**Pittsburgh Bus Utilization**

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This project visualizes the ridership and route utilization of PRT busses from 2017 to the present.

A circular chart with many colored squares

Description automatically generated with medium confidence

**Legend:**

* The outer circle denotes the month, going clockwise from Jan 2017 to Oct 2024
* Each large pie slide represents the total year, and the small increments represent the month
* The length of the bar is the total monthly ridership
* Each bar is divided into the individual routes by color
* The bar color groupings generally align with the various routes and make it easier to see
* The radii of the circle denotes the total ridership in intervals of 100,000

**Findings:**

* I thought it would be interesting to visualize the effects of Covid-19 on ridership.
* I also live in the city and ride the bus occasionally and wanted to see route variations.
* The graph shows how much the ridership dropped during the pandemic, starting March 2021.
* The graph also shows how the ridership has only recovered to approximately 65% of pre-pandemic levels.
* It’s also interesting to see how ridership spikes in August and September when school starts.
* Data was manipulated in Pandas based off a previous data analysis class I did in undergrad, and the design was tweaked by GPT-4o to look better.

**Data:** The dataset is the Western PA Regional Data Center Pittsburgh Regional Transit Monthly Average Ridership by Route, available here: <https://data.wprdc.org/dataset/prt-monthly-average-ridership-by-route>

The data consists of 22,318 lines. The columns in the data are as follows: \_id, route, ridership\_route\_code, route\_full\_name, current\_garage, mode, month\_start, year\_month, day\_type, avg\_riders, day\_count

The method used was as follows: reading the csv file into a dataframe via Jupyter notebook, filtering the data by month and route, creating a matrix where each row is month and a column is a route, creating a polar projection plot, defining the angles and bar width based on the number of months / 360, generating color map for the routes, plotting the background color for each year, plotting the ridership for each month as a stacked bar in polar coordinates, highlighting the radial for 20-03 as the start of covid, adding labels for the month-year along the outside radials axes, aligning the data to start at the north position and move clockwise around the plot, adding the radial tick labels indicating ridership in hundreds of thousands, creating a title and legend and displaying the plot.

**Significance:**

**Github:** <https://github.com/erl67/InfoVizProject>