



Q42022CHANGES

Frequently Asked Questions

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INTRODUCTION

On 19th January 2023, Route, the audience measurement currency for out of home advertising in Great Britain will change. While many of the frames measured will experience minimal change to their audience figures. For a small number, the difference may be substantial.

DEFINITIONS

Q. What measurements does Route provide?

Short answer

Route provides five measures for advertising campaigns:

1. Reach: the unique number of people seeing the campaign
2. Impacts: the total number of times the ad/campaign will be seen
3. Frequency: the average number of times those exposed to the campaign will see it
(Impacts / Reach)
4. Cover: the proportion of the target audience who are exposed
(Population / Reach)
5. Gross Rating Points (GRPs): a measure of campaign weight. Generated by taking the proportion of target market reached and multiplying it by the number of times the ad is seen. (Cover * Frequency)

Q. What is a spot ad in OOH?

Short answer

A spot is when an advertising copy is broadcast or displayed on a digital screen (frame). Spot durations will differ by media owner and environment.

Q. What is a Multi Sensor Tracker (MST)?

Short answer

A multi sensor tracker is a device that we supply to our travel survey participants. This passively collects data on the location of where the participants go during their two weeks. The device uses an advanced GPS chip as its prime means of locating participants and includes another series of sensors which are also used to interpolate movements when no GPS signal is available (such as when participants go underground).

NEW FOR Q4 2022

The new implementation of the MST tracking data now allows a more granular application of the participant travel, particularly within indoor environments.

Until now many of the indoor environments were based predominantly on modelled behaviour. We now have a better understanding of exactly where people travel in indoor environments leading to more informed models. Using observed behavioural data to create routes of travel rather than a best fit allocation to pre-identified paths gives us a better understanding of where people really go.

This can have significant effects on the data (in some instances) as some journeys become more direct and others are more circuitous than previously modelled.

NEW FOR Q4 2022

The second change being implemented from the MST data is to better account for pedestrians' speed of travel. Without more granular data available, previous models were based on the assumption that all pedestrians travel at 1.5 meters per second.

The MST data now gives us a better understanding of the speed of travel. We are able to identify three pedestrian behaviours

- Walking – travelling at a speed of 1.81m/s or faster
- Wending – travelling between 0.2 – 1.8 m/s
- Waiting – travelling slower than 0.2 m/s

These variable speeds are now assigned to participant journeys according to the readings generated by the MST.

What this means for audiences is that in some instances we will have people now travelling slower than the previously assumed 1.5m/s which will result in longer exposures to OOH ads

- Longer exposures lead to higher visibility adjustments (the longer something is in front of you for, the more likely you are to notice it).
- Higher visibility adjustment levels lead to higher audiences
- This is especially pertinent to digital inventory where longer exposures can result in multiple impacts

The effect of variable speed is evident in most internal environments.

Q. What are visibility areas?

Short answer

The visibility area for an out of home ad is, quite simply, the catchment areas from which it is possible to see at least 90% of the screen or poster. The visibility area is calculated according to the dimension size of the frame. The maximum visibility distance is derived from the results of Route's visual attention research. The area emanates from each side of the frame at an angle of 120 degrees. The visible areas extend to the maximum visibility distance

according to the ad dimensions. These areas are then mapped to the real world and shaped around permanent obstructions such as buildings.

Q. What is realistic opportunity to see (ROTS)?

Short answer

Route does not trade in a currency based on opportunity to see advertising, rather it is more stringent and nets audiences down from those in the vicinity of inventory, to those spending time within areas where at least 90% of the ads are visible to then again determining how many of these people have actually seen the ads. The ROTS is the number of people who travel through the visibility areas of out of home inventory.

Q. What is visibility adjustment?

Short answer

The visibility process calculates how likely those people who are in the visibility areas are to actually look at the posters or screens. This is a complex calculation that is derived from various visual attention studies which Route has conducted. The variables which determine how likely someone is to notice an ad include:

- Time spent within the area (the longer exposure, the more likely to notice)
- The distance from the ad (people closer to ads are more likely to notice them)
- The angle of approach to the frame (the more head-on an ad is, the more likely it is to be seen)
- The distance that the ad is offset from the path of travel (the further the ad is offset from the direction of travel, the less likely it is to be noticed)
- Whether the ad is dynamic – ads which move / transition are more likely to be seen than static ads

The visibility adjustment calculations are applied each time that a participant enters into a visibility area of a poster or screen and are recalculated every 0.1 seconds before being accumulated to determine the overall probability that the person will see the ad.

NEW FOR Q4 2022

The new Q4 2022 data incorporates a more granular application of “hit rates” for pedestrians as we can now implement different hit rates for when people walk, wend and wait there are different hit rates for fixed inventory (posters and screens) and also for mobile inventory (buses and taxis).

The new hit rates find that pedestrians are slightly less likely to notice mobile inventory though the rates for fixed inventory are similar to what went before. Generally speaking people are more visually attentive whilst walking, then waiting and finally wending.

Additionally we have updated the hit rates for mobile inventory from vehicular audiences. This shows a significant uplift in the likelihood to see buses and taxis from vehicular audiences which increases the overall audience level.

Finally with regards visibility we have updated the illumination effects. This determines whether posters and screens are more or less visible at night than in the daytime. Previous estimates for unlit posters (and buses and taxis) suggested a significant penalty for visibility hit rates at night. However the current research finds little or no difference. This stems from an improved methodology in the current research. The overall effect of this is to increase the audience for unilluminated posters and buses and taxis in months with more darkness and thus having a dampening effect on seasonal fluctuations.

CURRENCY CHANGES

Q. Why is Route changing?

Short answer

To make the data more reflective of current travel volumes and to improve our understanding of pedestrian audiences, thus completing the journey we set out on in 2016.

Q. What changes have been made to Route?

Short answer

This publication marks the first release of Route data since December 2021 and incorporates several substantial changes, namely:

- Contemporised volumetric counts (pedestrian and vehicular)
- The introduction of 'walking, wending and waiting' for pedestrian audiences
- Introduction of new MST (tracking data) for indoor environments
- New visibility adjustment 'hit rates' for pedestrians
- New vehicular visibility 'hit rates' for mobile inventory (i.e. bus and taxi advertising).
- New visibility inputs in respect of illumination
- A new taxi model
- Fixes for spikes in the 15min audiences
- Audiences now always sum at 15-minute level rather than daypart
- Update to the road geometry
- Updated population figures

Q. Why are the changes happening now?

Short answer

We now have completed the upgrade of the MST modelling process and, critically, have an approved method to moderate current volumes of travel which can be applied to our audience calculations.

Q. How is the measurement different from what was measured before?

Short answer

More contemporary: While Route's travel data was collected Pre-COVID (Sept 2016 – Feb 2020), we need a means of moderating how audiences have changed since that time. In order to do this we have made use of a variety of sources that enable us to compare the change in traffic volumes (vehicular and pedestrian) for different environments and regions from 2019 to the current reporting period. This “contemporisation” factor has the effect of moderating the volumes of people passing through visibility areas and hence moving audiences up or down in line with the level of change seen.

Better understanding of pedestrians: we now have a new way of processing pedestrian behaviour through internal environments (malls, stations etc). This has allowed us to better inform our models on where people go when they are indoors. This also allows us to account for variable pedestrian speeds, which replaces a previously held assumption that people are always walking at a fixed speed of 1.5 meters per second (about 4kilometers per hour).

Improved Visual Attention Modelling: Finally we have upgraded our understanding of how likely people are to see ads when they are exposed to them. We have been able to assign different hit rates for pedestrians when they walk/wend and wait. We have also improved our understanding on the likelihood of drivers seeing mobile ads (buses and taxis) and finally we have been able to update the difference in visual attention at night verses during the day.

Q. What do the changes allow me to do now that I couldn't do before?

Short answer

This allows us to reflect the changes in travel volumes meaning that any additional external audience calibration is unnecessary and to give a more informed view of pedestrian audiences for OOH advertising.

Q. Do the changes mean that the previous data was wrong?

Short answer

No! The data was as precise as it could be with the inputs available. The new data represents an improvement on what was feasible in the past.

Since introducing the MST meters to help us collect our data we have . refined our measurement of people's movement. This was a staged introduction to the currency and was last refreshed with the introduction of digital spots in April 2020.

This final stage allows us to better track where people go and with increased precision. Using additional sensors within the devices we can more accurately predict where people go, including when they are inside or underground, even without the use of our advanced GPS chip and to understand the speed of travel. This, in turn, improves our ability to establish who can and does see out of home advertising in Great Britain.

The technical advance also means we can more accurately record how long people are exposed to out of home advertising. The result is that we have a better estimate the number of ads they will see.

New modelling processes have improved the reporting of smaller, more localised campaigns. We will now report on standard audiences for each and every frame through the day.

Arguably, Route is the most sophisticated audience measurement system anywhere in the world. Our work in understanding how people see things is exported internationally to OOH audience measurement systems in 18 international markets.

The changes we are making, reinforce Route's position as a global leader.

EFFECT ON DATA

Q. How do the changes affect the data?

Short answer

Route data will change with the release in January 2023. The changes can be significant on an individual frame level, though not always.

For indoor environments, there are likely to be more impacts in the market.

The improved measurement results in a more accurate reflection of the frequency of seeing digital ads. It is likely to result in an increase in the number of pedestrian impacts. Posters will also experience changes too driven by changes to visibility work.

Q. Can I compare a campaign before and after the changes?

Short answer

The underlying mathematics have changed meaning that direct comparisons are not recommended.

The algorithm (the way we calculate our audiences) has changed to reflect the various upgrades that are now included in the data.

The refinements now being applied include:

- Contemporised volumetric counts (pedestrian and vehicular)
- The introduction of 'walking, wending and waiting' for pedestrian audiences
- Introduction of new MST (tracking data) for indoor environments
- New visibility adjustment 'hit rates' for pedestrians
- New vehicular visibility 'hit rates' for mobile inventory (i.e. bus and taxi advertising).
- New visibility inputs in respect of illumination
- A new taxi model
- Fixes for spikes in the 15min audiences
- Audiences now always sum at 15-minute level rather than daypart
- Update to the road geometry
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Q. So you can't specify exactly what effect each change has on the data in isolation, what can you say about each of them?

Short answer

What we can say about each of the changes are...

- The **contemporisation factor** will affect both impacts and reach though have a greater effect on impacts. Generally speaking (barring Glasgow Subway and Motorway Service Areas) this has a slight deflationary effect on audience. There are differences by environment and region – transport environments are more affected, and London still has further room for recovery (because it is more reliant upon transport inventory).
- The **MST indoor routing** will have a mixed effect on audience at a frame by frame level. There will be cases where previously people were routed past frames which now the models do not expose them to, whereas conversely there will be instances where people are now exposed to more ads than they were previously.
- The **change in pedestrian speed** will affect impacts, notably for digital. The introduction of variable speed supplants the previous assumption that people are constantly moving at a speed of 1.5 meters per second. Now, people move slower, especially in crowded areas. This has the effect of making people spend longer in visibility areas and as such an increase in impacts. Digital inventory is likely to experience a greater rise in audience levels as result of this as there is a greater probability of seeing multiple ads in the same exposure.
- The new **Taxi Model** will affect both reach and impacts for this inventory and has a downward effect on the audience. The change brings the model in line with the measurement of buses. Several assumptions have been supplanted with more informed data thus improving our understanding of the probability of seeing taxis.

- The effect of the **Spiky data fix** will reduce previous over-generous estimates of impacts to give more credible audiences. This will affect some digital frames. Those affected may see a significant drop in audience from previously reported levels.
- The **introduction of the algorithm change to conform audiences at 15 minutes** rather than daypart, makes impacts for digital frames additive and reduces impacts at a top line, though less so than the spikiness fix.

Q. Are some environments affected more than others?

Short answer

Yes. Generally, indoor environments experience an increase in audience levels from those noted previously as a result of the new MST routeing and speeds.

Buses see an increase in impacts as result of the new visibility research – notably those formats targeted at vehicular audiences.

Taxis experience a significant reduction in audience under the new model, which now better reflects the probability of seeing the ads.

Roadside is relatively stable at an overall level, though on a frame by frame basis digital screens are likely to be susceptible to reductions as a result of the spiky data fix.

Q. Why are there notable changes in the taxi environment?

Short answer

We have revamped the way that we calculate audiences for taxi advertising. We are using more contemporary data inputs taxi hours, and vehicle and pedestrian speeds. These feed into a new and improved statistical model to calculate the bus audiences. The extensive changes to the model mean that direct comparisons to what went before are invalid and unilluminating.

Q. Why are audience numbers are going up even though number of journeys are going down?

Short answer

There are no conspiracy theories at play here. Route is tasked to provide the most accurate estimates possible, not the largest audience figures imaginable. The changes have been made under the watchful eye of the Route Action Group. This is comprised of senior researchers from each of Route's underwriting companies. Members come from both the buying side (i.e. specialist OOH agencies) and the selling side (i.e. media owners). The IPA and Route's independent research consultant are also members of the group.

In addition, while the changes being affected will positively affect some inventory, others will experience a decline in audiences from levels previously reported.

The changes being implemented address a recognised under-reporting of the pedestrian audiences for indoor environments and the likelihood of people in vehicles to actually look at mobile inventory (buses and taxis). The data will, for the first time, account for pedestrians travelling at variable speeds.

With this we now have a more realistic reflection of time people spend exposed to posters and screens which affects the overall likelihood of seeing the ads.

The outcome can be that we have increased audiences despite reduced volumes. So, whilst on one hand we are reducing the number of people being exposed in the first place to the ads (through the application of contemporisation) we now know that those who are exposed are spending longer in front of the ads than we had previously accounted meaning that they are more likely to see the ads (potentially multiple times for digital spots).

VISIBILITY ADJUSTMENTS / ROTS

Q. How does Route take account of whether OOH ads are actually seen?

Short answer

Central to Route's audience measurement calculation is the concept of visibility adjustment. In this process we apply a reduction factor to audiences exposed to OOH ads. This enables us to go beyond the provision of opportunity to see an ad (OTS), and instead measure those who have actually seen them. Probabilistic visibility curves help calculate the likelihood of seeing out of home advertising while people are exposed.

Q. How does Route define 'realistic opportunity to see'?

Short answer

Route's measurement of out of home advertising goes beyond opportunity to see (OTS) and is based on realistic opportunity to see (ROTS).

ROTS is a measure of those exposed to OOH advertising within strict parameters. It's the number of people who travel through a defined area from which it is possible to see out of home advertising, and who travel in the direction of the ad. This is a measure of all those exposed to OOH advertising.

In order to produce metrics of those who have actually seen out of home ads, we reduce the ROTS by applying a visibility adjustment. This accounts for the fact that not everyone passing ads will look at them.

ROUTE

Longer Answer

Route's measurement of out of home advertising goes two full steps beyond opportunity to see (OTS) – a measure commonly used in other media. Rather, Route produces measures of those who have actually seen out of home advertising.

OTS for out of home advertising is our starting point. We know how many people travel on links within the vicinity of out of home advertising.

From there, Route captures the number of people who travel on links within a tightly defined area from which it is possible to see out of home advertising. This is then reduced by only accounting for those who are travelling in the direction of the ad and so have a real chance of seeing the ad. This gives us a measure of all those exposed to OOH advertising. This is termed the 'realistic opportunity to see' (ROTS).

The 'visibility areas' are determined by eye-tracking research. The maximum distance from which it is possible to see a poster/screen is calculated on the basis of its surface area.

Once the ROTS estimate is produced, Route then applies another step to take our metrics from having a realistic chance of seeing the ads to those who actually see them. This is done through the application of a visibility adjustment factor. In this step, we account for the fact that not everyone exposed to an out of home ad, will actually look at it.

The visibility adjustment calculation is derived on the basis of results from various visual attention studies.

Q. How long does an ad have to be “on screen” before we start to count?

Short answer

The definition used in Route is that the viewer must fixate on the ad for at least 100 milliseconds. At the point that someone enters the visibility area, we start to build the probability of them seeing an ad and then generating impacts. We do not consider a minimum time on screen.

Q. How do visibility curves affect the data?

Short answer

Central to Route's audience measurement calculation is the concept of visibility adjustment. Unlike television, published media and radio, Route does not provide a simple measure of opportunity to see (OTS).

We provide a measure of those who have seen the ad and the number of times it is has been seen.

We first determine the area from which it is possible to see an ad (the visibility area). We then calculate how long people spend within that area (exposure time). This is our realistic opportunity to see (ROTS) measure.

For each and every person exposed to an ad we calculate how likely they are to actually see it. We do this on the basis of their distance from the frame, the angle at which they are from the display, and the degree to which the ad is offset from their direction of travel.

We calculate the probability of seeing for each 0.1 seconds that people are exposed to the ad. We then accumulate the probability that the ad will be seen for each and every exposure people have to each and every ad broadcast.

The probability is applied to the total traffic passing through the visibility area to net down those with a realistic opportunity to see an ad to our measure of those who have actually seen it.

Previously the probability of seeing was applied in a linear fashion with the time people are exposed to the ad.

In practice, someone who is exposed to an ad for 10 seconds was assumed to be twice as likely to notice an ad as someone exposed to one for 5 seconds. However, this is not necessarily how things work in real life. People scan around. They are more likely to notice something for the first time when it first moves into view. The probability of seeing an ad tends to grow quickly when you are first exposed to it and then slow down to a greater or lesser extent depending on the situation and the exposure type through time.

The data from the MST devices afford us greater ability to apply different curves in different scenarios creating greater variance in the data.

For some ads, the non-linear visibility curve (the new likelihood of seeing the ad) may build at a slower rate than the linear application which was applied previously and the audience will be reduced. In other situations, the curve may build more steeply in which case the audience would grow.

Each environment is treated differently and various visibility curves are applied depending on the exposures which people have with the ads according to our travel survey.

TRAFFIC INTENSITY MODEL

Q. What is a traffic intensity model and how does it affect the numbers?

Short answer

The traffic intensity model (TIM) is a statistical calculation that determines the number of people who are travelling on each of the 27million 'links' that make up our map of Great Britain. In Route, the TIM estimates the number of people travelling through areas from which it is possible to see out of home advertising.

Longer answer

The traffic intensity model (TIM) is used to understand how many people are driving, cycling, walking or otherwise passing along every public pathway in the country. 'Public pathways' include not just major roads and city streets, but the corridors inside underground and overground stations, the escalators inside shopping centres, the inside and outside of airports and the interiors of trains. In short anywhere people go and could potentially be exposed to OOH advertising. The traffic intensity model (TIM) enables traffic flow estimates for each link in the network.

It uses a combination of traffic counts, sets of attributes for each kind of road and a modelling process to create these estimates for outdoor environments along routes where people pass in view of a poster or digital screen.

SAMPLE AND TIME SENSITIVITY

Q. What is happening with the sample and how are we making Route contemporary?

Short answer

Route's sample (from the travel survey) is based on journeys from September 2016 through to February 2020 at which point the fieldwork was stopped as result of lockdowns. While Route has returned to field through 2021 and 2022 this data has not, as yet, been introduced to the currency. The data collected is being reviewed and a full data strategy and implementation plan being developed.

In order to account for changes in behaviour post-COVID we are introducing the "contemporisation factor" which allows us to "moderate" the volumes of people using roads,

malls, stations, high streets compared to the levels in 2019. This is applied to the audience calculations and moves the impacts in line with the relative change in volume.

Q. Why don't you use mobile phone data for contemporisation purposes?

Short answer

With the ever-increasing popularity of smartphones, the data generated by mobile devices is alluring. Yet, Route has continually rejected the siren call of mobile data in favour of deploying the MST meters. Following significant evaluation, we have again rejected it for use in the currency to underpin the contemporisation process as the data tested (both SDK and Telco data) have not proved to be stable or robust enough to underpin an entire currency that fuels the trading of c.£1.2bn of advertising and many sources were not able to provide comparable data samples over time.

Q. Why don't you provide more real-time data?

Short answer

The contemporisation period is one quarter behind the release. This is as time sensitive as the data sources used to inform the model will allow. While more 'near real-time' data sources are available these tend to suffer from data transparency and comparability (and hence validity) issues.

THE FUTURE

Q. Are you expecting to make more changes to the Route currency?

Short answer

The contemporisation factors now in place with the Route data will be updated for each release.

The next publication of data in March, will also see us update the geometry and our weighting targets in addition to the contemporisation factors. As such further change to audiences are anticipated.

After March we plan to only update changes to volumes.

Q. When will you stop changing things?

Short answer

The March 2023 implementation will be the last contractual methodological change which we have scheduled through March 2025.

OTHER

Q. Is an impact the same as an online impression?

Short answer

No. An impression is a measure of an ad being served. An impact is a measure of an ad being seen. They are different things. While both are used as the base measures for advertising audience, there are some crucial fundamental differences. Online impressions are not really a human measure. Rather they are a count of the total number of times that an ad is served on a page. Alternatively, impacts are a better measure of campaign audience as they relate to the number of times that an ad campaign is seen.

Longer answer

While both impressions and impacts act as the base measure for trading online and out of home, they are not equal or directly comparable measures.

Route's impact measure is a count of the number of times that a campaign has been seen. We take the traffic passing through an area whereby at least 90% of a poster or screen is visible and then adjust the audience on the basis of their likelihood of actually looking at the ads.

Online impressions are not as stringent as this.

The [IAB define](#) an impression as:

“Measurement of responses from a web server filtered from robotic activity and error codes, recorded at a point as close as possible to opportunity to see the page by the user.”

This means it is a provision of the number of times that an ad is served to a webpage that has been loaded. This does not equate to the number of times that an ad is seen online as there will be sometimes when the page is loaded and ad is served to non-human traffic.

Additionally, the impression figure does not necessarily mean that the ad was loaded on a page that could ever be seen by a human. Sometimes ads are placed at the bottom of web pages which people do not scroll to, or are loaded onto a page that is not in focus. This leads to a subset of impressions which are ‘viewable impressions’. 2019 estimates from the [IAB](#) suggest 70% of digital ads are viewable.

Again, the [IAB define](#) a viewable impression as:

The occasion where an ad has >50% of its pixels on an in-focus browser tab on the viewable space of the browser page for greater than or equal to one second, post ad render (for video ads it's 2 seconds)

In other words, it is a measure where at least half of an ad has been visible for at least one second (two seconds for video ads).

The measure is an improvement on the inflated impressions figure, however it still does not mean that anyone has ever actually looked at or saw the ad. Recent research by Lumen has indicated that 82% of viewable impressions are never actually seen. ([see here](#)).

To equate impressions with impacts it would be necessary to apply reductions factors to the starting impressions to first determine how many were viewable (0.70) and then again how many of those viewable ads are actually seen (0.18 – for desktop display). This would equate to around 12.6% of the number started with.

To put out of home in context of online impressions, an impact could be deemed to be a 'viewed impression' however, no such standardised digital measure currently exists.