

# Data Visualizations Interactivity Guide

Data on the OIR website is presented using data visualization software that gives users a high degree of interactivity to manipulate, sort, share, and download the information presented. These data dashboards and visualizations are designed to meet the data information needs of the broad University community by promoting customizable data analysis.

For a quick-start guide through these visualizations, questions, and tips for interacting with information on this website, explore the guide below. More information about the data visualization software is available on the [Tableau software website](#).

## Interacting with Dashboards

A *dashboard* is a formatted data visualization that allows users to interact with the data. A dashboard can display two or more visualizations that are linked and share data filters and data sources. The dashboard displayed in the example below has four separate *tab views*, circled in blue. Clicking on a tab will display the data tables for that dashboard.

The screenshot shows the 'Enrollment Headcount Data Dashboard' interface. At the top, there are four navigation tabs: 'Enrollment Headcount Data Da...', 'Enrollment Trend Data Dashbo...', 'New Student Characteristics H...', and 'New Student Characteristics T...'. The first tab is selected and circled in blue. Below the tabs, the dashboard title 'Enrollment Headcount Data Dashboard' is displayed. Underneath the title are three filter controls: 'Academic Term:' with a dropdown menu set to 'Spring 2017', 'Report Type:' with a dropdown menu set to 'Academic Level', and 'Student Level:' with a dropdown menu set to '(All)'. These filter controls are enclosed in a yellow box. Below the filters is a data table with columns for Campus, College, Undergraduate, Graduate, Professional, Non-Degree, and Grand Total. The table lists enrollment data for various campuses including Crookston, Duluth, Morris, Rochester, and Twin Cities, with sub-rows for individual colleges and departments.

Campus	College	Undergraduate	Graduate	Professional	Non-Degree	Grand Total	
Crookston	Univ of Minnesota, Crookston	1,658			538	2,196	
	Total	1,658			538	2,196	
Duluth	College of Liberal Arts	1,291	48		3	1,342	
	College of Pharmacy			231		231	
	Education & Human Service Pro	1,676	225		4	1,905	
	Graduate School		71			71	
	Labsowitz School of Bus & Econ	1,971	30			2,001	
	School of Fine Arts	475	18		2	495	
	School of Medicine, Duluth				123	25	148
	UMD-Sci & Eng, Swanson Coll of	2,921	233			3,154	
	University Studies					648	648
	Total	8,334	625	354	682	9,995	
Morris	Univ of Minnesota Morris	1,539			55	1,594	
	Total	1,539			55	1,594	
Rochester	Center for Learning Innovation	368			14	382	
	Total	368			14	382	
Twin Cities	Carlson School of Management	2,417	1,686			4,103	
	Center for Allied Health	72	202		56	274	
	Col of Educ/Human Development	2,424	2,250		69	4,743	
	Col of Food, Agr & Nat Res Sci	1,932	634		9	2,575	
	Col of Continuing Education	656	279			935	
	College of Biological Sciences	2,040	240		14	2,294	
	College of Design	1,275	247			1,522	
	College of Liberal Arts	12,930	1,550		80	14,560	
	College of Pharmacy		113		2	115	
	College of Sci and Engineering	5,113	2,575	432		8,120	
	College of Veterinary Medicine		61		430	491	
Humphrey Schi of Publ Affairs		413			27	440	
Law School		14		606	11	620	

Each dashboard also has *data filters*, outlined in yellow squares above. Users can select from the available filter options through the drop-down menus to customize a report to their interests. If multiple tables are displayed on a dashboard, a filter selection will alter the data displayed for all tables on that dashboard.

## Other Terms and Tips for Interacting with Data Dashboards

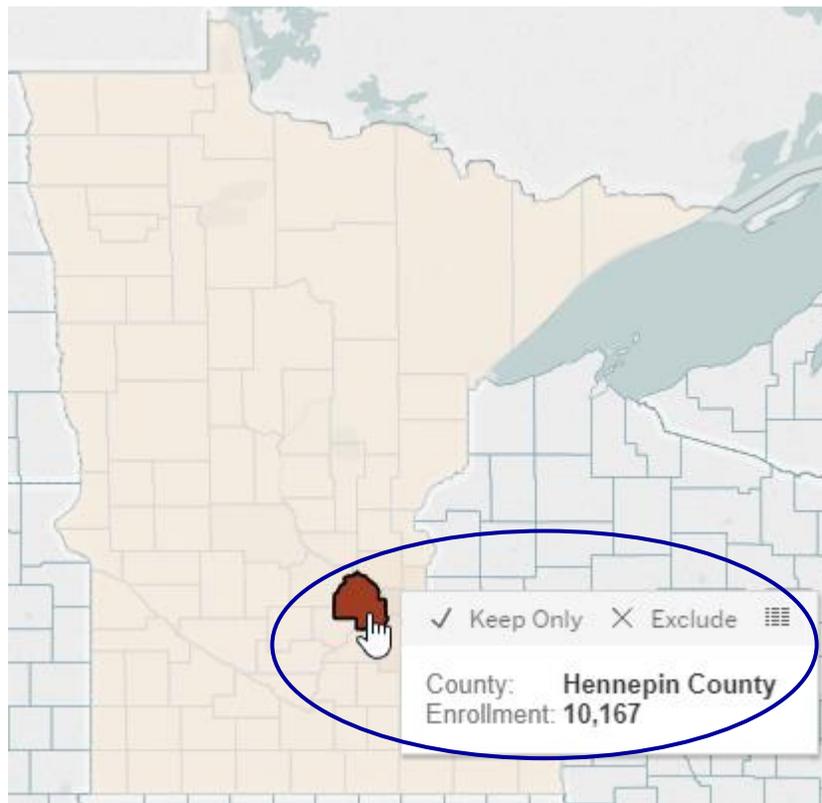
### Tooltips

*Tooltips* are pop-up boxes of information that can be activated by hovering over items in the visualizations (see example below). Tooltips give more information about the specific object, including exact data for that point.



### Filtering within a Visualization

Selecting an object within a data visualization will filter that visualization by the object selected.



In the Enrollment Map Dashboard above, selecting a particular county on the map filtered the visualization for the number of students enrolled from Hennepin County for the selected academic year.

In the Enrollment Data Dashboard below, selecting one field in the view will similarly highlight information on that selected field and fade out all other points. Clicking on any blank space within the visualization will cancel the selected filters.

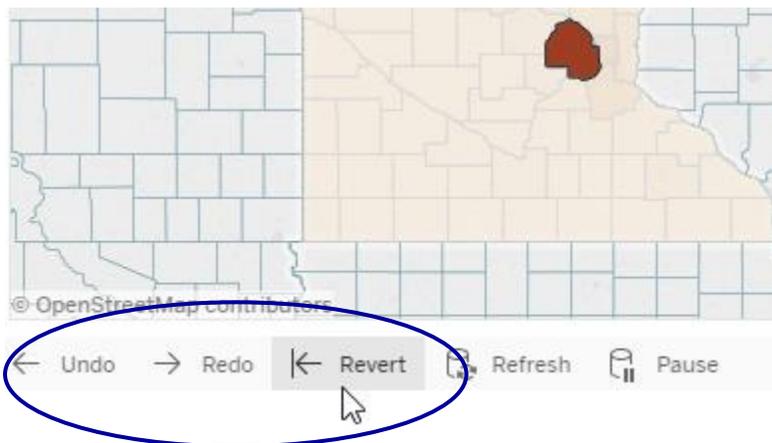
Enrollment Headcount Data Dashboard

Academic Term: Spring 2017 Report Type: Academic Level Student Level: (All)

Campus	College	Undergraduate	Graduate	Professional	Non-Degree	Grand Total
Crookston	Univ of Minnesota, Crookston	1,658			538	2,196
	Total	1,658			538	2,196
Duluth	College of Liberal Arts		35			35
	College of Pharmacy			231		231
	Education & Human Service Pro				4	4
	Graduate School		71			71
	Laboritz School of Bus & Econ					
	School of Fine Arts					
	School of Medicine, Duluth			123	25	148
	UMD-Sci & Eng, Swenson Coll of University Studies	2,001	233			2,234
	Total	2,001	233			2,234
Morris	Univ of Minnesota Morris	1,130			55	1,185
	Total	1,130			55	1,185
Rochester	Center for Learning Innovation				18	18
	Total				18	18
Two Cities	Carlson School of Management	2,417	1,068			3,485
	Center for Allied Health		260			260
	Col of Edu/Human Development	2,424	2,700		68	5,192

Revert, Redo, & Undo

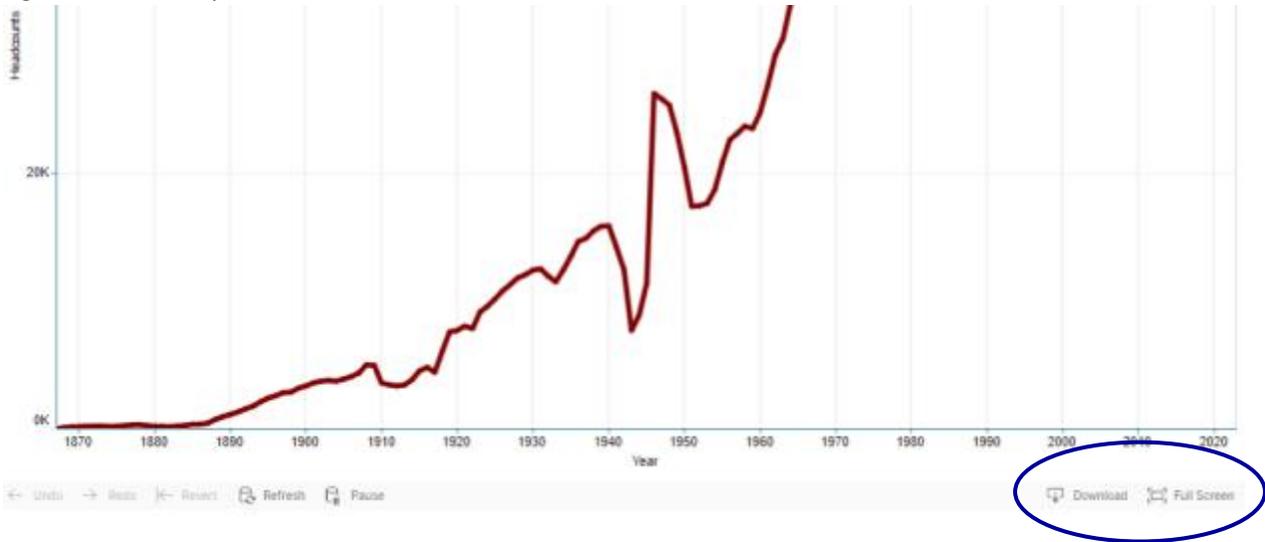
In addition to clicking on blank space within a view to alter their filter selections, users can utilize the gray tool bar footer at the lower left of all visualizations.



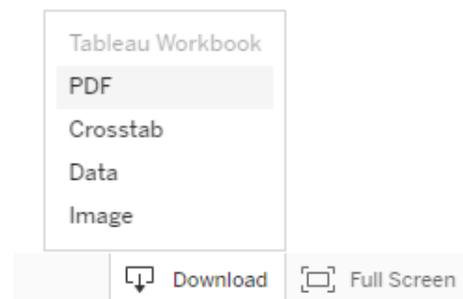
Selecting *Revert* restores the dashboard to the original layout and selections. *Undo* will take the user back one step in their interactions with a dashboard (like the back button on a web browser), and *Redo* will restore the undone selection.

### Downloading

Users can download a dashboard in four different formats—as a PDF file, a CSV Crosstab, a CSV Data file, and as a PNG Image—by selecting the [Download](#) option on the gray footer bar located at the bottom right corner of any dashboard.



The [PDF](#) or [Image](#) download options will yield a static image of the current dashboard view. The [Crosstab](#) download option results in a data table formatted as shown in the current dashboard view. The [Data](#) download option gives the data in the current view in a simplified database format.



### Sorting

Anytime the bar symbol  appears on hover, users can select it to sort the visualization. The default sort is in descending order based on the data (either alphabetically or numerically). The symbol can be selected multiple times to toggle between ascending or descending sorts, as seen in the ascending alphabetical college sort in the ACT and SAT Dashboard below.

ACT and SAT

Score Type: ACT English Campus: Twin Cities

College	36-31	30-28
Carlson School of Management	43.5%	27.6%
Col of Educ/Human Development	9.7%	11.2%
Col of Food, Agr & Nat Res Sci	19.3%	17.0%
College of Biological Sciences	51.2%	24.2%
College of Design	22.2%	19.0%
College of Liberal Arts	27.9%	19.2%
College of Sci and Engineering	62.6%	19.8%
School of Nursing	33.3%	33.3%
Grand Total	36.0%	19.9%

Users can also sort data through most tooltips. Using the same ACT and SAT dashboard below, the descending sort is selected in the tooltip for the 36-31 column of ACT English scores. This sort changes the order within the dashboard view so that the colleges are listed in descending order according to which had the highest percentage of students with ACT English scores in that range.

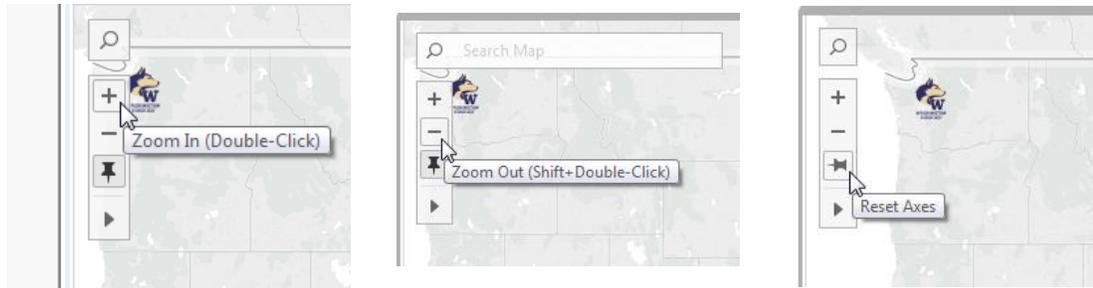
ACT and SAT

Score Type: ACT English Campus: Twin Cities

College	36-31	30-28	27-25	24-22	21-19	Below 19
College of Sci and Engineering	62.6%	19.8%	13.7%	0.0%	0.5%	0.0%
College of Biological Sciences	51.2%	24.6%	20.7%	13.4%	1.6%	
Carlson School of Management	43.5%	21.8%	20.7%	16.5%	20.0%	
School of Nursing	33.3%	19.9%	21.5%	14.8%	5.3%	2.5%
College of Liberal Arts	27.9%	17.0%	25.9%	26.6%	5.6%	1.2%
College of Design	22.2%	11.2%	20.9%	23.9%	13.4%	1.6%
Col of Food, Agr & Nat Res Sci	19.3%	9.7%	21.8%	20.7%	16.5%	20.0%
Col of Educ/Human Development	9.7%	11.2%	21.8%	20.7%	16.5%	20.0%
Grand Total	36.0%	19.9%	21.5%	14.8%	5.3%	2.5%

Interacting with Maps

All maps carry a menu bar in the upper left corner that gives the user additional options. Users can *zoom in*, *zoom out*, and *pin* the map in place. Deselecting the pin button resets the map to include all data points in view.



This menu also has a *search* option, an *area zoom* option, and *selection* option. Drawing a selection over the map will select and highlight any data points within that space and filter out any that fall outside of the shape.

