

# Data Dashboards: Who, What, When, Where, Why, and How

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City of Hillsboro | Water Department/Joint Water Commission



# Outline

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WHAT ARE DASHBOARDS?

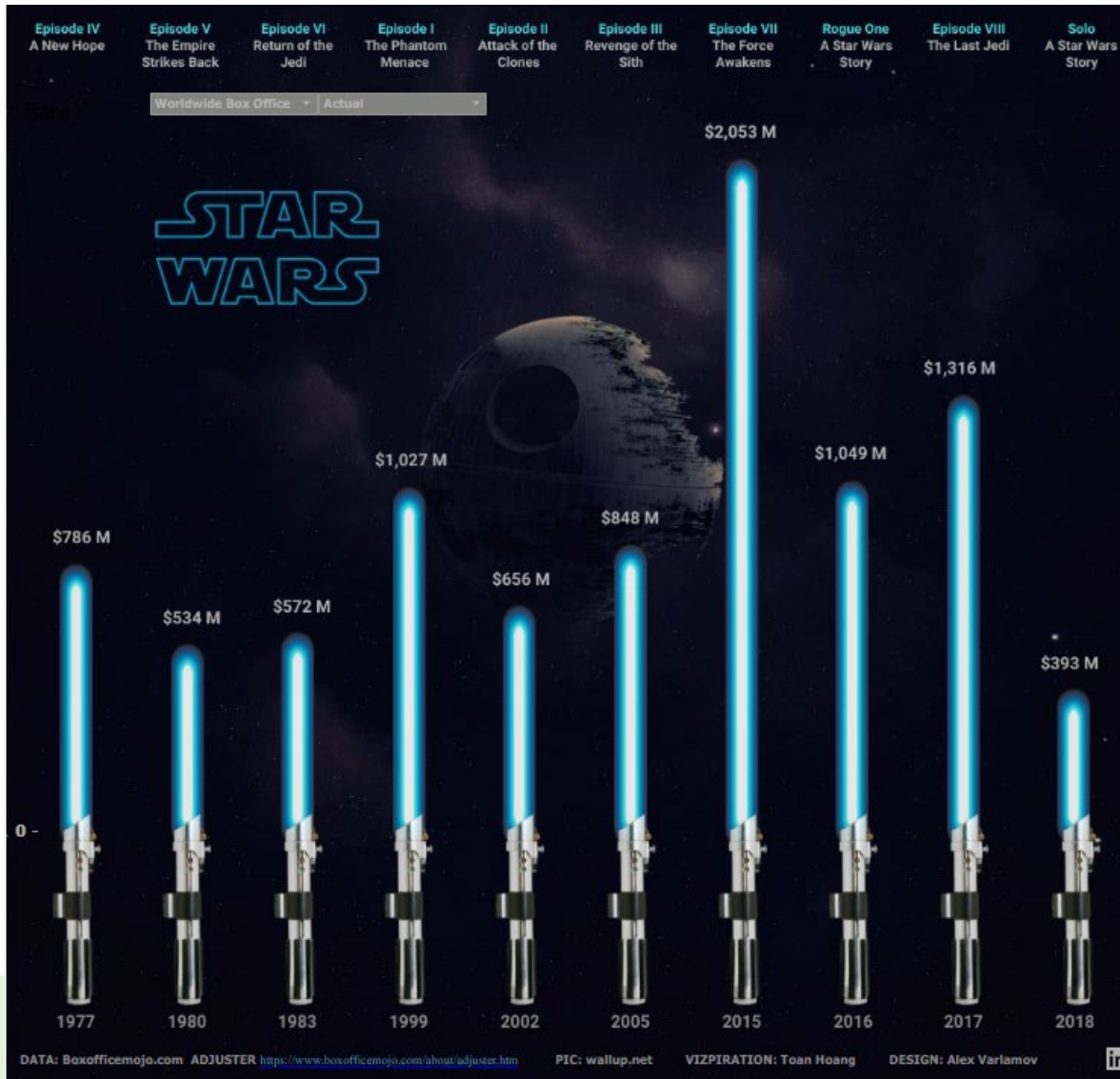
DASHBOARD CONSIDERATIONS

EXAMPLES

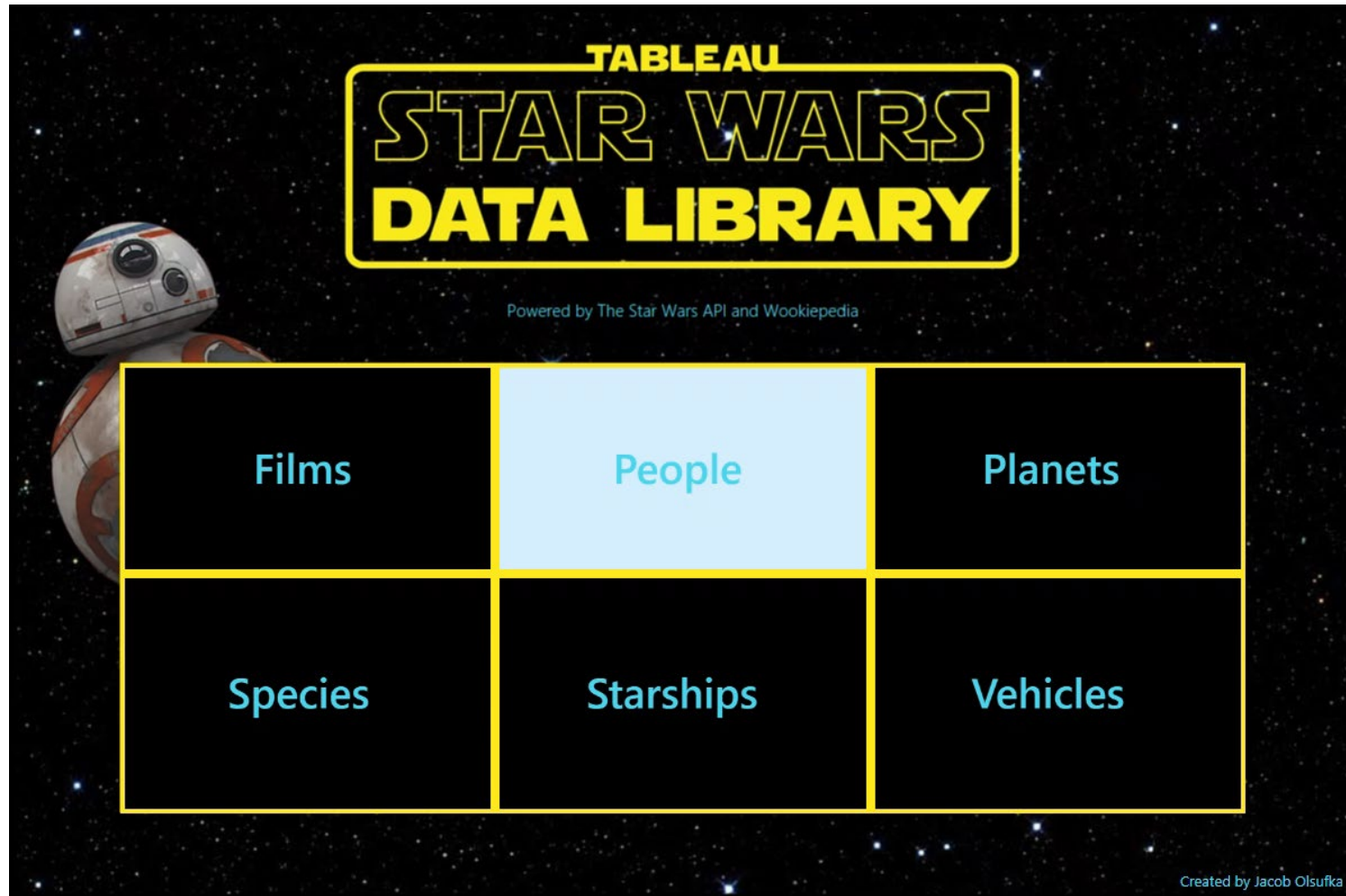
# WHAT ARE DASHBOARDS?

- A data dashboard is a tool used to analyze and display data
- Dashboards often
  - are interactive or reference data in real-time
  - track or monitor progress or trends using key performance indicators (KPIs)
  - highlight a small portion of larger dataset to tell a specific story
  - replace static reports for a more engaging experience
  - easily accessible online or via shared server
  - save time generating reports
  - can be used to search/ download data, particularly federal government
- Data ≠ numbers

# WHAT ARE DASHBOARDS?



# WHAT ARE DASHBOARDS?



# DASHBOARD CONSIDERATIONS

**Who**

Who is the intended user? Is there interest? Who will maintain it?

**What**

What is the data source? What type of data is it? What program will work best?

**When**

When will the dashboard need to be ready? Does the effort match the reward?

**Where**

Where will the dashboard be published?

**Why**

Will this replace a report? Is the dashboard for decision making?

# DASHBOARD CONSIDERATIONS

## How

Narrow the focus. Keep it simple. Make it performant and scalable.  
Address the W's.

# EXAMPLES: JWC DASHBOARD

**Who**

JWC partners. Maintained by Hillsboro Water staff.

**What**

Tableau-based dashboard connected to SCADA export. Time-series water quality and flow data.

**When**

No time restrictions. Effort = Reward.

**Where**

JWC SharePoint, internal only.

**Why**

Replaces a report generated in Seq.

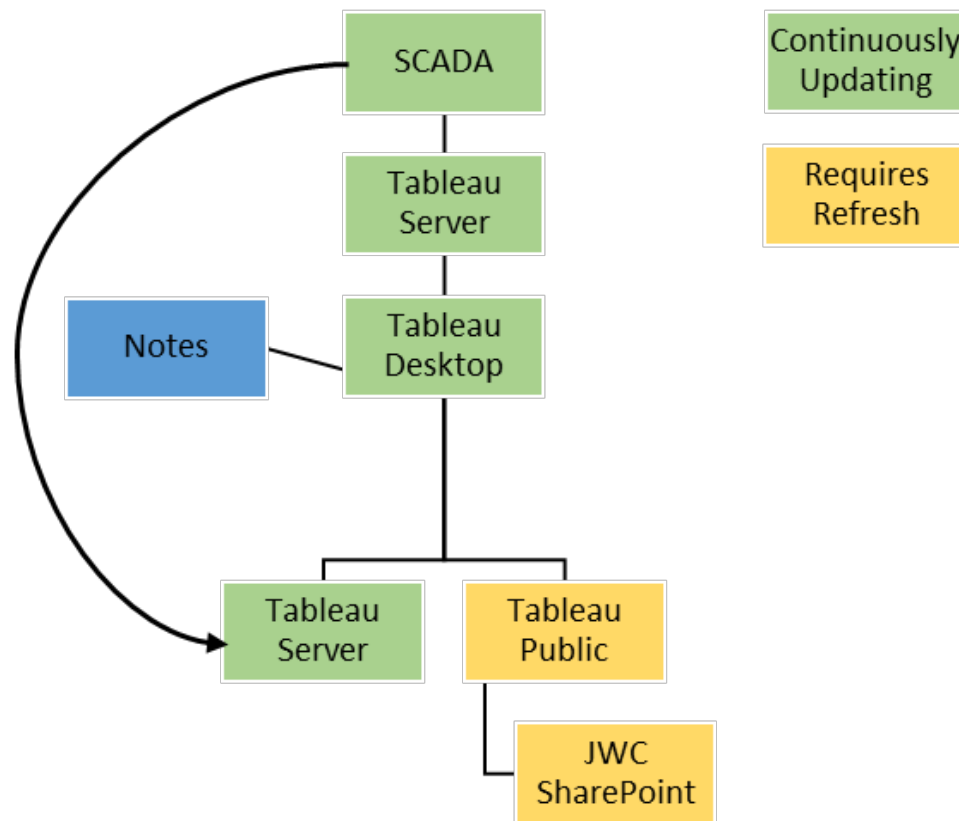
SCADA: Supervisory Control and Data Acquisition



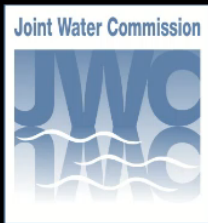
# EXAMPLES: JWC DASHBOARD

## How

~~Narrow the focus. Keep it simple. Make it performant and scalable.~~



# EXAMPLES: JWC DASHBOARD



## Joint Water Commission Data Dashboard

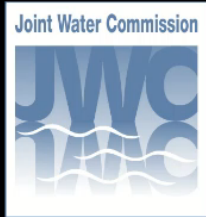
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**How to Use:** Navigate the dashboard using the buttons below. Each button allows you to view and interact with a different dataset. Where provided, dropdown menus allow you to choose which measures to display on the graphs. Click on headers to highlight individual measures on the graph. Use Ctrl+Z to undo selections. Hover over datapoints and click on 'Show Notes' and 'Show Weather' buttons for more details. The date range displayed can be adjusted using the filter at the bottom of each page. Scroll to the bottom of this page for more report details.

Last Updated 4/16/2023 7:40:27 PM

JWC Water Quality

# EXAMPLES: JWC DASHBOARD



## Joint Water Commission Data Dashboard

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**How to Use:** Navigate the dashboard using the buttons below. Each button allows you to view and interact with a different dataset. Where provided, dropdown menus allow you to choose which measures to display on the graphs. Click on headers to highlight individual measures on the graph. Use Ctrl+Z to undo selections. Hover over datapoints and click on 'Show Notes' and 'Show Weather' buttons for more details. The date range displayed can be adjusted using the filter at the bottom of each page. Scroll to the bottom of this page for more report details.

Last Updated 4/16/2023 7:40:27 PM

JWC Water Quality

# EXAMPLES: STORAGE ALLOCATIONS

**Who**

JWC partners, staff, and basin stakeholders.

**What**

Excel spreadsheets. Daily totals.

**When**

Prior to release season starting. Effort = Reward.

**Where**

JWC SharePoint and PDF email distribution.

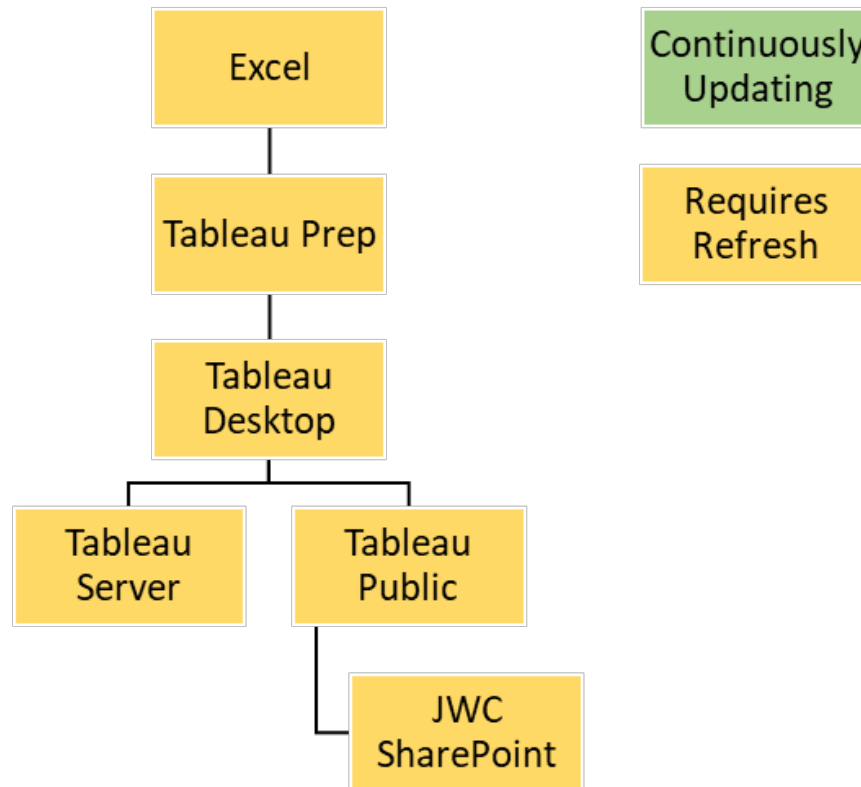
**Why**

Replaces a report generated in Excel.

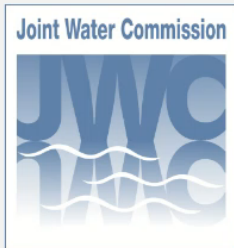
# EXAMPLES: STORAGE ALLOCATIONS

## How

Narrow the focus. Keep it simple. Make it performant and scalable.  
Address the W's.



# EXAMPLES: STORAGE ALLOCATIONS



## Joint Water Commission Stored Water Summary Report

2021 Year End Summary

The JWC partners have stored water in Scoggins Reservoir (Hagg Lake) and Barney Reservoir that provides water supply when we are regulated off natural flow water rights in the summer. This dashboard summarizes stored water releases & allocations for the 2021 release season and is updated weekly. To export this report as PDF, click the download symbol at the bottom of the page and choose "Unspecified" page size.

5/7/2021

10/26/2021

### 2022 Allocations

Storage Released (AF)

Storage Remaining (AF)

Reservoir	Partner	Storage Released (AF)	Storage Remaining (AF)
Barney	Hillsboro	5,089	320
	Beaverton	1,903	1,653
	Forest Grove	13	401
	TVWD	4,232	1,057

# EXAMPLES: CHEMICAL PROJECTIONS

**Who**

JWC WTP Operators

**What**

Continuous, time-series SCADA data connected to Seeq

**When**

No timeline. Effort = Reward.

**Where**

Seeq

**Why**

Decision making. Replaces an obsolete analytical spreadsheet.

# EXAMPLES: CHEMICAL PROJECTIONS

## How

Measure the rate of use for various WTP chemicals using Seeq analytics.

**fx** Tank 3 Clean

✓ Variables + Add variable Details

Name	Item
\$jic3	JWC.iChem.ChemScale3_PV (lb)

✓ Formula

```
1 $jic3.movingAverageFilter(1min)
2 |.removeOutliers(1.5)
```

Cancel Execute

**Tank 2 Use/Day**

✓ Select a signal or condition

Tank 2 Active Data (lb)

✓ Select the summary statistic you want to plot

**Range**  
Maximum value minus minimum value

✓ Select a bounding condition

Daily

Aug 25, 2022 12:00 AM	7-day Avg
Total Chlorine Use Daily	955.3 lb
Estimate Days of Use (6000lbs)	6.3 d
RW/Day	56.5 Mgal
Chlorine/ MGal	16.9 lb/Mgal



# EXAMPLES: CHEMICAL PROJECTIONS

The screenshot shows a Seeq interface with a document titled "Chemical Projections - Chlorine". The document content includes a header for the "Joint Water Commission" (JWC) and a main heading "Chlorine Projection Summary". Below the heading is a paragraph of text:

The purpose of this report is to track JWC's chlorine use and predict short-term future use in order to assist with chlorine supply management. Daily chlorine usage totals to populate the JWC's 2022 Operational Summary spreadsheet can be found in Table 3. Tanks 1, 2, and 3 alternate use with Tanks 4, 5, and 6. If a tank is not in use, the forecast graph for that tank will not be accurate (Graphs 2 & 3). Each of the tables and graphs are hyperlinked to the source workbench and can be accessed by Seeq users in View Only mode for an interactive view. This document updates hourly.

The interface also shows a sidebar with navigation options for "Chlorine", "Alum", and "Caustic", each with a corresponding "Projection Summary" document icon.

# EXAMPLES: PROJECT TRACKING

**Who**

Hillsboro Water Staff

**What**

Categorical data, project benchmarks. Excel-based records.

**When**

TBD. Effort = Reward, eventually.

**Where**

PowerBI

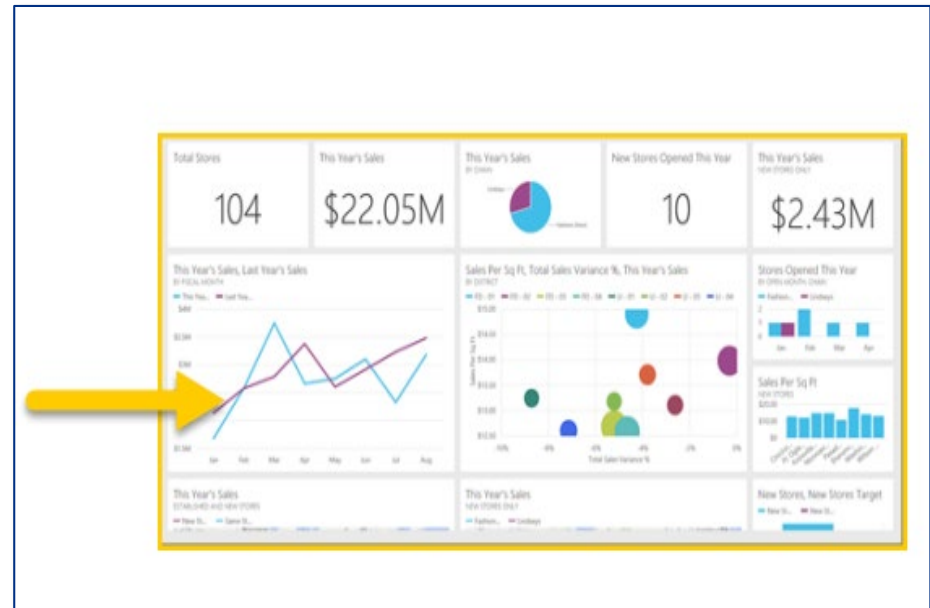
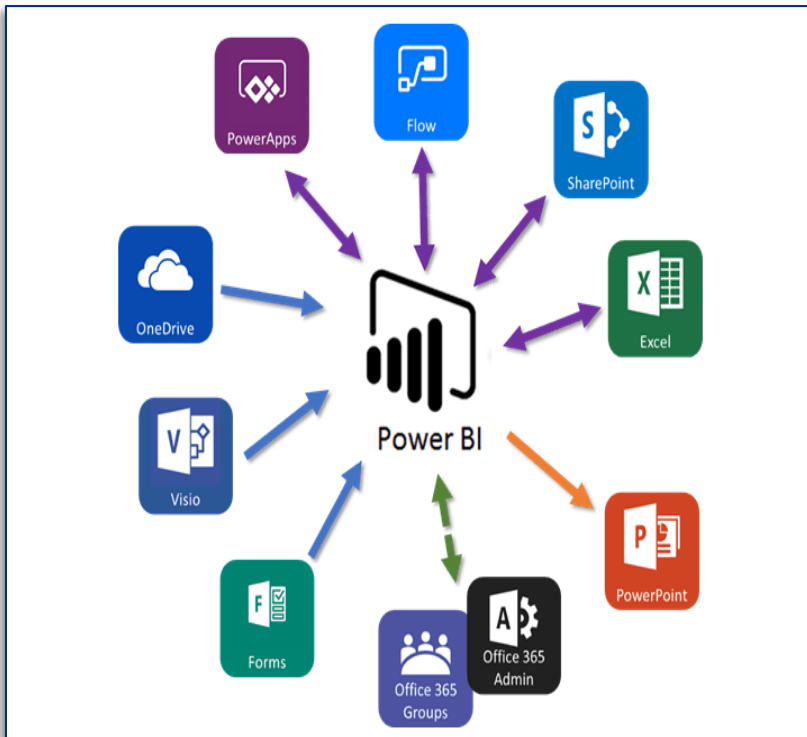
**Why**

Track project progress.

# EXAMPLES: PROJECT TRACKING

## How

Transition Tableau template to PowerBI platform. Make it modifiable to any project.



# City Council Priorities



## City Council Priorities

Select a Council Priority using the icons below



Click on a Project below to view details and progress

Sub-Goal(s)

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# Questions? Thank you!

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