mapa OOH

Out-of-Home Media Measurement Methodology – MapaOOH

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1. Introduction

The MapaOOH Live platform introduces an innovative and robust methodology for measuring out-of-home (OOH) advertising, representing a significant evolution from previous approaches. Each campaign is measured based on the characteristics of its display environment and media assets. The methodology ensures comparability across different media owners and platforms.

Traditional media metrics such as Reach, Frequency, and Impressions are consistently calculated, enabling cross-media comparison with channels like TV and digital. Following international best practices, the methodology incorporates the concept of probability of contact, recognizing the passive nature of OOH advertising.

Significant advancements in audience measurement have been made possible through new technologies, machine learning, and artificial intelligence. The MapaOOH methodology is built upon:

- Passive data collection
- Continuous real-time updates
- Precise counting for calibration and validation

2. The Three Pillars of the Methodology

2.1 Sensor Data

Sensors are strategically installed near OOH displays to capture traffic data and detect mobile devices in real time. These sensors enable the identification of human presence and contribute to accurate audience modeling.

Key considerations for sensor data include:

- Continuous capture of mobile device signals
- Data anonymization and aggregation to ensure user privacy
- Manual count validation for proper calibration

2.2 Mobile Data and SDK Traffic

Mobile carrier data and/or SDK-based traffic information is used to complement sensor data, providing a broader view of audience flow near OOH displays.

This data includes:

- Traffic volume across different times of day
- Device movement and mobility patterns
- Demographic segmentation from anonymized user profiles

2.3 Route Methodology

The Route methodology, widely used in global markets, is based on eye-tracking studies to determine the probability of visual contact with OOH screens. This approach refines the calculation of Viewed Impressions, ensuring only effective visual interactions are counted.

The Route algorithm considers:

- Minimum exposure time required for ad visibility
- Viewer gaze direction in relation to the screen
- Behavioral research for more accurate modeling of advertising impact

3. Functionalities

3.1 Comprehensive Inventory Registration

Detailed registration of each screen includes information such as:

- Type of equipment
- Location
- Lighting conditions
- Mobility (fixed or mobile unit)
- Loop characteristics
- Number of ad spots
- Spot duration

3.2 Geolocation and Generation of Visibility Areas

Screens are mapped and their Visibility Areas (VA) are calculated based on registered data, ensuring accurate audience evaluation.

3.3 Visibility Area Calculation

The Visibility Area is calculated according to the screen's environment (outdoor or indoor), based on angle, width, and distance.

3.4 Installation of Mobile Detection Sensors

Sensors are strategically installed to monitor traffic behavior across a sample of OOH displays.

3.5 Manual Count Validation

Sensor data is continuously compared with manual pedestrian counts to ensure accurate calibration.

3.6 Mobile Data Modeling

Mobile device movement data provides traffic volume insights. Regression models adjust mobile data to sensor readings.

3.7 Sensor Data Expansion

The integration of mobile and sensor data enables dynamic modeling of traffic with minute-by-minute updates.

4. Traffic Calculations

4.1 Total Traffic (TT)

Total sessions captured by panels. A session consists of consecutive pings with less than 15-minute gaps. New visits are counted after 2 hours (outdoor) or 8 hours (indoor).

4.2 Unique Traffic (UT)

The total number of unique devices that passed by a screen or group.

4.3 Dwell Time (DT)

Average time a device stays within visibility per day. Calculated per panel or group.

4.4 Frequency Distribution (F)

Percentage distribution of devices exposed to one or more panels.

5. Audience Calculations

5.1 Visible Impressions (VI)

Formula: VI = T × Pv

T = Total people in visibility area
Pv = Visibility probability (Route)

5.2 Viewed Impressions (VVI)

Formula: VVI = VI × Po

Po = Observation probability (Route)

5.3 Reach (R)

Formula: R = U × Pc

U = Unique users during campaign
Pc = % who saw at least one insertion

5.4 Frequency (F)

Formula: F = VVI / R

Annex I – Route Methodology

Visual Contact Probability: Pc = Pa × Po

Viewed Impressions: VVI = VI × Pc

Minimum Exposure Time: Tmin = Lmsg / Vmed

Gaze Direction Adjustment: Adjusted VVI = VVI × Do

Transport Mode Estimation: Vu = D / T

Transport Adjustment Factors:
Pedestrian: 1.0
Bike: 0.8
Car: 0.5
Bus: 0.7
Train/Subway: 0.3

Final Contact: Pc = Pc × Mf

Mobility Conversion Factor allows spatial-temporal adjustment of impressions based on movement patterns.

Annex II – Inventory Fields

Mandatory inventory fields:

- Media Owner
- Display Name
- Country, State, City, Address
- ZIP Code, Latitude, Longitude
- Environment and Environment Detail
- Screen Type, Height, Width, Orientation
- Mobility, Operating Hours
- Loop Duration, Number of Loops
- Insertions, Lighting Type and Schedule
- Setback, North Mapping Angle
- Installation Type, Electric Power

Annex III – Sensor Requirements

Sensor Requirements:

- Continuous and autonomous operation
- Anonymized data capture
- Real-time or scheduled transmission
- Temporary local storage
- Certified for telecom and privacy standards

Captured Data:
- Raw: hashed MAC, signal type, RSSI, timestamp
- Derived: dwell time, traffic volume, direction, recurrence

Operational Settings:
- Capture frequency: 1–10 seconds
- Radius: 5–50m
- Storage: 24h
- Transmission: Wi-Fi, Ethernet, 3G/4G/5G

Integration:
- JSON/CSV, UTC timestamps, remote config, TLS

Calibration:
- Manual counts, signal correction

Compliance:
- Anonymization, no PII, GDPR/LGPD compliant