## Activity Overview

In this activity, you will create charts for the roleplay scenario you're working on. You'll visualize data from the Minnesota Department of Transportation to help them improve infrastructure on the Minneapolis interstate.

This activity will help you to brainstorm how to connect stakeholders' business needs to charts and visual designs. You will apply everything that you have learned up to this point about chart design to sketch out a mockup first, and then design functional BI charts. You can begin by reading the hints in this activity, or begin on your own and refer to this activity if you need help.

Be sure to complete this activity before moving on. The next course item will provide you with a completed exemplar to compare to your own work. You will not be able to access the exemplar until you have completed this activity.

## Scenario

Review the following scenario. Then complete the step-by-step instructions.

As a refresher, you've been tasked with creating a business intelligence visualization to help the Minnesota Department of Transportation improve highway infrastructure. You had a video call with your stakeholder and received an email with details of their needs. Refer to the Role-play with a stakeholder video and Email from your supervisor: Chart design reading for more context on the scenario.

The most important charts you need to make should represent the following needs:

- Traffic volume throughout the year; ideally organized by year, month, week, day, and hour
- Traffic volume in various weather conditions
- Traffic volume on different holidays

You now have the freedom to answer however you think is best. You might create one chart for each of these needs, combine them into fewer charts, or create more charts to expand your insights. You might also experiment with different approaches to practice your design strategies. In an upcoming activity, you'll have the opportunity to organize the charts you make into a dashboard.

To use the data for this course item, download the following attachment. As you examine this data, keep in mind that it may need to be cleaned before it can be used to create your charts. As you learned previously, ensuring the quality of your data before it reaches its destination is key to delivering accurate, useful insights.

Metro_Interstate_Traffic_Volume CSV File

**Hint:** In this scenario, you know that your stakeholders are specifically interested in traffic volume on holidays. You may want to check that your data represents all of the major holidays you want to explore in your charts.

**Emails:**

**Email 1**

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**Email from your supervisor: Chart design**

Good morning!

Thank you again for taking on the Minnesota Department of Transportation dashboard project—I am confident that you will be able to help their team out with this!

Actually, I just had a call with our point-of-contact, Camila. I know that you're getting ready to design the charts for their dashboard, so I wanted to share some insights from her that might help you make some decisions for this project.

They have been specific about the three charts they're most interested in including for this dashboard:

- Traffic volume throughout the year; ideally organized by year, month, week, day, and hour
- Traffic volume in different weather conditions
- Traffic volume on different holidays

As you explore the dataset, there are a few specific columns that would be a good starting place for what data to include: date_time, traffic_volume, weather_main, and holiday. Camila also shared that you may need to create custom columns and filters to the dataset in order to get the metrics you need. She told me that's totally fine and you should feel free to work with the data however you think is best!

She and I also discussed what measures and dimensions should be represented in each chart. You probably have some ideas already, but here are some that Camila pointed to specifically in our call:

- Chart 1: Traffic Volume and Date Time
- Chart 2: Traffic Volume, Date Time, and Weather Main
- Chart 3: Traffic Volume, Date Time, and a custom measure for Holidays

Finally, just as a reminder: if you get stuck designing, remember to refer to some of our team resources like the Design Resource Guide!

Thank you again for all your help,

Jack Park

Team Supervisor

**Email 2**

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**Email from your supervisor: Dashboard organization**

Hey, good afternoon!

Great work on those charts for the Minnesota Department of Transportation dashboard project. I had a chance to check them out earlier—it seems like you're making great progress!

You'll be able to design this dashboard however you think is best. Just keep in mind that our clients want to be able to compare traffic volume at different points in time and at different timescales. They also want to check out the holiday and weather patterns throughout the year.

It will be up to you to decide how you're going to arrange the charts. And, you can add some tooltips or captions if you think it will help our client. If you haven't used tooltips before, they're basically details that you can add so users can get more information when they hover over a mark in the current view.

Just as a refresher, I wanted to send you some resources the rest of the team has used in the past: a guide to designing compelling dashboards and the dashboard exa8mples you explored previously.

Also, just want you to keep in mind some key guidance as you work through your design process:

- Consider the business question and stakeholder needs
- Organize your process with design thinking
- Avoid misleading or deceptive charts
- Prioritize accessibility
- Apply design principles

When you're done, I'll send your draft to our contact, Camila so we can get feedback for a second iteration.

Keep up the good work,

Jack Park

Team Supervisor

**Activities:**

1- Collect, prepare and process Minnesota Metro Traffic dataset for analysis.
2- Create Required Charts on Tableau.
3- Create and Design Dashboard Mockup.
4- Create a slide deck to present the findings on the Minnesota Metro Traffic Interstate 2012-2018 analysis.