



OOH Effectiveness: Sales and Brand Metric ROI Analysis Automotive, CPG Food, Retail Grocery Product Categories

December 2023

Contents

OOH ROI/MMM Effectiveness Reporting

- Background and Recap
- Key Takeaways and Recommendations
- Methodology
- Analysis of Three Key Product Categories
 1. Historical OOH % in the media mix
 2. **Optimizing Sales RROAS** – combining MMMs to create revenue return on ad sales response curves
 3. **Optimizing Brand Metrics:** econometric modelling
 - Brand Awareness
 - Consideration
 - Purchase Intent

Background and Recap

- In 2017 – 2018, Benchmarking produced MMM/ROI (RROAS) studies on the effectiveness of OOH in the US. Those studies found OOH, when optimally planned:
 - Delivered a strong RROAS that can improve overall campaign RROAS
 - Drove improved brand perceptions throughout the marketing funnel
- This new study builds on that analysis by incorporating even more US brand campaign case studies and confirms the original findings of the importance of OOH in the media mix for the three categories included in this study: Automotive, CPG Food, and Retail Grocery.
- The analysis provides an RROAS by media channel and optimal allocations by channel, details the impact of OOH in the mix in driving key brand perceptions, and includes guidelines for allocating media channel spend levels to optimize overall improvements in brand scores.
- The study includes an exploration of US spend trends in OOH and other media channels across the three product categories analyzed, using Vivvix and SMI as key data sources. These two data sources were selected as the best available data for this analysis. The Vivvix OOH ad spend data has been uplifted 39% to account for under-reporting within their system.

Key Takeaways

In each of these three categories, across sales ROI and the three-brand metrics, the analysis indicates more US media spend should be allocated to OOH. This is true even in the category with higher existing levels of OOH spend: **Retail Grocery**.

To fund the OOH increases, budget should be shifted away from TV and Digital, both which are over-spent, but also from Print, which rarely performs well in the models.

Impact after optimizing the Brand Index models and the marketing funnel:

- Brand Index Brand Awareness: **Automotive** shows the greatest improvement in effectiveness with OOH budget allocation optimized from current 1% up to 19%.
- Brand Index Consideration: **Automotive** shows the greatest improvement in effectiveness in absolute terms with OOH budget allocation optimized from 1% to 14% in this large category. **CPG Food** shows the biggest improvement in OOH budget in percent terms.
- Brand Index Purchase Intent: **CPG Food** shows the greatest improvement in effectiveness with OOH budget allocation optimized from 1% to 15%

Benchmarking recommends incremental spending increases of OOH, rather than making large, outright changes in existing levels or usage of OOH.

The optimal use of this analysis is to apply the small, medium and large budget parameters, identify brands who are under-spending in OOH, and then have them test OOH at higher levels, evaluating that test in multiple ways.

Example Large Brands



Example Medium Brands



Example Small Brands



Note brand logos shown are merely examples of brands in that category, based on total media spend. They are not based on high or low OOH Spend.

Methodology: Optimizing Sales Revenue Return on Ad Spend (RROAS)

Using multiple MMMs to create response curves which demonstrate RROAS at different spend levels

1.) **Gather multiple brand MMMs** – combine to create average **response curves** by media channel for each category



2.) Use those **response curves** to estimate the impact (RROAS) for the 'average brand' spend by channel in a category



3.) Then, using the 'average brand spend' – run an optimization using the curves, which **optimize by channel** incorporating **diminishing returns** to generate an **optimal Revenue ROAS**

- Hundreds of US brand MMMs (market mix models of sales vs media activity by channel) were used to produce anonymized and aggregated results. These results were then utilized to generate product category level response curves.
- For each product category, response curves were created by media channel. These response curves allow optimized investment across each media channel.
- The highest and most robust of the response curves is the “best” channel, highest ROI, but all channels hit diminishing returns at some point. Once each channel's curve begins to flatten, it's best to use another channel to achieve overall plan optimization.

1. Historical OOH % of Media Mix

Two Key Media Spend Sources: Vivvix and SMI

SMI data is more robust but is not available by brand – Vivvix is needed for the Brandindex modelling

Available by month, brand and category



- 39% uplift applied to OOH (based on OAAA estimate that Vivvix only captures 72% of total OOH spend).
- Vivvix doesn't capture Digital Display but does capture some Digital Video and Search. Coverage of digital changed in 2021, so was an incomplete depiction in prior years.

Available by month and category only – not by brand

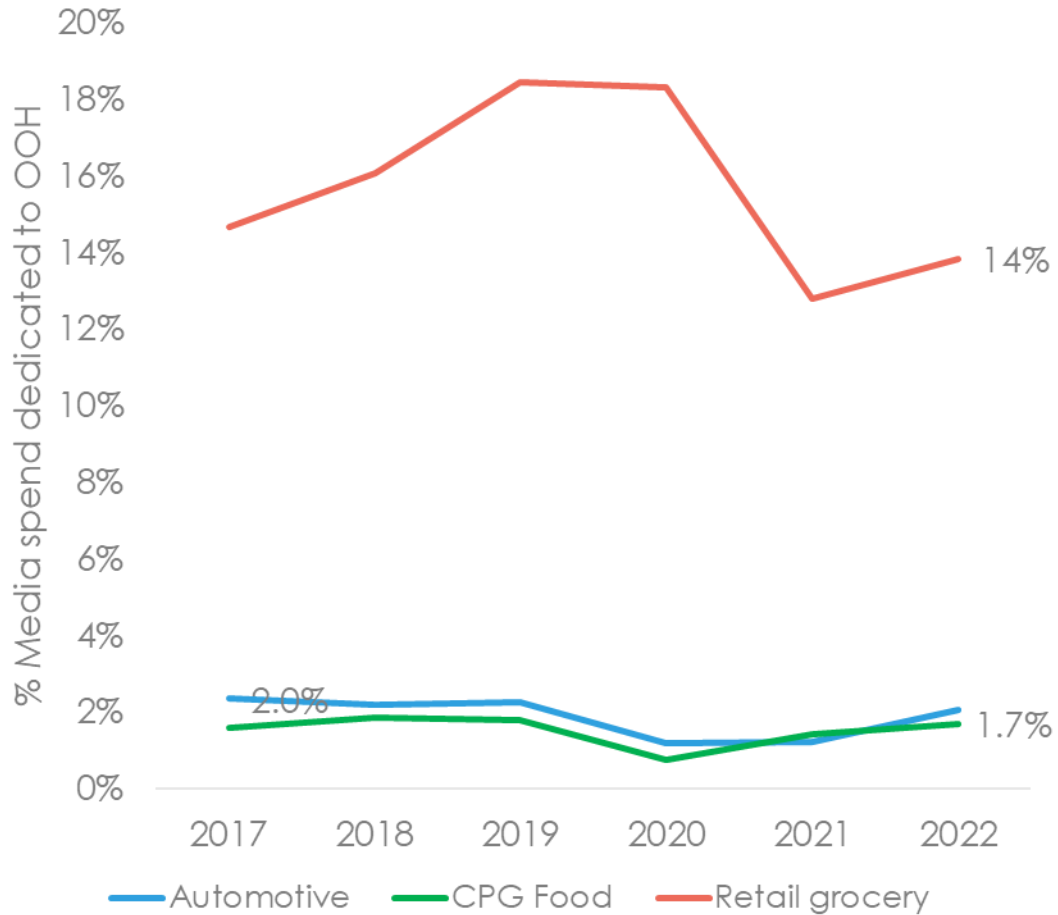


- Standard Media Index's pool is over 90% of major marketer national ad spend in the US, but excludes most local OOH spend.
- SMI captures all invoiced media spend but does allocate some digital video to digital display (e.g. Facebook).

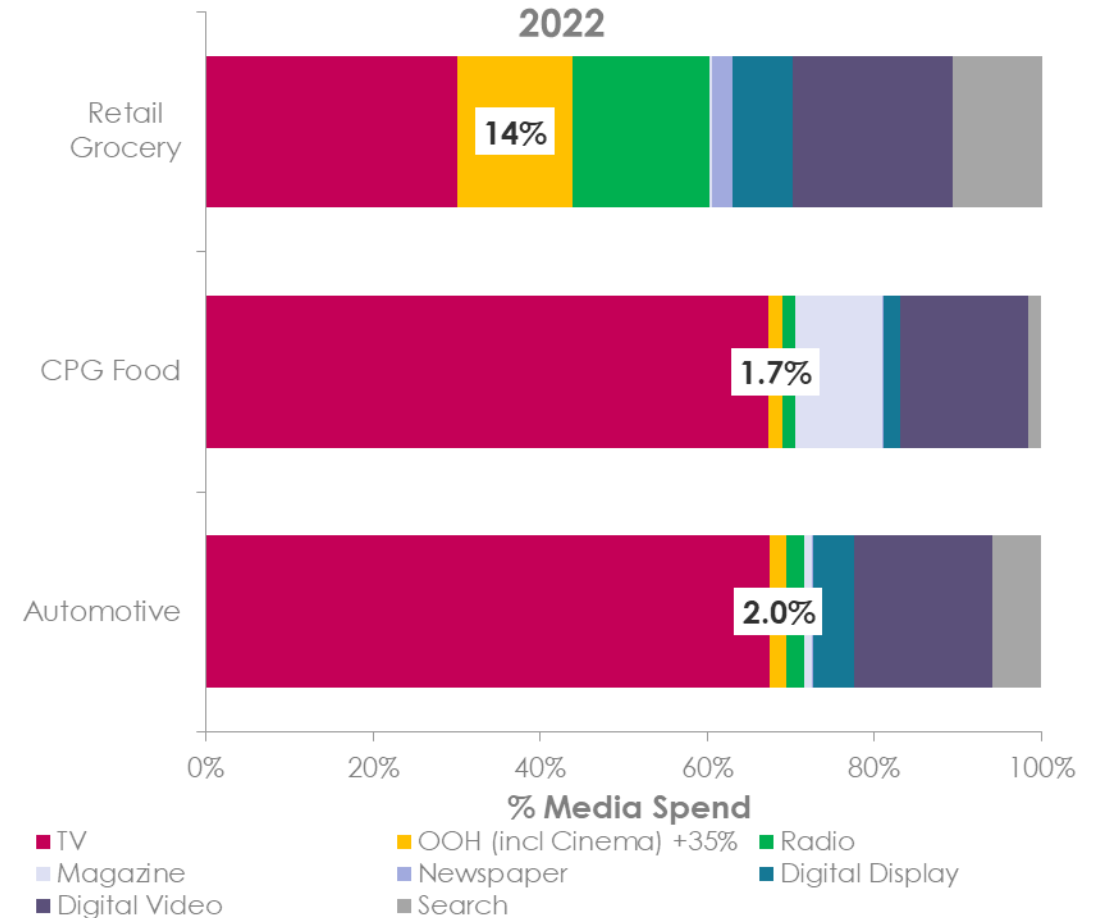
Vivvix OOH % in Media Mix: Trends by product category

In 2022, the highest OOH % allocation in our category set was Retail Grocery at 14%, CPG food the lowest at 2%

OOH trend over time



Vivvix Spend %s by channel

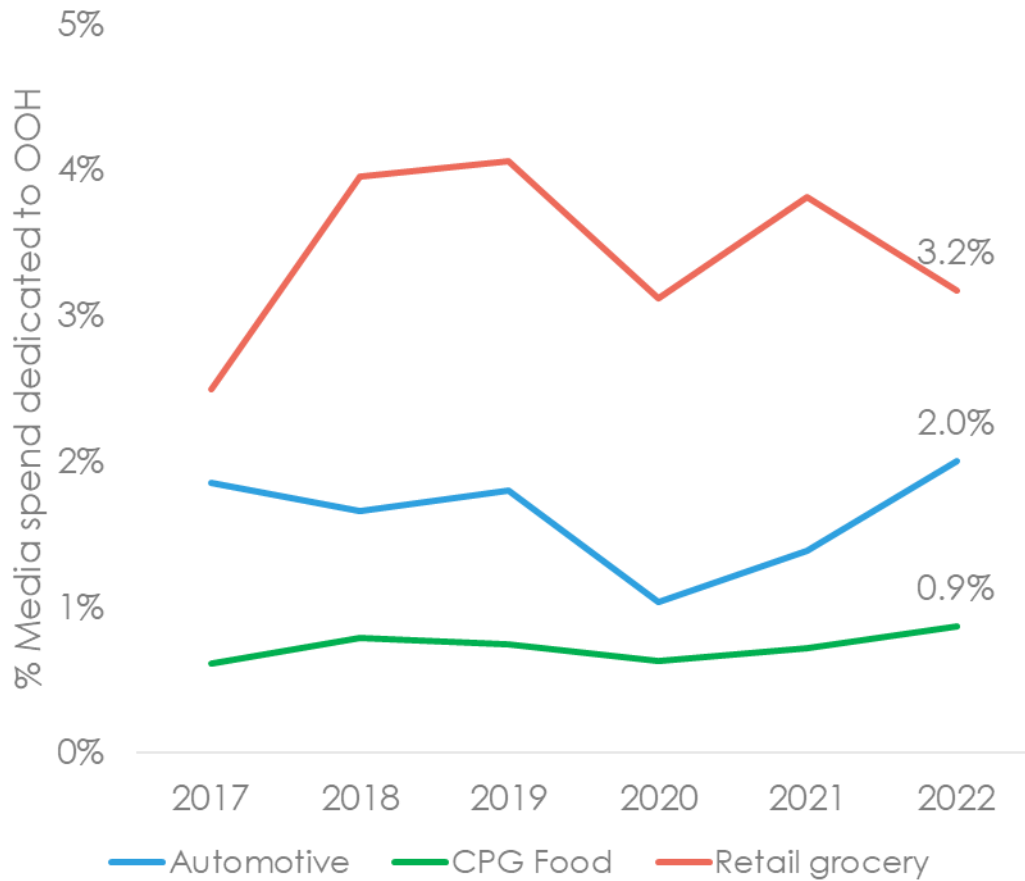


Vivvix Spend

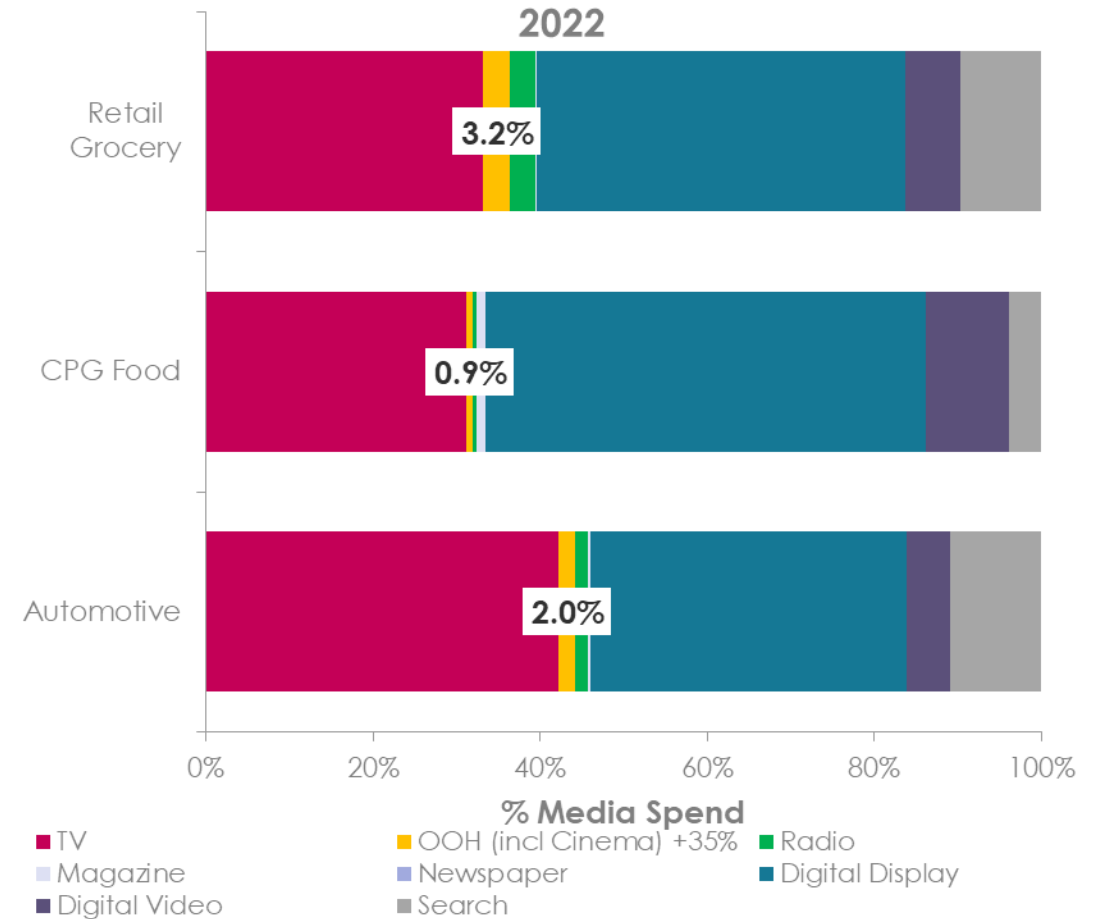
SMI OOH % in Media Mix: Trends by product category

In 2022, Retail Grocery has the highest OOH % allocation at 3.2%, followed by Automotive at 2.0%

SMI OOH trend over time



SMI Spend % mix by channel

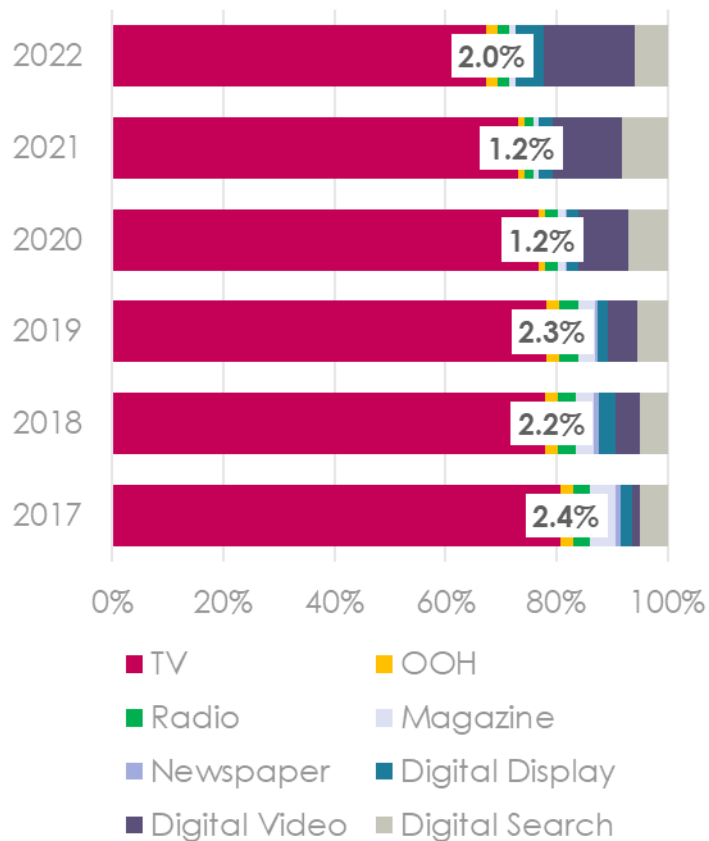


SMI Spend

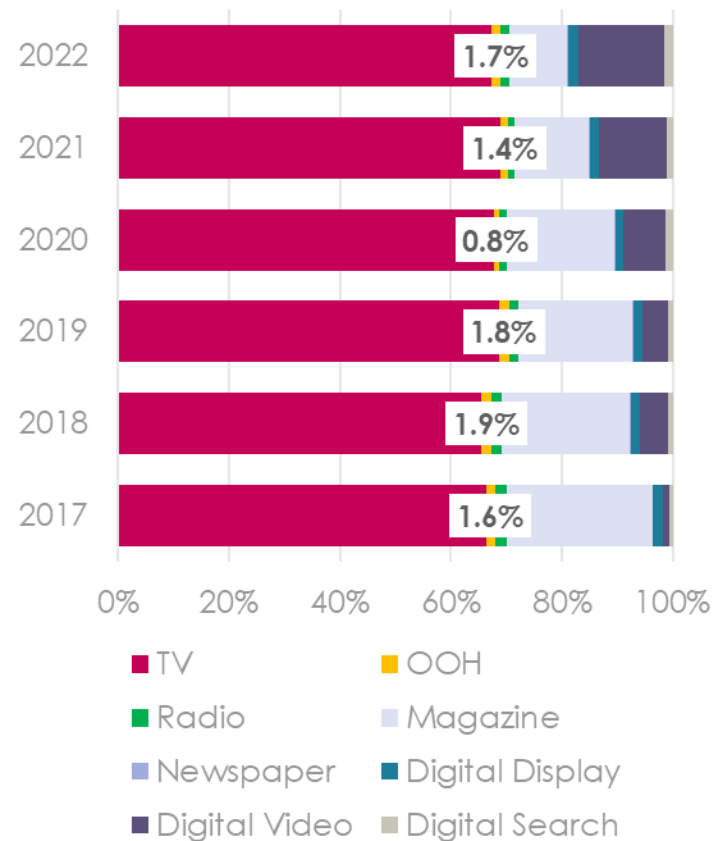
Vivvix % Spend by Media Channel by Year by Product Category

OOH allocation is highest in the Retail Grocery category, although still lower than pre-covid levels

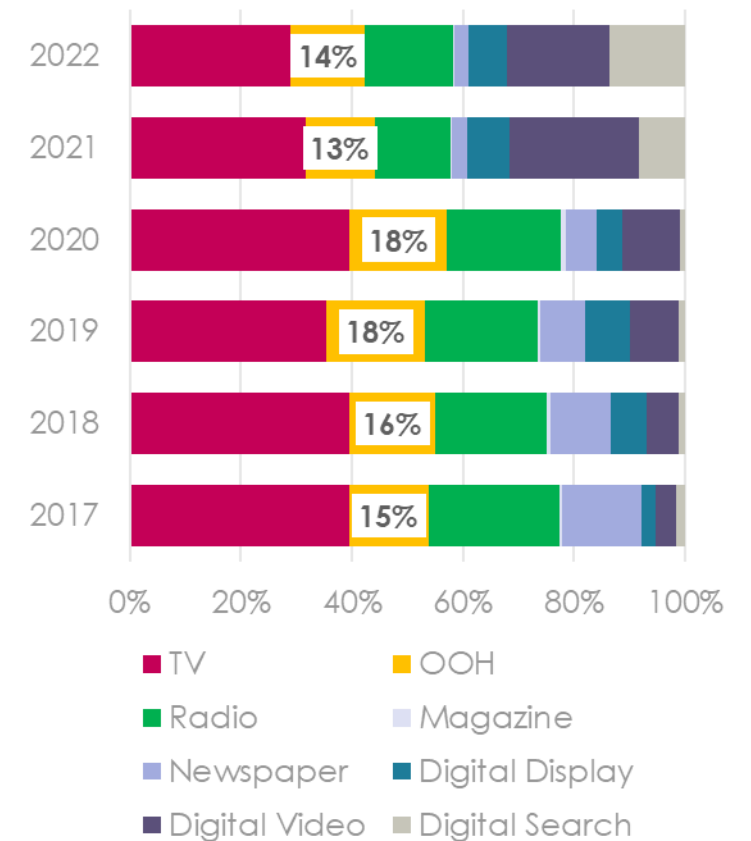
Automotive 2017-2022



CPG Food 2017-2022



Retail Grocery 2017-2022

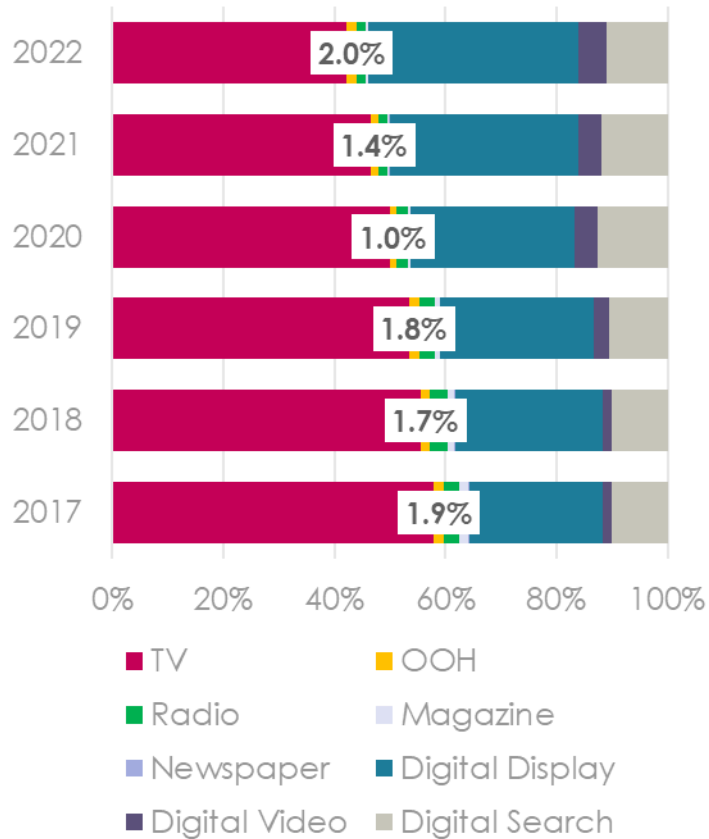


Vivvix Spend

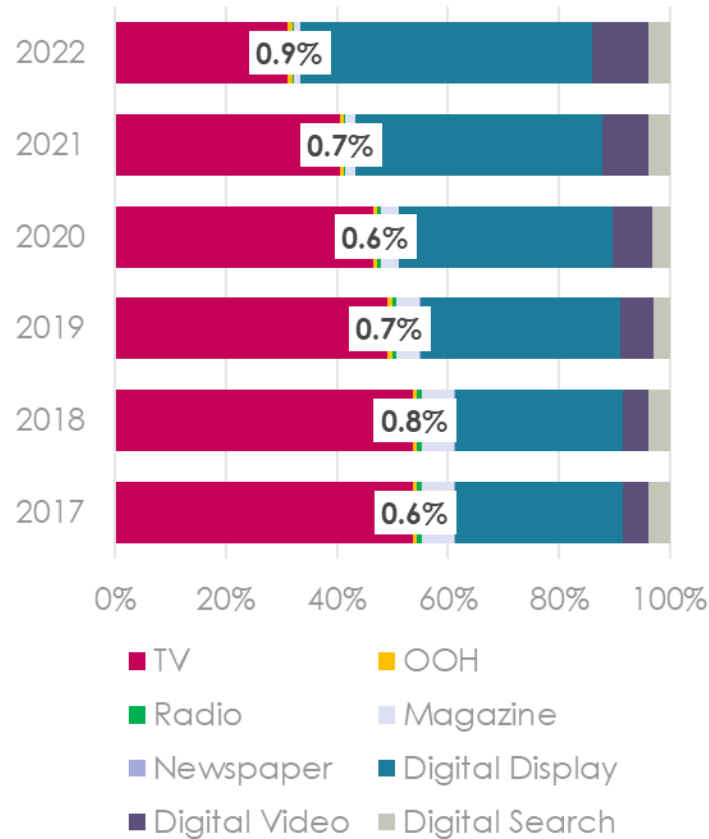
SMI % Spend by Media Channel by Year by Product Category

SMI records higher Digital spend across all categories and lower OOH compared to Vivvix, especially for Retail Grocery

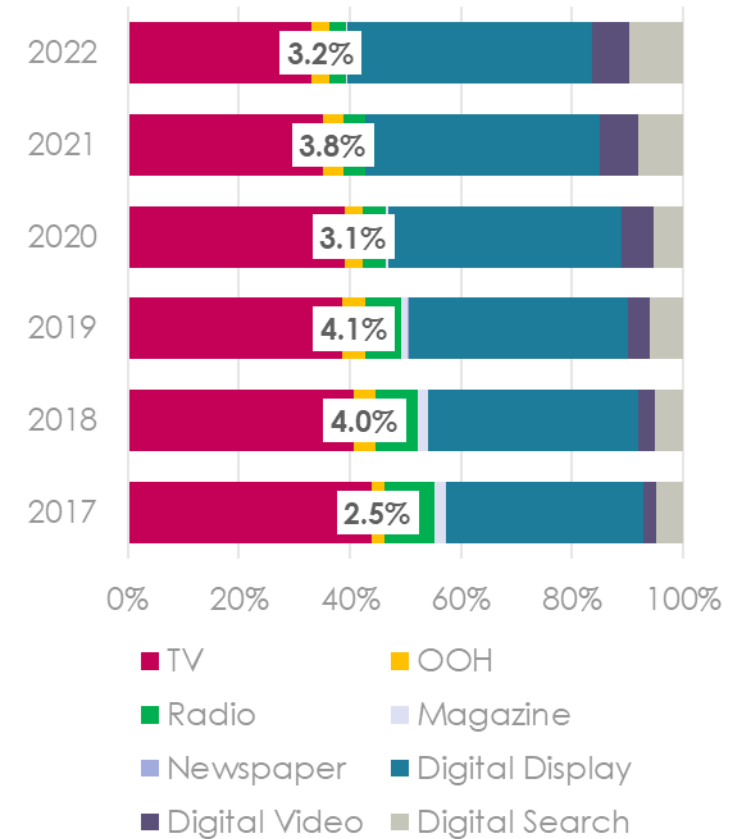
Automotive 2017-2022



CPG Food 2017-2022



Retail Grocery 2017-2022



SMI Spend

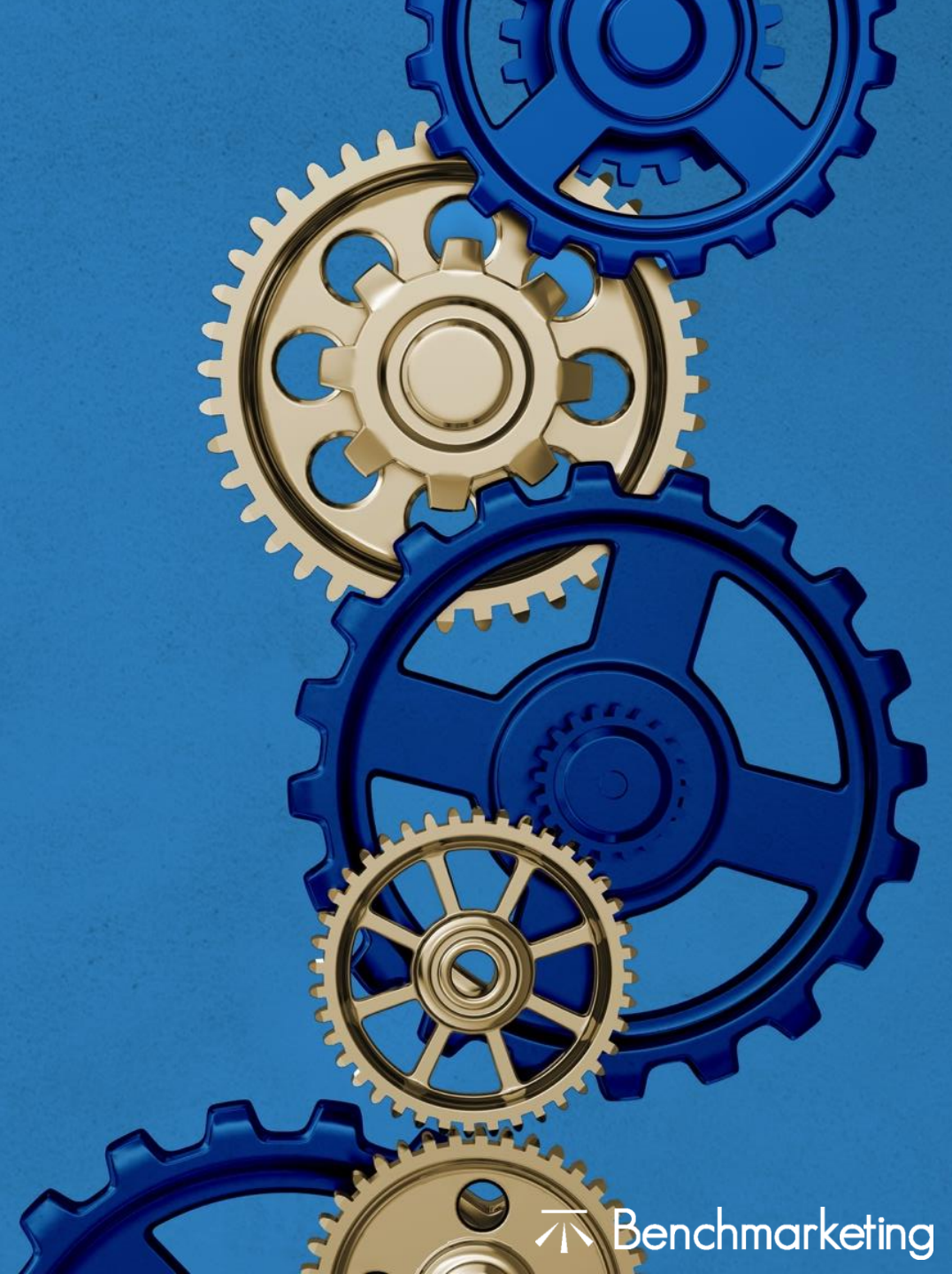
Summary of SMI National Ad Spend Trends for the Three Product Categories Analyzed



| Product Category | SMI Product Category | SMI Total Media Spend in Dollars | SMI OOH % of Spend 2017 – 2022 |
|-----------------------|--|--|--------------------------------|
| CPG Food | Food, Produce, Dairy | \$5 billion Flat spend trend | 0.6% to 0.9% |
| Automotive | Automotive Vehicles & Dealerships | \$9 billion Decreasing spend trend of -13% over 5 years | 1.9% to 2.1% |
| Retail Grocery | Other Stores (supermarkets, discount stores) | \$3 billion Increasing spend trend of +98% over 5 years | 2.5% to 3.2% |

SMI Spend

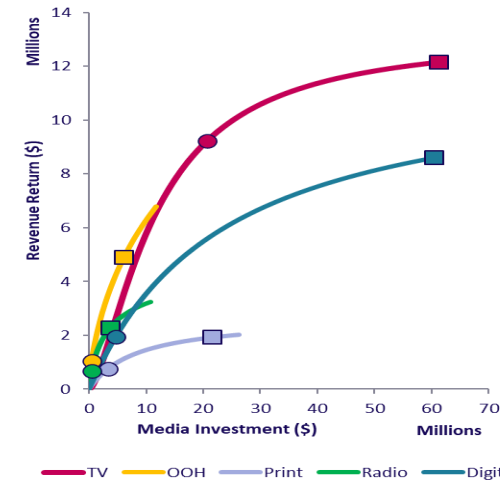
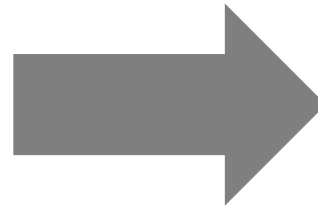
2. Optimizing Sales RROAS – Combining MMMs to Create Response Curves



Using US MMM Studies to Create Response Curves by Channel

Provides data to run optimisation recommendations

Response curves
by media channel
created for each
category



CPG Food Sales - example curves

Benchmarking has access to hundreds of US brand MMMs (market mix models of sales vs media activity by channel). This analysis uses anonymized and aggregated results from US brand MMMs to provide category level response curves.

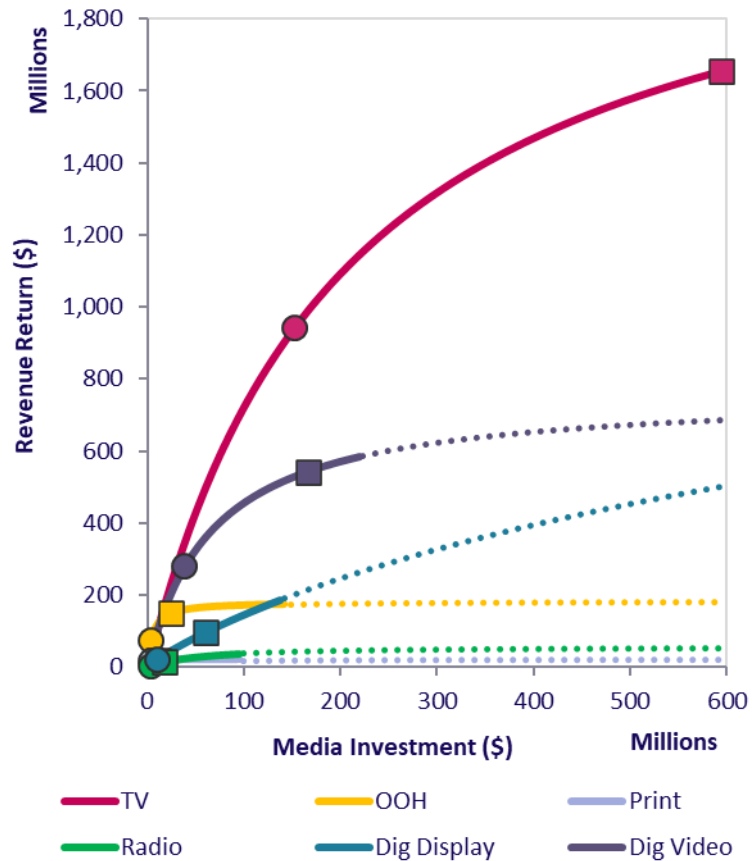
For each category, a response curve by media channel was created for each category. These response curves allow optimized investment to be determined across media channels, both theoretically and practically, and include applying realistic constraints to the maximum usage of each channel.

The response curve results show the average (depicted by a circle) and maximum (depicted by a square) Vivvix ad spend investment levels generally achieved in the category to guide the optimization. All channels eventually hit diminishing returns (the point at which the channel's curve begins to flatten), so it's best to move additional investment to other channels once this diminishing condition occurs to achieve overall plan optimization.

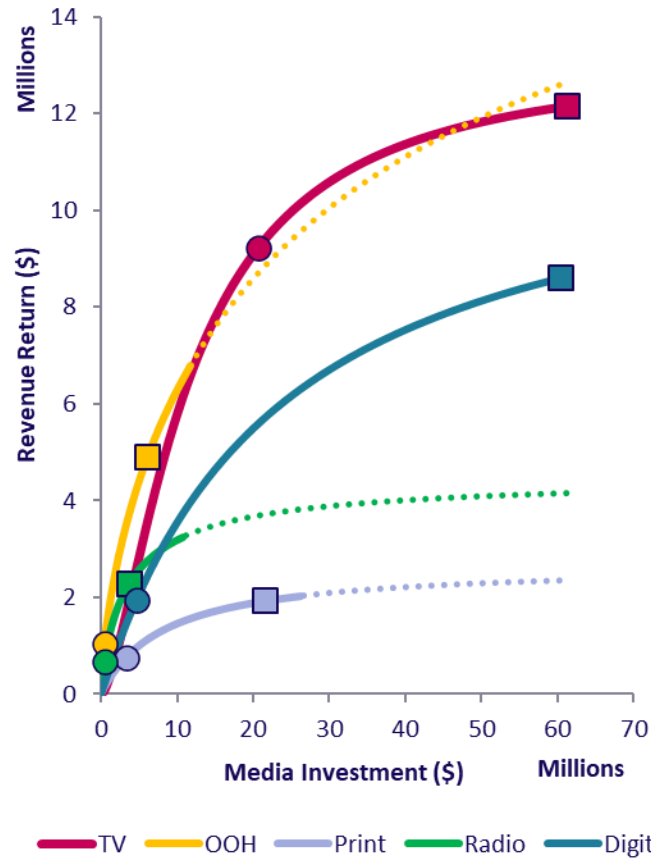
Comparison of Sales Response Curves Across Product Categories

The spends and revenue scales are different for each category. While TV has the highest curve for all three categories, the data reinforces the value of increasing OOH allocation in the media mix for all three.

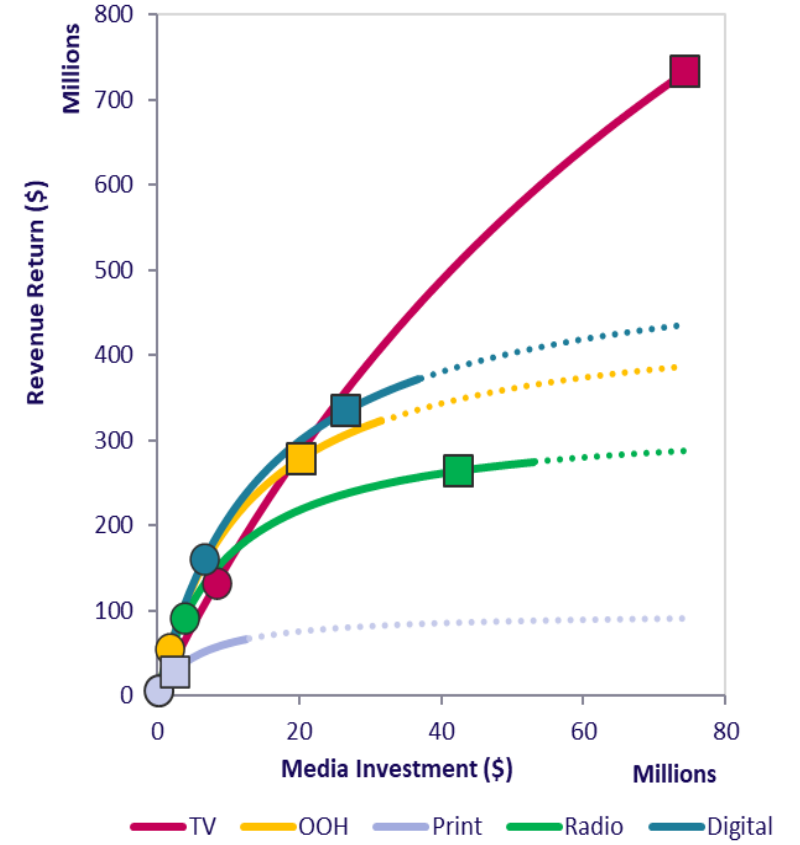
Automotive Sales Response Curves



CPG Food Sales Response Curves



Retail Grocery Sales Response Curves



■ = Max ● = Average

Optimizing Sales Average Brand Spend by Channel Across Product Categories

CPG Food has the highest % RROAS improvement once the media mix is optimized

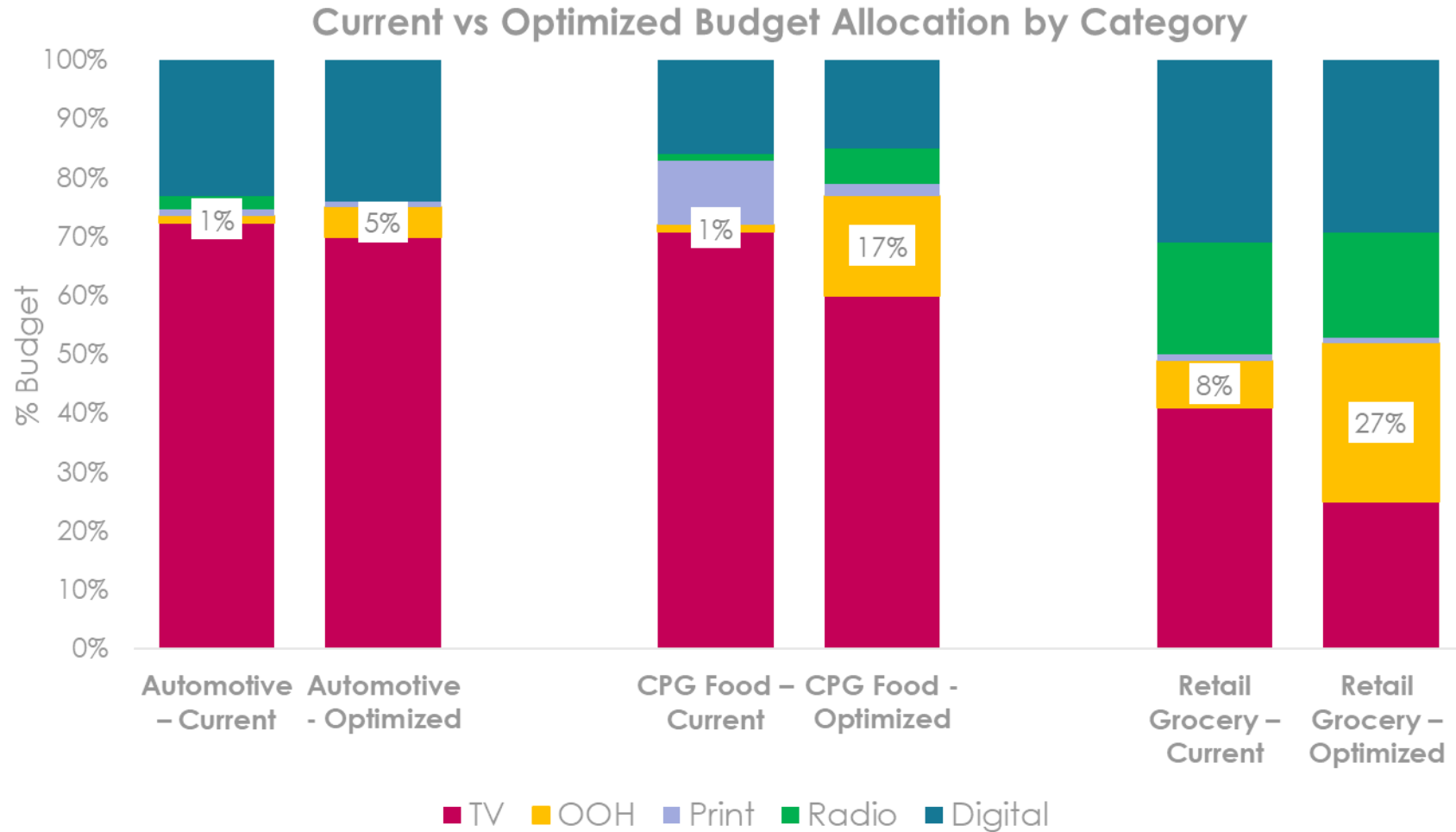
| | Automotive – Current | Automotive - Optimized | CPG Food – Current | CPG Food - Optimized | Retail Grocery – Current | Retail Grocery – Optimized |
|---|----------------------|------------------------|--------------------|----------------------|--------------------------|----------------------------|
| TV | 72% | 70% | 71% | 60% | 41% | 25% |
| OOH | 1% | 5% | 1% | 17% | 8% | 27% |
| Print | 1% | 1% | 11% | 1% | 1% | 1% |
| Radio | 2% | 0% | 1% | 6% | 19% | 18% |
| Digital | 23% | 24% | 16% | 15% | 31% | 30% |
| TOTAL | 100% | 100% | 100% | 100% | 100% | 100% |
| 2022 Average Spend in \$M | 212.1 | 212.1 | 28.1 | 28.1 | 21.0 | 21.0 |
| Total Media Revenue RROAS \$ | 6.25 | 6.57 | 0.45 | 0.57 | 21.08 | 22.33 |
| Total RROAS Improvement in Dollars and Percent | | +\$0.33 +5% | | +\$0.12 +27% | | +\$1.25 +6% |

Vivix average 2022 brand spend minimum 1%

Minimum channel allocation constraints: CPG Food - TV minimum 60%, Digital minimum 15% and 1% Print minimum; Retail Grocery TV minimum 25% and Print

Optimizing Sales Average Brand Spend by Channel by Product Category

optimized budget recommends increasing OOH share across all three categories



Vivix average 2022 brand spend

Optimizing Average LARGE Brand Spend by Channel by Product Category

Large Retail Grocery brands use OOH at higher levels, but should be spending twice as much to achieve optimization

| | Automotive – Current | Automotive - optimized | CPG Food – Current | CPG Food - optimized | Retail Grocery – Current | Retail Grocery – optimized |
|---|----------------------|------------------------|--------------------|----------------------|--------------------------|----------------------------|
| TV | 73% | 69% | 66% | 60% | 41% | 40% |
| OOH | 1% | 4% | 1% | 18% | 8% | 19% |
| Print | 1% | 1% | 14% | 1% | 1% | 2% |
| Radio | 2% | 0% | 1% | 6% | 18% | 13% |
| Digital | 22% | 26% | 17% | 15% | 32% | 25% |
| TOTAL | 100% | 100% | 100% | 100% | 100% | 100% |
| 2022 Average Spend in \$M | 454.01 | 454.01 | 52.23 | 52.23 | 49.72 | 49.72 |
| Total Media Revenue RROAS \$ | 4.30 | 4.39 | 0.33 | 0.42 | 16.69 | 17.32 |
| Total RROAS Improvement in Dollars and Percent | | +\$0.09 +2% | | +\$0.09 +26% | | +\$0.63 +4% |

Vivix average 2022 brand spend

Minimum channel allocation constraints: CPG Food - TV minimum 60%, Digital minimum 15% and minimum Print 1%; Retail Grocery TV minimum 25%

Optimizing Average MEDIUM Brand Spend by Channel by Product Category

OOH should be increased at least 5X times for Retail Grocery, and increased for Automotive and CPG Food

| | Automotive – Current | Automotive - optimized | CPG Food – Current | CPG Food - optimized | Retail Grocery – Current | Retail Grocery – optimized |
|---|----------------------|------------------------|--------------------|----------------------|--------------------------|----------------------------|
| TV | 76% | 69% | 79% | 60% | 39% | 25% |
| OOH | 0.35% | 6% | 0.10% | 17% | 5% | 27% |
| Print | 2% | 1% | 5% | 1% | 1% | 1% |
| Radio | 2% | 0% | 0.10% | 7% | 23% | 17% |
| Digital | 20% | 24% | 15% | 15% | 32% | 30% |
| TOTAL | 100% | 100% | 100% | 100% | 100% | 100% |
| 2022 Average Spend in \$M | 168.02 | 168.02 | 21.25 | 21.25 | 12.07 | 12.07 |
| Total Media Revenue RROAS \$ | 6.60 | 7.25 | 0.48 | 0.64 | 23.01 | 25.03 |
| Total RROAS Improvement in Dollars and Percent | | +\$0.65 +10% | | +\$0.15 +32% | | +\$2.02 +9% |

Vivix average 2022 brand spend minimum 2%

Minimum channel allocation constraints: CPG Food - TV minimum 60%, Digital minimum 15% and Print Minimum 1%; Retail Grocery TV minimum 25% and Print

Optimizing Average SMALL Brand Spend by Channel by Product Category

OOH is used at higher levels for Small Retail Grocery brands (compared to medium and large brands), but should be used even more for all three categories

| | Automotive – Current | Automotive - Optimized | CPG Food – Current | CPG Food - Optimized | Retail Grocery – Current | Retail Grocery – Optimized |
|---|----------------------|------------------------|--------------------|----------------------|--------------------------|----------------------------|
| TV | 50% | 60% | 84% | 60% | 25% | 25% |
| OOH | 3% | 13% | 1% | 17% | 24% | 39% |
| Print | 1% | 2% | 8% | 1% | 10% | 1% |
| Radio | 1% | 0% | 0.48% | 7% | 38% | 4% |
| Digital | 46% | 25% | 7% | 15% | 3% | 31% |
| TOTAL | 100% | 100% | 100% | 100% | 100% | 100% |
| 2022 Average Spend in \$M | 38.57 | 38.57 | 9.13 | 9.13 | 1.31 | 1.31 |
| Total Media Revenue RROAS \$ | 9.46 | 10.87 | 0.59 | 0.76 | 27.34 | 29.61 |
| Total RROAS Improvement in Dollars and Percent | | +\$1.41 +15% | | +\$0.16 +27% | | +\$2.30 +8% |

Vivix average 2022 brand spend minimum 1%

Minimum channel allocation constraints: CPG Food - TV minimum 60%, Digital minimum 15% and Print minimum 1%; Retail Grocery TV minimum 25% and Print

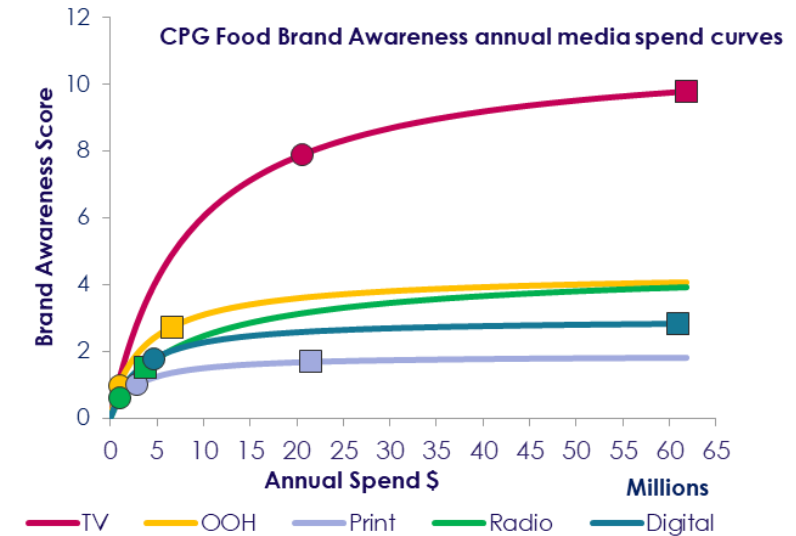
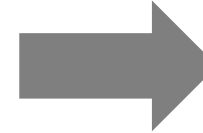
3. Modelling Brand Metrics to Determine Optimal % Allocation for OOH

Modelling BrandIndex Brand Awareness, Consideration and Purchase Intent

Creating response curves to look at optimal media channel allocation

YouGov
BrandIndex

+



Three pooled econometric models were built for each product category, based on these key brand metrics:

1. **Brand Awareness**
2. **Brand Consideration**
3. **Brand Purchase Intent**

Vivvix monthly channel spends by brand was used in the analysis to:

- Allow for evaluation of media effectiveness
- Create the response curves by channel for brands
- Aggregate the data to get product category norms

The key outputs from the analysis are the response curves by media channel, which allow for production of the optimization recommendations.

Monthly Vivvix data 2019 to 2022 was used, and brands were excluded if they didn't have BrandIndex data, or any data was missing.

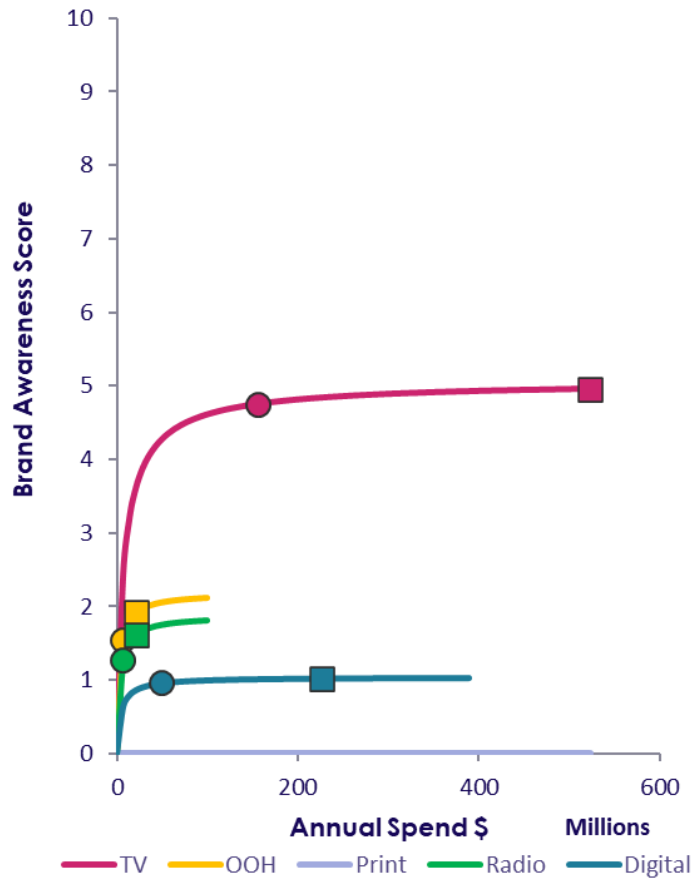
Optimizing Brand Awareness by Product Category



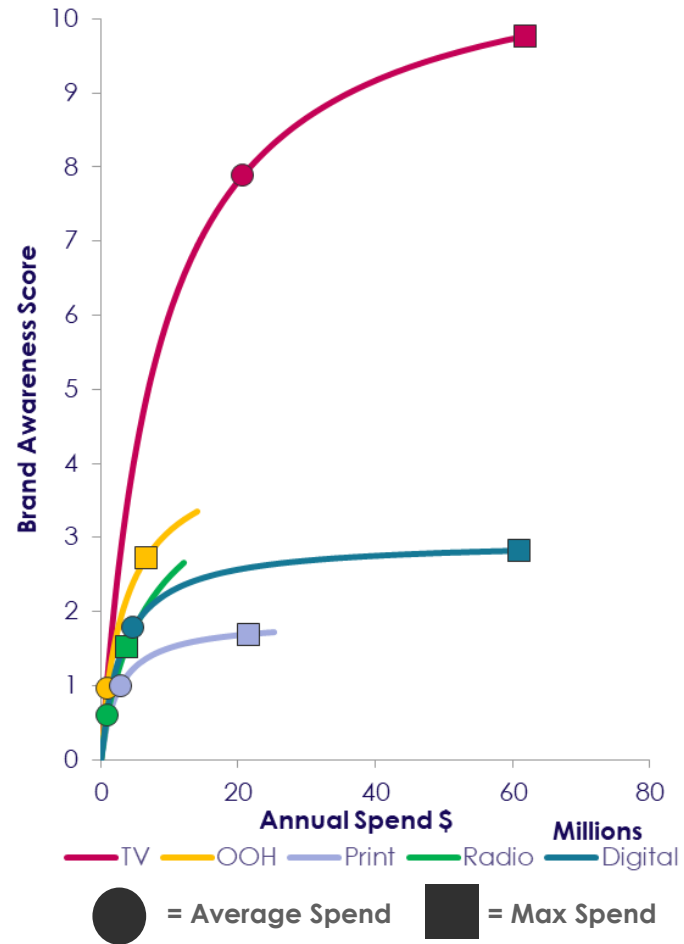
Brand Awareness Response Curves by Product Category

TV has the strongest curve across all categories, OOH has the second strongest curve for Automotive and CPG Food

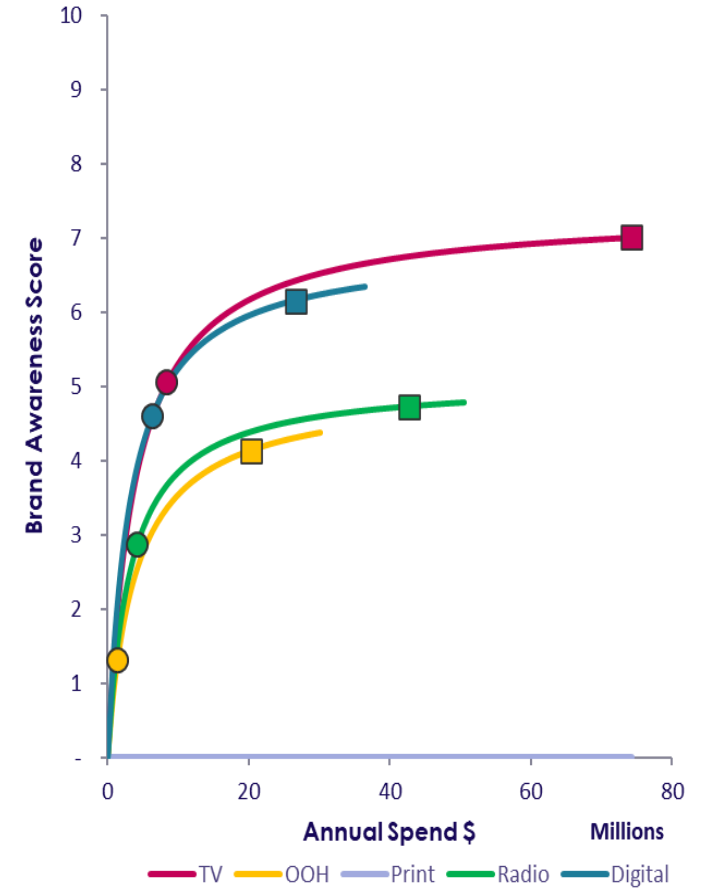
Automotive Response Curves



CPG Food Response Curves



Retail Grocery Response Curves



● = Average Spend ■ = Max Spend

Optimizing Average Brand Spend by Channel to Drive BRAND AWARENESS

Automotive has the strongest improvement in ROAS when the mix is optimized, and OOH used at 19%

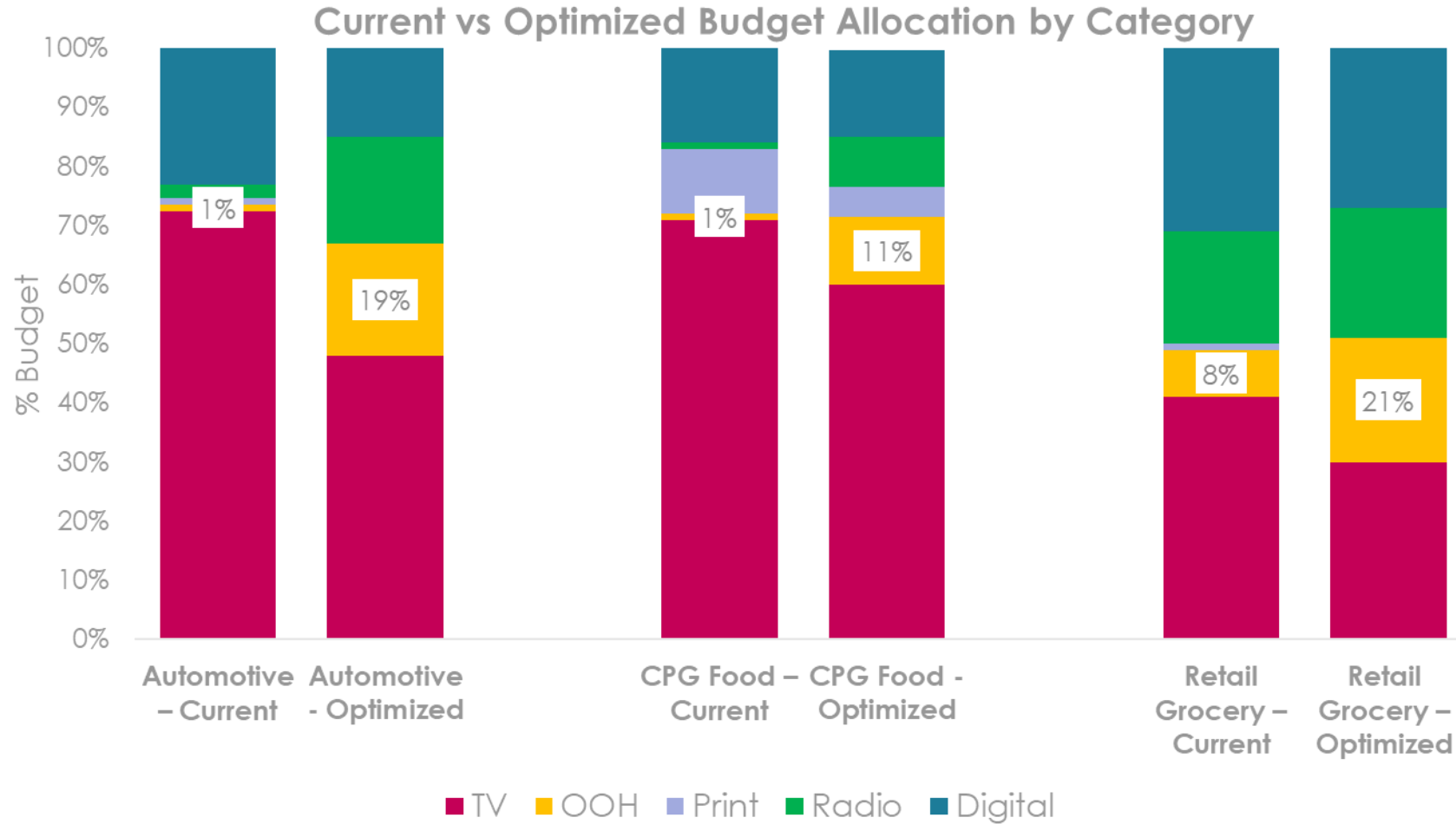
| | Automotive – Current | Automotive - Optimized | CPG Food – Current | CPG Food - Optimized | Retail Grocery – Current | Retail Grocery – Optimized |
|---|----------------------|------------------------|--------------------|----------------------|--------------------------|----------------------------|
| TV | 72% | 48% | 71% | 60% | 41% | 30% |
| OOH | 1% | 19% | 1% | 11% | 8% | 21% |
| Print | 1% | 1% | 11% | 5% | 1% | 1% |
| Radio | 2% | 18% | 1% | 8% | 19% | 22% |
| Digital | 23% | 15% | 16% | 15% | 31% | 27% |
| TOTAL | 100% | 100% | 100% | 100% | 100% | 100% |
| 2022 Average Spend in \$M | 212.1 | 212.1 | 28.1 | 28.1 | 21.0 | 21.0 |
| ROAS – Brand Awareness points per \$M | 0.04 | 0.04 | 0.40 | 0.46 | 0.67 | 0.69 |
| Total Brand Awareness ROAS Improvement in Points and Percent | | +0.01 pts. +19% | | +0.07 pts. +17% | | +0.02 pts. +4% |

Vivix average 2022 brand spend

Minimum channel allocation constraints: CPG Food - TV minimum 60% and Digital minimum 15%, Retail Grocery - Print minimum 1%, Automotive - Print minimum 1%.

Optimizing Average Brand Spend by Channel – BRAND AWARENESS

Optimized budget recommends increasing OOH share across all three categories



Vivix average 2022 brand spend

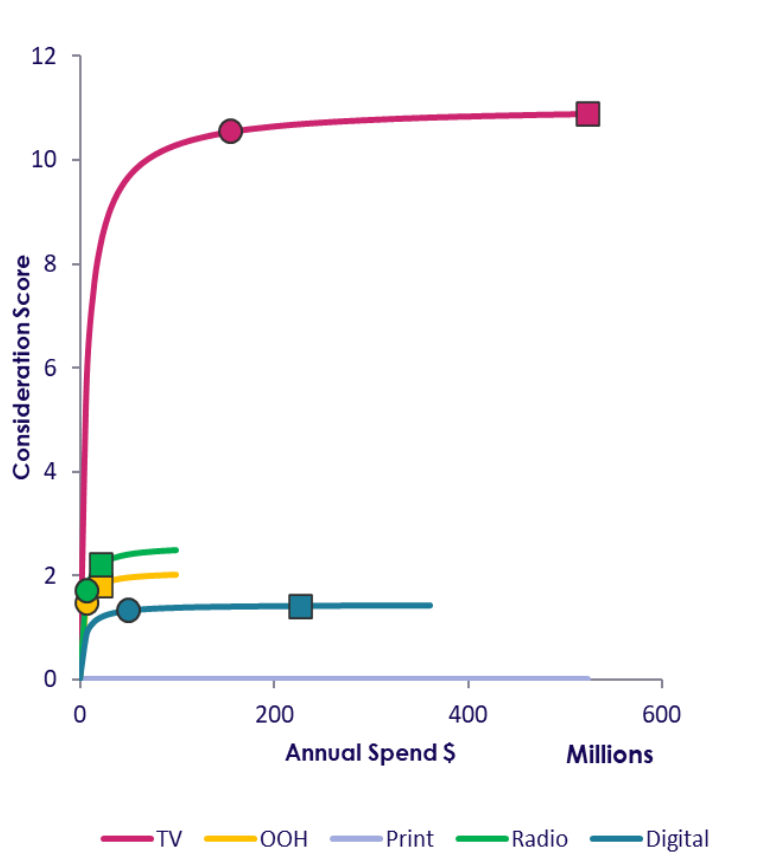
Optimizing Brand Consideration by Product Category



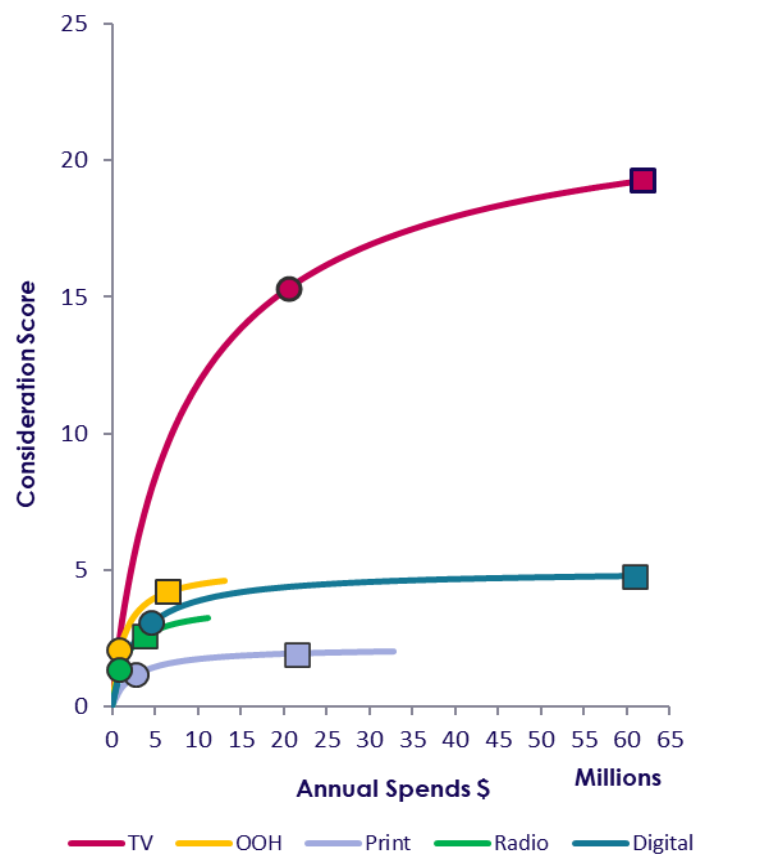
Brand Consideration Response Curves by Product Category

TV has the strongest curve across all categories, OOH has the second strongest curve for Automotive and CPG Food

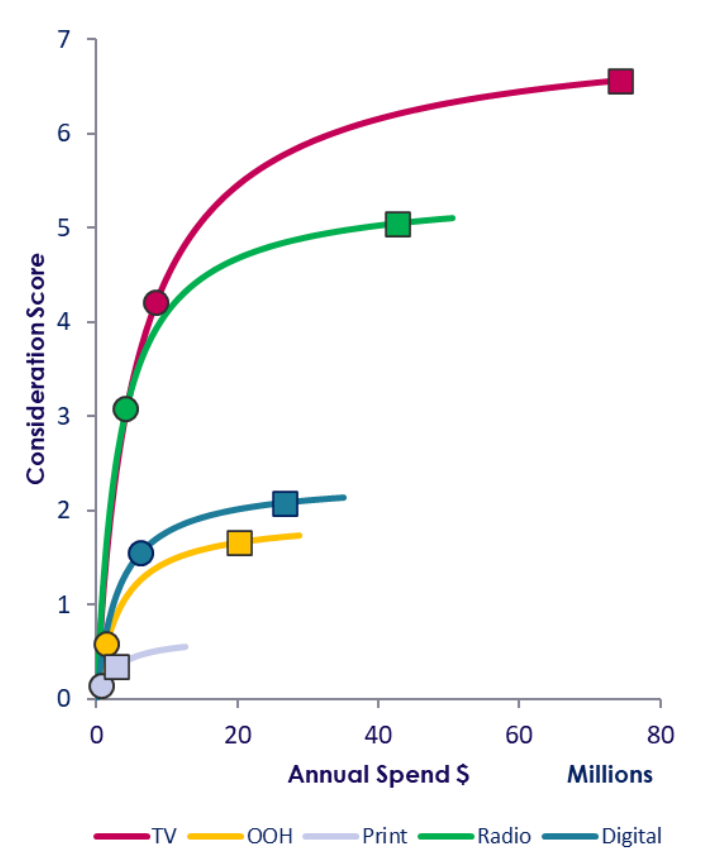
Automotive Response Curves



CPG Food Response Curves



Retail Grocery Response Curves



● = Average Spend ■ = Max Spend

Optimizing Average Brand Spend by Channel to Drive BRAND CONSIDERATION

Automotive sees highest increase in ROAS from optimizing OOH %

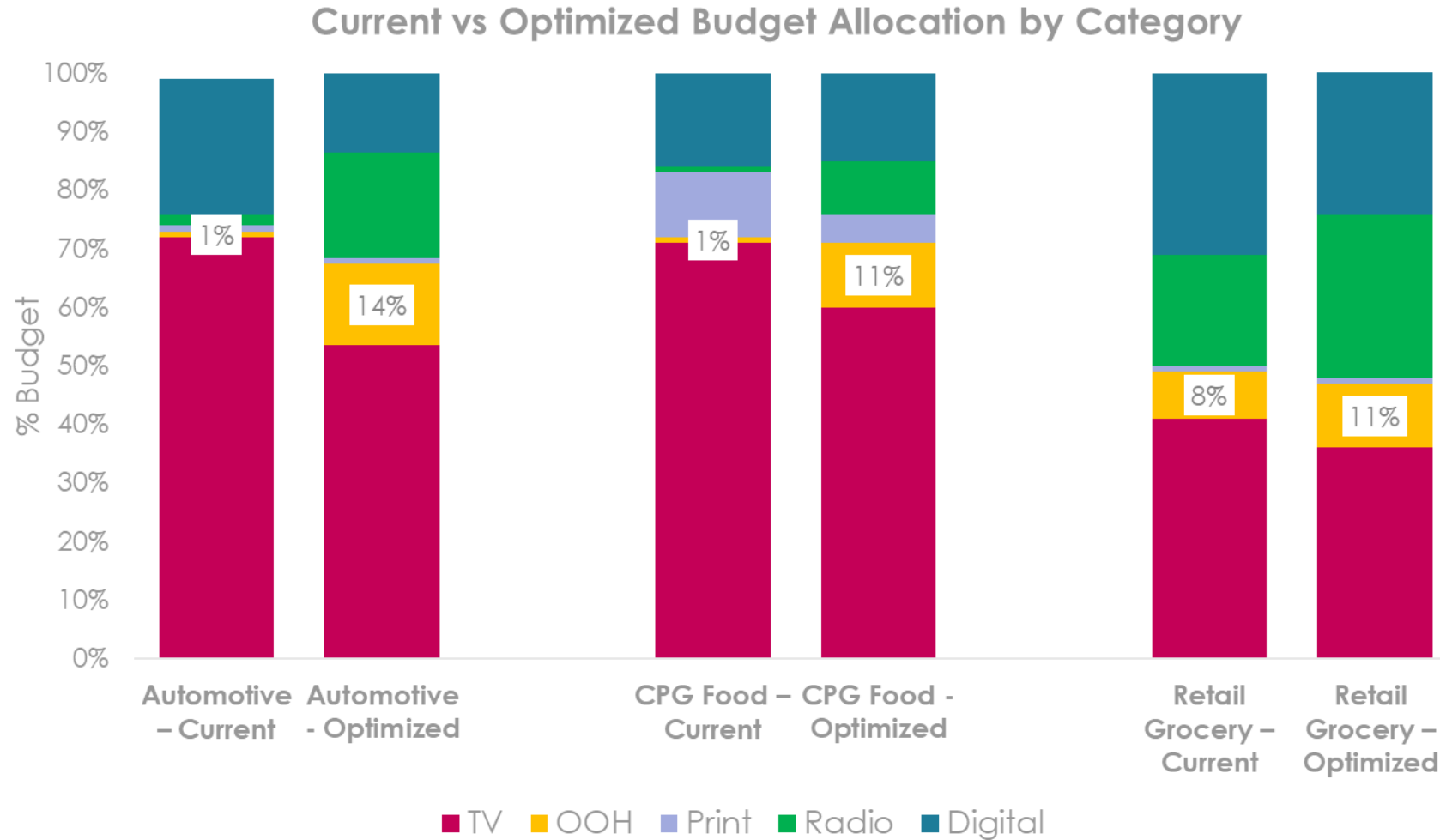
| | Automotive – Current | Automotive - Optimized | CPG Food – Current | CPG Food - Optimized | Retail Grocery – Current | Retail Grocery – Optimized |
|---|----------------------|------------------------|--------------------|----------------------|--------------------------|----------------------------|
| TV | 72% | 54% | 71% | 60% | 41% | 36% |
| OOH | 1% | 14% | 1% | 11% | 8% | 11% |
| Print | 1% | 1% | 11% | 5% | 1% | 1% |
| Radio | 2% | 18% | 1% | 9% | 19% | 28% |
| Digital | 23% | 14% | 16% | 15% | 31% | 25% |
| TOTAL | 100% | 100% | 100% | 100% | 100% | 100% |
| 2022 Average Spend in \$M | 212.1 | 212.2 | 28.1 | 28.1 | 21.0 | 21.0 |
| ROAS – Brand Consideration points per \$M | 0.06 | 0.07 | 0.73 | 0.85 | 0.45 | 0.46 |
| Total Brand Consideration ROAS Improvement in Points and Percent | | +0.01 pts. +11% | | +0.12 pts. +16% | | +0.01 pts. +3% |

Vivix average 2022 brand spend

Minimum channel allocation constraints: CPG Food - TV minimum 60% and Digital minimum 15%; Retail Grocery Digital minimum 25%, Automotive – Print minimum 1%

Optimizing Average Brand Spend by Channel – BRAND CONSIDERATION

Optimized budget recommends increasing OOH share across all three categories



Vivix average 2022 brand spend

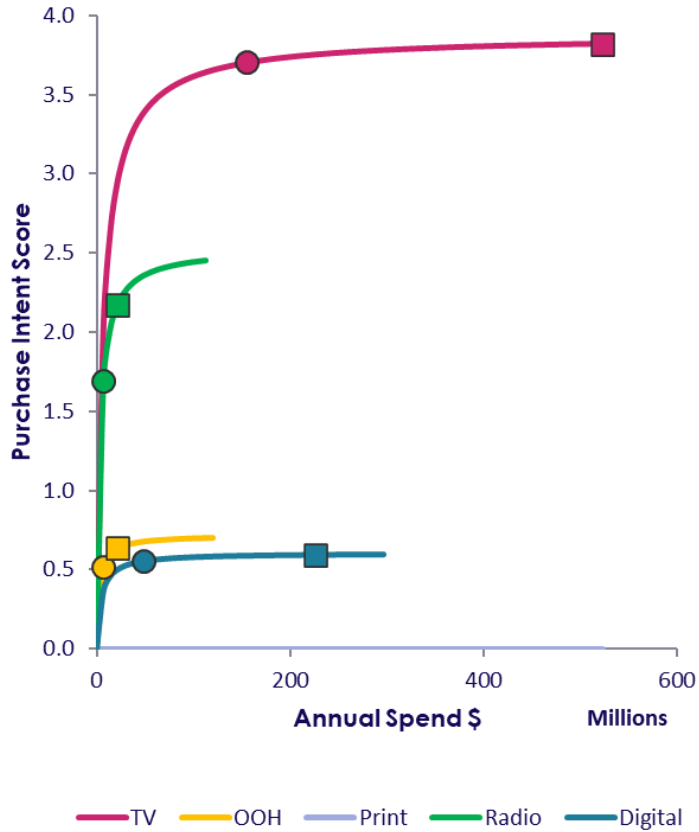
Optimizing Brand Purchase Intent by Product Category



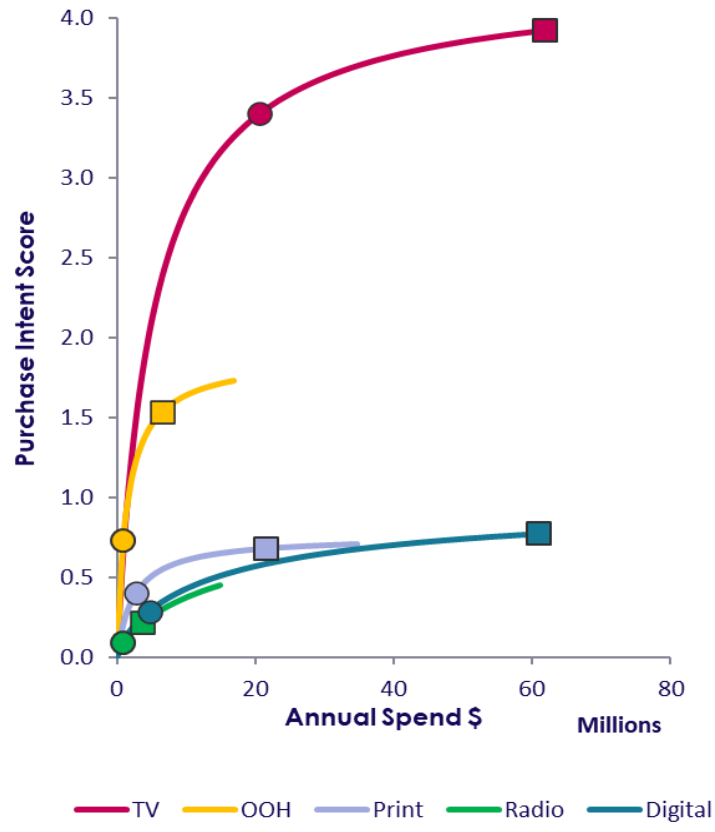
Brand Purchase Intent Response Curves by Product Category

TV has the strongest curve across all three categories, OOH has the second strongest curve in CPG Food model

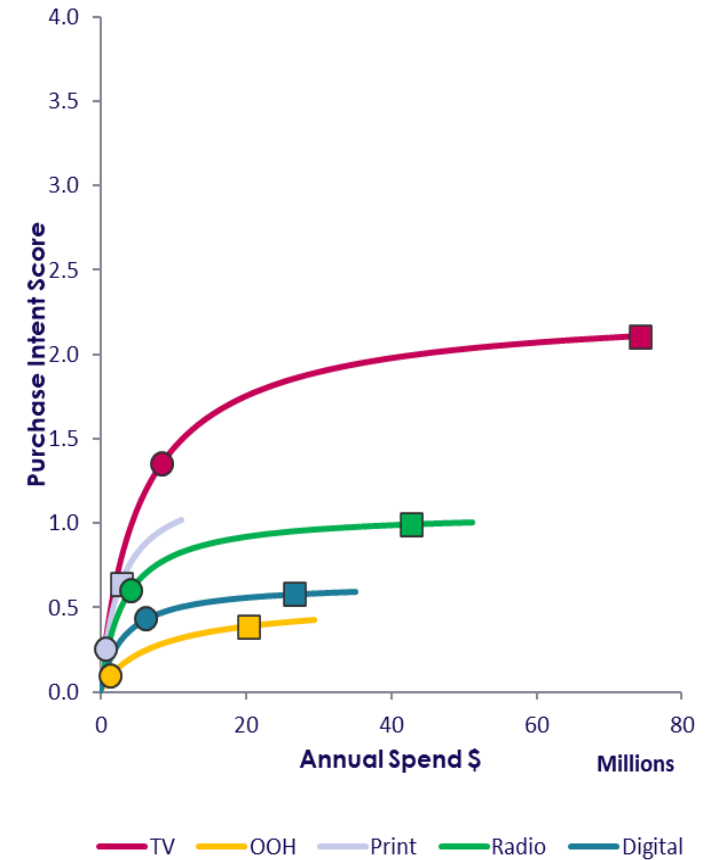
Automotive Response Curves



CPG Food Response Curves



Retail Grocery Response Curves



● = Average Spend ■ = Max Spend

Optimizing Average Brand Spend by Channel to Drive BRAND PURCHASE INTENT

CPG Food sees strongest improvement in ROAS from optimizing OOH%

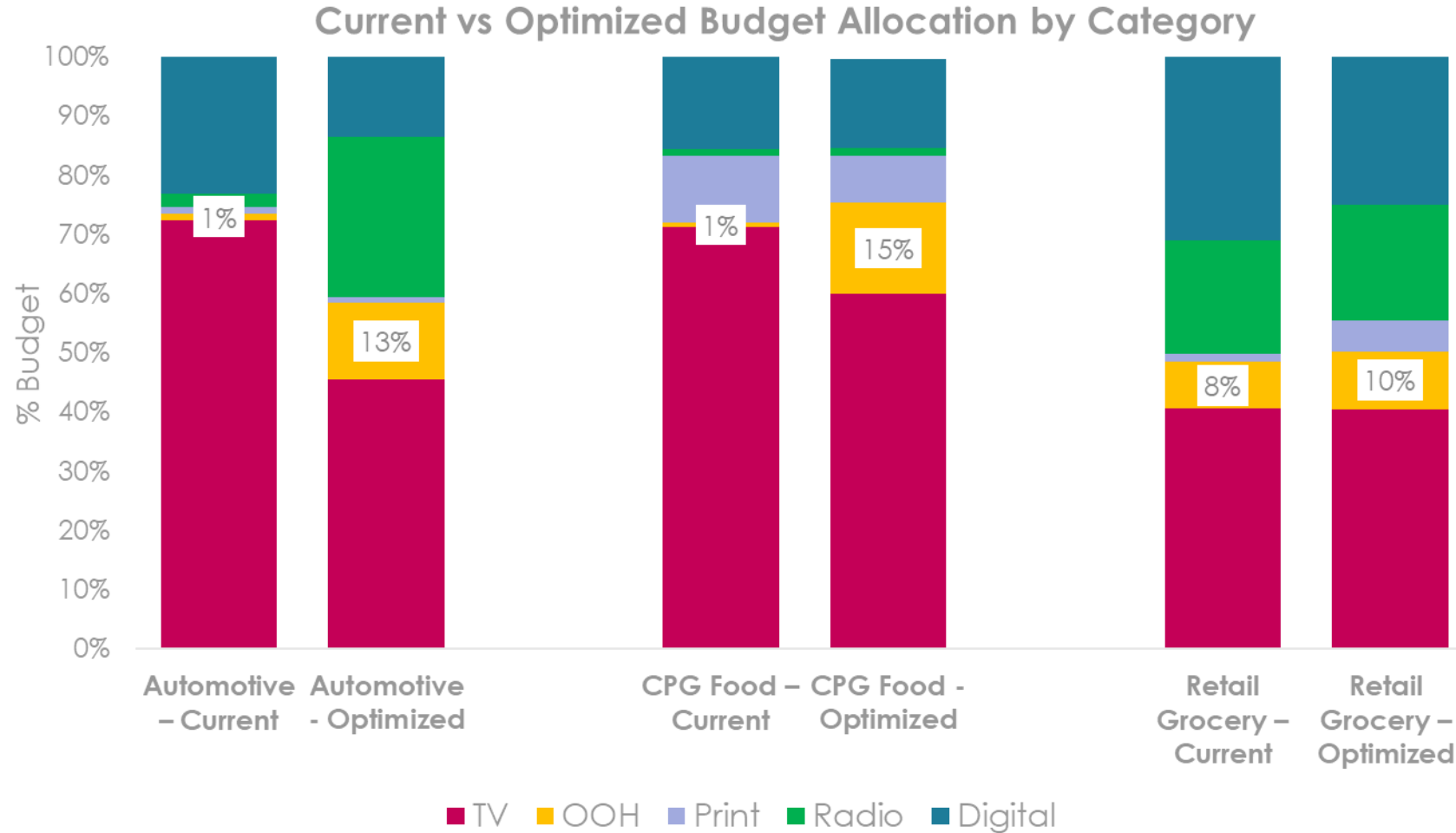
| | Automotive – Current | Automotive - Optimized | CPG Food – Current | CPG Food - Optimized | Retail Grocery – Current | Retail Grocery – Optimized |
|---|----------------------|------------------------|--------------------|----------------------|--------------------------|----------------------------|
| TV | 72% | 46% | 71% | 60% | 41% | 41% |
| OOH | 1% | 13% | 1% | 15% | 8% | 10% |
| Print | 1% | 1% | 11% | 8% | 1% | 5% |
| Radio | 2% | 27% | 1% | 1% | 19% | 20% |
| Digital | 23% | 14% | 16% | 15% | 31% | 25% |
| TOTAL | 100% | 100% | 100% | 100% | 100% | 100% |
| 2022 Average Spend in \$M | 212.4 | 212.4 | 28.12 | 28.12 | 21.03 | 21.03 |
| ROAS – Brand Purchase Intent points per \$M | 0.03 | 0.03 | 0.15 | 0.19 | 0.12 | 0.14 |
| Total Brand Purchase Intent ROAS Improvement in Points and Percent | | +0.01 pts. +19% | | +0.04 pts. +24% | | +0.01 pts. +9% |

Vivix average 2022 brand spend and minimum of 25% for Digital

Ad channel allocation constraints: Automotive – Print minimum 1%, CPG Food – minimums TV 60% and Digital 15%; Retail Grocery maximums TV 41%, Print 5%, Radio 20%,

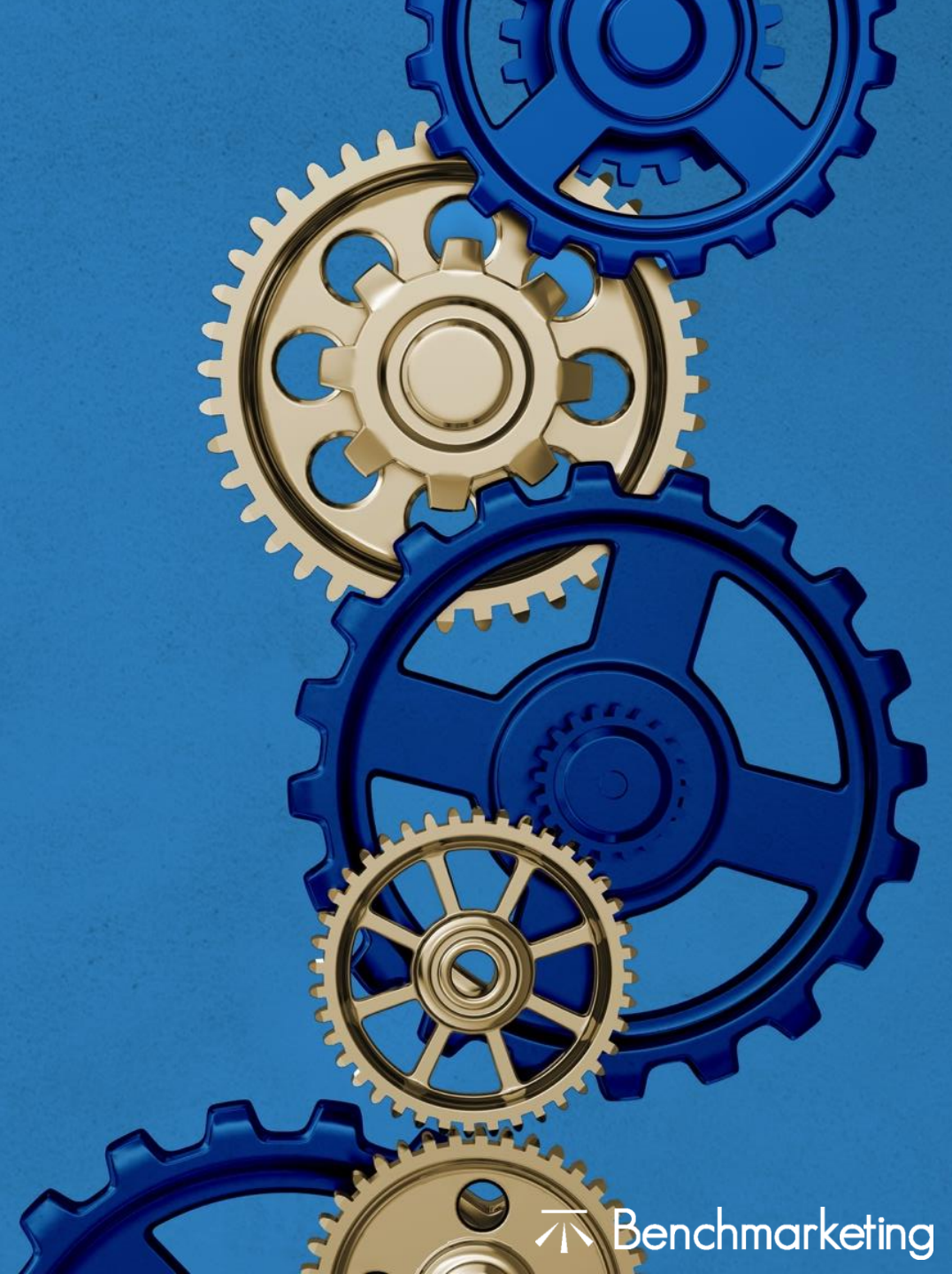
Optimizing Average Brand Spend by Channel – BRAND PURCHASE INTENT

Optimized budget recommends increasing OOH share across all three categories



Vivix average 2022 brand spend

Detailed Modelling Recommendations to Maximize MMM



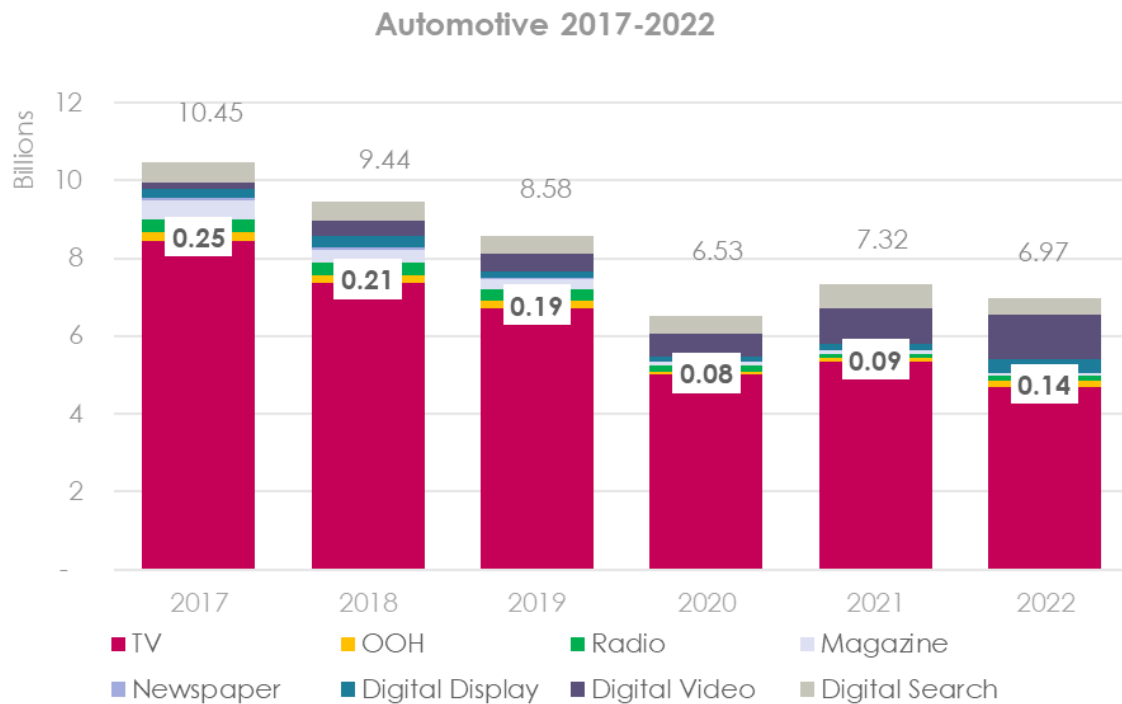
Current vs Optimal OOH Allocation % by Product Category and by KPI

| Category | Current OOH % | Optimal OOH % Brand Awareness | Optimal OOH% Brand Consideration | Optimal OOH % Brand Purchase Intent | Optimal OOH % Sales |
|-----------------------|---------------|----------------------------------|--|---|------------------------|
| Automotive | 1% | 19% | 14% | 13% | 5% |
| CPG Food | 1% | 11% | 11% | 15% | 17% |
| Retail Grocery | 8% | 21% | 11% | 10% | 27% |

Automotive Category Summary

Vivix spend as a Category shows OOH has highest spend in 2017 at \$0.25bn and \$0.14bn in 2022

Vivix Automotive spend mix trend



Automotive best action for OOH (and where from)

| | Automotive - Current mix | Brand Awareness - Optimized | Consider - Optimized | Purchase Intent - Optimized | Sales - Optimized |
|---------|--------------------------|-----------------------------|----------------------|-----------------------------|-------------------|
| TV | 72% | 48% | 54% | 46% | 70% |
| OOH | 1% | 19% | 14% | 13% | 5% |
| Print | 1% | 1% | 1% | 1% | 1% |
| Radio | 2% | 18% | 18% | 27% | 0% |
| Digital | 23% | 15% | 14% | 14% | 24% |

The analysis recommends increasing OOH from current 1% to between 5% - 19%, with a focus on brand metrics.

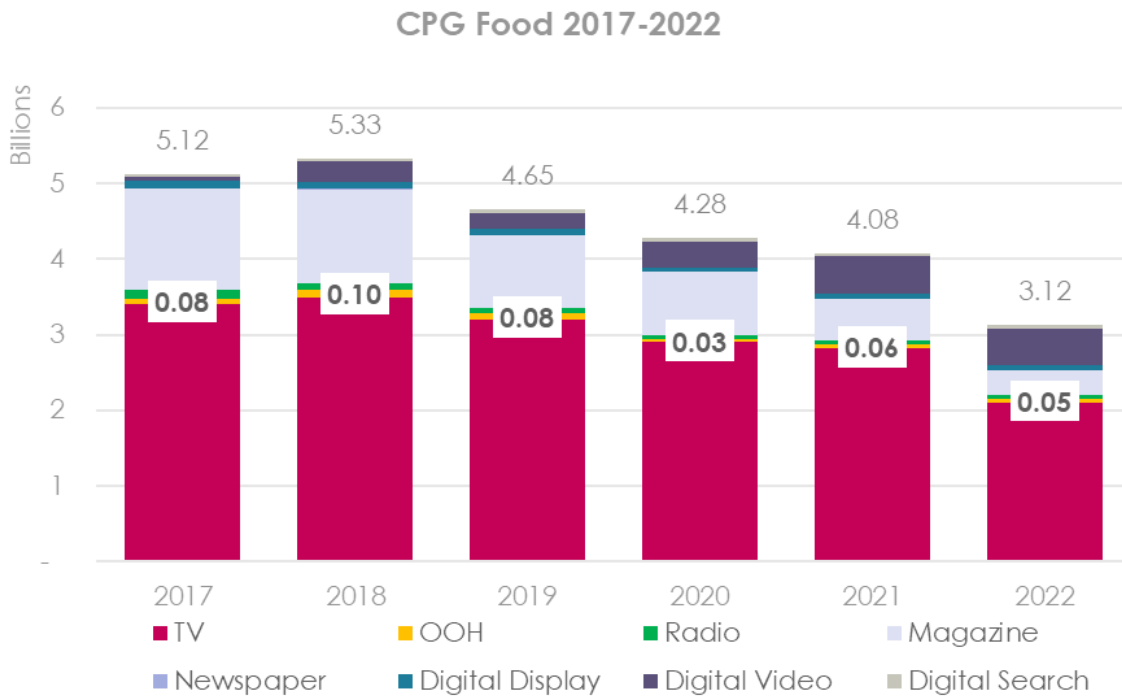
The increased allocation for OOH should be funded by reducing TV, Digital and Print.

Radio should also be increased for brand metrics, and TV kept high for sales effects.

CPG Food Category Summary

Vivix spend as a Category shows OOH has highest spend in 2018 at \$0.10bn and \$0.05bn in 2022

Vivix CPG Food spends, mix – current and trend



CPG Food best action for OOH (and where from)

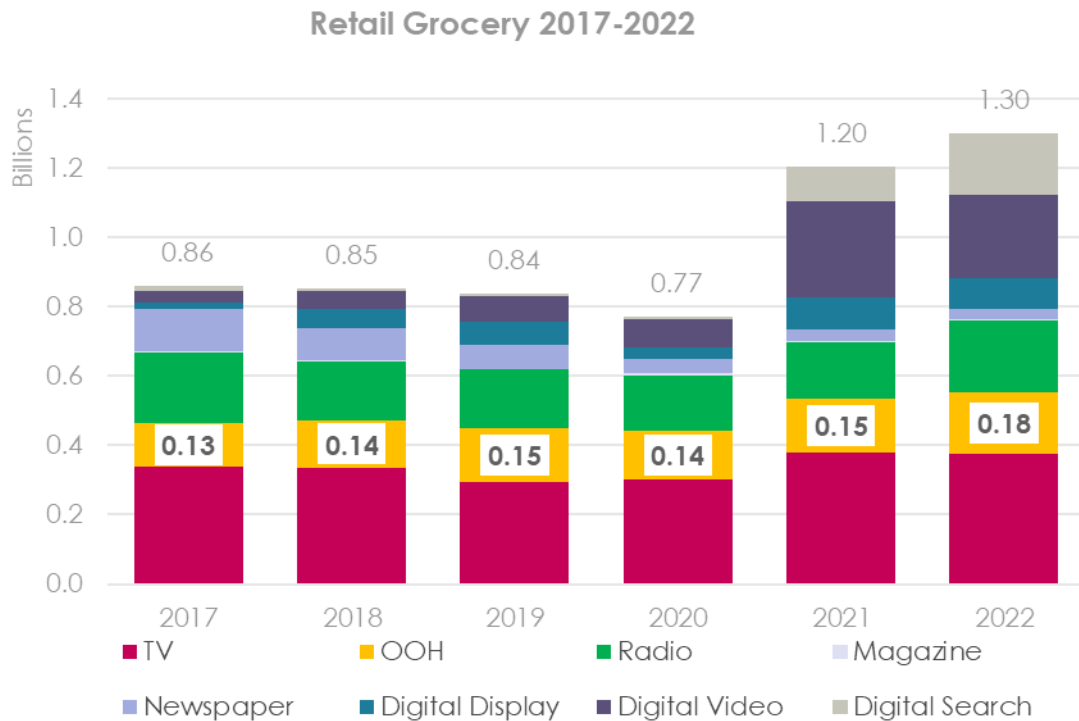
| | CPG – Current mix | Brand Awareness - Optimized | Consider - Optimized | Purchase Intent - Optimized | Sales - Optimized |
|---------|-------------------|-----------------------------|----------------------|-----------------------------|-------------------|
| TV | 71% | 60% | 60% | 60% | 60% |
| OOH | 1% | 11% | 11% | 15% | 17% |
| Print | 11% | 5% | 5% | 8% | 1% |
| Radio | 1% | 8% | 9% | 1% | 6% |
| Digital | 16% | 15% | 15% | 15% | 15% |

The analysis recommends increasing OOH from 1% to between 11% - 17%, with the highest allocation to drive the Sales KPI. The increase in OOH should be funded by reducing TV, Print, and, in some instances, Radio.

Retail Grocery Category Summary

Vivix spend as a Category shows OOH has highest spend in 2022 at \$0.18bn

Vivix Retail Grocery spends, mix – current and trend



Retail Grocery best action for OOH (and where from)

| | Retail Grocery – Current mix | Brand Awareness - Optimized | Consider - Optimized | Purchase Intent - Optimized | Sales – Optimized |
|----------------|------------------------------|-----------------------------|----------------------|-----------------------------|-------------------|
| TV | 41% | 30% | 36% | 41% | 25% |
| OOH | 8% | 21% | 11% | 10% | 27% |
| Print | 1% | 1% | 1% | 5% | 1% |
| Radio | 19% | 22% | 28% | 20% | 18% |
| Digital | 31% | 27% | 25% | 25% | 30% |

The highest OOH spend was in 2022 at \$0.18 billion.

The analysis recommends increasing OOH from current 8% to between 10% - 27%, with the highest allocation to drive the Sales KPI.

The increase in OOH should be funded by reducing TV, and Digital (with less Digital reduction for the Sales KPI).

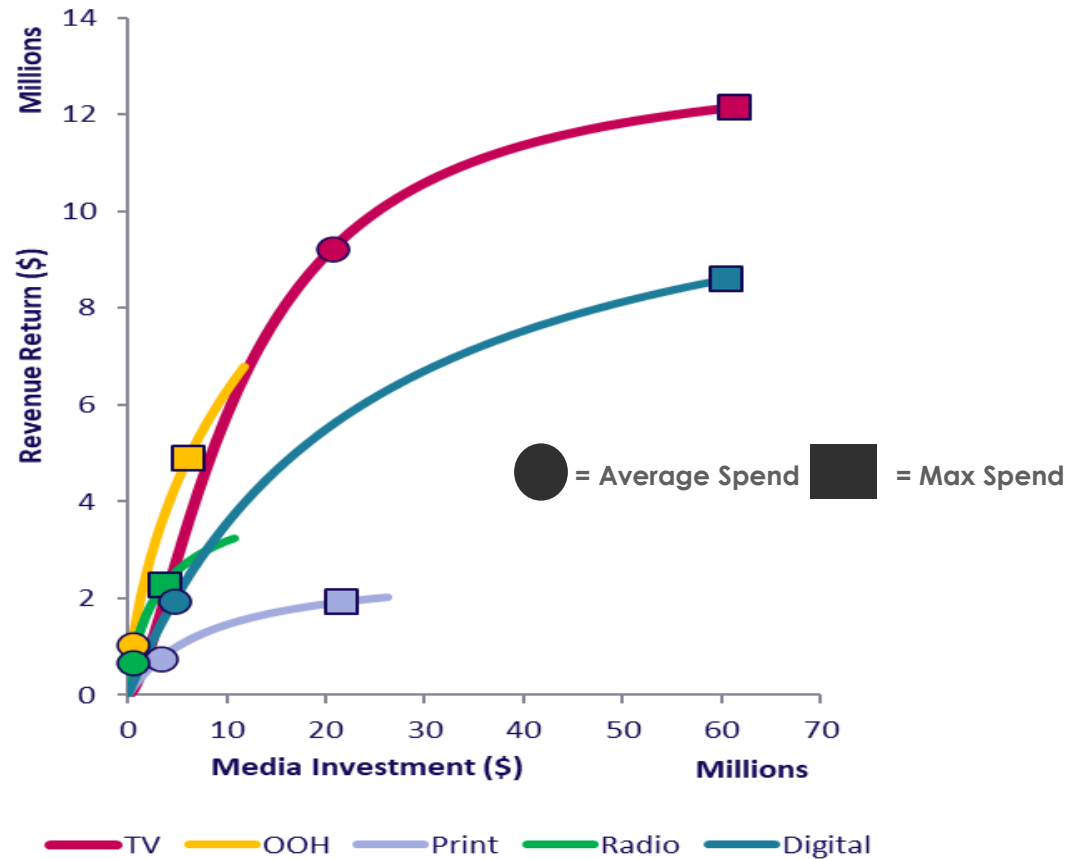


Appendix

Understanding the Revenue Return on Ad Spend Model Response Curve: CPG Food Category

A category example where OOH is clearly superior to other channels

Case where it is clear there is a role for OOH in the mix



Findings

OOH, shown in yellow, outperforms all other channels, including TV, between \$0 - \$10 million.

The curve indicates spend should be allocated to OOH in this range because it delivers higher RROAS.

The circle shows the average spend level for each channel – about \$1 million for OOH, which is on the lower end of the spectrum.

The square shows the maximum spend level invested by brands – about \$6 million for OOH.

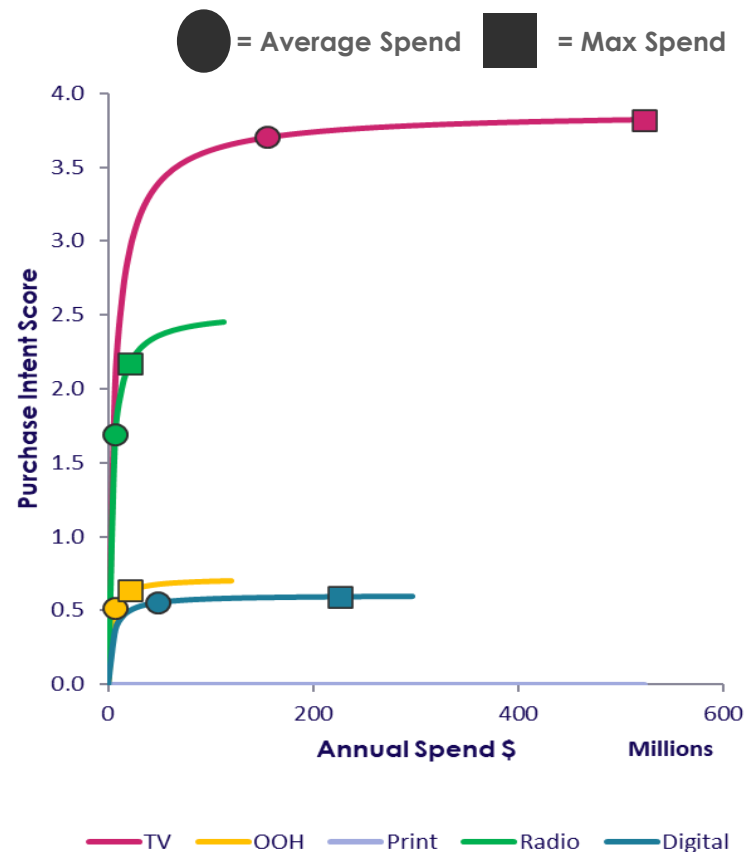
The model recommendation is to increase allocation in OOH up to \$6 million, taking away from:

- Print – which has a low RROAS curve
- Radio – which has a lower RROAS curve and where additional spending has high diminishing returns
- TV – average brand spend is entering diminishing returns

Understanding the BrandIndex Purchase Intent Model Response Curve: Automotive Category

A category example where some channels are over-spent, OOH is low, but increased OOH improves overall effect

Case where increased OOH spend can improve effectiveness, as other channels are over-allocated



Findings

- This example is from the Automotive Purchase Intent Brand metrics models. While the OOH curve is lower than TV and Radio, it still reflects a case for increased OOH spending.
- The chart shows TV and Digital spend are far into diminishing returns at lower levels of spend. In fact, the gradient of the line is almost flat at the average spend level and show very little increase between average and maximum spend.
- Average OOH spend is about \$2 million. The analysis indicates by increasing OOH, for example to \$3 million, or 50% more, the effect would be almost linear, and much higher than investing the additional spend in Digital or TV.

Methodology: Optimizing Brand Metrics

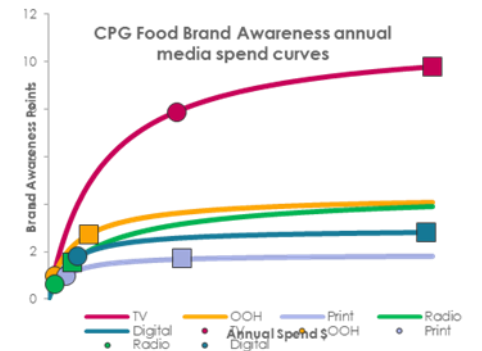
Pooled modelling of key brand metrics to create response curves to run optimizations

1.) Gather **data** by **brand** on **key brand metrics** (YouGov BrandIndex) and **media spends** by channel (Vivvix)



2.) Create a **large dataset** to allow for '**pooled modelling**'. Data is collated for all brands available within a category. Data is monthly - over the period 2019-2022

3.) **Econometric models** are then built for each of three key brand metrics using the pooled dataset:
- **Brand Awareness, Consideration, Purchase Intent**



4.) The models allow us to create **response curves**, from which we are then able to **optimize total media spend** by **channel** for each of our three **key brand metrics**

Optimizing average brand spend by channel to drive LARGE Brands - BRAND AWARENESS

Budget reallocation to optimize with increased OOH sees greatest lift in CPG Food Brand Awareness for large brands

| | Automotive – Current | Automotive - Optimized | CPG Food – Current | CPG Food - Optimized | Retail Grocery – Current | Retail Grocery – Optimized |
|---|----------------------|------------------------|--------------------|----------------------|--------------------------|----------------------------|
| TV | 73% | 48% | 66% | 60% | 41% | 29% |
| OOH | 1% | 18% | 1% | 10% | 8% | 23% |
| Print | 1% | 1% | 14% | 5% | 1% | 1% |
| Radio | 2% | 18% | 1% | 10% | 18% | 22% |
| Digital | 22% | 15% | 17% | 15% | 32% | 26% |
| TOTAL | 100% | 100% | 100% | 100% | 100% | 100% |
| AVERAGE 2022 Spend \$m | 454.01 | 454.01 | 52.27 | 52.27 | 49.72 | 49.72 |
| ROAS – Brand Awareness points per \$M | 0.02 | 0.02 | 0.26 | 0.31 | 0.37 | 0.38 |
| Total Brand Awareness ROAS Improvement in Points and Percent | | +0.002 pts. +10% | | +0.05 pts. +19% | | +0.01 pts. +4% |

Optimizing average brand spend by channel to drive MEDIUM Brands - BRAND AWARENESS

Budget reallocation to optimize with increased OOH sees greatest lift in ROAS for Automotive medium brands

| | Automotive – Current | Automotive - Optimized | CPG Food – Current | CPG Food - Optimized | Retail Grocery – Current | Retail Grocery – Optimized |
|---|----------------------|------------------------|--------------------|----------------------|--------------------------|----------------------------|
| TV | 76% | 48% | 79% | 60% | 39% | 31% |
| OOH | 0.35% | 19% | 0.10% | 12% | 5% | 19% |
| Print | 2% | 1% | 5% | 5% | 1% | 1% |
| Radio | 2% | 18% | 0.10% | 8% | 23% | 21% |
| Digital | 20% | 15% | 15% | 15% | 32% | 29% |
| TOTAL | 100% | 100% | 100% | 100% | 100% | 100% |
| AVERAGE 2022 Spend \$m | 168.02 | 168.02 | 21.25 | 21.25 | 12.07 | 12.07 |
| ROAS – Brand Awareness points per \$M | 0.04 | 0.05 | 0.45 | 0.54 | 0.90 | 0.94 |
| Total Brand Awareness ROAS Improvement in Points and Percent | | +0.01 pts. +31% | | +0.09 pts. +20% | | +0.03 pts. +4% |

Optimizing average brand spend by channel to drive SMALL Brands - BRAND AWARENESS

Budget reallocation to optimize with increased OOH sees greatest lift in ROAS for Automotive small brands

| | Automotive – Current | Automotive - Optimized | CPG Food – Current | CPG Food - Optimized | Retail Grocery – Current | Retail Grocery – Optimized |
|---|----------------------|------------------------|--------------------|----------------------|--------------------------|----------------------------|
| TV | 50% | 46% | 84% | 60% | 25% | 25% |
| OOH | 3% | 21% | 1% | 15% | 24% | 35% |
| Print | 1% | 1% | 8% | 4% | 10% | 1% |
| Radio | 1% | 20% | 0.48% | 6% | 38% | 15% |
| Digital | 46% | 12% | 7% | 15% | 3% | 25% |
| TOTAL | 100% | 100% | 100% | 100% | 100% | 100% |
| AVERAGE 2022 Spend \$m | 38.57 | 38.57 | 9.13 | 9.13 | 1.31 | 1.31 |
| ROAS – Brand Awareness points per \$M | 0.13 | 0.18 | 0.70 | 0.79 | 1.34 | 1.58 |
| Total Brand Awareness ROAS Improvement in Points and Percent | | +0.05 pts. +38% | | +0.09 pts. +13% | | +0.23 pts. +18% |

Optimizing average brand spend by channel to drive LARGE Brands - CONSIDERATION

Budget reallocation to optimize with increased OOH sees greatest lift in ROAS for CPG Food large brands

| | Automotive – Current | Automotive - Optimized | CPG Food – Current | CPG Food - Optimized | Retail Grocery – Current | Retail Grocery – Optimized |
|---|----------------------|------------------------|--------------------|----------------------|--------------------------|----------------------------|
| TV | 73% | 53% | 66% | 60% | 41% | 34% |
| OOH | 1% | 14% | 1% | 10% | 8% | 12% |
| Print | 1% | 1% | 14% | 6% | 1% | 4% |
| Radio | 2% | 18% | 1% | 9% | 18% | 24% |
| Digital | 22% | 15% | 17% | 15% | 32% | 25% |
| TOTAL | 100% | 100% | 100% | 10% | 100% | 100% |
| AVERAGE 2022 Spend \$m | 454.01 | 454.01 | 52.27 | 52.27 | 49.72 | 49.72 |
| ROAS – Brand Consideration points per \$M | 0.03 | 0.04 | 0.48 | 0.55 | 0.25 | 0.26 |
| Total Brand Consideration ROAS Improvement in Points and Percent | | +0.001 pts. +6% | | +0.07 pts. +14% | | +0.01 pts. +3% |

Optimizing average brand spend by channel to drive MEDIUM Brands - CONSIDERATION

Budget reallocation to optimize with increased OOH sees greatest lift in ROAS for CPG Food medium brands

| | Automotive – Current | Automotive - Optimized | CPG Food – Current | CPG Food - Optimized | Retail Grocery – Current | Retail Grocery – Optimized |
|---|----------------------|------------------------|--------------------|----------------------|--------------------------|----------------------------|
| TV | 76% | 54% | 79% | 60% | 39% | 37% |
| OOH | 0.35% | 14% | 0.10% | 12% | 5% | 7% |
| Print | 2% | 1% | 5% | 4% | 1% | 1% |
| Radio | 2% | 18% | 0.10% | 9% | 23% | 30% |
| Digital | 20% | 14% | 15% | 15% | 32% | 25% |
| TOTAL | 100% | 100% | 100% | 100% | 100% | 100% |
| AVERAGE 2022 Spend \$m | 168.02 | 168.02 | 21.25 | 21.25 | 12.07 | 12.07 |
| ROAS – Brand Consideration points per \$M | 0.08 | 0.09 | 0.84 | 1.01 | 0.61 | 0.63 |
| Total Brand Consideration ROAS Improvement in Points and Percent | | +0.01 pts. +17% | | +0.17 pts. +21% | | +0.02 pts. +3% |

Optimizing average brand spend by channel to drive SMALL Brands - CONSIDERATION

Budget reallocation to optimize with increased OOH sees greatest lift in ROAS for Automotive small brands

| | Automotive – Current | Automotive - Optimized | CPG Food – Current | CPG Food - Optimized | Retail Grocery – Current | Retail Grocery – Optimized |
|---|----------------------|------------------------|--------------------|----------------------|--------------------------|---|
| TV | 50% | 56% | 84% | 60% | 25% | 25% |
| OOH | 3% | 14% | 1% | 14% | 24% | 35% |
| Print | 1% | 1% | 8% | 1% | 10% | 1% |
| Radio | 1% | 18% | 0.48% | 9% | 38% | 15% |
| Digital | 46% | 11% | 7% | 15% | 3% | 25% |
| TOTAL | 100% | 100% | 100% | 100% | 100% | 100% |
| AVERAGE 2022 Spend \$m | 38.57 | 38.57 | 9.13 | 9.13 | 1.31 | 1.31 |
| ROAS – Brand Consideration points per \$M | 0.26 | 0.32 | 1.33 | 1.55 | 1.08 | 0.93 |
| Total Brand Consideration ROAS Improvement in Points and Percent | | +0.05 pts. +20% | | +0.23 pts. +17% | | 0 pts. 0% <small>No improvement but a rebalancing of spend towards OOH</small> |

Optimizing average brand spend by channel to drive LARGE Brands - PURCHASE INTENT

Budget reallocation to optimize with increased OOH sees greatest lift in ROAS for CPG Food Purchase large brands

| | Automotive – Current | Automotive - Optimized | CPG Food – Current | CPG Food - Optimized | Retail Grocery – Current | Retail Grocery – Optimized |
|---|----------------------|------------------------|--------------------|----------------------|--------------------------|----------------------------|
| TV | 73% | 47% | 66% | 60% | 41% | 38% |
| OOH | 1% | 13% | 1% | 13% | 8% | 12% |
| Print | 1% | 1% | 14% | 8% | 1% | 5% |
| Radio | 2% | 26% | 1% | 5% | 18% | 19% |
| Digital | 22% | 14% | 17% | 15% | 32% | 25% |
| TOTAL | 100% | 100% | 100% | 100% | 100% | 100% |
| AVERAGE 2022 Spend \$m | 454.01 | 454.01 | 52.27 | 52.27 | 49.72 | 49.72 |
| ROAS – Purchase Intent points per \$M | 0.01 | 0.02 | 0.10 | 0.12 | 0.07 | 0.08 |
| Total Purchase Intent ROAS Improvement in Points and Percent | | +0.002 pts. +10% | | +0.02 pts. +20% | | +0.01 pts. +11% |

Optimizing average brand spend by channel to drive MEDIUM Brands - PURCHASE INTENT

Budget reallocation to optimize with increased OOH sees greatest lift in ROAS for CPG Food medium brands

| | Automotive – Current | Automotive - Optimized | CPG Food – Current | CPG Food - Optimized | Retail Grocery – Current | Retail Grocery – Optimized |
|---|----------------------|------------------------|--------------------|----------------------|--------------------------|----------------------------|
| TV | 76% | 47% | 79% | 60% | 39% | 41% |
| OOH | 0.35% | 13% | 0.10% | 17% | 5% | 11% |
| Print | 2% | 1% | 5% | 8% | 1% | 5% |
| Radio | 2% | 27% | 0.10% | 1% | 23% | 20% |
| Digital | 20% | 13% | 15% | 15% | 32% | 25% |
| TOTAL | 100% | 100% | 100% | 100% | 100% | 100% |
| AVERAGE 2022 Spend \$m | 168.02 | 168.02 | 21.25 | 21.25 | 12.07 | 12.07 |
| ROAS – Purchase Intent points per \$M | 0.03 | 0.04 | 0.18 | 0.23 | 0.17 | 0.18 |
| Total Purchase Intent ROAS Improvement in Points and Percent | | +0.01 pts. 26% | | +0.05 pts. 31% | | +0.01 pts. 6% |

Optimizing average brand spend by channel to drive SMALL Brands - PURCHASE INTENT

Budget reallocation to optimize with increased OOH sees greatest lift in ROAS for Automotive small brands

| | Automotive – Current | Automotive - Optimized | CPG Food – Current | CPG Food - Optimized | Retail Grocery – Current | Retail Grocery – Optimized |
|---|----------------------|------------------------|--------------------|----------------------|--------------------------|--|
| TV | 50% | 47% | 84% | 60% | 25% | 25% |
| OOH | 3% | 12% | 1% | 21% | 24% | 30% |
| Print | 1% | 1% | 8% | 3% | 10% | 5% |
| Radio | 1% | 30% | 0.48% | 0.25% | 38% | 15% |
| Digital | 46% | 10% | 7% | 15% | 3% | 25% |
| TOTAL | 100% | 100% | 100% | 100% | 100% | 100% |
| AVERAGE 2022 Spend \$m | 38.57 | 38.57 | 9.13 | 9.13 | 1.31 | 1.31 |
| ROAS – Purchase Intent points per \$M | 0.10 | 0.14 | 0.31 | 0.38 | 0.29 | 0.26 |
| Total Purchase Intent ROAS Improvement in Points and Percent | | +0.04 pts. 44% | | +0.07 pts. 21% | | 0 pts. 0% No improvement but a rebalancing of spend towards OOH |

Comparing all three categories for Sales: Large vs Medium vs Small budgets

Table Key = Current / **Optimized (in bold)**

Automotive Optimized Spends

| | Large | Medium | Small |
|----------------|-----------------|------------------|-----------------|
| TV | 73%/ 69% | 76%/ 69% | 50%/ 60% |
| OOH | 1%/4% | 0.35%/ 6% | 3%/ 13% |
| Print | 1%/ 1% | 2%/ 1% | 1%/ 2% |
| Radio | 2%/ 0% | 2%/ 0% | 1%/ 0% |
| Digital | 22%/ 26% | 20%/ 24% | 46%/ 25% |

CPG Food Optimized Spends

| | Large | Medium | Small |
|----------------|-----------------|-------------------|------------------|
| TV | 66%/ 60% | 79%/ 60% | 84%/ 60% |
| OOH | 1%/18% | 0.10%/ 17% | 1%/ 17% |
| Print | 14%/ 1% | 5%/ 1% | 8%/ 1% |
| Radio | 1%/ 6% | 0.10%/ 7% | 0.48%/ 7% |
| Digital | 17%/ 15% | 15%/ 15% | 7%/ 15% |

Retail Grocery Optimized Spends

| | Large | Medium | Small |
|----------------|-----------------|-----------------|-----------------|
| TV | 41%/ 40% | 39%/ 25% | 25%/ 25% |
| OOH | 8%/19% | 5%/27% | 24%/ 39% |
| Print | 1%/ 2% | 1%/ 1% | 10%/ 1% |
| Radio | 18%/ 13% | 23%/ 17% | 38%/ 4% |
| Digital | 32%/ 25% | 32%/ 30% | 3%/ 31% |

Small brands in the Automotive category has the highest optimized allocated budget for OOH, 13%. Higher optimized TV budget allocation for Large and Medium brands. Also, high Digital allocation in Large brands 26%

Large brands in the CPG Food category has the highest optimized allocated budget for OOH, 18%. TV has been optimized the same across all brands Brand Index, same as Digital channel

Retail Grocery category OOH has the highest optimized budget for Small brands, 39%. TV has the highest optimized budget in Large brands 40%. Digital channel is optimized in Medium and Small brands. Lastly, Radio is optimized in Medium brands

Comparing all three categories for Brand Awareness: Large vs Medium vs Small budgets

Table Key = Current / **Optimized (in bold)**

Automotive Optimized Spends

| | Large | Medium | Small |
|----------------|-----------------|-------------------|-----------------|
| TV | 73%/ 48% | 76%/ 48% | 50%/ 46% |
| OOH | 1%/ 18% | 0.35%/ 19% | 3%/ 21% |
| Print | 1%/1% | 2%/1% | 1%/1% |
| Radio | 2%/18% | 2%/18% | 1%/20% |
| Digital | 22%/15% | 20%/15% | 46%/12% |

CPG Food Optimized Spends

| | Large | Medium | Small |
|----------------|-----------------|-------------------|-----------------|
| TV | 66%/ 60% | 79%/ 60% | 84%/ 60% |
| OOH | 1%/ 10% | 0.10%/ 12% | 1%/ 15% |
| Print | 14%/5% | 5%/5% | 8%/4% |
| Radio | 1%/10% | 0.10%/8% | 0.48%/6% |
| Digital | 17%/15% | 15%/15% | 7%/15% |

Retail Grocery Optimized Spends

| | Large | Medium | Small |
|----------------|-----------------|-----------------|-----------------|
| TV | 41%/ 29% | 39%/ 31% | 25%/ 25% |
| OOH | 8%/ 23% | 5%/ 19% | 24%/ 35% |
| Print | 1%/1% | 1%/1% | 10%/1% |
| Radio | 18%/ 22% | 23%/ 21% | 38%/15% |
| Digital | 32%/ 26% | 32%/ 29% | 3%/25% |

Small brands in the Automotive category has the highest optimized allocated budget for OOH, 21%. There is higher optimized TV budget allocation for Large and Medium brands, 48%. High Radio budget allocation in Small brands 20%

Small brands in the CPG Food category have the highest optimized allocated budget for OOH, 15%. TV has been optimized the same across all brands 60%. There is a high Radio allocation in Large brands 10%.

Retail Grocery category OOH has the highest optimized budget in Small brands, 35%. TV has the highest optimized budget in Medium brands 31%, Digital channel is optimized in Medium brands 29%. Lastly, Radio has the highest optimized budget in Large brands 22%

Comparing all three categories for Consideration: Large vs Medium vs Small budgets

Table Key = Current / **Optimized (in bold)**

Automotive Optimized Spends

| | Large | Medium | Small |
|----------------|-----------------|------------------|-----------------|
| TV | 73%/ 53% | 76%/ 54% | 50%/ 56% |
| OOH | 1%/14% | 0.35%/14% | 3%/14% |
| Print | 1%/1% | 2%/1% | 1%/1% |
| Radio | 2%/18% | 2%/18% | 1%/18% |
| Digital | 22%/15% | 20%/14% | 46%/11% |

CPG Food Optimized Spends

| | Large | Medium | Small |
|----------------|-----------------|------------------|-----------------|
| TV | 66%/ 60% | 79%/ 60% | 84%/ 60% |
| OOH | 1%/10% | 0.10%/12% | 1%/14% |
| Print | 14%/6% | 5%/4% | 8%/1% |
| Radio | 1%/9% | 0.10%/9% | 0.48%/9% |
| Digital | 17%/15% | 15%/15% | 7%/15% |

Retail Grocery Optimized Spends

| | Large | Medium | Small * |
|----------------|-----------------|-----------------|-----------------|
| TV | 41%/ 34% | 39%/ 37% | 25%/ 25% |
| OOH | 8%/12% | 5%/7% | 24%/35% |
| Print | 1%/4% | 1%/1% | 10%/1% |
| Radio | 18%/24% | 23%/30% | 38%/15% |
| Digital | 32%/25% | 32%/25% | 3%/25% |

Large, Medium and Small brands in the Automotive category are all optimized for OOH at 14%. Higher optimized TV budget allocation for Small brands, 56%. Also, high Digital allocation in Large brands, 15%. Radio is optimized the same across all brands

Small brands in the CPG Food category has the highest optimized allocated budget for OOH, 14%. TV and Digital are optimized the same across all brands, 60% and 15%.

Retail Grocery category OOH% is increased in for all brands, although for Small brands an increase in OOH% budget results in a lower ROAS in this scenario.

Comparing all three categories for Purchase Intent: Large vs Medium vs Small budgets

Table Key = Current / **Optimized (in bold)**

Automotive Optimized Spends

| | Large | Medium | Small |
|----------------|-----------------|------------------|-----------------|
| TV | 73%/ 47% | 76%/ 47% | 50%/ 47% |
| OOH | 1%/13% | 0.35%/13% | 3%/12% |
| Print | 1%/1% | 2%/1% | 1%/1% |
| Radio | 2%/ 26% | 2%/ 27% | 1%/ 30% |
| Digital | 22%/ 14% | 20%/ 13% | 46%/ 10% |

CPG Food Optimized Spends

| | Large | Medium | Small |
|----------------|-----------------|------------------|---------------------|
| TV | 66%/ 60% | 79%/ 60% | 84%/ 60% |
| OOH | 1%/13% | 0.10%/17% | 1%/21% |
| Print | 14%/ 8% | 5%/ 8% | 8%/ 3% |
| Radio | 1%/ 5% | 0.10%/ 1% | 0.48%/ 0.25% |
| Digital | 17%/ 15% | 15%/ 15% | 7%/ 15% |

Retail Grocery Optimized Spends

| | Large | Medium | Small * |
|----------------|-----------------|-----------------|-----------------|
| TV | 41%/ 38% | 39%/ 41% | 25%/ 25% |
| OOH | 8%/12% | 5%/11% | 24%/30% |
| Print | 1%/ 5% | 1%/ 5% | 10%/ 5% |
| Radio | 18%/ 19% | 23%/ 20% | 38%/ 15% |
| Digital | 32%/ 25% | 32%/ 25% | 3%/ 25% |

Large and Medium brands in the Automotive category has the highest optimized allocated budget for OOH, 13%. High Digital allocation in Large brands 14%. Lastly high Radio budget allocation in Small brands, 30%

Small brands in the CPG Food category has the highest optimized allocated budget for OOH, 21%. TV and Digital is optimized the same across all brands, 60% and 15% .

Retail Grocery category OOH% is increased in for all brands, although for Small brands an increase in OOH% budget results in a lower ROAS in this scenario for Purchase Intent

OOH Media: Defined by Four Product Categories and a Variety of Formats

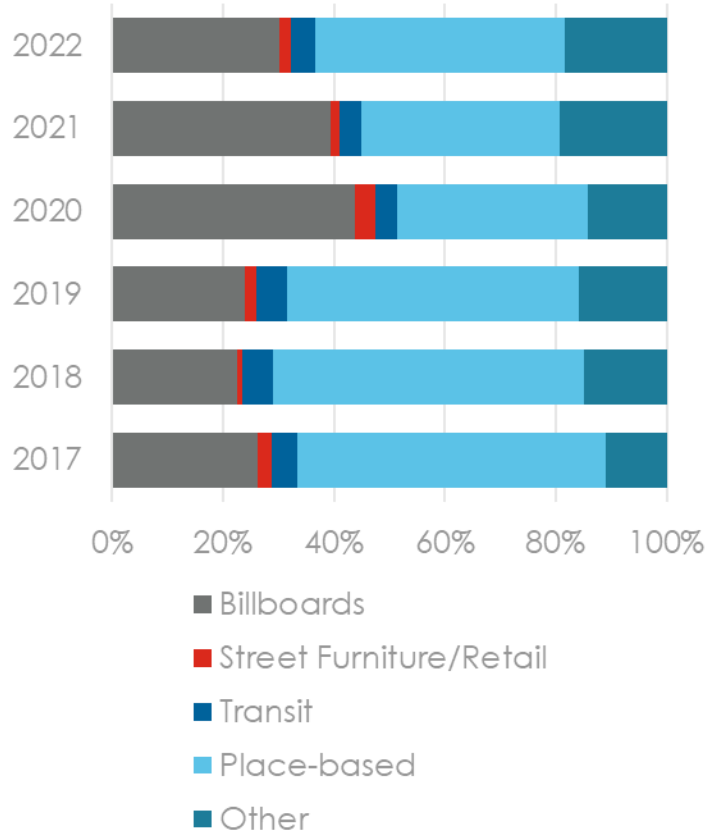
| BILLBOARDS | STREET FURNITURE | TRANSIT | PLACE-BASED |
|---|---|---|---|
| Bulletins 173,985 Digital Billboards 11,500 Posters 145,000 Junior Posters 19,000 Wall Murals 2,310 | Bus Shelters 64,838 Urban Street Furniture 57,866 Bus Benches Bike Kiosks Newsstands Outdoor Kiosks Urban Panels Digital Street Furniture 10,815 Bus Shelters Newsstands Outdoor Kiosks Urban Panels | Airport 27,970 Digital Airport 3,150 Buses 1,354,842 Rail/Subway 356,773 Digital Rail/Subway/Transit 16,466 Mobile Billboards 4,515 Taxis 21,000 Digital Taxis/Rideshare 71,400 Vehicle Wraps 441,000 | Arenas/Stadiums 1,338 Cinema 34,800 Digital Place-Based 750,000 Interior Exterior Printed 550,406 Gas Stations Convenience Stores Restaurants/Bars Medical Point of Care Office Buildings/Elevators Grocery Stores Shopping Malls 24,255 Digital Shopping Malls 12,507 |

Source: OAAA

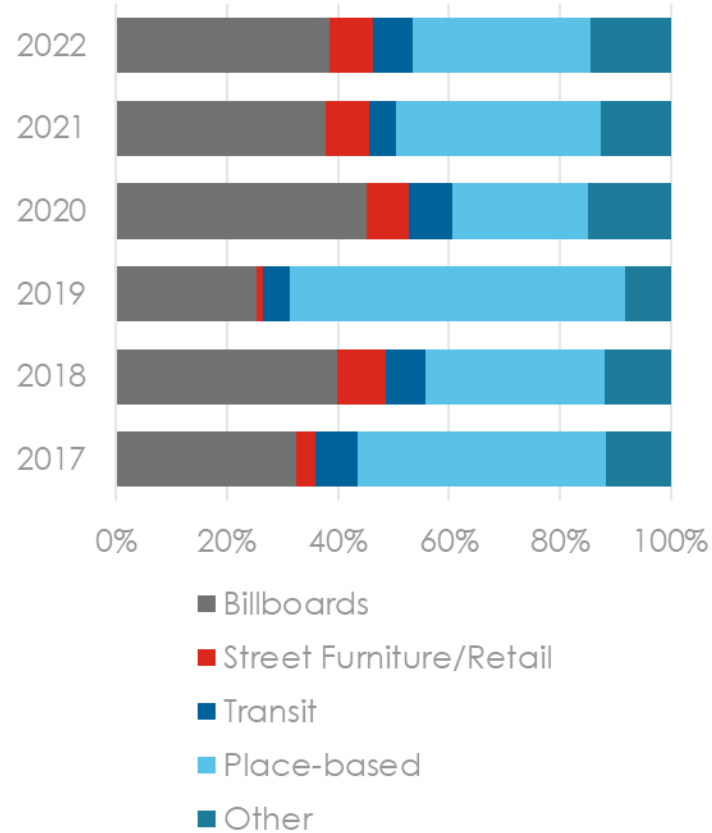
SMI National OOH Spend % by Type: Comparing Product Categories

Automotive heavy on Place-based, whilst Retail Grocery remaining strong on Billboards

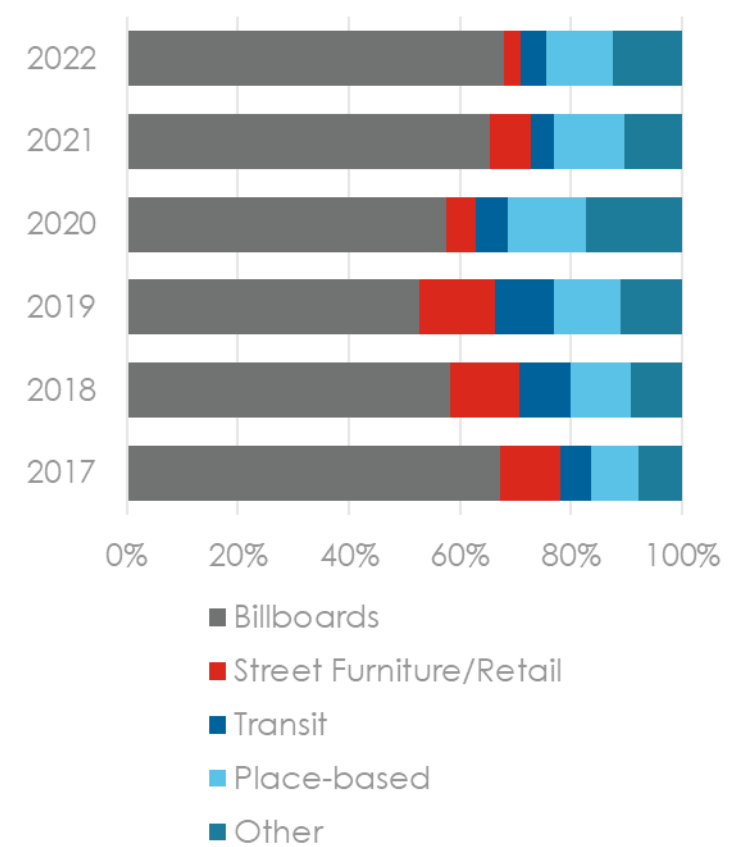
Automotive 2017-2022



CPG Food 2017-2022



Retail Grocery 2017-2022



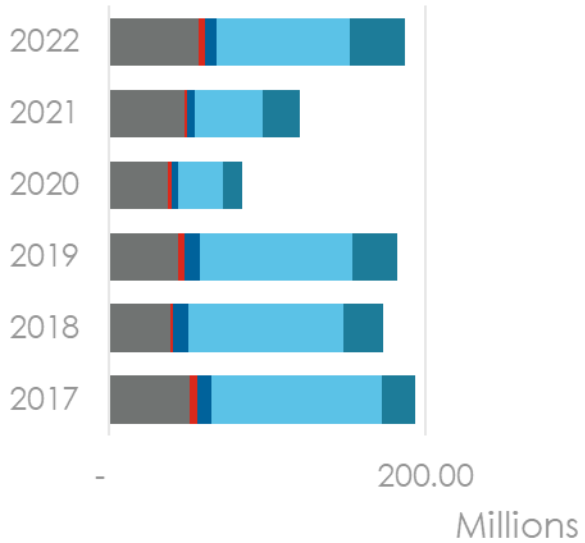
SMI OOH spend is assigned across the four OOH categories, plus an 'Other' category (in cases where spend couldn't be definitively assigned to a specific OOH category)

SMI Spend

SMI National OOH Spend \$ by Type: Comparing Product Categories

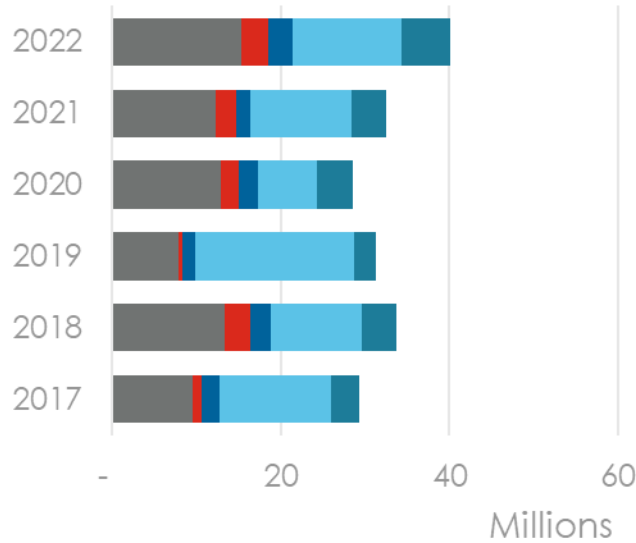
Automotive heavy on Place-based, and Retail Grocery strong on Billboards

Automotive 2017-2022



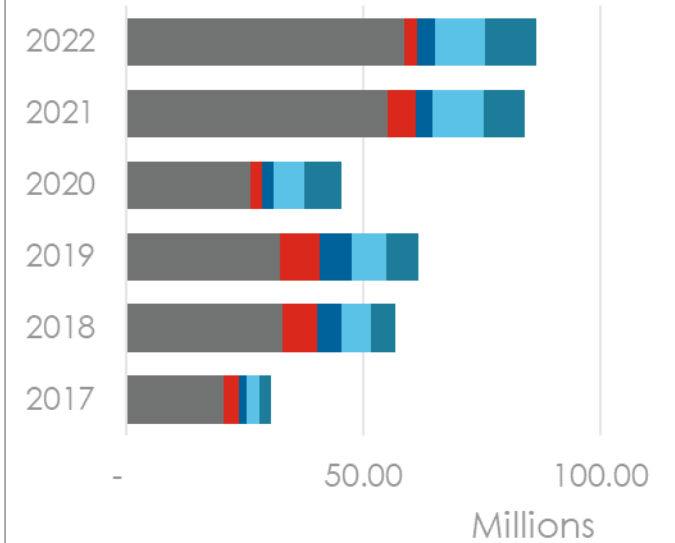
- Billboards
- Street Furniture/Retail
- Transit
- Place-based
- Other

CPG Food 2017-2022



- Billboards
- Street Furniture/Retail
- Transit
- Place-based
- Other

Retail Grocery 2017-2022



- Billboards
- Street Furniture/Retail
- Transit
- Place-based
- Other

SMI OOH spend is assigned across the four OOH categories, plus an 'Other' category (in cases where spend couldn't be definitively assigned to a specific OOH category)