

EMILY DOMANICO

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Collaborative data scientist interested in developing workflows to support effective use of data and geographic information. Background in transportation data analysis, cartography, and data visualization.

WORK EXPERIENCE

Principal Data Analyst, Central Transportation Planning Staff (BRMPO) Boston, MA | Mar 2020 – present

Analyze, visualize, and research mobility and equity as staff to the Boston Region Metropolitan Planning Organization. Develop interactives and decision support tools to assist in regional transportation planning. Manage personal and team technical projects including budgeting, reporting, and client communication.

- Designed destination access equity metrics and developed interactive web apps to assist in regional transportation planning using dasymetric population mapping, R, python, and Conveyal. (<https://github.com/CTPSSTAFF/existing-inequities>)
- Projected equity implications for fare changes using survey, ridership, and revenue data for the MBTA. Managed transfer from a spreadsheet-based process to version-controlled, coded process to accommodate more complex fare changes and rolling data input updates. ([2024 Fare Changes](#) and [2022 Fare Changes](#))
- Reported on equity impacts of price changes in the Bluebikes bikeshare system, including estimating the impacts of introducing e-bikes. Managed the design and facilitation of a demographic ridership survey of Bluebikes riders.
- Researched and designed models to estimate rail replacement shuttle passenger counts for the MBTA using R and postgres.
- Lead technical staff in the design of a data dashboard to report on transportation equity trends over time for the MPO 's Transportation Equity Program
- Researched and adapted algorithms to match bus segments to the road network to report MBTA bus delay and support transit priority planning using R and python.
- Staff generated research projects: US Census to transit passenger survey investigation ([Interactive App and Report](#)) & Identifying durable bus ridership corridor since the pandemic ([Interactive App and Presentation](#)).

Graduate Assistant, Penn State University

State College, PA | Aug 2017 – May 2019

Teaching assistant for geography classes. Conducted GIS and cartography labs and developed curricula. Conducted user studies of geographic information visualization strategies to analyze public comments for the Bureau of Land Management. Supporting Women in Geography (SWIG) Officer. Undergrad research mentor.

Mapping Technician, Cruise Automation

San Francisco, CA | Mar 2017 – Jul 2017

Developed maps for autonomous cars. Digitized street maps and performed quality assurance. Created and maintained maps for driverless cars using SQL, postGIS, QGIS, and JIRA.

GIS Field Technician, Evari GIS Consulting

San Diego, CA | Oct 2016 – Jan 2017

Created maps using GIS software for a state-wide streetlight audit for a utility company. Compiled geographic data from field observation, existing maps, and satellite imagery.

EDUCATION

Penn State University, MS Geography – Cartography and GIS Focus

2017 – 2019

- Thesis: Map Use and Geographic Information Flows in Rail Transit Control Centers
- International Cartographic Conference, Tokyo, Japan, 2019 ([Paper](#))
- First Place, Student Illustrated Poster Competition of the Cartography Specialty Group at AAG 2019.
- Second Place, Penn State College of Earth and Mineral Science Graduate Poster Competition, 2019.

University of California, Berkeley, BA History of Art – Chemistry Minor

2012 – 2016

SKILLS

R, tidyverse, sf, sfnetworks, stars, tidycensus, ShinyApps – python, geopandas, osmnx, networkx – postgresQL, postGIS, SQL, BigQuery – GitHub and git – QGIS, GDAL, ArcGIS Pro – html, css, javascript – Transit and Mobility Data: GTFS, Conveyal, Streetlight, Replica