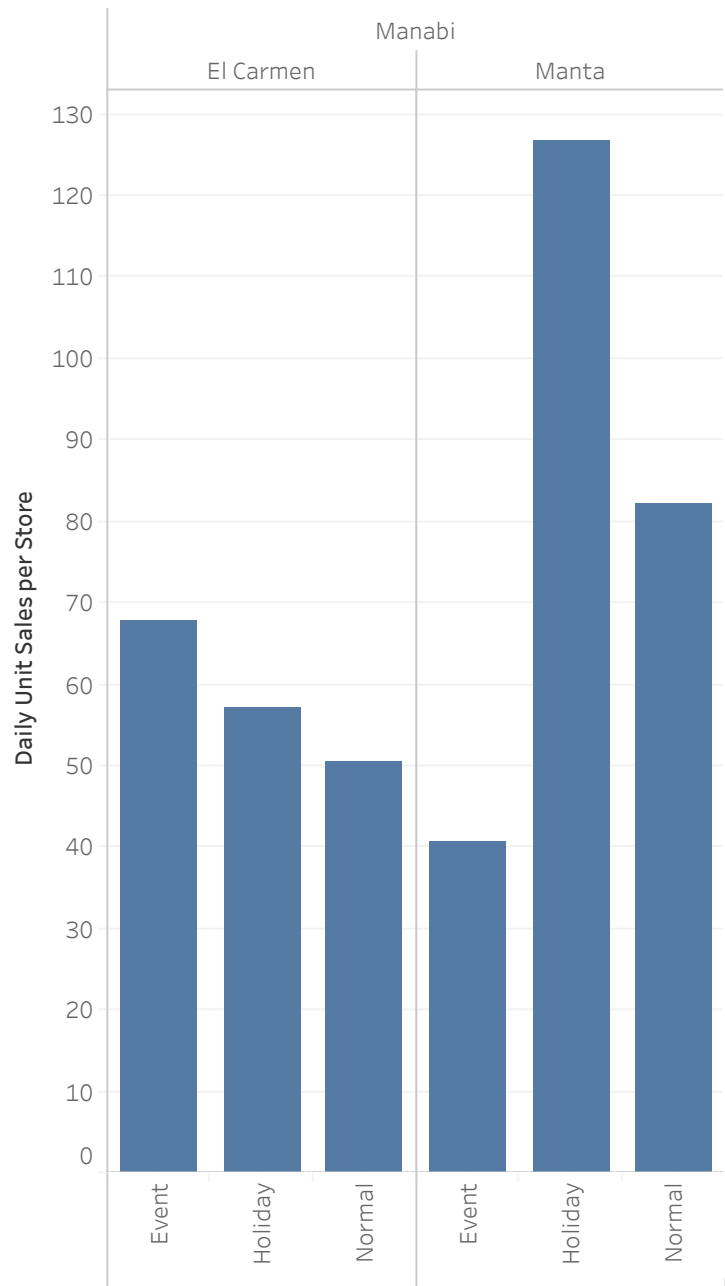
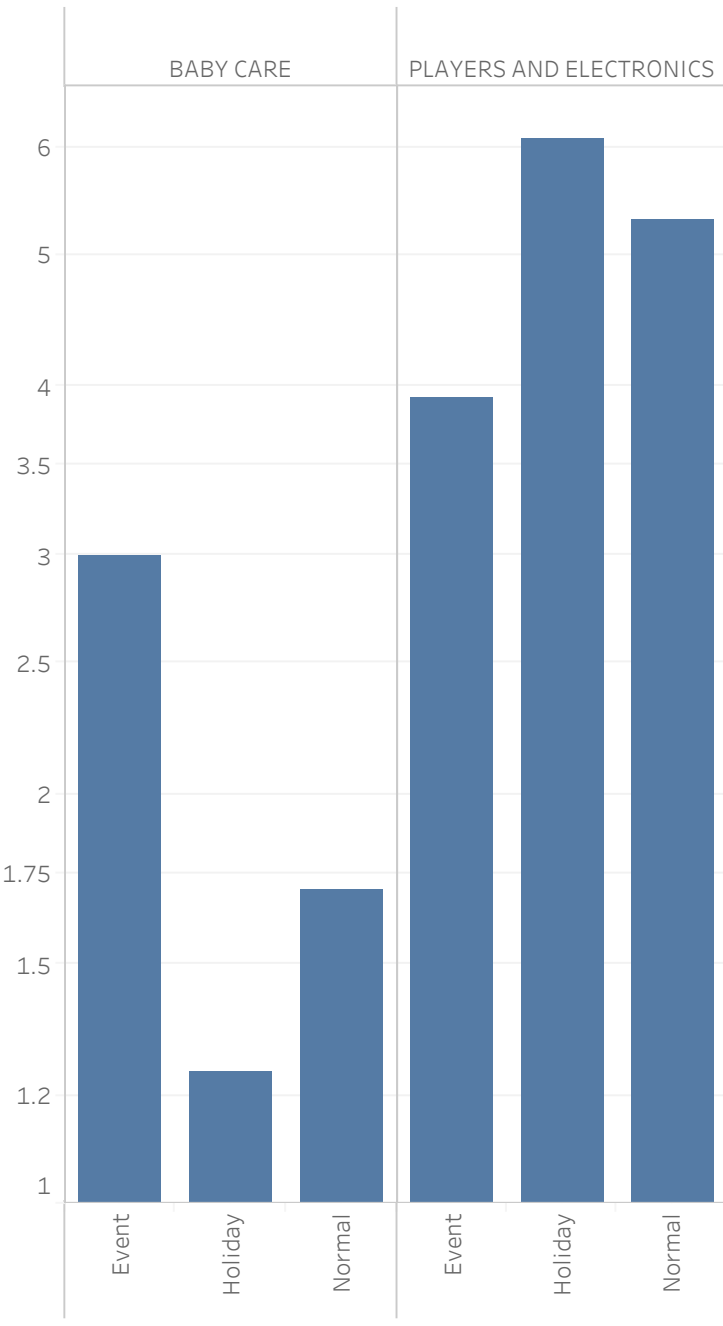


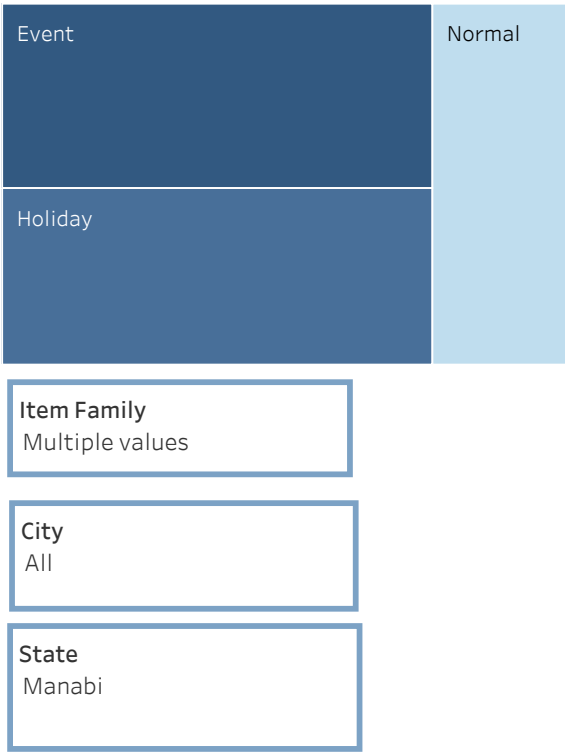
Holiday/Event Effect on Sales in Certain States/Cities



Holiday/Event Effect on Sales in Certain Item Family



Total Average Unit Sales



Overall Holiday/Event Effects
Average daily unit sales per store : Event > Holiday > Normal

Sales Patterns among Different States/Cities
Comparing local trends with overall trend, we can identify unusual holiday sales issues, and improve sales.

Sales Patterns among Different Item Families
The diagram shows different item family sales performance among different types of days, thus we can carry out targeted promotion for specific items.

Search for Holiday Promotion Improvement

Locate
Underperformance
Geographically

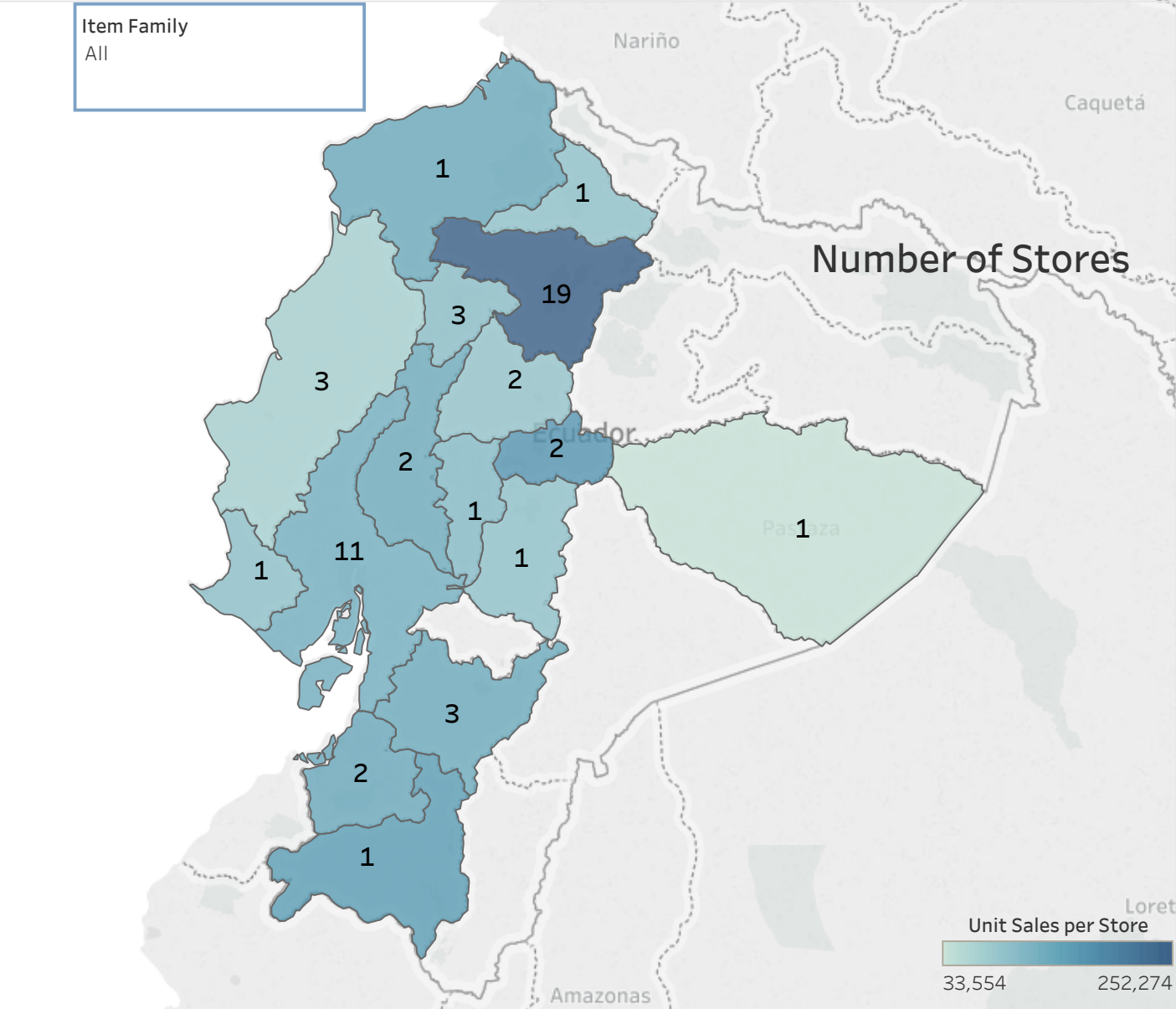
Historical Store Performance

Overall Sales Trend with Oil Price

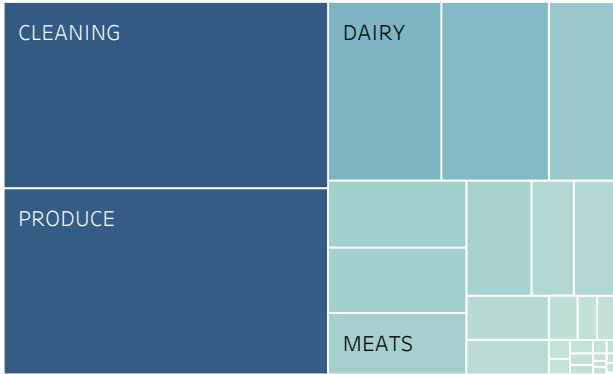
Find Sales Trends

Find Seasonal Patterns

Geographic Patterns per Store for Certain Item Family



State Manabi



- Numbers in the map demonstrate domestic distribution of stores.
 - Color represents average store performance in each state.
 - Sales performance of specific item families can also be examined geographically.
 - Drilling down state preferences for item families can be achieved by clicking on the state.
- (Exclude Grocery I and Beverage)

Search for Holiday
Promotion
Improvement

Locate
Underperformance
Geographically

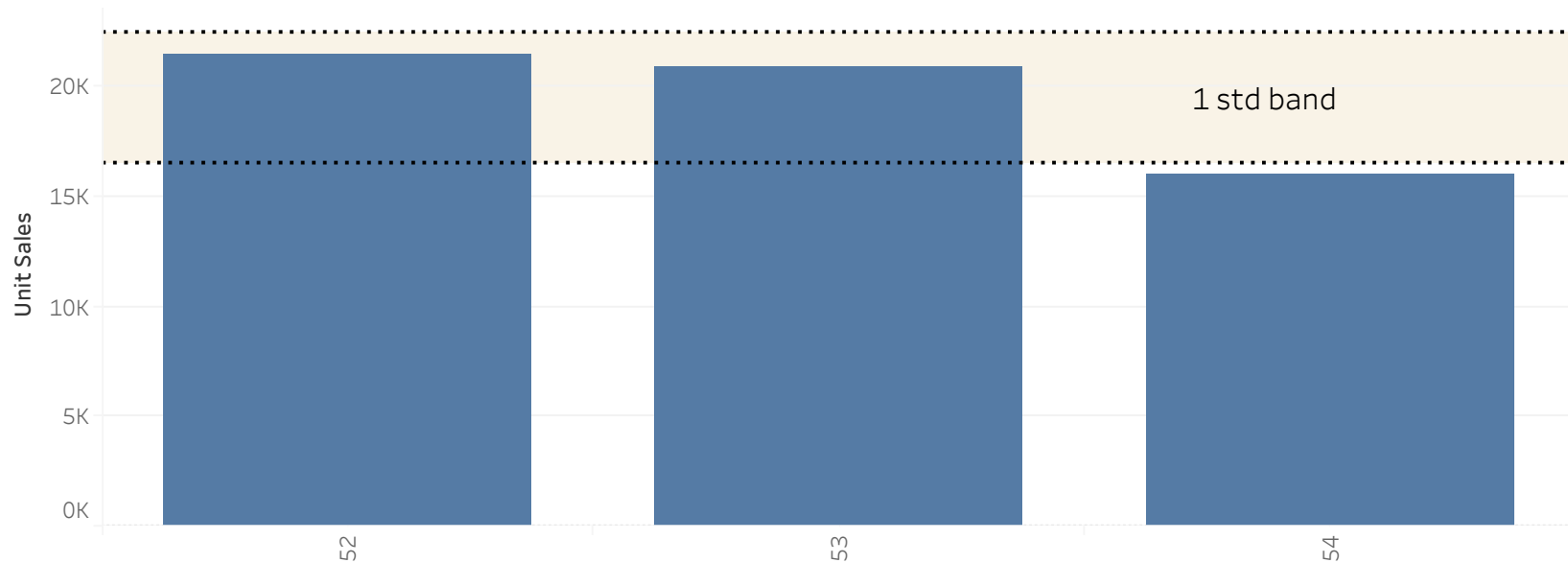
Historical Store
Performance

Overall Sales Trend
with Oil Price

Find Sales Trends

Find Seasonal Patterns

Store Performance for Certain Years



State Manabi

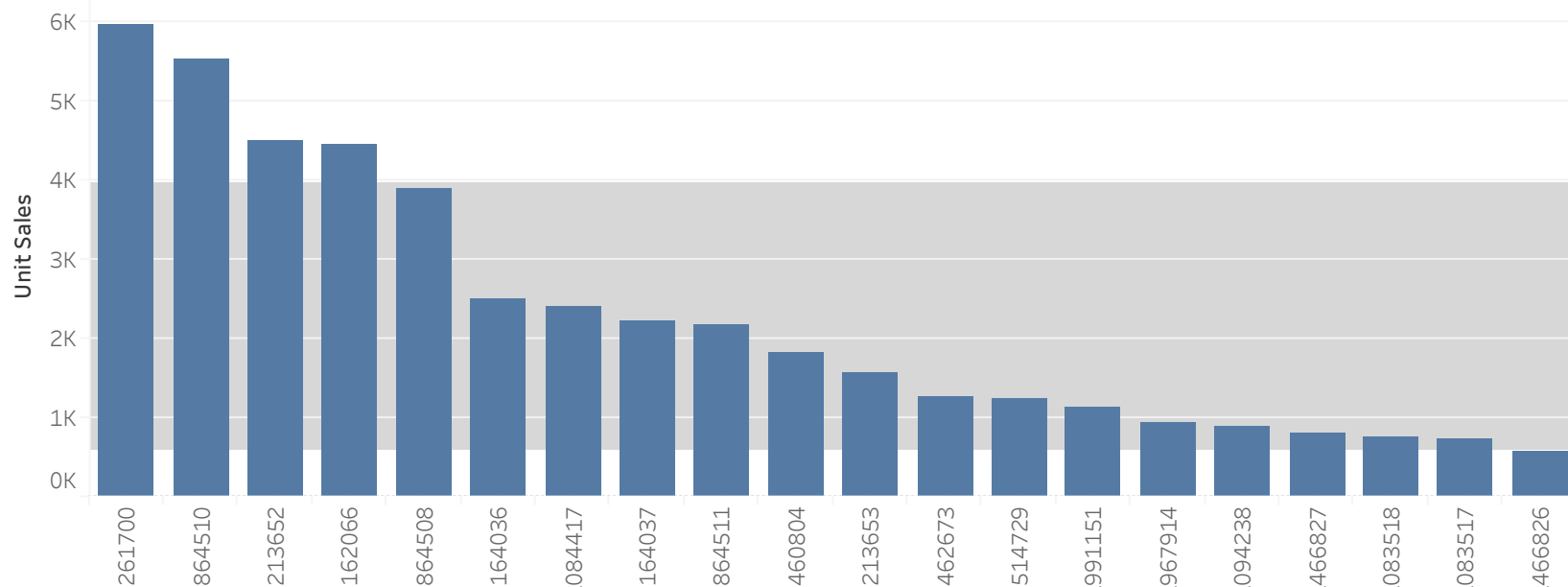
Year of Date

- ☐ 2013
- ☐ 2014
- ☐ 2015
- ☐ 2016
- ☒ 2017

Item Class

1048

Item Performance for Certain Item Class



- Focus on stores out of the band

- Identify dynamic store performance over 5 years

- Focus on items out of the band

Search for Holiday
Promotion
Improvement

Locate
Underperformance
Geographically

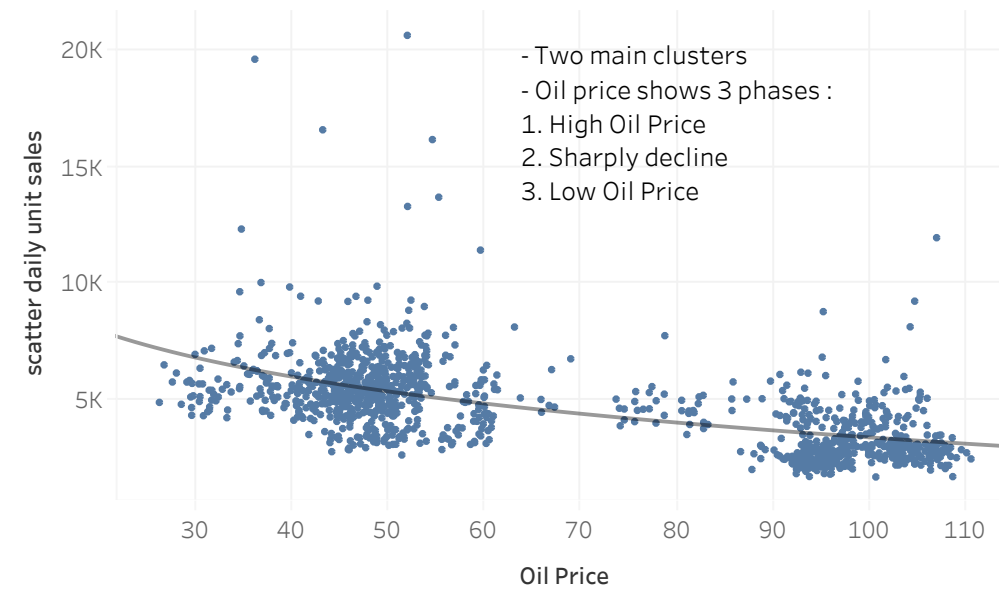
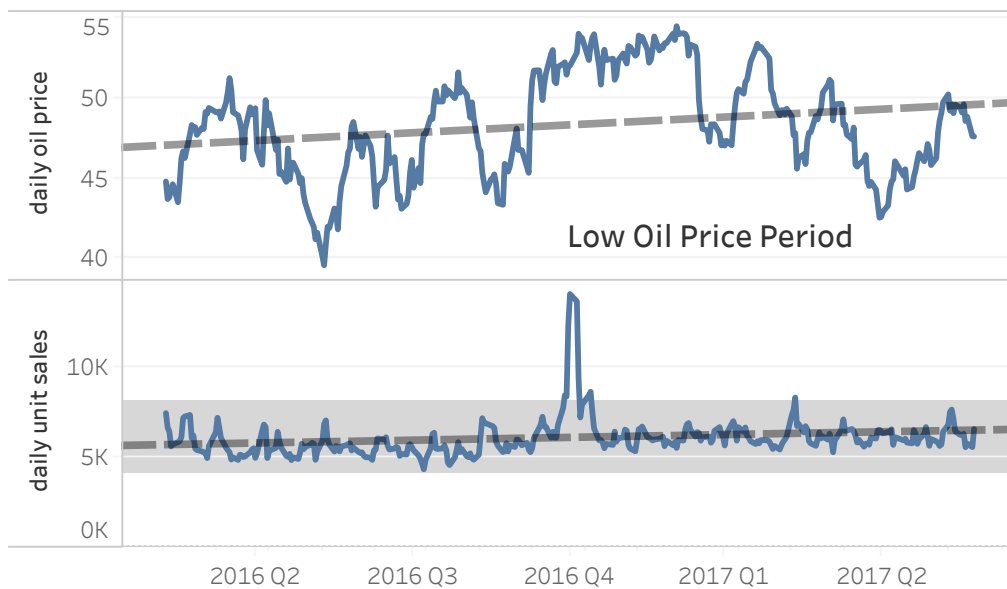
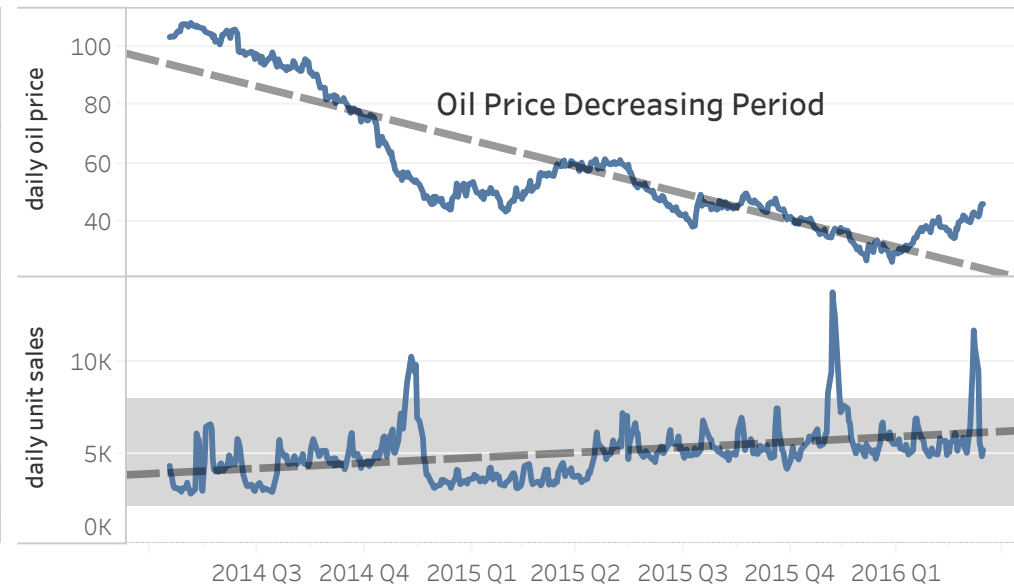
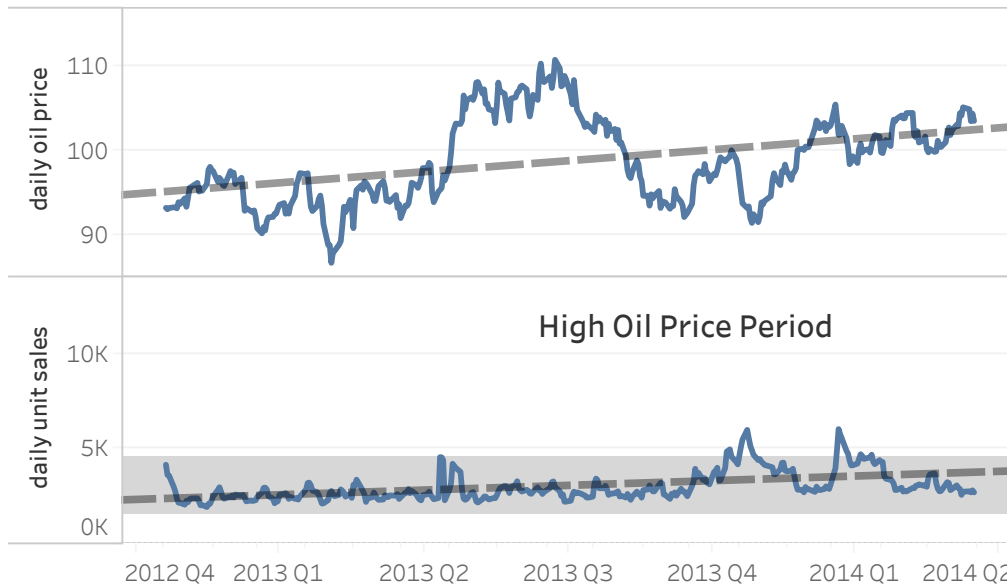
Historical Store
Performance

Overall Sales Trend
with Oil Price

Find Sales Trends

Find Seasonal Patterns

Relationship between oil price and sales



Search for Holiday
Promotion
Improvement

Locate
Underperformance
Geographically

Historical Store
Performance

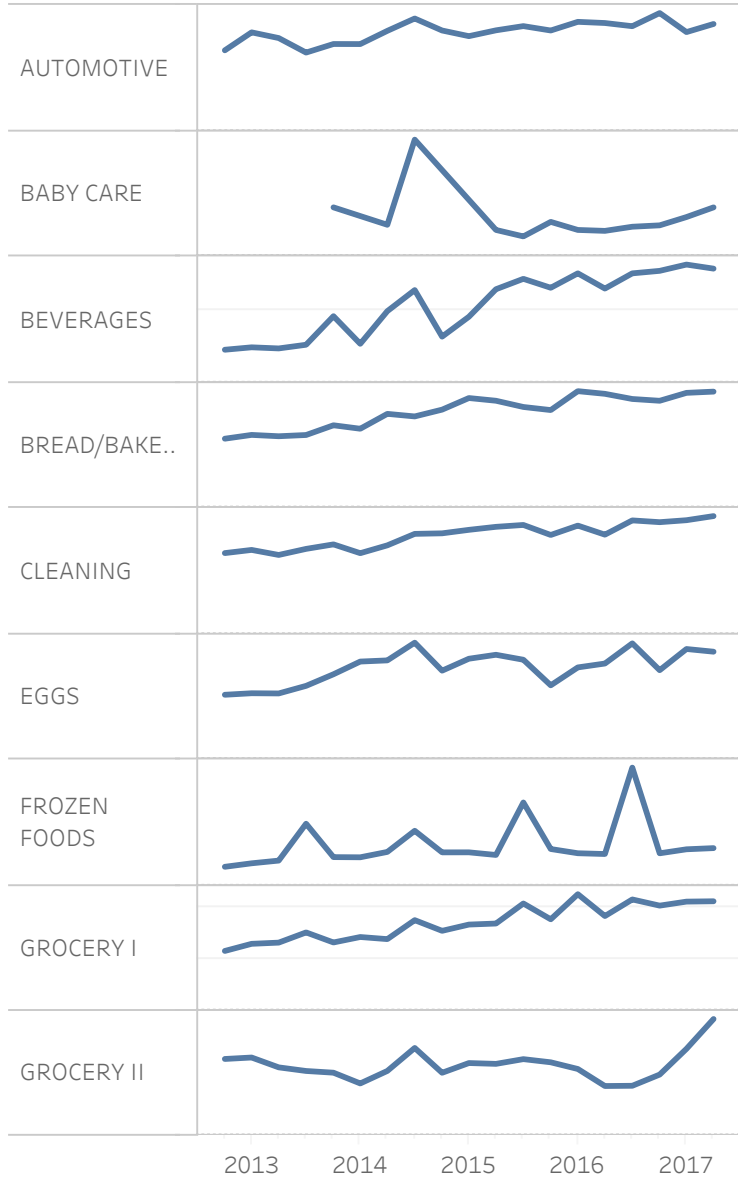
Overall Sales Trend
with Oil Price

Find Sales Trends

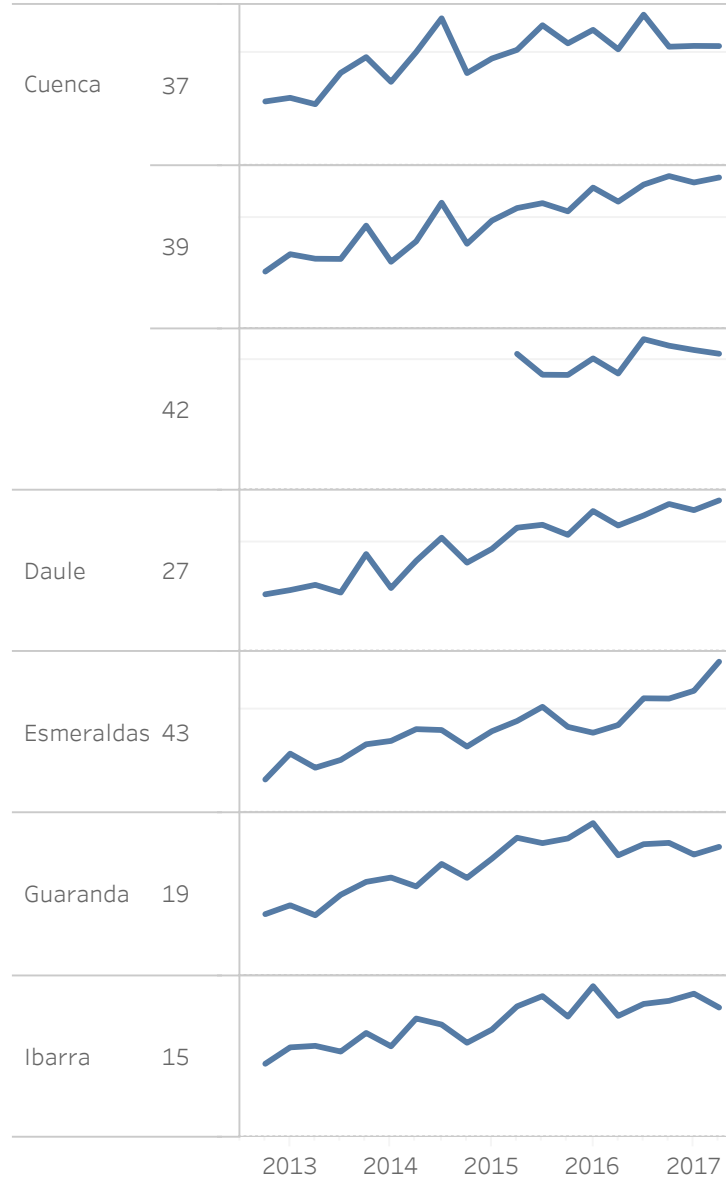
Find Seasonal Patterns

Time trends in sales by store and item family

Sales Trends of Certain Item Family



Sales Trends of Certain Store



Item Family
Multiple values

City
Multiple values

Overall Trend



Overall sales trend is climbing with slight fluctuation.

Comparing overall trend and single sales trend, we can distinguish good performance from bad one.

Search for Holiday
Promotion
Improvement

Locate
Underperformance
Geographically

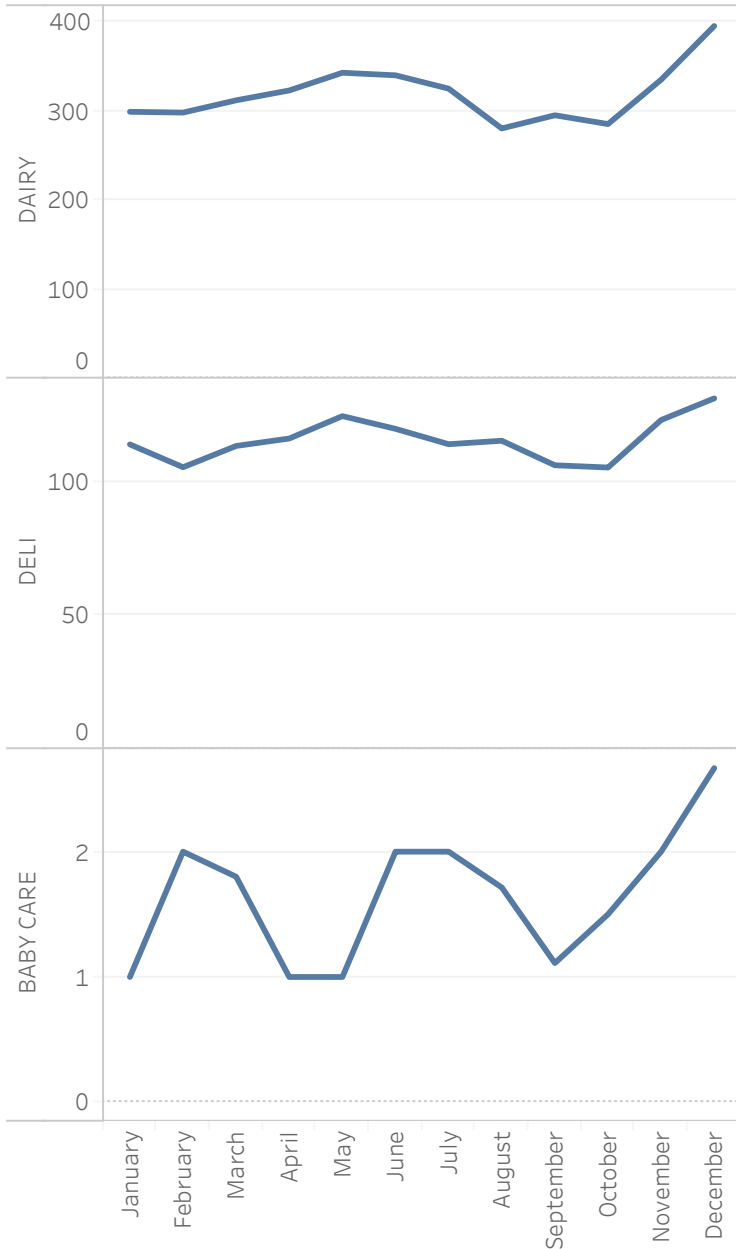
Historical Store
Performance

Overall Sales Trend
with Oil Price

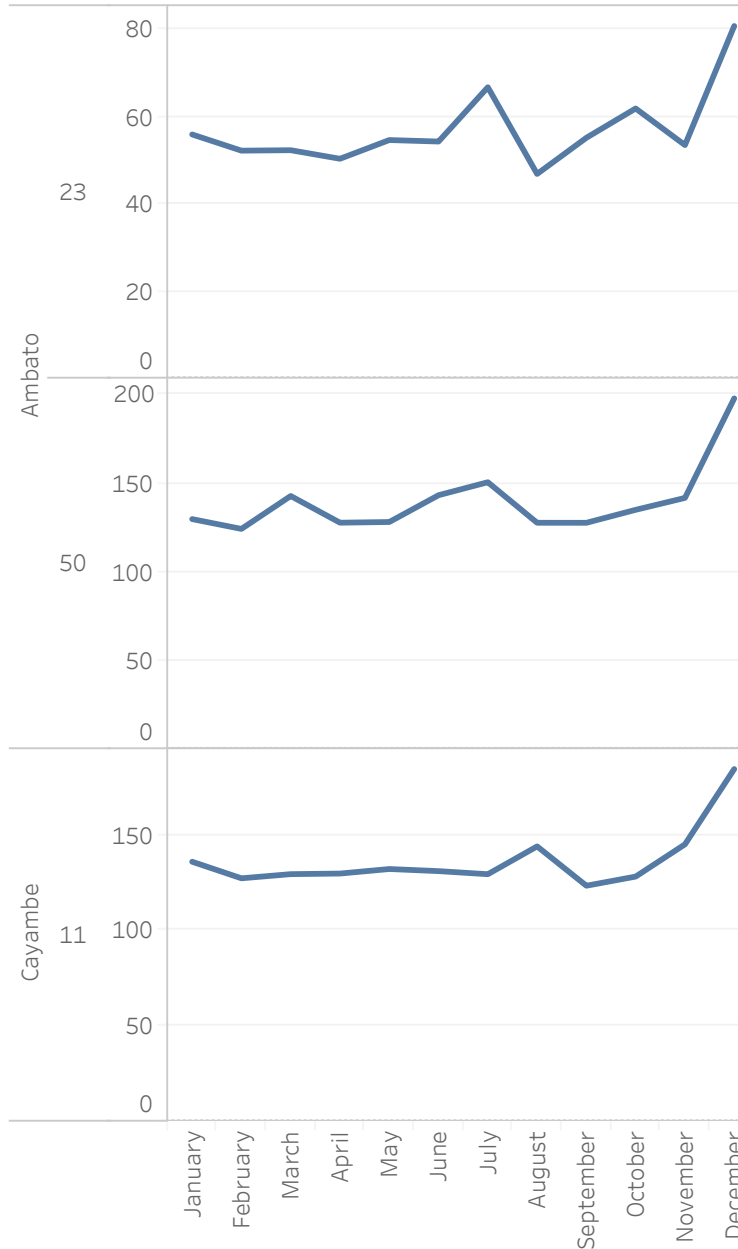
Find Sales Trends

Find Seasonal Patterns

Sales Seasonality for Certain Item Family



Sales Seasonality for Certain Store



Item Family

Multiple values

City

Multiple values

Overall Seasonality



The overall graph shows strong seasonality pattern.

At the end of the year, sales amount climbs to the peak.

From left side diagrams, we can examine specific store/item seasonality pattern.