Data Visualization in Google Charts

Victoria Meldrum – VRMELDRUM@BSU.EDU
Ball State University CBER
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1. Show examples from cberdata.org
2. Describe data viz process
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Examples
from the CBER Data Center
County Profiles
Manufacturing Scorecard

2019 Manufacturing Industry Health

About Manufacturing Industry Health
The production of goods holds a particular place of importance in the U.S. economy. Manufacturing firms are not necessarily reliant on local demand for goods and are therefore free to locate in areas that offer favorable compensation and climate conditions. Manufacturing firms are often considered a source of high-paying jobs in comparison to other sectors of the economy.

About Logistics Industry Health
Logistics includes the ability to move, store, and distribute manufactured goods. Logistics firms depend upon many of the same factors as manufacturing firms in their location decision, but there is a more complex interplay between local conditions and the existing or planned transportation networks.

Indiana

Click on a category to view state performance in that category

<table>
<thead>
<tr>
<th>09</th>
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<th>13</th>
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<tbody>
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GPA Key: 4 = A; 3 = B; 2 = C; 1 = D; 0 = F

Indiana - Manufacturing Industry Health

Indiana - Logistics Industry Health

About Indiana
Indiana has a population of 6,516,962. The manufacturing industry is 14.2% of the state economy. The total personal income in Indiana is $233,673,951,000 and earnings from manufacturing total $32,109,743,000.

Source: Bureau of Economic Analysis, 2011

About Manufacturing Industry Health

Manufacturing includes the production of both consumer durable goods (products that last at least 5-10 years) and consumer non-durable goods (products that are consumed after sale). Location decisions for manufacturing firms generally depend on local factors such as the quality and availability of the labor force, transportation infrastructure, non-wage labor costs, access to innovative technologies, and the cost of doing business.

Sources: U.S. Department of the Census and Bureau of Economic Analysis.

About Logistics Industry Health

Logistics includes the ability to move, store, and distribute manufactured goods. Logistics firms depend upon many of the same factors as manufacturing firms in their location decision, but there is a more complex interplay between local conditions and the existing or planned transportation networks.

Sources: U.S. Department of the Census and Bureau of Economic Analysis.
Brownfield Grant Writers’ Toolbox

Educational Attainment

Educational Attainment, Population 25 Years and Over (2015)

- Less than 9th grade: 3.3%
- 9th to 12th grade, no diploma: 5.7%
- High school graduate (including equiv...): 35.3%
- Some college, no degree: 27.5%
- Associate's degree: 21.8%
- Bachelor's degree: 18.5%
- Graduate or professional degree: 11.2%

Educational attainment is the most basic component of a region’s economic development potential and serves both as an input to the region’s economic performance and also as an amenity for new businesses and residents. These data from the U.S. Census show the proportion of adults who have attained different levels of education. They are compared to the state and national averages. It is worth noting that the relative age of the county population will heavily influence these data, with older adults being less likely to have completed high school or college. So, while this is one of the first measures of a community’s health, other factors influencing these data, such as local high school graduation rates and the types of colleges and universities attended by local graduates are also important.
Data Viz
@ Ball State CBER
Our process from spreadsheet to web graphic
Process from Data to Graphic

Data Sheets → Database → CberData Website → Google Charts
Prepping the Data

- Srikant sends data spreadsheets to Graham
- Graham imports data into database
  - PHP script identifies categories & variables, assigns locations for website recall
  - Script to check for errors
  - Link multiple data sets together
Determine Features

- Srikant, Graham, & Victoria discuss project parameters
- Visualization through Google Charts
Using Google Charts

Google Charts uses JavaScript to read data and generate charts directly on your HTML5 webpage

1. Embed Google’s JavaScript into the page
2. Specify chart type and appearance parameters in your code
3. Page code sources data points and generates graphic
This graph illustrates the county's per capita income and median household income relative to Indiana and the U.S. The personal income data includes income received by persons from all sources such as income received from participation in production as well as from government and business transfer payments. It is the sum of compensation of employees (received), supplements to wages and salaries, proprietors' income with inventory valuation adjustment and capital consumption adjustment, rental income of persons, personal income receipts on assets, and personal current transfer receipts. Less contributions for government social insurance.

The household income data includes both working and non-working households, and may include students. Higher proportions of elderly and families with very young heads of households will contribute to the share of low-income households. Also, a high share of agriculture, which sees much of its wealth accruing outside of income, will contribute to lower income households.

Data Table

<table>
<thead>
<tr>
<th>Personal and Household Income (2015)</th>
<th>Delaware County</th>
<th>Indiana</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per capita personal income</td>
<td>$32,896</td>
<td>$41,940</td>
<td>$48,112</td>
</tr>
<tr>
<td>Median household income</td>
<td>$38,830</td>
<td>$49,255</td>
<td>$53,889</td>
</tr>
</tbody>
</table>

Download Spreadsheet

Source:
- Bureau of Economic Analysis [link]
- America Community Survey [link]
Community Readiness Initiative

What is the Community Readiness Initiative?
An objective perspective is difficult to gain from within your own community. The task of initiating and leading Community of Rural Affairs (CORA) initiatives and community participation in the Community Readiness Initiative is done through the CRI program. Local leadership provides insight into the strengths and opportunities within their communities. We have the ability to break down community planning and growth for the benefit of all.

View FAQ for communities
Email ccri@bsu.edu for questions and comments

Steps Toward Community Readiness
1. Eligibility: to participate in the Community Readiness Initiative or contact your CRIA (Community Liaison)
2. Complete the community alignment assessment (for public officials)
3. Complete the community alignment assessment (for organizations)
4. Discuss preliminary community readiness findings during a town meeting
5. Receive the community readiness report and develop an economic development policy

Map of Participating Communities
This map displays the communities that are currently taking part in the Community Readiness Initiative. See below for a legend that outlines the progress that each community has made in terms of economic policy development.

CRI Phases
1. Prospective community
2. Enrolled
3. Leadership alignment survey phase
4. Leadership alignment analysis phase
5. Leadership alignment complete
6. Community org alignment survey phase
7. Community org alignment analysis phase
GeoCharts

1. Determine list of counties & municipalities
2. Write query to retrieve GPS coordinates from Google Maps API
3. Modify chart appearance
4. Source data points and generate map
Why Google Charts?

- Rich set of features
- Longevity b/c Google product
- Free, open-source tools
- Robust developer guide
- Large developer community
More from Google Charts

Other options and features
Chart Types

developers.google.com/chart
Other Features

- Robust “how-to” guide & examples
- Animation
- Dashboards
- Interactive controls
- Export options
- Printable PNGs
Contact

Graham Watson  
GTWATSON@BSU.EDU  
Web Development Manager

Victoria Meldrum  
VRMELDRUM@BSU.EDU  
Publications & Web Services

Ball State CBER  
cber@bsu.edu

bsu.edu/cber | cberdata.org | github.com/BallStateCBER