As a Spatial Analyst, I defined and quantified the following state‐level KPIs to measure geographic performance:

* **ROI Score (Conversions ÷ CPA):** By calculating “conversions per dollar spent,” I created an ROI Score for each state (e.g., Colorado’s ROI ≈ 2.0, North Dakota ≈ 1.8). This single metric balanced acquisition volume and cost efficiency, highlighting top-performing and underperforming regions on our bubble chart.
* **Cost Per Acquisition (CPA):** I aggregated gross spend and total conversions by state, then computed CPA = SUM(Gross Cost) / SUM(Conversions). States like Florida (CPA ≈ 136) and California (CPA ≈ 250) proved highly cost-efficient, whereas Michigan (CPA ≈ 2,234) and Massachusetts (CPA ≈ 1,800) signaled expensive markets.
* **Conversion Rate (CVR):** I mapped CVR = SUM(Conversions) / SUM(Clicks) to identify where ads resonated strongest. For example, Texas achieved a 12% CVR in the Beauty vertical, while Ohio and North Carolina exceeded 10% overall, indicating high‐quality traffic clusters.
* **Impressions & Conversion Volume:** By visualizing total impressions and total conversions per state, I pinpointed where reach was sufficient but conversion efficiency lagged. Virginia and Maryland topped impressions, whereas North Dakota and Montana delivered the highest beauty-campaign conversion volumes (≈ 60 conversions each).

Together, these KPIs formed the foundation of my spatial analysis, allowing the cross-functional team to pinpoint high-ROI geographies, optimize budget allocation, and tailor audience, creative, and inventory strategies to specific states.