A Users' Guide

2020

Contents

What is the OMC (Out of Home Measurement Council)?

The Out of Home Measurement Council (OMC) is a non-profit Joint Industry Committee (JIC) that has been incorporated to provide Out of Home (OOH) media owners and, planners and buyers with an audience measurement that allows for efficient and accurate OOH planning and development. The OMC produces consolidated, inclusive and representative research covering the key OOH formats, commencing with **Static Roadside** panels in South Africa including the panels from all OOH participating Media Owners. The JIC aims to market and grow the OOH advertising industry within South Africa.

The OMC was registered as a non-profit company on 23 March 2015, with launch members listed as:

- Primedia Outdoor
- JCDecaux
- Outdoor Network and
- AdOutpost

Participation by other roadside media owners is actively encouraged so that the research presented to marketers and agencies is transparent, representative and inclusive.

- Currently there are 20 media owners loaded onto the Quantum software

The OMC has been formalised based on international best practice and is representative of key OOH media owners.

What is the ROAD (Roadside Outdoor Audience Data) measurement?

The ROAD measurement provides an OOH currency, delivering industry standard media metrics for OOH as a media channel.

- It delivers reach, frequency, GRP's, duplication factors, impacts and CPM/CPT.
- It is comparable to other media such as TV, radio and print.
- Provides demographic-specific data enabling strategic targeting.
- Allows for the building and evaluation of OOH media holdings and networks against target markets and location requirements.

Methodology

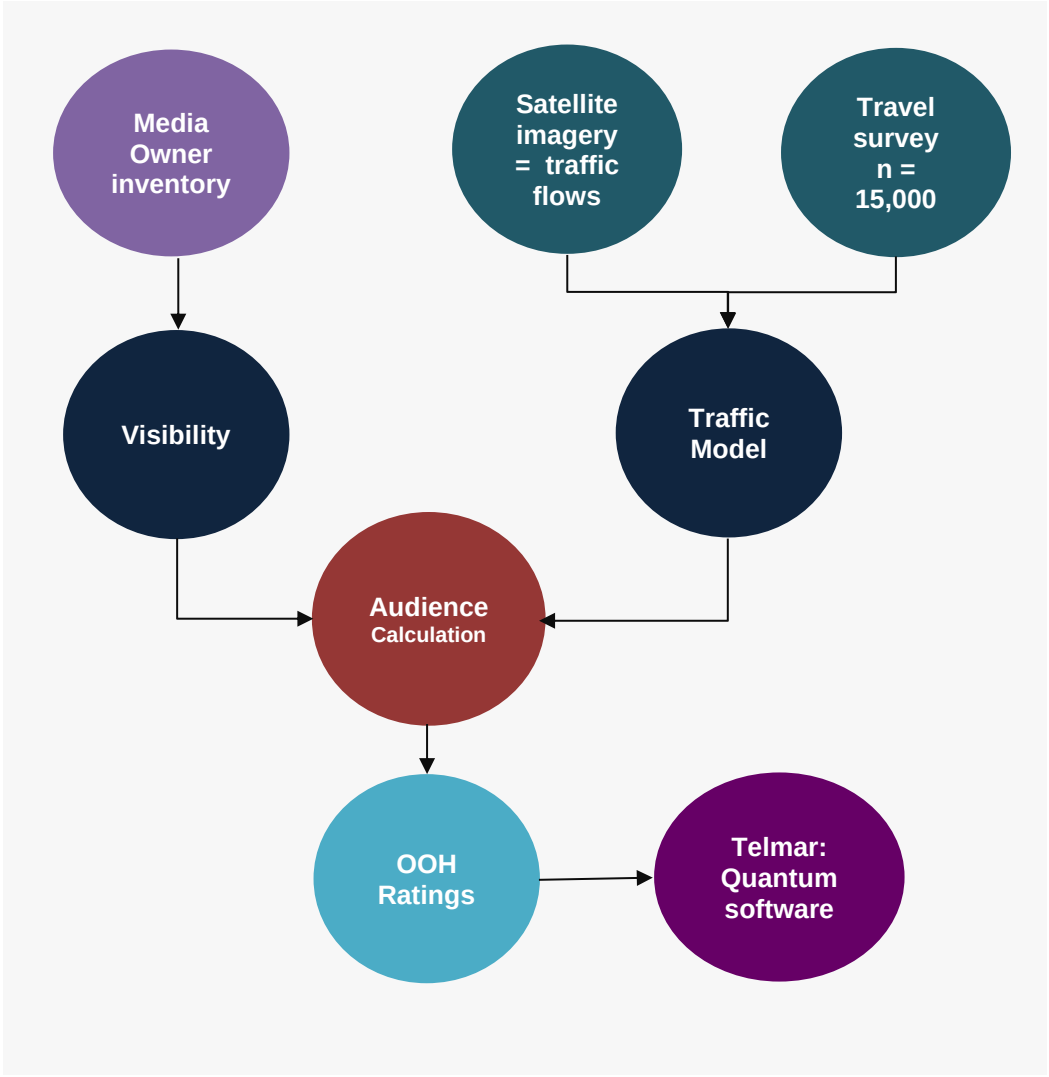
The innovative methodology includes the combination of satellite images, traffic flows and travel patterns to create a comprehensive traffic model, which when combined with the location and panel orientation of all media owner billboard panels, creates an accurate representation of OOH audiences. These elements are modelled to create OOH ratings demonstrating reach, frequency, GRP's, impacts, and CPM for OOH campaigns or single billboards. Elements such as direction of traffic flow and visibility zone analysis are taken into account as part of the model.

The ROAD measurement is conducted in line with ESOMAR's global guidelines

*The measurement of OOH media audiences in most countries relies on a **combination of survey data and mobility modeling** to enable the audience for all panels to be estimated sufficiently accurately for the market to operate, while **keeping the cost** of measurement to an **acceptable level**."*

South Africa is now a player on the international stage for OOH research with data that is approved, is accountable, is credible and provides a consistent methodology.

The parts that make up the ROAD survey



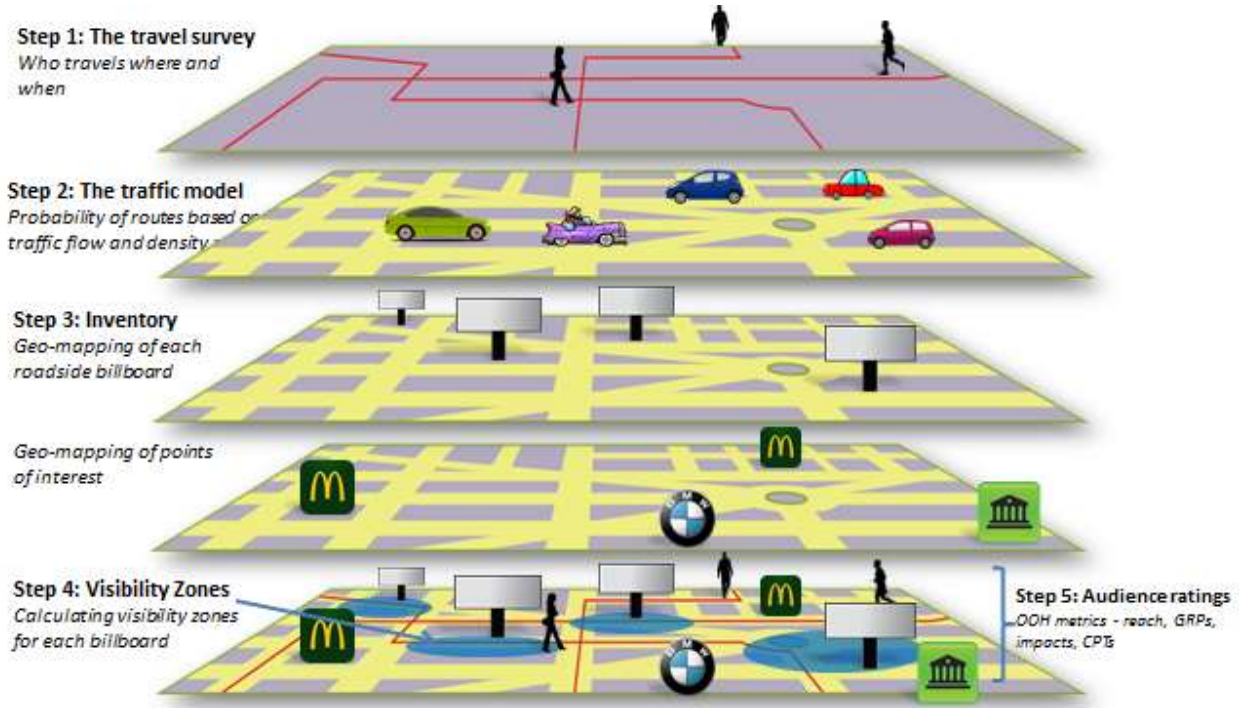
The OOH framework consists of **traffic satellite imagery** and a **travel survey** modelled to achieve a **traffic flow model.**

By taking into account visibility sharpness, visibility zones are calculated based on **media owner inventory submission** including, size of panel, location of panel, orientation to the road and the direction of audience movement.

Based on the **visibility of panels** and the **traffic model**, an **audience calculation** is derived from which **OOH ratings and metrics** are obtained.

The ratings are accessed through the **Quantum Software** licensed by Telmar.

A graphic representation of the data layers:



The OOH media planning tool is built on the complex intersection of three data sets: (i) individual OOH panels' geo-location data, (ii) the demographic and travel behaviour datasets and (iii) the latter modelled against the enormous geo-spatial satellite traffic data measured by Cuende Infometrics. *(mediaonline)*

Research and data partners

Data / function		***Partner***
The travel survey	ASK AFRIKA	Ask Afrika conducts the fieldwork.
Inventory		Media owners provide a list of their inventory including all relevant criteria, such as, height, width, orientation, area, and geo-location.
Data processing and modelling	CUENDE INFOMETRICS	*Cuende Infometrics*
Quantum software and OOH ratings	telmar	*Cuende Infometrics and Telmar*
Technical oversight and scrutiny	Kuper Research	*Kuper Research*

The Research Process

Step 1: The Travel survey (on the ground)

The main player: Ask Afrika

Purpose:

- To collect individual and household **demographics** that will be included in the final audience measure data set.
- To provide regular trip and travel behaviour data from a representative sample of South Africans in communities of 8,000 or more.
- To collect travel data that will be included in the Cuende Infometrics travel models.
- The travel survey measures people: where they go, how they travel, places visited and how often.
- The variables that are captured include origin and destination of trips, frequency of travelling, modes of transportation, trip types, time and duration of trips.
- The survey measure PEOPLE, it **does not** measure VEHICLES.
- The survey also allows for measurement of pedestrian travel.

In summary: The who, the where, the how and the when of travelling.

Methodology:

- A cross-sectional survey design is employed using personal face-to-face interviews.
- Respondents are interviewed in their homes on Android powered tablets.
- A probability sample is drawn which means that each person residing in South Africa in communities of 8,000+ has an equal chance of being selected, ensuring a random selection.
- The universe from which the sample is drawn is defined as people aged 15 years and older residing in South Africa, living in households, hostels or similar accommodation, in communities with 8,000 or more inhabitants. The universe excludes individuals residing in rural areas.
- The universe represents around 25 million adults which is 63% of all South African adults. The reason that the universe does not represent 100% of all South Africans is due to the fact that individuals below the age of 15 are excluded as well as those residing in rural areas.
- Data collection is continuous between February and November annually. December and January is not measured due to skewed travel patterns and behaviour during the holiday season. Interviews are conducted across all days of the week.
- The travel survey is released annually with an accumulated sample of 15,000 per year.
- The travel survey data will be released on a three year rolling basis going forward with an accumulated sample size of 45,000 from 2017 onwards.
- Extensive quality control methodologies have been put in place to ensure the quality of the data and interviewing.

Sampling: In summary

- The sample frame used for OMC is the Enumerated Area (EA) frame. EAs are the smallest area for which census data is available.
- To ensure a robust sample is drawn, a multi stage stratified random sampling methodology using probability proportional to size is used.
- A stratified random sample involves dividing the population into a number of mutually exclusive strata, ensuring that all important domains are represented in the sample.
- More than one stratification variable is used, these are, province, district municipality, age and population group. There are an equal number of males and females in the sample.

Weighting procedures

- Due to the differences in population sizes, a two-step process of weighting is implemented after the data collection and data cleaning process:
    - Weighting to adjust for the sample design; and
    - RIM weighting to adjust for demographics.

- For any probability sample, the design weight must be calculated first. Design weights are assigned to make weighted sample records represent the target population as closely as possible. Weights are usually developed in various stages to compensate for:
    - unequal inclusion probabilities (design weight);
    - non-response;
    - non-coverage and skewness resulting from sample design and fieldwork.

- After the design weights have been calculated, a second phase of weighting is implemented, namely RIM weighting. RIM weighting adjusts for demographics and corrects for over or under sampling. Since some population variables will be over/under sampled, it is necessary to adjust 'reduce' the contribution of the smaller variables and 'increase' the contribution of the larger ones.

- Adjusting for demographics (age, population group and gender) is necessary to bring the sample in line with known population demographics.

- Adjustments entail 'reducing' the contribution of the smaller variables and 'increasing' the contribution of the larger ones.

- RIM weighting is applied to adjust for demographics and corrects for over or under sampling.

What is RIM weighting?

Rim weighting is a technique commonly used to weight market research data to known targets, e.g. age groups, region or gender. The technique allows for weighting to each variable independently.

*The "rim" in rim weighting comes from the acronym for **R**andom **I**terative **M**ethod. Like any kind of weighting, it's a solution to a straightforward problem – the need to adjust a sample so that it is representative of the target population. This need arises frequently in market research cases where low response to a survey among certain segments leads to a dataset that is not representative of known population characteristics.*

For example, if a researcher knows that the target population is split evenly among gender lines, yet 65% of the survey responses are from women, there may be a need to use weighting during the analysis to allow for the skewed response pattern.

However, only having to worry about the proportionality of just one characteristic is easy. Unfortunately, often there is a need to ensure that the data matches the population in a variety of ways – not just gender, but also age, population group and any number of other traits. That's where rim weighting comes in. The technique allows the analyst to adjust multiple characteristics in a dataset all at the same time in a way that it ultimately keeps the different characteristics proportionate as a whole.

Weighting efficiency

What is weighting efficiency?

Weighting efficiency is an indication of the amount of skewing that had to be done to get the weights to converge; the closer this figure is to 100%, the less skewing needed to be done. It provides an indication of how well balanced the sample is.

If the data for many respondents needs to be weighted heavily up or down the efficiency percentage will be low.

The effect of low weighting efficiencies

It reduces the reliability of the sample, or in other words, the margin of error increases. This does not mean that the results are incorrect, but only that the statistical sampling error is bigger than it would have been if the effective sample was larger.

The weighting efficiency of the ROAD measurement is extremely robust.

The industry norm for robust weighting efficiency percentages are between 77.8% and 100%.

Formula: *(100*(sumPjRj)^2)/(sumPj)(sumPjRj^2)*

ROAD measurement weighting efficiencies:

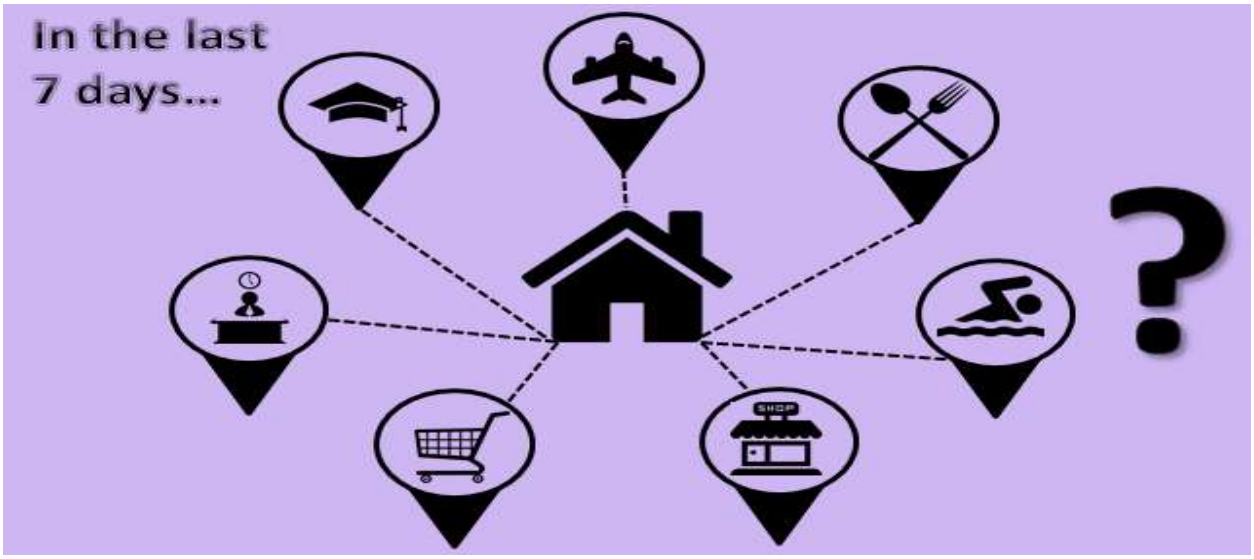
	2015/16	2015/16/17	2016/17/18
Weighting Efficiency Overall %	**88.65%**	**83.10%**	**88.23%**
Minimum Weight	80.82%	80.06%	80.05%
Maximum Weight	100%	100%	100%

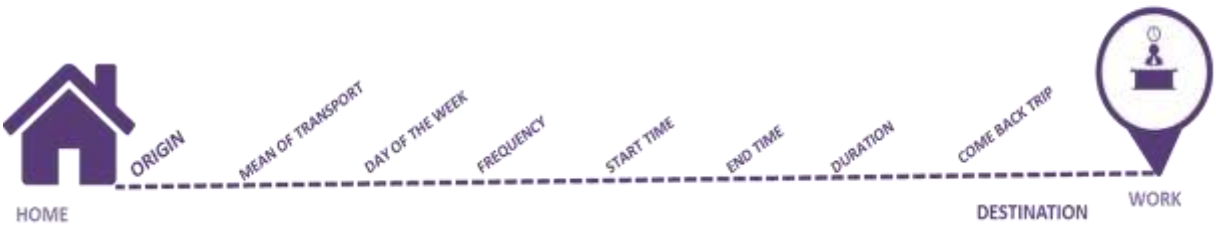
The questionnaire

- The face-to-face in home interview for the travel survey is completed via personal interviews with the randomly selected participants using Android powered tablets.
- Where appropriate, interviewers will hand over the device showing the question to the respondent to clarify certain concepts, aid recall and to introduce sensitive questions.
- The OMC questionnaire takes about 20-40 minutes to complete, depending on the number of destinations chosen by the respondents and is fully quantitative.

Questions asked:

- Types of trips undertaken in the past 7 days.
- The day(s) of week and frequency of the trips.
- The starting point and destination of each trip – an address, a name of a shopping centre, a point of interest and any other location identifiers.
- The starting and end time of each trip (duration of each trip).
- The mode of transport to and from the destination: foot, taxi, bus, car, train, bicycle.





An abridged questionnaire

Filter question – types of trips taken in the past 7 days:

- Place of work
- Place of education
- Shops or shopping centres
- Visiting family or friends
- Place of interest, e.g. movies, theatre, casino, museum, etc.
- Restaurant or take away outlet
- Park, sports stadium, the beach
- The airport
- Place of worship
- Gym, sports club, local swimming pool, golf course, etc.
- Hospital, clinic or doctors rooms
- Shebeen, tavern, pub or club

For each trip type the following set of questions are asked (where relevant):

- Name and address of trip – the start and end point of the trip.
  (in the event of a respondent not knowing the address, the interviewer will firstly probe for points of interest or crossroads in the vicinity and secondly will try locate the address using Google maps.)

- Days of the week that they took the trip and how often during the week.

- Mode of transport to and from the destination. *(If taxis are mentioned as a mode of transport, respondents are probed for taxi rank usage. Same applies to Gautrain users.)*

- Time of day leaving for and returning from a destination.

- The time taken for each trip.

Quality controls and checks

In order to address the challenges experienced during fieldwork and to ensure the quality and integrity of the data, various innovative controls and checks have been implemented.

These include:

1. Geo-fencing

Going to the right interviewing point is the first line of quality control employed when in field. To ensure this, all points are geo-fenced with a 150m radius.

What is Geo-fencing?

- It is a feature in Ask Afrika's CAPI software program that uses the global positioning system (GPS) to define geographical boundaries.

Benefits of Geo-fencing

- To ensure the interview is taking place at the correct location
- No interview will be able to activate if the interviewer is not within 150 meters of the interviewing point
- Assurance that the whole interview is taking place within the selected area

The data processing team verifies all interviewing point coordinates against the coordinates uploaded during the activation of the interview.

2. Covert recordings

Predetermined questions in the interview are voice recorded.

The benefits of voice recordings are to:

- control the quality of the captured data against the actual respondents' voice responses
- determine if the interview is actually taking place
- assess the understanding of questions

3. Call Backs on zero and one trips

- Call backs are made on all interviews where respondents have indicated that they made no trips or only one trip in the past 7 days.
- This is to ensure accuracy and to confirm that the data is correct.

4. Methodology compliance

Various methodology compliance activities are tracked and monitored on a weekly basis while in-field. These checks include:

- Monthly sample compliance – do the interviewers keep to the monthly sampling plan.
- Day or time of interviewing – is there a spread of interviews throughout the day and week/weekend.
- High income locked EA's – are the interviewers' compliant. High income areas have been programmed to only access the questionnaire when the interviewer is within the boundary AND after 16:00 in the afternoon or over weekends
- Interviewing length – flag all interviews with an interviewer length < 60 minutes.
- 100% coordinate check with house addresses (visiting points).
- Duplicated home address checks.
- Duplicated contact detail checks.
- Kish grid compliance.

5. Address verification

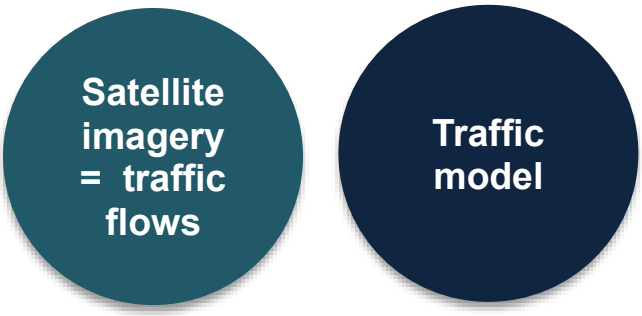
All OMC destination address fields are verified on Google Earth.

This verification process is to ensure:

- That the destination address exists
- That the correct information is provided
- That the full address fields were provided
- To improve the address quality

What happens to the data once the travel survey is completed?

- Clean travel survey data files are submitted to Cuende in Spain for their additional checks.
- After the data files have been accepted, Cuende models the travel behaviour and demographic details with satellite traffic images and probabilities of routes.



Step 2: Satellite imagery (in the sky)

The main player: Cuende

Purpose: Determine traffic density and traffic flows

From big data to ……..OOH metrics

From the travel survey we now have obtained the how, the who, the why, the where and the when people travel. However, in order to complete the travel model, we also need to determine traffic density and traffic flows.

A. The satellite data:

- Satellite images are continuously collected over the same period of the travel survey data collection.
- A large number of images are obtained and examined that take into account various possible situations that may occur (different day parts, public holidays, weekends and seasonal differences) to ultimately arrive at consistent numbers.
- Satellite imagery analysis identifies positions of all the cars in a complete area, obtaining a census of vehicles in a certain area. Traffic flows in every street of any area in any given moment is obtained, allowing an understanding of how density of traffic and traffic flows for specific locations, areas and streets.
- The calculation of the density of traffic and how traffic flows allow us to determine which streets are the main streets with high volumes of traffic and those which have less traffic.
- An index is then calculated to work out the average traffic intensity per street. This then provides a traffic intensity model.
- These figures are then instrumental in assigning probabilities distribution or routes.

Note: *The information retrieved through this source is restricted to vehicular traffic. It does not provide the pedestrian element. Pedestrian traffic is obtained from the travel survey.*

B. Traffic modelling (TripAtlas®)

Purpose: To calculate the probable routes that travellers use to reach their destinations

The main elements that feed into the trip modelling are:

- The travel survey
- Satellite images analysis
- Digital maps

The combination of these elements, thanks to huge computing power reproduces each trip obtained from the travel survey and calculates the possible route alternatives for each area.

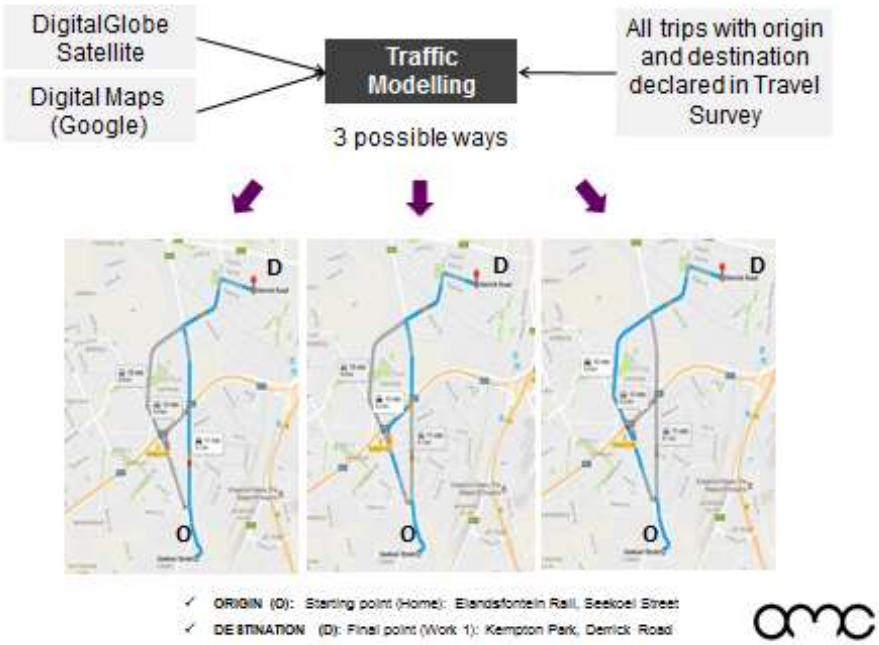
The objective is to create an accurate and factual picture of the trips taken in any area by hour, day, week, etc.

These trips are “probability” based, showing the multiple weighted route options that one individual takes for each trip. This is done for each of the areas included in the sample.

From the Trip Atlas, we can measure how specific targets move, which streets a commuter will use frequently, at what time, and so on.

This allows us to understand how people within an area or location “move”. It offers a complete representation of all the movements of each individual.

Example of modelling the probability of routes:



Step 3: Inventory

The main player: Media owners

Purpose: To geo map each roadside billboard to calculate audience metrics

- The core foundation of the system is the OOH inventory, the assets of the media owners, the elements that are used to identify, locate, measure and plan.
- Inventory is defined by its geographic location, its latitude and longitude and the orientation of the billboard.
- The system allows the creation of packages (a group of panels) as an option for selling billboards.
- The system requires the latitude/longitude, size and orientation as minimum variables for the audience calculation.
- There are user-defined fields such as panel position, address, type of panel, faces, digital, site code and so on.
- As the inventory is maintained online by the media owners any additions or changes to billboards are updated every session on the fly.
- The system will also pre-calculate other fields based on local characteristics so that panels can be quickly selected and filtered.

Advantages of pre-calculation:

- The possibility of checking proximity to Points of Interest (such BMW dealers, McDonald´s, schools…) of panels and networks.
- In addition, the system allows for the calculation of proximity to POIs on the fly, as the user can upload his or her own list of POIs, for example, a client's list of his shops.

Step 4: Visibility Zone

The main player: Cuende Infometrics

Purpose: **To calculate how far someone can actually see and read a billboard to be considered a proper contact**

Passing traffic does not equal an ad contact

"An individual that goes into the visibility zone with the correct sense of direction and with a real opportunity to see."

- It is not only about location… it is also about how far someone can see the billboard that makes up the visibility zone.
- There are many factors that influence the possibility of properly making contact with a billboard.
- Visibility factors are assigned to each panel based on their own characteristics (size, location, panel orientation, visual sharpness and obstacles) and also includes whether a person is travelling in the direction of the panel.
- This moves the measurement from Opportunity to See to an almost "real warranted contact".
- Due to the passive contact with OOH panels it is necessary to move from Opportunity to See to Likelihood to See.
- This solution is driven by ESOMAR Guidelines.

How does Cuende do this?

- The “Visibility Zone” software computes all the panels in the system, analyses the size and the orientation of each panel separately and calculates the visibility zone, taking into account the buildings and obstructions defined on the digital map.

- Then it marks the direction that an individual moves towards the panel.

- First of all, to define a panel impact the possible places from where a panel may be seen are established and the direction of movement the individual has to travel to see the panel properly.

- Again, we can see here how relevant the quality of the Digital Maps is as they define the possible streets, the obstructions and the visibility sight-line.

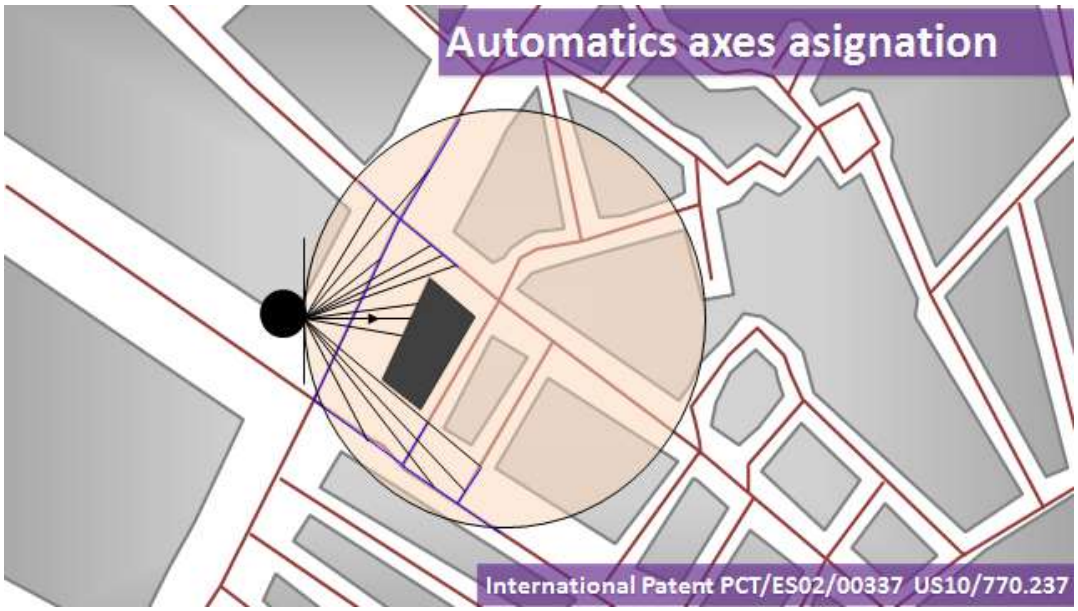
- See below an example of a panel on the corner of the street, a visibility area (circle) and street axis marked as valid.

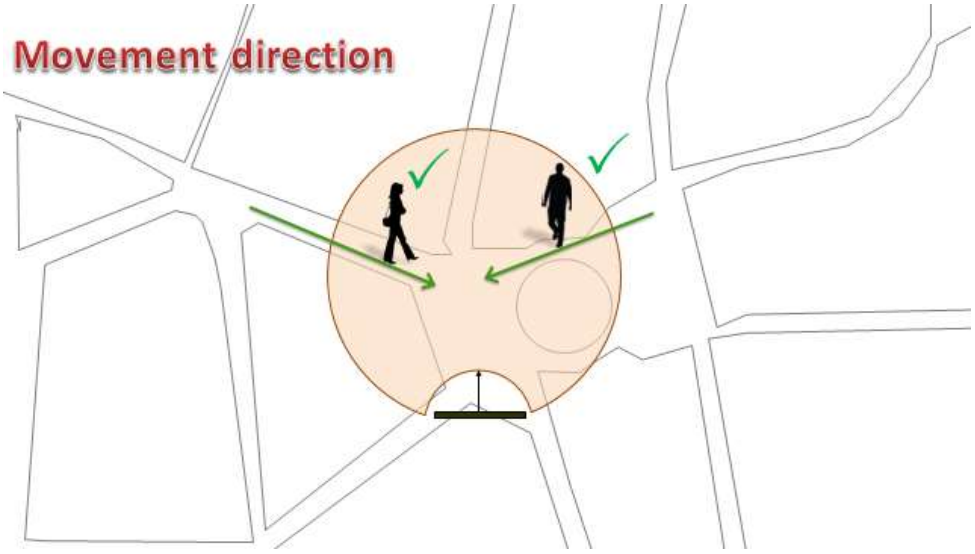
- Cuende has worked with opticians and ophthalmology specialists to define what is called the visual sharpness and to obtain the population visual sharpness average.

- This is a typical test for vision evaluation where you define at what distance you can read text on a billboard.

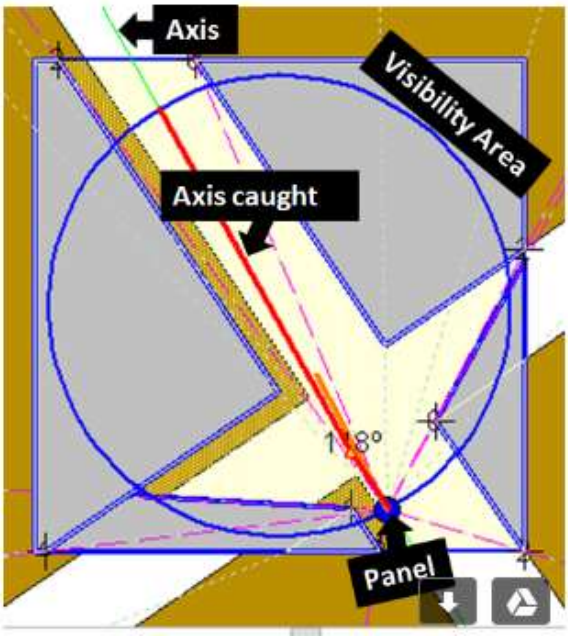
- The visibility distance criteria can be based on visual sharpness (1 meter of diagonal = 42 meters of distance).

- The obtained solution is a CIRCLE as in the diagram above - we get a legibility area.
- The zone is that, if a person is inside, he/she can perfectly read what is on the panel.
- This means that anyone on the line defined by the circle will have the same angle of vision, so he/she will be able to read the panel perfectly. If the person is within the circle, the panel is nearer, and consequently more visible.
- It is important to note that this is measured against all traffic regardless of how people travel, whether by car, bus, foot, taxi, train and so on.





Visibility analysis interpretation



- The Visibility Area is built considering panel location, size and orientation.
- Once an area is drawn according to these parameters, all axes inside the zone are analysed.
- These axes contain multiple trips obtained from fieldwork that configure in the traffic layer.
- A contact is finally calculated depending on a fourth parameter, that is, the direction of movement of individuals passing through these axes in relation to panel orientation.
- When individuals because of their direction of movement are looking directly at the panel, they are registered as contact.
- Otherwise, when individuals are passing through the street but are moving in the opposite direction with their back towards the panel, they are dismissed and not considered a contact.

Analysing the parameters in the graph above:

- The visibility area is the circle drawn depending on location, size and orientation.
- The green axes are created to show the trips passing through the zone from the fieldwork.
- The red axes are those that fall inside the visibility area and those that are considered to register contacts from individuals passing through them.
- Panel orientation is essential in relation to direction of movement.

How the calculation works:

Axes are the result of all the trips and routes made by individuals that pass through the visibility area of the panel. These routes form streets, roads, avenues etc...

Example of how the axes are calculated:

- A particular frame contains **116 axes** from a sample of 185 individuals.
- This means that 185 individuals passed through the visibility area of the panel creating 116 axes.
- Thereby if 2 people from the sample follow the same route, this counts as 1 axis.

Step 5: Audience calculation

The main player: Cuende

Purpose: **To provide metrics – audience ratings, GRPS, and so on**

The Output

- By combining the inventory location and the visibility zone data, we get the "Contact" definition: "An individual that enters into the visibility zone with the proper orientation and with a real opportunity to see."
- This is calculated for each trip against all the panels.
- The output is a simple respondent file that contains the probability of contact by each individual and each panel.
- The system bears an immense workload prior to this point to process all of the data, but the output is distilled to a plain "Respondent & Probability to Contact" file. This simplicity makes it easy to process and calculate GRPs, reach & frequency, any open target or any aggregation of panels.
- This situates OOH on the same playing field as other mass media, as they are also respondent based.
- All the computing, all the big data and all the number crunching are internal processes to make things simple in the planning software and for quick evaluations . . . for the final user.

Reach & frequency model

- A “clean” and “clear” algorithm has been produced to calculate R&F so it is easy to understand, to track and to validate.

- It is also possible to optimise the reach of a network or a package of different sizes and to obtain the audience of combined networks.

Reach calculation

- The number of different or unduplicated people who are exposed to a panel at least once during a reported time *(e.g. a campaign period of 1 week or 2 weeks or 1 month or 2 months and so on)*.

- Reach is calculated by measuring the number of weeks of a campaign on a panel and the probability that an individual is exposed to the panel.

- The probability therefore increases over longer campaigns as reach builds.

- Reach is therefore a *“time/frequency weighted”* measurement.

- The visibility zone calculations are then added into the equation which converts OOH reach from an opportunity to see to a ”likelihood to see”.

- *See detailed explanation of reach and frequency in Appendix 1.*

Clarity of concepts

Probability of seeing:

- *Firstly, the probability of being exposed to a panel is derived from the traffic model and is based on the particular routes a respondent will use for specific trip. Because the reach measurement is a time/frequency based measurement the probability of exposure is also calculated on how frequently within the campaign period a respondent will take the route.*

Likelihood of seeing:

- *Secondly, once the route and frequency probabilities have been calculated the visibility zone calculations are added to the equation, that is, whether the respondent is in the visibility zone of the panel travelling in the correct direction. Once this calculation is added the reach is converted from being an “opportunity to see” to being a “likelihood to see”.*

Gross Rating Points (GRPs)

- Impacts expressed as a percentage of the population being measured. One rating point equals 1% of the population (all people or any demographic group).

  GRP Calculation: Reach % x Average Frequency = GRP

  Frequency calculation: The number of times people pass a panel

***** *See Appendix 1 for detailed explanation of the OOH metrics.*

Data releases

- 2015/16 data has been released with a sample of around 30,000.
- The next release was a mid-year release and used the 2015/16 travel survey data updated with changes in traffic routing patterns by assessing more recent satellite traffic images. This was released in July 2018.
- The next annual release will combine 2015/16 and 2017 data and will be released at the beginning of 2019 with a sample of around 45,000. This release will include updated travel survey data as well as updates in the traffic satellite images.
- The reason for releasing data with a 3 year rolling sample is to enhance the sample sizes allowing for the inclusion of smaller areas as well as giving more robust data per billboards.
- Subscribers to Quantum will also be able to receive access to the ROAD data in crosstabbing software packages. This will allow users to gain insights into how, where and when people travel in their daily lives and will be useful for strategic purposes.

ROAD data will be released twice a year:

1st release: A new database will be released each year in January/February which includes updated data from a new travel survey as well as updated traffic satellite images.

2nd release: An updated database will be released mid-year which includes updated traffic images to allow for recent changes in traffic patterns to be calculated into the model.

Telmar: Quantum software

Step 6: Quantum - OOH media planning software

The main players: Telmar/Cuende

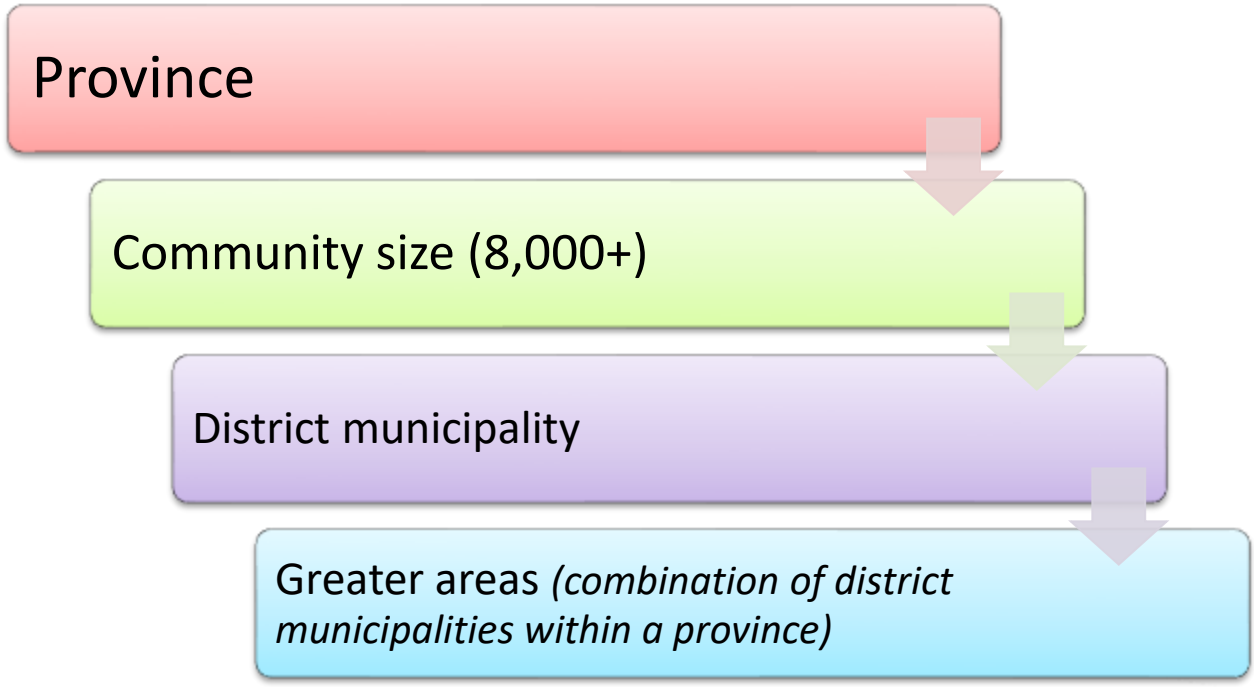
Purpose: **To provide media planning software to measure OOH plans**

Telmar in partnership with Cuende are the providers of the software in South Africa. They are responsible for implementation, training and client service on the software.

Terminology	Definition of terms within Quantum
Digital	Roadside billboards that can change advertising content using digital technology featuring multiple advertising messages presented in rotation every few seconds.
Model	The model refers to each company's naming of their products. (This differs from site type - referring to global classification of type of roadside format across all companies)
Position	Whether it is panel/face 1 or 2 or 3 on a structure, in other words, in general, panel 1 or A (depending on company conventions) will refer to drivers left position. (Take note that this is general and there are some exceptions).
Faces	The surface area on an OOH unit where advertising copy is displayed. A structure may have more than one face.
Orientation to road	The direction a panel faces, with East as 0 degrees
Community Size	The type of community within which South Africans live is determined by its number of inhabitants. These communities include: metropolitan areas (250 000 people or more); cities (100 000-249 999); large towns (40 000-99 999); small towns (8 000-39 999); villages (500 - 7 999) and settlements or rural areas. The ROAD survey conducts interviews in all communities with a population of 8 000 or more inhabitants.
District municipality	The nine provinces in SA are divided into 52 district municipalities (of which 8 are metropolitan municipalities). They are the second level of administrative division, below the provinces and above the local municipalities. (ROAD data is released at a district municipality level. ***A district municipality must achieve a minimum sample of 100 to be released. Note: all areas are surveyed but only data from District Municipalities with a sample of 100+ are released).***
Local municipality	A local municipality serves as the third and most local tier of government. Each district municipality is divided into a number of local municipalities. There are 226 local municipalities in SA.
Greater Area	A greater area, in relation to the ROAD survey, is a grouping of district municipalities within a province where there is travel activity across boundaries.

Please note that a Quantum training manual is available from Telmar (see Appendix 2).

How areas are measured in ROAD:



Province, community size, district municipality

1. Within each province communities of 8,000+ are surveyed.

2. The district municipalities within these communities of 8,000+ are surveyed.

3. This means that areas with populations of less than 8,000 are excluded from the sample and thereby rural areas are not measured.

4. District municipalities (which are one level below the province and one level above a local municipality), are the smallest areas that can be analysed using the ROAD information.

5. Any area smaller than a district municipality is problematic due to small sample sizes.

6. A district municipality must achieve a minimum sample of 100 to be included in ROAD.

7. All areas are surveyed but only data from district municipalities with a sample of 100+ are released.

8. The audience data released in ROAD reflects the travel patterns within district municipalities within provinces. This means that the data does not reflect travel patterns across provinces but could in many instances reflect travel across district municipalities within a province where appropriate.

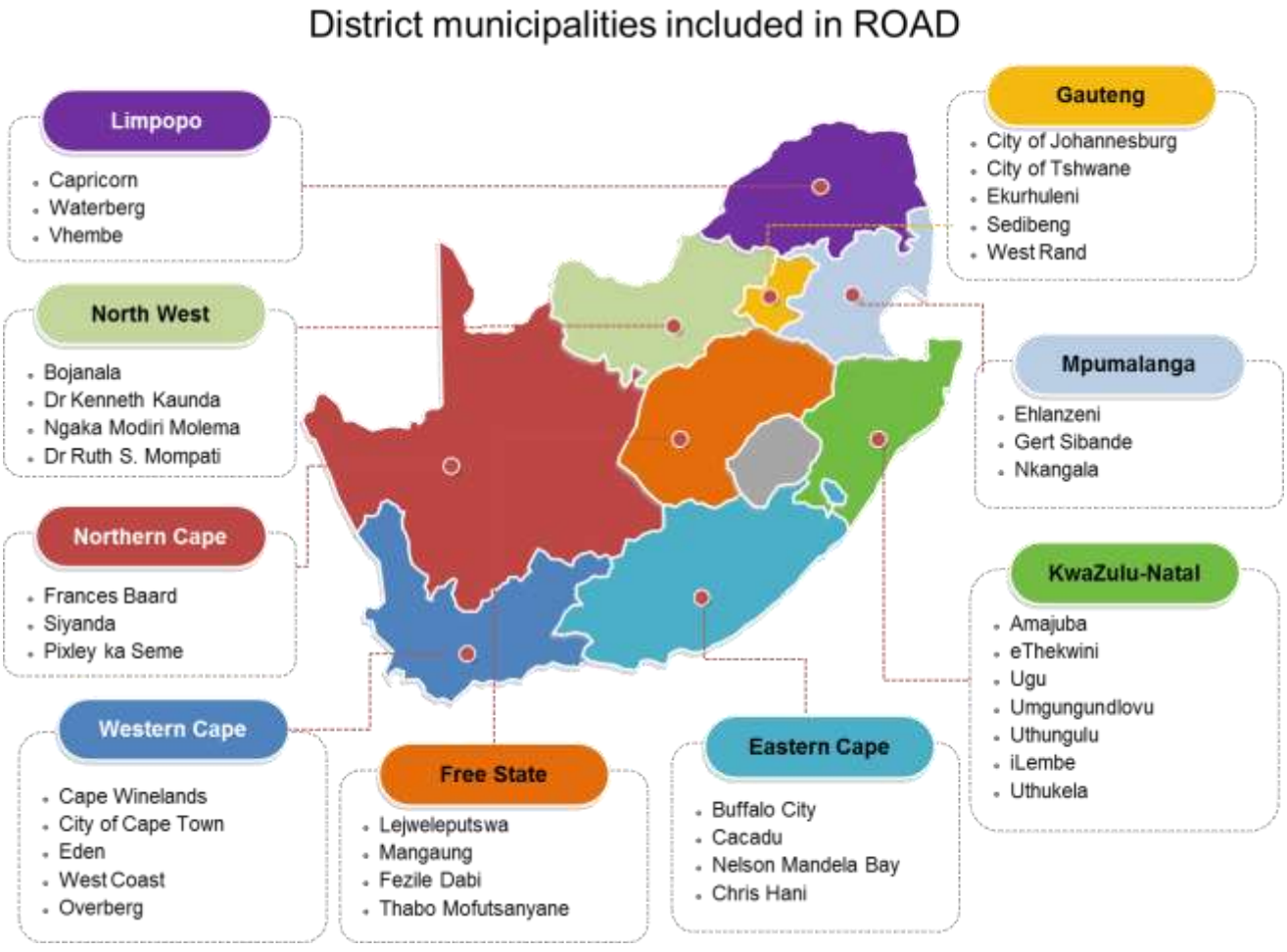
Greater areas

1. A greater area, in relation to ROAD, is a grouping of district municipalities within a province where there is some travel activity across boundaries. These are district municipalities with a sample size of 100 or more.

2. Note: if a province is selected as a target market, the universe will reflect total population numbers in the province for communities of 8,000+ – even though some of the district municipalities' samples will be too small.

3. There are 38 district municipalities included as per map below.

4. NB: when selecting regions it is advisable to select the **greater area groups** rather than province to ensure that only data that is released is being reflected.



Definitions / Terminology

A

Absolute – Reach in absolutes for Total Population

Accumulated Reach - The sum of all reach achieved. The second frame adds to the first the corresponding not duplicated individuals, the third adds to the first and the second different individuals not included in their reach. Another term is unduplicated reach

Average Impacts- Total Target Impacts / Total nº frames. Average impacts per frame in frame selection.

B

Base Impacts in (000) – Impacts that belong to Total Population

C

Cost per GRP (CPP) – The cost of achieving one rating point for a target market. This denotes cost efficiency of the campaign or for comparing price difference across different billboards or schedules. It levels the playing field for comparison purposes.

Cost per Thousand REACH (CPT/CPM) – A monetary figure which indicates the cost of reaching 1,000 people in a target market. This indicates cost efficiency when selecting billboards and assessing campaigns. It refers to the relative balance of effectively meeting reach and frequency goals at the lowest cost. Note the term Cost per Mille (CPM) is also used and means the same as CPT.

Cost per Thousand IMPACT (CPT/CPM) – A monetary figure which indicates the cost of achieving 1,000 impressions or impacts in a campaign.

D

Digital – Roadside billboards that can change advertising content using digital technology featuring multiple advertising messages presented in rotation every few seconds.

Distribution - The strategic placement of OOH units across a market. The distribution of units will impact the reach of the campaign and the demographic profile of the audience that is delivered.

District Municipality – This is the second level of administrative division, below the provinces and above the local municipalities.

F

Faces – The surface area of an OOH unit where advertising copy is displayed. A structure may have more than one face.

Frequency – The average number of times that a target audience is exposed to a billboard and/or a campaign within a given period. Frequency in OOH advertising is typically measured over a four-week period, but can be reported for any campaign length.

G

GRPs (Gross Rating Points) – Impacts expressed as a percentage related to the target population. Representation of the total number of exposures to boards expressed as a percentage of all possible viewers. ((Impacts / Population) X100) or (reach % x average frequency (OTS)). GRPs provide an understanding of the weight of an individual billboard or of a campaign. GRPs accumulate throughout a campaign; but note they do not take duplication into account. GRPs can be used to compare different billboards and/or campaigns.

Greater Area – A grouping of district municipalities within a province where there is travel activity across boundaries.

I

IDX – Unique identification number allocated for each panel by Cuende

Illuminated – A billboard that is equipped with internal or external lighting that provides night time illumination.

Impressions/Impacts: The total number of times people are likely to see a billboard / OOH display (the number of people reached x the frequency). Gross impressions are those delivered against a demographic audience for an advertising schedule.

L

Likelihood to See (LTS) – OOH is unique in that it measures an LTS and not OTS (Opportunity to See) based on the proximity and movement towards a billboard. It is the portion of the OTS audience who are likely to see an ad. OOH is the first medium in the US to move from reporting OTS audiences to LTS audiences, which can also be referred to as commercial audiences.

M

Model – The type of billboard, for example, Super Sign, CitiLite, 48 sheeter and so on.

Municipality – The local municipality area.

O

Orientation to Road – The direction a panel face, with east as 0 degrees.

P

Package – Proposal or saved files

Panel Description – A description of where the board is situated to provide better context of the panel's position.

Position – Whether the billboard is panel/face 1 or 2 or 3 on a structure, in other words, in general, panel 1 or A (depending on company conventions) will refer to drivers left position.

Profile % - (Target Impacts/Base Targets). This provides the percentage of impacts achieved by a specific target market proportionate to the total population. For example, if a billboard achieves 1000 ratings in total and it achieves 500 ratings against a specific target market, the profile % will be 50%. This means that half the audience exposed to the billboard is not in the target market. The higher the profile % the less wastage is achieved.

Profile Index – A profile index is a percentage expressed in relation to a norm of 100. It is used to demonstrate if the profile is average, above average or below average. It is an affinity indicator – the higher the index is above the norm of 100, the better the targeting is to a specific target market.

$$\frac{\text{Target Market/Total Impacts}}{\text{Base Impacts/Total Base Impacts}} \times 100$$

R

Reach Target – Refers to the number of people within your target market who are exposed to a billboard and/or campaign at least one time. Reach is unduplicated and refers to number of people regardless of the number of times of exposure (see target Impacts).

Reach is the number of different or unduplicated people who are exposed to a panel at least once during a reported time.

Reach Target % - Reach expressed as a percentage related to the Target Universe

Reach absolute/Target universe X 100

Reach in ROAD data - Reach is a "time/frequency weighted" measurement. ROAD data measures likelihood to see and not opportunity to see. The number of individuals are weighted by the average number of contacts with a billboard made per week within a campaign. (See Appendix 1)

T

Target Audience – Any audience reflecting the most desired consumer prospects for a product or service, defined by age, gender, race, ethnicity or income; or their combinations for any geographic definition.

Target Impacts (000) –This provides a weighting to allow comparison between schedules and media. This number refers to the number of times a billboard and/or campaign is seen. (Reach x Frequency). For example if reach is 1,000 and on average each person is exposed 10 times, the impacts will be 10,000 (1,000 people x 10 times).

ROAD metrics explained

ROAD Metrics Explained

How reach is calculated

- The first question asked is which types of trips were taken in the past 7 days.
- A trip type is any trip taken to:

  place of work, place of education, shops or shopping centres, visiting family or friends, place of interest, restaurant or take away outlet, park, sports stadium, the beach, the airport, place of worship, gym, sports club, local swimming pool, golf course, hospital, clinic or doctors rooms, shebeen, tavern, pub or club and so on

- For each trip type the respondent is asked: *Thinking about the past 3 months, how often would you say that you go to…*
  - *this place of work? this restaurant? this gym? these shops?*
  - *is it every week (Mon-Fri), over weekends (Sat & Sun), a few times a week, once every two weeks, once a month, a few times a month, less often than once a month*

The reach calculation is then weighted according to the number of times *(frequency)* that a particular type of trip is taken.

Frequency of trip types and their weights

Frequency of trip past a billboard	Frequency applied (for 1 week)
Every week (Mon – Fri)	**1**
Over weekends (Sat & Sun)	**1**
A few times a week	**1**
Once every two weeks	**0.5**
Once a month	**0.25**
A few times a month	**0.375**
Less often than once a month	**0.1**

The reach calculation

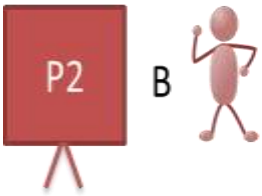
The number of different or unduplicated people who are exposed to a panel at least once during a reported time (e.g. a campaign period of 1 week or 2 weeks or 1 month or 2 months and so on).

- Reach is calculated by measuring the number of weeks of a campaign on a panel and the probability that an individual is exposed to the panel.
- The probability will increase over longer campaigns as reach builds.
- Reach is therefore a *"time/frequency weighted"* measurement.
- The visibility zone calculations are then added into the equation which converts OOH reach from an opportunity to see to a likelihood to see.

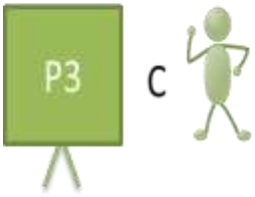
Example of reach

the probability that an individual sees a panel at least once

- Person A travels past this billboard going to work **every day Mon-Fri**.
- Their probability of seeing the billboard in the time period of 1 week is weighted as 1.
- Therefore regardless of whether the campaign is 1 week or 4 weeks, there is a probability that person A will definitely see the billboard during the campaign.



- Person B travels past this billboard going to the shops **every two weeks**.
- Their probability of seeing the billboard in the time period of 1 week is weighted as 0.5 – so reach is weighted down by half.
- Using a *Binomial distribution* algorithm, a two week campaign increases the probability of passing the billboard from 0.5 to 0.75.
- As the campaign period increases so the probability of seeing the billboard increases until there is a full probability reach of 1.



- Person C travels past this billboard going to the gym **once a month** and to college **once every two weeks**.
- Their probability of seeing the board in the time period of 1 week is:
  - weighted at 0.25 for the trip to the gym and
  - by 0.5 for the trip to the school.
- So the probability of seeing the board in 1 week is calculated at 0.625 for the two trips past the same billboard.
- Going from 1 week to 2 weeks increases the probability from 0.625 to 0.86.
- As the campaign period increases so the probability of seeing the board increases until there is a full probability reach of 1.

Frequency calculation

The number of times people pass a panel

Frequency = every week

Thinking of the past 7 days, which days of the week have you been to this place of work (or worship, school, shopping, etc..)?

Mon	Tues	Wed	Thurs	Fri	Sat	Sun
X		X		X		

Frequency	Weighting
Every week (Mon – Fri)	1

Person A travels to **WORK** 3 times a week **every week**
Frequency for 1 week: Mon 1 + Wed 1 + Fri 1 = 3
Frequency for 2 week: Mon 1 + Wed 1 + Fri 1 = 3 x 2 = 6

Note: average frequency for one panel will consider all individuals contacted, their weight and their probability of contact.

Frequency calculation

The number of times people pass a panel

Frequency = every two weeks

Thinking of the past 7 days, which days of the week have you been to this place of work (or worship, school, shopping, etc..)?

Mon	Tues	Wed	Thurs	Fri	Sat	Sun
X		X		X		

Frequency	Weighting
Once every two weeks	0.5

P1

A 

Person A travels to **SHOPS** in past 7 days 3 times but only does this "once" **every two weeks**
Frequency for 1 week: Mon 0.5 + Wed 0.5 + Fri 0.5 = 1.5

Contact us:

If you have any queries please email the OMC on omc@omcsa.org.za or visit our website www.omcsa.org.za