# Tramzone: An Interactive GeoData Visualization of Zürich

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## 1 Introduction

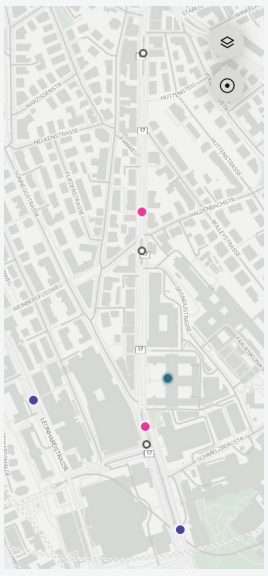
Tramzone is a web application which visualizes the live locations of all trams in Zürich. Its main purpose is to show the users where their trams are and how a service interruption affects their route. Thus one is always updated about the live situation of Zürichs tram transport situation

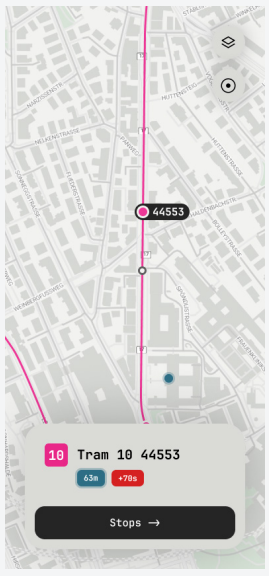
## 2 Usage Scenario

- As the first use case, Tramzone informs the user about the tram's live location. Due to this visualization, the user can make an informed decision about which direction they should go, if they should run to catch the tram, and whether they should switch to another
- The web application tackles service interruptions as its second usage scenario. Users will be informed about the current situation of the trams' network, and how each interruption might affect their travel.
- Lastly, we cover the tracking of the trams' live locations. Tramzone's purpose is similar to Flightracker's: to provide tram enthusiasts with a visual representation of Zürich's tram network's live situation.

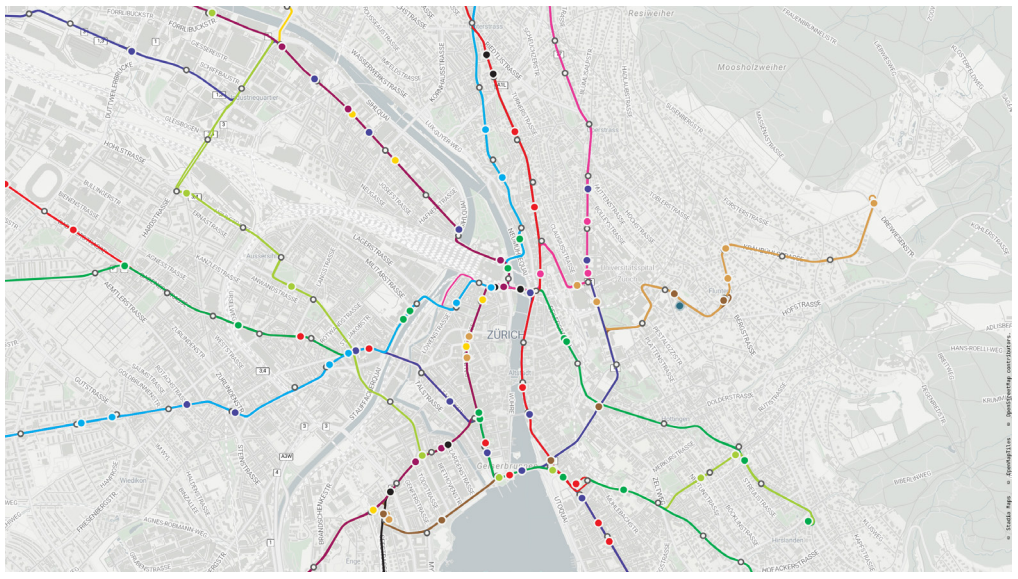
## 3 Interaction & Workflow

Once the user opens the web application, he will be greeted by the leftmost image. When he interacts with the trams, the center image will be his view, with the line of the tram showing. The user can furthermore change his view by toggling the layers, as shown in the rightmost picture.









## 4 Materials

- The data was fetched from Stadt-Zürich[1], Open Data-Plattform Mobilität Schweiz[2] and StadiaMaps[3]
- The library used to enable an interactive map was OpenLayers[4]
- Tram data is based on the Swiss GTFS timetable combined with realtime delay updates

## 5 Conclusion

- We made a web application which accurately visualizes the live locations of the trams in Zürich
- There is future work to be made in making the parsing of the data more memory efficient
- Also, smoothing out the animation of the trams movement would be needed
- As an additional future work, one could implement a search function which allows visually impaired people and keyboard users to more easily find the feature they are looking for
- All in all, Tramzone is in a good state at the moment, and many things can easily be built on top of it

## References

[1] https://data.stadt-zuerich.ch/dataset/

[2] https://opentransportdata.swiss/en/cookbook/

[3] https://docs.stadiamaps.com/?utm_source=marketing_site&utm_content=navb

[4] https://openlayers.org/en/latest/apidoc/

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