



Transit Media Audience Measurement and COVID-19's Impact

An Adverttu White Paper

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Executive Summary



This white paper analyses the significant impact the COVID-19 pandemic is having on addressable audiences within UK OOH Transit Media. Analysis of these reductions focus on:

- How both deterministic and probabilistic datasets accurately augment Transit Media's 'audience reach' measurement - essentially, how to accurately measure transit media's impressions and reach
- The impact on current impressions given the effect COVID-19 has had on audience densities
- A near-term predictive viewpoint on how audience reach could improve due to expected lockdown 'easing'

The measurement methodologies Adverttu uses in normal circumstances are explained, giving insights into how impressions, reach and audience densities are calculated.

Datasets from a wide variety of third-party providers (e.g. UK DoT, TfL, Apple, Vivacity Labs, Foursquare, Citymapper) augment Adverttu's own data analytics to inform this paper's predictions on current audience density reductions, fluctuations and increases. A national snapshot is also included in addition to a look at near-term improvements on the path to what may well become a new normal in the Transit Media sector.

Key issues addressed

- Social distancing, travel restrictions, and WFH & Stay At Home policies influence over journey profile changes and audience density impact
- Pedestrian and motoring audience journey profiling with key drivetime/distance data trends and addressable audience impacts
- Return to normality predictions and projections for advertisers and transit media drivers
- Summary and conclusions

Key data extracts

- Tube, bus, and rail transport usage (vs. services - see below) since the beginning of April 2020 has dropped by over 80%
- Walking, driving and public transport requests for directions has equally dropped by over 80% but with a 9% increase in driving directions recorded since 4th April to 2nd May
- All motor vehicle usage has dropped to circa 62% in the weeks since 14th April with very recent slight increases in week commencing 24th April to 2nd May
- Pedestrian traffic has had the largest drop of 85%+
- Cycling's initial slow decrease, which since Monday 6th April, has now dropped 75%
- National bus traffic 80% reduction since lockdown, indicating significant reductions in public transport services

Key assumptions and predictions

- Overall, UK Transit Media OOH audiences have reduced significantly due to COVID-19 lockdown policies - currently at 31% of normal addressable audience levels (as an average).
- These reduced audience levels are likely to continue for the next month based on the UK's lockdown extension of three weeks (effective 16th April) and 27th April official briefing indicating no change to lockdown policies.
- There are signals however, that some lockdown restrictions may start to ease in the mid-May to mid-June period as evidenced in other countries (Spain, Italy, Austria and Germany).
- COVID-19's impact on the media in general and the OOH sector in particular can be seen as a 'reset button' and brand marketing strategies will no doubt be under review and effectiveness measurement will gain even more traction as a primary decision-making factor for media channel choice and ad spend.
- The addressable audiences of Transit Media OOH media (both pedestrian and motoring traffic densities) are currently reduced to (on average) 31% of normal pre COVID-19 levels. This reduced level will continue fluctuating daily, slowly increasing as a phased end to lockdown begins to be implemented and new routines form.

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Introduction

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Marketing brand spend decision makers and their ad agency planner/buyer counterparts access Adverttu's bespoke online platform to set up, simulate, monitor, assess, amend and extend on-car advertising campaigns.

Audience Reach & Impressions Measurement

The advanced telematics analytics process ingests data from our driver GPS mobile app and/or 12v or OBD GPS plug-in devices. This provides journey profiling data that our patent pending probabilistic algorithms process and combine with over 28 third party datasets, thereby enabling a calculation of the minimal deliverable number of impressions that each Adverttu ad wrapped vehicle generates.

The impressions measurement outcome is based on the simultaneous analysis of these datasets, which include parameters such as motoring and pedestrian location density data, road type and topography, time of day/month/year and weather conditions, amongst others. In some circumstances, computer vision technology is also used.

1.1. Deterministic & Probabilistic Datasets

Adverttu utilises 28 disparate datasets that feed into its algorithms to:

- A)** Simulate and predict an on-car ad campaign's daily average total impressions generated within defined locations, their socio-demographic audience profiles, number of vehicles and ad campaign duration with a resultant £CPM cost prediction and:
- B)** Accurately measure impressions generated in near real time during a live ad campaign by combining an ad wrapped vehicle's GPS journey profile data with these 28 datasets (examples above), assessing reach into the predicted pedestrian and motoring traffic audience densities that are within the eyeline exposure of the ad-vehicle's driving route, including parked up and stop locations.

In certain circumstances we also use computer vision technologies to count impressions in real time via a vehicle's dash cam or app-enabled camera in their mobile device.

1.2. GPS Journey Profiling



The Adverttu driver mobile app is used by its 17,000+ fleet community to accurately match journey profiles with upcoming ad campaigns as well as to access a range of motoring and Gig Economy lifestyle perks, rewards and helpful 'life hacks' to make motoring cheaper, safer and more enjoyable in addition to the passive income opportunity. Journey profiling data is anonymised for GDPR compliance and privacy best practice.

1.3. Footfall Pedestrian Traffic

Both historical and seasonal near real time datasets are used to predict pedestrian footfall audience densities in specific road type locations and times of day/night, with added deterministic granularity attributed to key proximal public transport locations, parking facilities, and nearby retail, entertainment and tourist attraction hub clusters along the journey profile routes so that an accurate pedestrian audience reach per vehicle on its journey is calculated in terms of impressions generated for both live campaigns and upfront campaign simulations.

1.4. Motoring Traffic

Government and Local Authorities, together with motoring organisations such as The AA and the RAC as well as relevant data centric service providers (e.g. TomTom, Foursquare, Citymapper, Vivacity Labs) provide in depth motoring traffic survey data (via roadside cameras/sensors, and moving vehicle cameras) that deliver accurate motoring traffic density data per location at varying times of day/night. Adverttu combines these datasets with other deterministic and probabilistic data to:

- Account for location specific traffic density factors (congestion points, especially during high volume commuting periods or event traffic)
- Calculate increases or decreases based on deterministic data such as weather, seasonality, holiday periods, local events and longer term major, planned road improvements and construction projects

COVID-19 Impact

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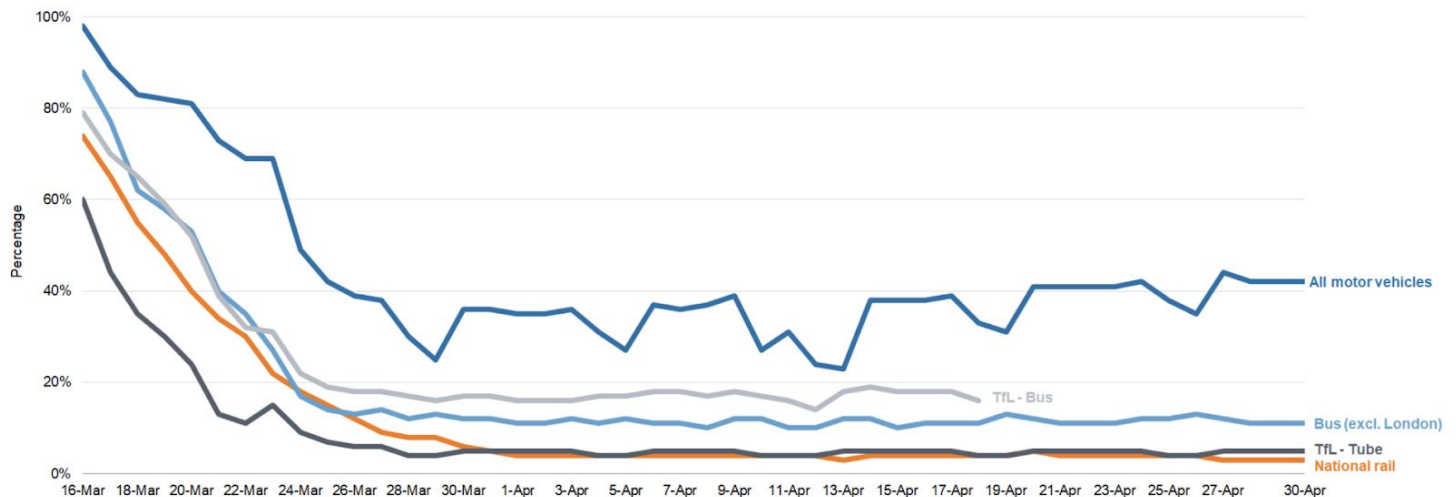
The motoring and pedestrian audience reduction impact (from 1st March up to the date of this published white paper) as a result of 'stay at home' and 'work from home' guidelines/regulations, and the associated travel restrictions and guidelines have been recorded over the above period specifically for transport usage.

STAY HOME > PROTECT THE NHS > SAVE LIVES



Transport use change (Great Britain)

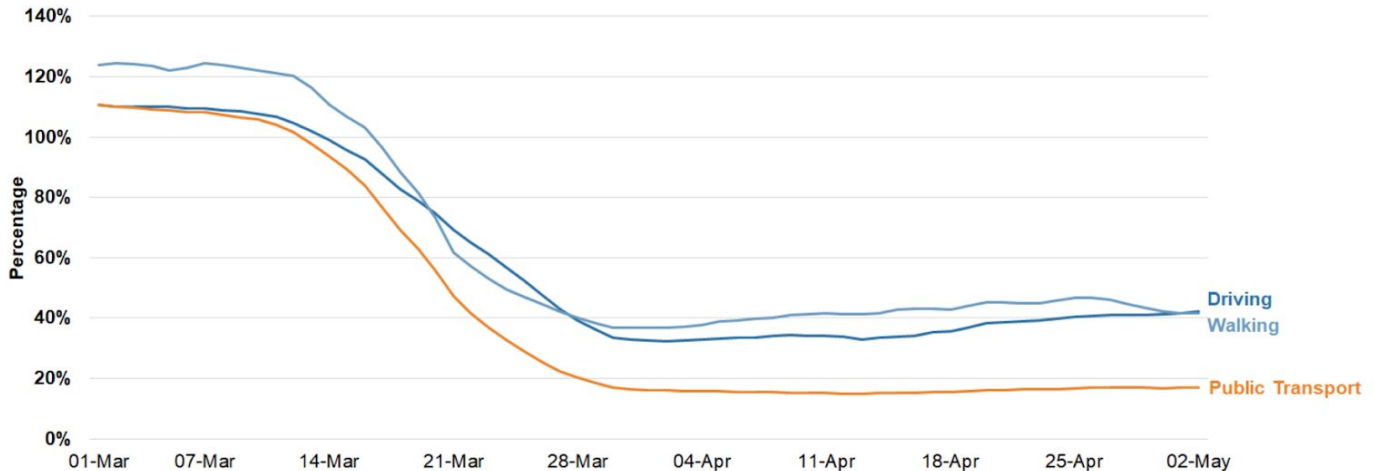
Transport use is down by at least 55% for all transport types since February. Rail and Tube use is down by 95%. The use of motor vehicles has gradually but marginally increased since the beginning of the lockdown.



Source: Department for Transport. Bus (exc London), TFL tube and Bus data has been adjusted to compare against typical usage for the Easter break, whereas motor vehicles and national rail have not. Data on TFL Buses is not available from Sunday 19th April due to the change in [boarding policy](#).

Apple mobility trends data for UK - seven day rolling average

Since lockdown the number of requests for directions involving walking, driving or public transport has decreased. The number of requests for directions involving public transport has dropped by over 80% from normal usage. From the 4th April to 2nd May the number of requests for driving directions has increased by around 9 percentage points.



Source: Apple Mobility Trends Reports (<https://www.apple.com/covid19/mobility> - Accessed 04/05/2020). 100% is equal to the directions requests on 13/01/2020. Sample may not be representative. On Apple Mobility Trends Reports Public Transport is referred to as "Transit".

2.1. Impressions + Audience Density Measurement – COVID-19 Impacts

HM Government daily COVID-19 briefing data from COBR shows several trends over the past two weeks, in addition to data from transport data specialist Vivacity Labs which indicates:

- UK iPhone user 'requests for directions' for walking, driving and public transport has dropped by over 80% since lockdown commenced with a 9% increase in driving since 4th April to 2nd May
- All motor vehicle usage has dropped by circa 60% in the last 3 weeks since 14th April
- Pedestrian traffic saw the largest drop at over 85%
- Car traffic dropped by over 68% nationwide
- Cyclists initially decreased slowly, but since Monday 6th April have now dropped by 75%
- Light goods vehicles dropped by 45%
- No initial change in motorbike or HGV volumes, but since Monday 6th April, those have dropped by 65% and 40% respectively
- National bus traffic has now dropped by over 80% since lockdown, indicating significant reductions in public transport services

Data Source Note 3 - See Addendum Page 18-21

2.2. Social Distancing/Travel Restrictions/WFH & SAH Policies

Since 1st March, the Government's social distancing guidelines and regulations have meant that most people (unless they are designated as key workers and work in business sectors that are categorised as essential, e.g. medical/food transport or food/groceries retailing) are advised to either stay at home and/or work from home where possible and only go outdoors for essential shopping trips, once a day for exercise locally or to help others locally with essential medicines delivery or essential food shopping.

The consequent impact on pedestrian traffic densities across city centres and their urban/suburban surrounds has experienced the most reduction, with estimates by various sources (including Google, Foursquare and Citymapper) averaging out nationally in the range of a 80 – 95% reduction when compared to normal pedestrian traffic levels.

Motoring traffic has had less of a reduction given the volume of key workers using their vehicles to get to work as well as those key workers and volunteer drivers in the transport logistics and home and business delivery sectors, and where LCVs & HGVs are in use on the roads with perhaps even more frequency than normal given consumers' higher than normal online shopping activity for food delivery services.

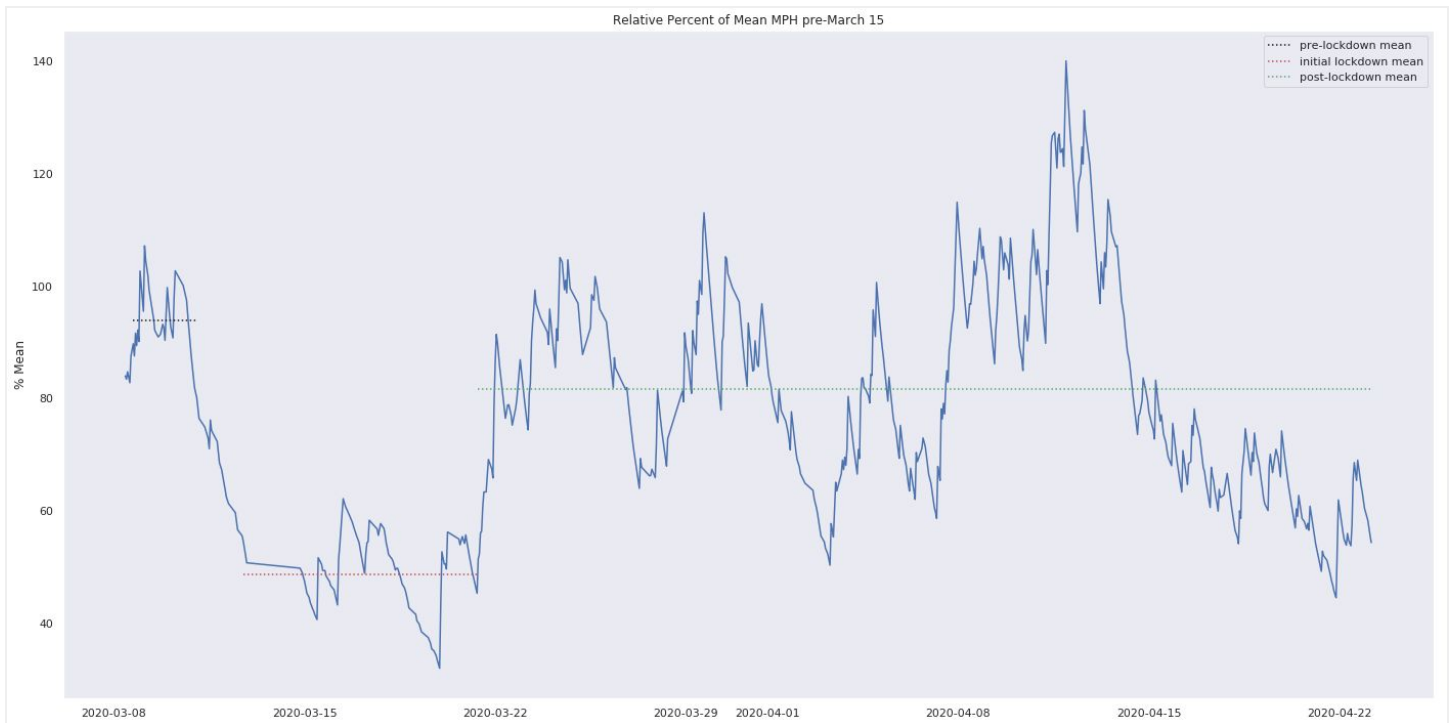
Current UK Department for Transport data indicates that motoring traffic has come down to between 34 – 40% of normal motoring traffic densities over the past four weeks as indicated by the latest Covid-19 report from the HM Government's daily press TV briefings.

Data Source Note 7 & 8 - See Addendum Page 18-21

2.3. Journey Profile Changes -Audience Density Impact

Through detailed analysis of Adverttu's 17,000+ driver fleet, certain journey profile changes are testament to society's ability to rebound and adapt to the lockdown circumstances.

- As drivers are learning to adapt and leverage the post-quarantine traffic patterns, they are showing faster-than-average motoring journey times, peaking at about 40% of the pre-quarantine mean, with more dramatic day-to-day shifts in speed than the predictable traffic before.



- Journeys are happening at significantly different times of the day than what is considered normal, in direct contrast to traditional rush hour commute-oriented volume spikes and regular/routine time of day retail and shopping trips. The largest shift is in the mid-day hours, where drivers have sustained up to 20x more than normal mileage, while maintaining sharp drops in early morning and late evening journeys.



While the COVID-19 pandemic may have caused us all to re-examine our daily priorities and interactions, we are adjusting our market profiling and driver and consumer behaviours to define a new normal during COVID-19, thereby enabling an accurate assessment of Transit Media's audience density changes, and the impact on impressions generated and reach.

Data Source Note 4 - See Addendum Page 18-21

2.4. Pedestrian & Motoring Audience Trends

There have also been some contrasting, or mitigating, positive trends to the significant overall audience density reductions.

- Despite the overall drop in metro station foot traffic, early and mid-afternoon has seen a 10-15% increase in pedestrian traffic as consumers are not as constrained by their daily commute and are likely to be using these periods for either essential shopping or their once a day exercise routines
- Bars, restaurants, and fast food chains have moved rapidly to delivery and curbside pickup, leading to small increases in motor vehicle usage along defined, repeating routes
- And of course, the digital economy is seeing massive growth as consumers try to order everything they would normally leave home to buy. Importantly, e-commerce sites that offer at-home activities and associated products, particularly fitness, health, beauty and wellbeing, as well as video gaming, are seeing significant growth, as are primary/secondary education services and products.

Data Source Note 5 - See Addendum Page 18-21

2.5. Key Drivetime + Distance Data

- Adverttu saw a steep drop in driving time and distance in early March by as much as 67%
- The past three weeks have shown a slow but steady increase in time and distance driven by 10-15% of Adverttu drivers, which are historically leading indicators of overall motoring trends
- Journey times have reduced for regular routes by up to 20% in some cases, indicating higher average journey speeds due to relatively empty roads

Data Source Note 6 - See Addendum Page 18-21

2.6. Addressable Audience Impacts

Adverttu's data science team has aggregated motoring and pedestrian traffic density reduction data from a wide range of sources (listed at the end of this white paper) with emphasis on balancing the overall audience reduction impact of these Covid-19 lockdown measures described previously.

The high impact on pedestrian audiences vs. the high to medium impact on motoring traffic densities has been weighted to provide an overall percentage reduction on the total addressable OOH audience.

The result is an overall average reduction of 69% to the normal addressable audience density levels across city centre and urban/suburban environments.

2.7. Return to Normality - Predictions and Projections

Given that the current lockdown situation has been extended for another 3-week period (from 16th April), it is expected that pedestrian density levels will continue to stay at the current low range of sub 20%* of normal pedestrian density levels (with certain increased afternoon periods) and that motoring traffic densities will fluctuate, but continue to increase at around the 38 – 40% range allowing for the impact of increased home delivery and volunteer motoring usage (as evidenced by the past 7 day period - see transport use slide page 8, section 2.).

Based on an expectation that the peak of the pandemic's spread will have passed by the potential early May 2020 date, both pedestrian and motoring traffic levels should begin to increase as restrictions are lessened (but importantly, not totally lifted) with between 50 – 60%* of normal motoring traffic densities and with up to 40%* of normal pedestrian traffic density levels being reached by the end of May/beginning of June 2020.

2.8. Overall Addressable Audience Impact

The overall impact projection is that by the end of May/beginning of June, the overall addressable audience reduction percentage will increase from its current 31%* level up to 45%.

**Data Source Note 7 - See Addendum Page 18-21*

Impact Assessments

Drivers and Advertisers

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So, the key questions and issues for both advertisers and those Gig Economy drivers who facilitate Transit Media campaigns are:

- What is the net impact on advertisers and drivers during this unprecedented COVID-19 lockdown period?
- What conclusions can be drawn as we look forward to the near and medium term, particularly as science and behavioural based solutions to the pandemic emerge, balanced against the need to protect the economy, resulting in both motoring and pedestrian traffic densities more gradually increasing as society adapts perhaps to a 'new normal' post the COVID-19 era?

3.1. Transit Media OOH Advertisers

The current Ad Spend Hiatus in the OOH sector will generally ease as OOH audiences get back to a sense of normality, which in turn provides an ROI based trigger for OOH ad spend to flow once again and driven by brands needing to engage with consumers as they go about their daily lives.

Undoubtedly some brands will suffer, some will disappear and of course some will flourish in spite of this tumultuous COVID-19 period.

What is certain is that ad spend effectiveness measurement will be an even more critical decision-making factor in OOH media selection given (in some circumstances, by necessity) the flow of spend into online and other media channels (e.g. radio) that may well have proven their worth during this period. OOH media owners and operators have already signalled discounted rate cards to account for reduced audiences/impression metrics and Adverttu has reflected that trend into its updated £CPM based rate card as of April 2020.

3.2. Transit Media Drivers

During this COVID-19 period, Adverttu conducted a driver survey amongst its 17,000+ driver community to ascertain how many of its Driver Fleet indicated they had joined, or intended to join, the NHS or other Volunteer programmes.

The results were impressive with over 8% of Adverttu's active drivers indicating they had signed up or intended to do so. This encouraged the team to develop its planned NHS support programme where, at cost, its platform facilitates a driver volunteer support package contributing to the volunteer's monthly fuel costs via funded third party brand support (the brand receives a namecheck on the NHS Volunteer decal signage).

This programme empowers Adverttu's driver fleet to 'do their bit' to support the NHS whilst not being out of pocket from fuel costs whilst out and about on the road, delivering essential food and medicines to those who are vulnerable or in isolation and are unable to go out.



3.3. Summary/Conclusions

- Overall, UK Transit Media OOH audiences have reduced significantly due to COVID-19 lockdown policies - currently at 31% of normal addressable audience levels (as an average)
- These reduced audience levels are likely to continue for the next month based on the UK's lockdown extension of three weeks (effective 16th April), albeit with some expected increases to motoring traffic which would minimally increase the average percentage reach of the normal 'addressable audience' to the 32 to 35% range in the next 4 week period
- There are signals that, based on the assumption that the pandemic's peak may pass in this upcoming 3 - 4 week period, that some lockdown restrictions may start to ease in the mid-May to mid-June period as evidenced in other countries (Spain, Italy, Austria and Germany)
- Upward pressure on ad spend allocation from current budget cuts will be driven by audience density level growth as brands gradually increase spend from the current abnormally low levels

- The next 3 – 6 month period will see the impact of longer term scientific advice that will inform each country's exit strategy from lockdown policies in addition to emerging vaccine and immunity solutions
- COVID-19's impact on the media in general and the OOH sector in particular can be seen as a 'reset button' and brand marketing strategies will no doubt be under review and effectiveness measurement will gain even more traction as a primary decision-making factor for media channel choice and ad spend emphasis.
- The addressable audiences of Transit OOH media (both pedestrian and motoring traffic densities) are currently reduced to (on average) 31% of normal pre COVID-19 levels. This reduced level will continue fluctuating daily but is expected to slowly increase as phased easing to lockdown policies easing begin to be implemented but is the average for the last 7-10 day period to 27th April
- Based on current data and implemented governmental measures, by mid to late June 2020, Adverttu is predicting that this % of normal addressable audience levels will increase to circa 45%

Data Source Note 8 - See Addendum Page 18- 21

Addendum

Data Source References



Note 3 - Page x 2.x [COVID-19 Press Conference Slides - 16_04_2020](#)

Vivacity Labs - The traffic insight company has been tracking data from its network of artificial intelligence (AI) based video road sensors to monitor the impact of COVID-19 on the UK's highways.
www.vivacitylabs.com

Note 4 - Page Y 2.X Averaged out predictions from: Apple, Foursquare, CityMapper, & Google on the reductions to pedestrian traffic densities in city centre and urban environments by time of day/night.

Note 5 - Page x 2.x

(<https://www.pathinteractive.com/blog/seo/impact-of-the-coronavirus-covid-19-on-google-organic-search-visibility/>)

Note 6 - Page 7 2.5 Key Drivetime trend analysis of Adverttu's 17,000+ driver fleet cohort over the past 6 week period.

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