

Missoula Finance Department

Budget Data Cleaning Procedure

Updated: May 2, 2025

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Introduction

Congratulations! You have been tasked with updating the annual [City of Missoula Program Inventory and Expenditure Status Power BI Dashboard](#)! In order to complete this task in full there are a few manual tasks that need to take place.

This document lays out how to complete this entire process in five easy to follow stages. Please complete the tasks in order from start to finish. You will find an interactive activity, images, and links you'll need to utilize. You may be tasked with this process in entirety or pick up the process at any point.

Before you begin, please meet with your supervisor to become onboarded with the required access to the following workspaces and tools:

- SharePoint Library: [City Program Inventory Budget Breakdown](#)
- Tyler Edens Credentials / Access
- Workiva Workspace Credentials / Access
- Desktop Folder, for local downloading of **.xlsx** and **.csv** files that is easily navigable
- Google Colab: [Program Inventory and Expenditure Status Data Cleaning Notebook](#)
- Access to Desktop or Cloud version of Power BI

Stage 1: Understanding the Why, An Interactive Activity

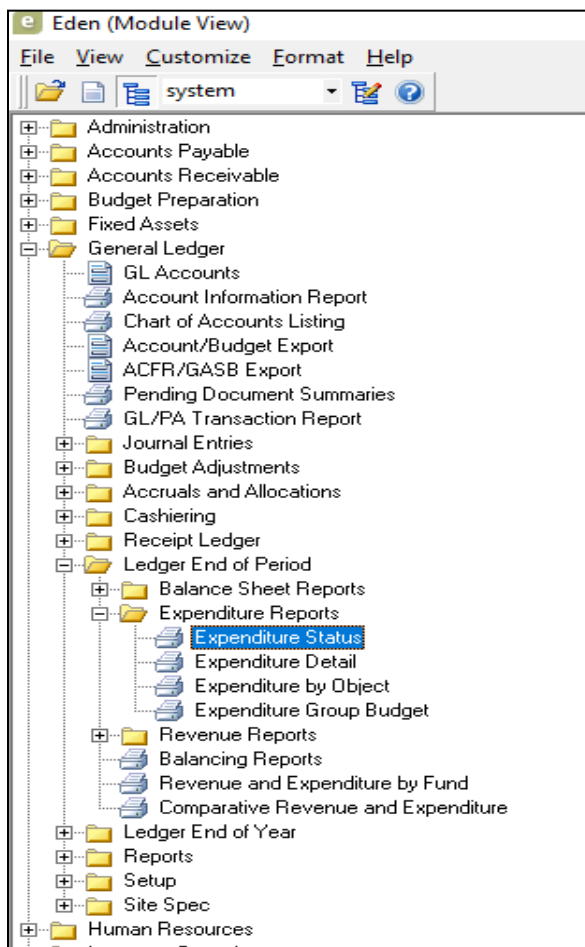
Review [this short interactive activity](#) to understand how priority-based budgeting works at the City of Missoula, and how the City aligns strategic pillars with budgeted expenditures.

If you are a returning data cleaning completer, you can skip this stage and proceed directly to the next stage.

Stage 2: Gathering Excel Files

Expenditure Status

1. Begin by Logging in to **Tyler Edens**
2. Navigate to the Expenditure Status report by following;
 - a. *General Ledger > Ledger End of Period > Expenditure Report*



3. A QBE form will pop up. Here you will enter ***** (**astrix**) in the **Account #** Box to not exclude any accounts. Next, you'll select **Run**:

Expenditure Account Find (QBE)

File Edit QBE Format Tab Help

Main Activity Budget controls Comments

Account # 1

Title

Account kind Status ☐ Active ☐ Debit or credit ☐ Credit

Account class ☐ No Posting ☐ Debit

Report group 1 ☐ No Period Rep.

Report group 2 ☐ Budget & ACFR

Cash/Investment ☐ ACFR Only

Control type ☐ Budget Only

Nominal/Real ☐ Not Available

Fund type ☒ Standard account

Beginning balance ☒ Exclude from ACFR/GASB export

☒ PA required

4. Select the **fiscal year** for the data you'd like and preview the report:

Expenditure Status

File Edit Format Select Help

Adobe PDF

Printing status: Ready Copies: 1

Print to location: Adobe PDF ☐ Collate

Report Description

Prints a status report with summary information for expenditure accounting, including the total budgeted amount, expenditures, encumbrances, balances, and percentages of budgets used

Subtitle

Fiscal year 2020 Fiscal class FISCAL YEAR

Starting period 2018 Ending period 13

Select Account 2019

Use range 2020

Starting account 2021

Ending account 2022

Page break level 2023

☒ Print accounts Detail position 1

Account title NY.NNNNNY.YNN.NNN

Account totals NNNY.NNY.NNNNNY.YNN.NNN

Print Options

☒ Include encumbrances

☒ Include pre-encumbrances

☐ Include unposted balances

☒ Suppress accounts with all zeros

☒ Do not suppress redundant totals

☐ Report by period

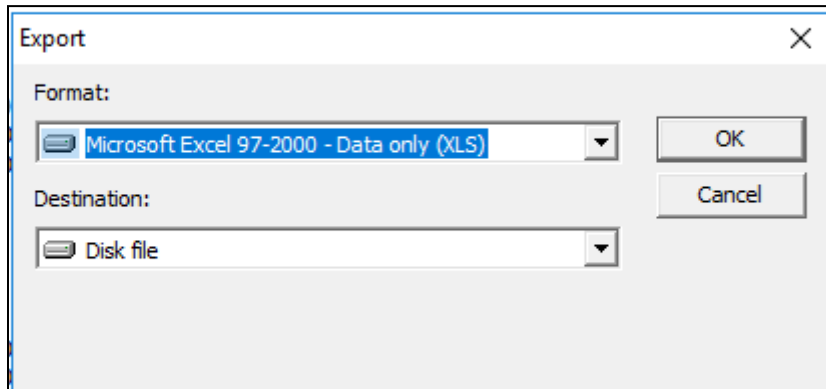
☐ Print recap report

☒ Put space between all sub-totals

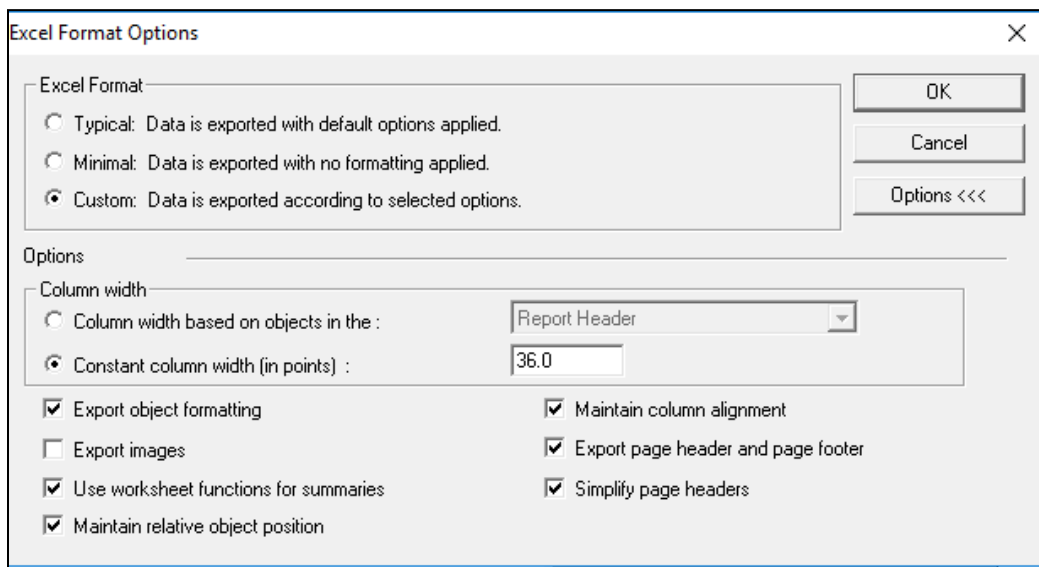
Sorting

Sort 1

5. **Export** the report to Excel, **Data only**:



6. Use the following **formatting options**:



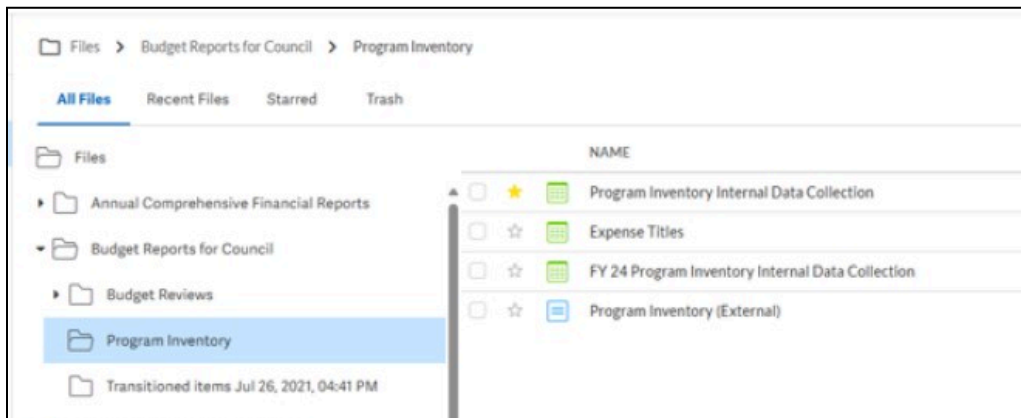
7. Select **OK** and download your report. Make sure it is located in a file that is easily navigable. We will be using this file later on in the report.

Note: Save the next file in the same folder you saved this file, to allow ease of use later on in this process.

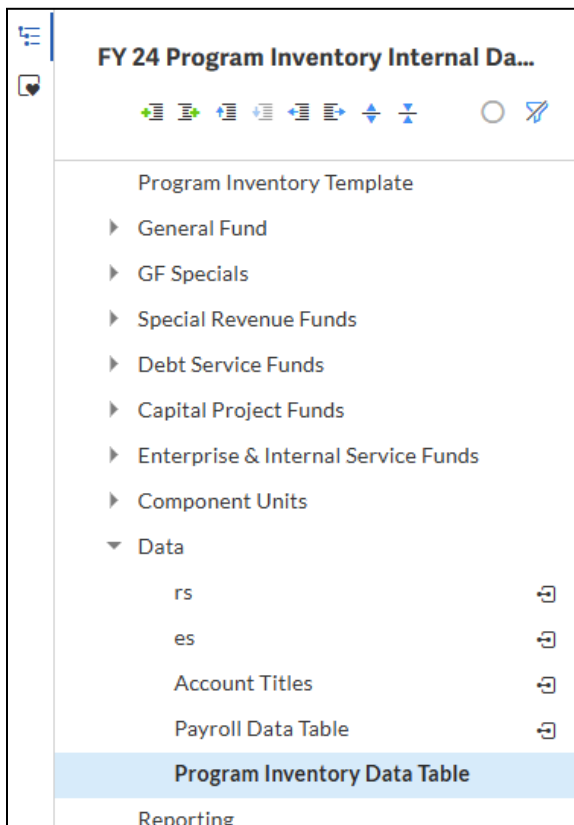
Program Inventory Data

1. Log into the [Workiva Workspace](#) via City Provided Credentials.
2. Navigate to **Files > Budget Reports for Council > Program Inventory** (You can also search for "Program Inventory Internal Data Collection").

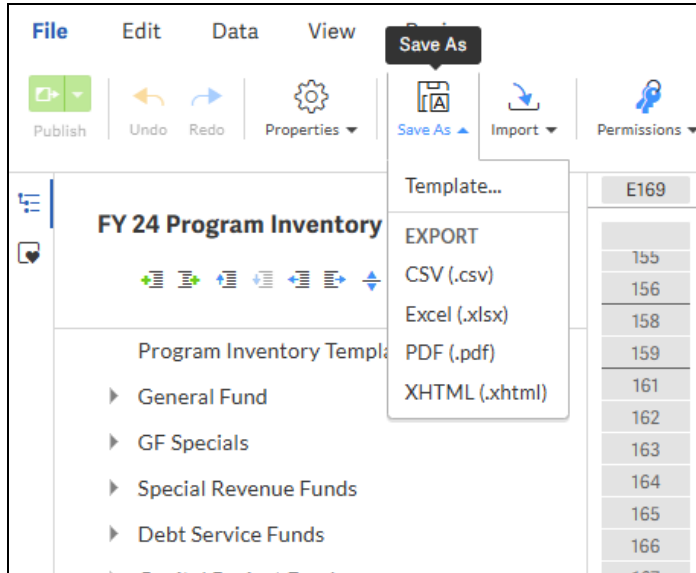
NOTE: If you can't see the file, you may not have access. You can request access by speaking to "Buck" Robert Brovold or Jessie Hogg.



3. Scroll down to **Data > Program Inventory Data Table**



4. Under **File > Save As > Excel Spreadsheet**



5. Under **Export Options**, Select **Current Sheet**
6. Update the **Value Options** displayed

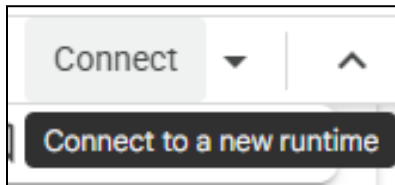


7. Select **Export** and save the file to the same folder you saved the previous expenditure status report for easily handling in the next few stages of this process.

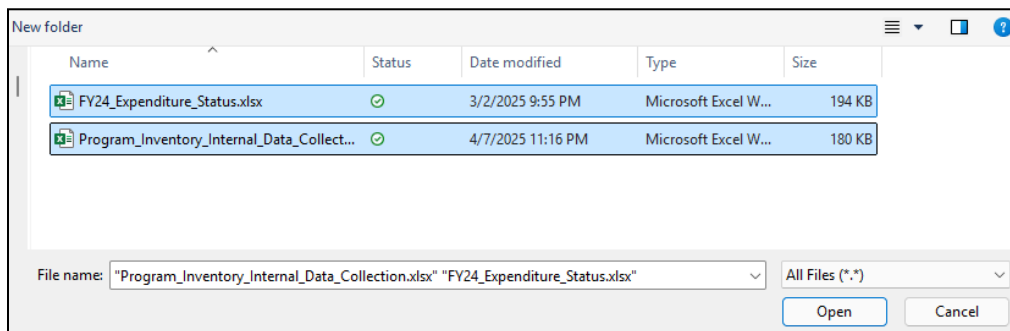
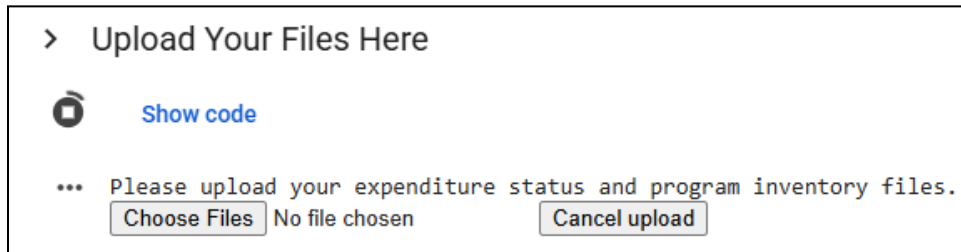
Stage 3: Initiating the Data Cleaning Process

1. Navigate to the [Program Inventory and Expenditure Status Data Cleaning Notebook](#).
2. Read through and follow all the guided steps on this landing page to complete this task.

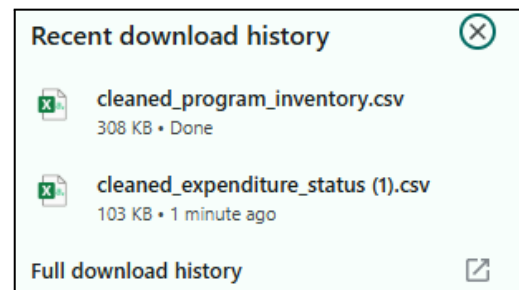
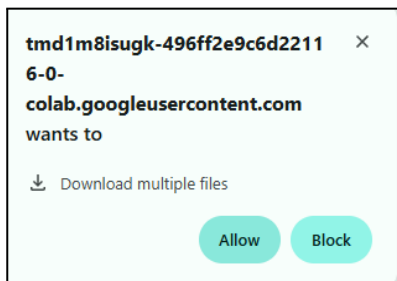
3. You may need to refresh your **connection** to a new *Runtime* in the right hand side of the colab.



4. Upload your original files into the cleaning notebook. **CTRL + Right Mouse Click** on each file in your folder will select them both for upload.



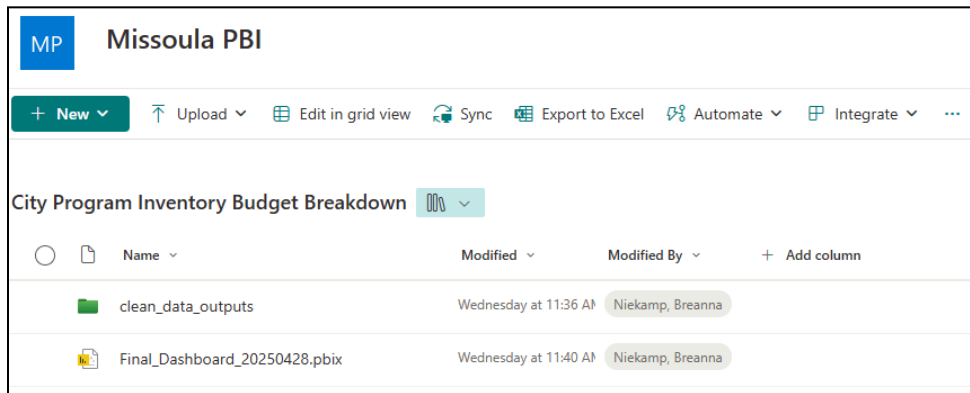
5. **The notebook will handle all the dirty work and clean the data** then provide the workable and clean **.csv** files that you will upload to SharePoint in the next stage of this task. *This is the stage where you may allow Google Colab to download multiple files, select **Allow**.*



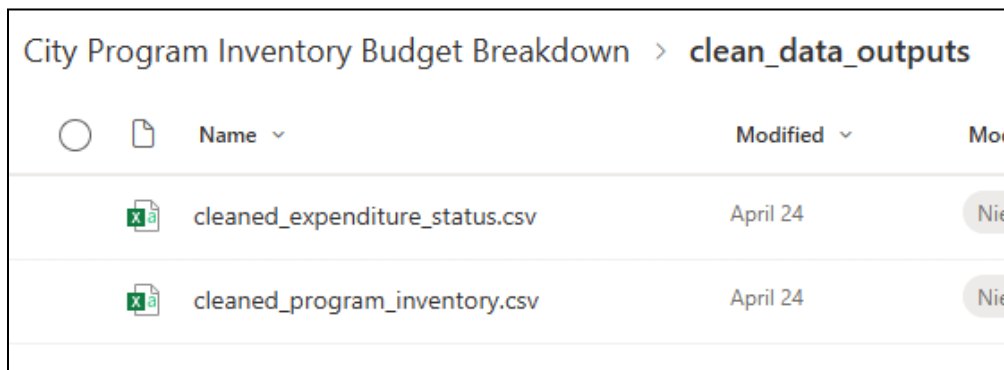
6. Once you have downloaded the clean files you can *proceed to the next stage*.

Stage 4: Uploading Clean Data to SharePoint

1. Obtain credentials for your access to the [SharePoint Library Site](#).
2. Navigate to the **City Program Inventory Budget Breakdown** SharePoint Library.



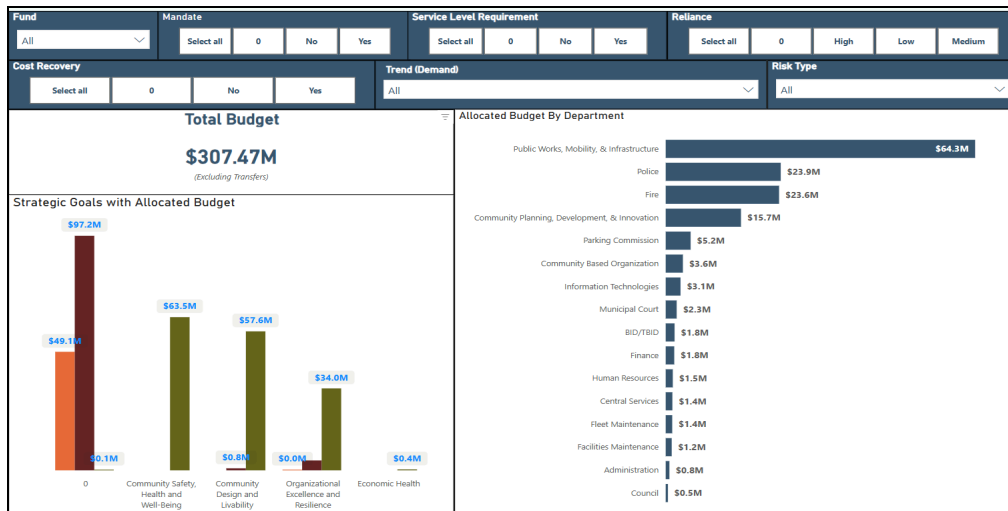
3. Upload the final **.csv** files in the **clean_data_outputs** folder. Ensure that the file names are in the correct format.



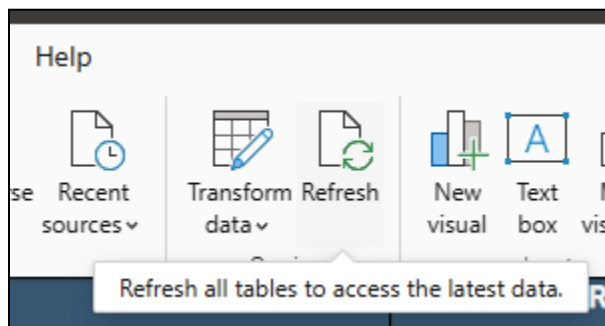
Note: You may receive a popup that will prompt you to overwrite the existing files. You will want to select yes, and proceed with overwriting the existing files. This will ensure file names remain consistent for the Dashboard Update.

Stage 5: Refreshing the Power BI Dashboard

1. Navigate to the [City of Missoula Program Inventory and Expenditure Dashboard](#).



2. If your view is not updated, or looks off you can troubleshoot by navigating back to the SharePoint Library.
3. From here, you will want to confirm with your administrator on how to proceed with **Refreshing the Dashboard** with the updated data.
4. Your administrator should be able to navigate to the working Dashboard location, and **Refresh** the Dashboard accordingly. This button will be located next to the *Transform Data* location in the *Power BI Ribbon*.



Once you have confirmed that your data has been updated; ***Congrats! You have completed this task in full!***