

MetroViz Critique

by Hitesh Maidasani (hitmai@cs.umd.edu)

Great job overall. I think the way you have created these visualizations makes the analytical task easier overall. Below are my comments. Please ignore any comments or suggestions I have made due to any misinterpretation of your visualization or tools.

Paper

I have highlighted and commented on portions of your paper I felt should be changed. You can click on the highlights to view the comments. The pdf is attached. You might want to open it on a Mac using Preview to get the properly highlighted text.

The main suggestion I had for your paper was, I think it would be better to have domain specific definitions for ridership and adherence in your introduction. Additionally, why they are important or what each one gives. Some of your figures have values for them. What do the values mean. Higher adherence is better? A high ratio is good? etc. You might want to add this information in the introduction. Please ignore if you have added this already.

Demo/Video

Through your demo video, I have tried to do my best to comment on the visualization.

Positives

You guys have come up with some very intuitive visualizations which I have never seen before. I particularly liked the calendar format. I find it very easy to read and understand and I feel it's a very intuitive way of visualizing a calendar for an entire year.

I also really liked the donut chart that pops up in the map at a stop. I found it gave a lot of details in a very space-efficient manner.

Also, the coordination between the route view and the map view is very effective as well.

Overall, I found the visualization easy to understand.

Suggestions

General

Have your product name somewhere. Seems your visualization is spaced or stacked going from left to right. Might be useful and more appealing to have the content of the page centered so that there is an equal amount of whitespace on both sides rather than just the right side.

A control panel to filter data would be nice. Filtering and getting only data for students for instance would be applicable for certain users. Or only viewing the elderly or disabled would be nice too if you have demographic data.

Search button should be named to "Search stop" for easier understanding of functionality.

Seems your views require a lot of scrolling. This puts a memory strain on the user. This can be difficult given the amount of data you have to deal with.

Personally, I like a more sequential color scheme, but your usability tests prove that it might not be useful. However, with this data I would assume it does.

Map View

Adjustable size would be good but not necessary.

Route View

The routes section should have a title called "Routes of <place name>".

I feel the feature of hovering over the name of the route to get all the stops is not first nature, unlike hovering over the individual stops. If there was a button that said "View On Map" for instance, it would be easier to use.

Calendar View

The calendar view should have the month names on the left. Maybe the leftmost calendar can only have month names.

Have a ridership vs adherence option. This requires more of a data mangling approach.

Might want to have an option of selecting only a particular day, weekdays only, or weekends only. The tooltip for hovering over a day could be larger and in a more legible format (also include day name).

Trip View

Seems you have to scroll down in the route view to get trip view. This is difficult to place since you have quite a bit of visualizations on one page. Maybe a popover on the page for this view would be a better approach since this is the most granular data type - a particular day, and it doesn't need any interaction or comparison with the other views.

Two chart view (Adherence and Fair counts)

In the usability test section of your paper, you mentioned suggestions for having negative values for earliness. I found that unusual. I personally, think, that of positive values for earliness since it is early, but I think they want to know the number of minutes before the ETA. It might be useful to have titles for that y-axis. The top half can be "Lateness", the 0 point can be "On Time" and the bottom half can be "Earliness"

I don't know if the dual bar chart is the best option. Do you want to know the average early times and average late times? Might make logical sense to view average time off of schedule. But this might be a requirement for your visualization.

Some of your bars fall outside the chart. Might want to hide the overflow.