“Commute Time Augmentation” Module Transcript

Chapter 1

Intro, Topics Covered, & Learning Outcomes

Hi. My name is Hayley Bresina, and I'm on the One AI team here at One Model. In this module, we'll explore the commute time augmentation and how it can help you uncover valuable insights into commute distances and times, supporting decisions like workforce planning, office assignments, and employee well-being.

During this module, we will cover an overview of the commute time augmentation and MapQuest API, the configuration of the data destination needed for the commute time augmentation, how to set up and run the commute time augmentation in One AI, and finally, how to review, deploy, and visualize the commute time augmentation to leverage data in Explore and on Storyboards.

After completing this module, you will understand what the commute time augmentation is, including its purposes and use of the MapQuest API to provide commute distances and times. You'll be able to create a commute time augmentation from configuration of the data destination all the way to setting up the augmentation and running it successfully. You'll see the importance of carefully reviewing the results of the commute time augmentation before deploying, and you'll become familiar with how to visualize this data on Storyboards.

Chapter 2

Overview & Use Cases

Section 2 - Overview & Use Cases

First, let's chat about what the commute time augmentation is and how it broadly works.

This data augmentation provides data on the commute distance and time between employees' home and office locations.

It retrieves this information by sending combinations of home and office postal codes to the MapQuest API, which returns the time and distance for both the journey from home to the office and back by car.

I wanted to provide a note about the MapQuest API. Results containing these postal codes, times, and distances linked to employee IDs are not shared outside one model.

The mapping of employees to postal codes is handled on the One Model end while only postal code combinations are sent to the MapQuest API.

As your organization's data will be used externally via the API, although in a very limited fashion, please consult internal stakeholders to ensure everyone is comfortable with proceeding. For more details on the MapQuest API, refer to the technical notes section of the commute time augmentation guide linked in this module's description.

To protect employee privacy, we do not support more granular analyses than postal code to postal code. For example, address to address.

Although MapQuest API is a fee-based service, One Model provides reasonable use of this service to customers for no additional cost. One Model defines reasonable use as 50,000 transactions per customer per year. Please note that each postal code combination requires more than one transaction.

One transaction is required for each unique postal code in the two postal code columns of the data destination for geocoding.

After that, one transaction for each unique postal code combination is necessary to pull the time and distance data. If return trip data is also requested, an additional transaction for each combination is required. Finally, including traffic data requires another transaction per combination and direction.

In summary, it requires 3-6 transactions for each postal code combination in your data destination.

There are several creative ways this data can benefit your organization. One Model clients have used this augmentation for post-pandemic back to office planning, refining employee office assignments, and incorporating commute time into predictive models around voluntary attrition or new hire failure.

Other valuable applications include identifying employees best suited for hybrid or remote work based on commute distances, planning and analyzing workforce distribution strategies for multi-site companies, and conducting diversity analyses to assess whether commute times disproportionately impact certain employee demographics.

For the next few sections, I'll hop over to One Model to demonstrate how to create and run a commute time augmentation.

Chapter 3

Data Destinations

Section 3 - Data Destinations

From the main ribbon menu, select the 'Data' tab and then 'Destinations'. Click 'Add Data Destination' and choose 'One AI' from the dropdown menu. Assign a display name such as "Commute Time" or a more specific name if you're focusing on a particular region or group of people such as "Commute Time (California)" or "Commute Time - Sales". Click save.

Next, click the plus sign next to the data destination that you just created and select 'Query Source'. Name your file, for example, "commute_time", and then click save and 'Explore Query'.

This will take you to the Explore page where you will create a list query for this augmentation.

Your query should adhere to the following guidelines.

Number one, you must include a headcount metric and a time selection. I recommend using 'Headcount (EOP)' for your metric and 'Today' or a recent date for your time selection.

You should apply the necessary filters to get down to the population you wish to analyze. For example, use the location dimension to filter to employees that reside in California or the employee type to exclude contingent workers.

Include an additional column for a unique person identifier, such as person ID from the employee table.

Next, add a date column formatted as a numerical date. I recommend using the date column from the time periods table. This format is required because the data destination can only read dates in certain formats.

We must also include an additional column for home postal codes. And finally, include an additional column for office postal codes as well.

Once your list query represents the population that you wish to analyze in your commute time augmentation, click 'Run Query'.

Check over the data to make sure it looks correct. Once complete, hover over the pin icon and select 'Update Data Destination Query'. Return to the Data Destinations page so that we can run the data destination.

To run the data destination, click the triangular play button and then click 'Run Data Destination'. To confirm the successful completion of your data destination, click 'View Data Destination History'.

The status should read complete once the data destination has finished running. This process should only take a few minutes, but depends on how large your data destination is, meaning how many records or rows it has.

If at any time you wish to edit the population for the commute time augmentation, you have two options. You can either create a new data destination by following the initial steps, or you can edit the existing data destination.

To edit, click on the row of your data destination and select the gear icon, and then modify the query in the Explore page. After making changes, use the pin icon to update the data destination like we did before and rerun it.

Chapter 4

Configuring & Running

Section 4 - Configuring & Running

Now that we have built and run our data destination successfully, we will move into the configuration of the commute time augmentation.

In the main ribbon menu, click on the 'One AI' button and then click 'Add Data Augmentation' in the upper right hand corner. Enter a display name for your augmentation and then choose 'Commute Time' from the dropdown under Augmentation Type.

Next, you'll select the data destination that you just created for your commute time augmentation in this dropdown.

A message displaying the last run time of your data destination will appear. If it hasn't been run recently, you can rerun it directly from this page instead of returning to the data destinations page. To do so, click the 'Refresh Data from selected a data destination' button here. It's important to rerun your data destination whenever you update your commute time augmentation or you will be using old data. The message will refresh once the data destination has been updated.

The next step involves mapping the columns from your data destination to the correct fields in the commute time augmentation.

Ensure that under 'Person ID', you use your unique identifier and that you map your home ZIP code or postal code to the 'Employee ZIP code' field and your office postal or ZIP code to the 'Office ZIP code' field.

Use the country field to specify the country for which you wish to run this augmentation. If left blank, it defaults to the United States of America. If your organization has employees in multiple countries, you will need to create a separate augmentation for each country due to the limitations of the MapQuest API. To streamline this process, you can copy your existing data destinations and augmentations and simply swap out the country or location.

'Include Traffic' and 'Include Return Trip' are options that can generate more more robust data when toggled 'On'. If toggled on, 'Include Traffic' will use historical and real time traffic speeds depending on route time and availability of data to influence the route. If 'Include Return Trip' is toggled on, it will pull data for the commute from office to home in addition to the morning commute. Please note that these options require additional MapQuest transactions, so the desire for this additional data should be weighed against transaction usage to ensure you don't run out of transactions.

The 'Arrive By' field is the time you want your employees to arrive at the office from home and the 'Leave At' field is the time they should start their journey home. Both times should be entered in 24-hour format with a colon. If 'Arrive by' is left blank, it defaults to 9am or 09:00. And if 'Leave at' is left blank, it defaults to 5pm or 17:00.

Next select the date column for 'Sample Date'. I'd like to mention that the sample date selection is used only for data modeling purposes. The date for which the time and distance data is extracted is also configurable. By default, the date used is seven days prior to the date you run the augmentation.

To configure this date, an override can be applied in the advanced configuration section. To do so, expand the 'Advanced Configuration' and type in the following. You'll want to replace the date with your desired traffic date. Keep in mind that the day of the week you run the commute time augmentation can impact the time and distance numbers. For example, weekends often have different commute times than weekdays.

And lastly, you have the option to select your distance units for the augmentation results. You can choose

Once you have completed your configurations, click the 'Create' button at the bottom of the augmentation screen.

Chapter 5

Reviewing, Deploying, & Visualizing

Section 5 - Reviewing, Deploying, & Visualizing in Explore & Storyboards

Now that your commute time augmentation has been created, it will appear in the augmentation list where you can run it by clicking this 'Run' button to do so. You'll need to agree to use the MapQuest API, and you'll also have the opportunity to rerun your data destination if needed. It will also tell you how many transactions you'll be using on the run. So once you're ready, you can click 'Confirm', and that will kick off the run. To monitor the status of the run, click the 'Runs' tab, and you can see the status here. How long it takes to complete will depend on the number of employee rows in your data destination.

Once it's complete, you will see an orange 'Pending' bar in place of the blue running bar. Click on the 'Pending' bar to review the results.

You can click on the results explorer to display a row for each person ID, including their arrive by and leave at times in seconds and formatted into hours and minutes, the arrive by and leave at distance formatted into the distance unit selected during configuration, the sample date, and the augmentation name and ID. You can search for a specific person ID in the search bar, or you can scroll through the pages like so.

Review each page for errors, which are typically caused by invalid or incorrectly formatted postal code combinations.

Note that rows displaying'0's for all times and distances are not errors. This simply means the employee lives and works in the same postal code. After thoroughly reviewing and correcting any errors in your results, if you decide you want to leverage this data in explore or on storyboards, you can deploy your augmentation by clicking the 'Deploy' button down in the bottom right corner here.

This action loads the data into a data source that your processing script can access.

A One Model data engineer can then model the data for your specific needs by creating necessary columns and dimensions. Common dimensions include Commute Distance and Commute Time, often at multiple levels. Please note that your data must refresh before new results will appear in Explore or Storyboards after deploying your augmentation.

Here's an example of a storyboard you could create to present this data to stakeholders.

If you plan to incorporate this data into a predictive model, simply include the columns created by your data engineer into the model.

While commute time augmentations can be scheduled and auto deployed, it is unusual to do so. If you do wish to schedule a commute time augmentation, refer to our scheduling models and augmentations module for more information.

Chapter 6

Conclusion & Thanks

This module has equipped you with the knowledge and tools necessary to effectively implement the commute time augmentation within your organization. By following the steps provided, from configuring data destinations to deploying and utilizing the augmentation, this data empowers you to enhance workforce management and planning capabilities within your organization through its diverse applications. Happy modeling!