E-COMMERCE AND PREVALENCE OF LAST MILE PRACTICES IN NORWAY

Keywords: e-commerce, travel behaviour, last mile practices

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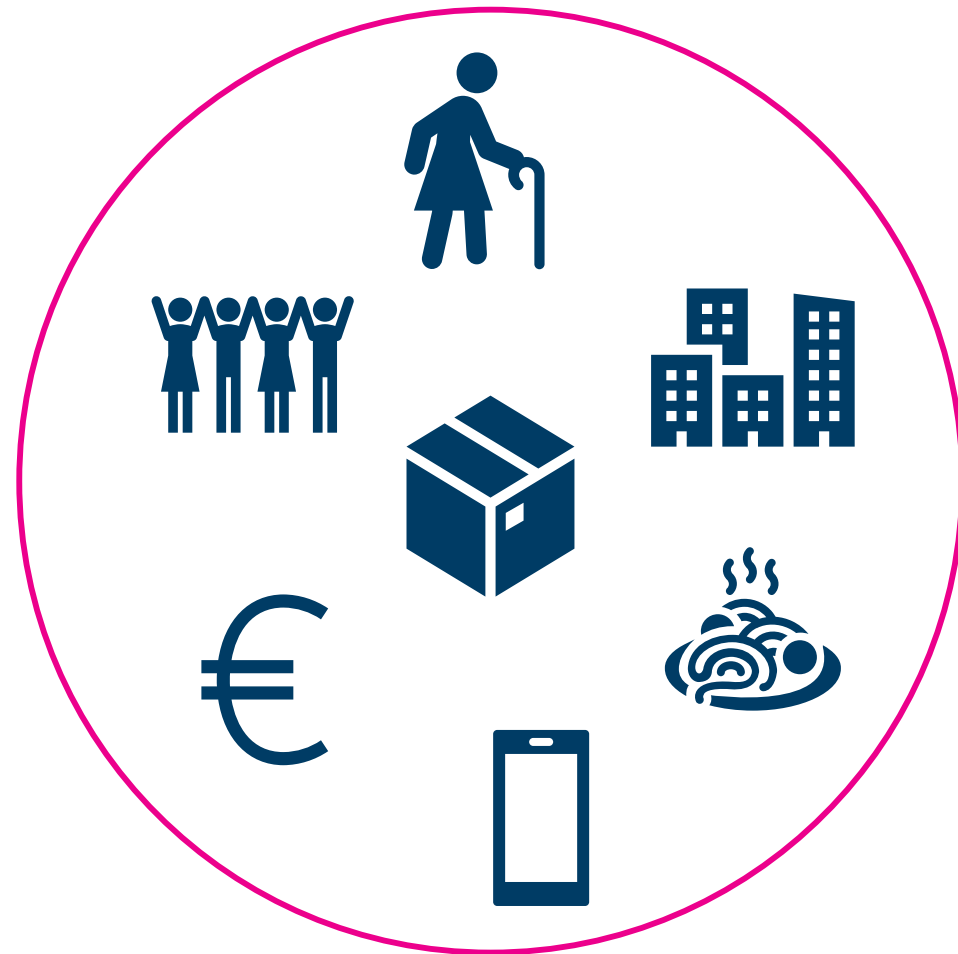
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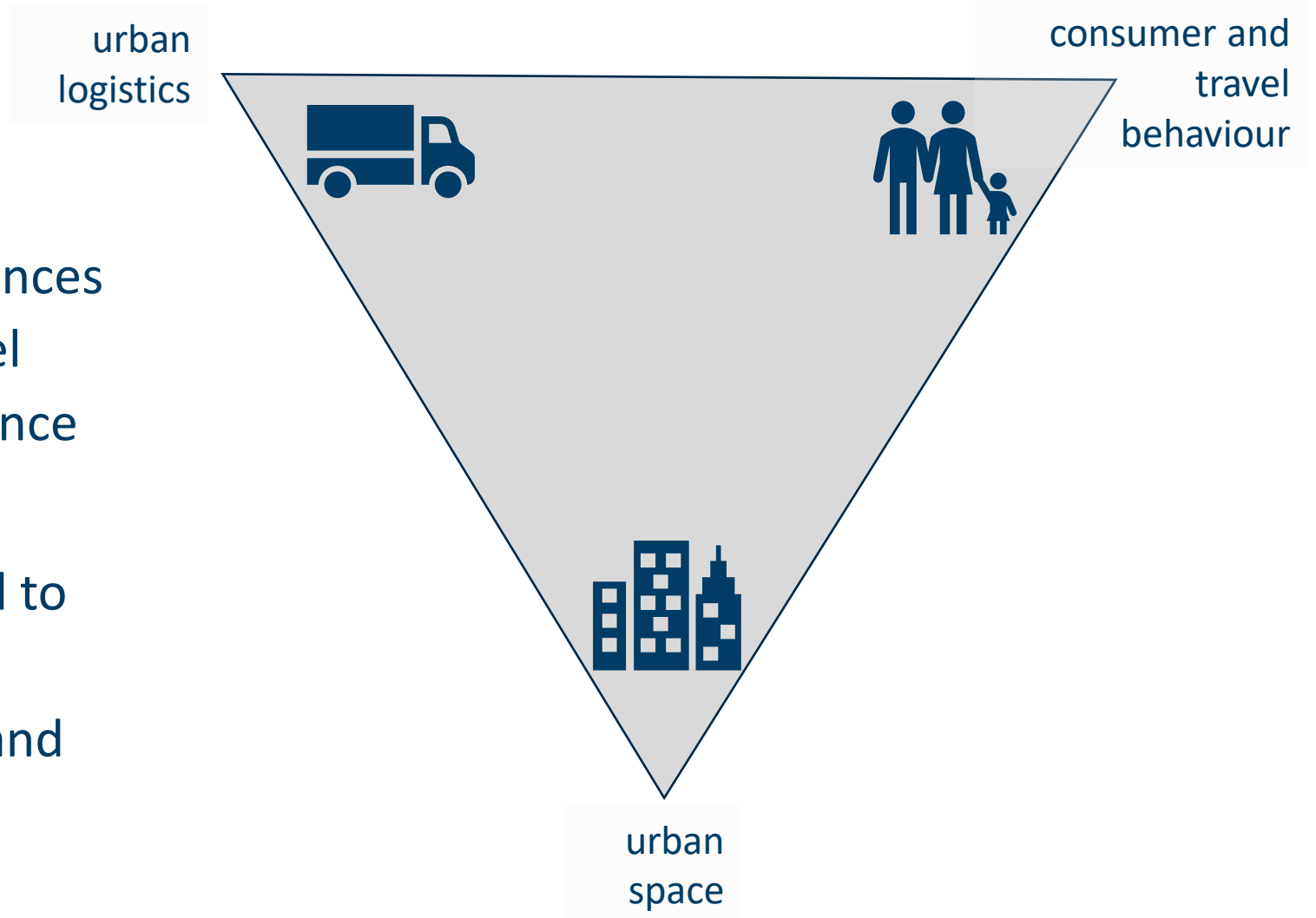
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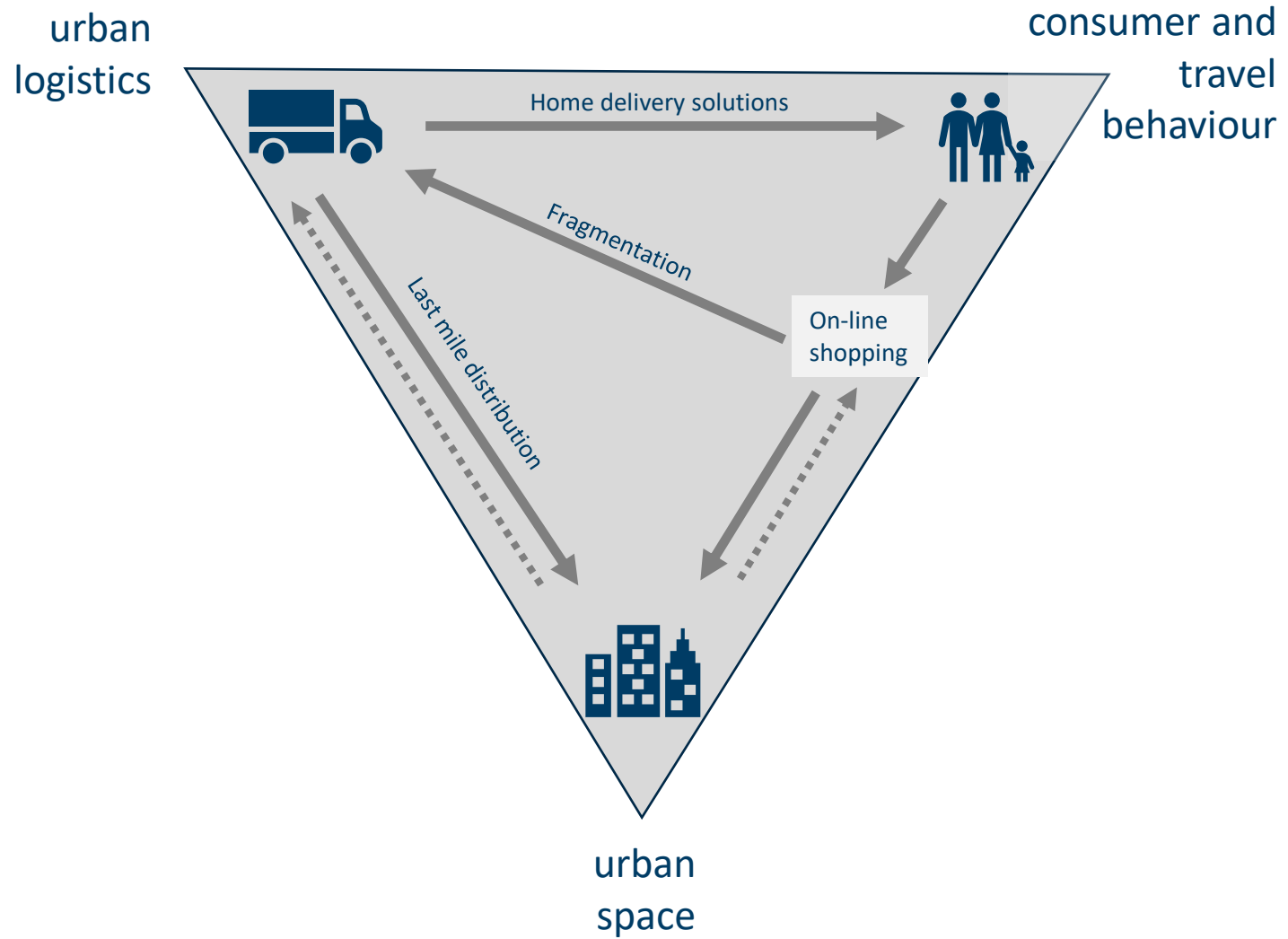
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E-commerce is growing

- Increase in older age groups

- Stronger habits in younger age groups

- Reduced number of physical stores

- New trade domains entering e-commerce

- Increased use of smart phone and a digital era

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Framework

- For understanding the influences between consumption, travel behaviour and the performance of urban logistics.

- These relations are expected to impact mobility in urban communities, city planning and the use of urban space.

urban logistics

consumer and travel behaviour

urban space

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urban
logistics

consumer and
travel
behaviour

Home delivery solutions

Fragmentation

Last mile distribution

On-line
shopping

urban
space

5

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E-commerce influences personal travel behaviour

Impacts on travel behaviour relate to:

- characteristics with the consumer

- the household and localities

- distance to physical stores

- substitution for leisure activity

- several purchases on the same trip

- soft travel modes

Economi

Household

Travel behaviour

Living

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Purpose and RQ

To describe the use of e-commerce and its impact on the personal travel of consumers.

1) What characterises e-commerce users?

2) What is the personal travel behaviour of e-commerce users?

3) What are prevalent last mile practices among e-commerce users?

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Methods and data

- Telephone survey winter 2018/2019 (3 months)

- Sample of 484 individuals in the capital region

- Respondents used <u>home delivery of non-groceries</u> at least once the last month

- Recruited with the aim of representativeness in terms of age/gender

- Impacts of e-commerce on personal travel provided by a travel diary; travels made the day before with purpose, trip length and modes.

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The sample

Age group 30-49
Mainly employed
Highly educated
Higher household income
Live in the city/
neighbouring
communities

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Subsample definition

Measure/subsample	Definition	N
Frequent user of e-commerce	Shops online at monthly or more	56
Non-frequent user of e-commerce	Shops online less than monthly	428
Sole users pick-up-points	Usually relies exclusively on pick-up-points when receiving goods shopped online	170
Sole users home delivery	Usually relies exclusively on home delivery when receiving goods shopped online	72

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Results

(1) Who use the e-commerce delivery services

(2) Personal travel behaviour

(3) Last mile practices

- home delivery services (HD)
- pick up point (PUP)

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(1) E-commerce users

Higher household income
Resourceful

Age group 30-59 (men)
Highly educated
Employed
Higher share of driver licence
Lower share of cars
Higher size of household
Children

Live in city centre
Apartment/
detached houses

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(2) Personal travel behaviour

**Higher household income
Resourceful**

**Age group 30-59 (men)
Highly educated
Employed
Higher share of driver licence
Lower share of cars
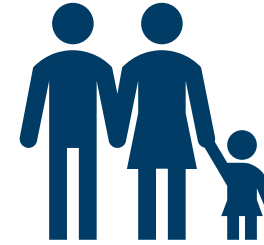Higher size of household
Children**

**Fewer trips in total
Fewer shopping trips
More trips with
soft modes**

**Live in city centre
Apartment/
detached houses**

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(3) Last mile practices

- There is an indication of different last mile practices for different types of purchases (lightweight and frequent segments).

- PUP users are prominent with on-line shopping of electronics, toys, shoes and clothing.

- PUP users do more trips with car.

- PUP users do online shopping more often and make more trips.

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To sum up - tendencies

- E-commerce and last mile practices impact on personal travel behaviour

- Relations between travel mode use and last mile practices (PUP and HD)

- Users preferring HD travel less, less shopping trips, less car use on travels

- E-commerce -> HD - > transport in residential areas

- There is a need for innovation in last mile practices and improved delivery solutions

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Conclusion

Rich and Resourceful
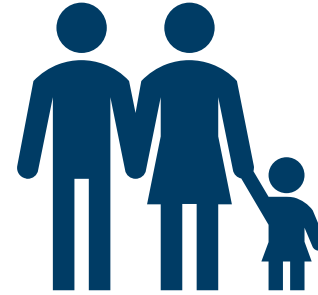
Young men
Educated and employed
Households
with children

Urban living

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Conclusion

Rich and resourceful

**Young men
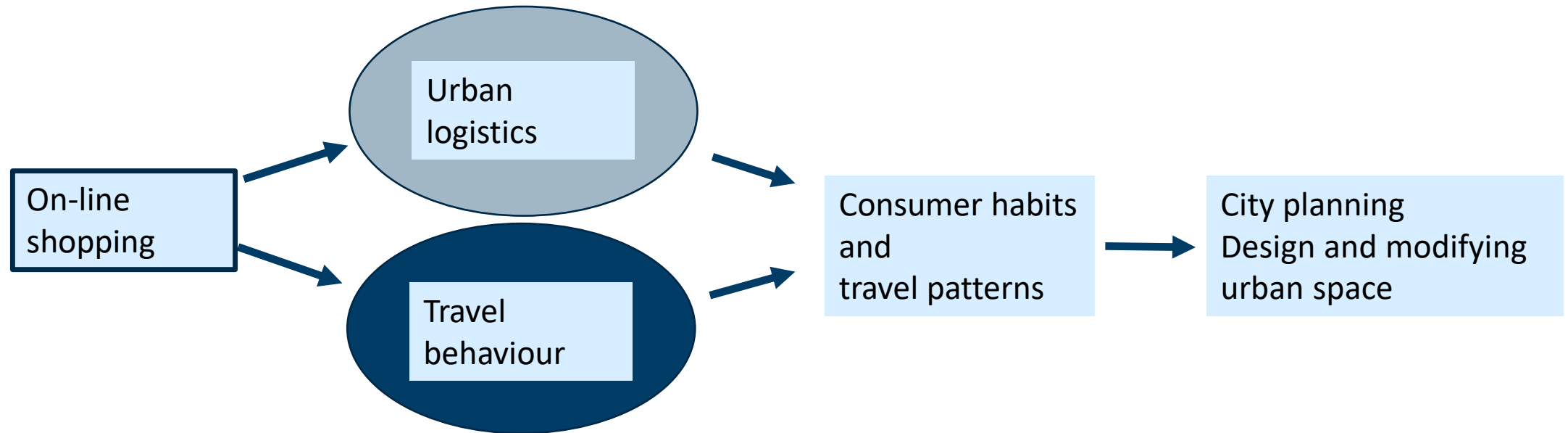Educated and employed
Household
with children**

**Fewer trips in total
Less shopping trips
Soft modes**

Urban living

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Transformative effects of e-commerce

On-line shopping → Urban logistics

On-line shopping → Travel behaviour

Urban logistics → Consumer habits and travel patterns

Travel behaviour → Consumer habits and travel patterns

Consumer habits and travel patterns → City planning Design and modifying urban space

- Need more knowledge for being a good city planner.

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Further research

- Larger study with data collection for a longer period

- Link to data from transport companies
  - Vehicle type, load factor, spatiotemporal operation patterns

- The use of urban space and city planning

urban logistics

consumer and travel behaviour

urban space

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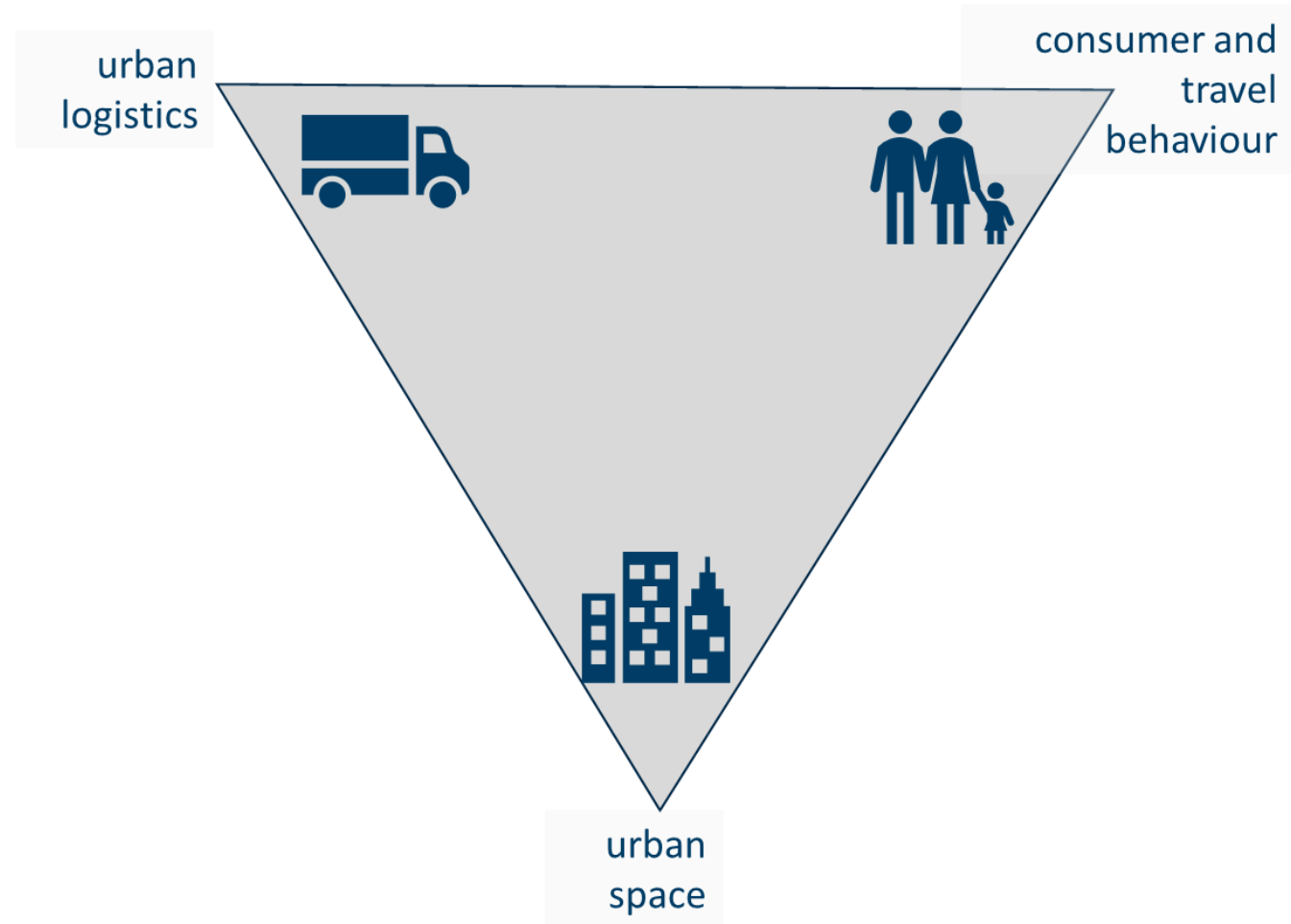
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