing towards homes, less towards shops. **Shopping trips** are being **substituted** by home deliveries.

If the Internet has an effect on people's time and financial budget, it will **change people's behaviour** directly or indirectly and **internet shopping will affect the location of traditional retail facilities**.

In this paper we discuss a number of **facts concerning internet shopping (B2C)** and its **impacts on both passenger and freight transport**, in relation to **shopping behaviour and home deliveries**. We describe how the **logistics** and the impacts on the demand for **transport related to home deliveries are changing**.



## 초록 IP0755

### 인터넷 쇼핑과 그에 관한 이동성이 미치는 영향

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본 논문에서는 인터넷 쇼핑(B2C)에 관한 많은 사실들을 쇼핑행동과 가정 배달 서비스에 따라, 관련된 여객 및 화물수송에 미치는 영향들을 논의하고 있습니다. 그리고 우리는 어떻게 가정배달 서비스와 관련된 수송 수요의 영향과 그 물류가 변화하고 있는지 설명하고 있습니다.