

USING POWER BI FOR CRIS CRASH DASHBOARDS

REGIONAL SAFETY ADVISORY
COMMITTEE

JULY 24, 2026

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ASSISTANT DIRECTOR OF PUBLIC WORKS
FLOWER MOUND

WHAT IS POWER BI?

- Microsoft software used for data analytics
- Make many different types of visualizations
 - Maps, Bar charts, Pie Charts, Custom visualizations etc.
- Connect to several data sources
 - Excel, CSV, SQL Databases, Access Databases, plus many more (over 150 different data sources)
- Can publish to the web
- Takes time to learn
- Can export visualizations to PDF

PUBLIC CRIS DATA

- CRIS Query – <https://cris.dot.state.tx.us/public/Query/app/home>
- Used the query builder
- Decide what data you want to analyze
- For this demonstration
 - Years 2020 – 2026
 - Interactive map to define query location
 - Agency Filter
- No Private Property crashes

DATA FOR THE CITY OF FRISCO 😊

- Why Frisco?
 - More impressive numbers than Flower Mound
 - More data than Flower Mound
 - Prove that it is not limited by jurisdiction
 - NCTCOG staff inadvertently mentioned Frisco instead of Flower Mound 😊

CRIS DATA SELECTED

- Created attribute lists
- Did separate exports to csv for:
 - Main Crash Fields
 - Unit Fields
 - Person Fields
- Did NOT select every possible field in each category. Did select Crash ID, Case ID and Crash Number for each of the exports



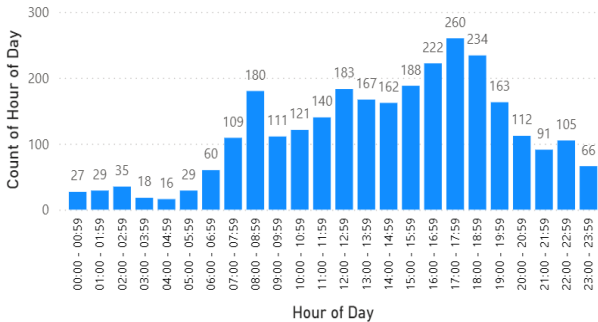
IMPORT AND TRANSFORM IN POWER BI

- Imported 3 CSV tables
- Transformed the data
 - Added some custom fields like age group (Used Power Query to code custom fields)
 - Define relationships between different data tables.
- Note for Frisco
 - CaseID – 202530000000 is a duplicate number in your CRIS data
- Wrote some DAX (Data Analysis Expressions), aka code, for some dashboards

VISUALIZATIONS

Crashes by Hour of Day

Through 6/14/2026



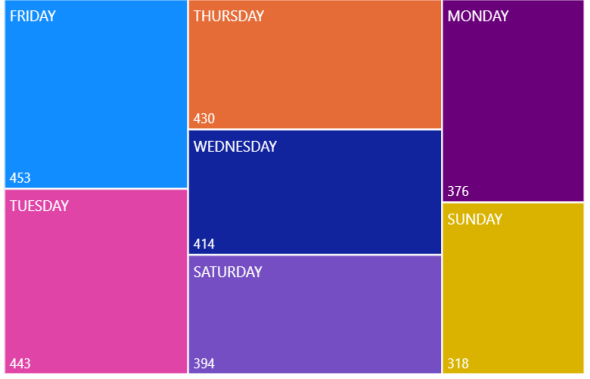
Crash Count by Month

Through 6/14/2026



Crash Count by Day of Week

Through 6/14/2026



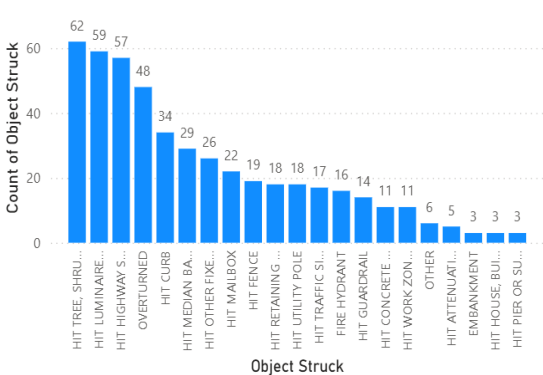
Calendar Year



2828

of Crashes

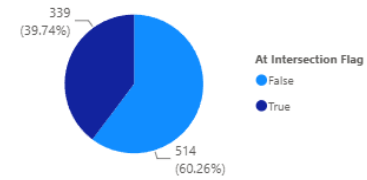
Count of Object Struck by Object Struck



MORE VISUALIZATIONS

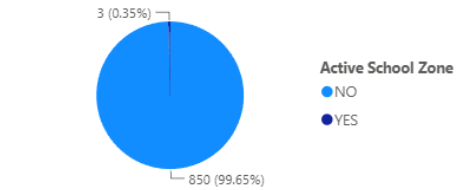
Crash Count of At Intersection

Through 6/14/2026



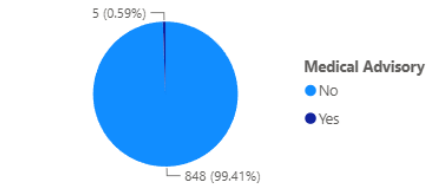
Crash Count of Active School Zone

Through 6/14/2026



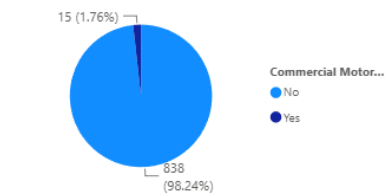
Crash Count of Medical Advisory

Through 6/14/2026



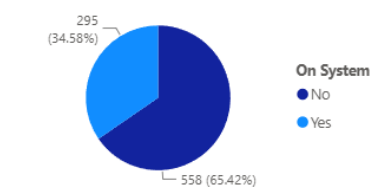
Crash Count of Commercial Motor Vehicle

Through 6/14/2026

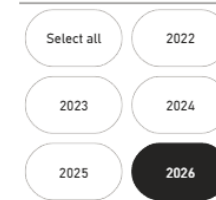


Crash Count of On System

Through 6/14/2026

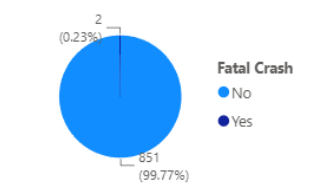


CalendarYear



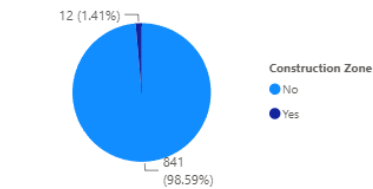
Crash Count of Fatal Crash

Through 6/14/2026



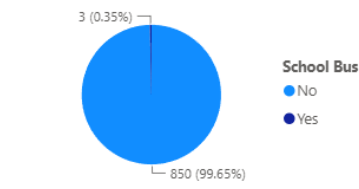
Crash Count of Construction Zone

Through 6/14/2026



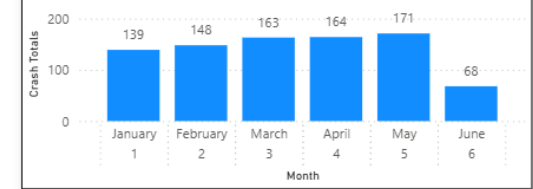
Crash Count of School Bus

Through 6/14/2026



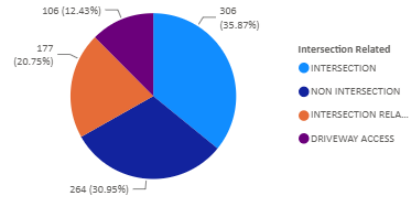
Crash Count by Month

Through 6/14/2026

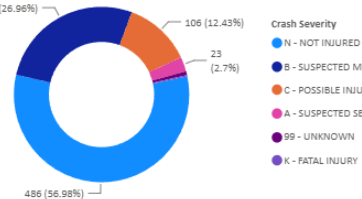


STILL MORE VISUALIZATIONS

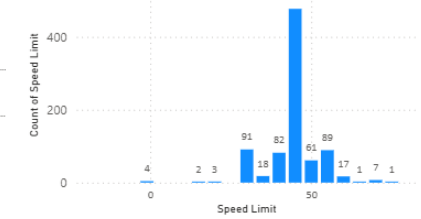
Crash Count by Intersection Related



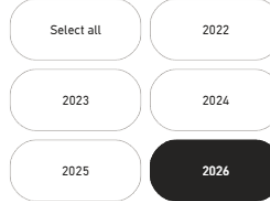
Crash Count by Crash Severity



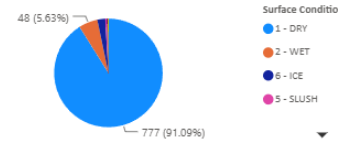
Crash Count by Speed Limit



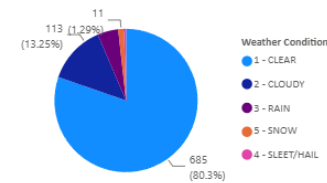
CalendarYear



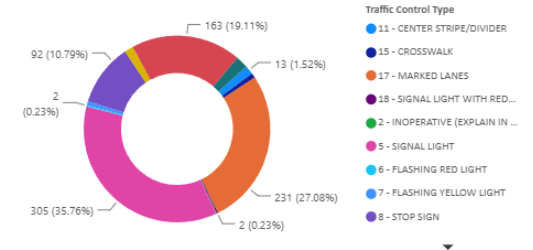
Crash Count by Surface Condition



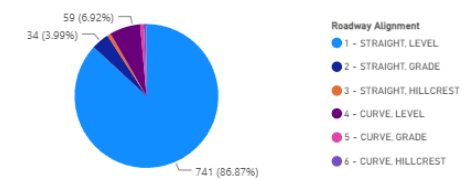
Crash Count by Weather Condition



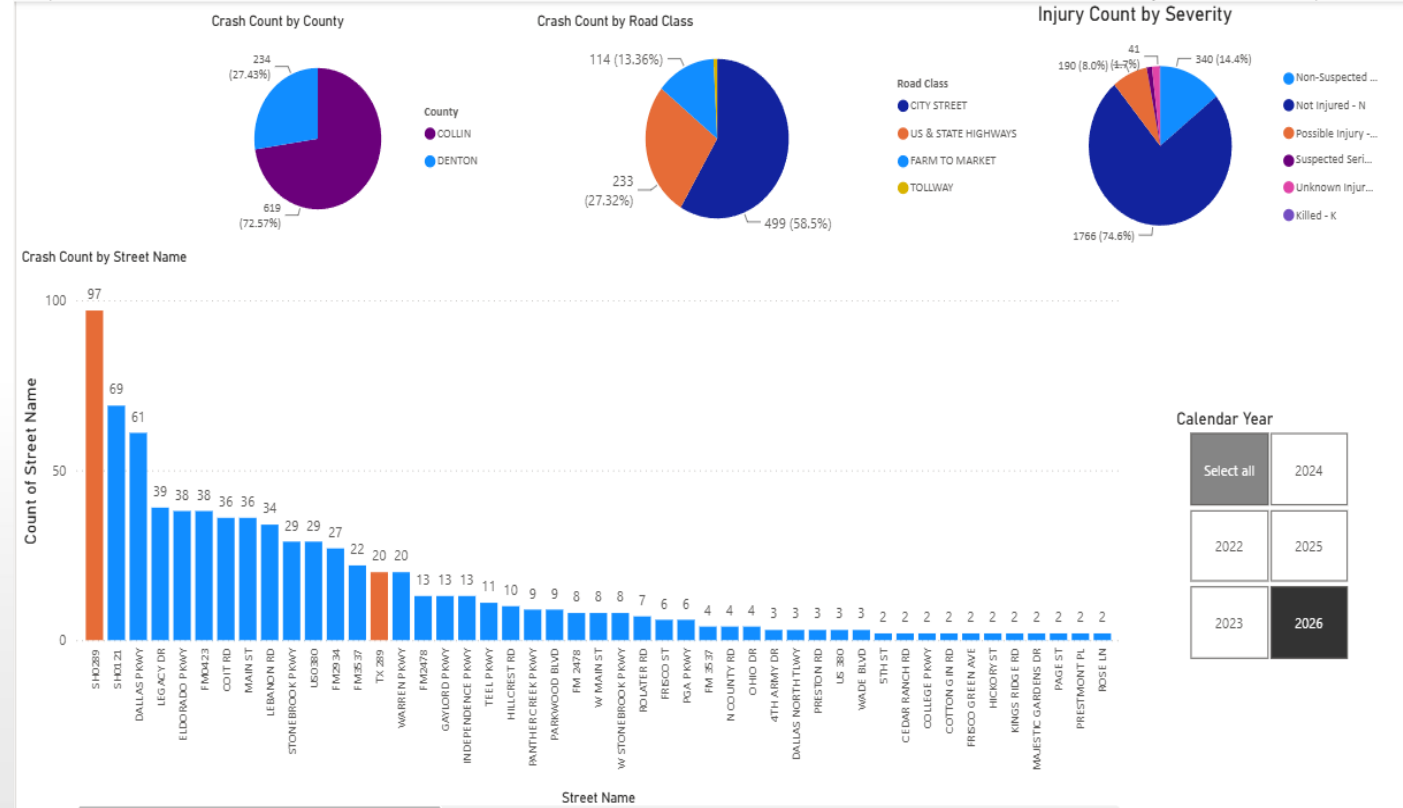
Crash Count by Traffic Control Type



Crash Count by Roadway Alignment



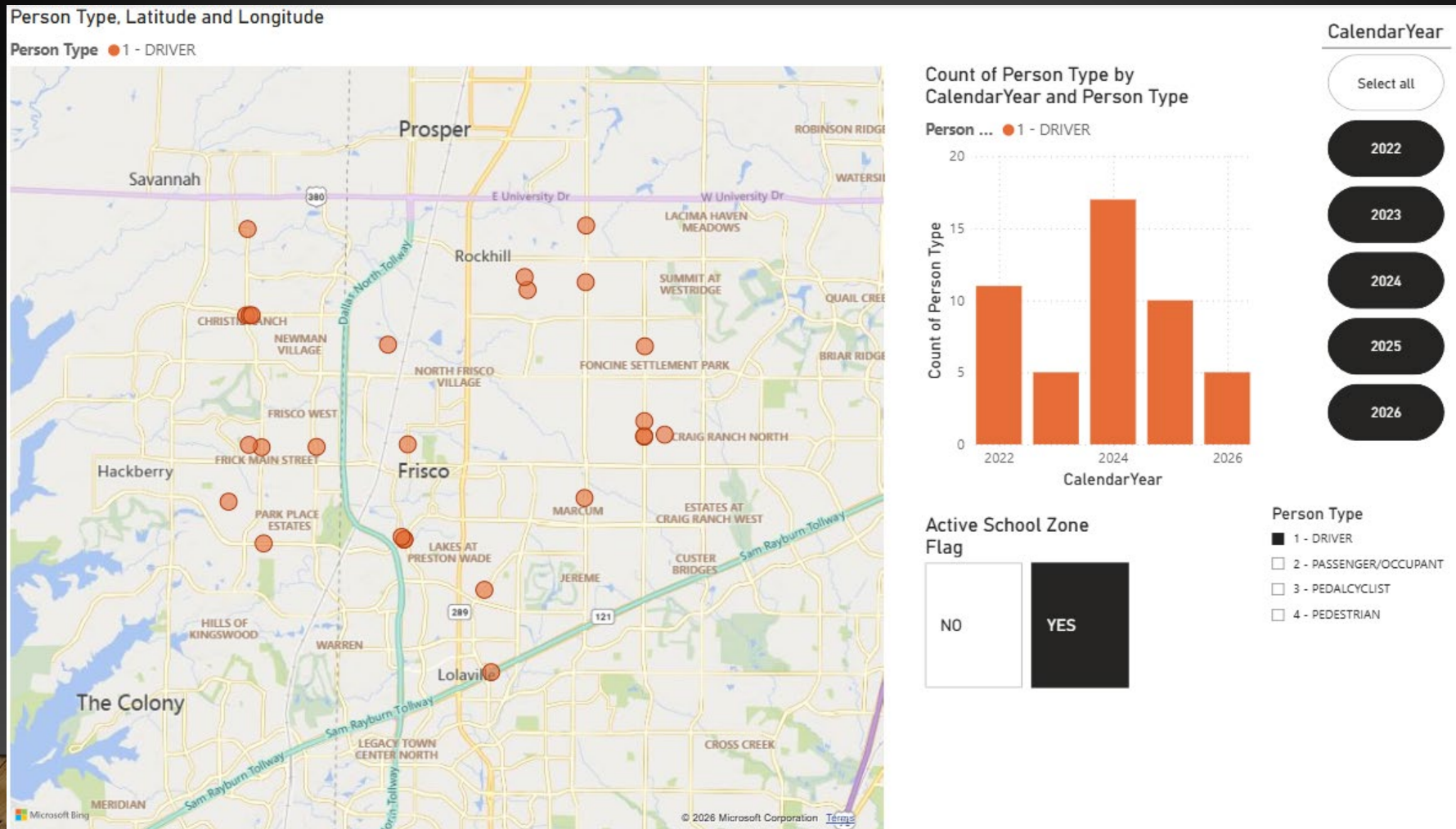
EVEN MORE VISUALIZATIONS



INTERACTIVE

- Notice on each slide there was a choice for Calendar Year
 - First slide had two years chosen
- Add slicers (filters) to each dashboard.
 - Does not have to be date based
 - Can be a filter on any of the data
 - Can be multiple filters for the same visualization
 - Can make multiple tabs connected to the same filter
 - Example. One tab may be the map and next tab may be a detailed table of the attributes of those crashes shown on the map

BASED ON CALENDAR YEAR, PERSON TYPE AND ACTIVE SCHOOL ZONE FLAG



PUBLISHABLE TO THE WEB

- Must have the credentials to publish – through Power BI Service (\$)
- Can share or embed the published link
 - CAUTION – a published link is PUBLIC. Anyone with the link can view the dashboards
 - It is all public data from CRIS
- Frisco Interactive Data
 - Link will be unpublished after this meeting

SUMMARY

- Can create a lot of visualizations to analyze data.
- Much more can be done than seen here
- Unless a gateway is setup (\$), one has to manually refresh this data to keep current
 - May have to be done anyway. API for CRIS?
- Takes time to learn how to use
- Able to get a visual quickly once set up
- Always check and know the data. A simple miss on a relationship, for instance, can give bad data

DISCUSSION

