Rail Transit for Santa Cruz County

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Chair, Friends of the Rail&Trail (FORT)

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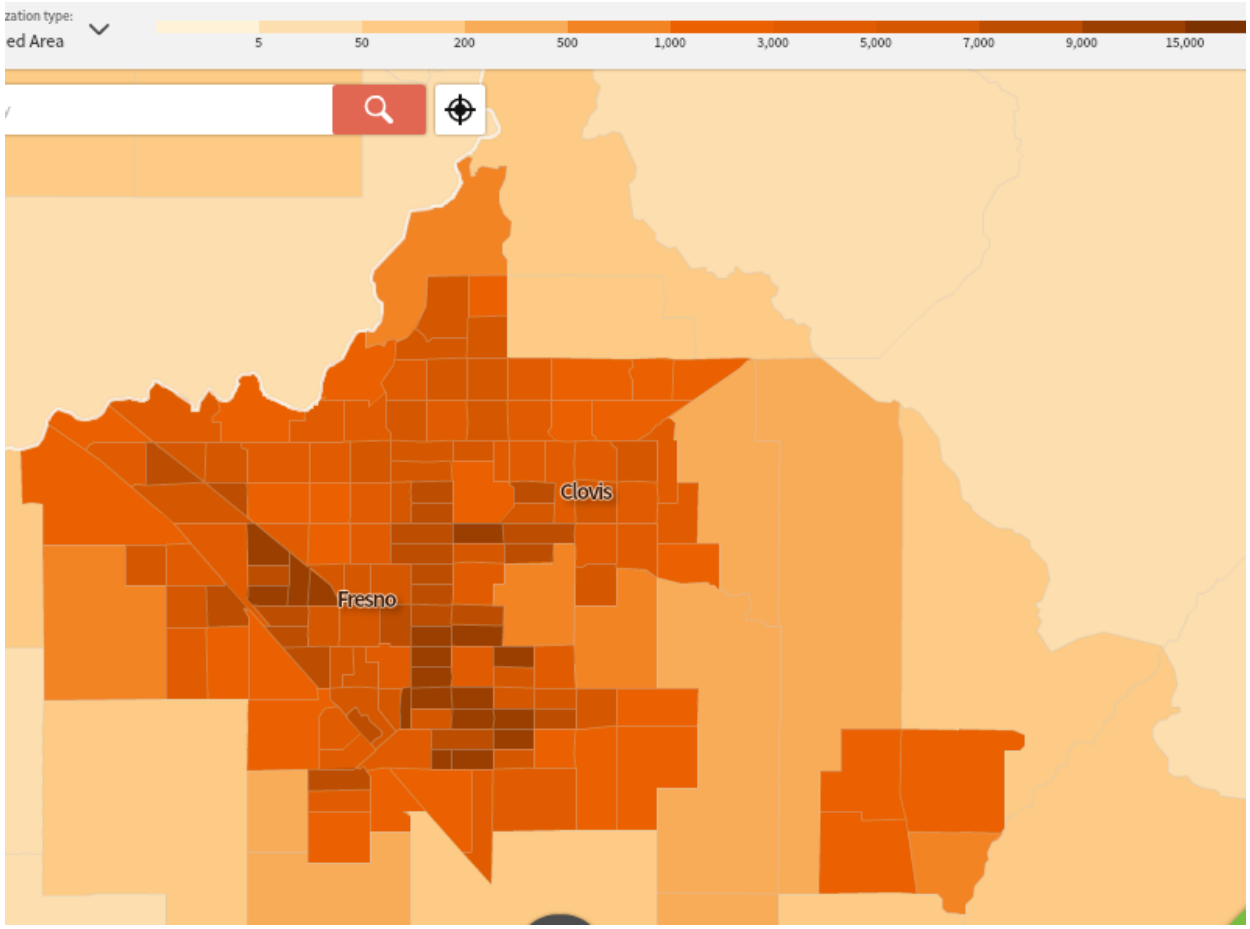
Making Rail Work Here

- A great system is a matter of *luck
- *Luck = Preparation meeting opportunity
- Opportunity created by
  - Density pattern
  - Viable options (rail line!)
  - A population ready and open to solutions
  - Changing State and Federal priorities/regulations
- Solution: Go where you want to go, often

Density

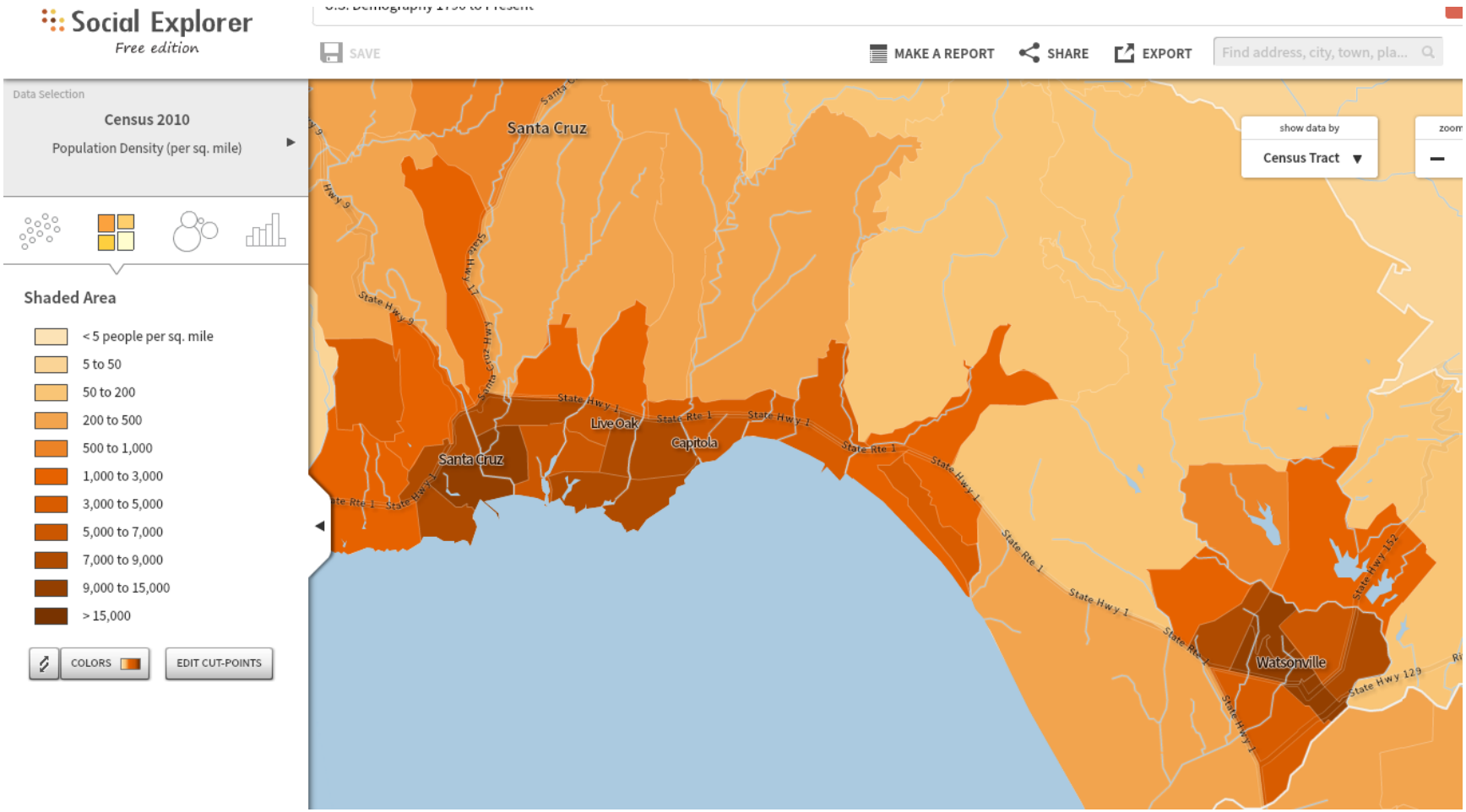
- Not to be confused with population
- A large population can be very spread out (Jacksonville, Fresno)—both over 1M people, very unsuitable for local rail transit
- Need dense population near a rail line PLUS
- Places to go near a rail line PLUS
- Ways to get to the rail line AND
- A long skinny settlement pattern really helps
- FTA now realizes difference between population and density, adjusts scoring accordingly

Density Maps (Fresno)
972,000 people in picture



Lots of people, but low density and not a linear pattern
Hard to make rail work except for very short distance

Density Maps (Santa Cruz)
250k people, 1/2 in mid-County



Fewer people, but linear settlement pattern, high density close to rail line. (Densities comparable to Seattle/Oakland/Portland)

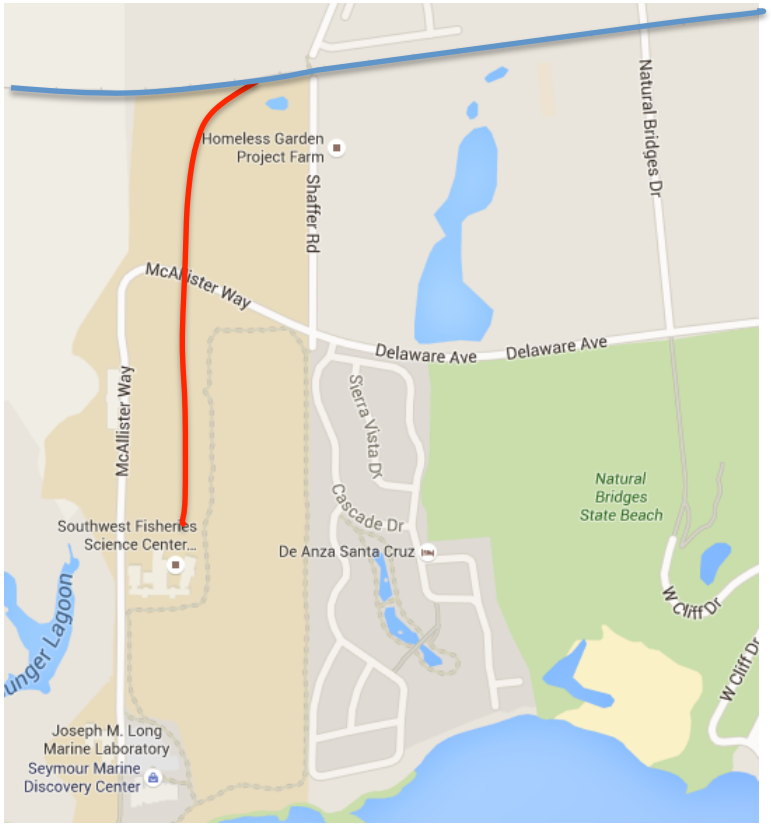
The Last Mile

- Best if rail goes somewhere, not just *near* somewhere. Somewhere = < 1 mile, pref. ½ mile. (28% SC pop ½ mile from RR, 50% 1 mile)
- In our area, this comes up for
  - UCSC
  - Marine Sciences Campus
  - Cabrillo College
  - Hospital/Medical Services area
  - Harvey West
- Best solution is direct service
- Second best is coordinated bus (UCSC, hospital, Harvey West)
- Best to serve a smaller number of people well than many poorly

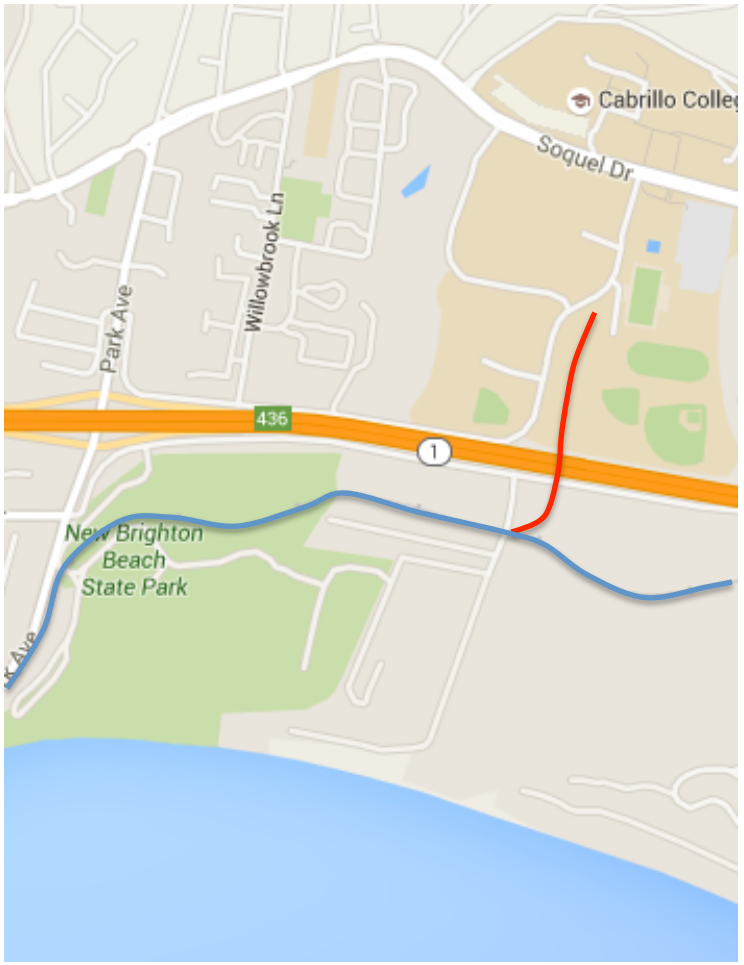
Transportation options benefit all

- New options benefit even those who don't use them
- Somebody who lives in Corralitos and works in Scotts Valley won't use rail or trail much
- But it will be easier to get to work and back

Rail Spurs worth the effort



UCSC – new Marine Sciences Campus
0.4 – 0.5 mi from rail line



Cabrillo College
0.2 mi. plus freeway
Over/underpass

A train is a train is a train?
Caltrain: Diesel powered, 460 tons

Explosion of new options
40-50 tons, electric, no locomotive

Light Rail with Streetcar feel-
Low boarding
Rapid acceleration
Rapid entry/exit

Streetcar with Light Rail Feel:
Top Speed 65 mph
Room for wheelchairs and bikes

Traffic on Hwy. 1

1 double rail vehicle = 1 mile of traffic jam on Hwy. 1

Assumptions:

190 ft. long = 2 x S70 Siemens Vehicles

Passengers: 360

Capacity: 440

Energy Equivalent**: 0.15 gal/ mile**

Cars in traffic jam: 300

People/car = 1.2

People in traffic = 360

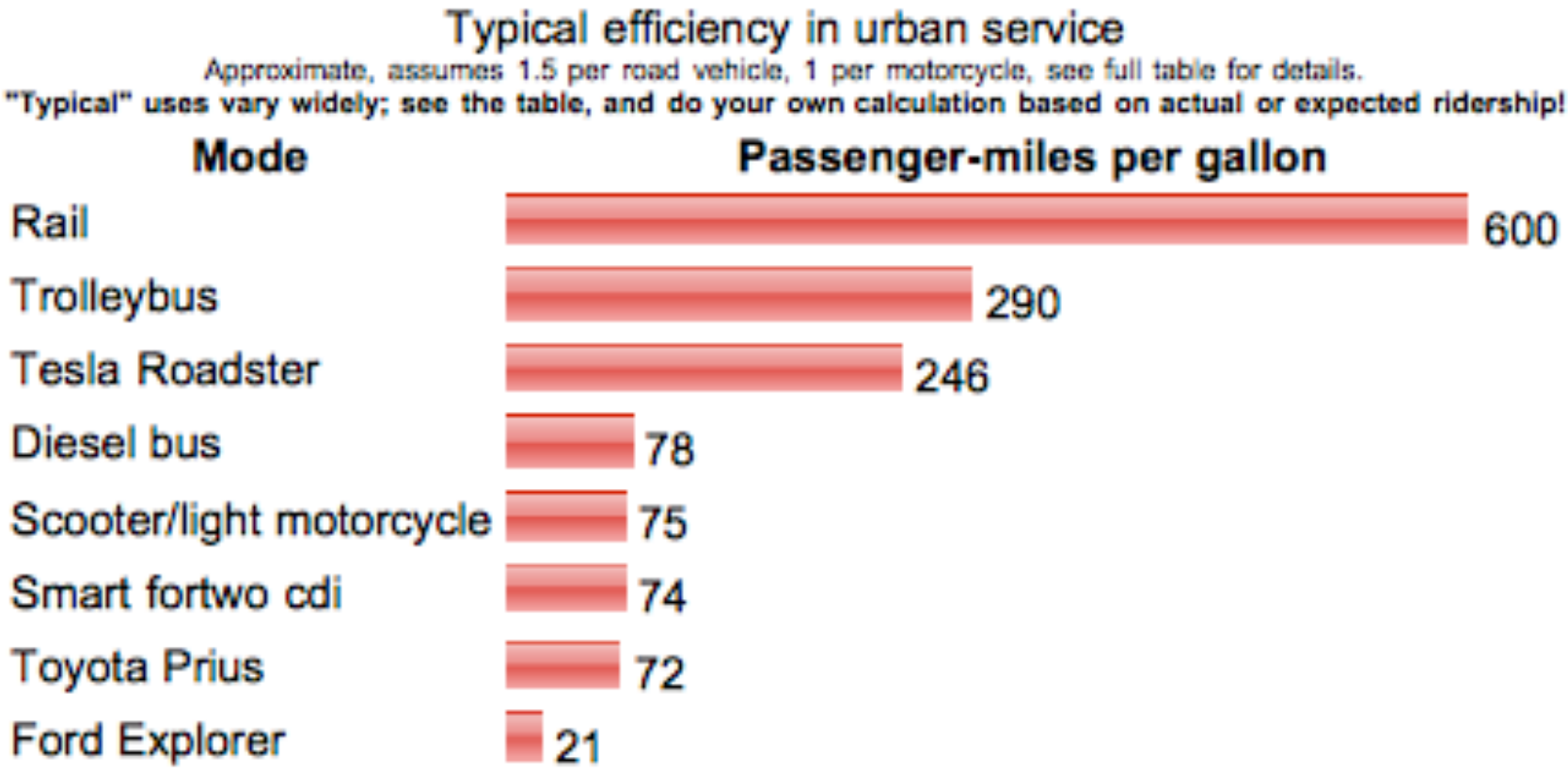
Car Spacing: 35 ft. x 2 lanes

Gasoline used by 300 cars @ 25 mpg = **12 gal./mile**

Rail 84x better!

Not a toy—A real transportation option

Typical Efficiencies



Source: James Stricklan, 2006 - 2009

New Technology

- Batteries (in use in Dallas, elsewhere)
- Supercapacitors (Europe)
- Hidden 3rd rail
- Inductive charging
- Diesel/electric hybrid
- Regenerative braking
- Efficiencies from 300-1000 mpg/passenger
- PTC

All aboard!