

## Modeling Media Effectiveness: OOH Impact on Sales & Brand Metric ROI

### Purpose of the study

To investigate and improve effectiveness learnings by category using US marketing mix modelling (MMM) results on sales, and three brand metrics - Brand Awareness, Consideration & Purchase Intent. The brand metric MMMs were built especially for this study, and the sales results were based on Benchmarking's database of MMM meta-results of US brands.

### How to use the resulting information

The analysis provides findings on the optimal mix allocations for total media and OOH – by category, by size of brand, by each of the four KPIs, for each of three categories. The findings provide data-driven guidance on OOH ad spend recommendations to inform media planning decisions by brands and media agencies, and methods to improve ROI performance through channel reallocations rather than budget increases.

### Project Scope

The project analysis included three categories: CPG Food, Retail Grocery and Automotive using a three-phase process:

- Produce an understanding of the current amount of OOH and other media channel allocations in the mix using Vivvix and SMI data as sources.
- Use standardized MMM results from US brand sales models built over recent years to develop a revenue return on advertising spend (RROAS) database. The reported RROAS data was then modelled to build actual response curves to generate optimization of specific spend levels to deliver the best possible RROAS.
- Build new MMMs of brand awareness, consideration, and purchase intent to produce response curves by media channel for each KPI for each category. Apply the response curves to the average 2022 brand spend and mix, and examine small, medium, large brands (categorized by total spend) to see different media channel mixes by brand size.

### Overview of findings

Total media spend for the Automotive category has not fully recovered from the pandemic, but total spend for the other two categories is increasing. OOH media allocation is high in Retail Grocery at 8 percent. In the other two categories, OOH is at 1 percent.

In each of the three categories, across sales and the three brand metric KPIs, the analysis indicates more spend should be allocated to OOH. This is true even in categories with higher existing levels of OOH spend, such as Retail Grocery.

To fund OOH media increases, the models indicate budget should be shifted away from TV and Digital, both which are found to be overspent, and from Print, which often has very small effect.

### Recommendations

Benchmarking recommends incremental spending changes in OOH, rather than making large changes in existing levels or usage of OOH as per the optimization recommendations. This “test and learn” best practice advocates for incremental spend shifts, either incremental to the total budget or taking from the channels identified as over-spent, using multiple evaluation / reporting methods, and perhaps running geo-tests for additional evidence. For application to specific brands, the suggested approach is to apply the small, medium, and large budget analysis to identify brands in the respective categories who are under-spending in OOH and have them test OOH at higher levels, ensuring that the OOH content is high quality. It is reasonable to take the recommendations for these categories and apply to “adjacent” categories. For example, the CPG Food analysis could be applied to CPG Beverages, and the Automotive data could be used for other big ticket, infrequent consumer purchases.

*The following three pages review the learning from each product category. More detail can be found in the full analysis report, which is available from OAAA, [oaaa.org](http://oaaa.org), 202-833-1556.*

## CPG Food Category – Recommendation is to increase OOH spend for all KPIs

### Sales KPI:

The analysis recommends increasing the OOH percent of the mix from the current 1 percent up to a high range of 17 percent. If the full increase is deployed, the effect is an increase of total media revenue return on advertising spend (RROAS) from \$0.45 to \$0.57, or an improvement in RROAS of +\$0.12 or +27 percent. The media mix optimization suggests decreasing TV, Print and a very small amount from Digital spend to fund the increased allocation to OOH. If we look at the differences between small, medium and large brands, the same rule applies, but with small brands, there's a recommendation to move more spend from Digital to OOH.

### Brand Awareness KPI:

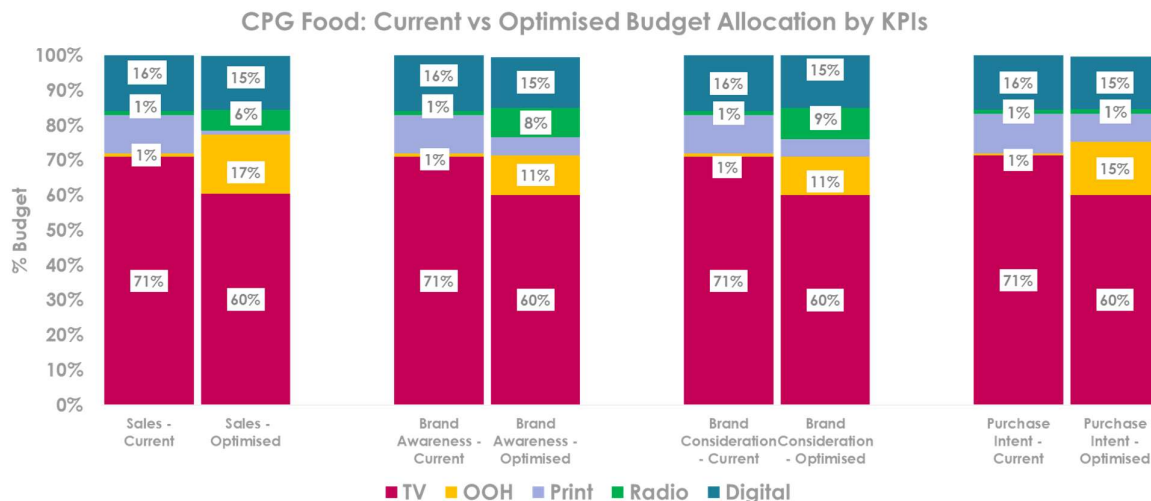
The Brand Awareness model recommends increasing the OOH percent of the mix from the current 1 percent up to a high range of 11 percent. The 11 percent allocation increases RROAS from \$0.40 to \$0.46, or an improvement in RROAS of +\$0.07 or +17 percent. The media mix optimization suggests decreasing TV, Print and a very small amount from Digital spend to fund the increased allocations to OOH and Radio. If we look at the differences between small, medium and large brands, the same rule applies for each with small differences.

### Consideration KPI:

The Consideration model recommends increasing the OOH percent of the mix from the current 1 percent up to a high range of 11 percent. The 11 percent allocation increases RROAS from \$0.73 to \$0.85, or an improvement in RROAS of +\$0.12 or +16 percent. The media mix optimization suggests decreasing TV, Print and a very small amount from Digital spend to fund the increased allocations to OOH and Radio. If we look at the differences between small, medium, and large brands, the same rule applies, but with small brands, allocate spend from TV and Print to OOH.

### Purchase Intent KPI:

The Purchase Intent model recommends increasing the OOH percent of the mix from the current 1 percent up to a high range of 15 percent. The 15 percent allocation increases RROAS from \$0.15 to \$0.19, or an improvement in RROAS of +\$0.04 or +24 percent. The media mix optimization suggests decreasing TV, Print and a very small amount from Digital spend to fund the increased allocation to OOH. If we look at the differences between small, medium and large brands, the same rule applies, but with medium brands allocate more spend from TV to OOH, with small brands allocate more spend from TV and Print to OOH.



## Retail Grocery - Recommendation is to increase OOH spend for all KPIs

### Sales KPI:

The Sales model recommends increasing the OOH percent of the mix from the current 8 percent up to a high range of 27 percent. If the full increase is deployed, the effect is an increase of total media revenue return on advertising spend (RROAS) from \$21.08 to \$22.33, or an improvement in RROAS of +\$1.25 or +6 percent. The media mix optimization suggests decreasing TV and a very small amount from Radio and Digital to fund the increased allocation to OOH. Reviewing the differences between small, medium, and large brands, the same rule applies, but with small brands, allocate more spend from Print and Radio to OOH.

### Brand Awareness KPI:

The Brand Awareness model recommends increasing the OOH percent of the mix from the current 8 percent up to a high range of 21 percent. The 21 percent allocation increases RROAS from \$0.67 to \$0.69, or an improvement in RROAS of +\$0.02 or +4 percent. The media mix optimization suggests decreasing TV and Digital spend to fund the increased allocations to OOH and Radio. Reviewing the differences between small, medium, and large brands, the same rule applies, but with medium brands, there's a recommendation to additionally fund OOH by taking from Radio. For small brands, also take from Print and Radio.

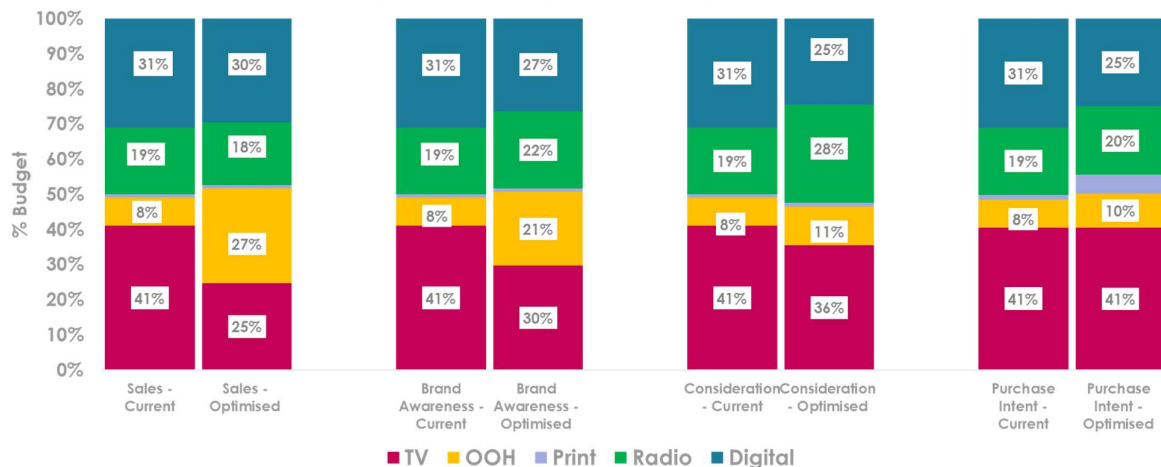
### Consideration KPI:

The Consideration model recommends increasing the OOH percent of the mix from the current 8 percent up to a high range of 11 percent. The 11 percent allocation increases RROAS from \$0.45 to \$0.46, or an improvement in RROAS of +\$0.01 or +3 percent. The media mix optimization suggests decreasing TV and Digital spend to fund the increased allocation to OOH and Radio. Reviewing the differences between small, medium, and large brands, the same rule applies, but with small brands allocate more spend from Print and Radio to OOH.

### Purchase Intent KPI:

The Purchase Intent model recommends increasing the OOH percent of the mix from the current 8 percent up to a high range of 10 percent. The 10 percent allocation increases RROAS from \$0.12 to \$0.14, or an improvement in RROAS of +\$0.01 or +9 percent. The media mix optimization suggests decreasing Digital spend to fund the increased allocation to OOH, Print and a small amount to Radio. Reviewing the differences between small, medium, and large brands, with small brands allocate spend from Print and Radio to OOH. With medium brands allocate spend from Radio and Digital to OOH. For large brands allocate spend from TV and Digital to OOH.

Retail Grocery: Current vs Optimised Budget Allocation by KPIs



## Automotive - Recommendation is to increase OOH spend for all KPIs

### Sales KPI:

The analysis recommends increasing the OOH percent of the mix from the current 1 percent up to a high range of 5 percent. If the full increase is deployed, the effect is an increase of total media revenue return on advertising spend (RROAS) from \$6.25 to \$6.57, or an improvement in RROAS of +\$0.33 or +5 percent. The media mix optimization suggests decreasing small amounts from TV and Radio to fund the increased allocations to OOH and small amount to Digital. Reviewing the differences between small, medium, and large brands, the same rule applies, but with small brands, there's a recommendation to shift more spend from Digital and a small amount from Radio to OOH.

### Brand Awareness KPI:

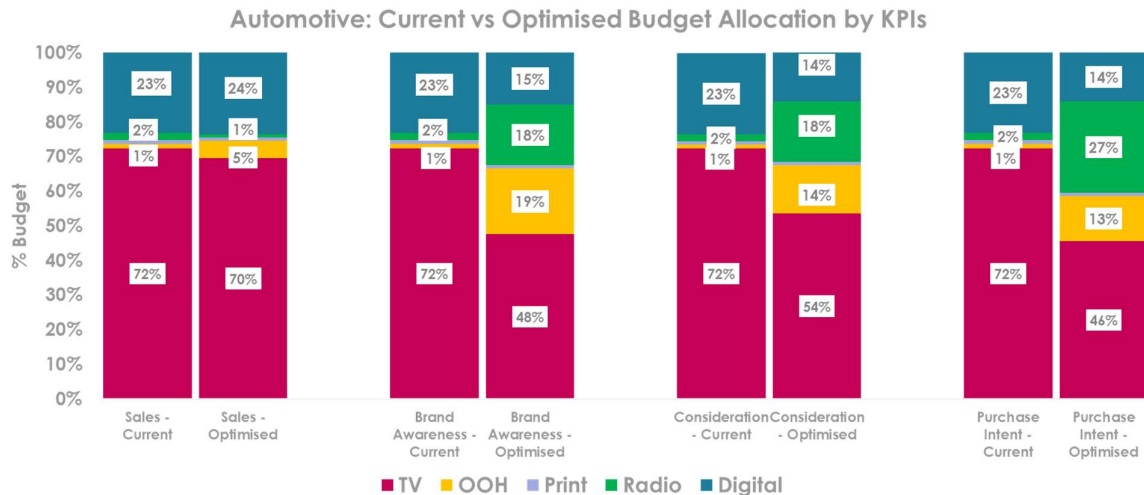
The Brand Awareness model recommends increasing the OOH percent of the mix from the current 1 percent up to a high range of 19 percent. The 19 percent allocation increases RROAS from \$0.04 to \$0.04, or an improvement in RROAS of +\$0.01 or +19 percent. The media mix optimization suggests decreasing TV and Digital spend to fund the increased allocation to OOH. Reviewing the differences between small, medium, and large brands, the same rule applies.

### Consideration KPI:

The Consideration model recommends increasing the OOH percent of the mix from the current 1 percent up to a high range of 14 percent. The 14 percent allocation increases RROAS from \$0.06 to \$0.07, or an improvement in RROAS of +\$0.01 or +11 percent. The media mix optimization suggests decreasing TV and Digital spend to fund the increased allocation to OOH and Radio. Reviewing the differences between small, medium, and large brands, the same rule applies, but with small brands, the recommendation is to give more money from Digital to OOH.

### Purchase Intent KPI:

The Purchase Intent model recommends increasing the OOH percent of the mix from the current 1 percent up to a high range of 13 percent. The 13 percent allocation increases RROAS from \$0.03 to \$0.03, or an improvement in RROAS of +\$0.01 or +19 percent. The media mix optimization suggests decreasing TV and Digital spend to fund the increased allocation to OOH and Radio. Reviewing the differences between small, medium, and large brands, the same rule applies, but with medium brands, there's a recommendation to allocate Print spend in addition to TV and Digital to OOH.



## Media Plan Optimization: 2024 Analysis of Incremental Increase in OOH Share

The sales and brand metric ROI analysis conducted in 2023 (and detailed above in this White Paper), identified that OOH is a significantly under-invested media channel across all the metrics evaluated, and that OOH share should be increased to optimize media effectiveness. However, in the first phase 2023 analysis, some of the optimal increases in OOH identified were quite large jumps from current levels, and incremental shifts in spend are recommended for best practice.

A supplemental phase study was conducted in 2024 to evaluate the impact of incremental increases in OOH, to help inform decisions towards increasing OOH to optimal levels on the path to full optimization of the total media plan.

### Modeling OOH Media Effectiveness: Sales and Brand Metric ROI Analysis 2023 Study:

- Identified Optimal OOH levels across sales and brand metrics
- Recommended significant increases in current OOH levels

Category	Current OOH %	Optimal OOH % Brand Awareness	Optimal OOH% Brand Consideration	Optimal OOH % Brand Purchase Intent	Optimal OOH % Sales
Automotive	1%	19% (+10%)	14% (+13%)	13% (+12%)	5% (+4%)
CPG Food	1%	11% (+10%)	11% (+10%)	15% (+14%)	17% (+16%)
Retail Grocery	8%	21% (+13%)	11% (+3%)	10% (+2%)	27% (+19%)

The 'Incremental Steps' project, evaluated the impact of increasing OOH in three equal steps from the current level to the recommended optimal level. The results of the increases in sales or brand metrics are detailed in the tables below, for the three incremental steps. Ultimately, the analysis shows, that the largest gain is achieved with just the first incremental step.

### Incremental Steps Analysis: Sales Impact of 3-Step Increase in OOH

Income	Automotive			CPG Food			Retail Grocery		
	% OOH allocation step increase	Increase in Income \$m	% of total gain in step	% OOH allocation step increase	Increase in Income \$m	% of total gain in step	% OOH allocation step increase	Increase in Income \$m	% of total gain in step
Step 1	OOH 1% to 2%	52.14	75%	OOH 1% to 6%	2.42	70%	OOH 8% to 14%	16.04	61%
Step 2	OOH 2% to 4%	15.62	23%	OOH 6% to 12%	0.83	24%	OOH 14% to 20%	7.66	29%
Step 3	OOH 4% to 5%	1.48	2%	OOH 12% to 17%	0.22	6%	OOH 20% to 27%	2.59	10%
Total - Optimal	OOH 1% to 5%	69.24	100%	OOH 1% to 17%	3.47	100%	OOH 8% to 27%	26.29	100%

The table details by category, the incremental increase in sales income, in 3 equal steps of increasing OOH to optimal levels. Looking at Automotive for example, current OOH spend is a low 1% of budget, but optimal level of OOH is recommended at 5%. Taking that jump from 1% to 5% and breaking it into 3 equal steps, we can see that the first step of 1% to 2%, is where the largest gain is achieved in incremental income. In fact, 75% of the total gain in moving to optimal OOH spend, is achieved in just the first incremental step. This is also evidenced in the other two categories, with 70% of gain achieved in the first step for CPG Food and 61% of the gain for Retail Grocery.

### Incremental Steps Analysis: Brand Awareness Impact of 3-Step Increase in OOH

Brand Awareness	Automotive			CPG Food			Retail Grocery		
	% OOH allocation step increase	Increase in Brand Metric	% of total gain in step	% OOH allocation step increase	Increase in Brand Metric	% of total gain in step	% OOH allocation step increase	Increase in Brand Metric	% of total gain in step
Step 1	OOH 1% to 7%	1.3624	91%	OOH 1% to 4%	1.4565	78%	OOH 8% to 12%	0.32910	63%
Step 2	OOH 7% to 13%	0.1148	8%	OOH 4% to 8%	0.3283	18%	OOH 12% to 18%	0.17000	33%
Step 3	OOH 13% to 19%	0.0197	1%	OOH 8% to 11%	0.0777	4%	OOH 18% to 21%	0.01980	4%
Total - Optimal	OOH 1% to 19%	1.4969	100%	OOH 1% to 11%	1.8625	100%	OOH 8 to 21%	0.51890	100%

For brands in the Automotive category, 91% of the gain is seen in the first incremental step of increasing OOH from 1% to 7% (with the optimal OOH being 19%). The CPG Food category sees 78% of the total gain achieved in just the first step of increasing OOH from 1% to 4% (optimal OOH being 11%) and for Retail Grocery 63% of the gain is achieved in the first incremental step, increasing OOH from 8% to 12% (optimal OOH being 21%).

### Incremental Steps Analysis: Brand Consideration Impact of 3-Step Increase in OOH

Consideration	Automotive			CPG Food			Retail Grocery		
	% OOH allocation step increase	Increase in Brand Metric	% of total gain in step	% OOH allocation step increase	Increase in Brand Metric	% of total gain in step	% OOH allocation step increase	Increase in Brand Metric	% of total gain in step
Step 1	OOH 1% to 5%	1.4214	89%	OOH 1% to 4%	2.6605	79%	OOH 8% to 9%	0.2697	99%
Step 2	OOH 5% to 9%	0.1337	8%	OOH 4% to 8%	0.5845	17%	OOH 9% to 10%	0.0032	1%
Step 3	OOH 9% to 14%	0.0358	2%	OOH 8% to 11%	0.1017	3%	OOH 10% to 11%	0.0003	0%
Total - Optimal	OOH 1% to 14%	1.5909	100%	OOH 1% to 11%	3.3467	100%	OOH 8% to 11%	0.2732	100%

Retail Grocery sees the largest gain in just the first incremental step, with 99% achieved in the first step of moving from 8% to 9% OOH (with optimal being 11%). Automotive also sees a high 89% achieved in the first incremental step of increasing OOH from 1% to 5% (optimal being 14%) and CPG sees 79% achieved in the first step moving from 1% to 4% OOH (optimal being 11%).

### Incremental Steps Analysis: Purchase Intent Impact of 3-Step Increase in OOH

Purchase Intent	Automotive			CPG Food			Retail Grocery		
	% OOH allocation step increase	Increase in Brand Metric	% of total gain in step	% OOH allocation step increase	Increase in Brand Metric	% of total gain in step	% OOH allocation step increase	Increase in Brand Metric	% of total gain in step
Step 1	OOH 1% to 5%	1.0941	96%	OOH 1% to 5%	0.7370	72%	OOH 8% to 9%	0.2228	97%
Step 2	OOH 5% to 9%	0.0416	4%	OOH 5% to 10%	0.2331	23%	OOH 9% to 10%	0.0069	3%
Step 3	OOH 9% to 13%	0.0067	1%	OOH 10% to 15%	0.0509	5%			
Total - Optimal	OOH 1% to 13%	1.1424	100%	OOH 1% to 15%	1.021	100%	OOH 8% to 10%	0.2297	100%

All categories see a large majority of the gain in Purchase Intent score achieved in just the first incremental step, with Automotive achieving 96% in the first step, CPG Food 72% and Retail Grocery 97%.

## Benchmarking

In summary, the analysis supports the recommendation to use an incremental approach to adjusting OOH media allocations rather than single dramatic increases to full optimization. Significant gains for advertisers in terms of both sales and brand metrics can be achieved with taking just the first small incremental step towards optimal OOH.