	Best Practice For OOH Modeling: Marketing Mix Modeling	Background/Context
Data Inputs		
1	Precise data inputs must be used: actual, as run, complete with Geopath IDs and posting/take-down dates for each unit.	Accurate and precise schedule inputs enable model outputs that are accurate and precise
2	Only currency-grade Geopath impressions, with weekly market and format-level variations applied, should be assigned to each audited ad unit.	Geopath audited data is used to provide a common measure across campaigns and from planning to buying to posting to outcome measurement. Geopath currency impressions currently reflect the average weekly impresions for a year. Geopath also provides weekly variations, by format and market, which should be applied to the average week currency to obtain the variation necessary for modeling, while maintaining alignment with currency. Further refinement of the Weekly Variation Report, to reflect the actual units in a specific buy, are being considered for the future.
3	Roll unit-level data up to lowest level of geography that's feasible: CBSA, store trading-areas, and the like. Areas with a consistent level of OOH campaign presence are preferable.	The most accurate read of the contribution of OOH will be achieved by a model at the finest level of geography possible. The larger the unit of geography, the more the presence of OOH is averaged across areas with and without OOH.
Data Aggregation		
4	OOH is read best at very fine levels of geography such as CBSA, store trading areas, etc. But this will be limited by the geographic precision of all the other model inputs.	All marketing, media and marketplace/environmental factors must be aggregated to the same level of geography.
5	Data should never be aggregated into geographic units larger than DMAs.	It is common practice for modeling to be done at this level.
6	Aggregate OOH formats as little as possible. Depending on the level of investment, weekly, format-level GRP/impressions data may need to be aggregated into format groups or types to provide data stability and to achieve readability thresholds.	The effectiveness of OOH formats varies campaign to campaign. Modeling OOH at a more granular level allows for reads of the contribution and ROI by OOH formats or types, rather than OOH as a whole. This enables substantially greater insight and ability to optimize OOH plans going forward.
7	Keep creative campaigns as separate as possible in the data aggregation process.	Creative has been recognized to be responsible for at least 50%, and as much as 80%, of a campaign's contribution to marketplace performance. Model-based insights enabling under-performing creative to be culled, or strong-performing creative to be spread further, represent the greatest opportunity for improving OOH contribution and ROI.

8	Standardized ad identifiers (Ad-ID) should be adopted to ensure consistency of reporting.	Ad-ID is a naming system for advertising assets. It attaches a universal identifier to each individual piece of ad creative, and will be an indispensable tool for attribution studies. A standard code per OOH execution would allow for accurate, granular unit-level creative tracking and optimization.
Analytics		
9	Align marketplace outcome measures with the strategic role of the OOH in the campaign. If there are multiple outcomes, the modeling approach should accommodate that.	OOH can influence KPIs throughout the purchase funnel from awareness to conversion/sales, so it needs to be evaluated on the planned KPI, for example, short-term sales.
10	As in the data input best practices, model at the finest level of geography the data permits.	This will ensure the best read of OOH's contribution and ROI.
11	Model creative executions at the most granular level permitted by the data.	This practice provides for understanding of the relative performance of different creative strategies/executions as well as culling under-performing ads and doubling-down on strong performers.
12	Model OOH formats at the most granular level the data and the levels of investment allow.	This practice provides for understanding of the relative performance of OOH formats as well as culling under-performing types and doubling-down on strong performers.
13	Employ "Test and Learns" (experiments) when more granular measurement of OOH formats or creative is not possible.	Often, limited investment levels inhibit the ability to read the effectiveness of a format or campaign. A test and learn can overcome that limitation.
14	Capture the total effects of OOH advertising with the use of diminishing returns, interactions among variables, adstock, exogenous effects, and halos onto sub-brands.	This tends to be standard practice, but it is important to remember to capture the true effects of advertising in marketing mix models.
15	Ensure the modeling results reflect the brand's business reality as they know it. When it doesn't, employ Test and Learns to understand the reasons for the disconnect.	Securing internal adoption of model results is easier when results make sense and reflect the current brand marketing situation.