

CIM OOH 2017-2019 survey

Publication 2020-1

7/01/2020

Methodology - Short reminder

1. **Traffic modelling (ABM)** based on various data sources:

- **Travel diaries** used to create a virtual population of Belgians 12+ and their travels habits
 - Previous CIM OOH travel survey
 - Public mobility surveys (OVG, Beldam)
- **Travel counts** used to validate / calibrate the results of the modelling (Activity Based Model)
 - Fleet management data acquired through geolocation (Floating Car Data)
 - Traffic measurements (loop detectors)
 - Public transports statistics

2. **Mapping** of the virtual population travels during one week on an **Open Street Map (OSM)** cartography

3. **Implantation** of all media owners **panels and their characteristics** on the same **OSM map**

Methodology - Short reminder

4. of a **Visibility Adjusted Index (VAI)** for each panel, based on its own characteristics (size, angle, distance to road, illumination, movement...) according to the International ROUTE visibility algorithm.

5. Allowing to calculate the **Visibility Adjusted Contacts (VAC)**:
 - the sum of all **passers-by**
 - **who can see a panel** from neighbouring road segments
 - taking into account its **Visibility Adjusted Index**



What's new in 2020-1?

1. New travel data and full new modelling, taking into account:
 - a. The update of the Virtual population
 - b. The use of Telco data
 - c. The correction of trips repetition

2. New universe : Trains stations



1a. Virtual population update

The Virtual population Database (VPD) has been updated based on the CIM Golden Standard 2016-2017, leading to a population of 9.721.898 Belgians 12+ (+1.1% vs 2016).

Gender	%
Men	48.8
Women	51.2
Age	%
12-17 year	7.6
18-34 year	24.6
35-54 year	31.8
55 year +	35.9

Nielsen	%
Nielsen I+II	55.9
Nielsen III	12.2
Nielsen IV+V	31.9

Education	%
None-Elementary	12.8
Lower secondary	17.6
Upper secondary	38.2
Bachelor-Master	31.5
Professional Activity	%
Yes	47
No	53

CIM Habitat	%
Antwerp	6.5
Brussels	13.7
Charleroi	2.6
Gent	2.6
Liege	4.2
30 Cities NL	14.2
13 Cities FR	7.3
Small Cities NL	16.0
Small Cities FR	7.4
Rural NL	15.8
Rural FR	9.7

Profession	%
Self employed	5.6
Manager	4.8
Employee	23.7
Worker	12.9
Retired	23.8
Student	14.6
Other non-active	14.7

Province	%
Brabant FR	3.5
Brussels 19	10.2
Antwerp	16.2
Brabant NL	10.0
West Flanders	10.7
East Flanders	13.3
Hainaut	11.8
Liege	9.8
Limburg	7.8
Luxemburg	2.5
Namur	4.3



1b. Use of Telco data for trips with motive “other”

In the first Activity Based model (ABM), the destination was chosen as follows:

- For “work” and “school” trips, official reference data were available in terms of Origin-Destination patterns (OD matrices).
- For trips with motive “other”, no official reference data were available. Be-Mobile used therefore a **statistical attraction model** based on the density of population to determine the destination of these trips.

Because these “other” trips represent +/- 70% of total trips, CIM looked for stronger reference data to refine the model in the following editions.



1b. Use of Telco data for trips with motive “other”

The Proximus TelCo data are suitable for mapping Origin-Destination relationships:

- 1 Billion mobile localizations/day can be translated into routes
- A market share of approximately 40% is considered sufficient to build a representation of the travel behaviour in Belgium.

Be-Mobile converted the data delivered by Proximus, i.e.:

- 3 months observations
- Weighted and extrapolated to the Belgian population
- Aggregated at NIS6 level (postcode), per day (7) x daypart (4), for an average week

into an **OD matrix** at statistical sector level, used as input for the new AB model.

As a result, the destination choice model for “other” trips is now based on **observed** OD patterns, hence delivering **more realistic results** for “other” trips.



1b. Use of Telco data for trips with motive “other”

Impact on results:

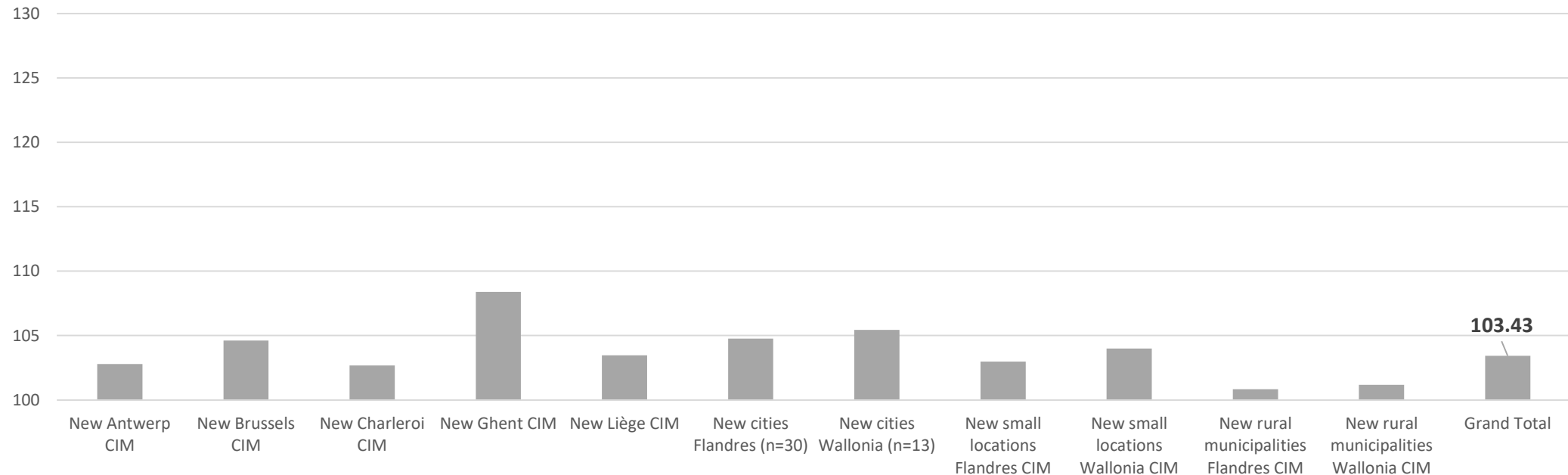
- Different OD matrices for “other” trips (Telco data versus Attraction model)
 - Different origins & destinations
 - And subsequently different routes
- Importance of change compared to previous travel modelling
 - Limited at high level (Provinces, Habitat, ...)
 - More visible at local level or in specific cities



1b. Use of Telco data for trips with motive “other”

Impact on results:

Evolution of Trips at CIM Habitat level (index 2020-1 vs 2019-2)





1c. Correction of trips repetition

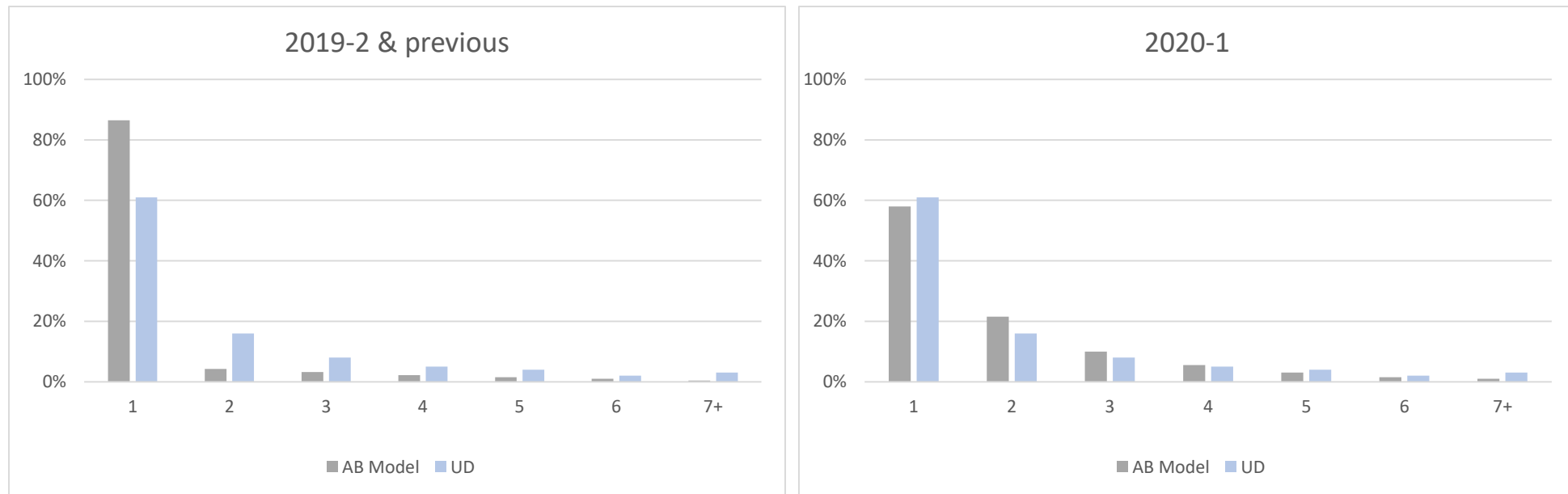
- In the first edition of the study, the **destination of trips** with motive “other” (i.e. all motives except “work”, “school” and “going home”) was an address **selected at random** within a specific statistical sector, based on:
 - the statistical sector of origin and
 - the OD matrix for motive “other”.
- In 2020-1, the modelling **of trips repetition was improved by:**
 - Refining the destination to the **exact address** (instead of NIS9 destination)
 - Taking into account the **repetition observed** in the travel surveys .

This new approach leads to a more realistic modelling as individuals tend to visit the same places several times a week (e.g. for shopping, going to a sport club...).

1c. Correction of trips repetition

Impact on results:

- The new ABM results show that the repetition of trips with motive “other” matches the observed trip repetition in the travel surveys better than before.





2. Integration of Train stations

- In past publications, trips made by train were already included in the travel data (from station of departure to station of arrival), but no detail inside the stations was included.
- From 2020-1 wave, the universe of Train stations has been added to the OOH survey, allowing to evaluate the **audience of frames inside stations & on platforms**, alone or in combination with other universes (roadside & metro).
- The following elements had to be added to the survey:
 - Distribution of travellers **from specific entries to specific platforms**, based on the official train timetable information, taking into account the timing of travel & the destination
 - Creation of the indoor environments through the **digitization of detailed maps of stations**
 - with the exact position of their entries/exits, allowing to connect the stations entries/exits (access points) to the Open Street Map (roadside environment)
 - Including all interior characteristics (walls, gates, platforms, stairways/escalators, obstructions)



2. Integration of Train stations

- **Implanting of all panels** inside the stations, providing all necessary information to determine the visibility score (VAI) of the panels
- **Simulation of traffic flows** inside the stations, based on indoor methodology from Route UK:
 - Flow modelling, calculating all possible routes from entries to exits, entries to platforms and platforms to platforms and assigning to each route a probability based on shortest route length
 - Platform modelling, distributing traffic (waiting travelers) on platforms according to platform length and distance to train doors
- The following formats will be available in the 2020-1 publication:
 - Paper: 2m² & 4m²
 - Digital: 2m², Panoramic (1.3m², 3m², 7m² & 8m²) & landscape (4m²)



What's next

Due to its nature, the OOH survey allows the continuous integration of improvements.

CIM is already preparing the next publications with the integration of the following features:

- Update of the OSM map
- Integration of seasonality of traffic
- Update of official travel data sources
- Integration of a new universe : shopping malls

Full methodology and main results available on our website

<https://www.cim.be/fr/out-home/methodologie>

<https://www.cim.be/nl/out-home/methodologie>

You can also contact us!

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