

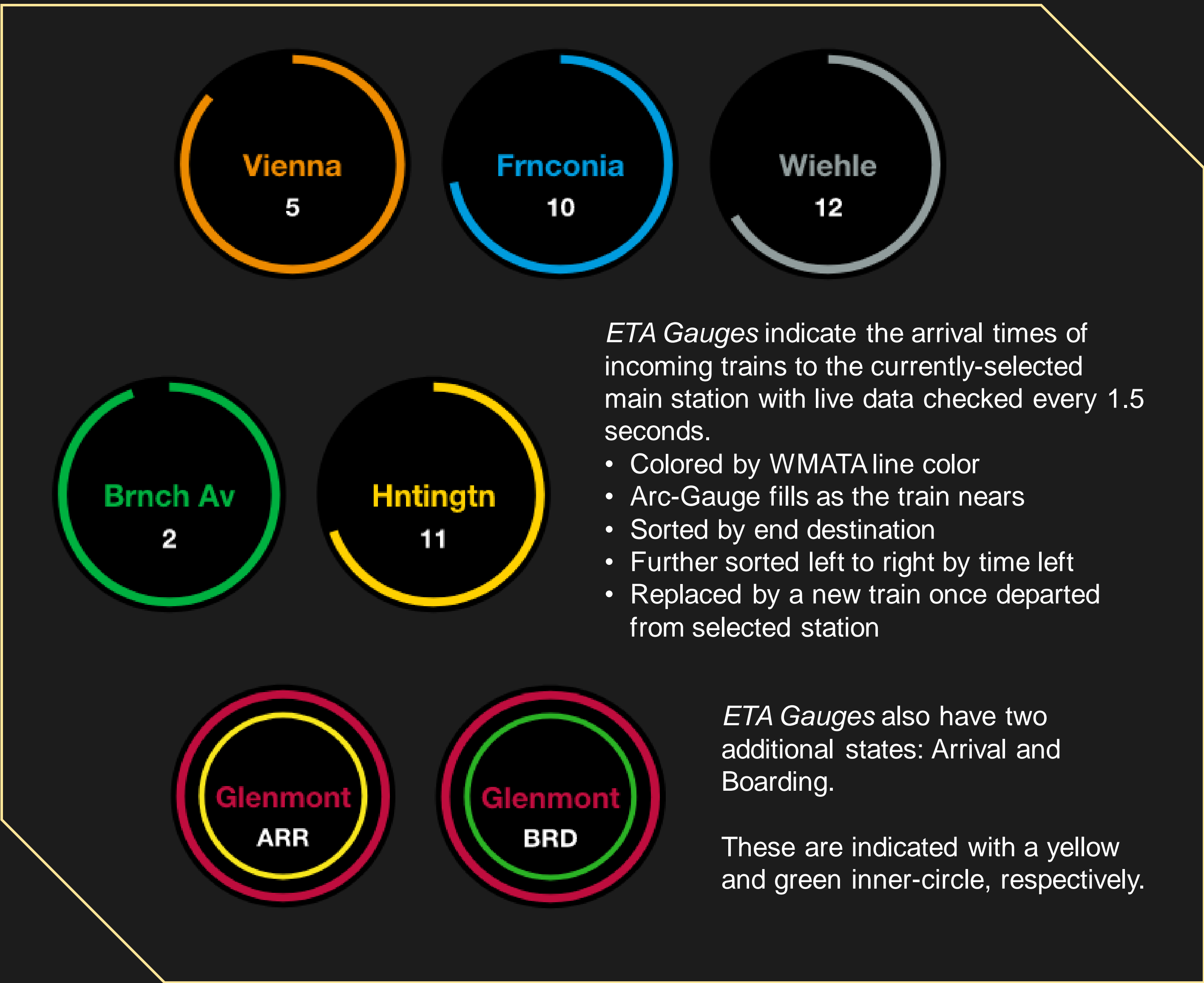
Visualization for On and Off the Rails: Train Commuting Dashboards for DC

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Estimated Arrival Time Gauges



Route Map

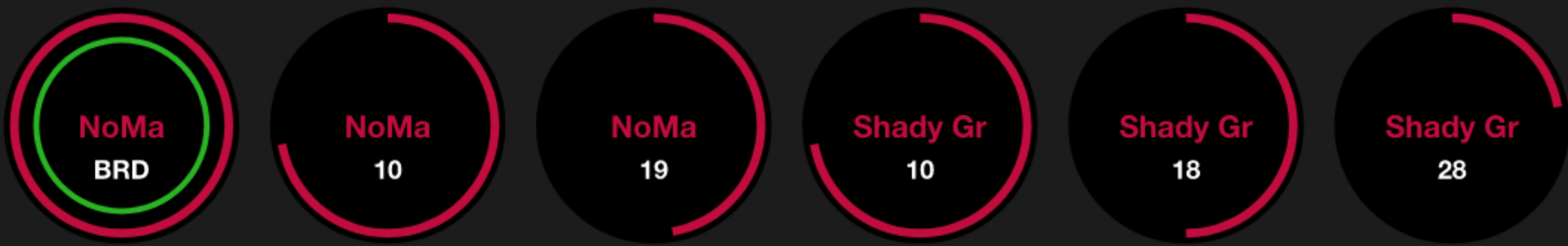


WMATA API Live Data & Dashboard

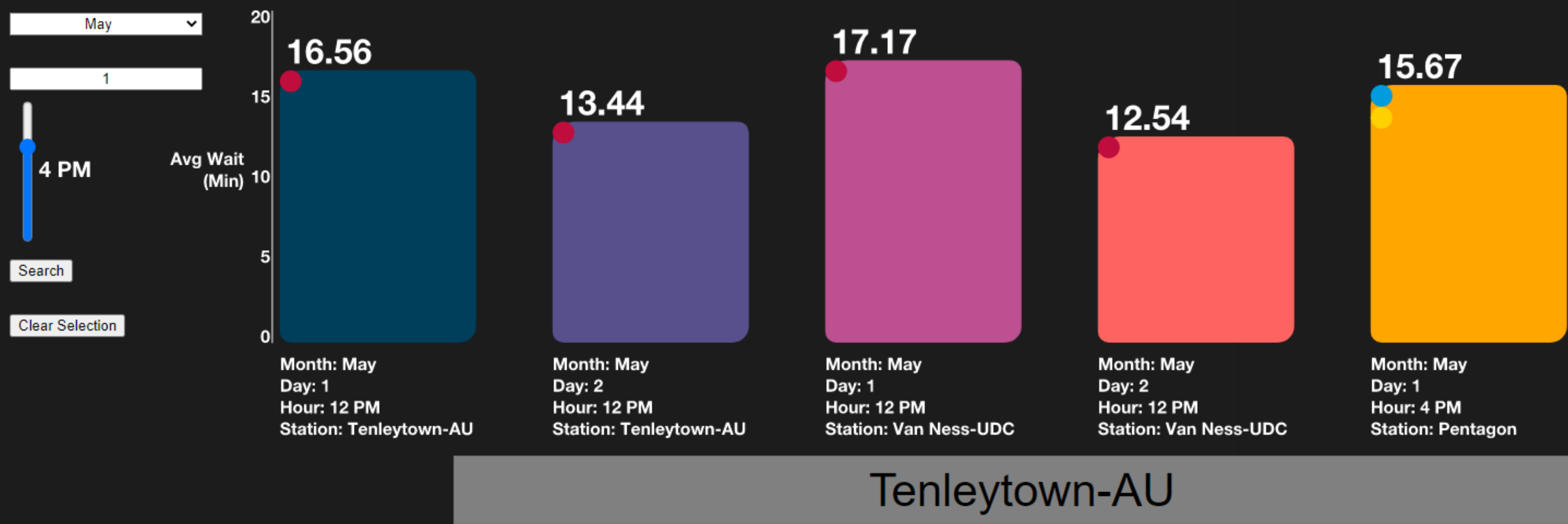
Abstract

The Metro API Data Visualization project (*MetroVis*) balances passive display capabilities for commuters with interactive queries to visualize Washington Metropolitan Area Transit Authority's (WMATA) live and historic transportation data. *MetroVis* is designed for commuters of two types: those that have to rapidly make decisions and catch a train, and those that have a moment to wait. For commuters that have to rapidly determine which train is arriving and how much time they have to catch it, *MetroVis* displays relevant information about a location that can be discerned at a glance. For commuters that have a moment to interact with the display while waiting for a train, *MetroVis* presents several dynamic and interactive features that allow commuters to quickly find information.

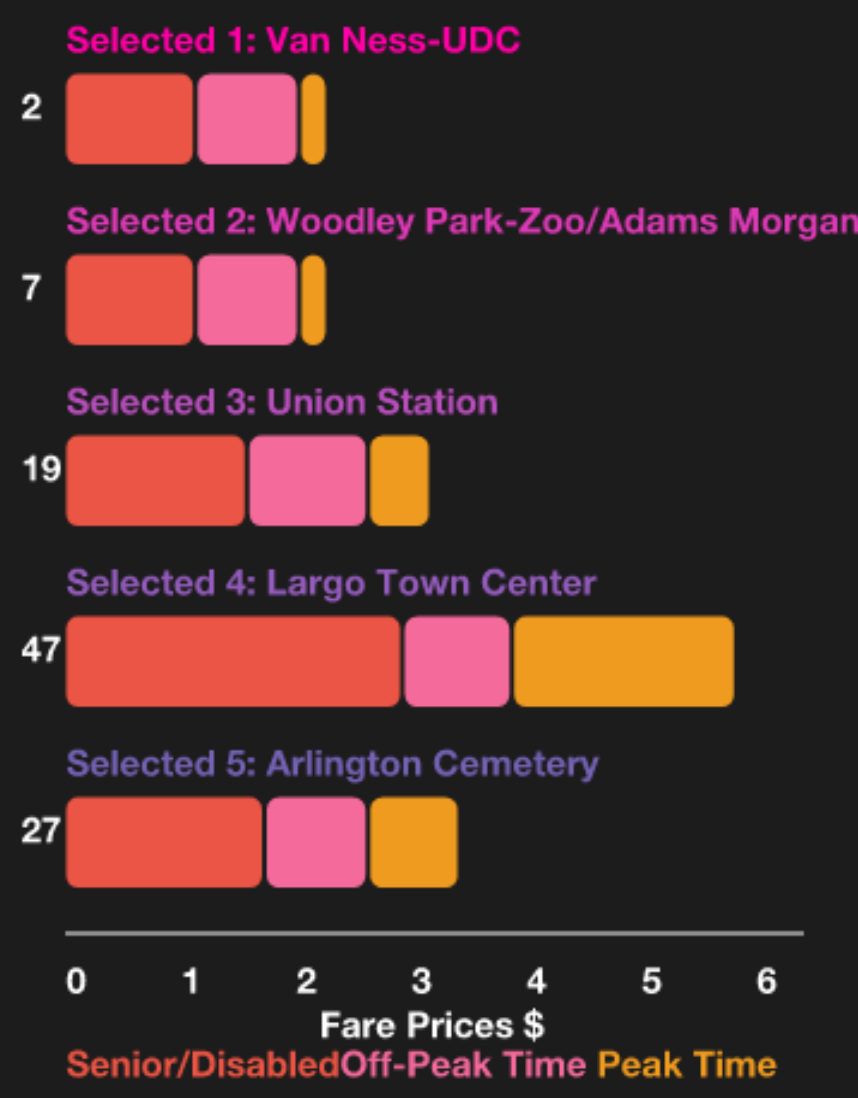
Live Train Data



Average Train Wait Times



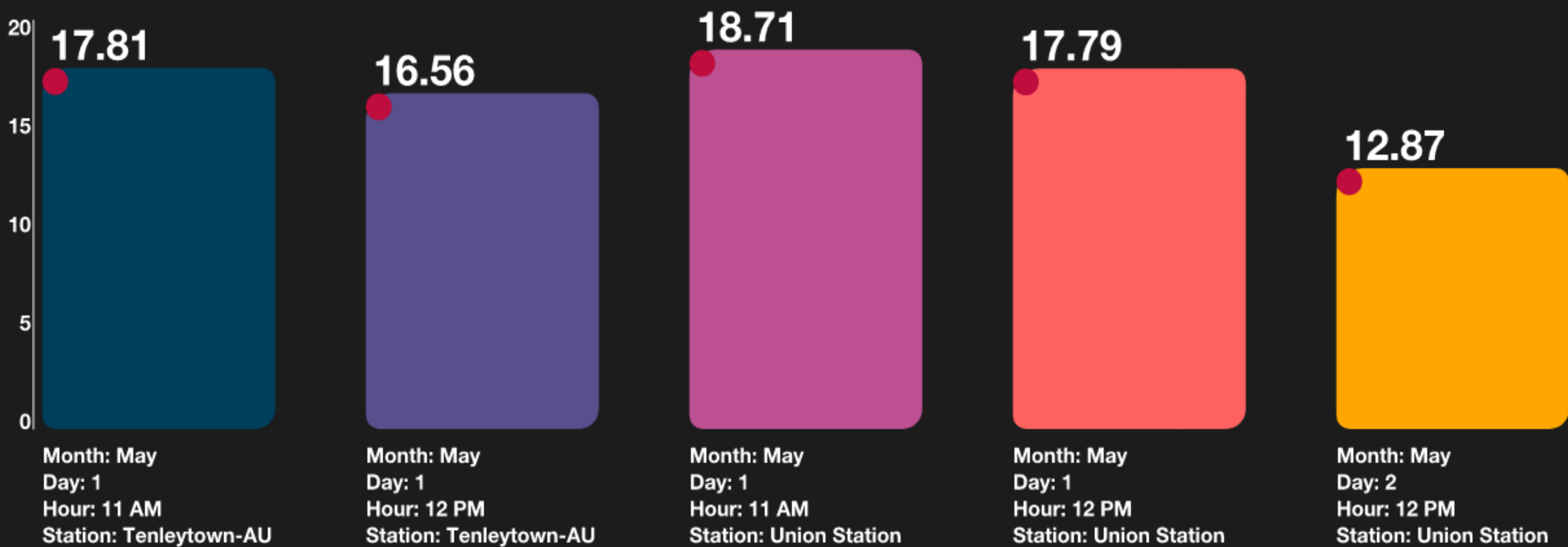
Riding Rates by Selection



Average Train Wait Times Selection

Users can make a query to display cached data to determine the average waiting time for a train at their currently-selected main station. These queries are made given:

- Month
- Date
- Time (by hour)
- Station



Upon submitting a query, a bar will appear, indicating the average time (in minutes) placed at the top of the bar. Additionally, colored dots in the top left of each bar indicate available lines at the searched station.

Each bar also notes which parameters were used to create it, so that comparisons between queries can be made easily.

Riding Rates by Selection

Using the selections made from the *Route Map*, *Riding Rates by Selection* displays the fare of a trip from the currently-selected main station to each of the 5 map-selected stations. The total estimated travel time to the map-selected station is also displayed to the left of the stacked-bar chart in white. Fares are displayed in a stacked-bar chart, indicating the price for each fare for each map-selected station.

Changing either the currently-selected main station or any of the 5 map-selected stations will dynamically update this section.

