Premier Logistics Solutions (PLS) manages a complex supply chain network, coordinating suppliers, manufacturing facilities, and distribution centers across the globe. At the last management strategy meeting, multiple executives expressed frustration that they do not have timely access to the required information to support effective decision-making for inventory management, timely shipments, and overall operational inefficiencies.

After a long, and sometimes heated discussion, Tina Williams, the CEO, said that she has to leave for another meeting and she had the following comments on this issue:

1) PLS has access to all of the data that we need. We are practically drowning in data but it is not available to the people who need it, when they need it, and in a format that generates insights and supports sound decision-making.

2) This cannot continue. It is causing inefficiencies throughout the organization and is negatively impacting our profitability and competitiveness.

3) Her final words before leaving were that she wants to see a detailed proposal to address this issue at the next meeting.

Dashboard Requirements

After Tina left the meeting, the management team worked to determine how they would provide the detailed proposal that she asked for. Considerable back-end work has already been done in Power BI including gathering and transforming the required data using Power Query, organizing the data into a data model, and creating DAX formulas for important KPI's. The team worked to identify requirements for the dashboard (listed below). At the next meeting, they would provide a demo to show that the Power BI visualization tools could be used to meet these requirements.

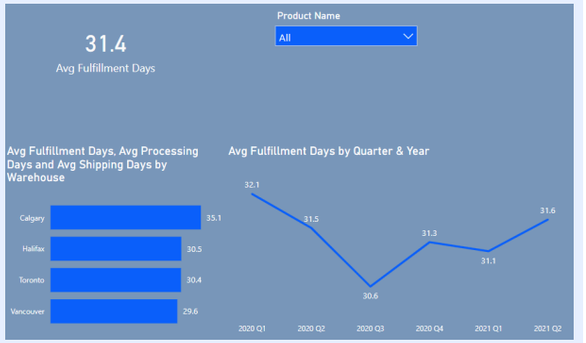
1) Simple, flexible interface to empower users to explore data
2) Drill through capability (e.g. high-level overview of shipments down to individual shipments)
3) Highlight critical data points based on predefined thresholds (conditional formatting)
4) Dynamic report content (e.g. hover over data points to see additional details)
5) Dynamically change charts based on user preference
6) Provide advanced filtering capabilities
7) Map data to easily identify geographical insights based on locations of suppliers, distribution centers, and customers
8) Automated support, using AI-based technology, to help identify factors influencing supply chain performance

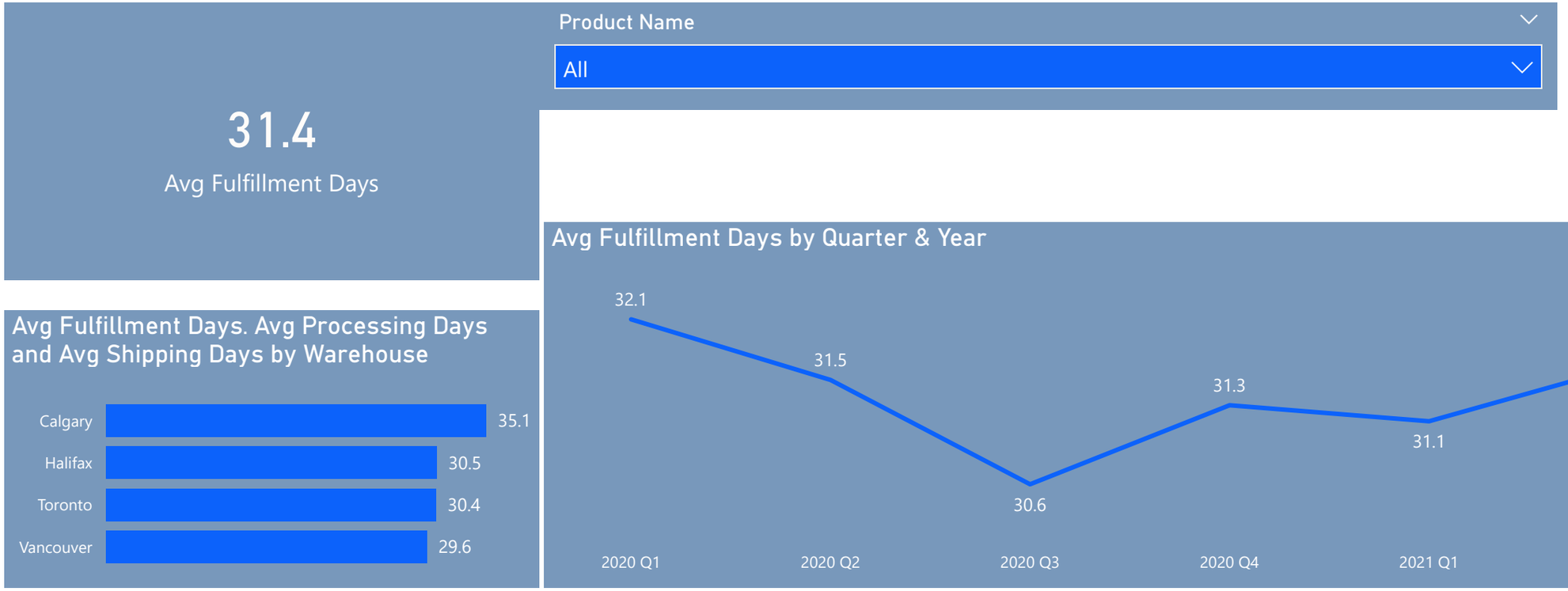
Your Assignment - Part 1

As the lead supply-chain analyst for PLS, you have been assigned to create a proof-of-concept dashboard in Power BI to present at the next management meeting. The first iteration of the proof-of-concept dashboard must address requirements 1-7.

1) Create multiple visuals from a single measure: **Average Fulfillment Days**

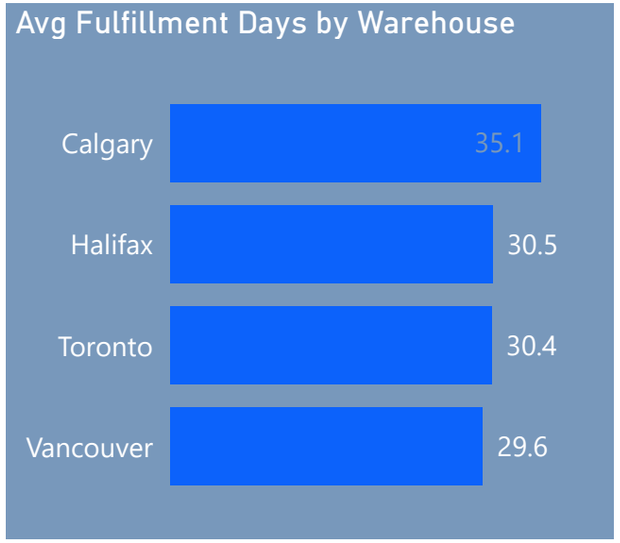
1) Card visual
2) Bar chart: **Avg Fulfillment Days by Warehouse**
   (add tool tips for Average Processing Days and Average Shipping Days)
3) Line chart: **Avg Fulfillment Days by Quarter and Year**
4) Slicer: **Product Name** (in Slicer settings, set Style to Drop down)
5) Demonstrate cross-filtering by selecting a warehouse in the bar chart





2) Demonstrate drill-through capability

1) Set up the report page (2 - Details) to be a drill down report that accepts Warehouse as the drill-down field.
2) Right-click on a bar in the bar chart and drill-down to see details for a specific warehouse.

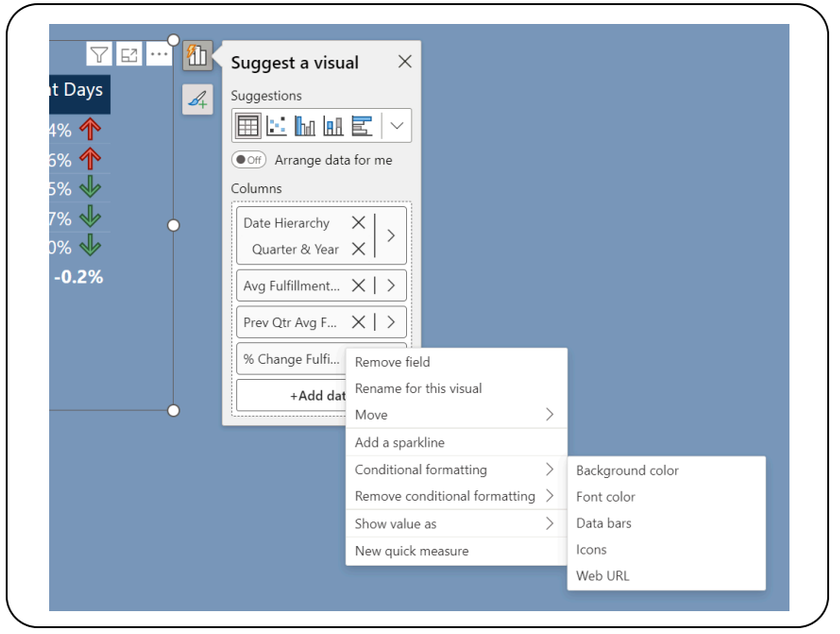


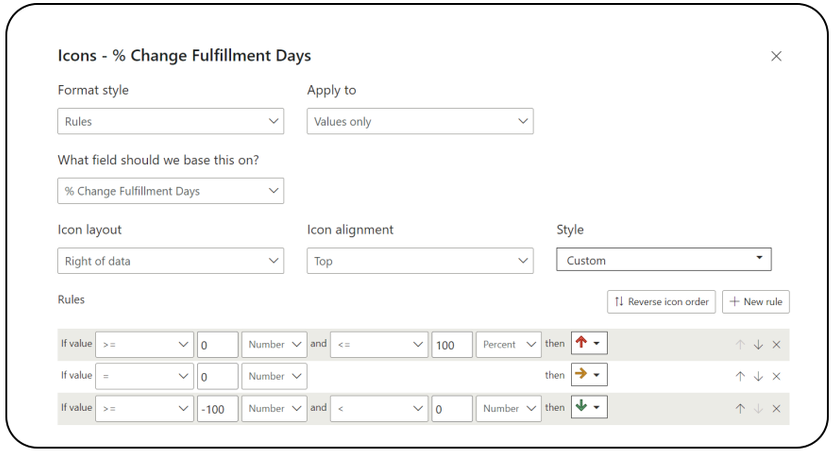
3) Use Conditional Formatting to highlight critical data points based on pre-defined thresholds

Use conditional formatting to add icons beside the % Change Fulfillment Days.
An increase in the number of days should be shown in red and a decrease should be shown in green.

Average Order Fulfillment Days

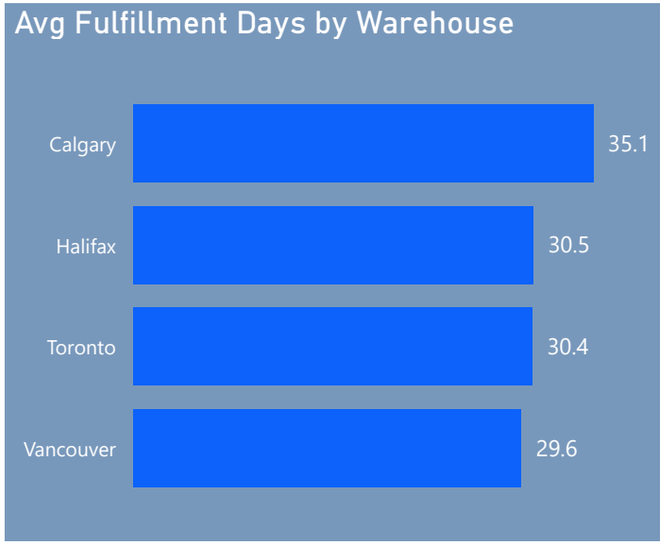
Quarter & Year	Avg Fulfillment Days	Prev Qtr Avg Fulfillment Days	% Change Fulfillment Days
2020 Q4	31.3	30.6	2.4%
2021 Q2	31.6	31.1	1.6%
2021 Q1	31.1	31.3	-0.5%
2020 Q2	31.5	32.1	-1.7%
2020 Q3	30.6	31.5	-3.0%
Total	**31.2**	**31.3**	**-0.2%**





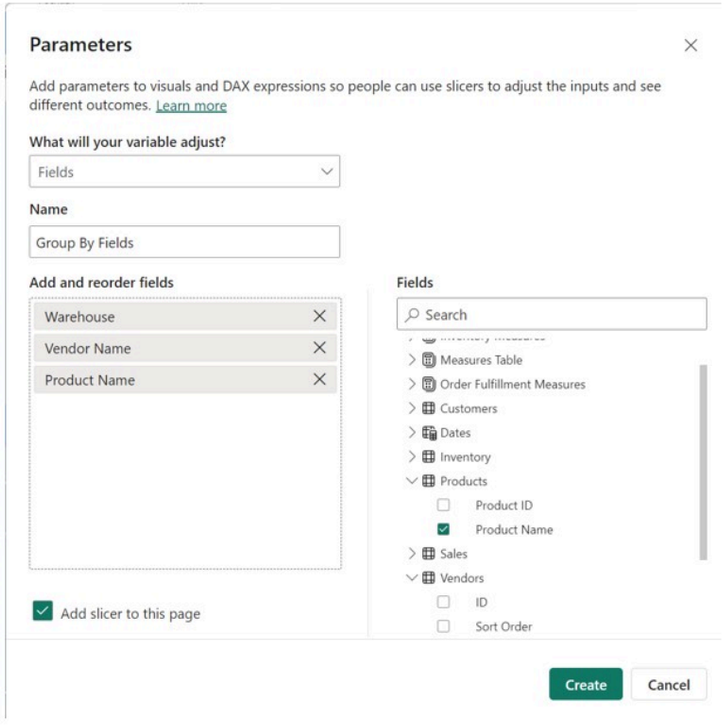
4) Provide additional context (hover over objects to see advanced tool tips)

1) Set up the report page (4 - Tool Tips) to be a Tool Tips type report page that accepts Warehouse as the Tool Tips value .
2) On the bar chart below, set the Tool Tips type to Report Page that displays the page: 4 - Tool Tips.

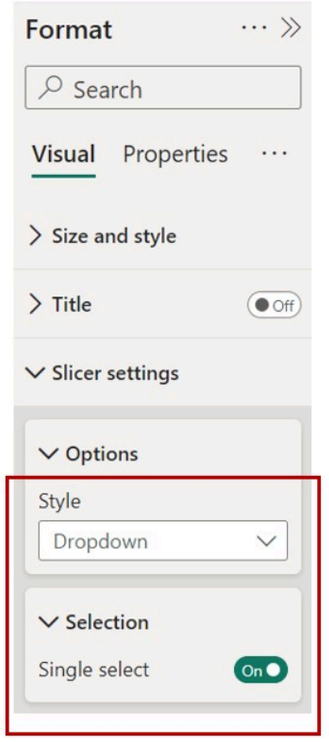


5) Modify charts below to make the y-axis change dynamically based on a dropdown

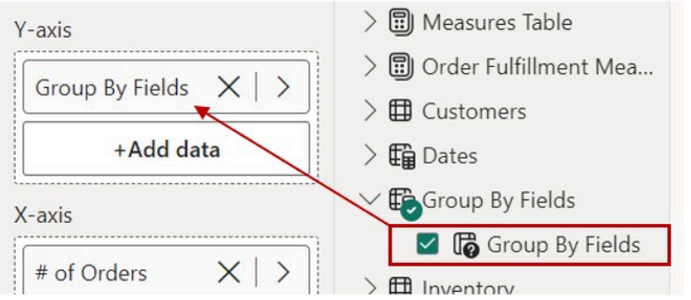
1) Create parameter and add slicer to report page



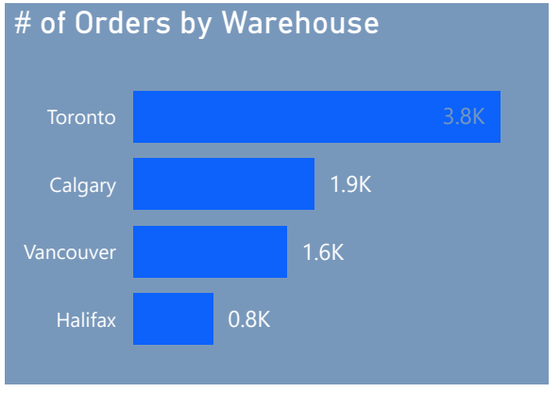
2) Format slicer

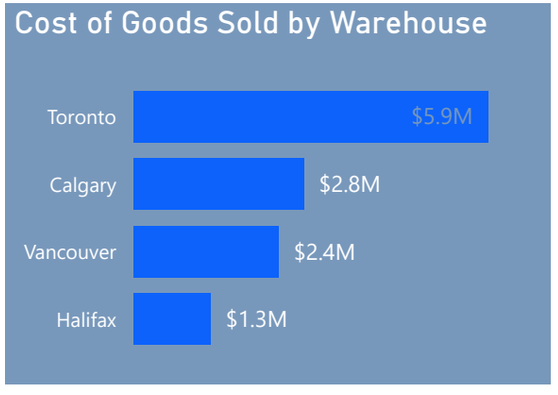


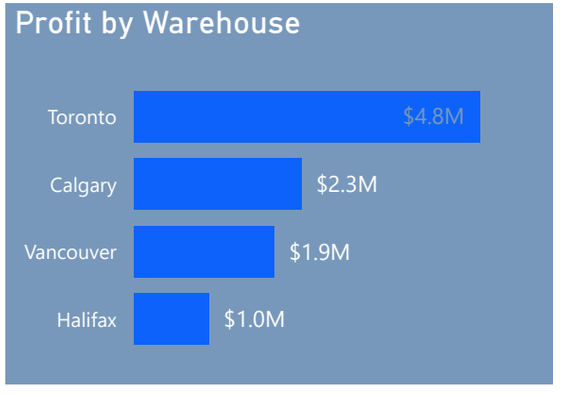
3) Replace the y-axis value with the Group by Fields

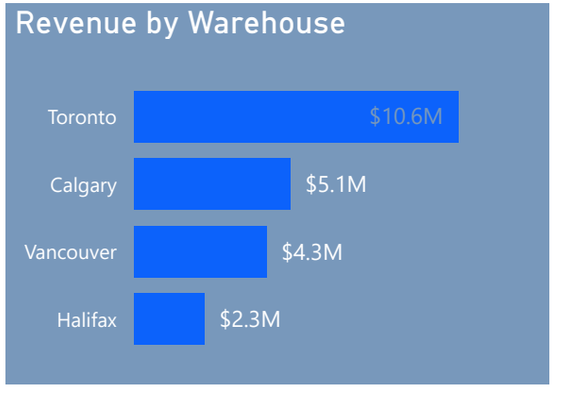


4) Use dropdown to change y-axis of all charts to Vendor Name.









6) Provide advanced filtering capabilities

1) Demonstrate filtering using slicers and cross-filtering.
2) Create a button to clear all filters on this page.
3) Use the *Edit Interactions* option on the *Format* menu to stop the *Month & Year* filter from affecting the *Revenue by Month & Year* line chart.

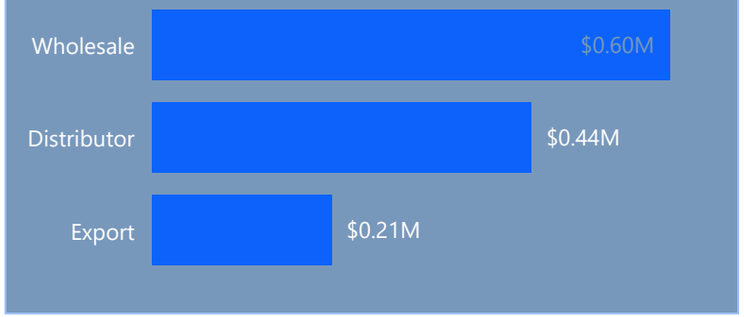
$1M	447	$558K	44.5%
Revenue	# of Orders	Profit	Profit Margin

Warehouse: All

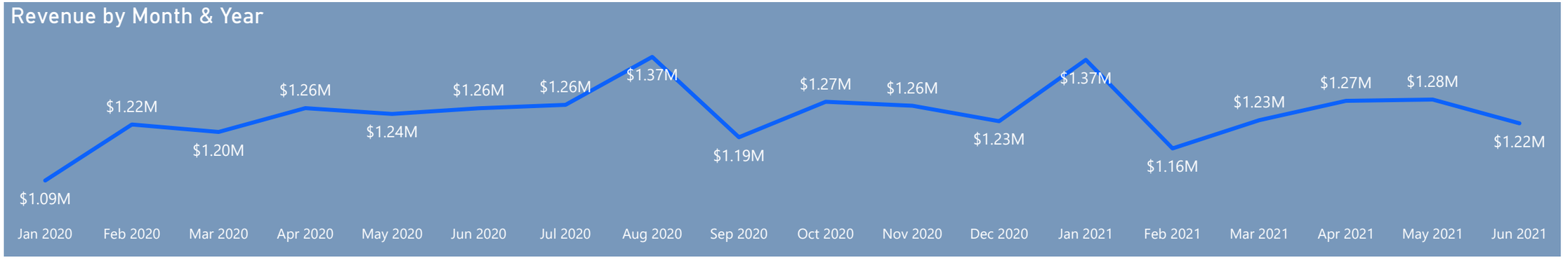
Product Name: All

Month & Year: Jun 2020

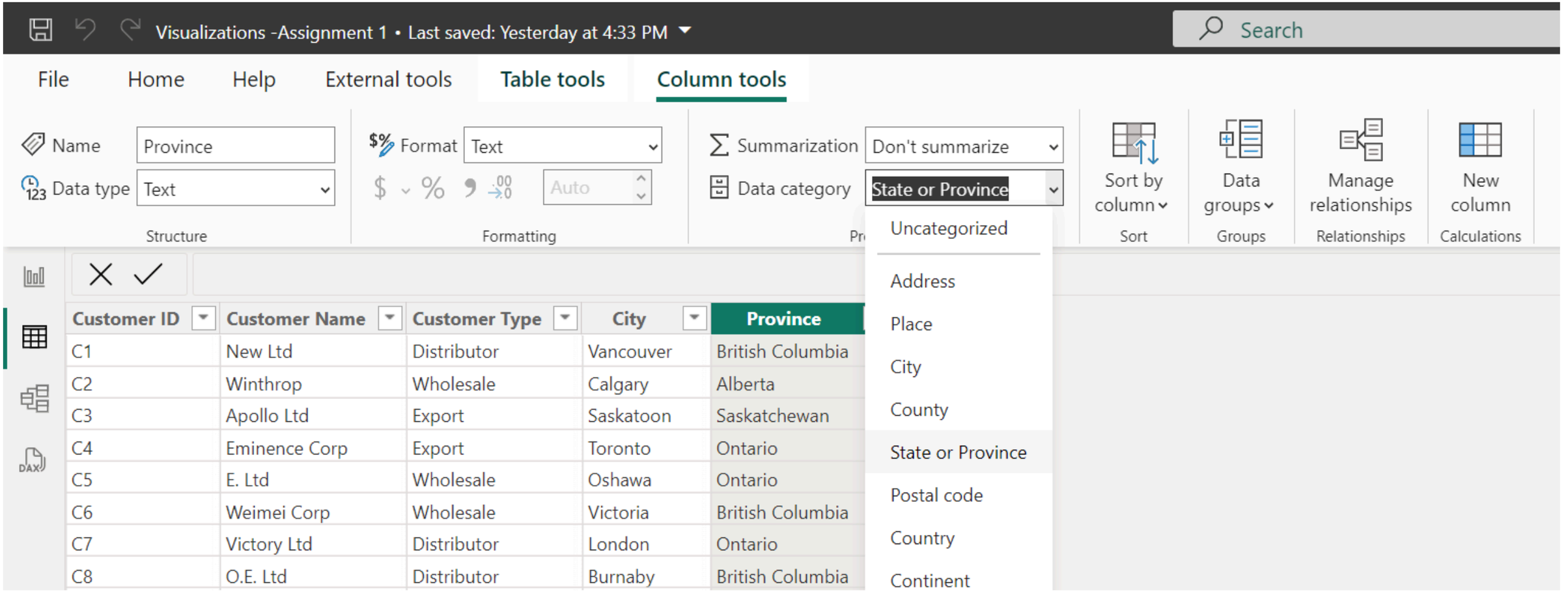
Revenue by Customer Type



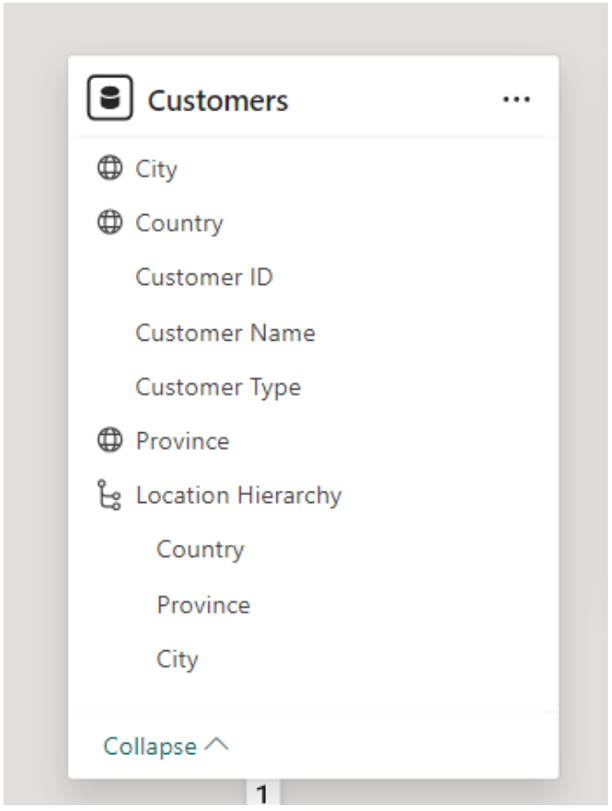
Revenue by Month & Year



7(a) Mapping - Set data type for location columns (Country, Province, City)

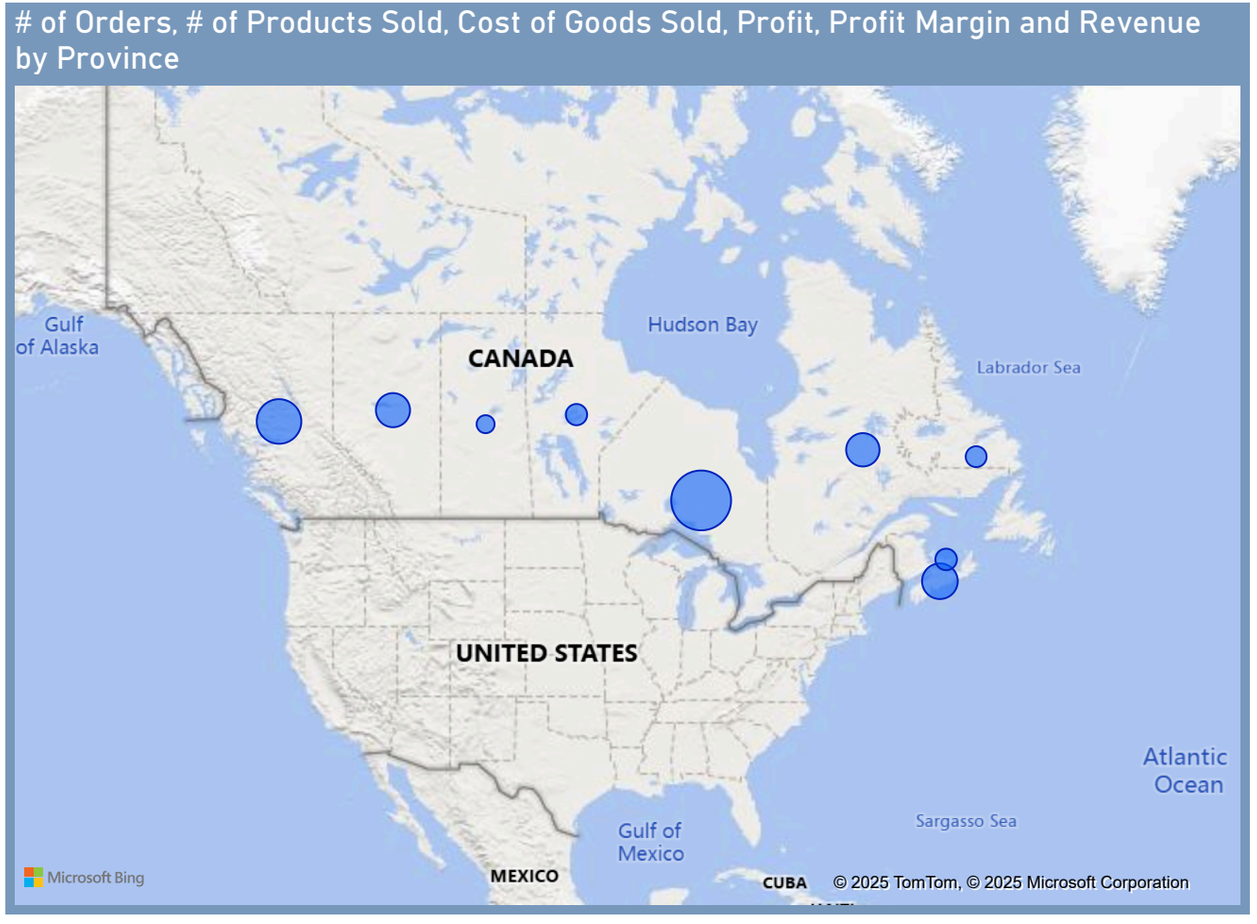


7(b) Mapping - Create a location hierarchy (Country, Province, City)



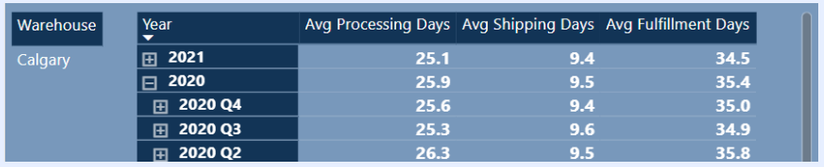
2) Mapping - Create a map showing the number of orders by customer location

1) Use visual type: Map (see image for details)
2) Explore drill down options (note which options retain context of higher level)
3) Add Zoom buttons (Map settings - Controls)
4) Add tool tips for the other Core Measures

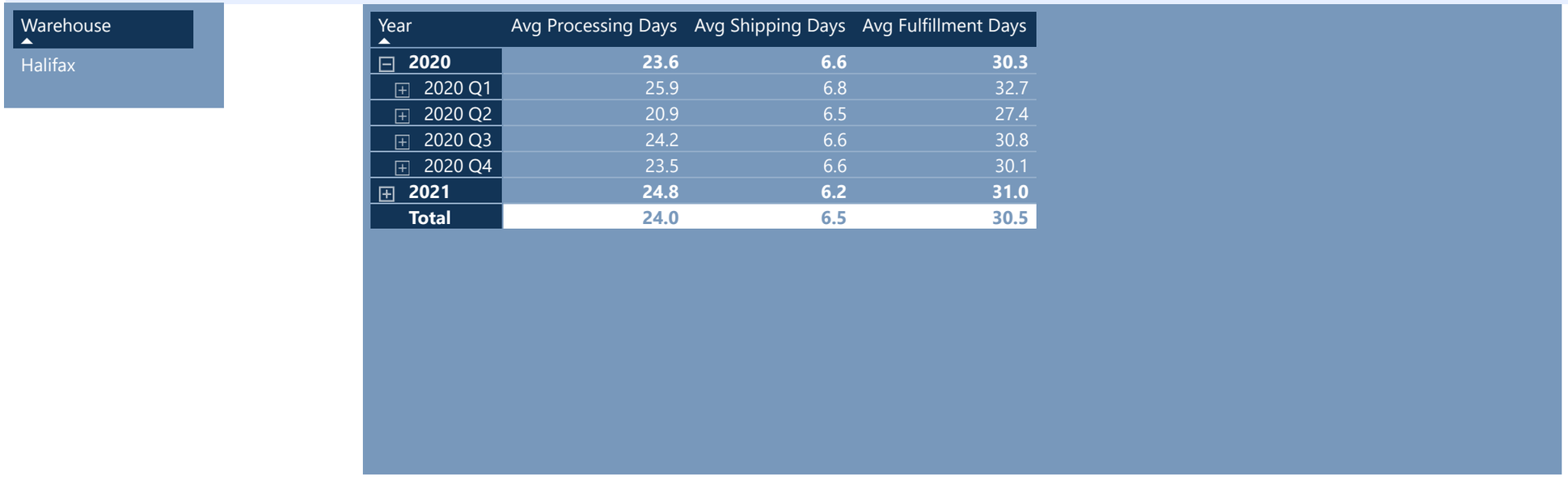


Requirement # 2 - Details: Drill down page

1) Create the report shown in the image below.
2) Designate this page as a drill-through report, using the page-level format settings as shown in the image on the right.



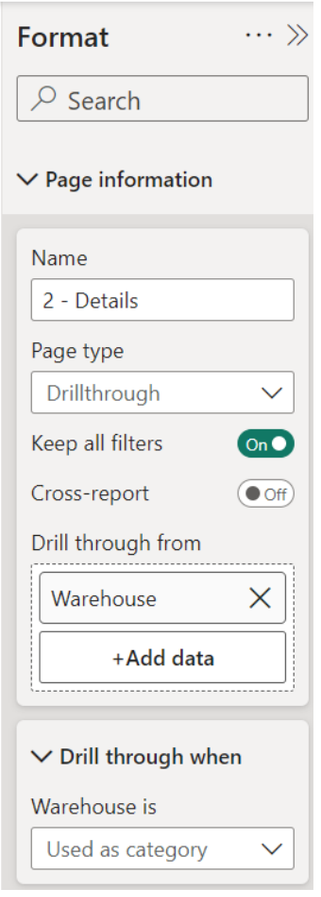
Warehouse	Year	Avg Processing Days	Avg Shipping Days	Avg Fulfillment Days
Calgary	2021	25.1	9.4	34.5
	2020	25.9	9.5	35.4
	2020 Q4	25.6	9.4	35.0
	2020 Q3	25.3	9.6	34.9
	2020 Q2	26.3	9.5	35.8



Warehouse

Halifax

Year	Avg Processing Days	Avg Shipping Days	Avg Fulfillment Days
2020	23.6	6.6	30.3
2020 Q1	25.9	6.8	32.7
2020 Q2	20.9	6.5	27.4
2020 Q3	24.2	6.6	30.8
2020 Q4	23.5	6.6	30.1
2021	24.8	6.2	31.0
Total	24.0	6.5	30.5



Calgary

Quarter & Year	# of Orders	# of Products Sold	Revenue
2020 Q1	1,288	10,655	$3,508,018
2020 Q2	1,336	11,356	$3,754,392
2020 Q3	1,361	11,550	$3,826,819
2020 Q4	1,335	11,364	$3,758,075
2021 Q1	1,350	11,428	$3,758,804
2021 Q2	1,330	11,306	$3,769,698
Total	**8,000**	**67,659**	**$22,375,805**

of Orders by Product Name