Broadband Mapping Taskforce

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CENIC Workshops

March 17, 18, 2004

Charter

Description of Task Force:

The goal of this task force is to work with the State of California to develop requirements for incorporating detailed fiber maps in the California GIS system. These maps will become a critical resource to communities and industries working on increasing deployment of fiber throughout the state.

The products of this task force will be:

Identify requirements for utilizing State GIS system.

Identify existing maps that can be incorporated into the system.

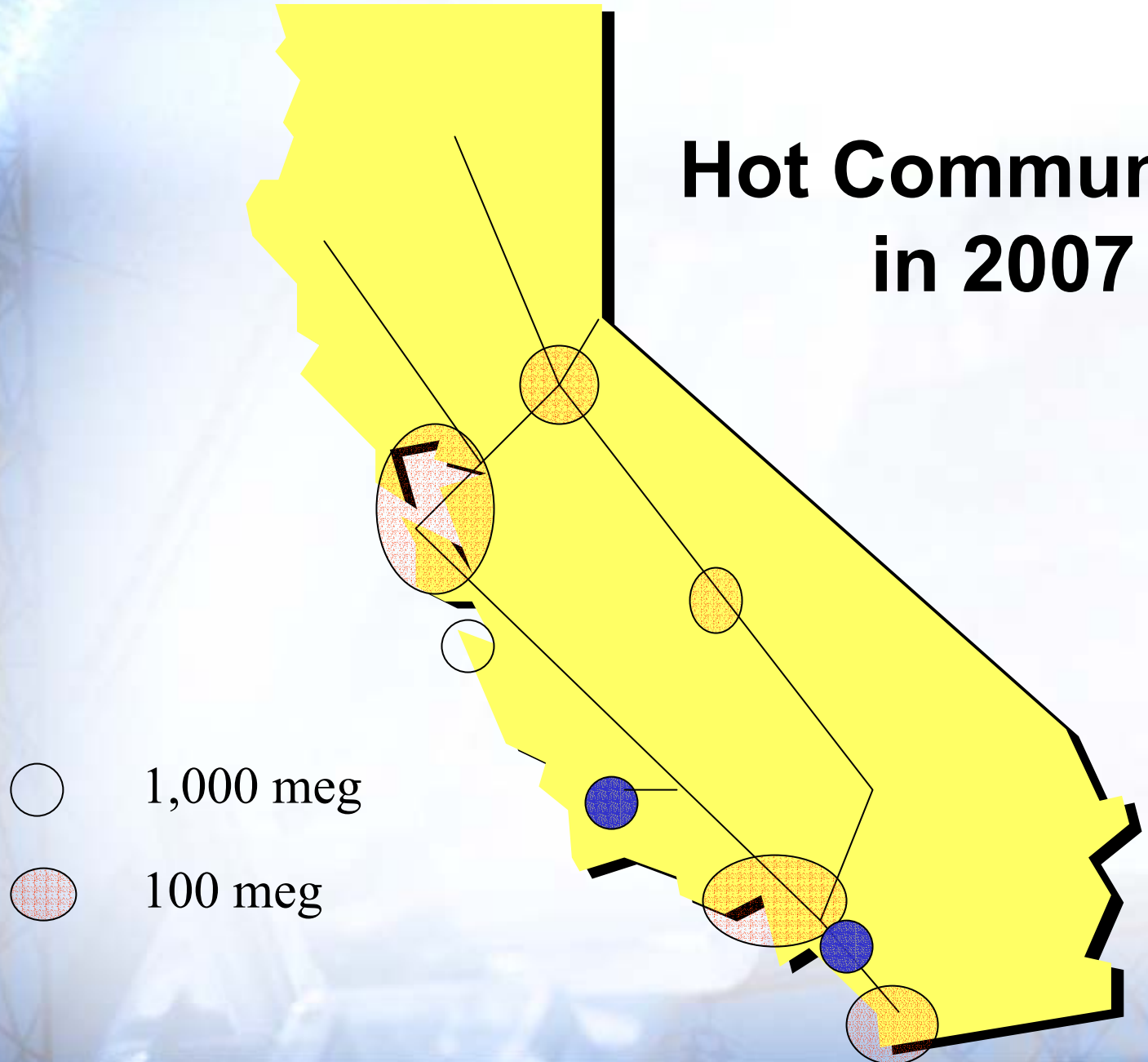
Develop a process for encouraging contributions and incorporating new mapping information.

Define best methodology for measuring the success of the system and incorporation of changes in the future.

Potential Layers

- Backbone – where the carriers and cable companies have their long haul lines.
- CENIC/Education network
- Service areas – DSL, Cable Modem, etc.
- Demand – Information intensive businesses and communities
- Gaps between demand and access to services.
- Rights of Way
- Metro rings
- Access points

Hot Communities in 2007



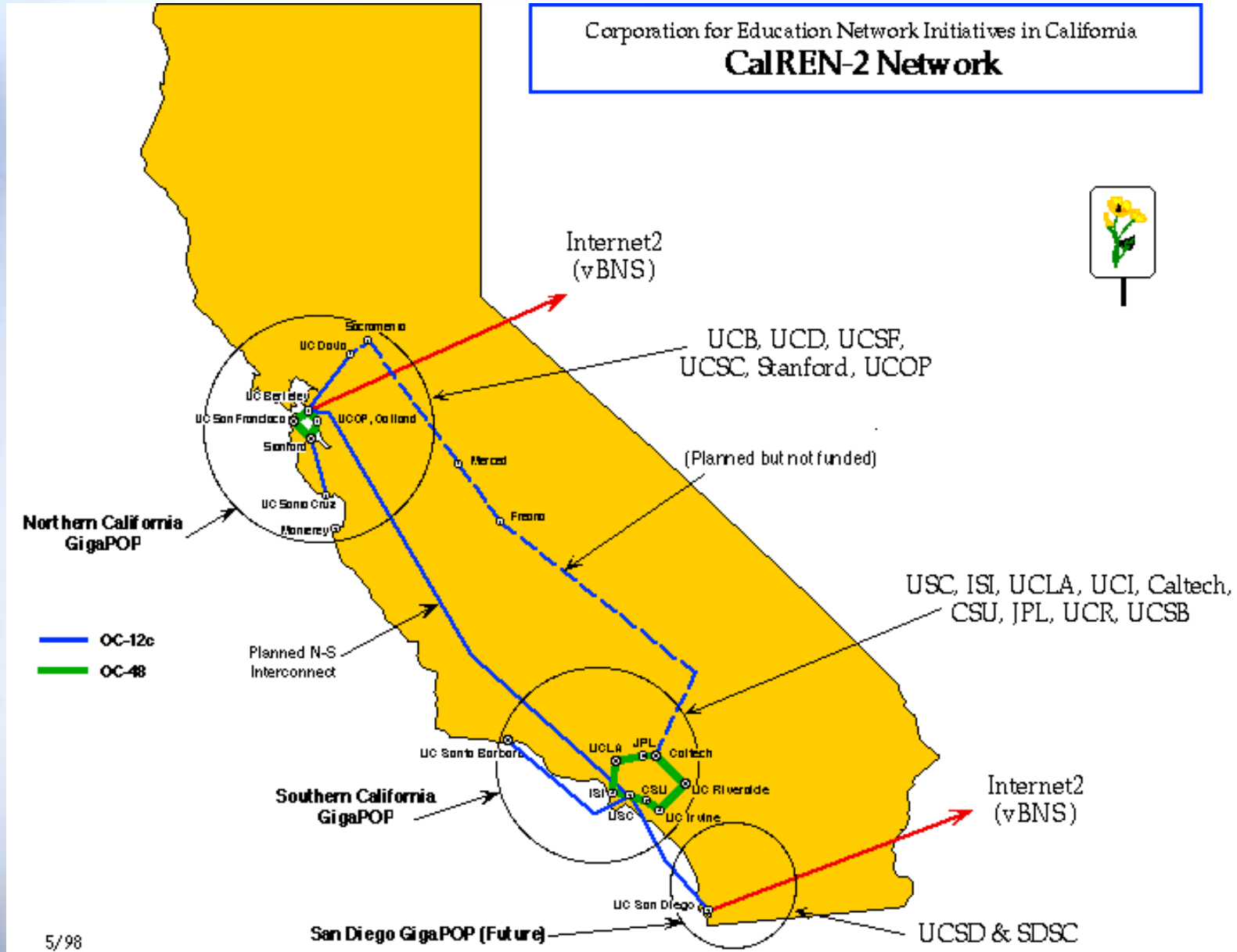
Hot Communities Database

- Community
- Size
- Speed
- Cost/month
- Technology
- Status
- Description, how to get more information

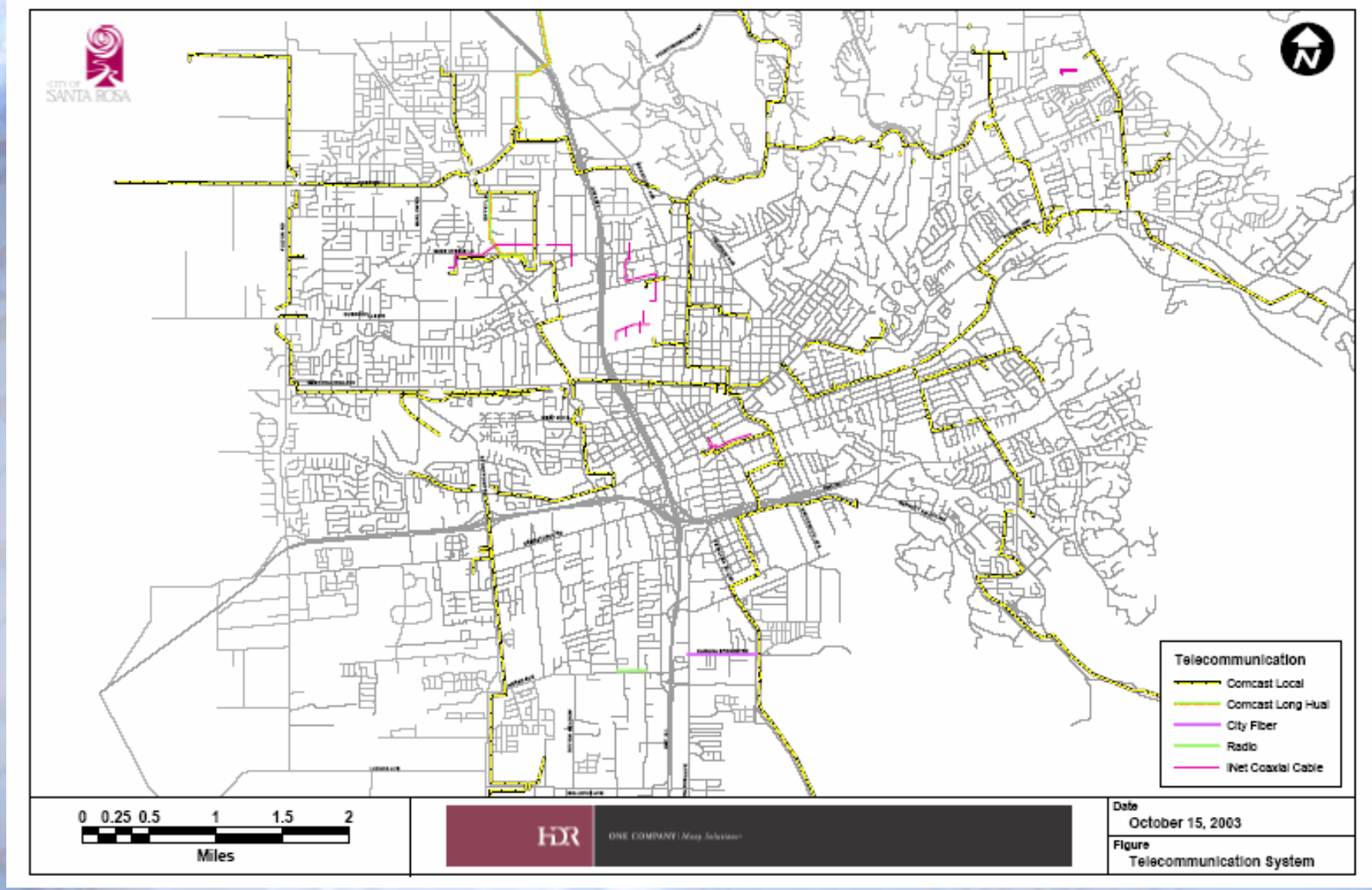
Cities with Data, so far

- Fresno
- Palo Alto
- Kern County
- Fullerton
- Santa Rosa
- Central Coast Cable Routes
- San Diego

CalREN-2, 6/98


Corporation for Education Network Initiatives in California
CalREN-2 Network
Internet2
(vBNS)
UCB, UCD, UCSF,
UCSC, Stanford, UCOP
(Planned but not funded)
USC, ISI, UCLA, UCI, Caltech,
CSU, JPL, UCR, UCSB
Internet2
(vBNS)
UCSD & SDSC
Northern California
GigaPOP
Southern California
GigaPOP
San Diego GigaPOP (Future)
Planned N-S
Interconnect
OC-12c
OC-48
Sacramento
UC Davis
UC Berkeley
UC San Francisco
UCOP, Oakland
Stanford
UC Santa Cruz
Monterey
Merced
Fresno
UC Santa Barbara
UCLA
JPL
Caltech
ISI
CSU
UC Riverside
USC
UC Irvine
UC San Diego
5/98

Santa Rosa


CITY OF SANTA ROSA
N
Telecommunication
Comcast Local
Comcast Long Haul
City Fiber
Radio
INet Coaxial Cable
0 0.25 0.5 1 1.5 2
Miles
HDR
ONE COMPANY | Many Solutions
Date
October 15, 2003
Figure
Telecommunication System

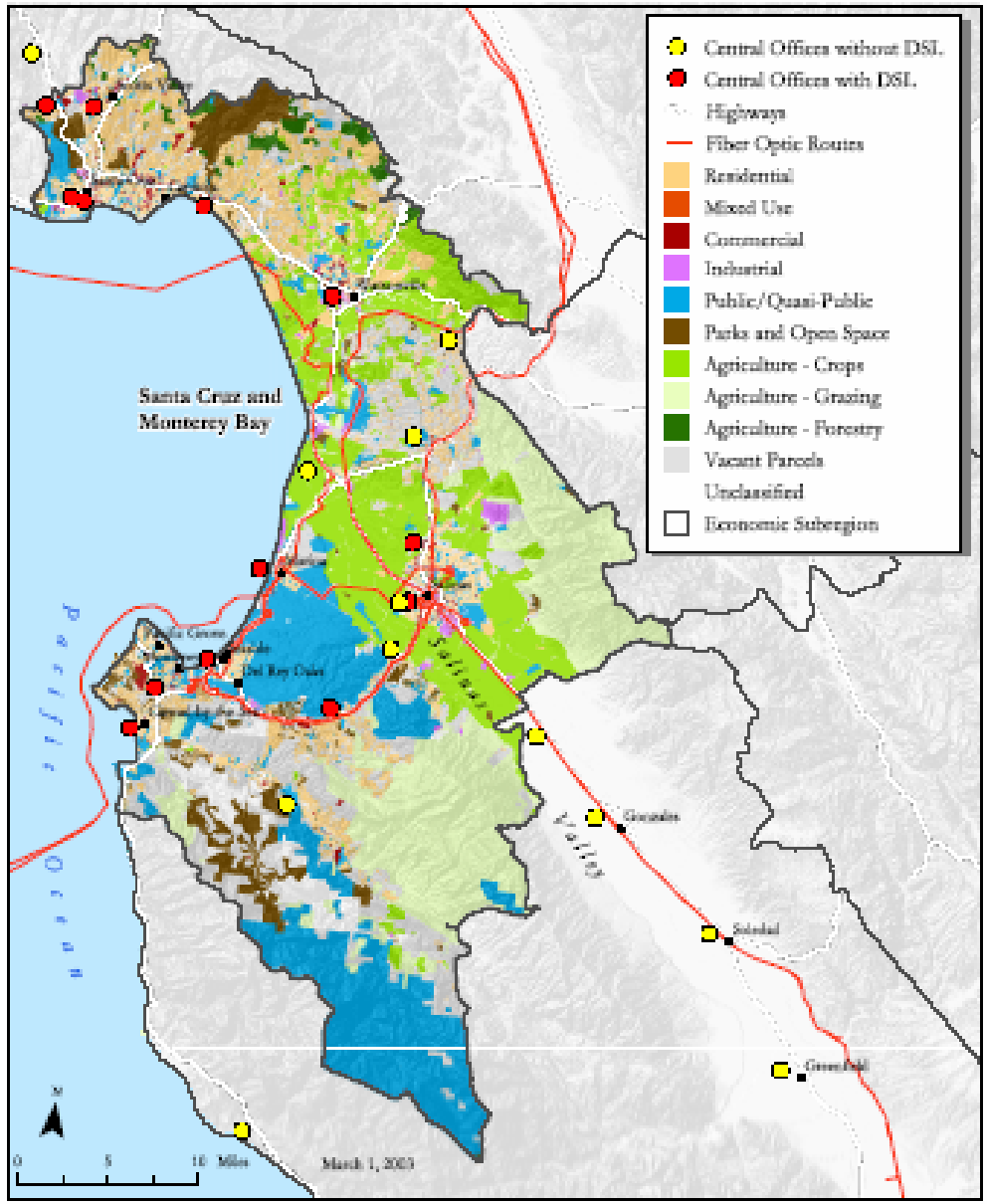
Central Coast Fiber

Figure 2. Central Coast Region Fiber Optic Cable Routes

Central Coast Region Broadband Access Project
Source: Bay Area Economics and Broadband Reports.com
Note: Fiber routes subject to verification

Santa Cruz - Monterey

Figure 4. Broadband Infrastructure and Service Availability
Santa Cruz - Monterey Bay Subregion



Central Coast Region Broadband Access Project

Source: Bay Area Economics and Broadband Reports.com
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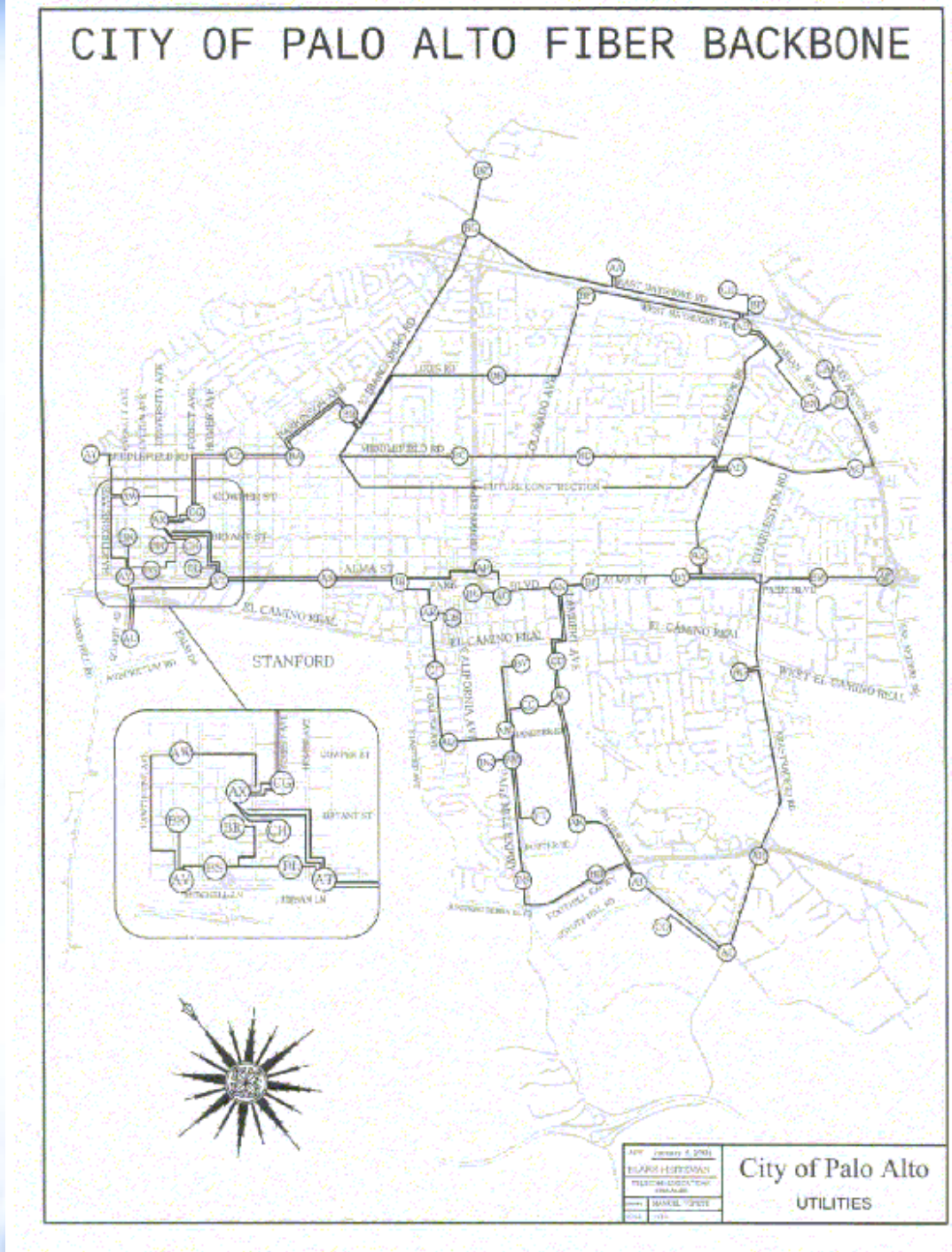
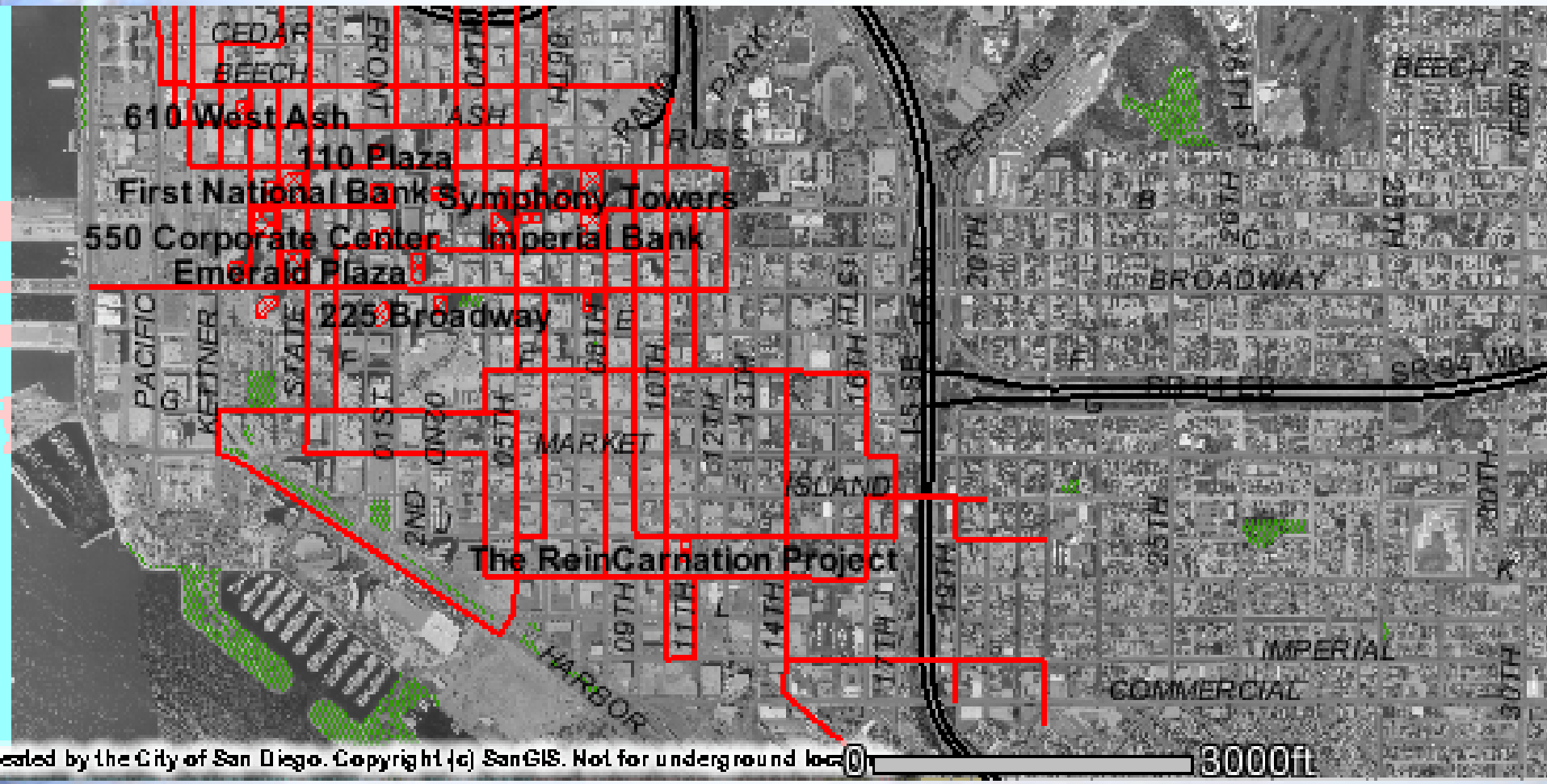
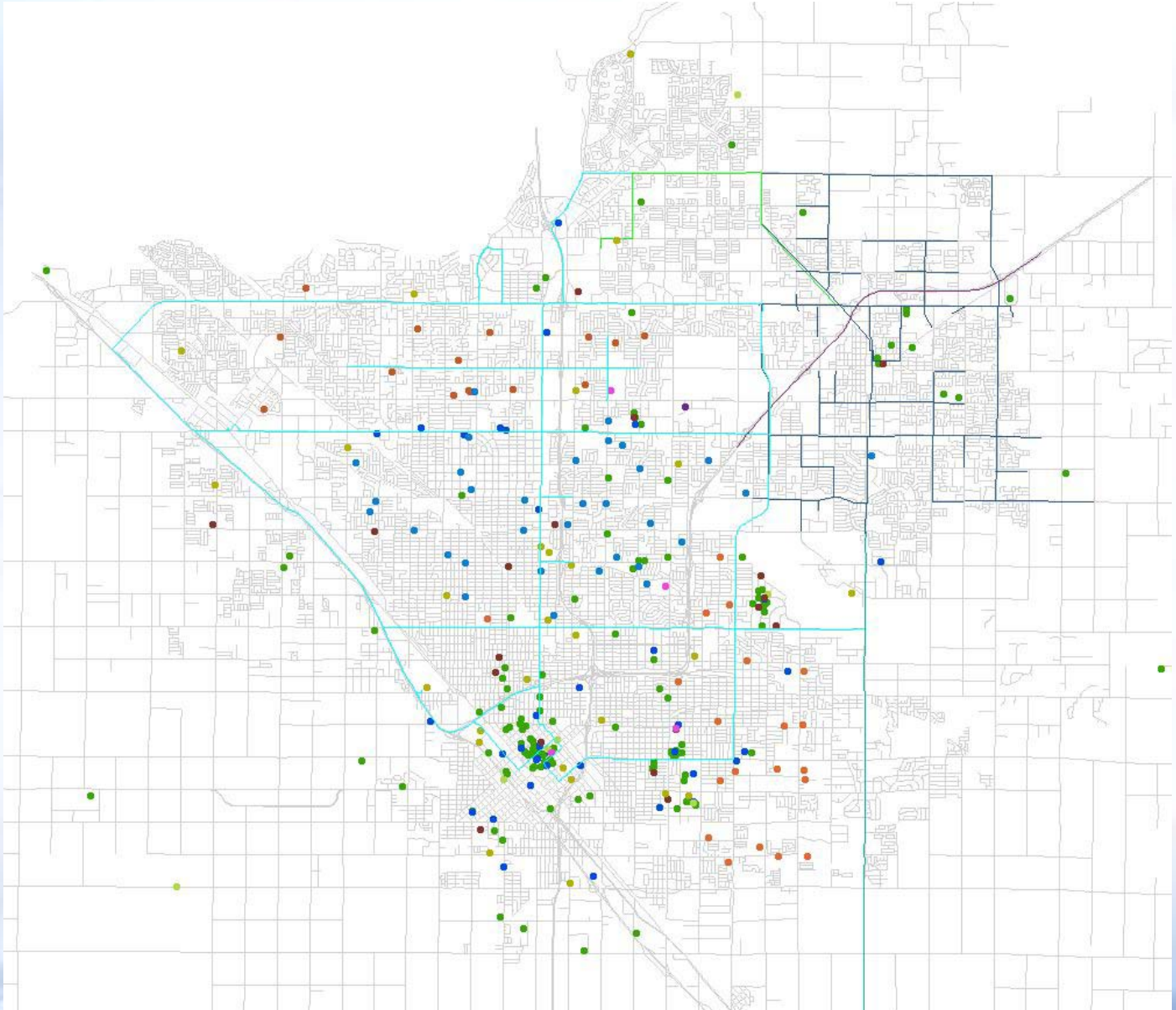
Palo Alto


CITY OF PALO ALTO FIBER BACKBONE
STANFORD
EL CAMINO REAL
ALMA ST
BRYANT ST
City of Palo Alto
UTILITIES

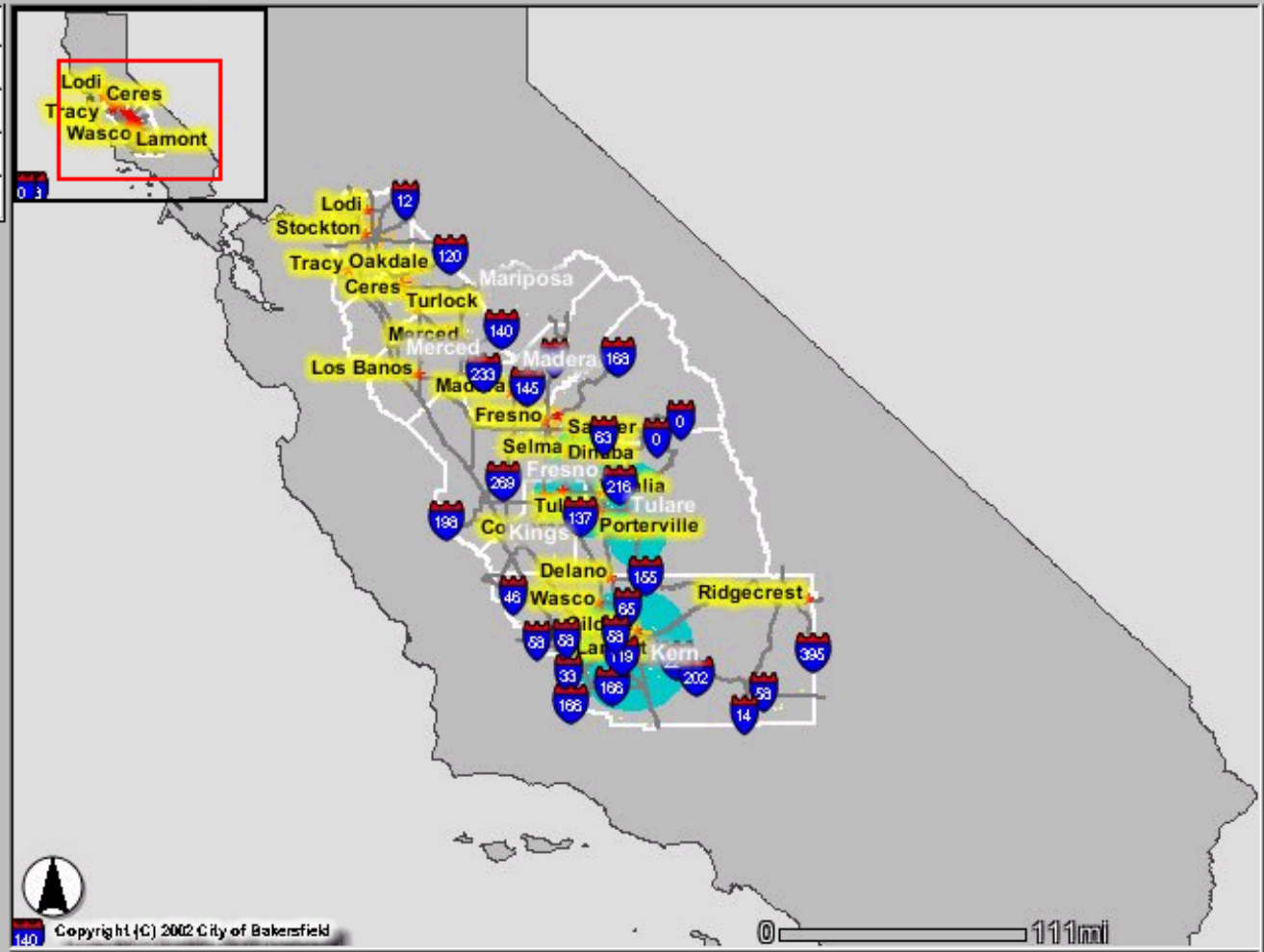
Bandwidth Bay, San Diego



Fresno and Clovis, March 2004



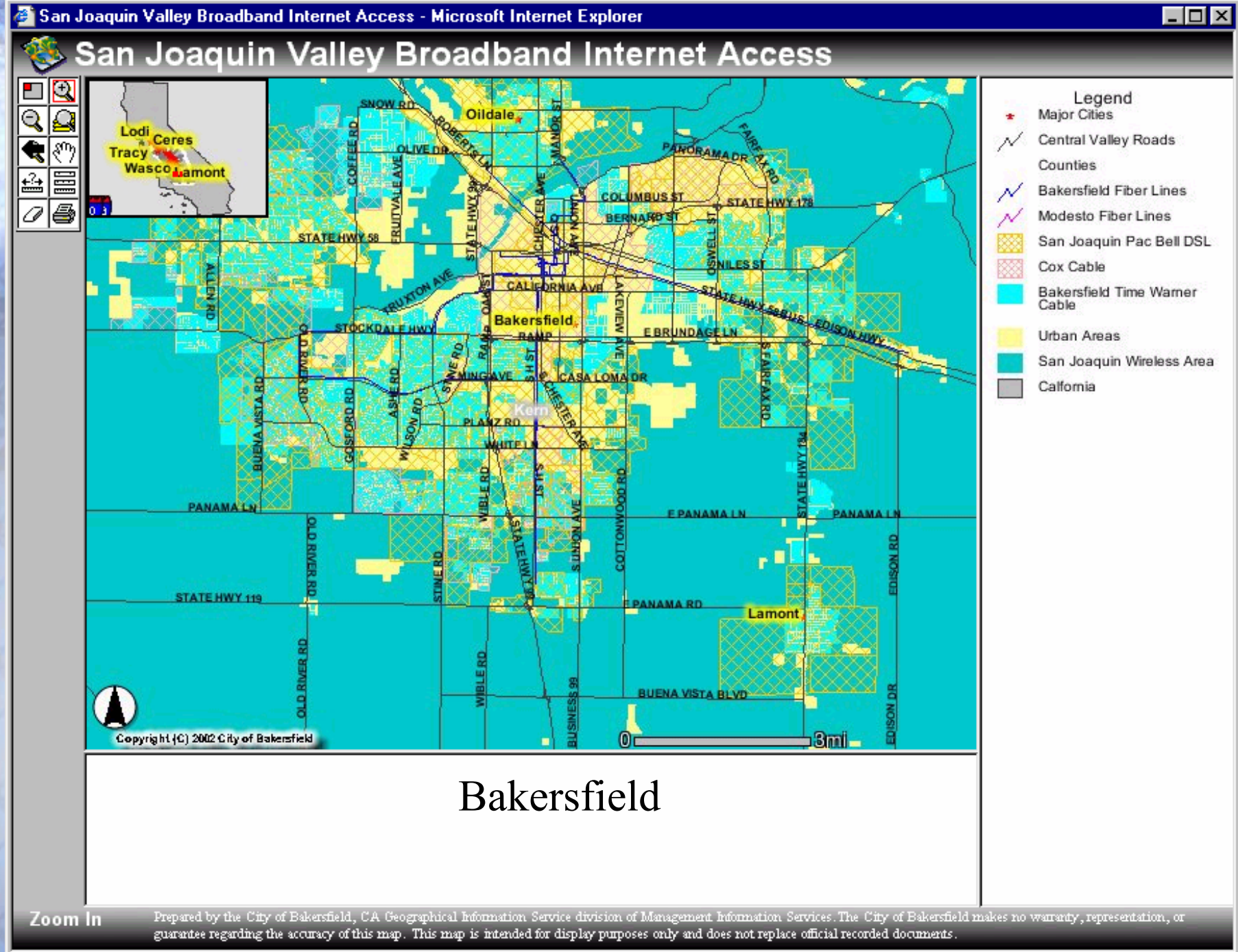
San Joaquin Valley Broadband Internet Access



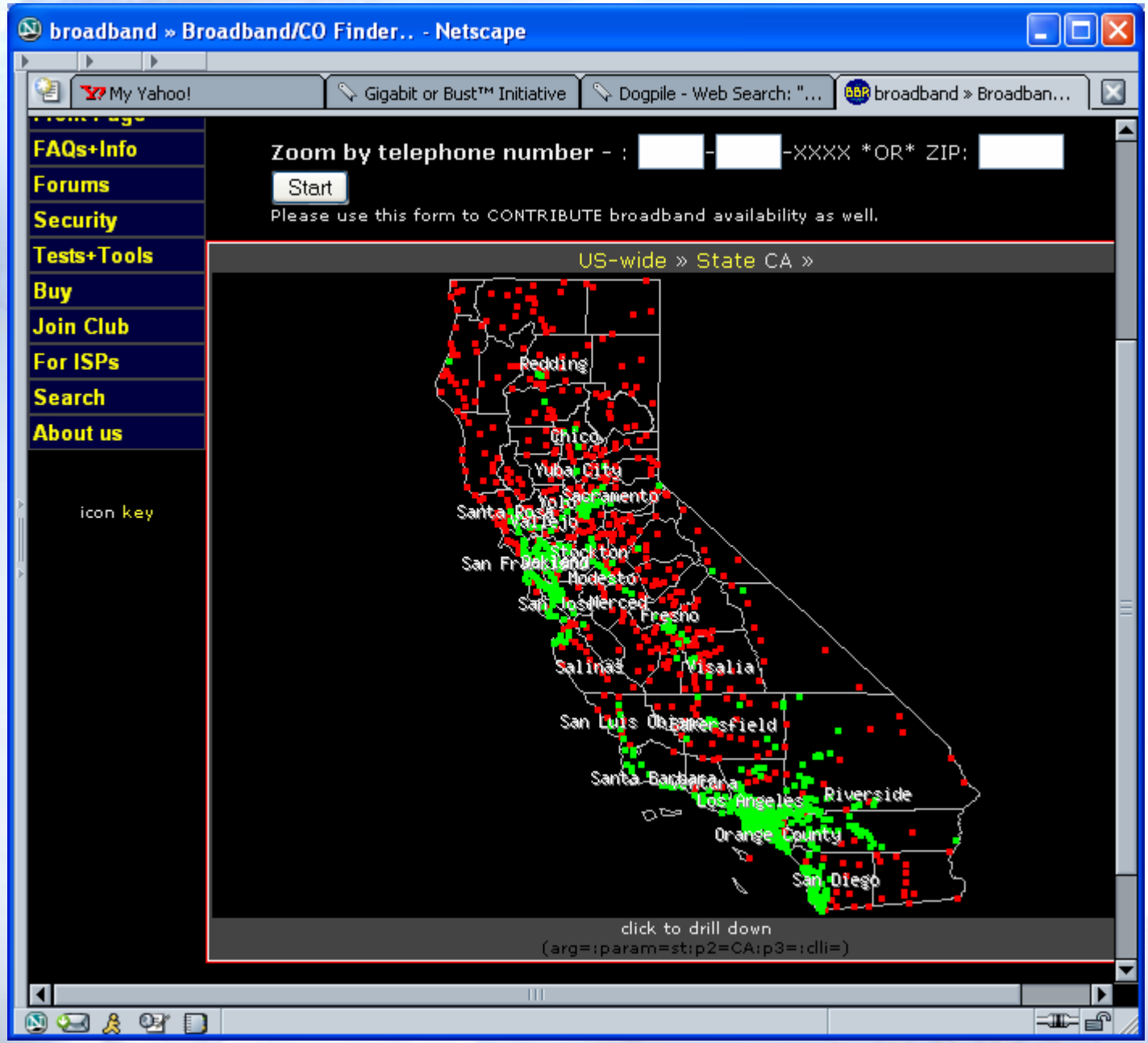
Legend

- Major Cities
- Major Roads
- Counties
- Bakersfield Fiber Lines
- Modesto Fiber Lines
- San Joaquin Pac Bell DSL
- Cox Cable
- Bakersfield Time Warner Cable
- Urban Areas
- San Joaquin Wireless Area
- Calfornia

Zoom In



Bakersfield


broadband » Broadband/CO Finder.. - Netscape
My Yahoo!
Gigabit or Bust™ Initiative
Dogpile - Web Search: "...
broadband » Broadban...
FAQs+Info
Forums
Security
Tests+Tools
Buy
Join Club
For ISPs
Search
About us
icon key
Zoom by telephone number - :
-XXXX *OR* ZIP:
Start
Please use this form to CONTRIBUTE broadband availability as well.
US-wide » State CA »
Redding
Chico
Yuba City
Sacramento
Santa Rosa
Vallejo
Stockton
San Fr
Oakland
Modesto
San Jose
Merced
Fresno
Salinas
Visalia
San Luis Ob
Bakersfield
Santa Barbara
Los Angeles
Riverside
Orange County
San Diego
click to drill down
(arg=:param=st:p2=CA:p3=:clli=)

Communications Companies

- SBC
- Verizon
- Cable Companies

Other Approaches

- Public Utilities Commission study
- Automated tool to query vendor websites about where service is available by phone number or zip+4
- Analysis of data collected by distributed computing services.
  - BOINC
  - Protein Folding @ Home

Folding@Home Distributed Computing - Netscape

File Edit View Go Bookmarks Tools Window Help

Yahoo! Maps | Folding@Home Distributed Computing

Folding@home distributed computing

En Español

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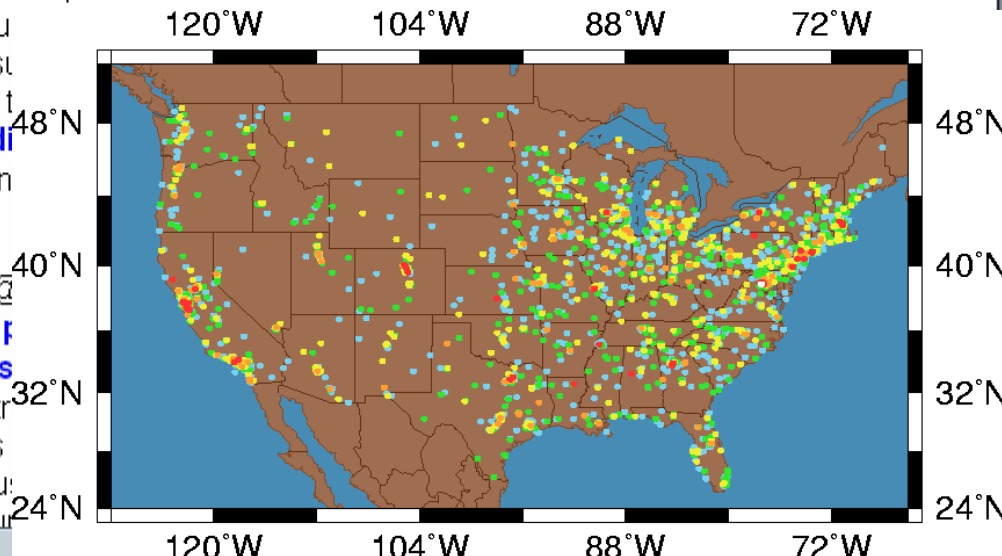
Our goal: to understand protein folding, protein aggregation, and related diseases

What are proteins and why do they "fold"? Proteins are biology's workhorses -- its "nanomachines." Before proteins can carry out their biochemical function, they remarkably assemble themselves, or "fold." The process of protein folding, while critical and fundamental to virtu remains a mystery. Moreover, perhaps not su proteins do not fold correctly (i.e. "misfold"), t serious effects, including many well known di Alzheimer's, Mad Cow (BSE), CJD, ALS, an disease.

What does Folding@Home do? Folding@ distributed computing project which studies p misfolding, aggregation, and related diseas computational methods and large scale distr to simulate timescales thousands to millions than previously achieved. This has allowed us folding for the first time, and to now direct our



BERKELEY OPEN INFRASTRUCTURE FOR NETWORK COMPUTING

A software platform for distributed computing using volunteered computer resources

BOINC is supported by the National Science Foundation

Status

BOINC is under development. The source code and bug-tracking database are available. We are currently conducting a beta test of BOINC using the SETI@home and Astropulse applications. The public release will be announced on the SETI@home web site. Several other distributed computing projects are evaluating BOINC.

News

February 11, 2004
BOINC is being used at the Scripps Research Institute to run a distributed version of CHARMM (a program for macromolecular simulations).

February 1, 2004
BOINC now has an **anonymous platform mechanism** which 1) allows computers of any type to participate in a BOINC project, and 2) allows participants to run only software they have compiled themselves, should they so desire.

January 22, 2004
The BOINC core client now provides a set of RPCs allowing separate GUIs to be developed.

Next Steps

- Find a GIS resource, preferably in State government
  - Sunne McPeak
  - Jeff Newman
- Evaluate potential of Victor's data
- Experiment with automated data gathering tools
- Find resource to do demand analysis

See www.metroplanning.org for Chicago example.

Contacts

- Seth Fearey, fearey@con-com.net
- Brad Kane, bradkane1@earthlink.net
- Jeff Goldstein, jnewman@commerce.ca.gov

Also

- Create a visual representation of our progress toward the One Gigabit vision.
  - Use it to promote the vision
  - Mark our progress
  - Recognize the leaders
- Build a map with
  - High speed service zones
  - Backbone lines
  - Details where available
  - Accessible on the Web