



# WALMART STRATEGIC PLANNING

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# Table of Contents

## I. Business Question

- Business Objective

## II. Sources Considered, Evaluated, and Selected

## III. Data Introduction

- Calculated Field
  - EDA

## IV. Demonstration and Analysis

## V. Recommendations



# Business Question

How Can Walmart Optimize and Increase Sales Performance in the West Coast Region?

**Objective 1:** Which product categories should Walmart allocate a higher budget to? What areas should Walmart further expand?

**Objective 2:** What are the factors that result in loyal customers?

**Audience:** Regional managers



# Sources Considered, Evaluated, and Selected



**Kaggle**

**UCI Machine Learning Repository**

**Makeover Monday**

- Evaluated based on data complexity, variable diversity, and how insightful the business question can be
- Selected Walmart Online Sales dataset because it contains a decent number of rows and columns with different variable types, and is able to generate a valuable business question

# Data Introduction

Order ID	Order Date	Ship Date	Customer Name	Country	City	State	Category	Product Name	Sales	Quantity	Profit
CA-2013-138688	6/13/13	6/17/13	Darrin Van Huff	United States	Los Angeles	California	Labels	Self-Adhesive Address Labels for Typewriters by Universal	14.62	2.00	6.87
CA-2011-115812	6/9/11	6/14/11	Brosina Hoffman	United States	Los Angeles	California	Furnishings	Eldon Expressions Wood and Plastic Desk Accessories, Cherry Wood	48.86	7.00	14.17
CA-2011-115812	6/9/11	6/14/11	Brosina Hoffman	United States	Los Angeles	California	Art	Newell 322	7.28	4.00	1.97
CA-2011-115812	6/9/11	6/14/11	Brosina Hoffman	United States	Los Angeles	California	Phones	Mitel 5320 IP Phone VoIP phone	907.15	4.00	90.72
CA-2011-115812	6/9/11	6/14/11	Brosina Hoffman	United States	Los Angeles	California	Binders	DXL Angle-View Binders with Locking Rings by Samsill	18.50	3.00	5.78

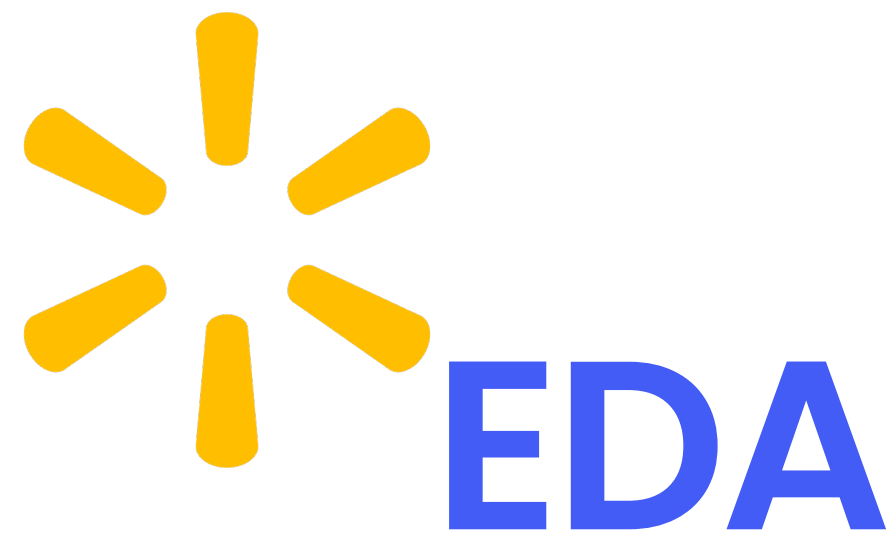
- *Background: this data contains some online transaction records for Walmart from 2011–2014*
- *The data contains 169 cities and 11 states in United States*



# Calculated Fields

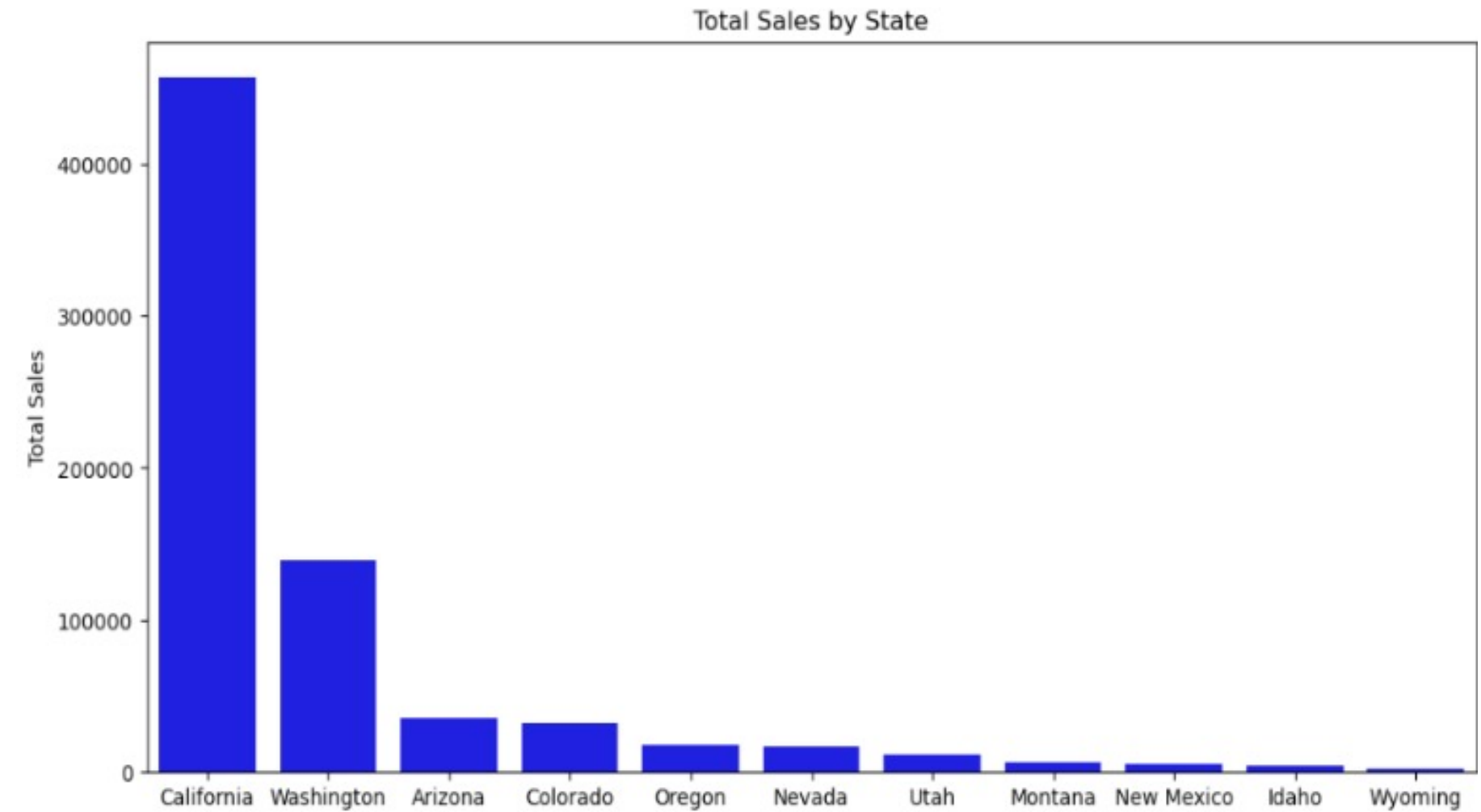
- **Accessories Sales:**  $SUM(IF [Category] = 'Accessories' THEN [Sales] END)$
- **Total Sales:**  $\{FIXED : SUM([Sales])\}$
- **Quantity Value Rank:**  $RANK(SUM([Quantity]))$  (for ranking the quantity)
- **Reference Line:**  $WINDOW\_AVG(SUM([Profit]))$  (for cycle bar plot)
- **Response Time:**  $[Ship Date] - [Order Date]$  (for delay analysis)
- **Variance:**  $SUM([Profit]) - [Reference Line]$  (for cycle bar plot)





## Variables

- Order ID
- Order Date
- Ship Date
- Customer Name
- Country
- City
- State
- Category
- Product Name
- Sales
- Quantity
- Profit
- Order\_Ship\_Difference



- 3203 rows × 13 columns
- No duplicate data
- No missing value



- **Date features**

- Order Date from 2011-01-07 to 2014-12-31
- Ship Date from 2011-01-09 to 2015-01-06
- Order\_Ship\_Difference from 0 to 7 days

- **Geographical features**

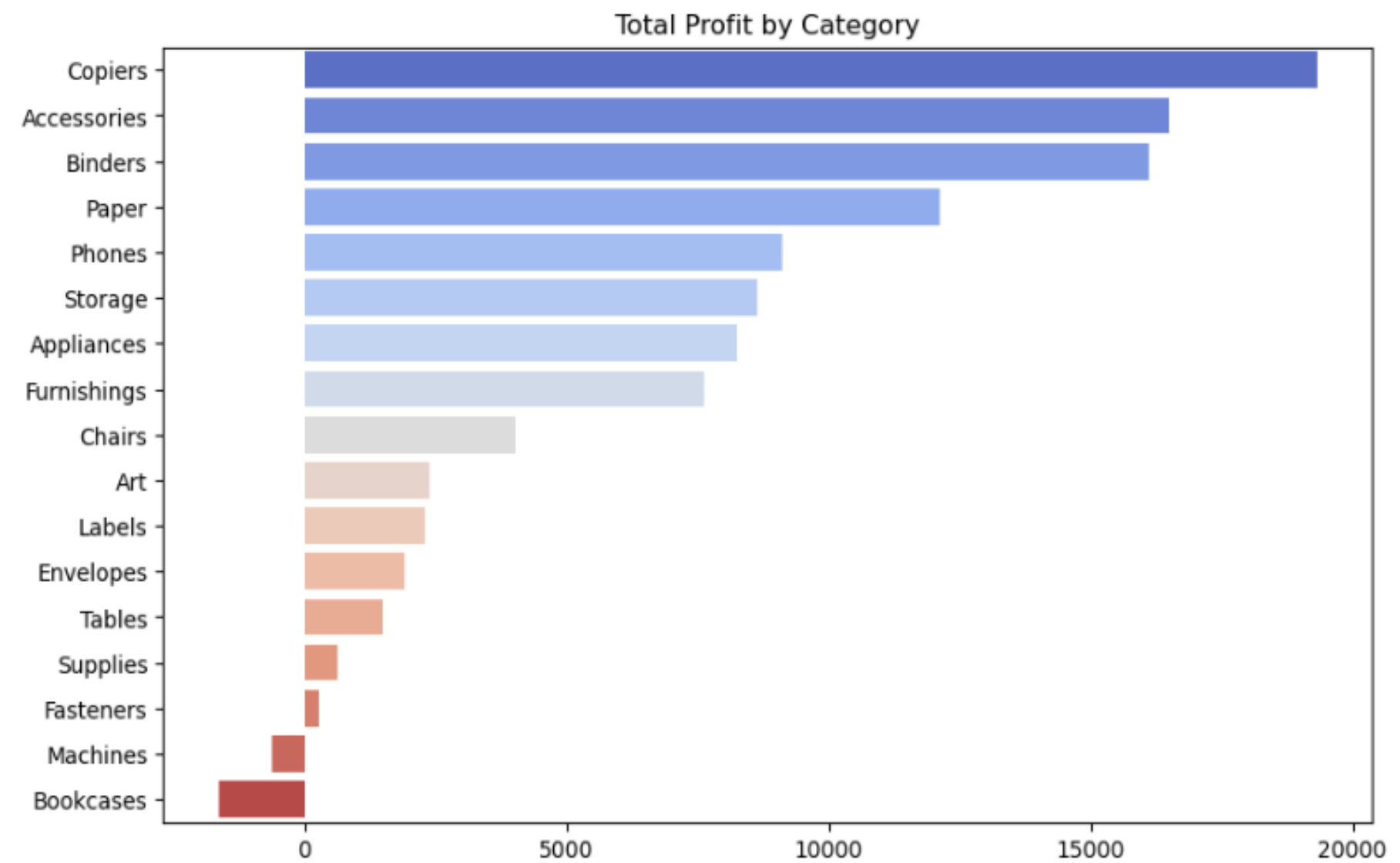
- Only 1 Country – United States
- 169 Cities
- 11 States

- **1611 Unique Order ID**
- **686 Unique Customer Name**

- **Product features**

- 17 different category
- 1494 unique product names
- Sales 0.99 to 13999.96
- Quantity from 1 to 14
- Profit from -3399.98 to 6719.9808





17 Categories in Total

# Analysis and Recommendations

## Demonstrations and Analysis:

- Based on the cleaned data, we built 7 graphs and made a story in Tableau
- We chose a story for the best interpretability

## Recommendations:

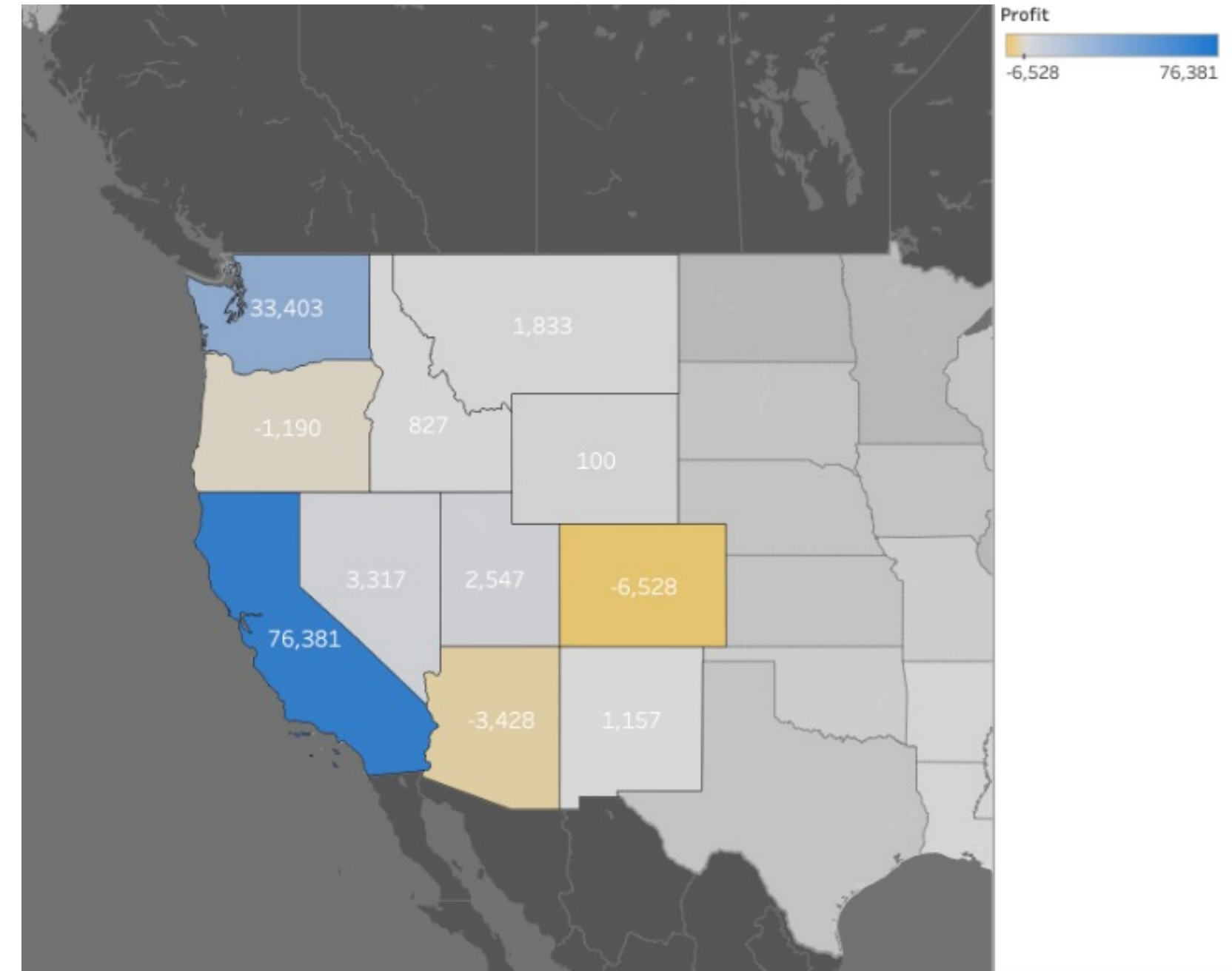
- Based on the graphs and analysis conducted we will provide insights and recommendations for each objective point



# Profit from the West Coast



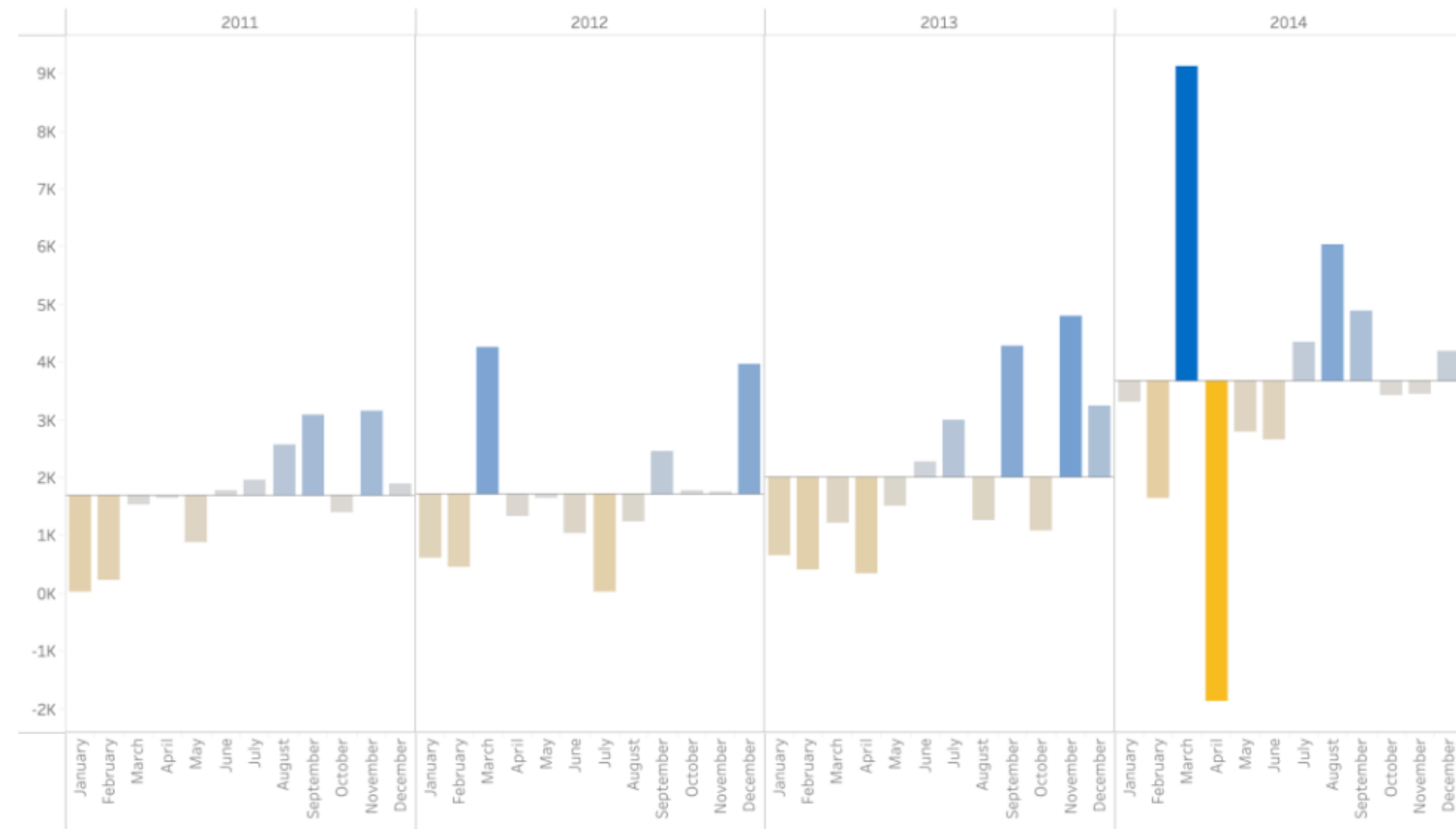
- **California** generated the highest profit, followed by **Washington**
- Some states have **negative profit**



# Seasonal Profit Changes over Years



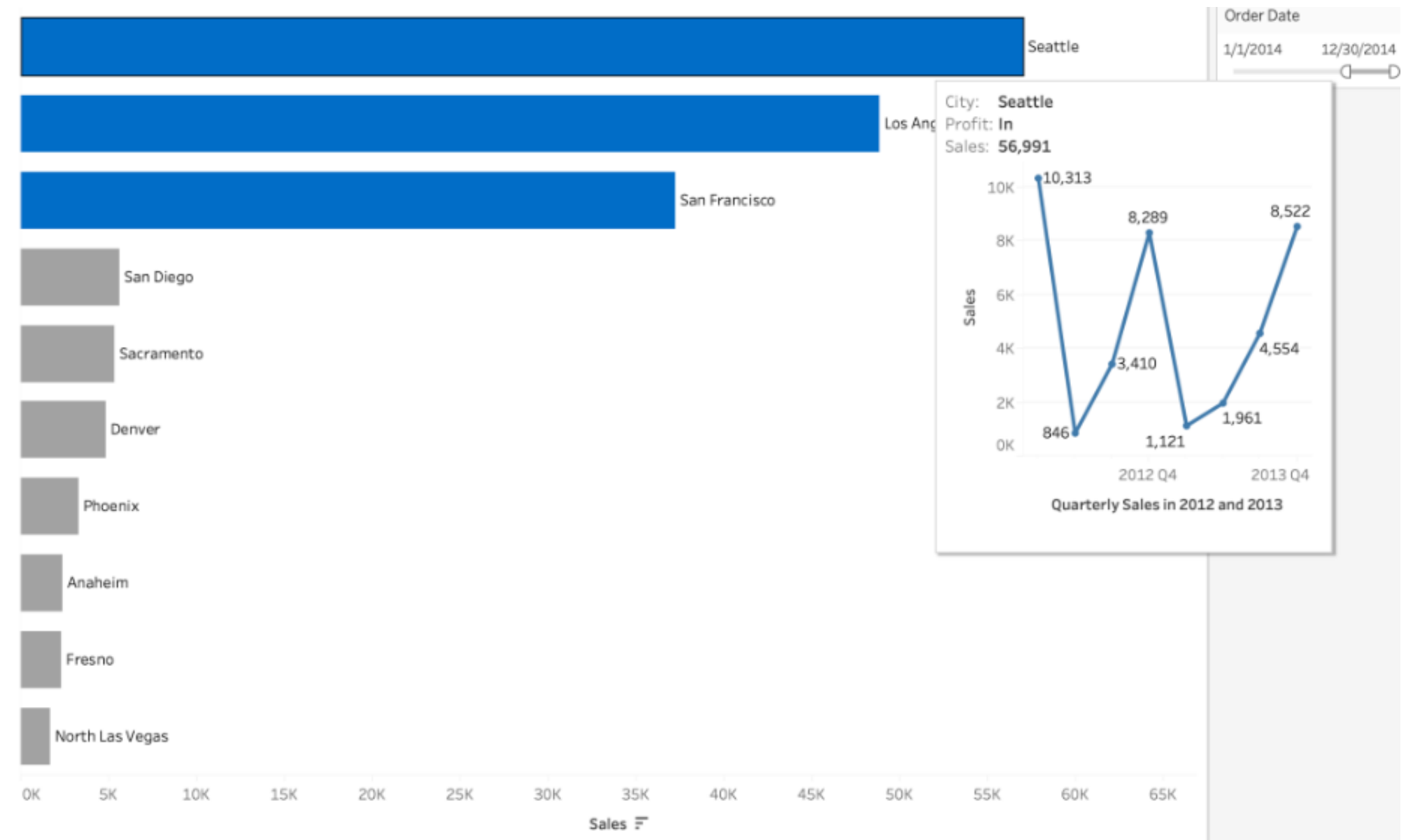
- The overall mean **profit** is **increasing**
- Among all months, **December** and **September** are always higher than the mean
- Supplemental Nutrition Assistance Program (**SNAP**) benefit



# Highest Purchasing Cities



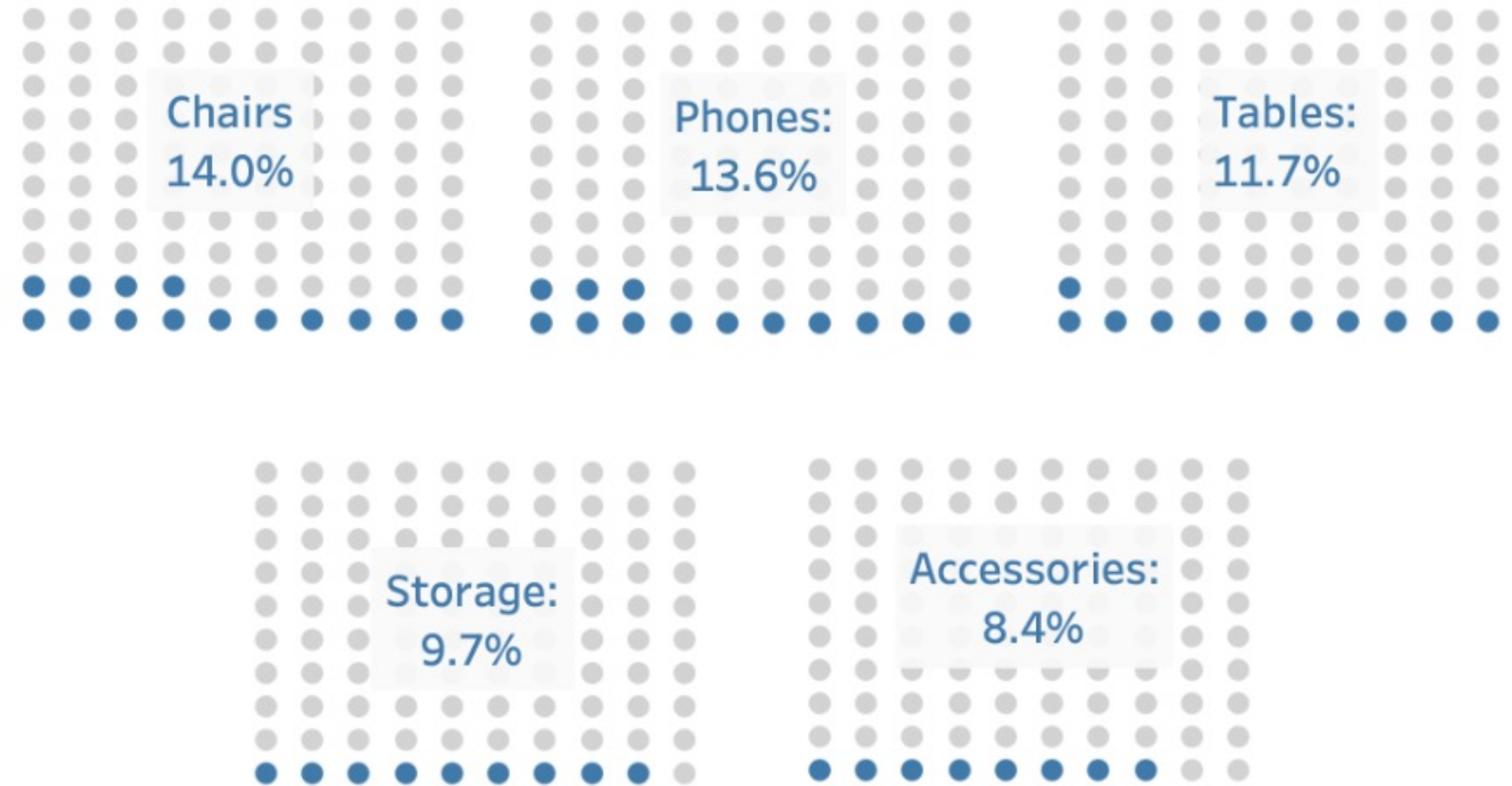
- *Seattle, LA, and SF account for over 50% sales in 2014*
- *Interactive line chart showing previous years history*



# Highest Performing Categories



- **Top 5** categories account for **57.4%** of the total sales from 2011–2014
- Less than  $\frac{1}{3}$  of the categories generate **over  $\frac{1}{2}$**  of the sales

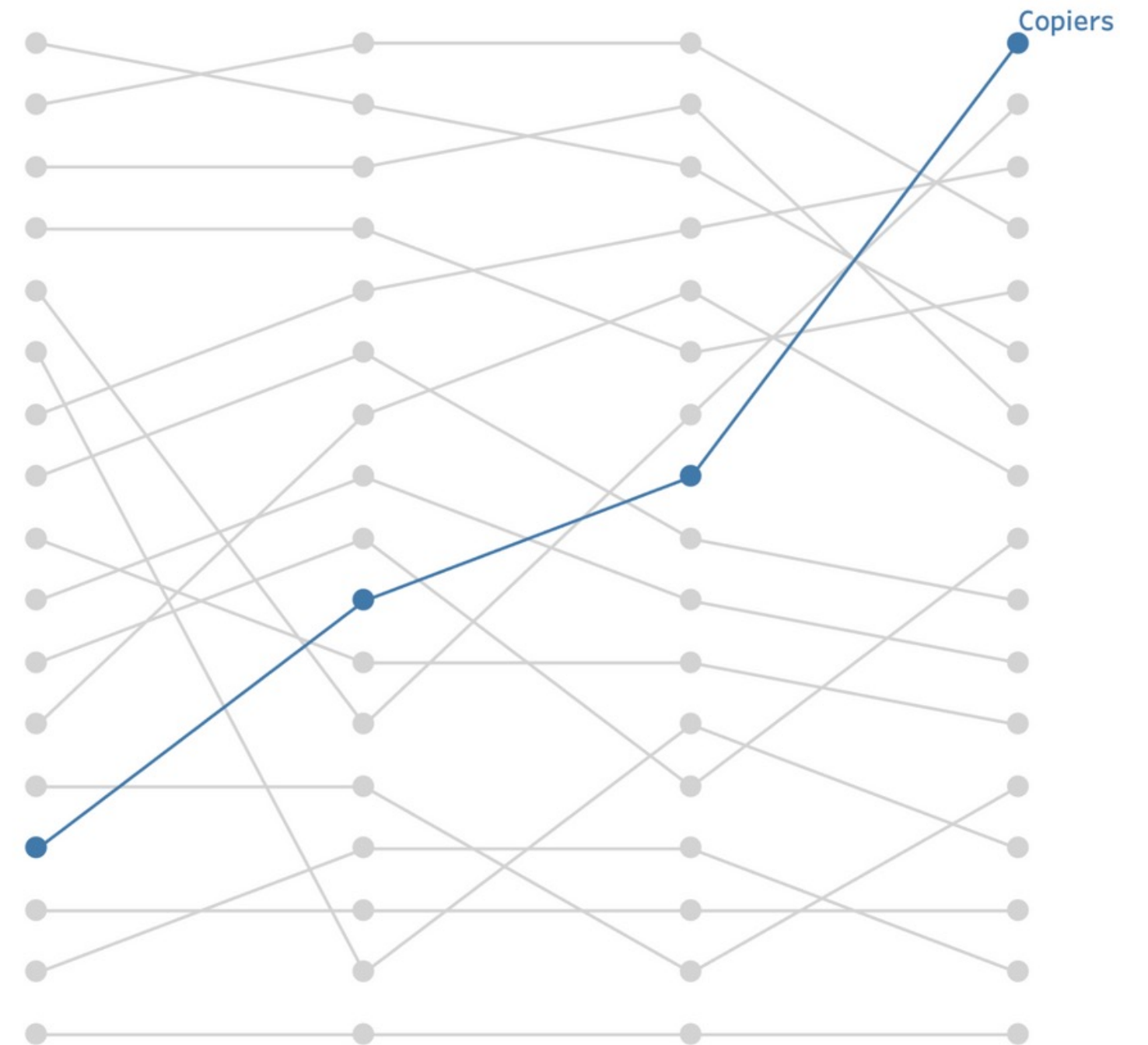


# Sales Change Over Time by Category



- *Binders and Copiers experienced the highest growth rate from 2011-2014*
- *Some categories are continuously decreasing*
  - *However, most have shown growth over time*

Binders and Copiers experienced the highest growth rate from 2011 - 2014





# Objective 2

## Recommendations

**Which product categories should Walmart allocate a higher budget to? What areas should Walmart further expand?**



### Conclusion 1

- Identify successful sales during the profiting months and apply such sales in the profit-losing months
- During slow periods/months reduce the excess inventory orders to cut back on losses



### Conclusion 2

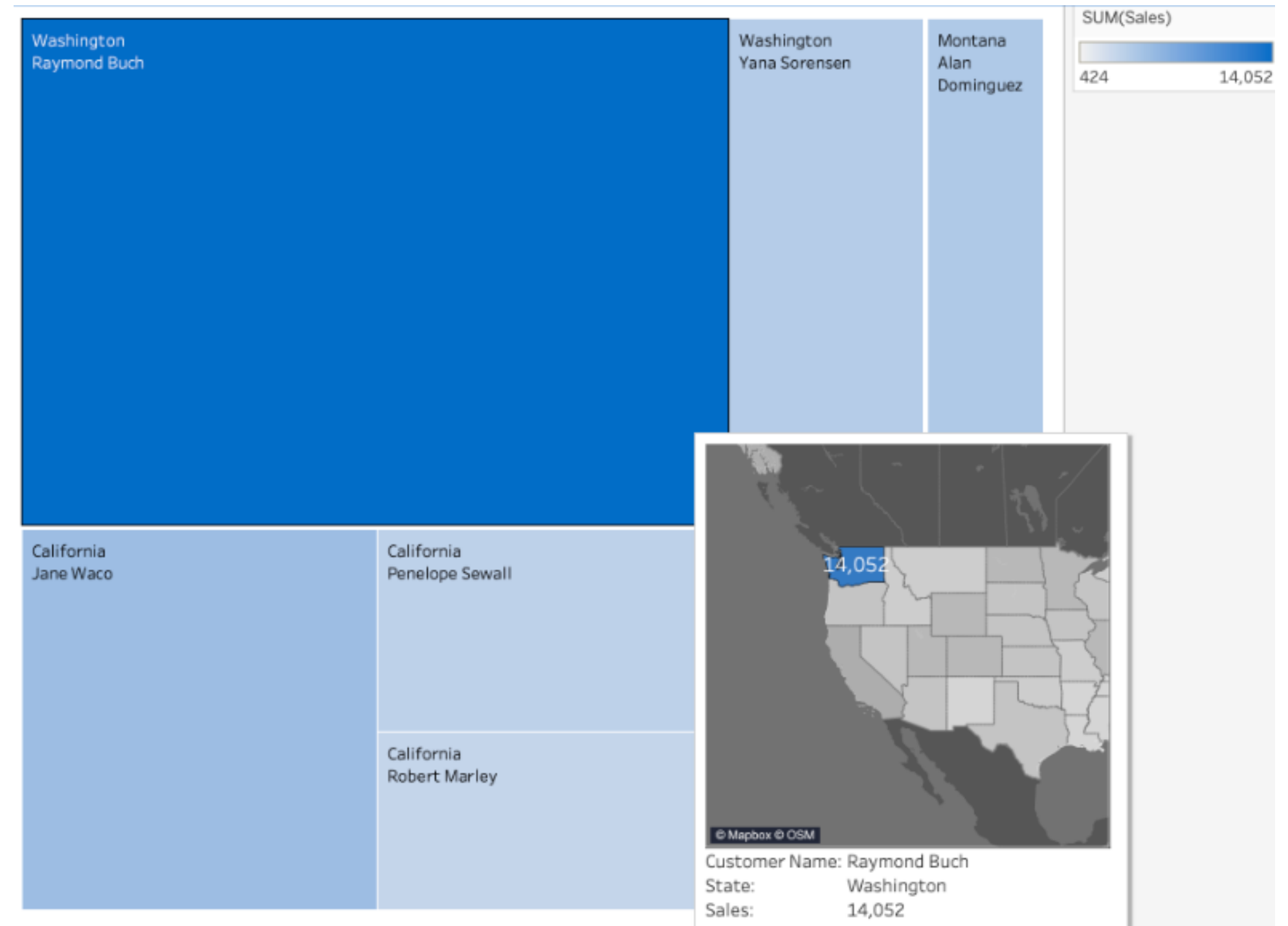
- Allocate more of the budget on getting inventory for product categories that are earning Walmart more revenue
- Branch based mentorship program can help regions with lower overall sales improve performance



# Walmart's Best Customers



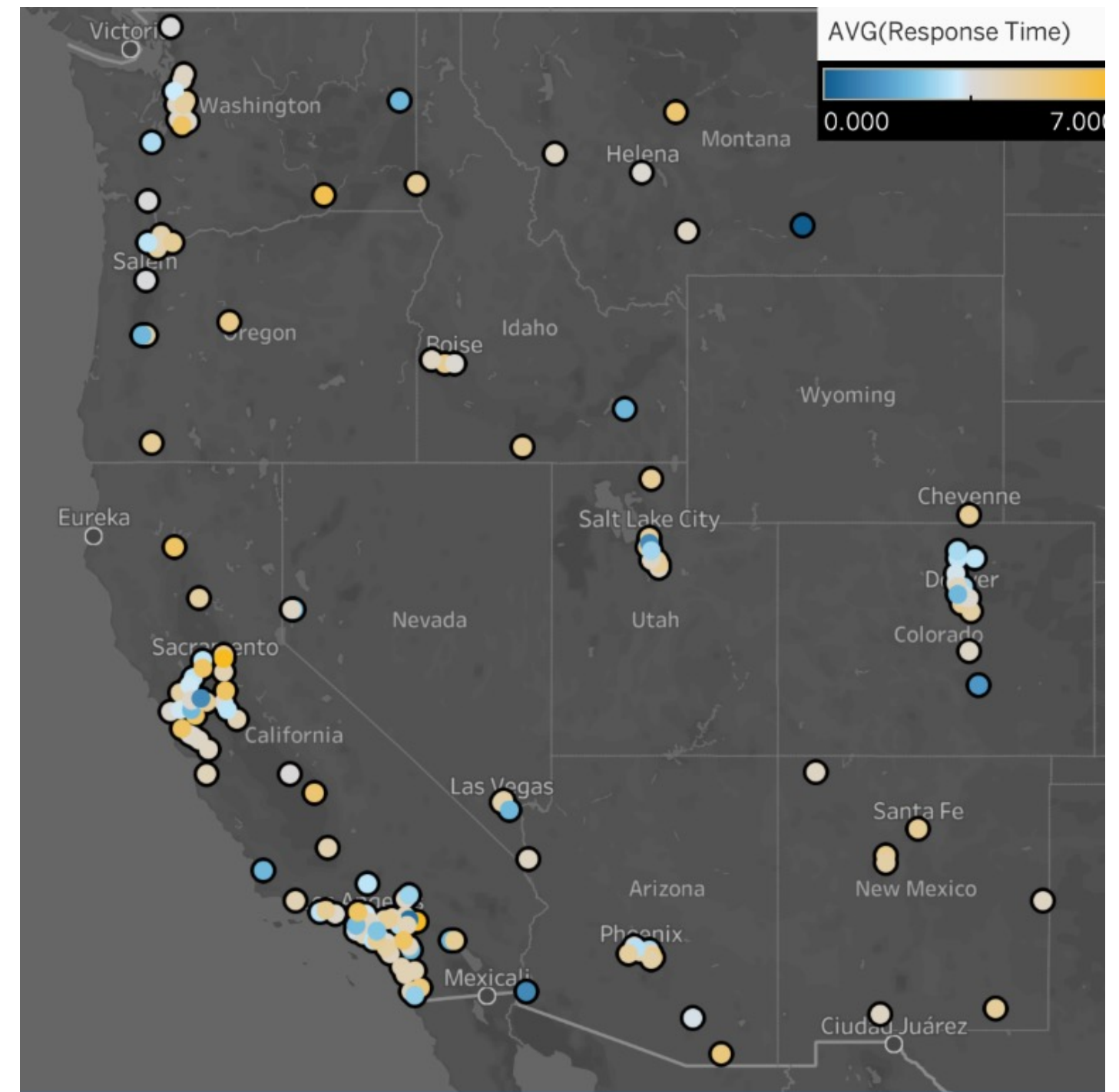
- *The best customer in the West Coast is from Washington, with a sale almost equal to the total sales in Nevada*
- *Among top 8: 5 from California, 2 from Washington, and 1 from Montana (ranked the 3rd)*



# Delay Analysis



- *Delay time (shipment – order) for top 10 categories.*
- *Delay time are diverse in metro areas, but **worse in New Mexico** and rural areas*



# Objective 2

**What are the factors that result in loyal customers?**

## Recommendations



### Conclusion 1

Finding out information about why these top customers are loyal to Walmart and implementing these strategies to a wider customer base can help retain more loyal customers



### Conclusion 2

Consistent delays can result in customers churning, so distributing the budget to build more warehouses closer to rural areas can prevent sales loss. Especially in states where there is more potential for loyal customers.



Thank You!