



ROSSMAN STORES ANALYSIS

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5-08-2024

OUTLINE



- Executive Summary
- Introduction
- Methodology
- Results
 - Visualization – Charts
 - Dashboard
- Discussion
 - Findings & Implications
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EXECUTIVE SUMMARY



- Summary of Total sales from year 2013-2015
- Total sales made during on/off promotion.
- Impact of school holiday on sales
- Impact of public holiday on sales
- Outstanding sales by stores in between 2013-2015
- Bottom sales by stores from 2013-2015
- Recommendations

INTRODUCTION



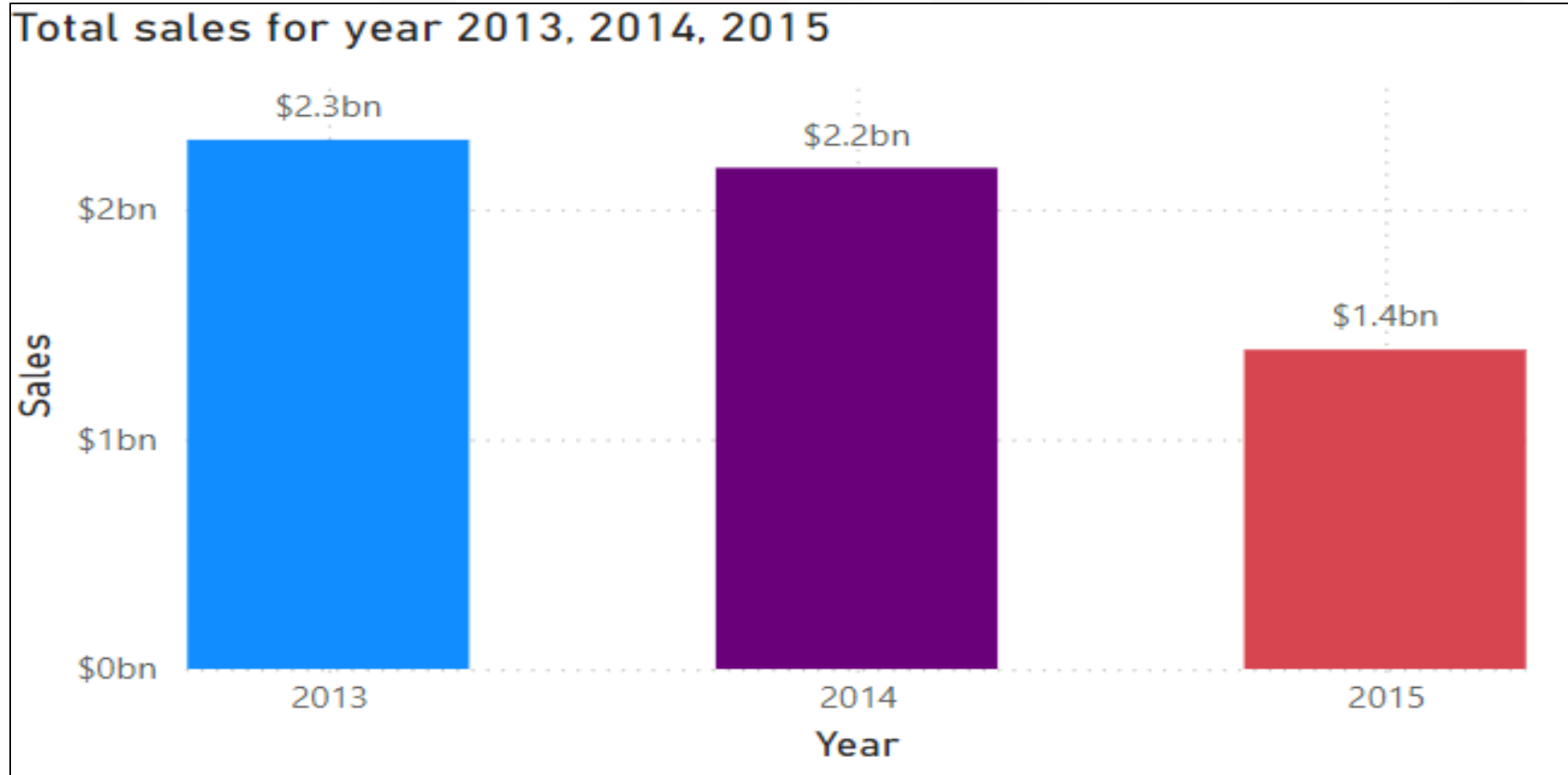
- Rossmann operates 1,115 drug stores located across Germany. Store sales are influenced by many factors, including promotions, school and state holidays.
- This analysis aim to uncover the impact on sales by the above-mentioned factors with focus on promotion, school and state holidays.
- The dataset records over 1 million entries from 2013-2015

METHODOLOGY



- **Date source:**
<https://www.kaggle.com/competitions/rossmann-store-sales>
- **Data Cleaning:** The data has been thoroughly cleaned and wrangled with Python, Matplotlib and Seaborn to ensure correctness.
- **Exploratory Analysis:** The data has been explored to gain induced insights and also validate the correctness and reliability of the outcome. Tools like Python and Power BI were used in this process
- **Visualization Tool:** Finally, the dashboard embedding of various visualizations was created with Power BI

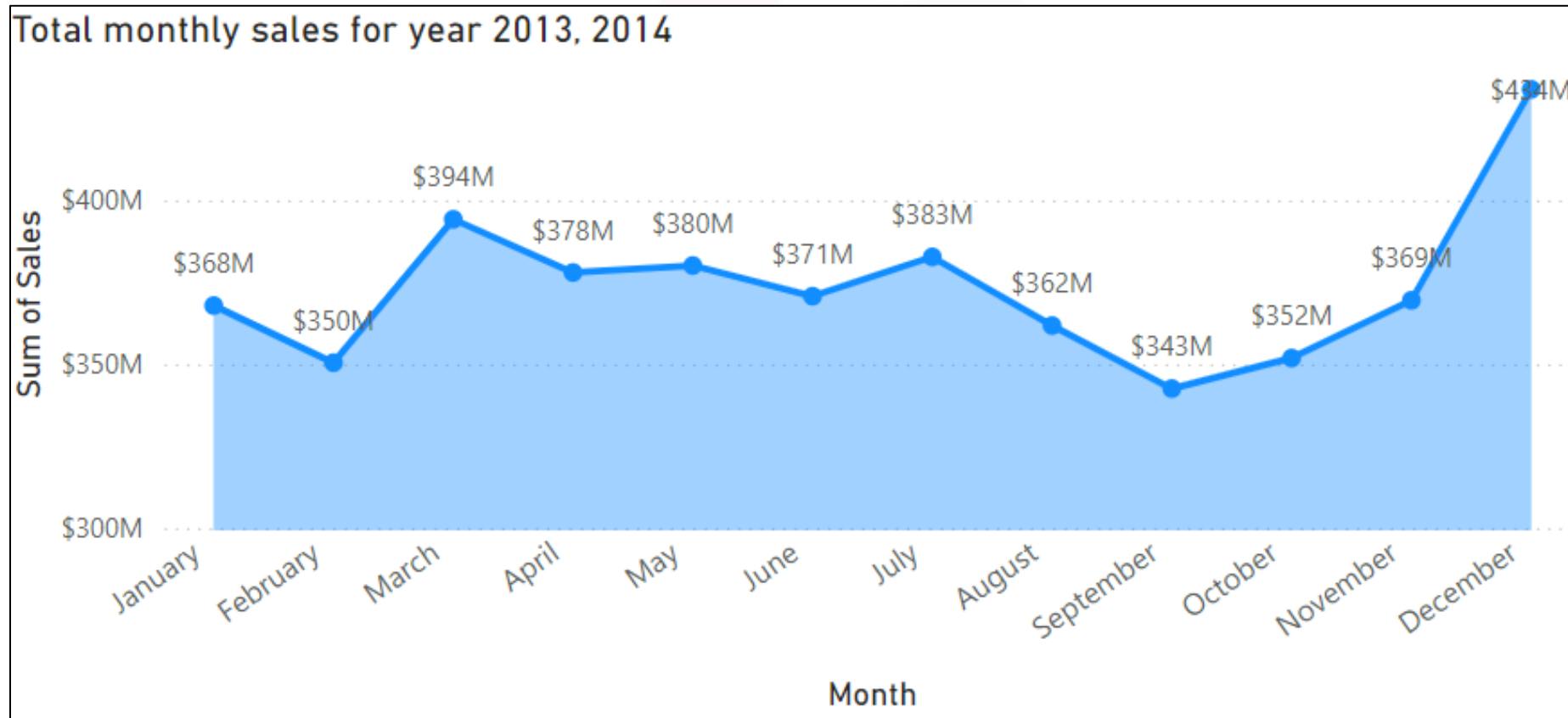
Total Sales for year 2013, 2014, 2015



Here we can see the slight decrease in total sales in year 2014, and tremendous one in 2015.

More insight is given in the discussion section.

MONTHLY SALES TREND 2013-2014



Year 2015
omitted
due to
incomplete
data

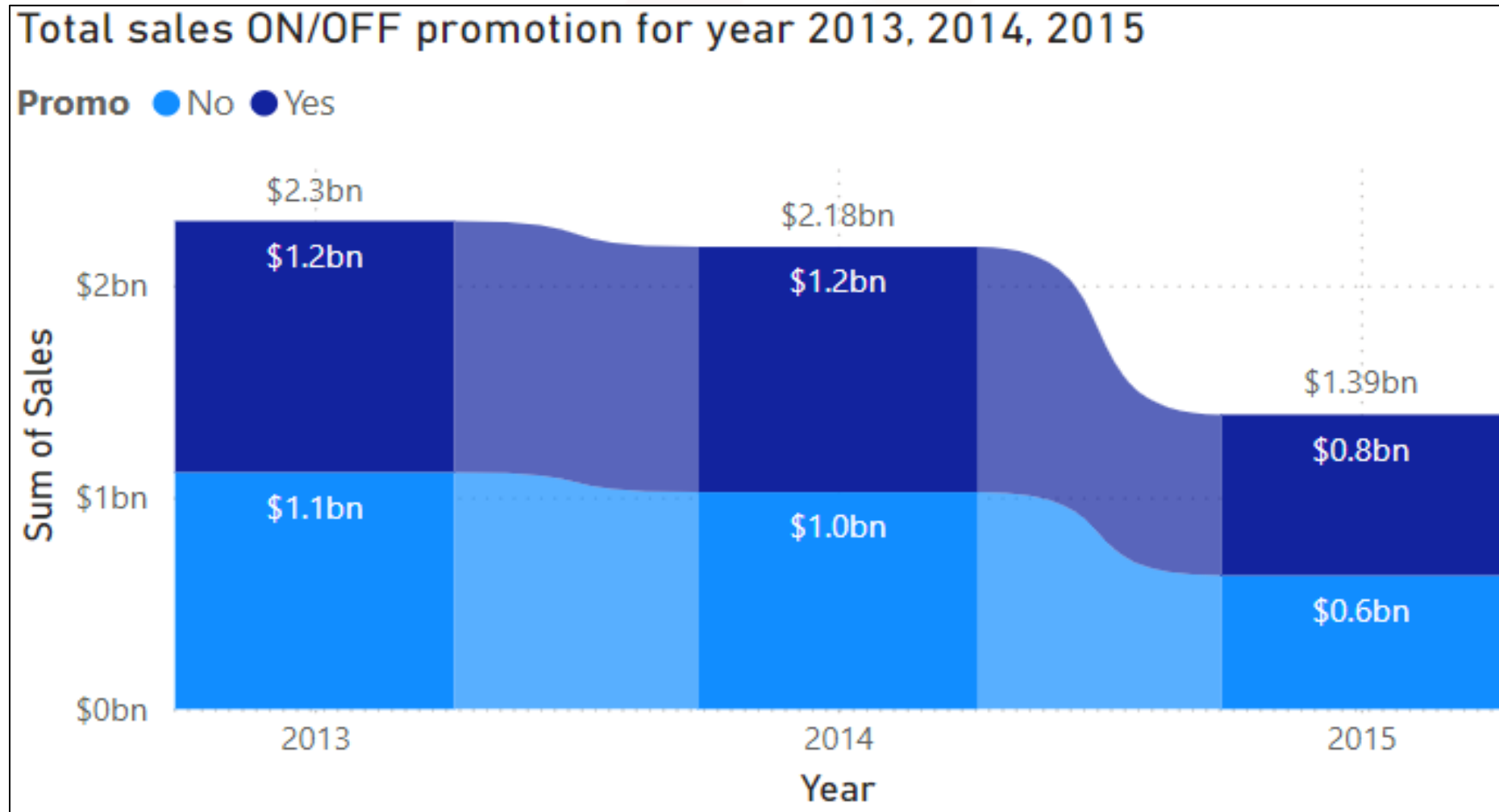
*note the spike in March, July and December.

Sales Trend

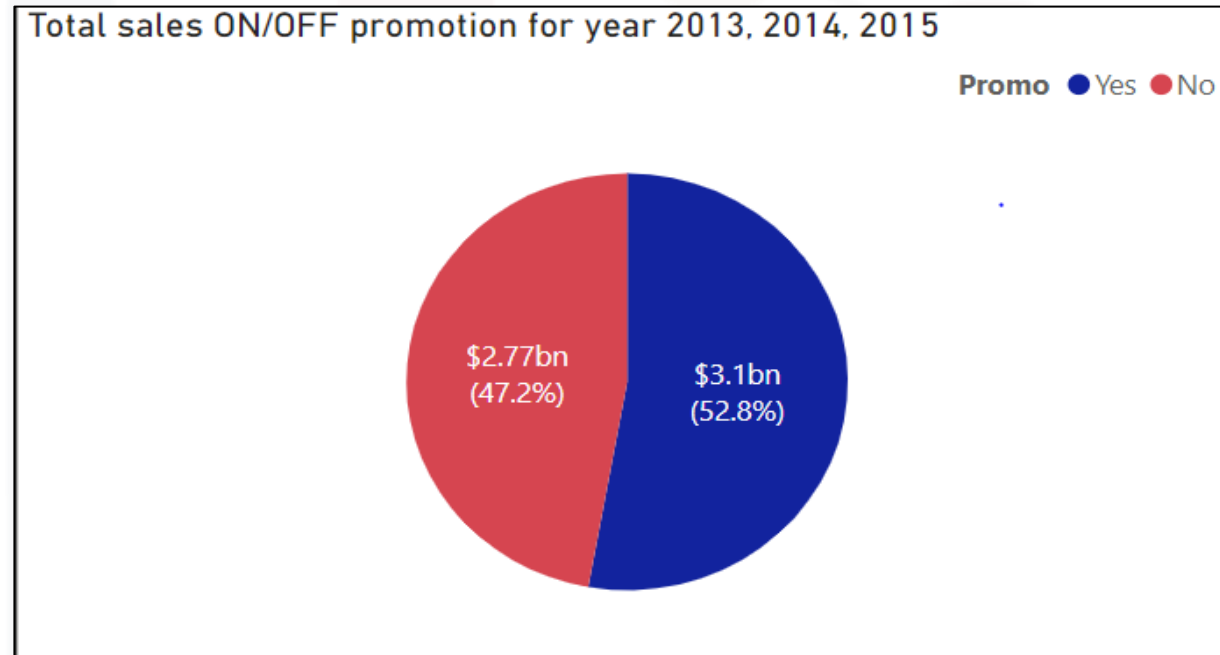
Findings:

- The tremendous decrease in 2015 is as a result of incomplete data for the year 2015. Year 2015 was the current date for which the data collection was made. The data for this year runs from January to July only.
- The slight decrease for year 2014 is from analysis, possible factors includes number of closed stores daily across the year, number stores in promotion and average sales . More insight will be given in the discussion slide.

Sales Trend On/Off promotion



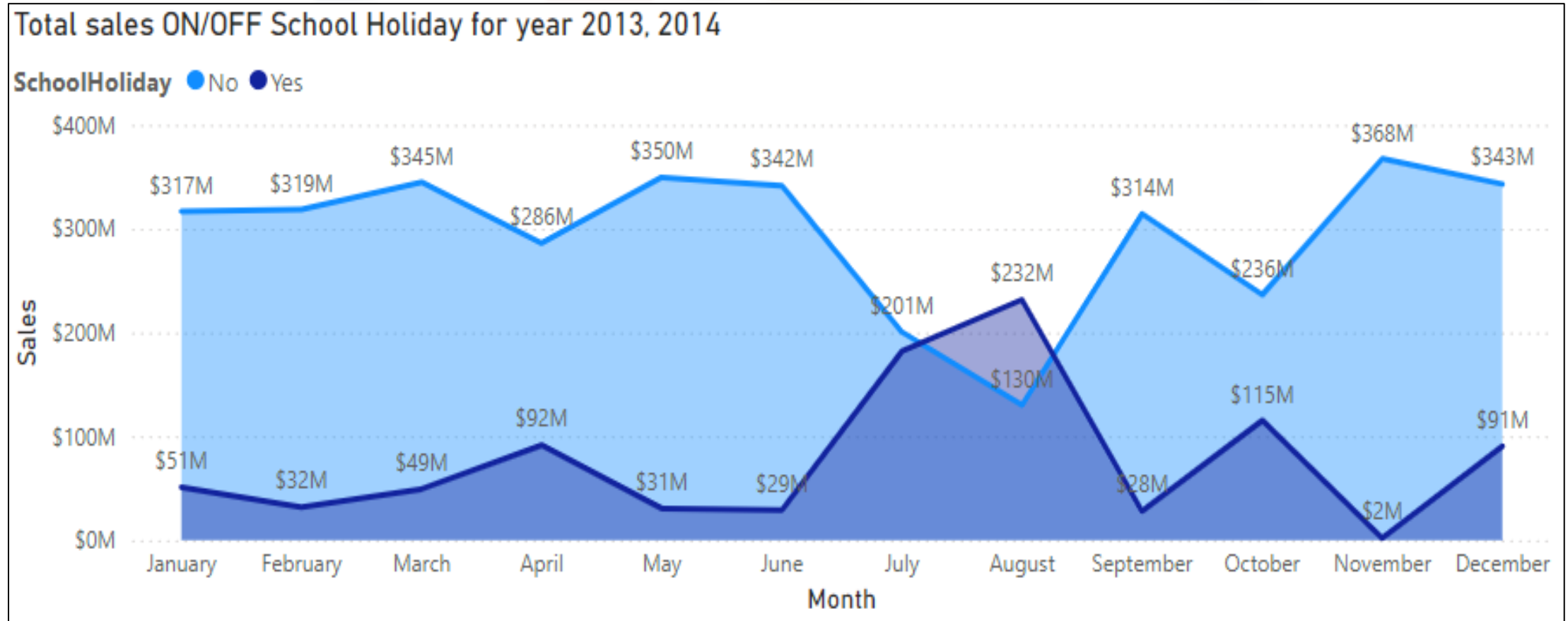
General overview of sales on/off promotion



Findings:

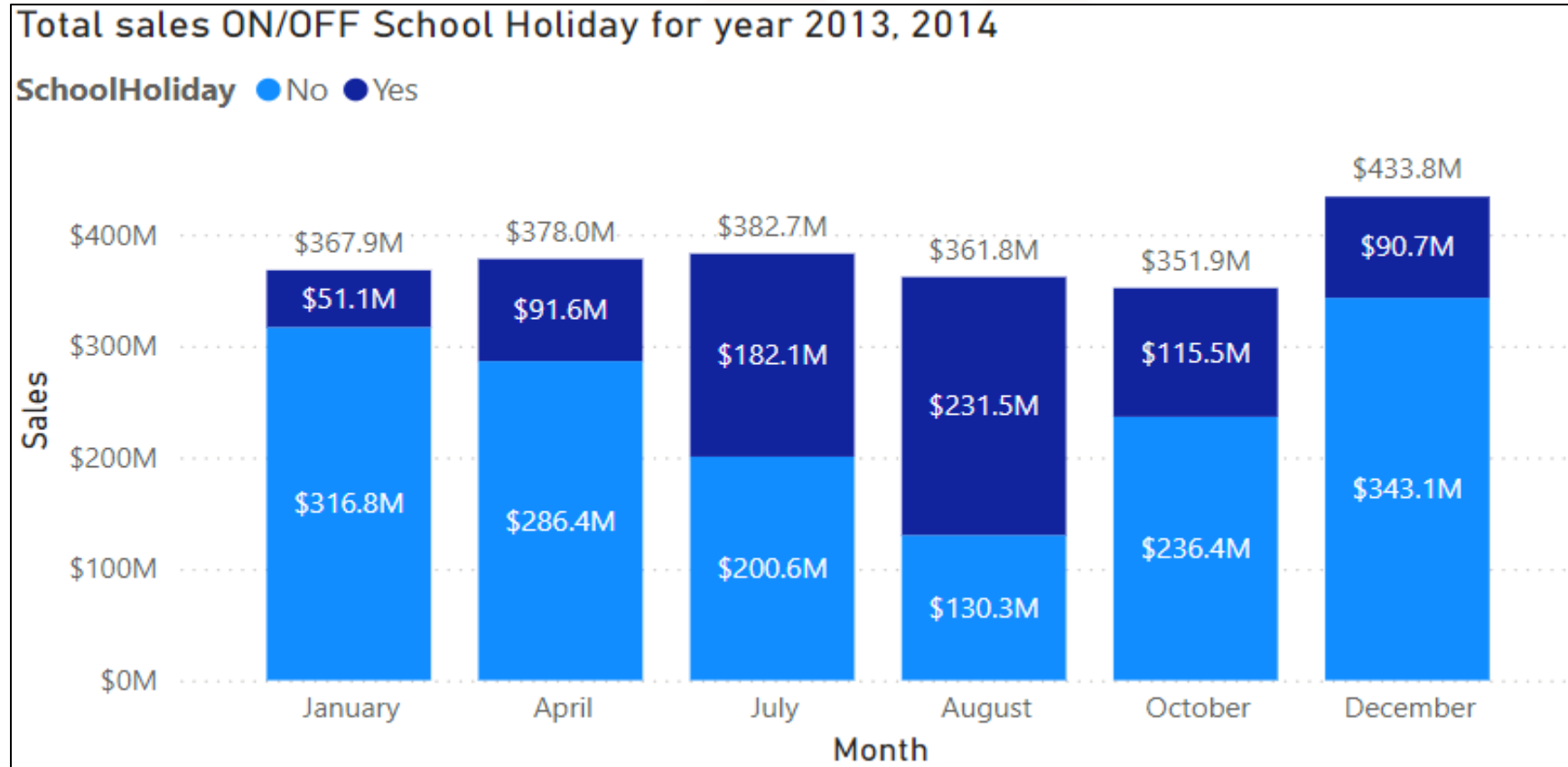
- It is clear that in each year, sales made through promotion were higher than sales made off promotion.
- In general, promotion contributed more sales in the years in review

Sales trend on/off Public School Holiday



Note the spike in April, August and October.

Sales Contribution on/off Public School Holiday



Note:

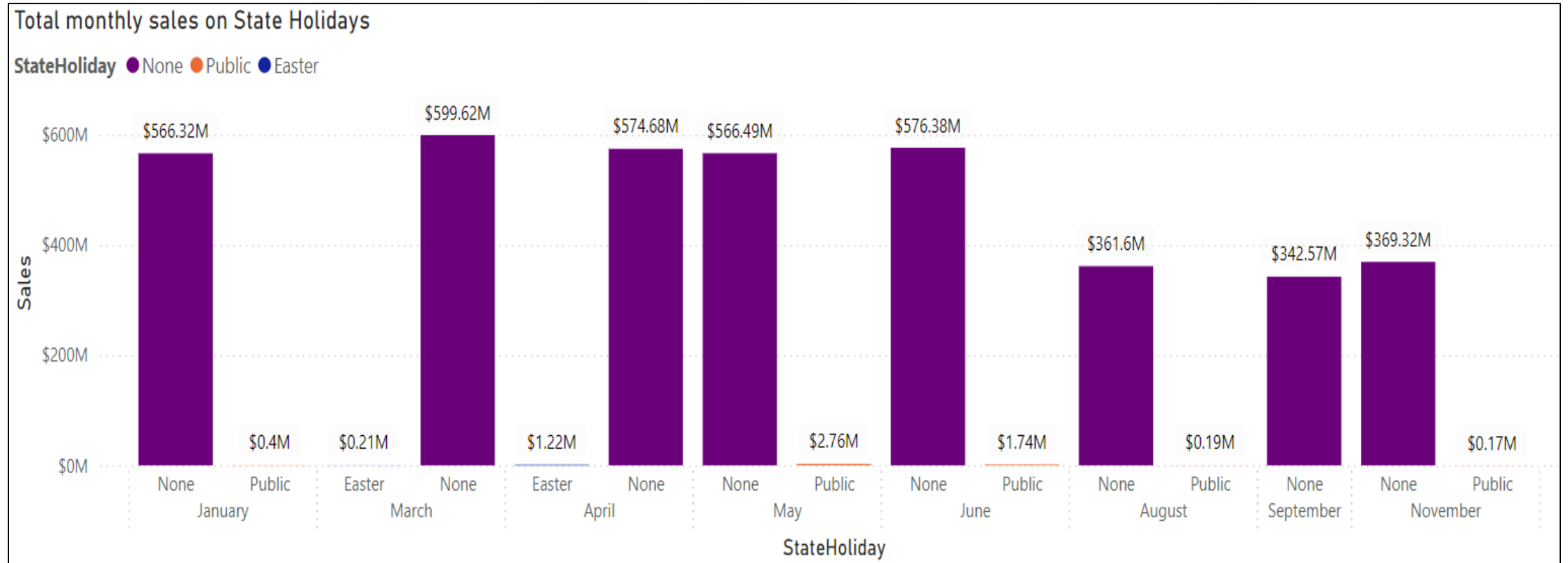
- Months with very little or no sales on Holiday are omitted

Impact on sales on/off School Holiday

Findings:

- From the analysis above, we can see that school holiday has a positive impact on sales. With the month of August being the highest.
- Research confirms that during vacations, parents do take this period to vaccinate their children which in turn yield more sales on drugs sales.
- You can see a shorter spike during April, which points out the Easter break, and July and August the long vacation period.
- In general promotions during Holiday is also a factor for increase in sales during holidays.

Impact on sales on/off State Holiday

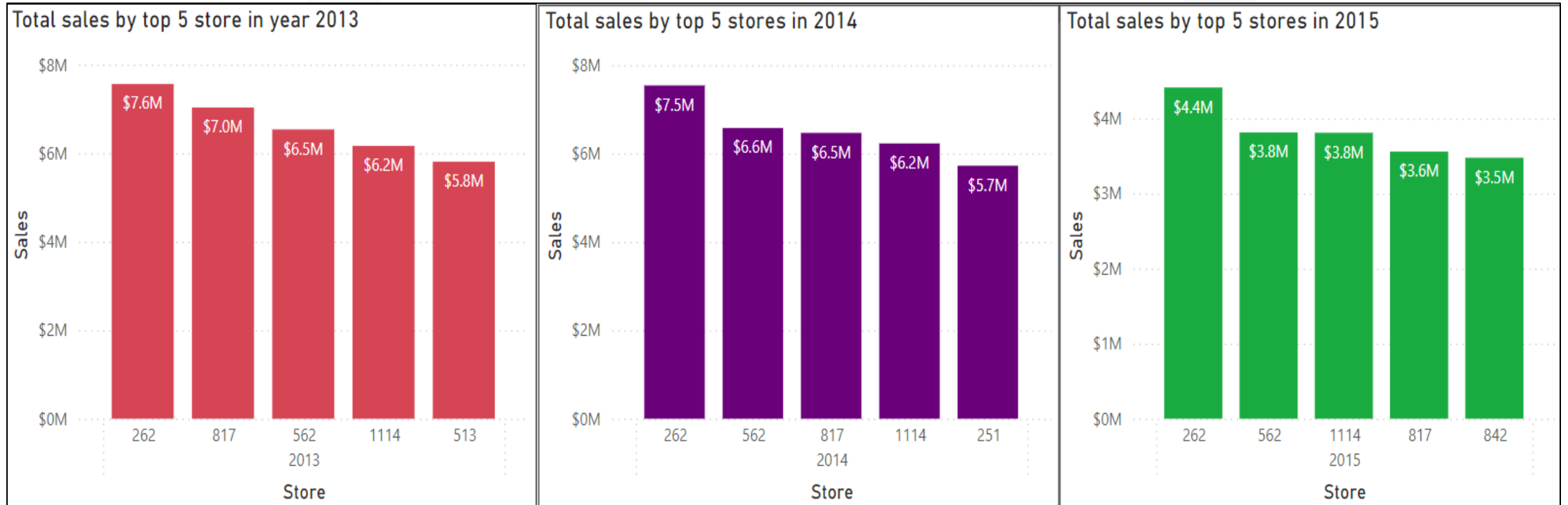


Impact on sales on/off School Holiday

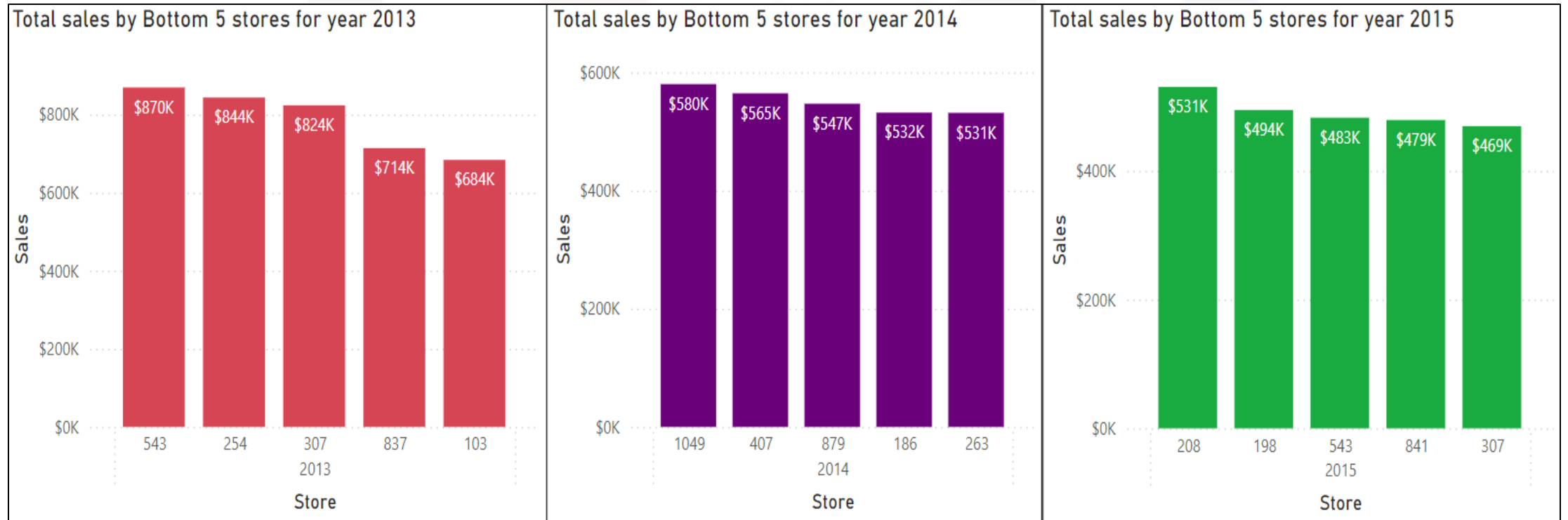
Findings:

- The analysis shows that state holidays have very little impact on sales. Infact, the effect is negligible.
- Sales during state holidays were very little compared to sales during not state holidays defined as “None” from the visualisation.

Top 5 stores in year 2013, 2014, 2015



Top 5 bottom store in year 2013, 2014, 2015



DASHBOARD TAB 1

Rossmann Stores Report - Sales from 2013 - 2015

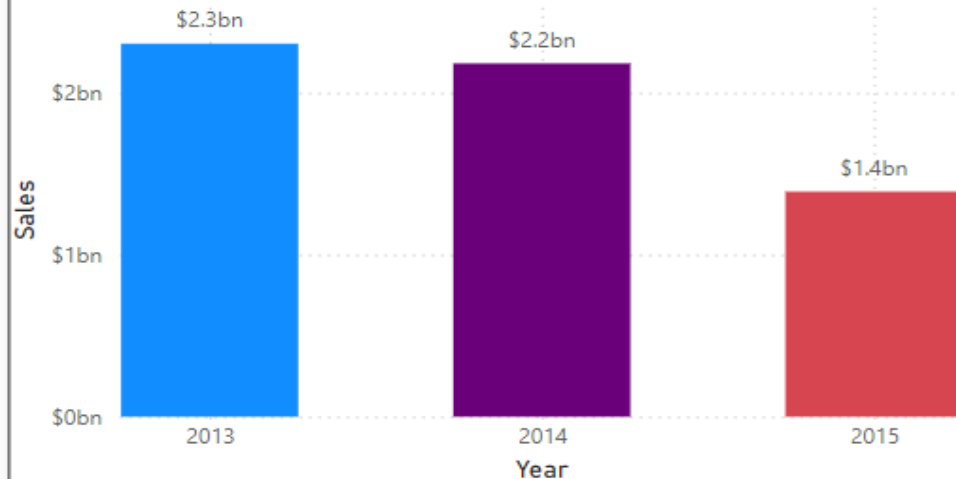
Year, Month

✓ ☐ 2013

✓ ☐ 2014

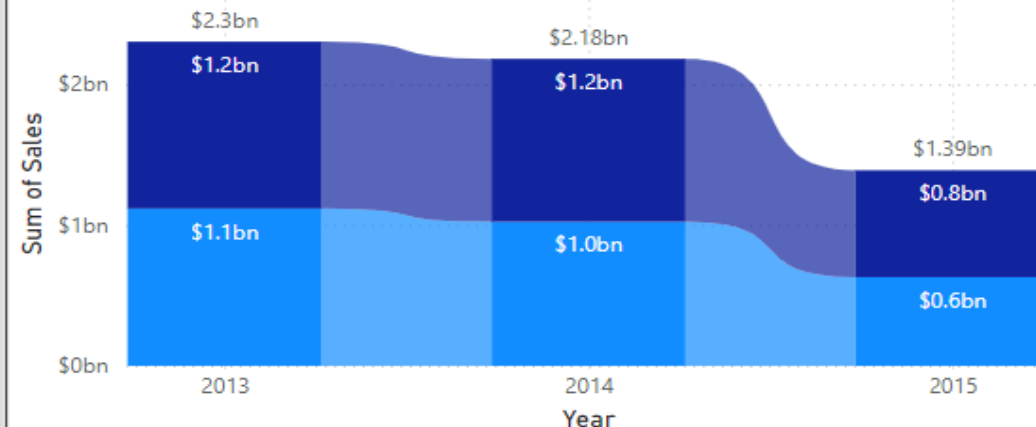
✓ ☐ 2015

Total sales for year 2013, 2014, 2015

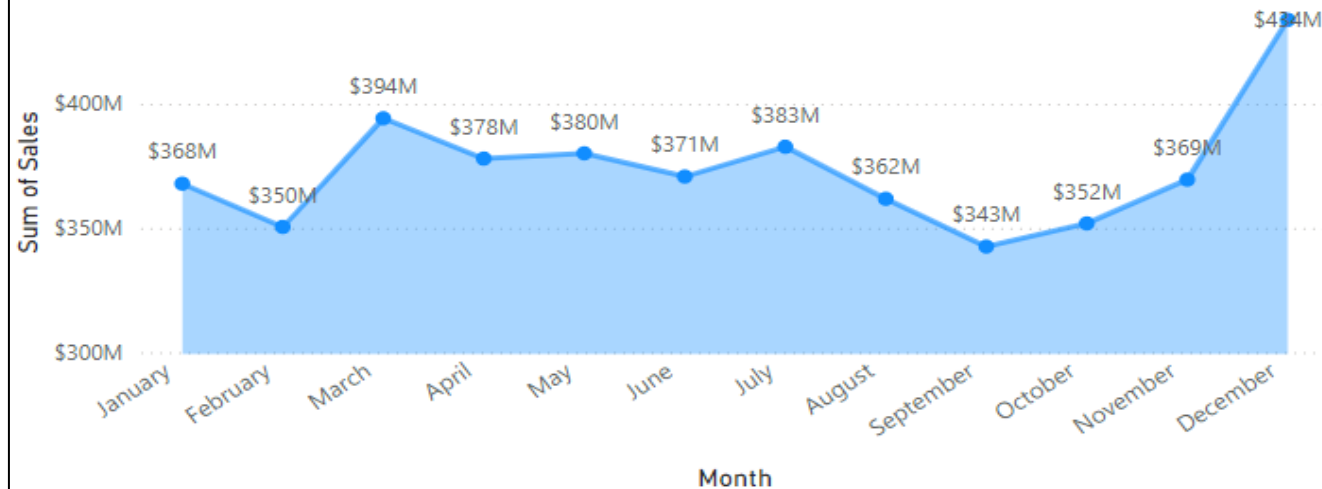


Total sales ON/OFF promotion for year 2013, 2014, 2015

Promo ● No ● Yes

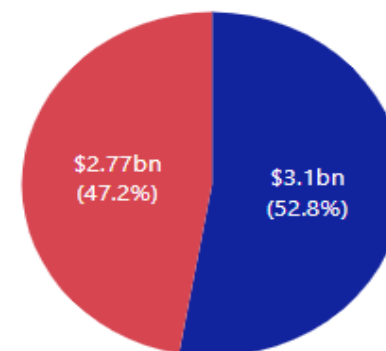


Total monthly sales for year 2013, 2014



Total sales ON/OFF promotion for year 2013, 2014, 2015

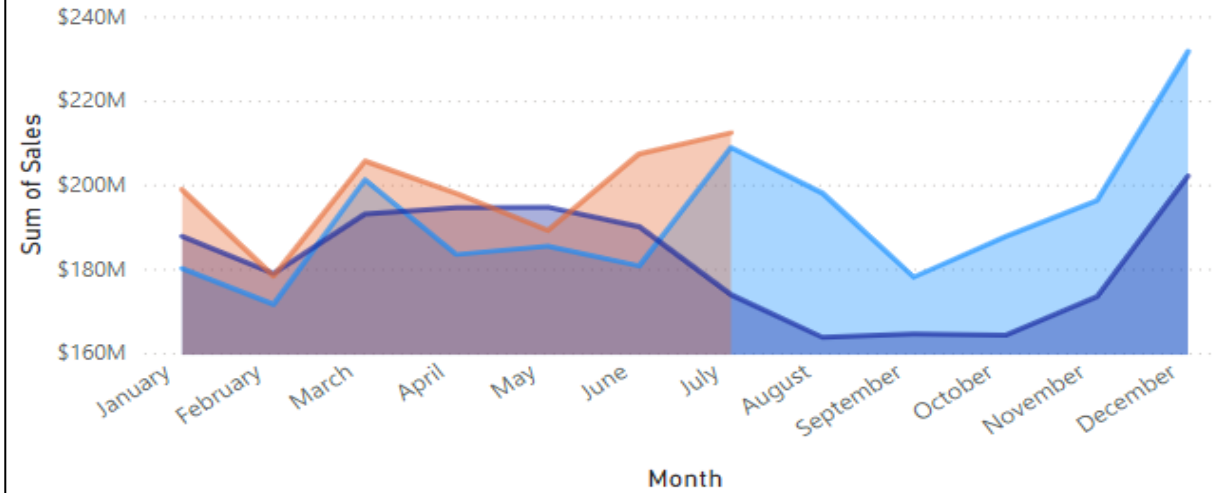
Promo ● Yes ● No



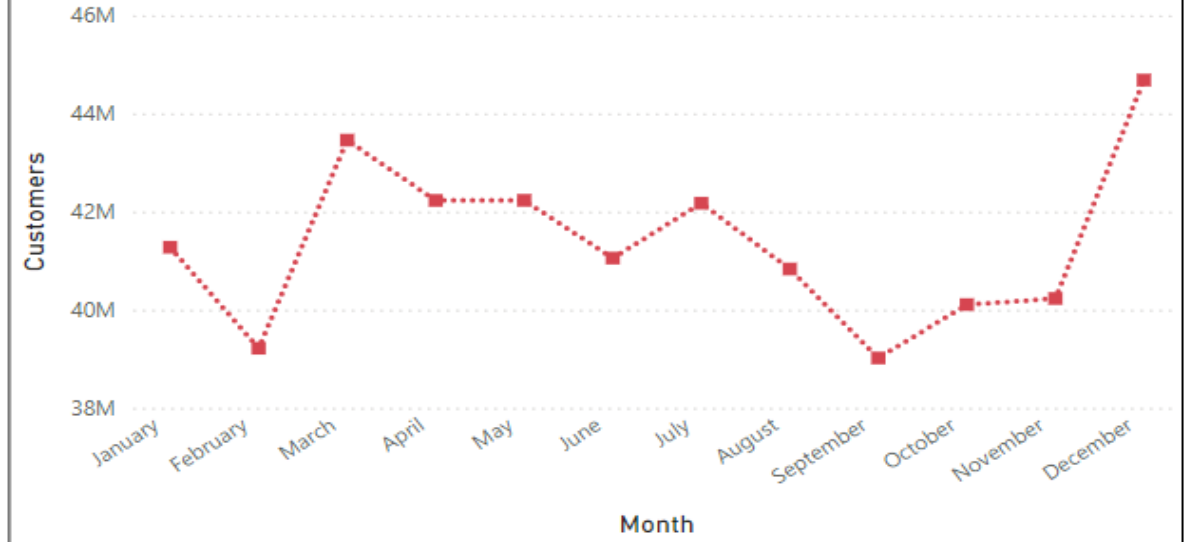
DASHBOARD TAB 2

Total monthly sales for year 2013, 2014, 2015

Year ● 2013 ● 2014 ● 2015

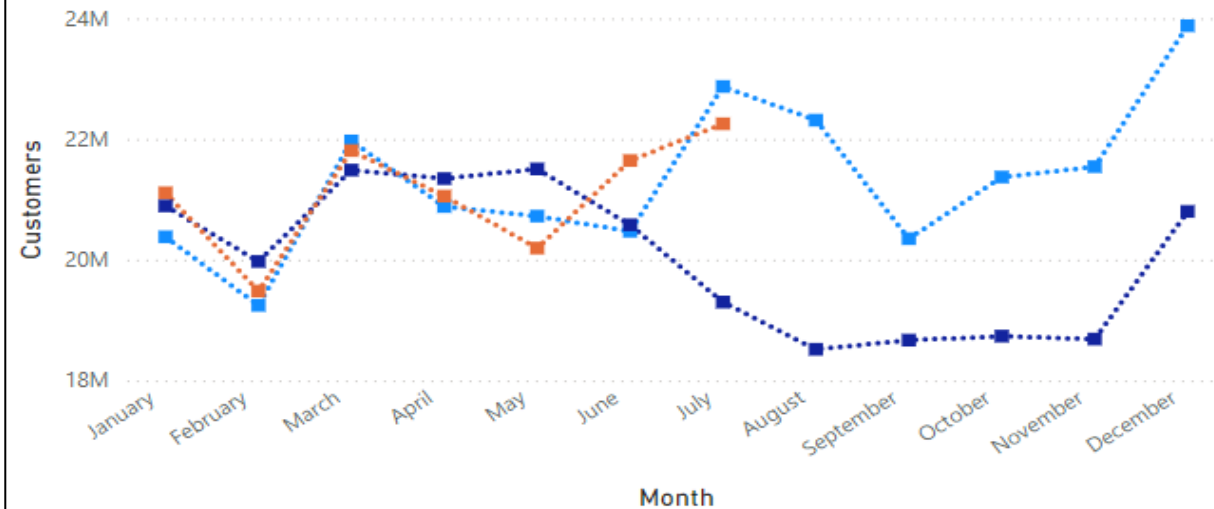


Total visiting customers for year 2013, 2014



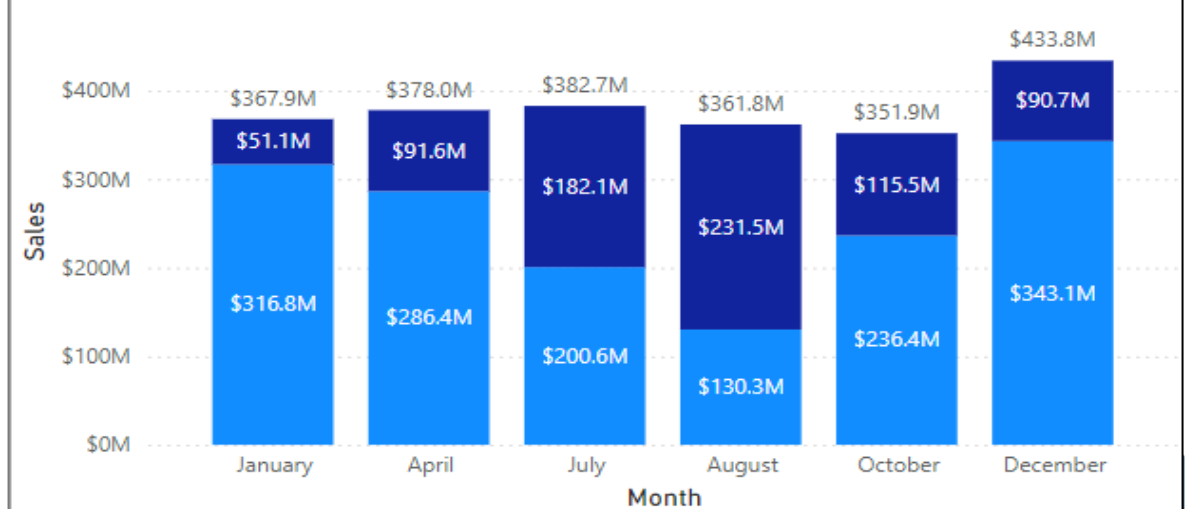
Total visiting customers for year 2013, 2014, 2015

Year ■ 2013 ■ 2014 ■ 2015



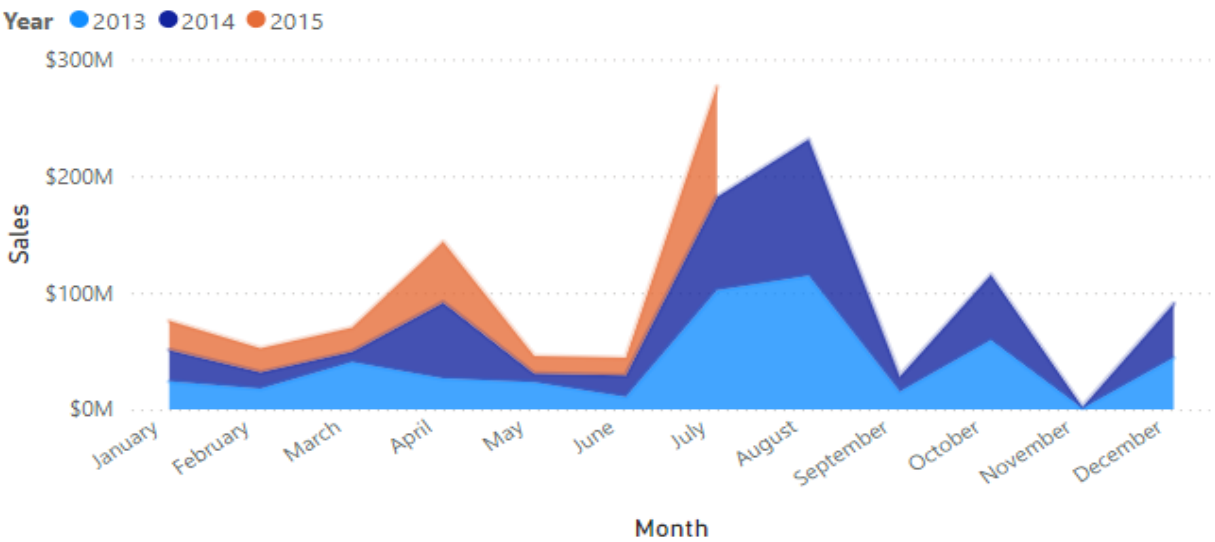
Total sales ON/OFF School Holiday for year 2013, 2014

SchoolHoliday ● No ● Yes

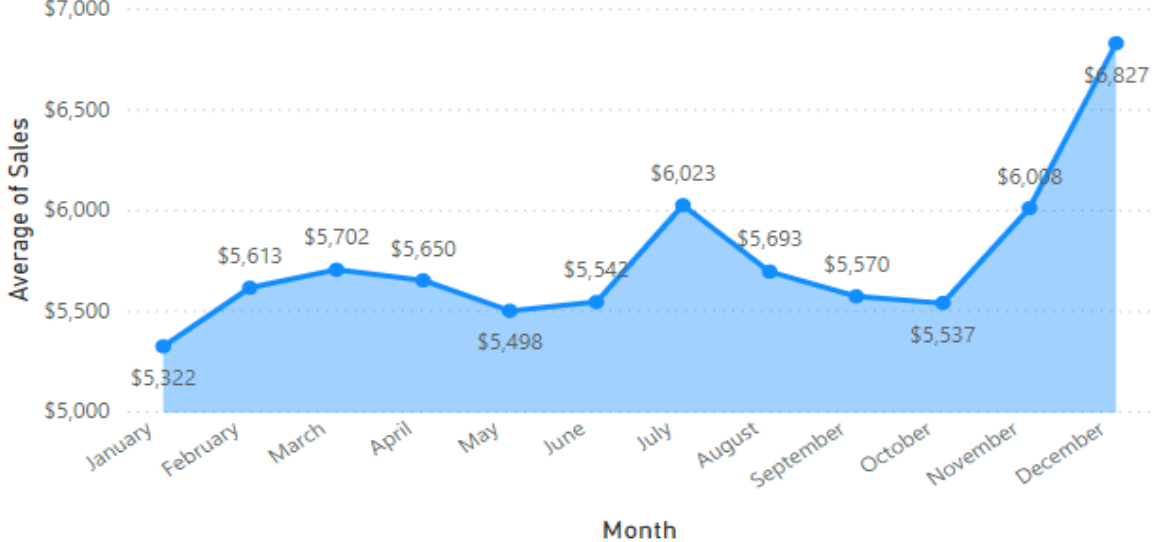


DASHBOARD TAB 3

Total sales ON/OFF School Holiday for year 2013, 2014, 2015



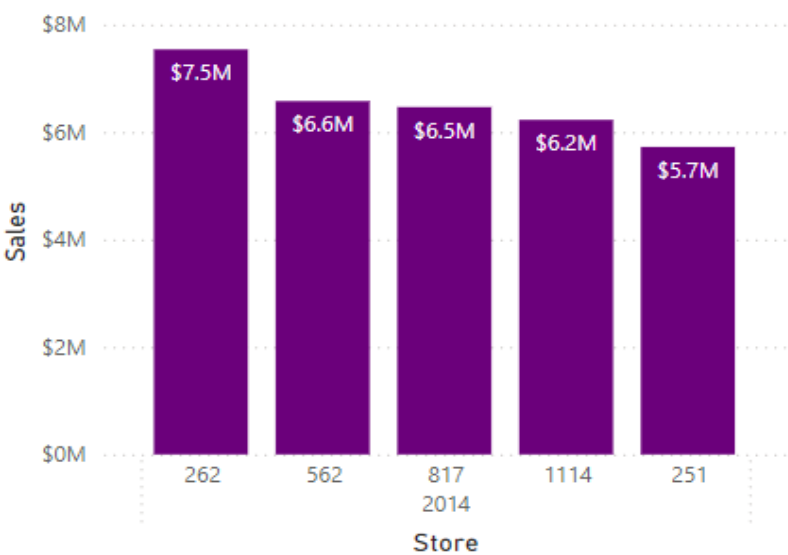
Average of Sales by Month



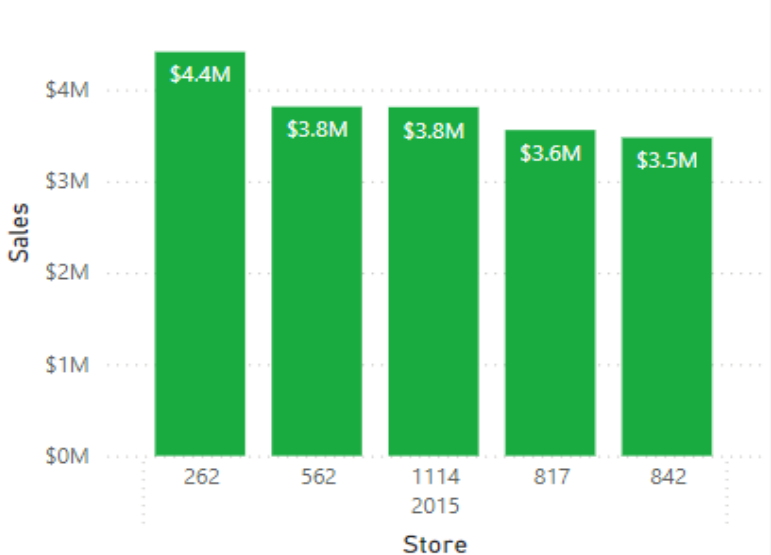
Total sales by top 5 store in year 2013



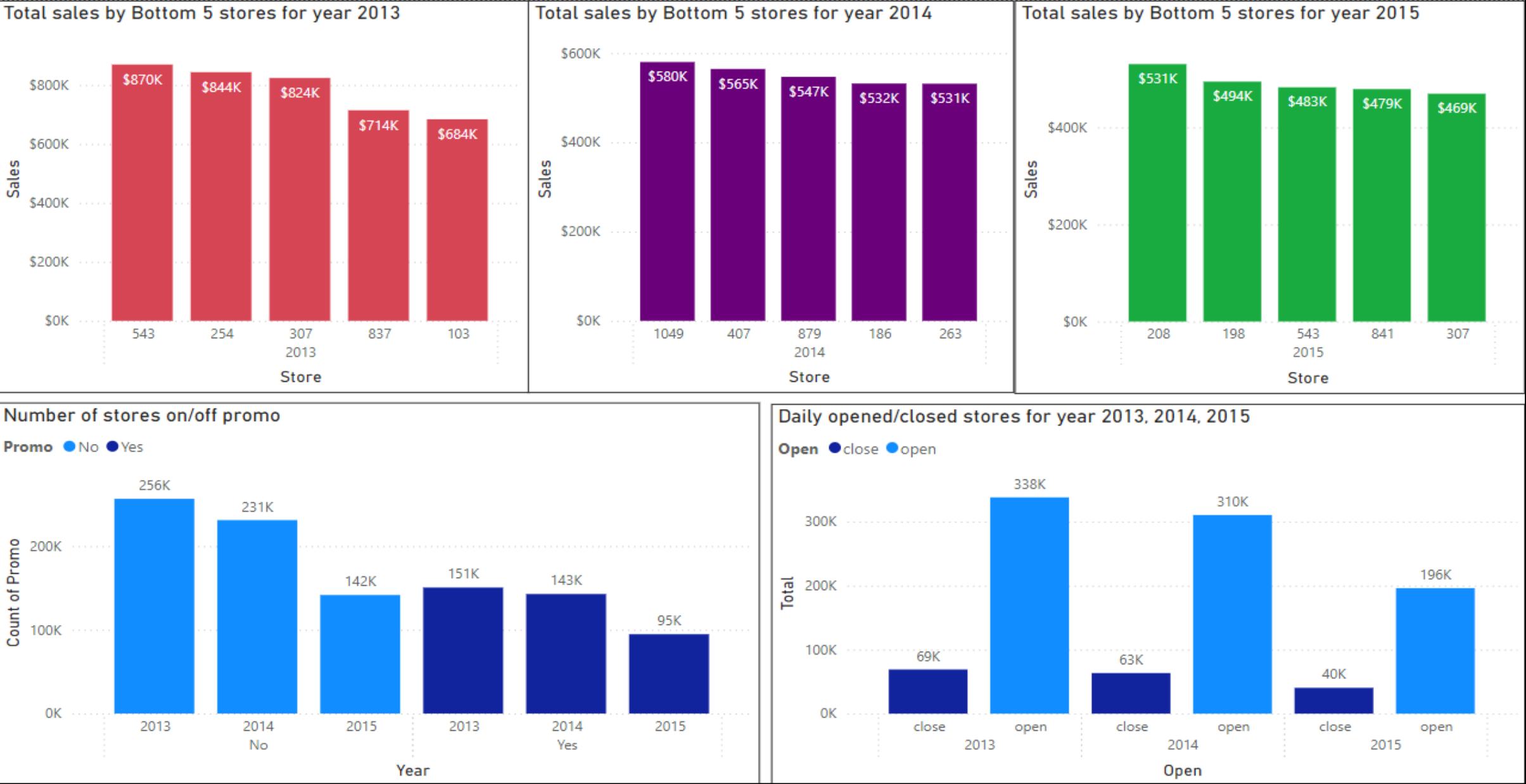
Total sales by top 5 stores in 2014



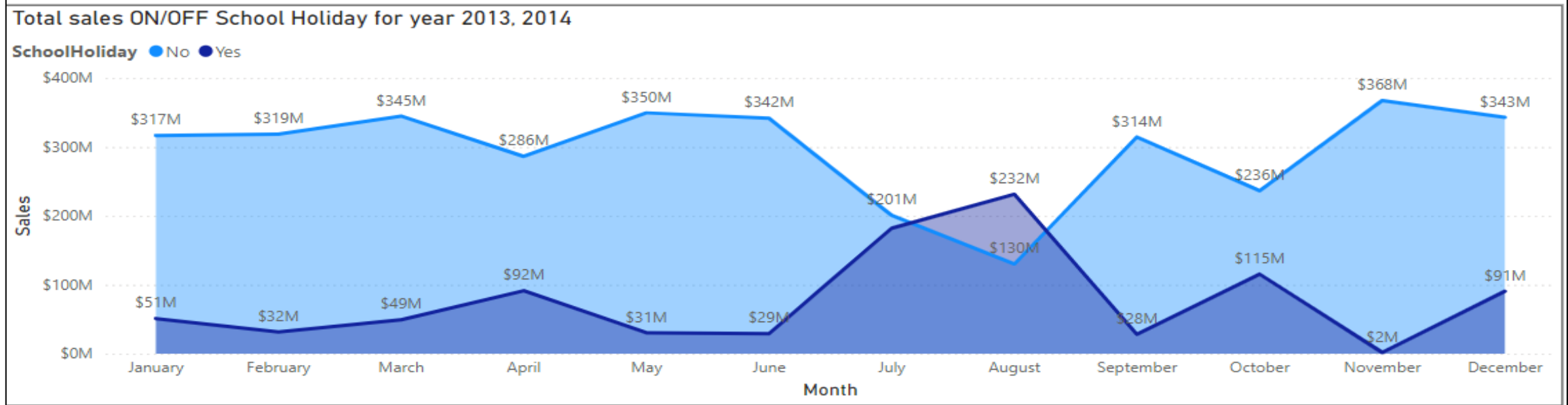
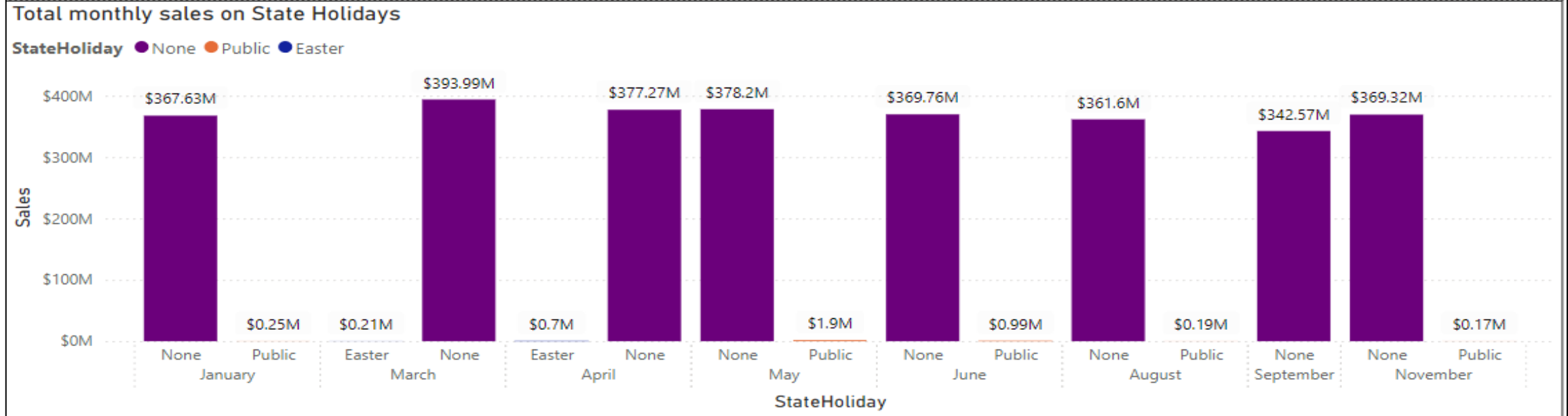
Total sales by top 5 stores in 2015



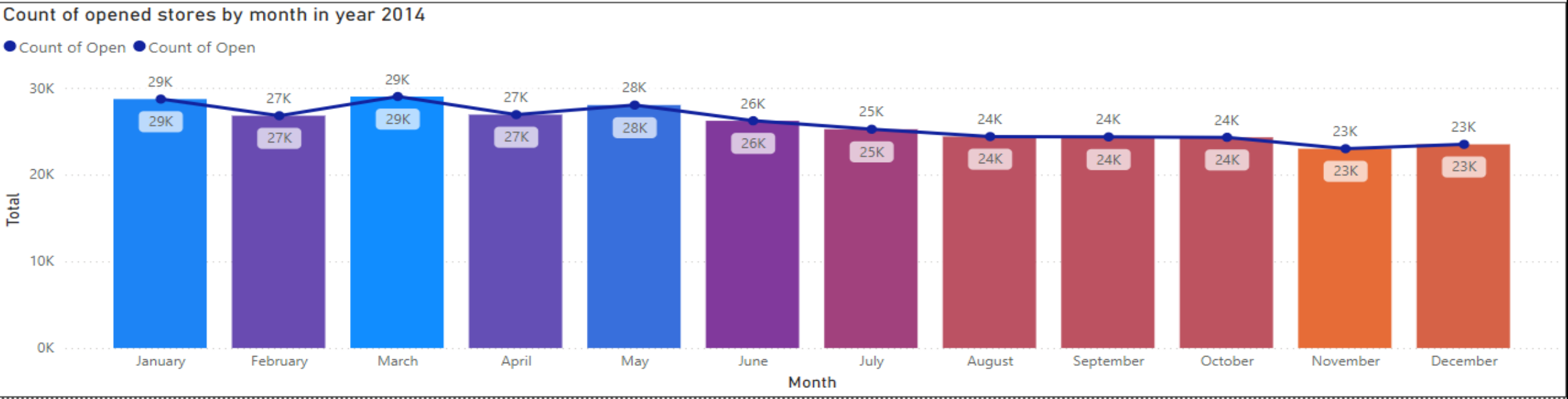
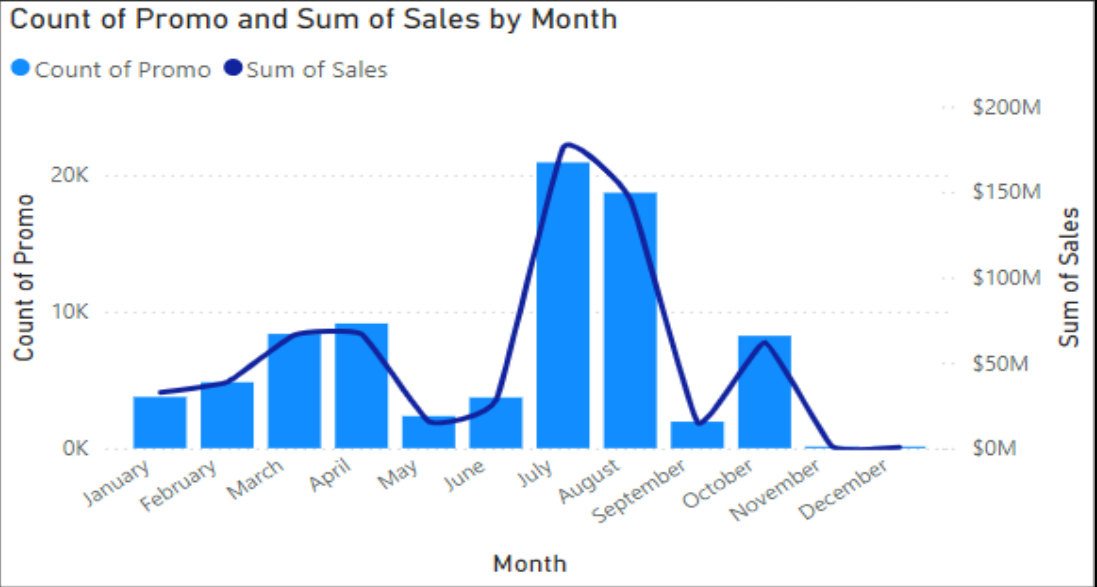
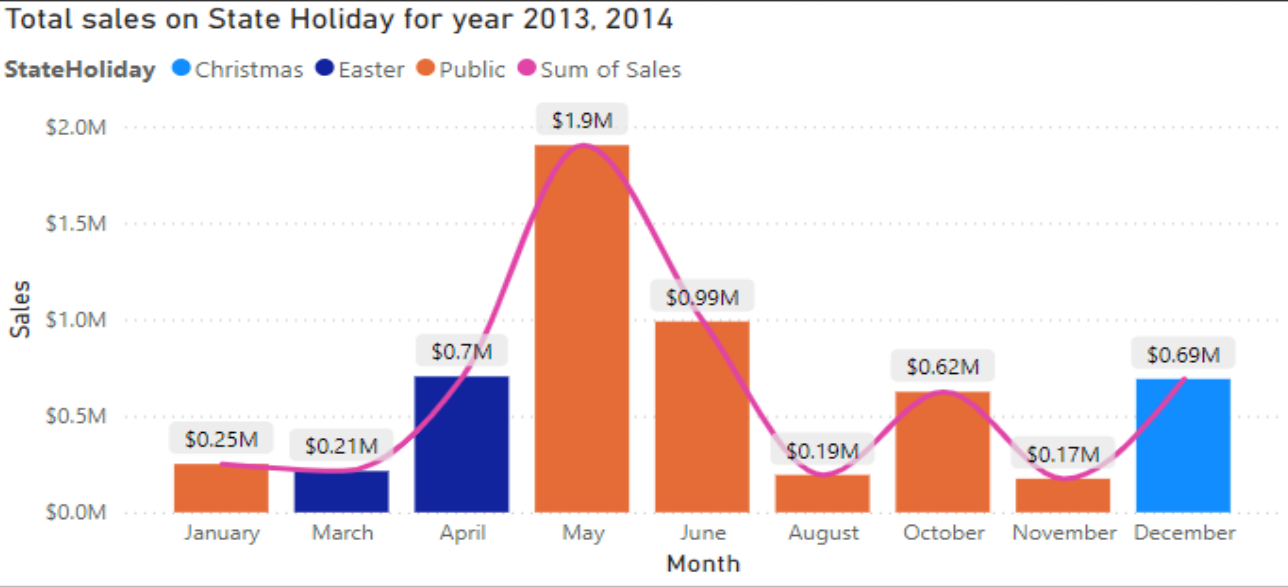
DASHBOARD TAB 4



DASHBOARD TAB 5



DASHBOARD TAB 6



DISCUSSION & Other Findings



- Finding on the decrease in total sales in year 2014? Page 18, figure 1.
- Findings on flat sale in year 2014 between August and November? Page 19, figure 1.
- Why is there a spike in the month of April, July-August & October? Page 20, figure 1

OVERALL FINDINGS & IMPLICATIONS

Implications

- Implication 1
- Implication 2
- Implication 3



CONCLUSION



- Point 1
- Point 2
- Point 3
- Point 4

APPENDIX



- Include any relevant additional charts, or tables that you may have created during the analysis phase.