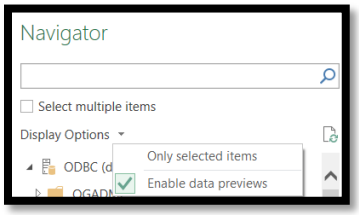
Creating a Query/Pivot in Excel using multiple DAS Financial Datamart tables

Background: These instructions explain how to create a Department of Administrative Services (DAS) Financial Datamart query, table, or PivotTable in Excel using multiple joined Datamart tables.

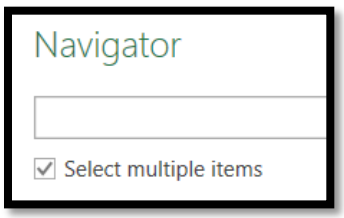
1. **Create the Excel query**
   a. Open Excel and start a new **Blank Workbook**.

   b. Select **Data** menu, **Get Data**, **From Other Sources**, **From ODBC**, and select the appropriate ODBC connection. (e.g., SFMSP for production Datamart)

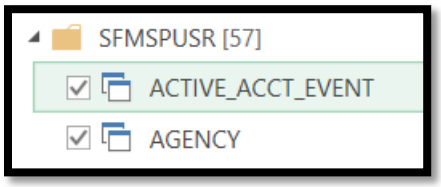
   c. **Disable data previews**: Expand **Display options** and uncheck **Enable data previews**. This prevents preview loading and speeds up performance.



   d. **Enable multi-table selection**. Check the **Select multiple items** box.



   e. **Select Datamart tables**. Check the boxes for the tables you want to include.
      i. Standard Datamart users only have security access to four table schemas: **SFMSPUSR**; **OSPSUSR**; **WORKDAY**; **SFMSARCH**.

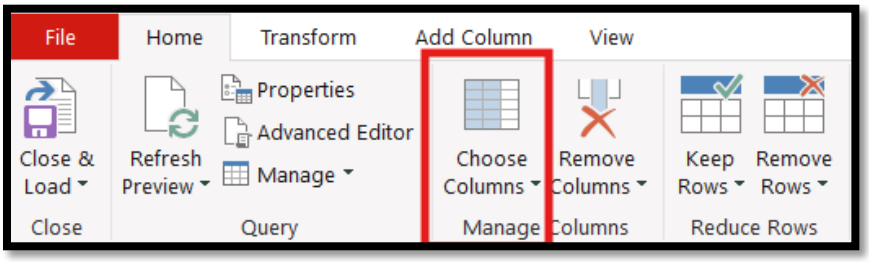


f. **Open the Power Query Editor**. Click **Transform data**. (**Do not** select **Load,** as it attempts to load all the data and will cause unnecessary processing.)

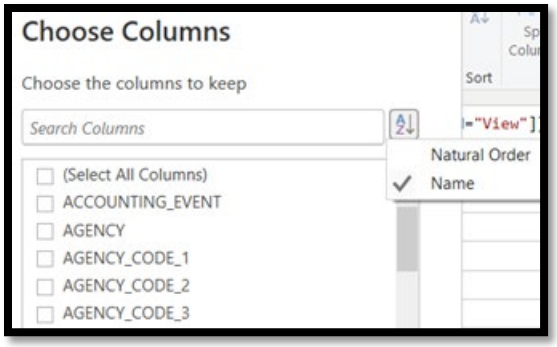
g. **Limit the Data**. The user must limit data by **choosing columns** and **filtering** or the query will not function properly as there are billions of rows of data within the DAS Datamart tables.

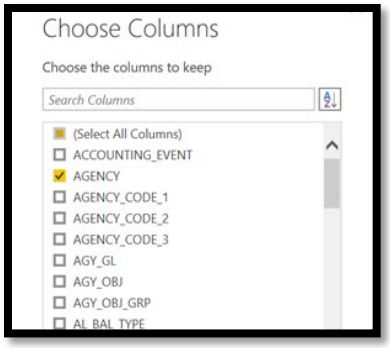
h. **Choose Columns.** Go to **Manage Columns** and **Choose Columns.** This option should be completed to help filter down the number of fields of data.

Note: It's best to limit your query to only the necessary column fields—ideally 5 to 10—to reduce the load on the server. This also makes the next step easier, since applying filters or formulas is far more manageable when working with a smaller, more focused dataset.



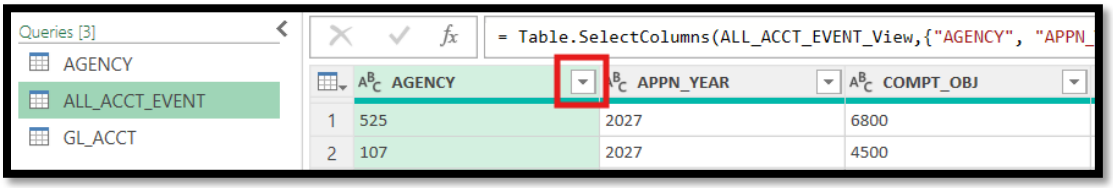
Highly recommended: Update the column selection view to alphabetical order by choosing the A-to-Z drop-down menu and selecting **Name**. This makes it much easier to scan and locate the fields you need.



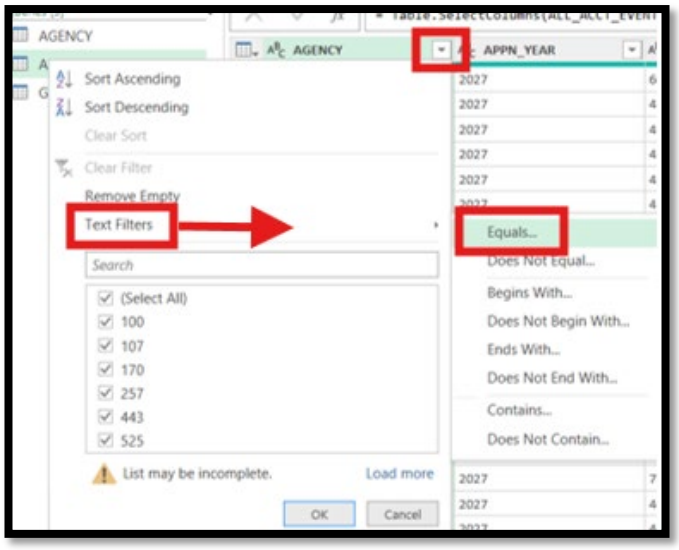


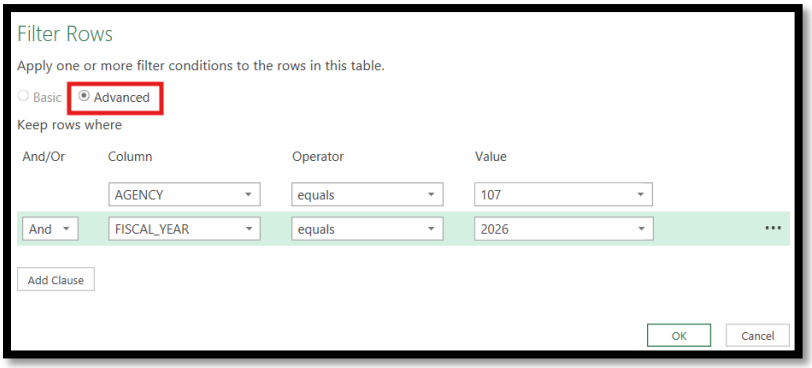
i. Confirm column selection, click **ok**.

j. **Apply Filters**. There are various ways to filter the data. Use the drop-down arrows next to the column names to filter data. **Agency** and **Fiscal Year** filters should be on every possible query.

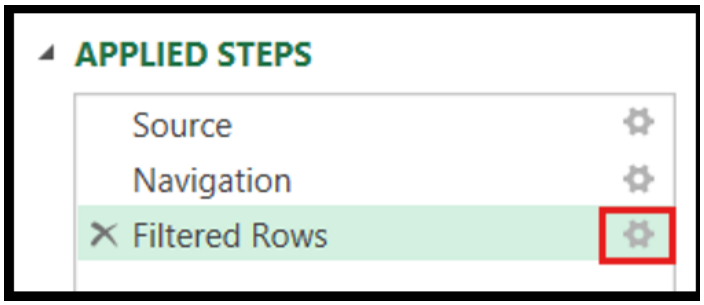


k. Use **Advanced filter**. To apply multiple filters at once:
   i. Select a column drop-down → **Text Filters** → **Equals** → **Advanced**.

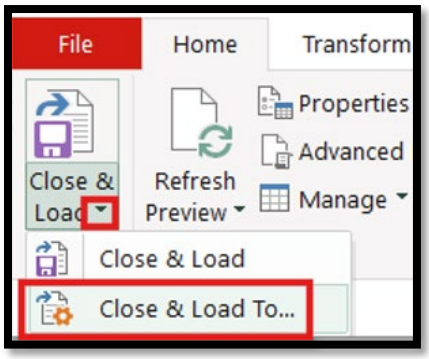




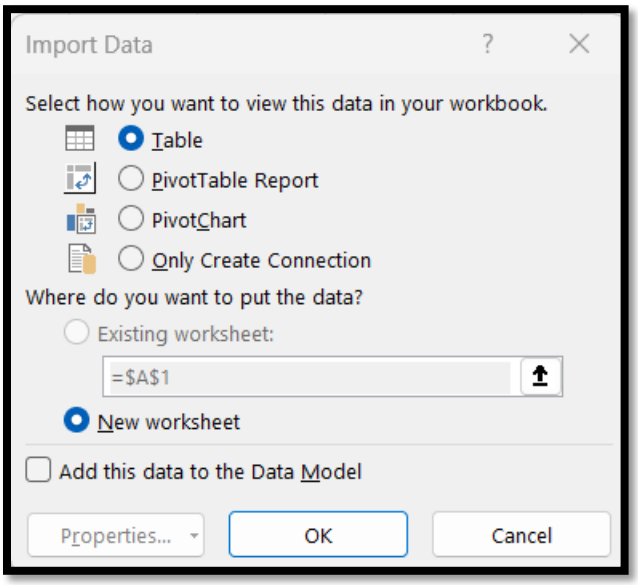
l. **Review Applied Steps.** After filtering, a **Filtered Rows** step appears in the **Applied Steps** pane. You can edit filters anytime by selecting the gear icon. Repeat filtering on all selected tables, as needed.



2. **Load data into Excel**
   a. Once all transformations are complete: Select **Close & Apply to**... from the **Close and Apply** drop-down menu.



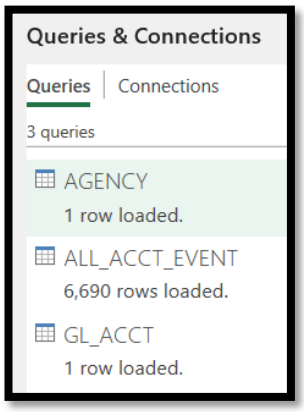
   b. **Import Data** window. You will be prompted to choose how the data will appear in Excel.



   Note: If the data was not limited/filtered properly, it may not load the results. This is due to the DAS Financial Datamart containing over a billion rows of records which exceeds Excel limits.

   c. **Select how you want to view this data**. The following format options will be available.
      i. **Table**
         1. Import the data as a structured Excel table.
         2. Best for filtering, sorting, formatting, or automatic expansion of the dataset.
      ii. **PivotTable Report**
         1. Loads the data into a new PivotTable.
         2. Recommended for summarizing, grouping, and analyzing data immediately.
      iii. **PivotChart**
         1. Creates both a PivotTable and a PivotChart based on the imported data.
         2. Useful when you want visual analysis tools right away.

iv. **Only Create Connection**
   1. Does not place data in a worksheet.
   2. Creates a data connection for future use.
   3. Select this when you want to manage data connections without displaying the data.
   4. The data will be loaded to the **Queries & Connections** area, but it will not be displayed in the Workbook.

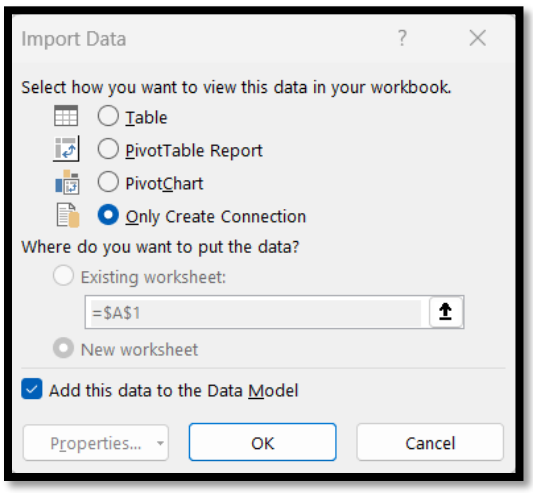


d. Choose: **Where do you want to put the data.** Decide where the imported data appears.
   i. **Existing Worksheet**
      1. Loads the data into the active worksheet.
      2. Specify the starting cell for the imported data (e.g., A1).
      3. Use this when you want the data integrated within an existing sheet layout.
   ii. **New Worksheet**
      1. Insert the imported data into a newly created worksheet.
      2. Ideal for keeping imported data separate from existing content.

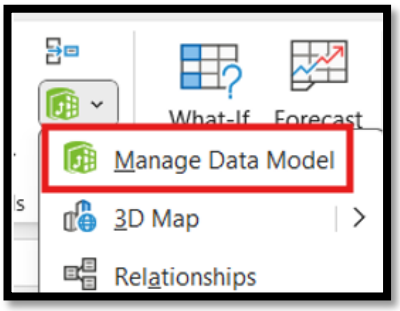
e. **Add This Data to the Data Model *(Optional and recommended)***
   i. Check this option to include the imported data in Excel's **Data Model**.
   ii. Enables advanced features such as:
      1. Relationships between multiple tables
      2. Power Pivot and DAX calculations
      3. Complex PivotTables using several sources
   iii. Use this for multi-table analysis or advanced reporting requirements.

f. **Confirm** selection. Click **OK.**

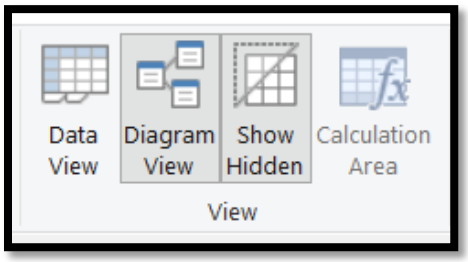
g. **Recommended Advanced setup**
   i. Using **Only Create Connection + Add this data to the Data Model** often improves performance and flexibility.



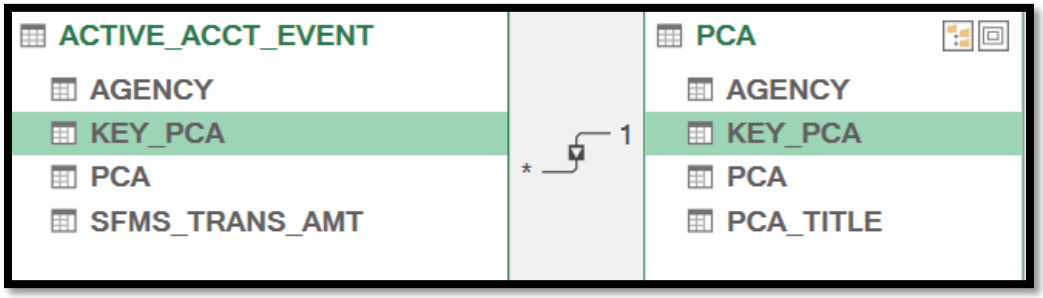
3. **Managing the Data Model**
   a. Go to the **Data** menu and **Manage Data Model** within the **Data Tools** ribbon section.



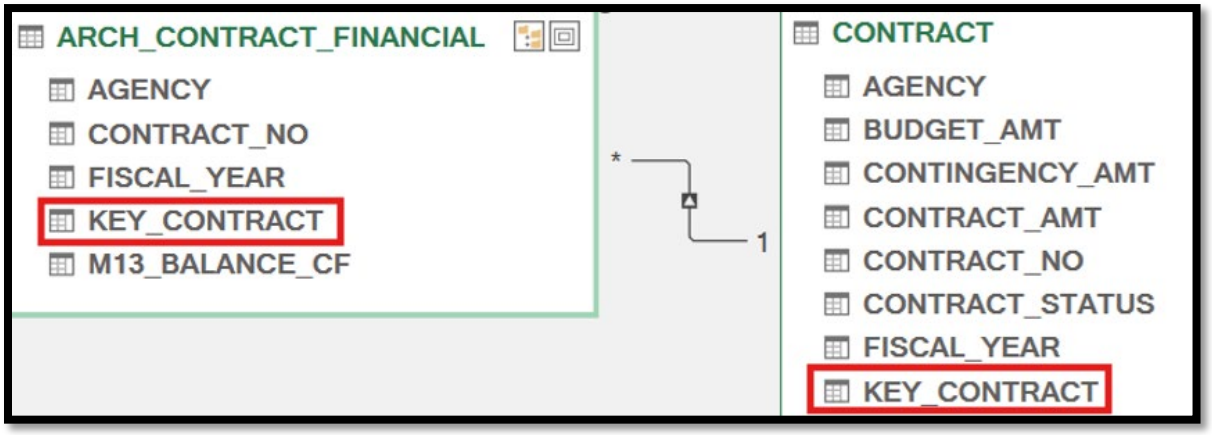
   b. **Switch to Diagram View**. This will display a diagram of the Datamart tables.



   c. **Create table relationships**.
      i. **Drag and drop fields to create joins** (Example: **Key_PCA** to **Key_PCA**) Reference key **Join** guidance info on the Datamart website: https://www.oregon.gov/das/financial/osc/pages/datamart.aspx

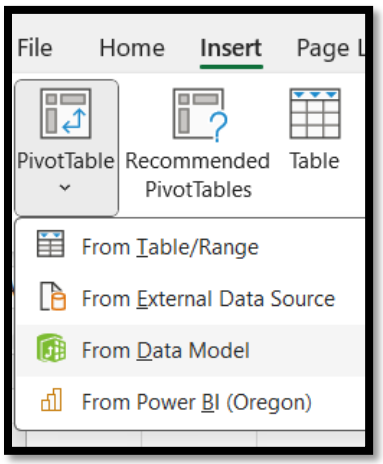


d. **Verify matching fields**. Ensure the fields used for joins match exactly. (Example: **Key_Contract** to **Key_Contract**)

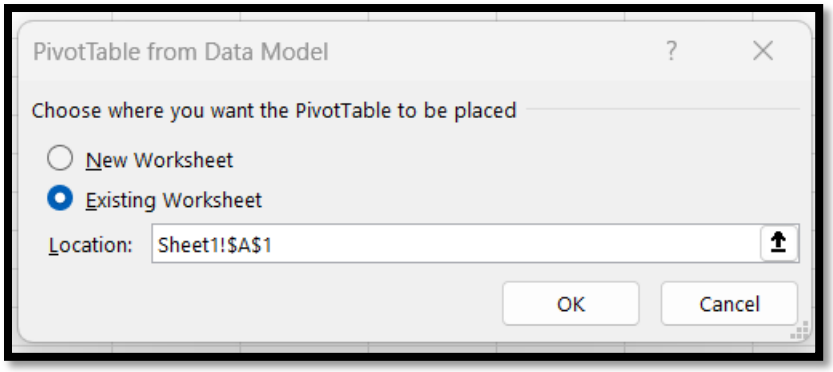


e. **Close the window**. Minimize or close the Power Pivot window when finished.

4. **Create a PivotTable from the Data Model**.
   a. On the main Excel data tab, go to the **Insert** menu, select the **PivotTable** drop-down menu and select **From Data Model**.

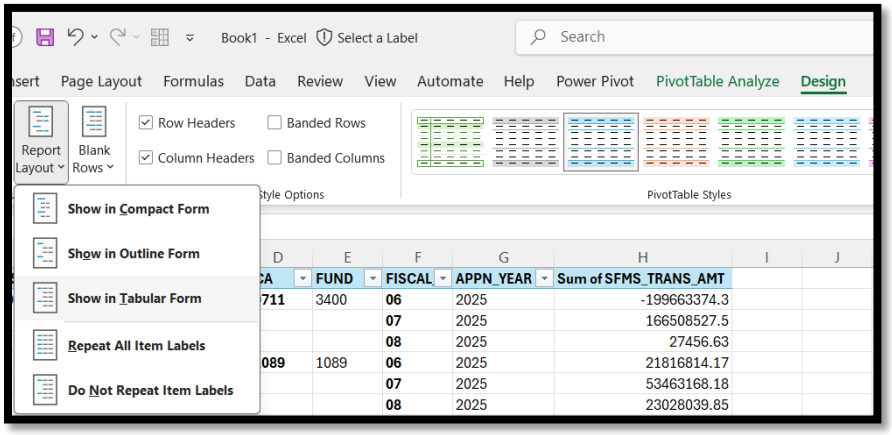


b. **Choose location**. Select **New Worksheet** or **Existing Worksheet**.

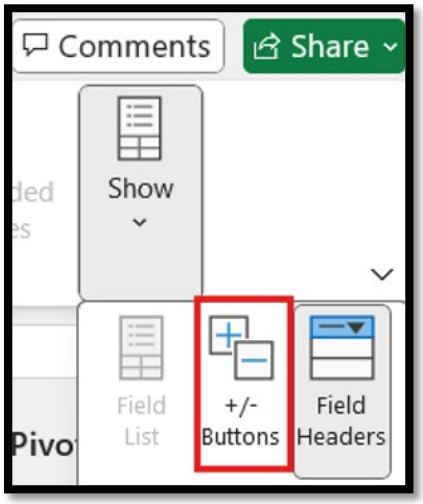


c. **Format the PivotTable**. Click inside the PivotTable to access formatting options.

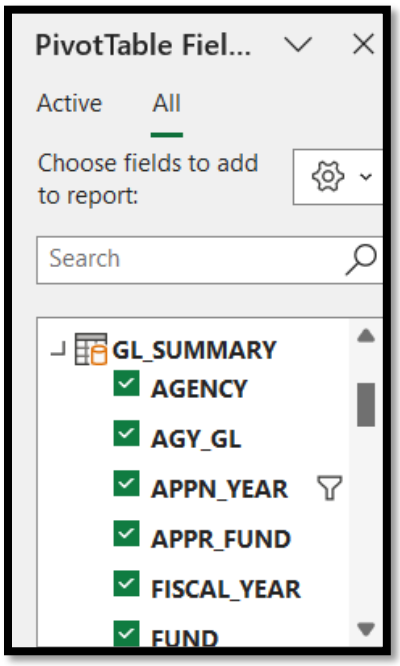
d. **Display in tabular form**. Go to **Design** menu, **Report Layout** drop-down, and **Show in Tabular Form**.



e. **Hide +/- buttons.** Go to **PivotTable Analyze** and uncheck +/- buttons for cleaner view.



f. **Add fields** to the pivot.
   i. Click the PivotTable area within the worksheet.
   ii. Check the box next to the fields you want to include.
   iii. Selected tables display in the **All** and **Active** area of the **PivotTable fields** display.



g. **Format data**.
   i. Apply number formats, date formats, and other formatting as needed.

h. **Additional filtering**.
   i. If the data needs additionally limited, drag and drop fields into the filters area or use drop-down filters directly in the PivotTable.