Climate Corps 18-19

CLIMATE CORPS

Transparent Train Travel

Capitol Corridor Joint Powers Authority

Project Overview

Fare Analysis

Capitol Corridor operates a 170 mile stretch of passenger rail from Auburn to San Jose. How does its fare structure compare to similar operators in and out of California?

- ✓ Compare commuter and intercity routes with more than 40 miles of rail
- ✓ Normalize for origin-destination (OD) distance and number of rides
  - ✓ Single-ride
  - ✓ Multi-ride
  - ✓ Monthly pass
- ✓ Average over all OD pairs on route
- ✓ Conduct Pearson correlation test for track length and fare

Website Metrics

The main concerns for rail commuters are when their train will arrive and how full it will be. These concerns translate to measurable on-time performance (OTP) and seat occupancy.

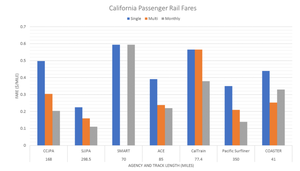
$$OTP\ (\%) = \frac{Number\ of\ on-time\ trains}{Total\ number\ of\ trains} \times 100$$

$$Seat\ Occupancy\ (\%) = \frac{Peak\ ridership\ on\ train}{Number\ of\ seats\ on\ train} \times 100$$

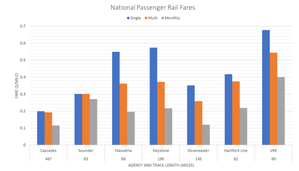
Project Results

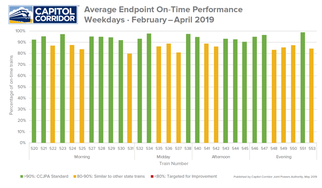
Fare Analysis

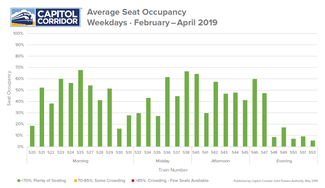
$r\ (Single) = -0.71$
$r\ (Multi) = -0.52$
$r\ (Monthly) = -0.72$



$r\ (Single) = -0.55$
$r\ (Multi) = -0.62$
$r\ (Monthly) = -0.55$







- Three (3) month rolling average
- Posted monthly on Capitol Corridor website

Website Metrics

Lessons Learned

Successful Strategies:

- Write (on paper) a project outline, timeline, and strategy
- Start with low-hanging fruit
- Ask questions

Program Expansion:

- ➢ Fare Analysis
  - ➢ Investigate discount programs for seniors, students, low-income, etc.
- ➢ Website Metrics
  - ➢ New equipment with allow for live data streams and integration with web/app

sei STRATEGIC ENERGY INNOVATIONS

CAPITOL CORRIDOR JOINT POWERS AUTHORITY

Kean Amidi-Abraham

B.S. Energy Engineering | University of California, Berkeley

I would like to see sustainability become a principle economic strategy in my lifetime.

Acknowledgements:

I commend the entire Capitol Corridor team for their dedication to passenger rail service and welcoming new perspectives. Thank you Cat and Nathan for making my Climate Corps experience one for the books.