Using Tableau to Make Data Available On-Line.

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TABLEAU SOFTWARE

Colorado Statistical Analysis Center

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Background

- Became aware of Tableau as method of presenting/interacting with data
  - Crime statistics web page
- Used BJS/SAC grant to provide training to SAC staff on Tableau
- First used Tableau with crime statistics, statewide and by county
- In 2015, General Assembly mandated studies AND analyses
  - House Bill 15-1273—Law enforcement contacts on school grounds
    - Requires disaggregation by crime type, law enforcement agency, school
  - Senate Bill 15-185—Race/ethnicity and gender at major justice decision points
    - Requires disaggregation by decision point, race/ethnicity, crime type
The disaggregation of all these variables would have required huge unwieldy reports.

Began learning Tableau and experimenting with visuals. We worked closely with the Tableau Help Desk to troubleshoot visualization problems we encountered.

We now use Tableau for:

- Crime statistics, statewide and county
- Community corrections (halfway house system) client profile by program,
- Length of stay in prison by crime type and gender,
- Recidivism of various justice populations over time (TV, new crime).
What is Tableau?

Tableau is a software tool which produces interactive data visualization products (graphs, tables, maps etc.)
Tableau products

- **Tableau Desktop**
  - Installed on computers to create interactive dashboards by connecting to data

- **Tableau Reader**
  - Free application enabling to open and view visualizations

- **Tableau Public**
  - Free Tableau Software to publish dashboards

- **Tableau Server**
  - Enterprise level. Publish and share dashboards within organization with web-based server.

- **Tableau Online**
  - Hosted version of Tableau server. Publish and share dashboards with colleagues.
Steps to Construct Visualization

- Format data to be compatible with Tableau (column = variable). *(Tableau Add-in available for Excel to format data for Tableau).*
- Load data
- Build graphs in sheets
- Build dashboard including multiple sheets
- Publish dashboard onto the “Tableau Public” *There is an option to allow the workbook and its data to be downloaded by viewers.*
- An url is generated
- Url embedded in website
Data

- Excel, Access, Text file, JSON file, PDF file, Spatial file, Statistical file etc.
- Variables = column
- Example:

<table>
<thead>
<tr>
<th>Years</th>
<th>Crime</th>
<th>CO Number</th>
<th>CO Rate</th>
<th>US Number</th>
<th>US Rate</th>
<th>Which</th>
<th>Group Year</th>
</tr>
</thead>
</table>
Live Demonstration
Tableau Maps

- Proportional symbol map
- Filled maps
- Point Distribution Map
- Flow Maps
- Spider Map
Working within your webpage

- Publish the dashboard in “Tableau Public”
- Retrieve the url
- Embed the url into a webpage or direct link.
Things to Know about Tableau

- Not always “intuitive” and training for users recommended - 1st basic training (40-hour) is offered online

- Annual maintenance fee allows regular software updates of products and technical assistance.

- Technical assistance is requested through a ticket system.

- Very active Community Forums - Good source for technical help
Examples of Tableau dashboards used at the Colorado SAC

- Crime Statistics
- Minority over-representation
- Correctional Population
- Community Corrections Profiles
- Length of Stay in Prison
- Recidivism
- Law Enforcement Contacts with Students
- Race and Ethnicity at Decision Points
- Marijuana (upcoming)
Questions?

https://www.colorado.gov/dcj-ors