



Central Coast  
Broadband Consortium



# Central Coast Broadband Consortium

3 County Ad Hoc  
Group devoted to  
improving broadband

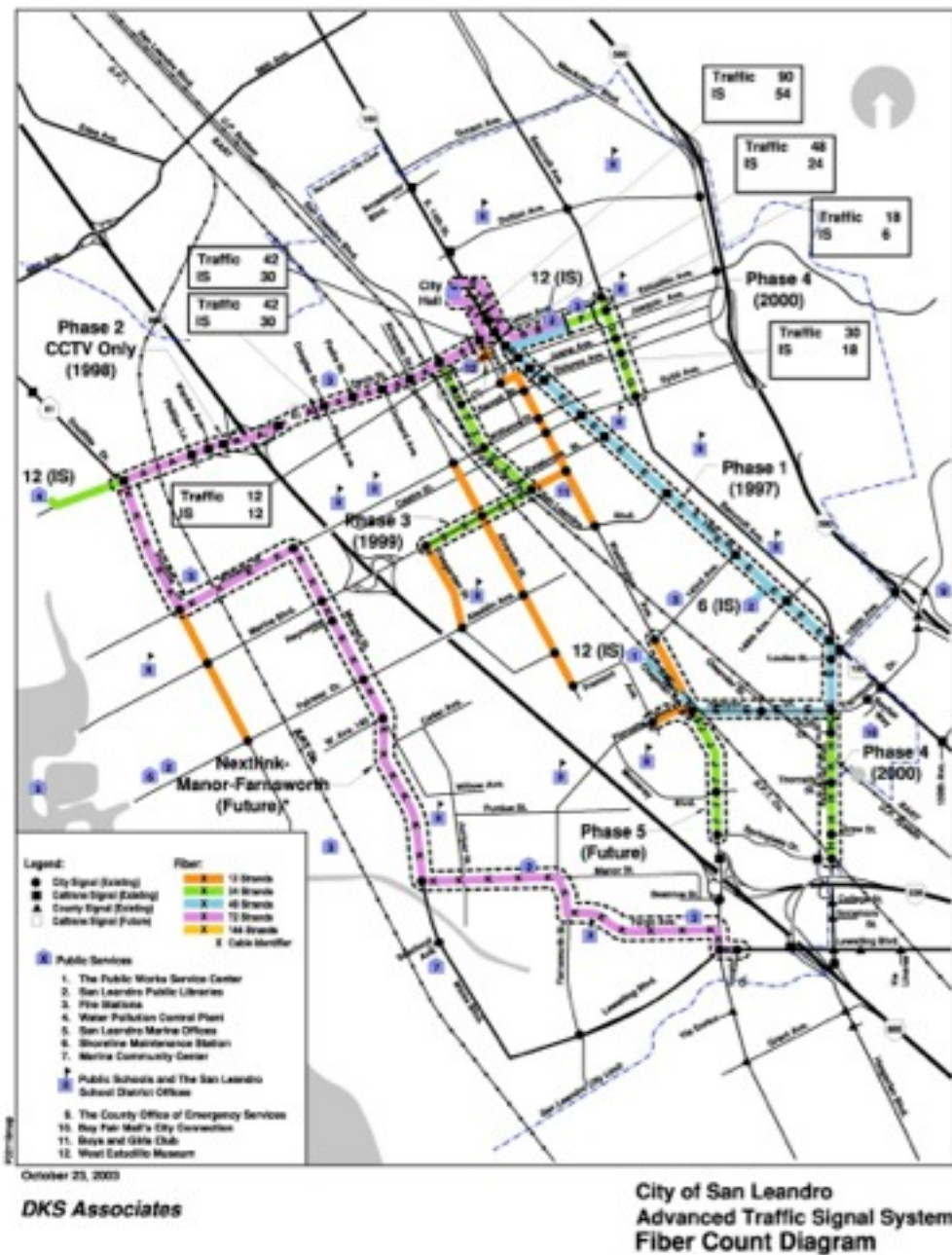




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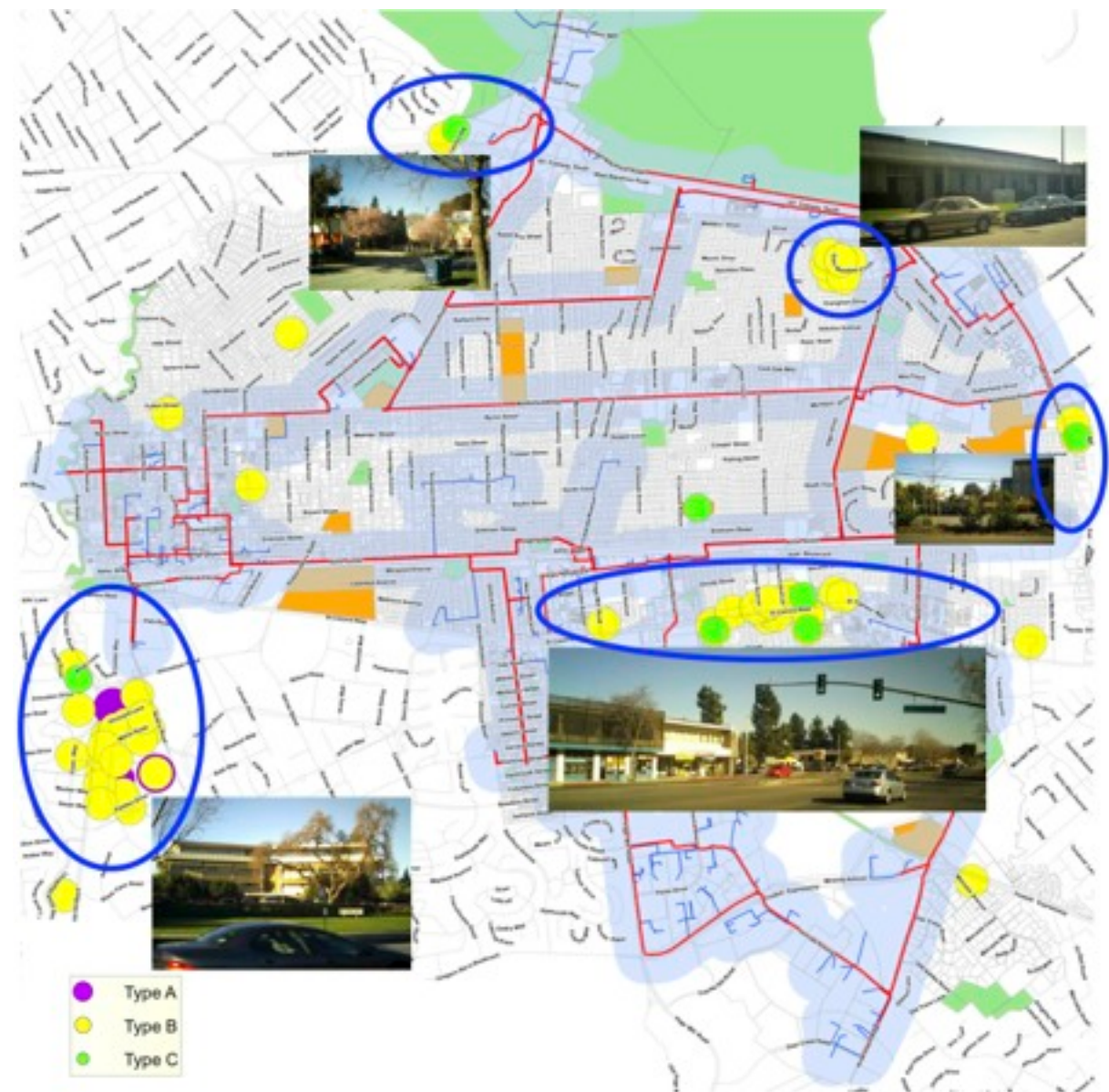
# “A Connected Central Coast” CASF Consortia Grant Project





Lit San Leandro

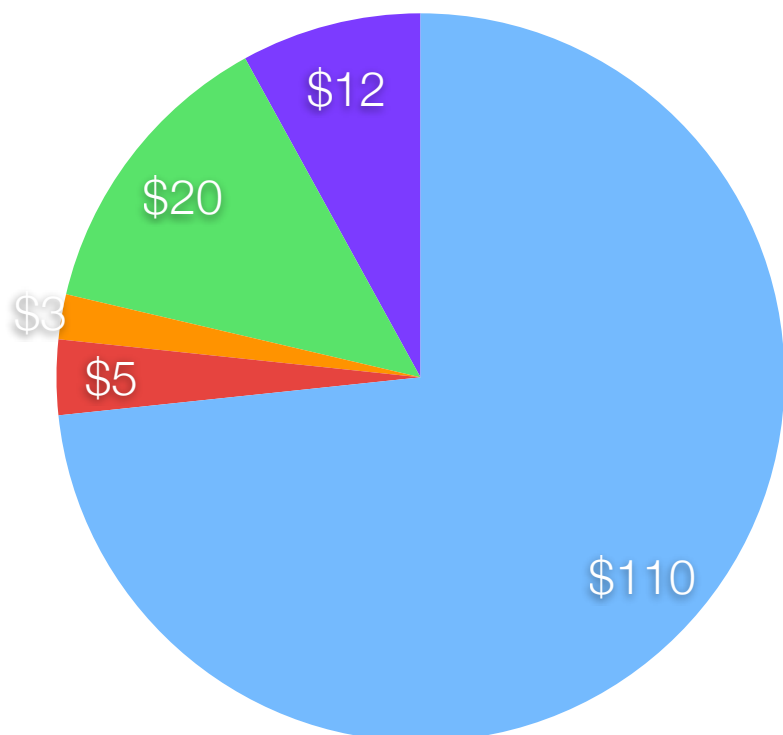
City of Palo Alto fiber



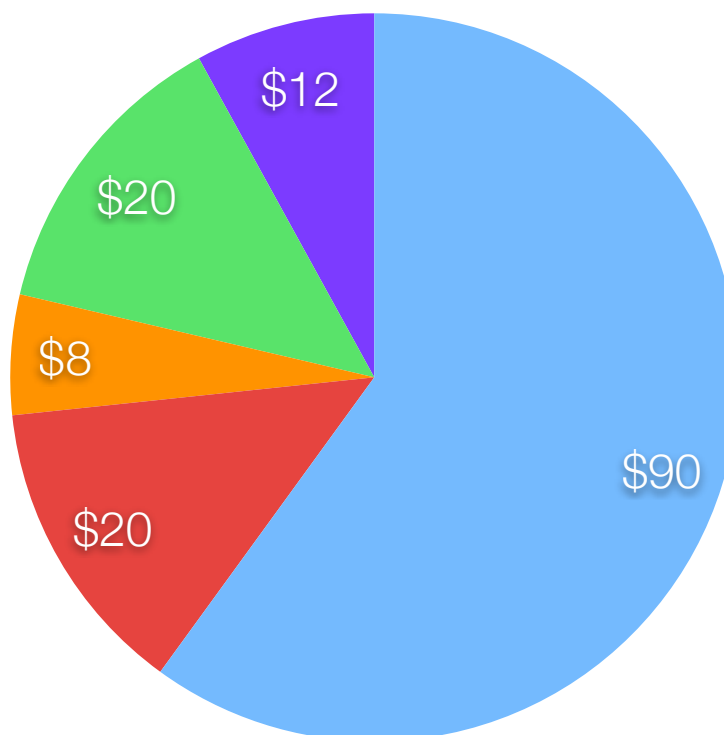
Mapping key to developing  
broadband projects

Sometimes deliberate, but best  
projects are serendipitous

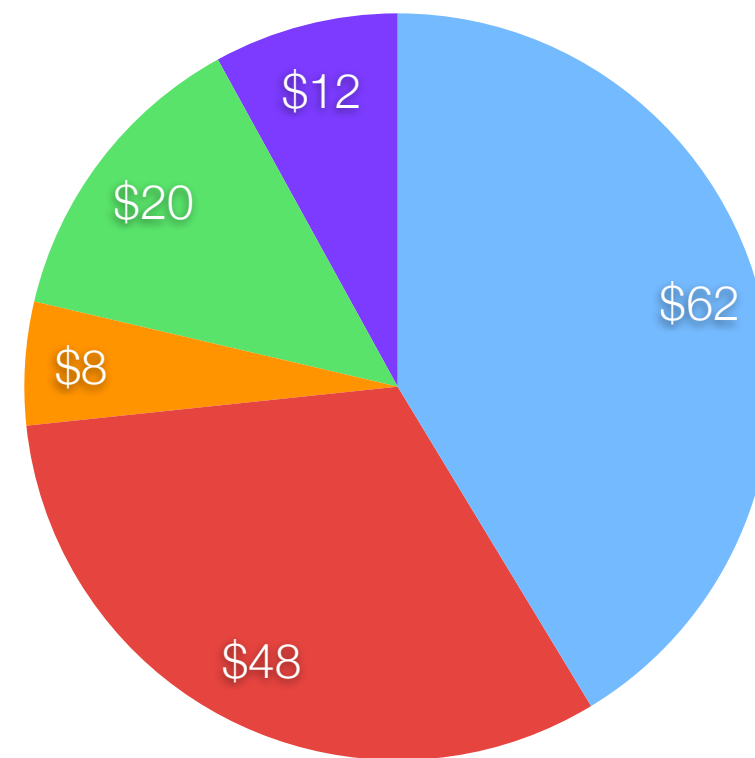
Year 1



Year 2

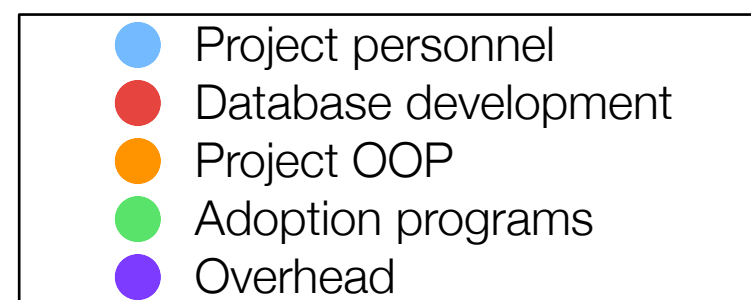


Year 3



000's

Core grant-funded budget  
\$150K per year



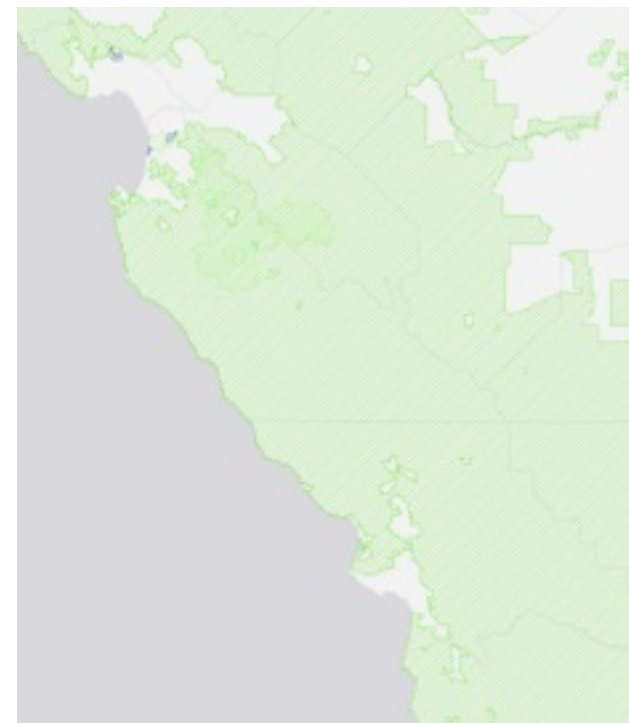
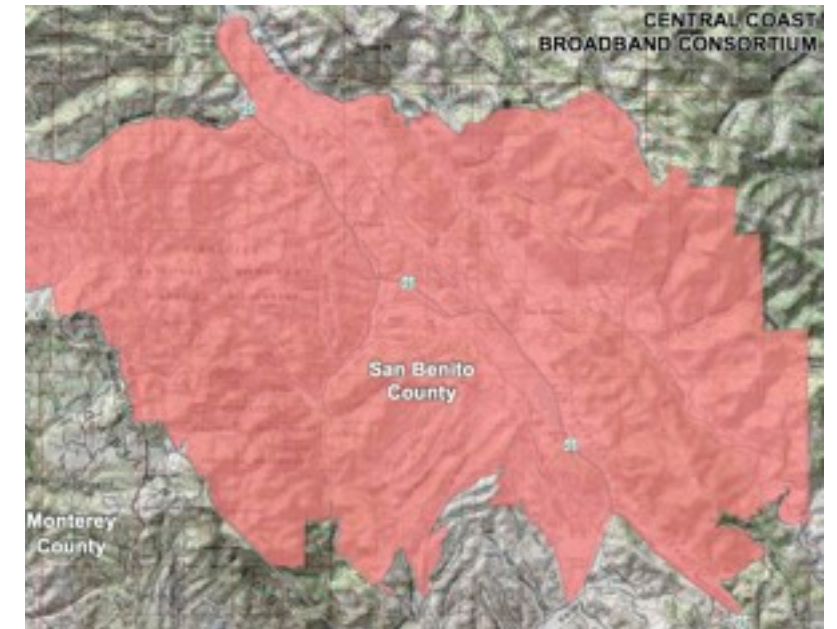
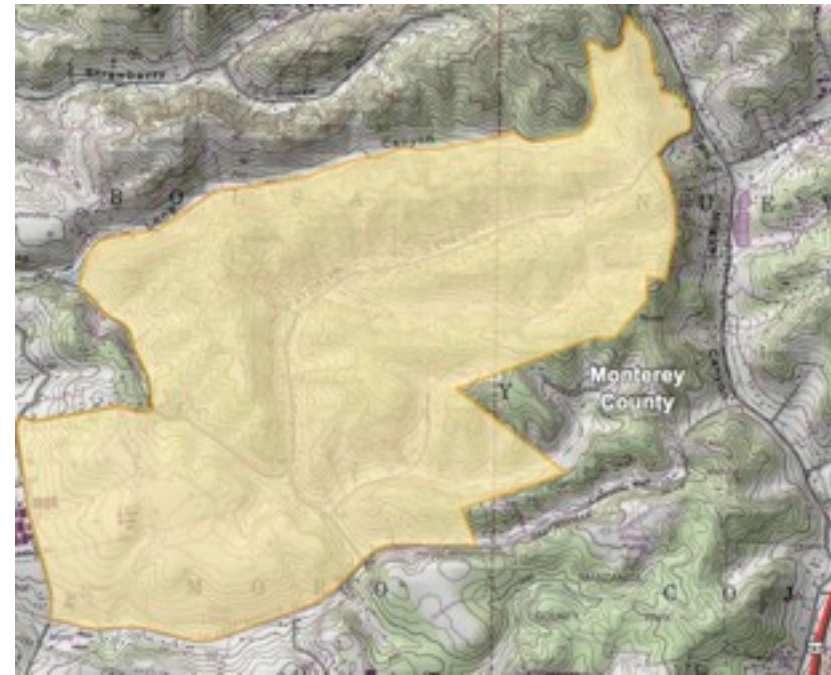
|                                   | Year 1    | Year 2    | Year 3    | Total     |
|-----------------------------------|-----------|-----------|-----------|-----------|
| CASF Consortia Grant              | \$150,000 | \$150,000 | \$150,000 | \$450,000 |
| CASF summit travel supplement     | \$10,000  | \$10,000  | \$10,000  | \$30,000  |
| CCBC member in-kind contributions | \$57,250  | \$76,750  | \$76,750  | \$210,750 |
| Total                             | \$217,250 | \$236,750 | \$236,750 | \$690,750 |



The map displays the Salinas River watershed in the Salinas Valley, California. The watershed area is shaded in red, while the river and its tributaries are highlighted in yellow. Key locations marked include Santa Cruz, Watsonville, Castroville, Salinas, Chualar, Gonzales, and Soledad. The map also shows the Salinas River and its tributaries, including the San Benito River and the San Juan River. The map is titled 'Salinas River Watershed' and includes a scale bar and a north arrow.

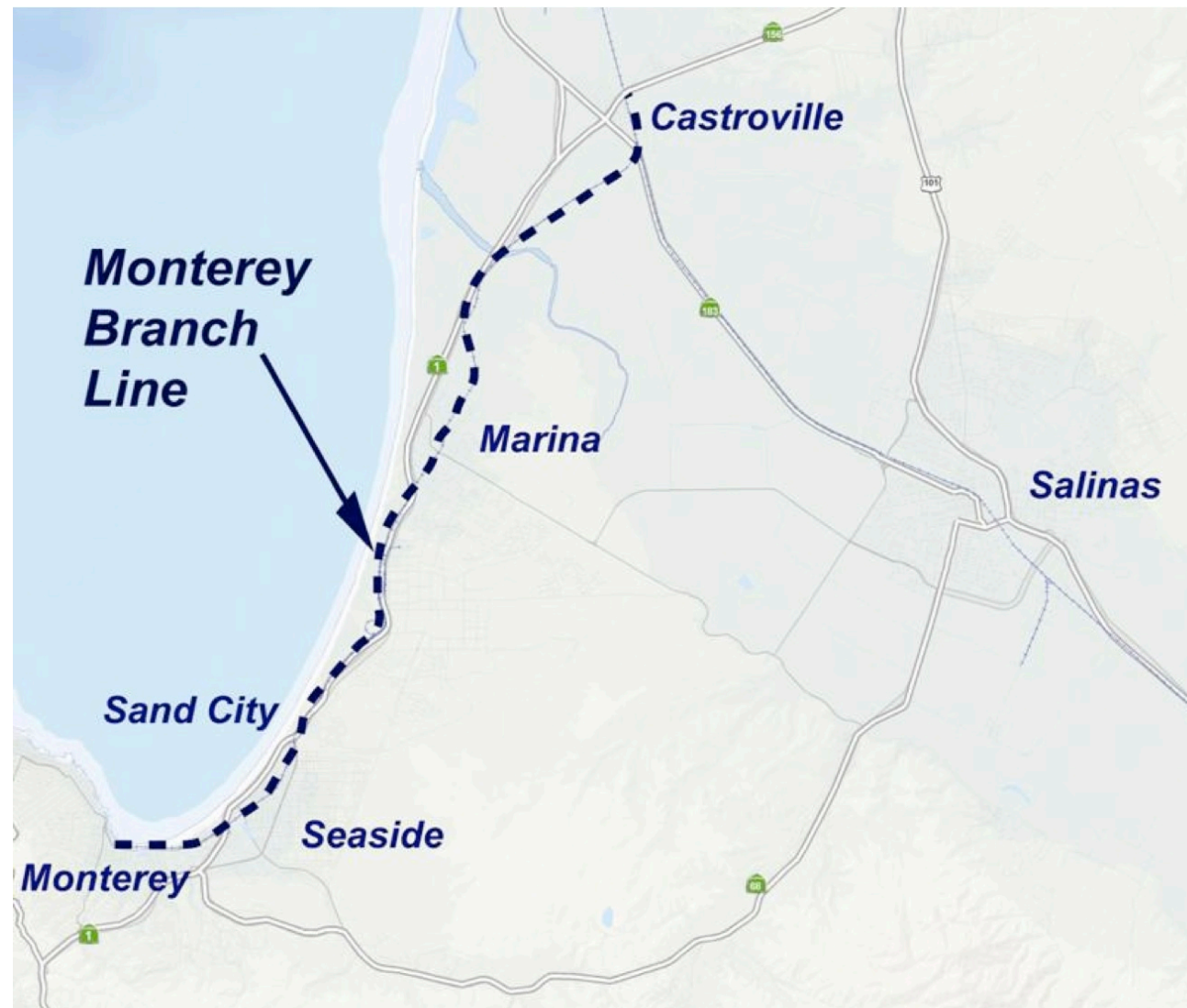
Santa Cruz -  
Watsonville -  
Castroville - Salinas -  
Chualar - Gonzales -  
Soledad





Five last mile projects for  
three counties

Surfnet in Santa Cruz &  
Monterey, Pinnacles Telephone  
in San Benito, Etheric wireless  
region-wide



TAMC light rail project

Can install fiber/conduit  
Possible CASF grant funding

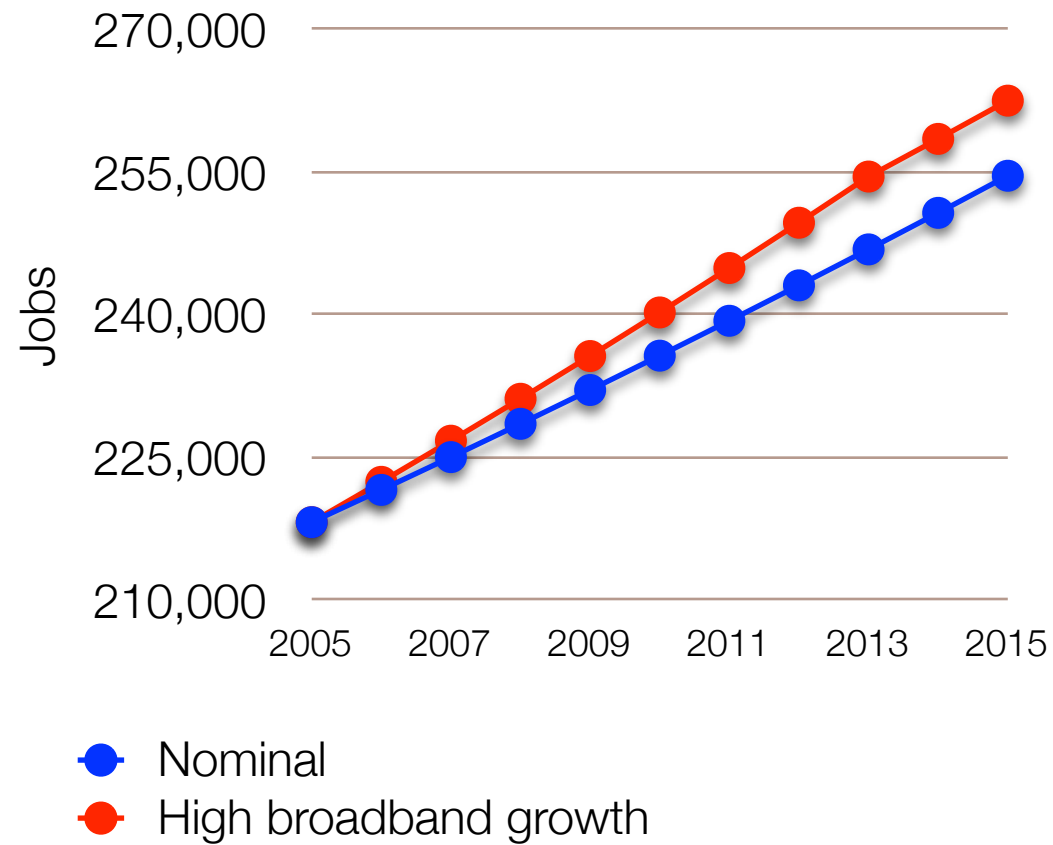




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Broadband means jobs and  
economic development

## Broadband's Effect on San Joaquin County Employment



Source: Sacramento Regional Research Institute

*Almost 50K job-years created by improved broadband access*

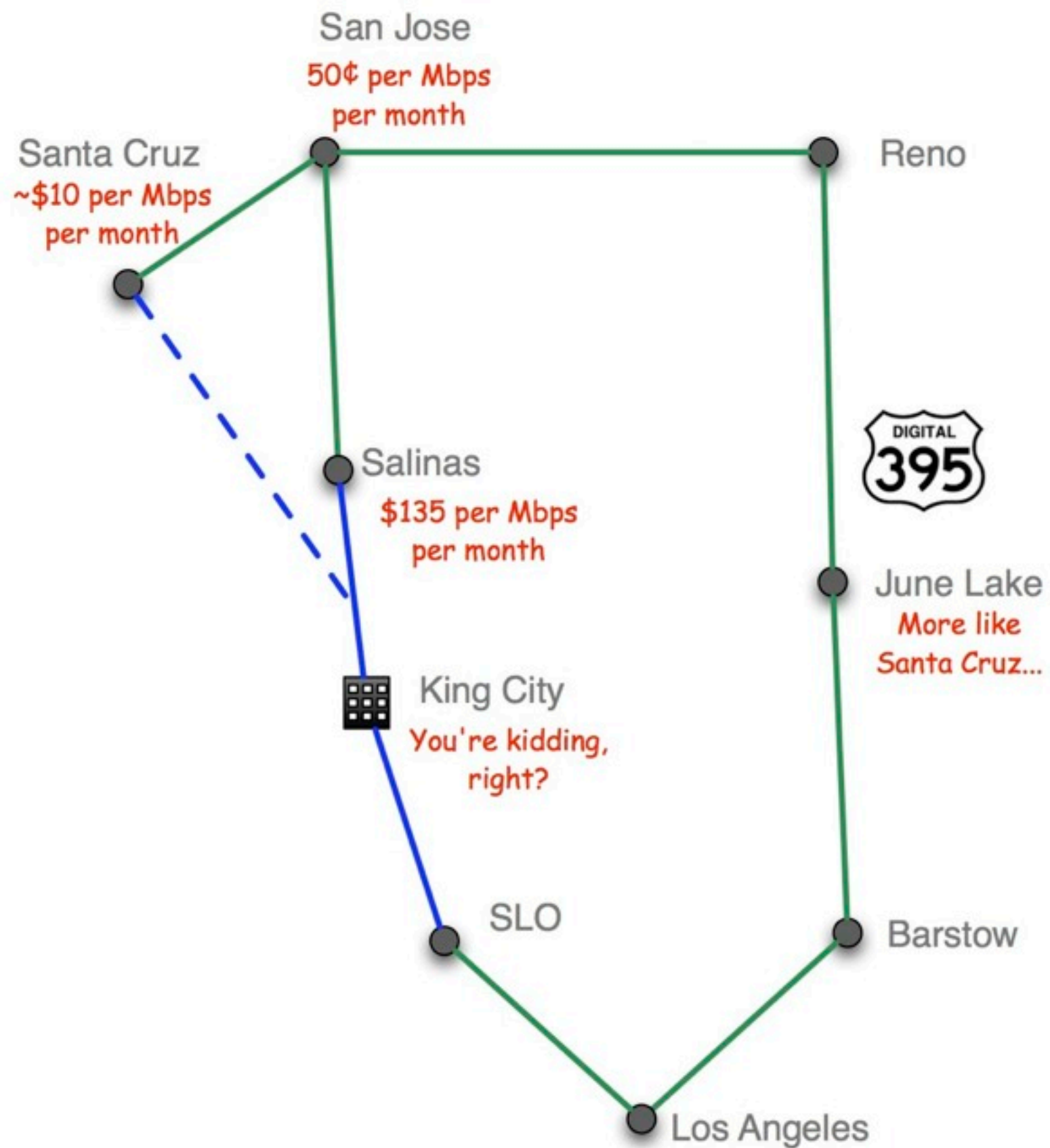
## Top U.S. Cities Average Measured Connection Speed

| Rank | City               | 2Q11 Ave. Mbps |
|------|--------------------|----------------|
| 1    | San Jose, CA       | 13.7           |
| 2    | Fredericksburg, VA | 8.5            |
| 3    | Monterey Park, CA  | 8.2            |
| 4    | Fremont, CA        | 8.2            |
| 5    | Staten Island, NY  | 7.6            |
| 6    | Columbia, MD       | 7.5            |
| 7    | Jersey City, NJ    | 7.5            |
| 8    | Riverside, CA      | 7.5            |
| 9    | Oakland, CA        | 7.5            |
| 10   | Fairfield, CA      | 7.3            |

Source: Akamai

Broadband attracts  
business, drives growth

Bandwidth is a basic  
requirement for business  
location decisions



Distance & location matter

You mean the Internet isn't free?



# {Geek}

*is the new  
Sexy*



A tale of two cities

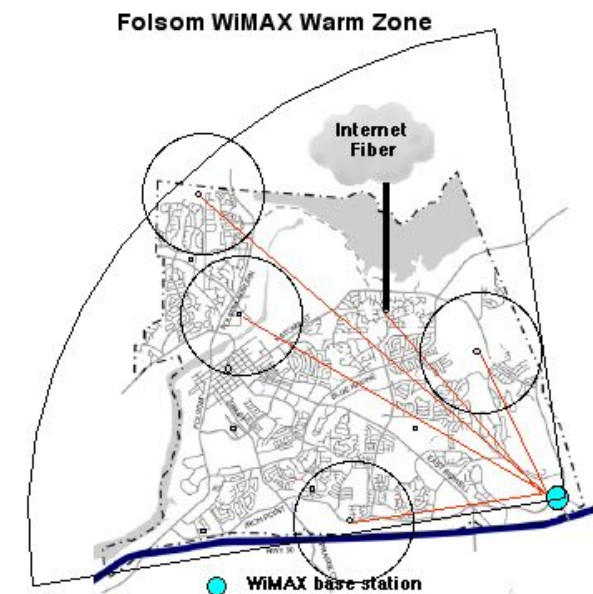
San Leandro & King City



Cities of San Leandro, Palo Alto, Santa Clara in dark fiber business



City of Lompoc runs a wireless Internet utility



City of Folsom built a wireless backbone pilot project



Cities of Benicia, Brisbane lighting up industrial parks



Chattanooga building fiber to the home, offers Gigabit service



Central coast counties developing 300 mile fiber network

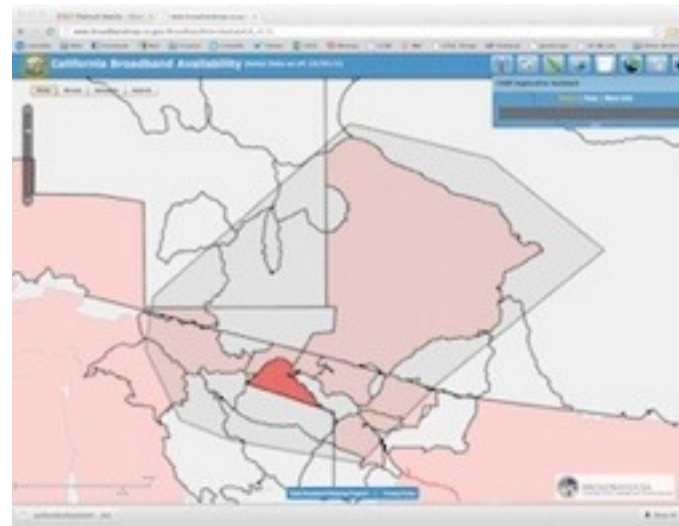
Even so, cities & counties are developing broadband

Willing to invest in infrastructure & partner with private companies





Lit San Leandro venture investing \$3 million in fiber loop for industrial, commercial customers



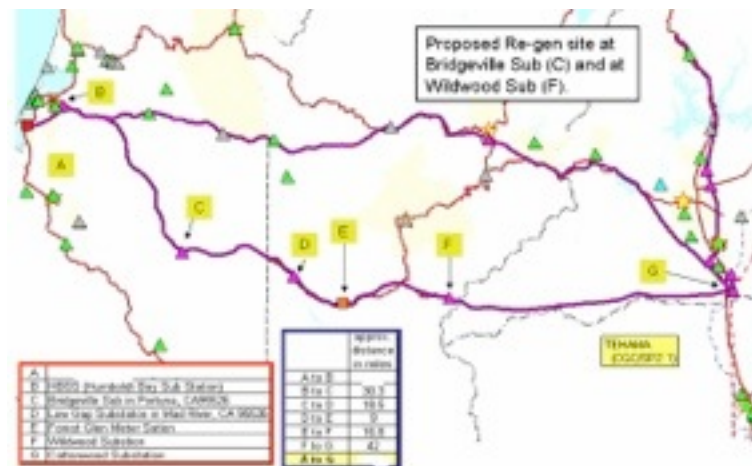
Rural telco builds fiber, wireless broadband links



Mountain ISPs look at FTTH & wireless service expansion



Private communities evaluate, partner on fiber systems



IP Networks, local groups partner on north coast fiber build



King City developer pursues major employer

Private companies & communities are in it too

Building infrastructure where big incumbents won't



# WAL★MART®



\$454 billion revenue  
4,423 stores



\$26 billion revenue  
Zero stores

Source: Stores Magazine

## Disruption & innovation



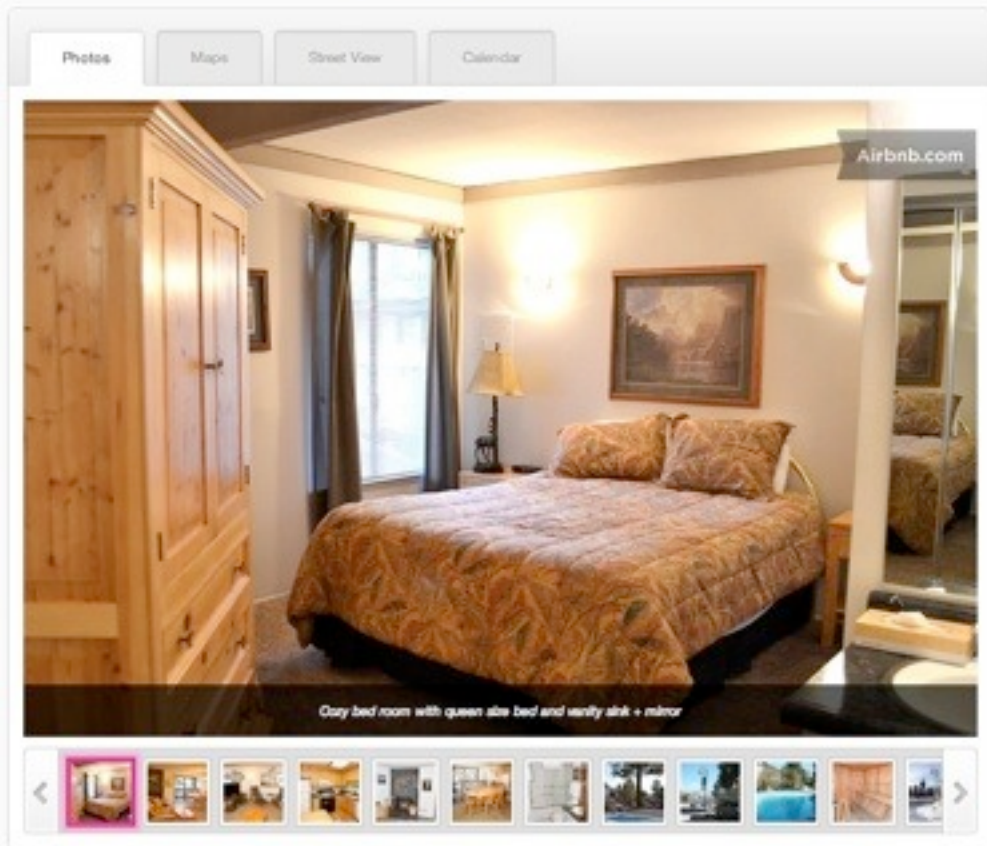
Source: Economist

Threat or opportunity?



### Charming Getaway - Wifi, Hot Tubs

Apartment - Entire home/apt - Old Mammoth Rd, Mammoth Lakes, CA 93546, United States



Mobile & social intersect

Connected everywhere, all the time



# Ns NextSpace



Co-working

All the comforts of work  
wherever you live





## The Maker Movement



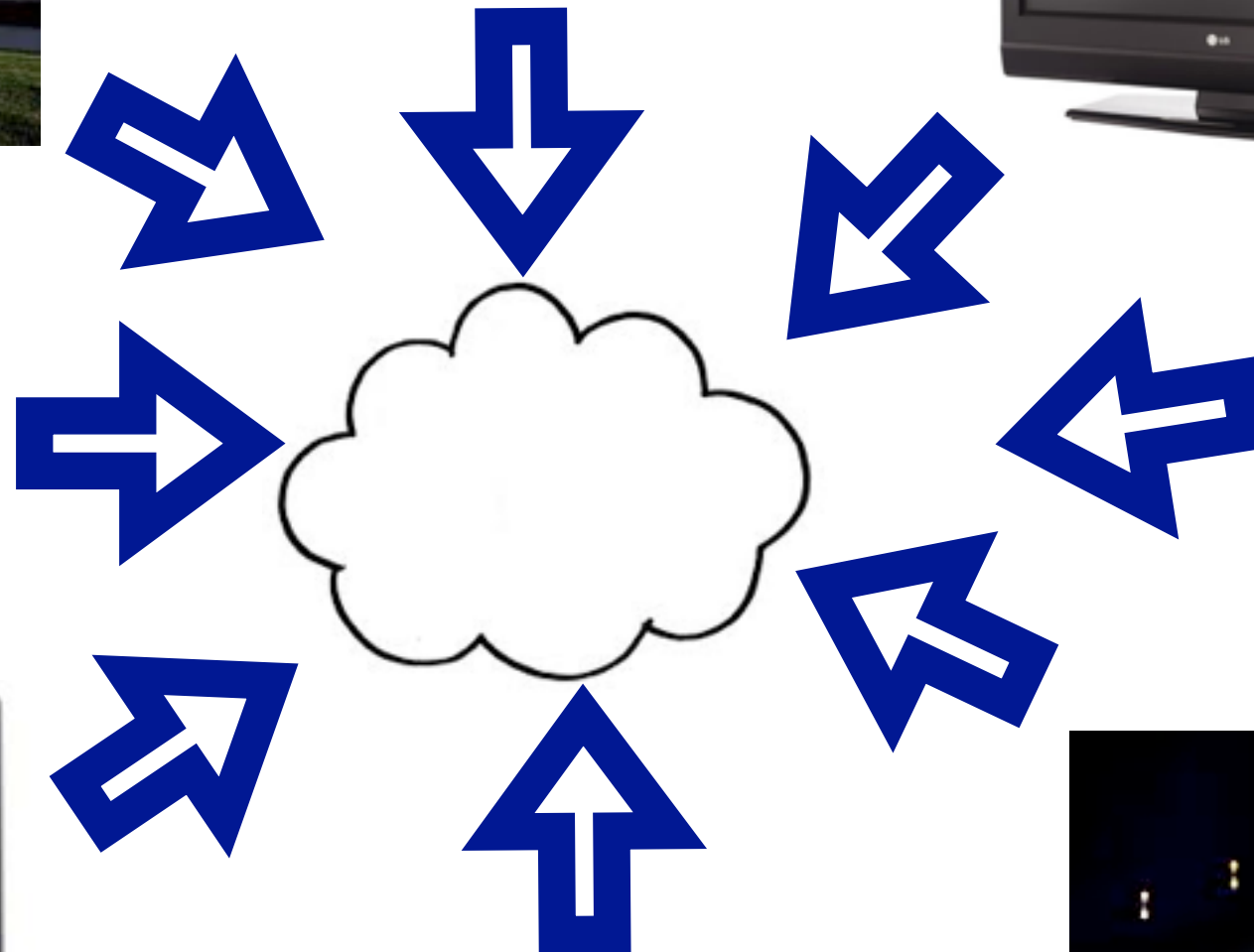
The Internet of things

Driven by open source data



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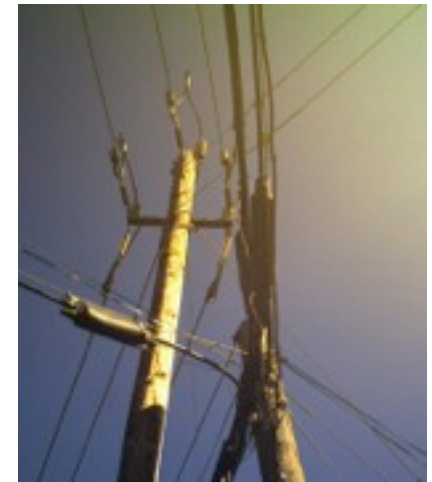
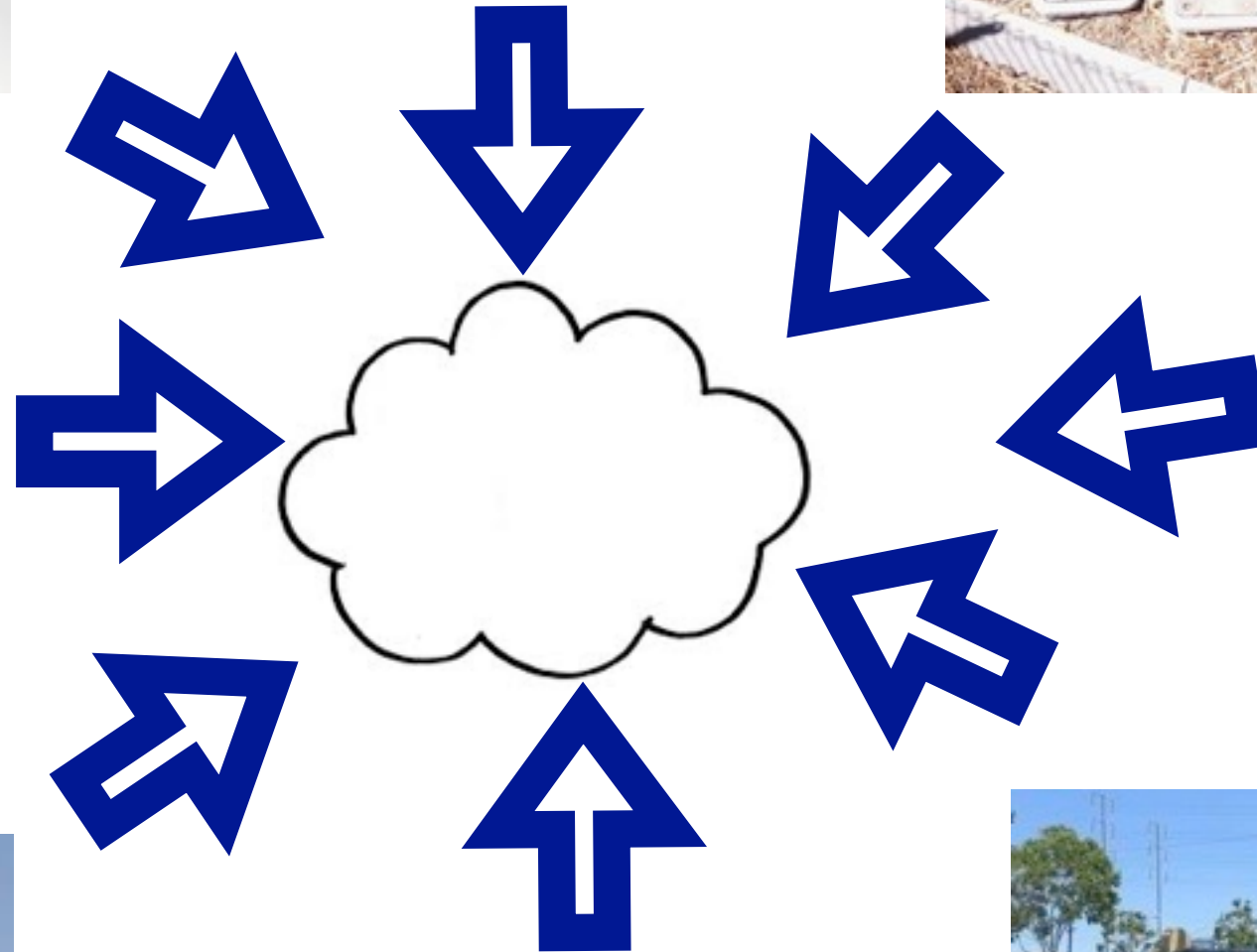
Building broadband  
infrastructure



Broadband is a digital connection

Delivers TV, telephone, Internet,  
internal connectivity

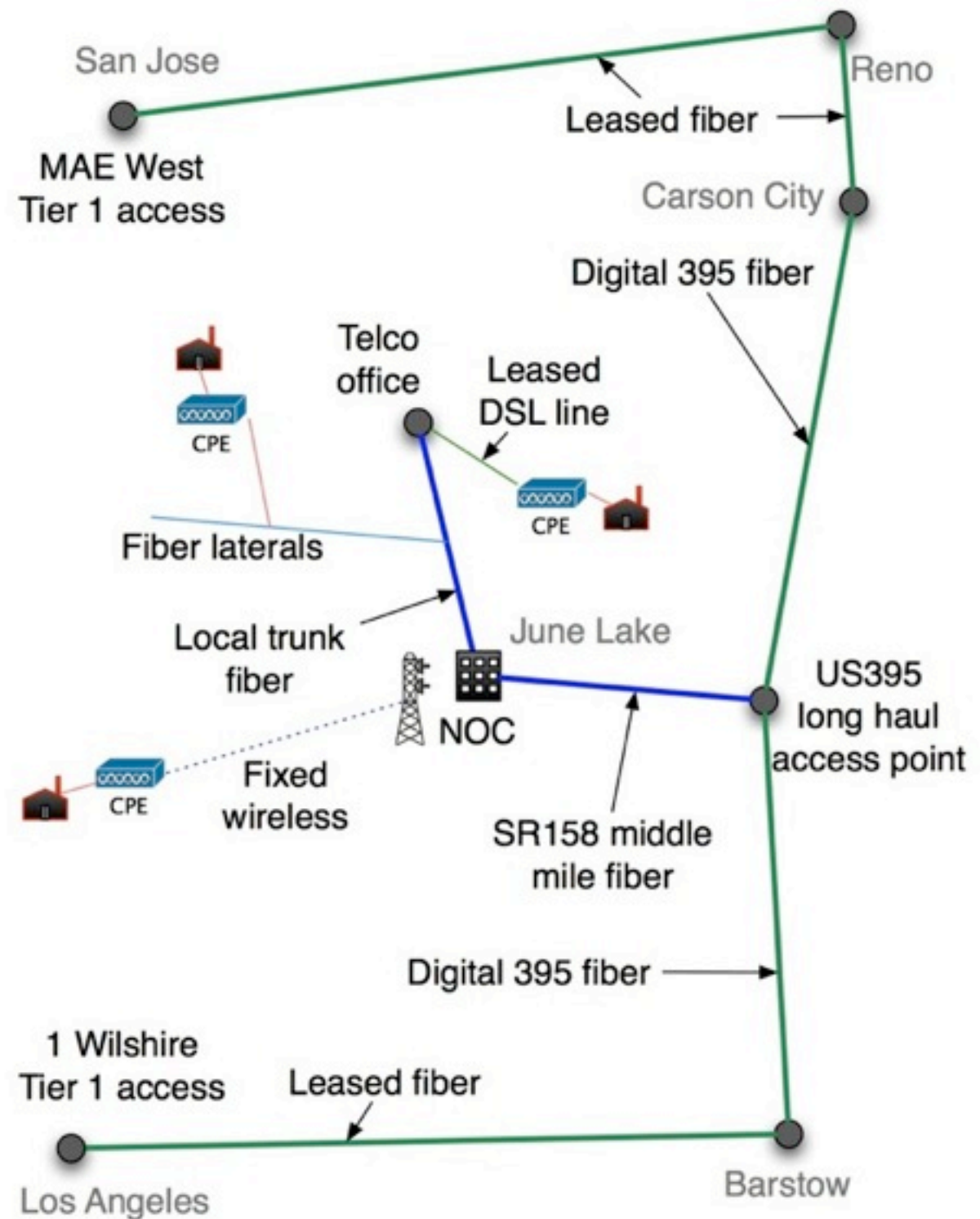




Broadband is poles  
and holes

It's not rocket science

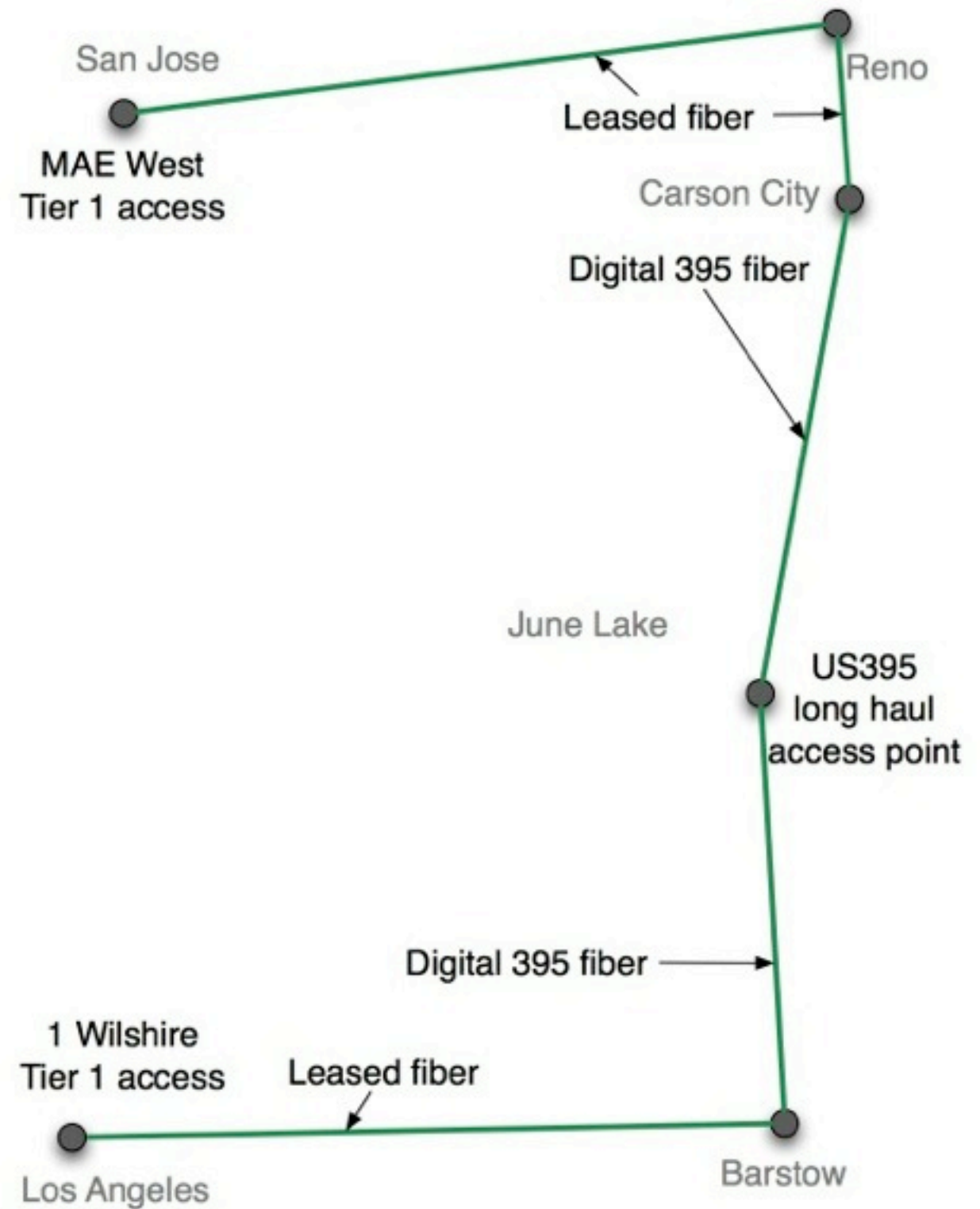
- Tier 1 Internet connection
  - Bandwidth
- Long haul fiber
  - Maybe several providers
- Long haul access point
- Middle mile fiber
- Central office/NOC
- Local trunk distribution fiber
- Lateral fiber
- Customer drop
- Customer premise equipment



## Broadband value chain

Not a lot different from water, electricity

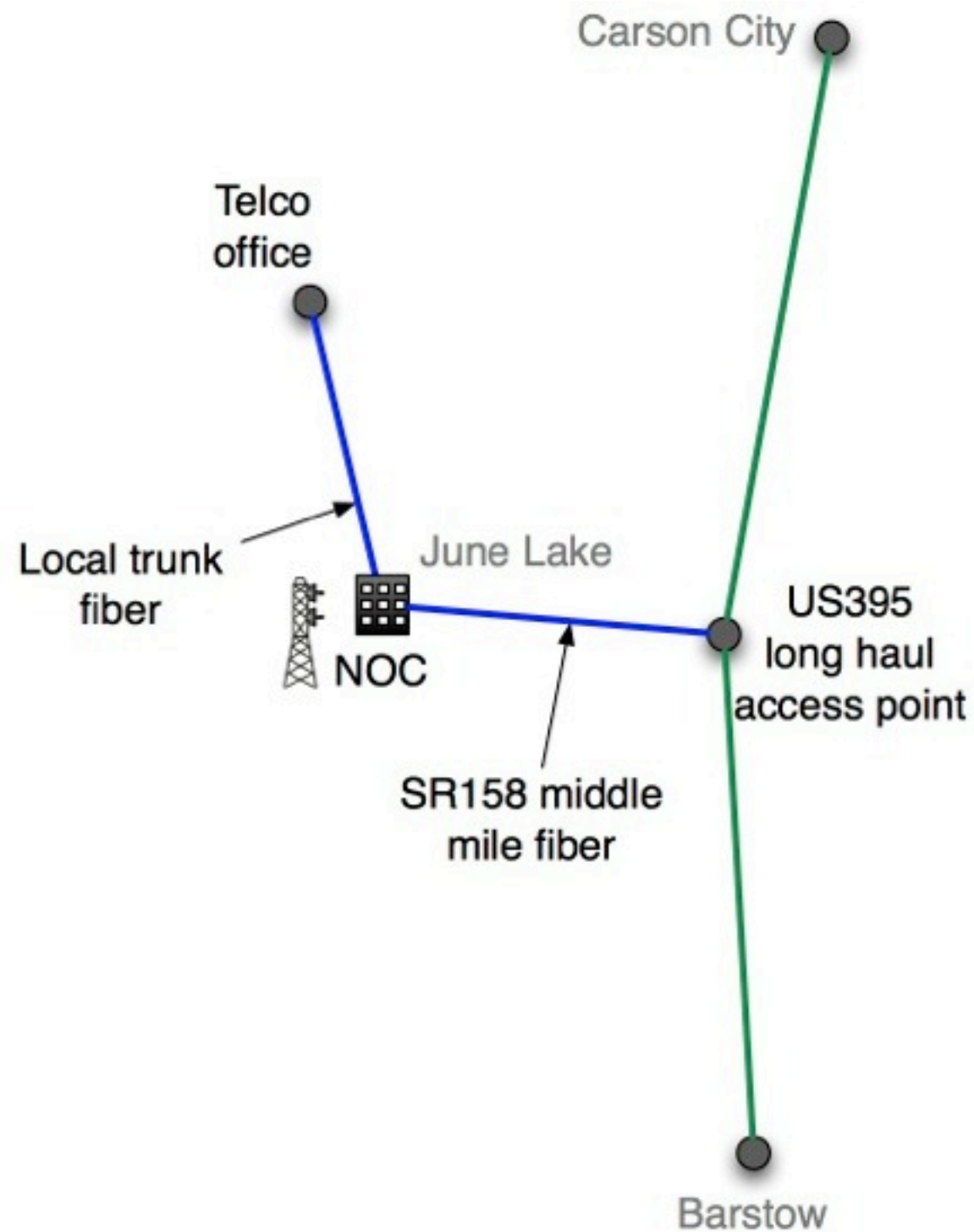




The Internet is made  
from other people's stuff

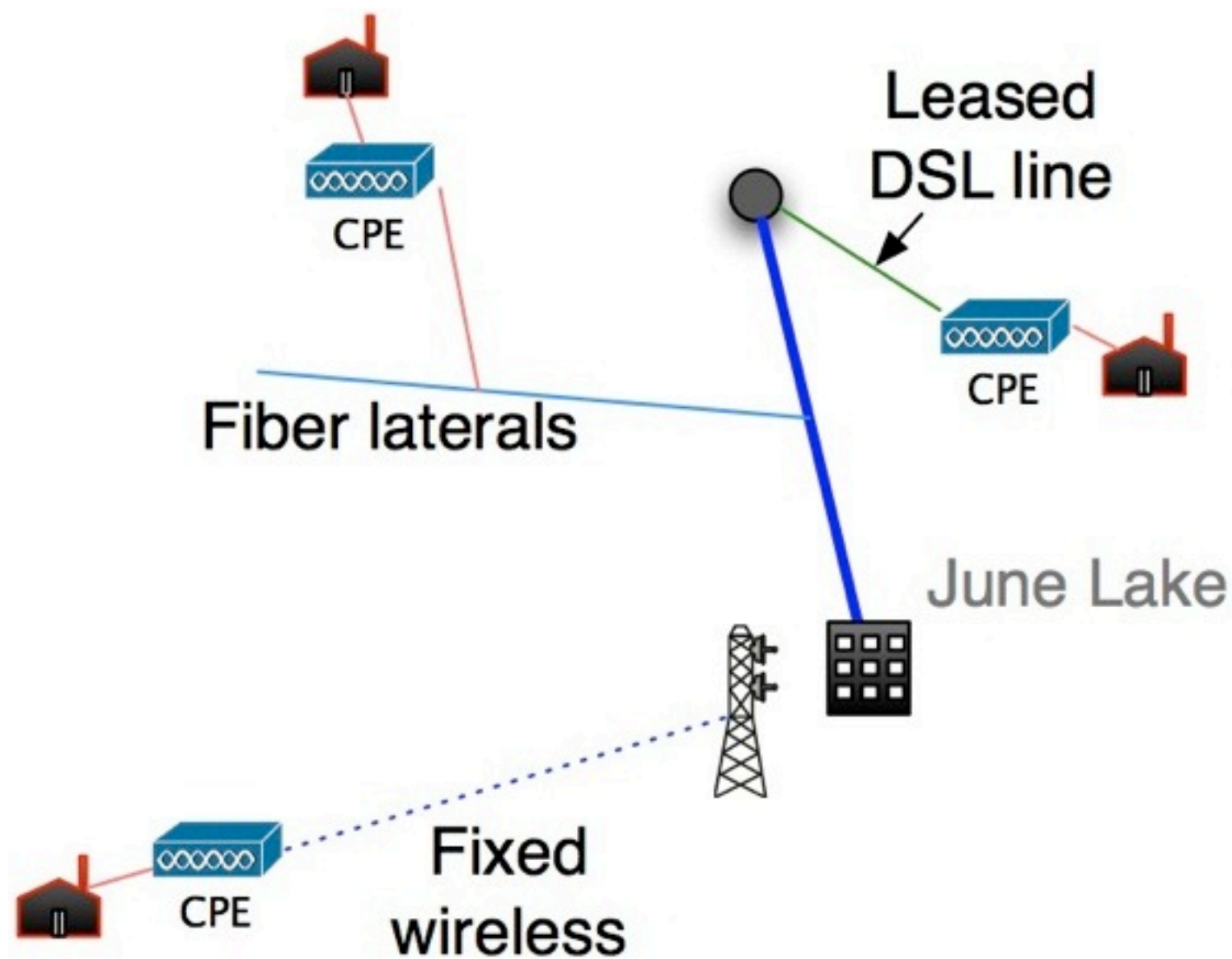
You have to pay for fiber lines,  
access and bandwidth





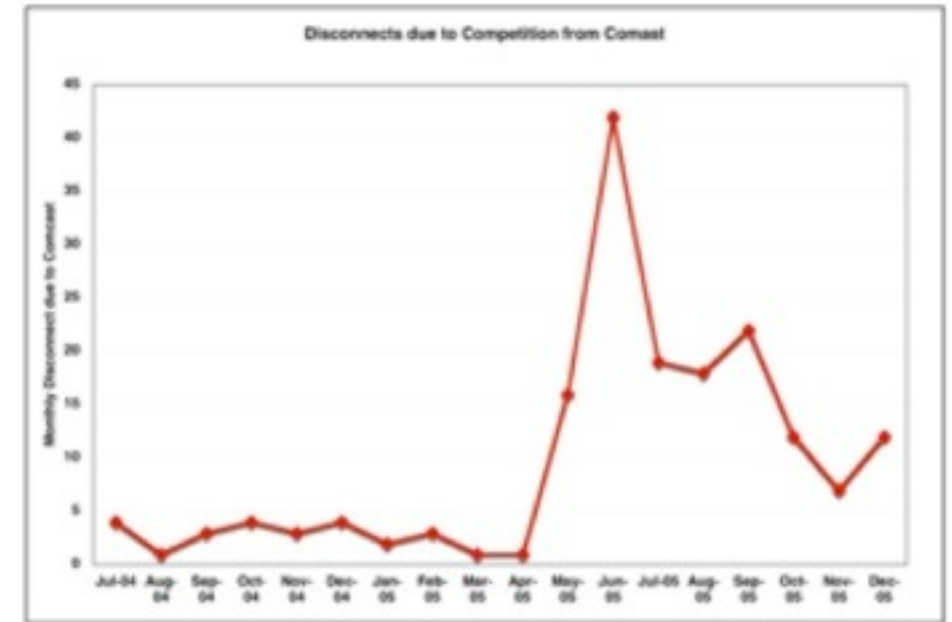
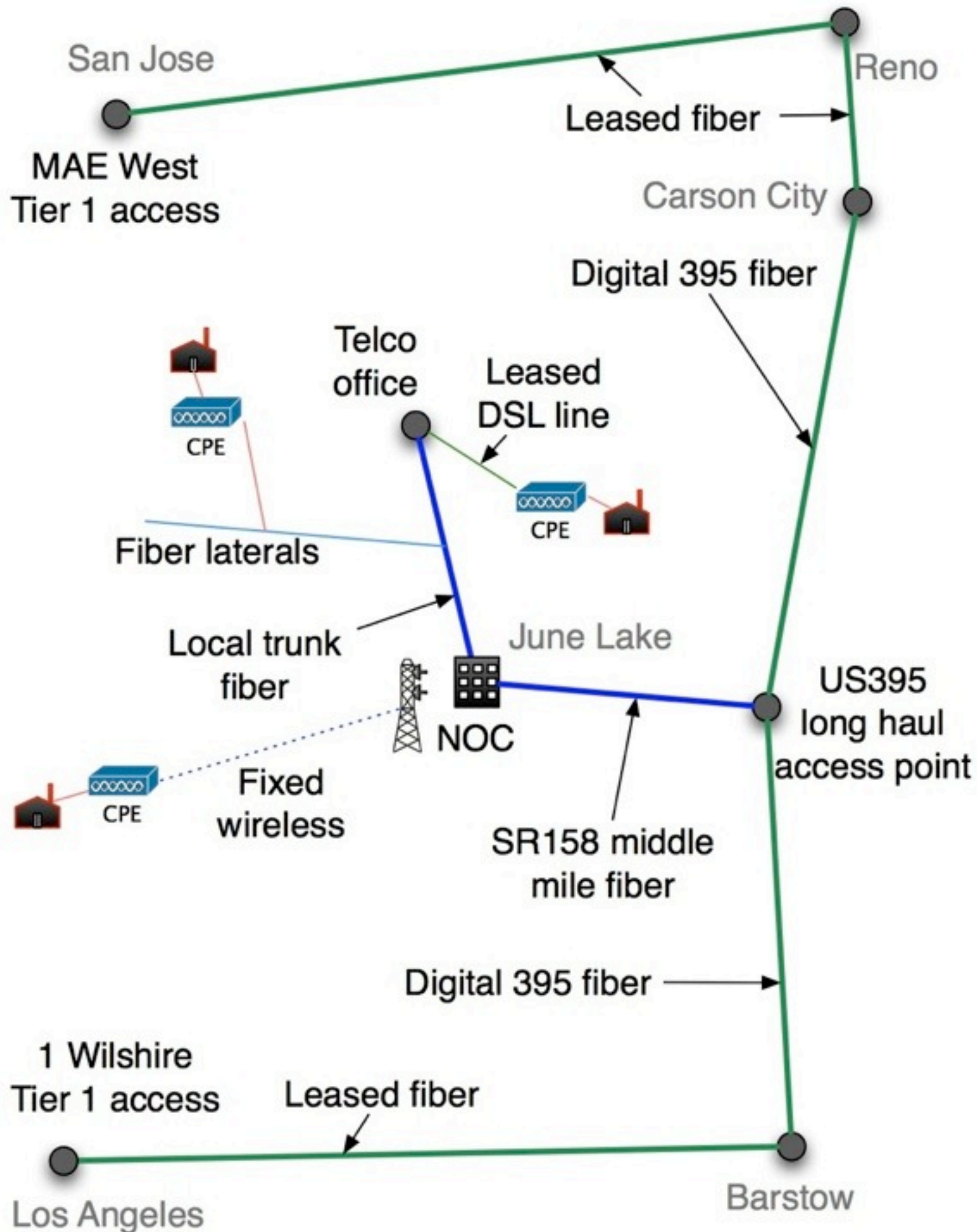
It doesn't just wander  
into town

Someone has to build the  
middle mile



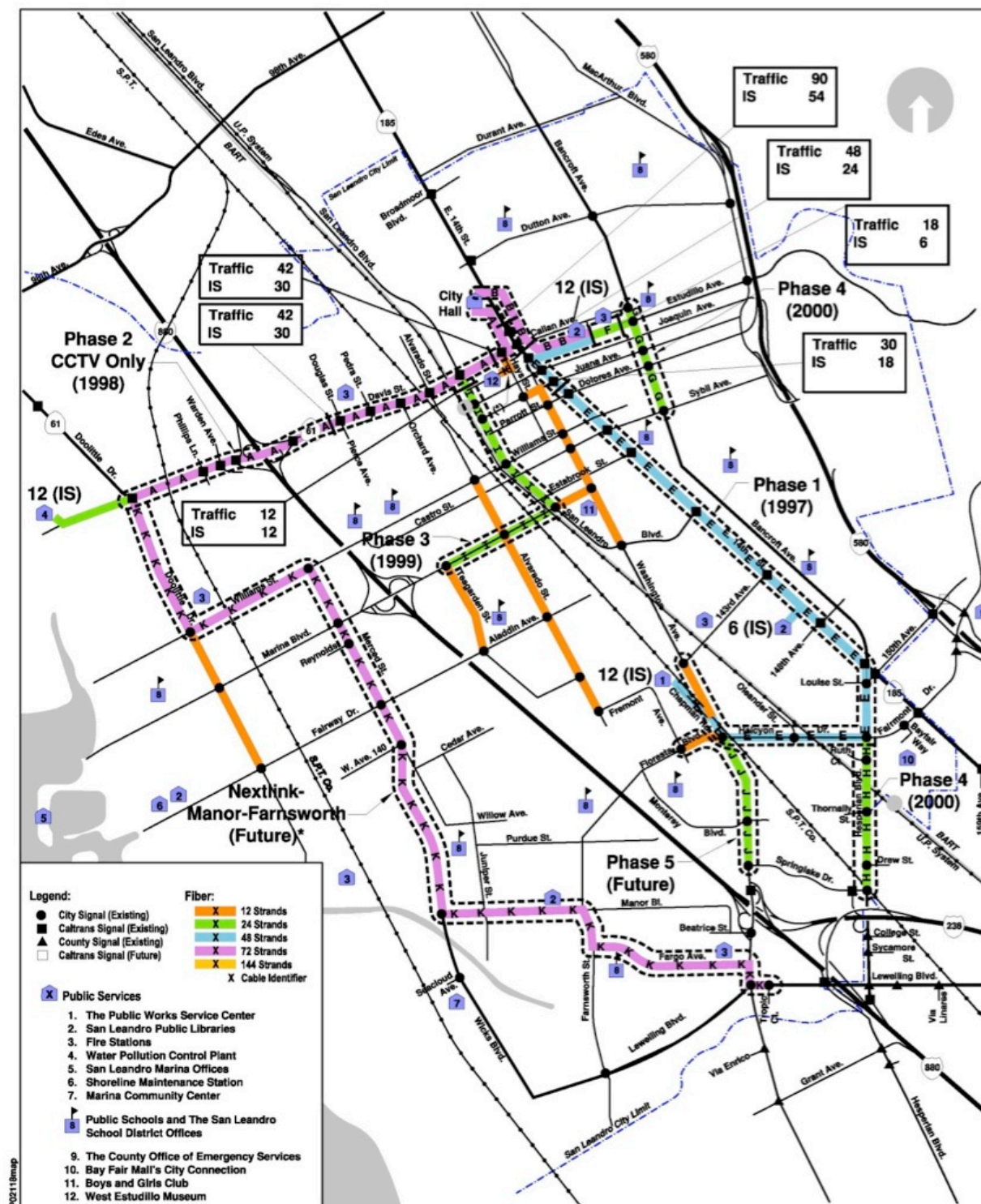
Last mile determined by  
cost & value of customer

Even when subsidized, ROI  
might not support capex



And then the competition shows up...





October 23, 2003

DKS Associates

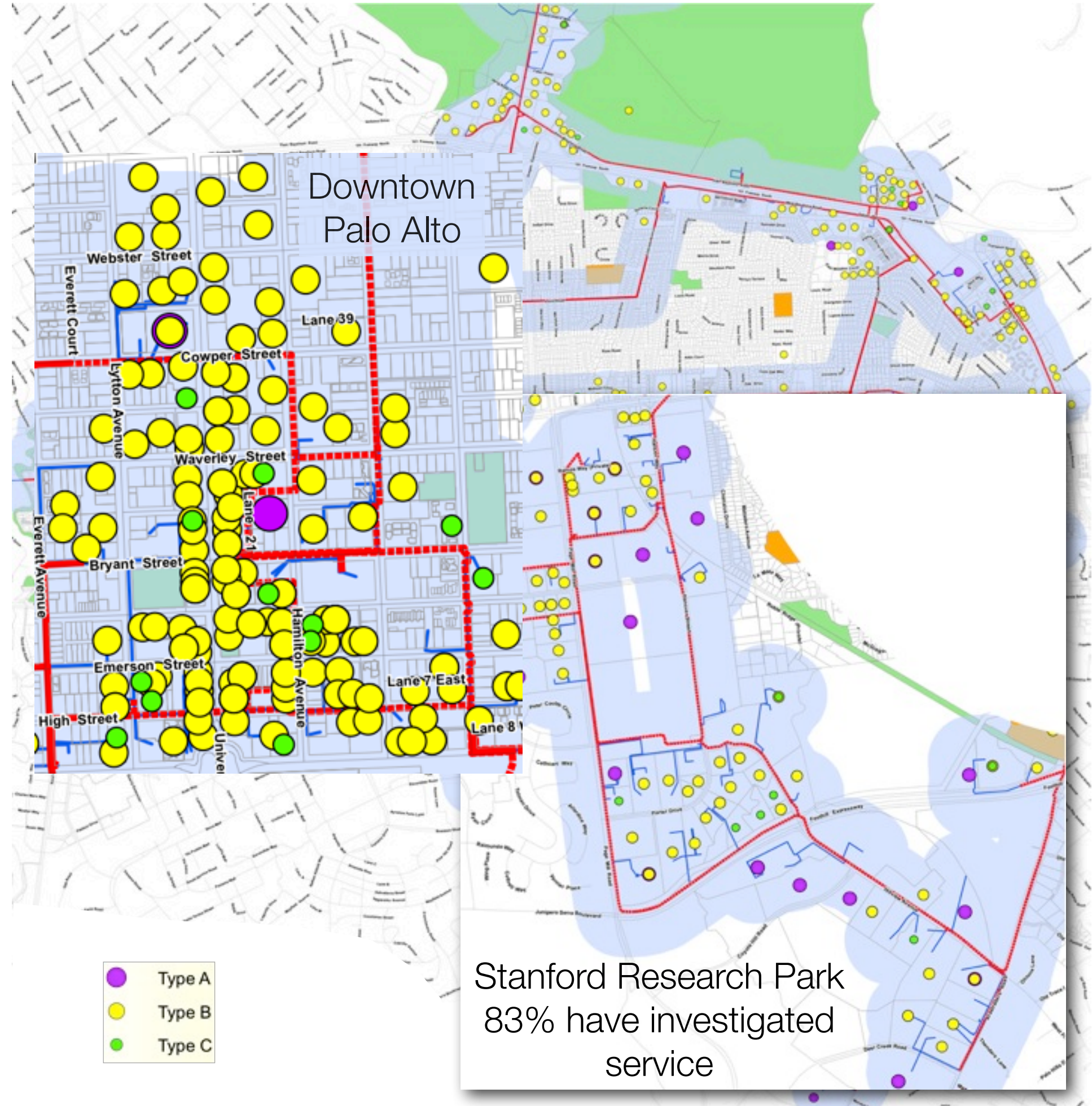
City of San Leandro  
Advanced Traffic Signal System  
Fiber Count Diagram



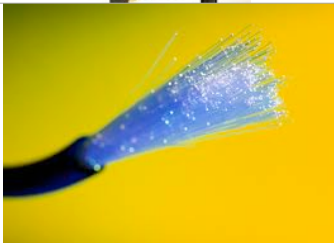

Lit San Leandro

\$2 million private fiber build in city conduits



CPAU fiber network within reach of hundreds of businesses, downtown & Stanford Research Park completely covered.



| Layer                    |   | Revenue                 | Margin         | Competition  | Water Analogy           |
|--------------------------|---|-------------------------|----------------|--------------|-------------------------|
| Internet                 |    | \$1K/ mo and up         | Low<br><10-20% | High         | Water                   |
| Ethernet/<br>electronics |    | Not common              | Medium         | Make vs. buy | Pump                    |
| Fiber optic cable        |   | Local loop<br>\$1-5K/mo | Medium         | Few to none  | Pipe                    |
| Conduit                  |  | 20¢-\$2/ft/year         | High<br>100%+  | None         | Trench/<br>Right of way |

## Broadband value chain

The higher up the chain, the greater the competition and the lower the margins





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# Promoting broadband adoption

