

Criminal History Analytics

SEARCH's Work with Criminal History Data

Mark Perbix, Director of Programs
SEARCH

SEARCH Membership Meeting
July 19, 2022



search.org

Goals of Criminal History Data Analytics

- **Provide meaningful information about the quality and completeness of criminal history data**
- **Curate and standardize CCH data for research purposes**

How Do We Do This?

- **Develop a Common Data Model (CDM) of CCH data**
 - Based on the FBI Joint Task Force standard for Rap sheet data
 - Enhance the CDM to include additional derived data elements not found in the JTF standard (e.g., Age at Arrest)
 - Acquire CCH data from the state
 - Map individual state CCH data bases to the CDM
 - Produce a standardized data base for both operational data quality analysis and research purposes

Operational Work to Date

- **States Contributing Data**
 - AR, ME, CT, TN, NJ (MS and NV in late 2022)
- **State CCH Data Quality Monitoring - Data Dashboards to monitor KPIs**
 - Phase 1 – Analysis of CCH databases using prototype dashboard tool (AR, ME, TN)
 - Phase 2 – Analysis of Error/Suspense file data and migration of the dashboard platform to Power BI (AR, CT, ME)

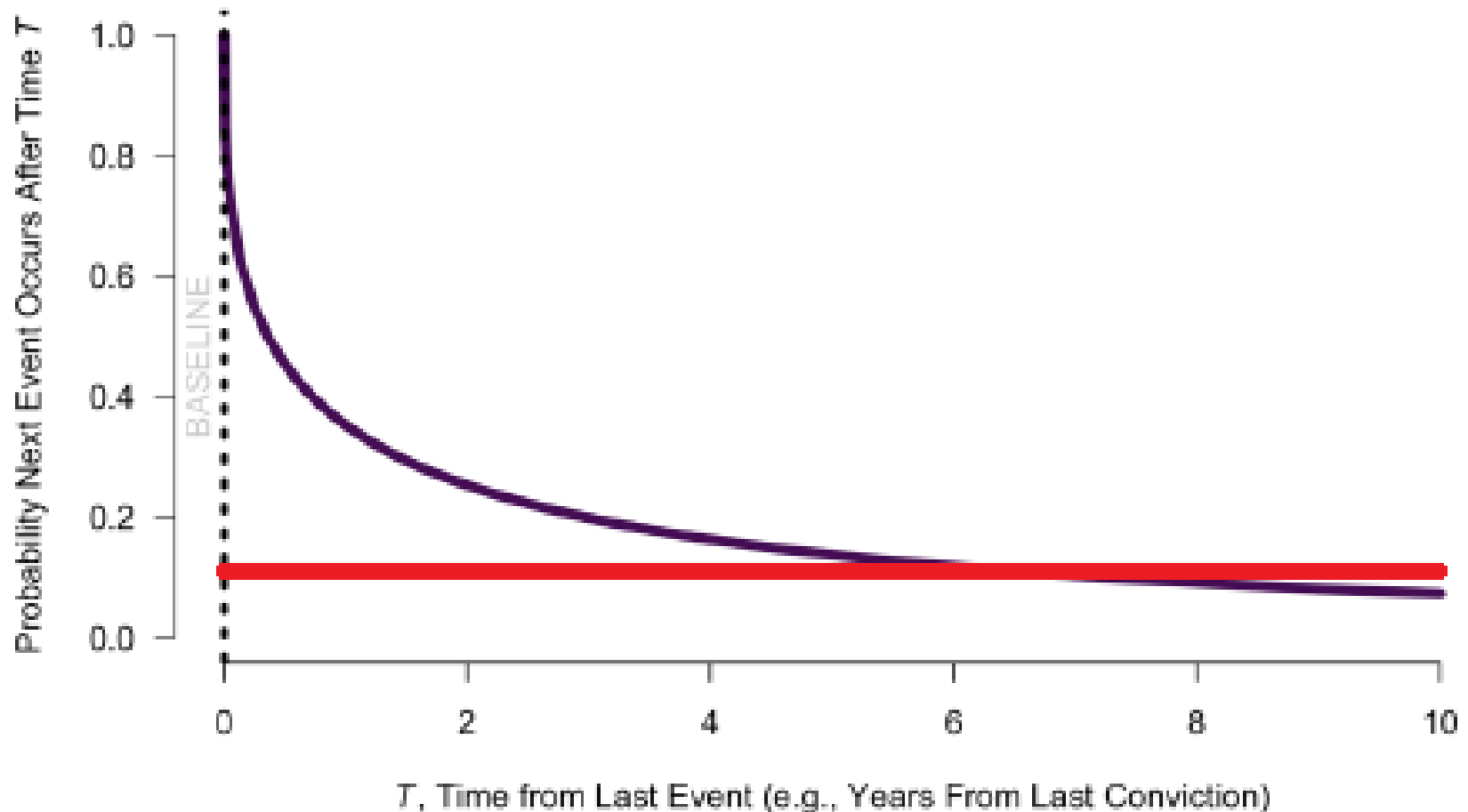
Research Work to Date

- **RAND Desistence Study (AR, ME, NJ)**
- **Sentencing Disparity Study with University of Maryland (ME, TN, CT)**

Each State must agree to participate through a Data Use Agreement

RAND Desistence Study

Risk of Recidivism over Time vs. Risk of Arrest in General





AV UM Sentencing Disparity Study

How does race affect or influence the progression of offenders from arrest to disposition?

Data Quality Dashboard

- **Phase 1 Dashboard – Open Source**
 - Limitations in capabilities
 - Slow to develop
 - No recurring cost
- **Phase 2 Dashboard – COTS Platform: MS Power BI**
 - Extensive capabilities
 - Easier to use and manage
 - Ability to drill down to underlying data
 - Relatively low cost



Phase 2 Goals

- **Migrate to Power BI**
- **Automate the loading process so data can be regularly refreshed**
- **Analyze Error/Suspense File Data**



CRIMINAL HISTORY ANALYTICS DASHBOARD

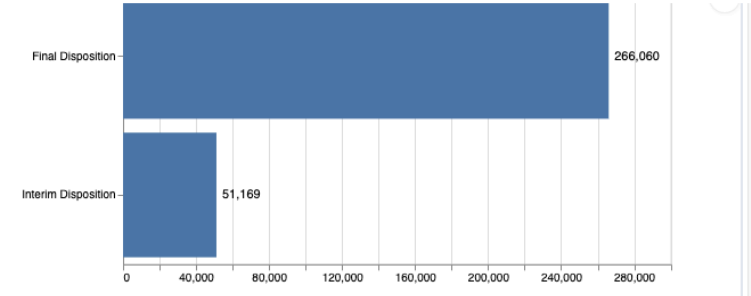
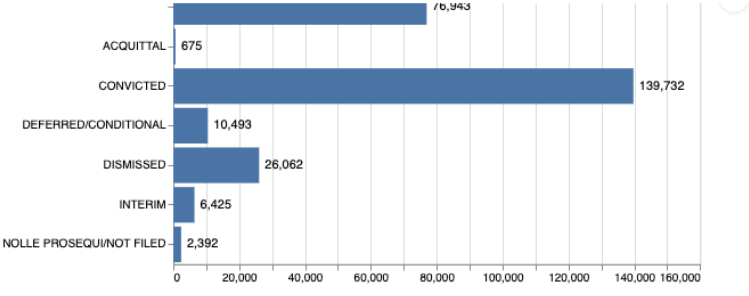
About this dashboard

Filter visualizations... ?

Filters... No filters selected.

ARREST DISPOSITION ANALYSIS 11

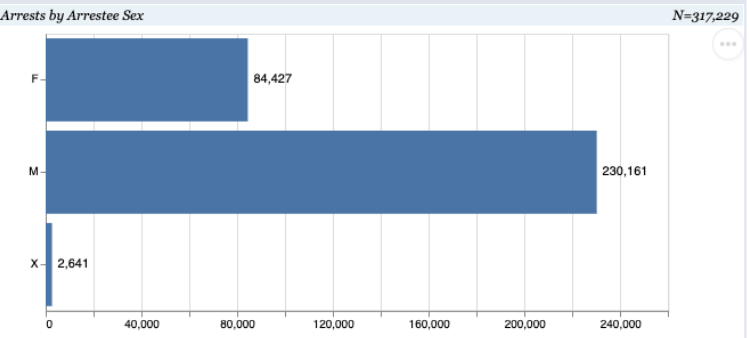
- Arrests by Disposition Type
- Disposition by Court
- Disposition Status - Bar Chart
- Disposition Status - Pie Chart
- Average Days from Arrest to Disposition (15 Agencies Max)
- Average Days from Arrest to Disposition (15 Courts Max)
- Missing Dispositions (15 Agencies Max)
- Percent of Missing Dispositions (15 Agencies Max)
- Missing Dispositions
- Percent of Missing Dispositions
- Elapsed Time without Final Disposition



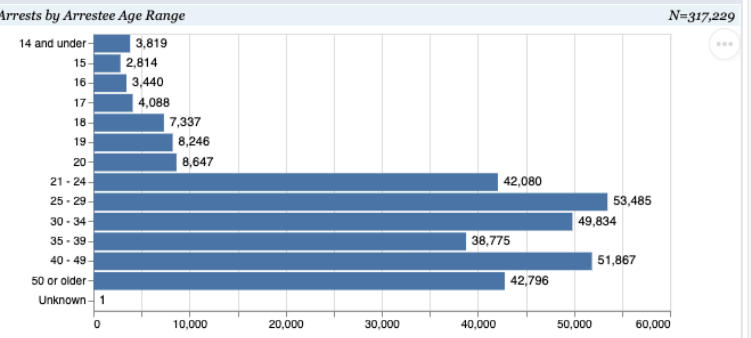
ARREST CYCLE 7

- Arrests by Sex
- Arrests by Race
- Arrests by Age Range
- Age at First Arrest
- Age Range at First Arrest
- Arrests by Agency
- Arrests by Year

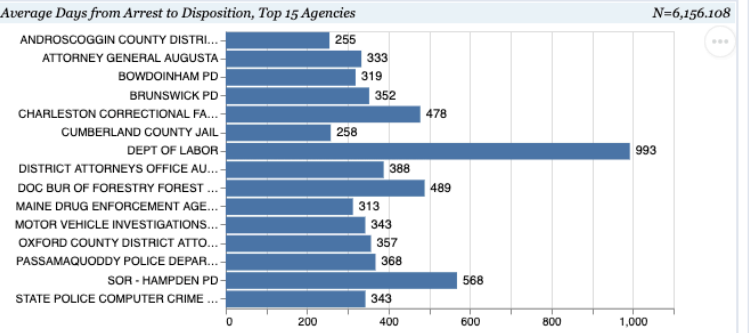
Arrests by Sex



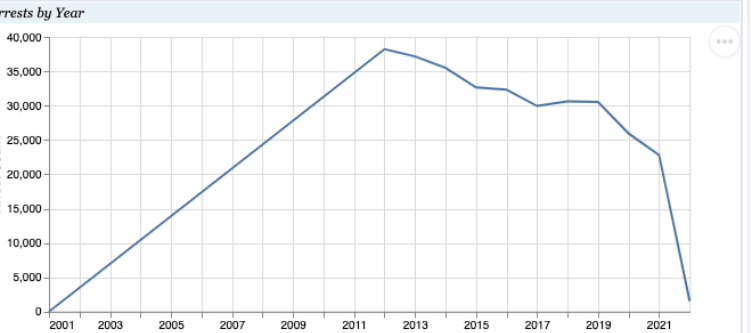
Arrests by Age Range



Average Days from Arrest to Disposition (15 Agencies Max)



Arrests by Year



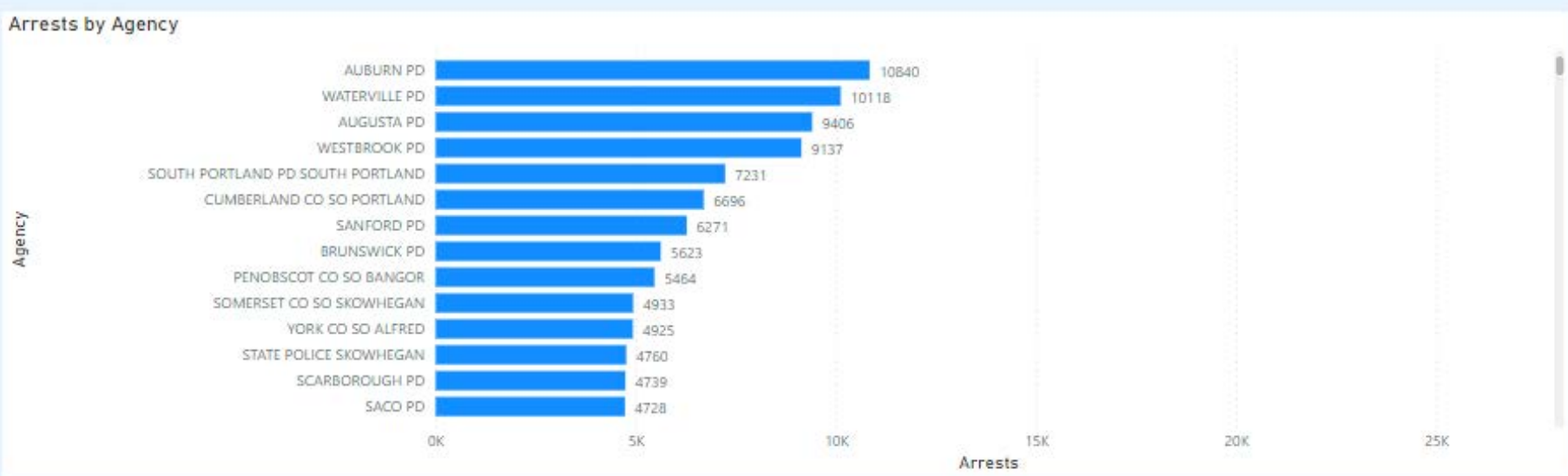
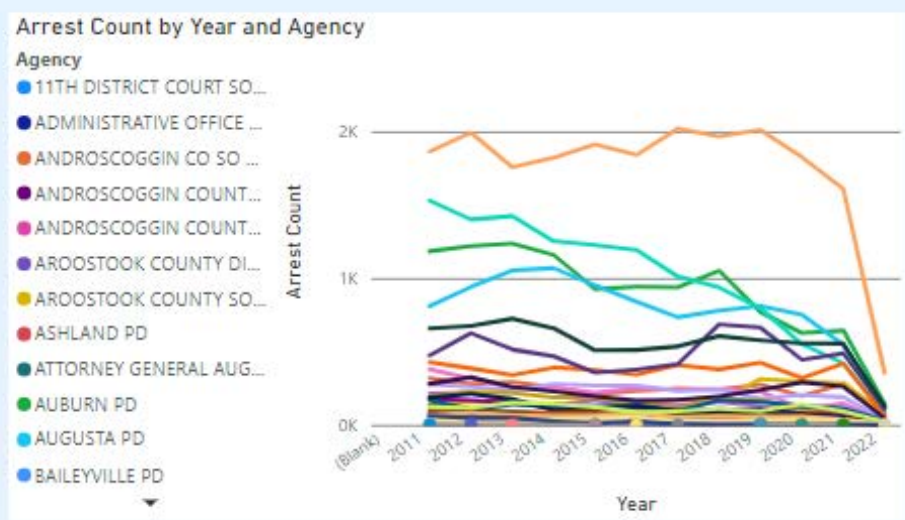
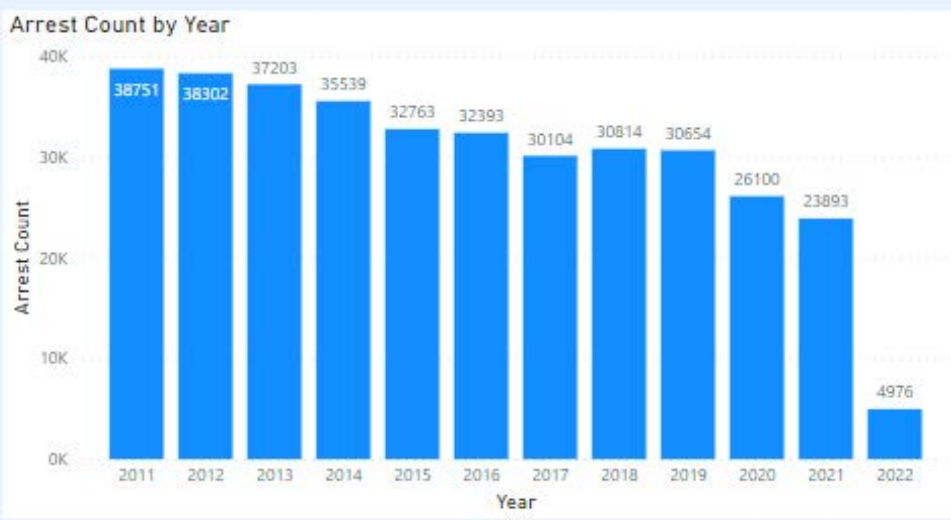


Criminal History

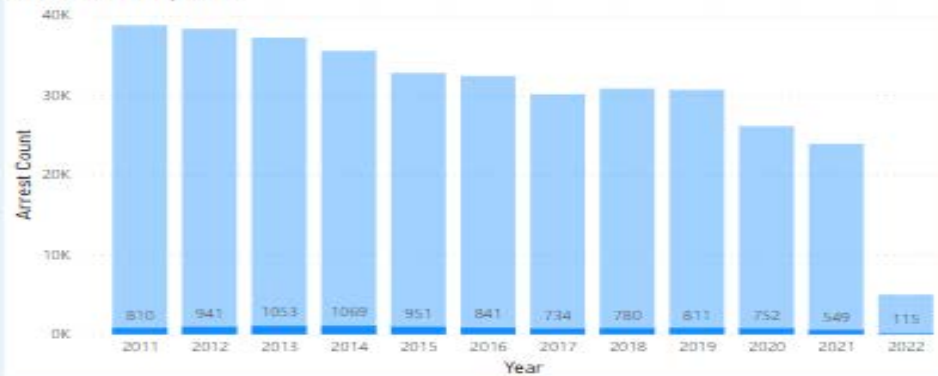
Agency Type
All

Agency Search
All

CCH Analytics - Arrests (2011-2022)



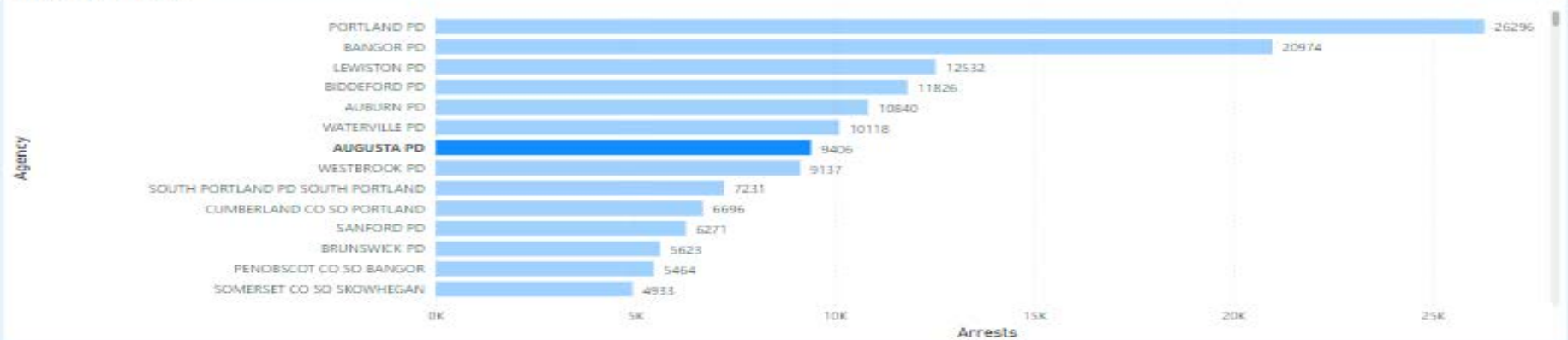
Arrest Count by Year



Arrest Count by Year and Agency

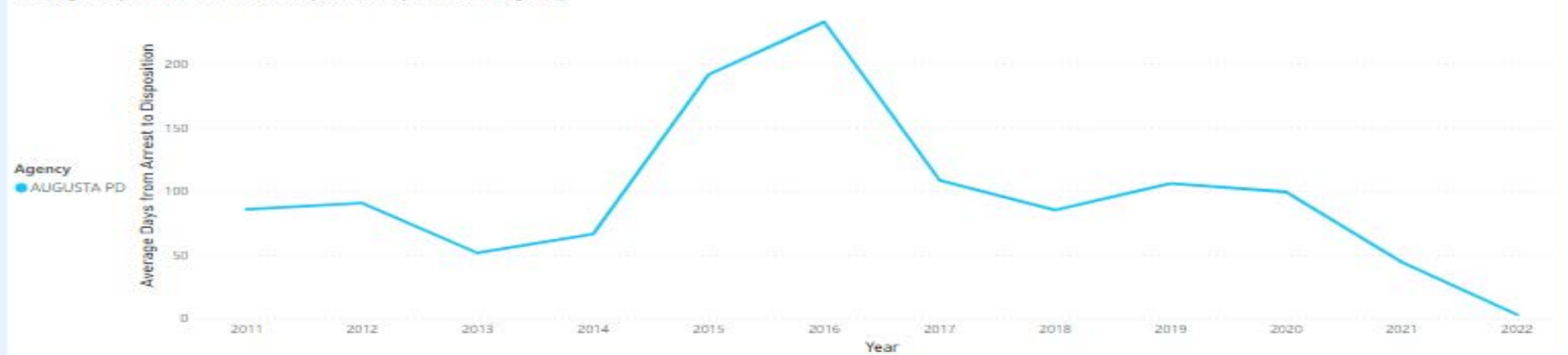


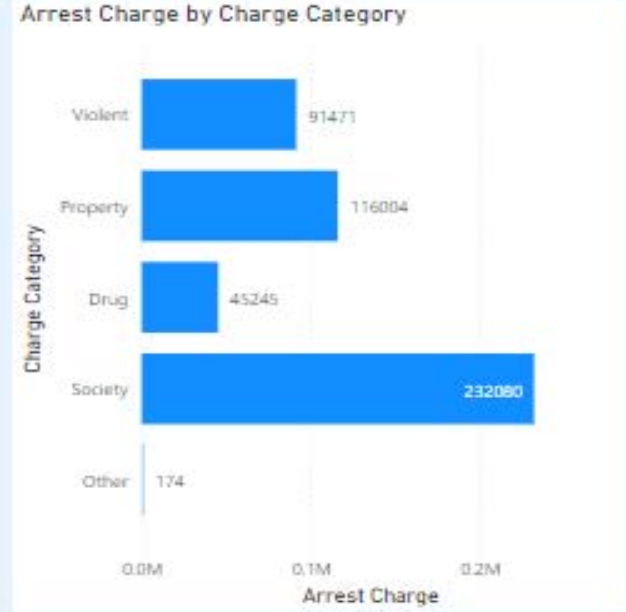
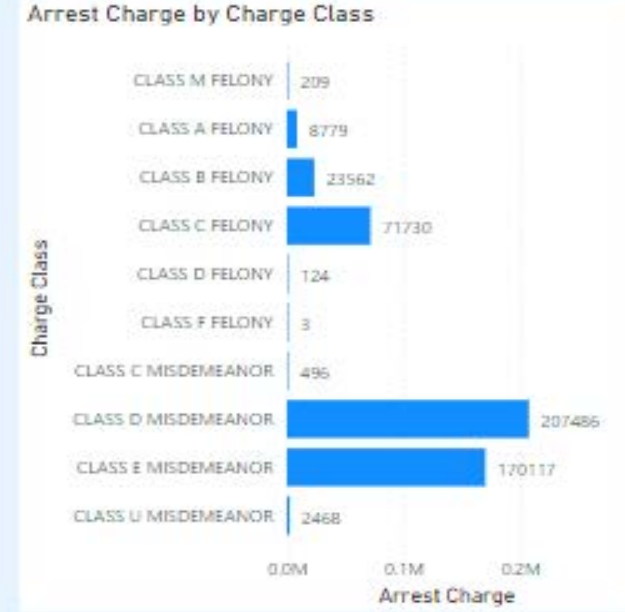
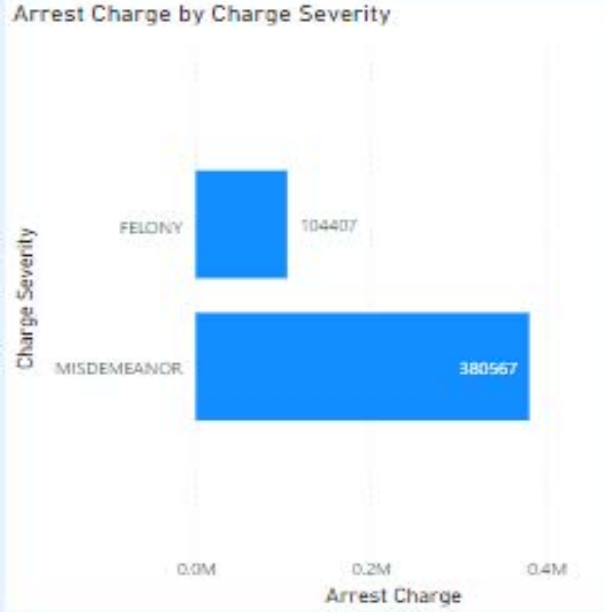
Arrests by Agency



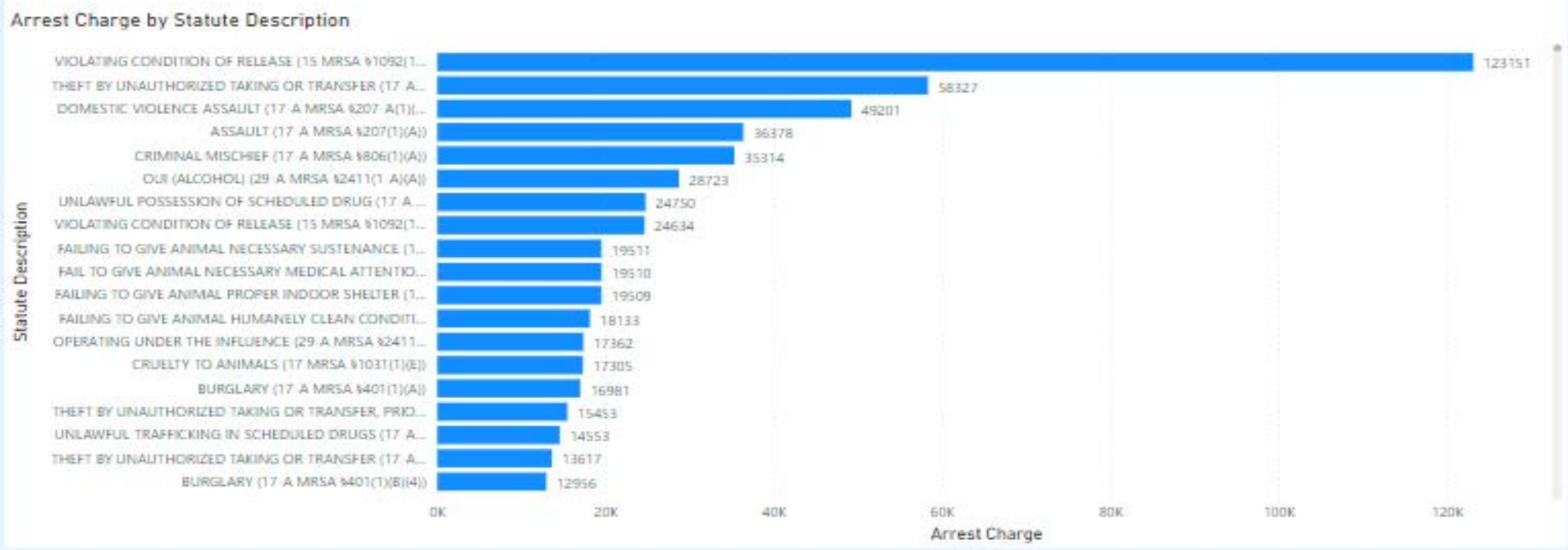
Agency

Average Days from Arrest to Disposition by Year and Agency





StatuteDescription



File Home Insert Modeling View Help

Paste Cut Copy Format painter

Get data Excel Data SQL Enter data Datasource Recent sources

Transform data Refresh data

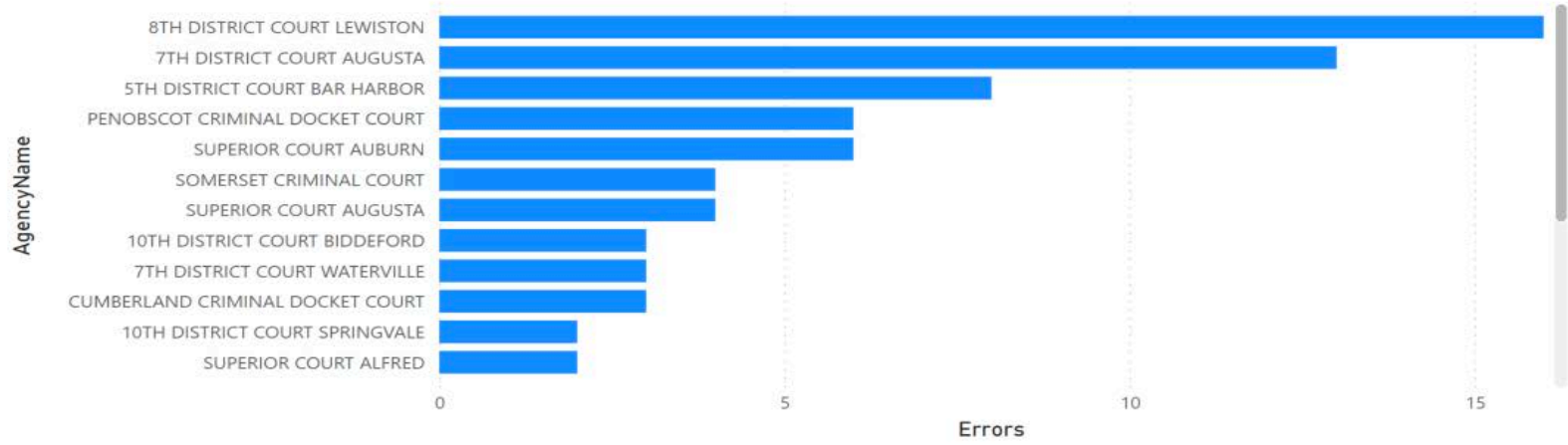
New visual Text box More visuals

New measure Quick measure

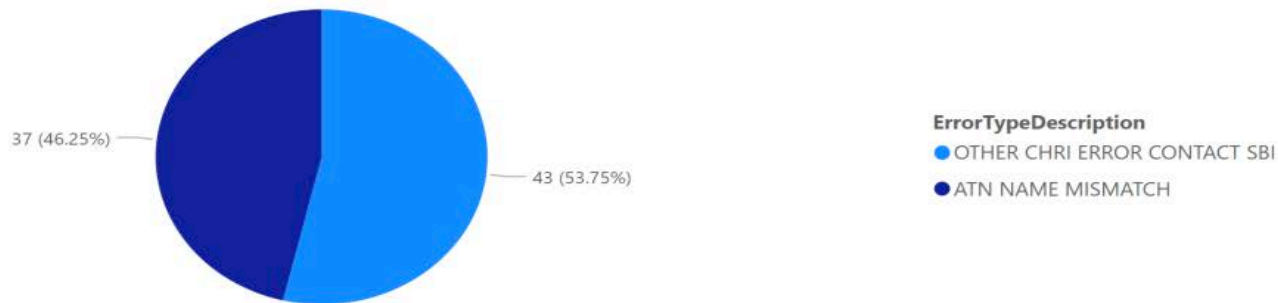
Sensitivity Publish

Clipboard Data Queries Insert Calculations Sensitivity Share

Errors by AgencyName



Error by ErrorTypeDescription



Automate the Loading Process

- **Provide more current data to identify problems and assess progress towards solutions**
- **Currently a mostly manual process**

Phase 2+

- **Provide drill down access to underlying data**
 - Use filters to identify questionable data
 - Drill down/link to Rap Sheet or last data load

Thank you!

Mark Perbix

mark@search.org

916.712.5918

Questions?