

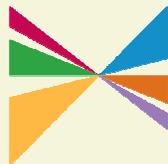


## Enhancing GIS Accessibility for Local Governments in Southern California

# **SCAG Pilot GIS Services Program**

Ping Wang\*, Javier Minjares, Simon Choi, Frank Wen, Nina Tozzi, Walberto Martin  
\* Primary Author, 213-236-1909, wangp@scag.ca.gov

Presented at 2010 ESRI International User Conference, San Diego, CA  
July 15, 2010



**SOUTHERN CALIFORNIA  
ASSOCIATION of GOVERNMENTS**

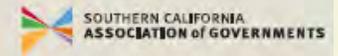
# Enhancing GIS Accessibility for Local Governments in Southern California

## SCAG Pilot GIS Services Program

### Topics:

- SCAG Introduction
- Pilot Program
  - Background
  - Implementation
- Key findings
- Lessons learned
- What is next

### Application for SCAG Members Pilot GIS Services Program



Please email this form to [wangp@scag.ca.gov](mailto:wangp@scag.ca.gov) or fax to (213) 236-1962.

#### City Information

City Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Contact Person: \_\_\_\_\_ Department: \_\_\_\_\_ Title: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

#### GIS Information

Does city have GIS software?  Yes  No  
If yes, please check:  ArcView 3.x  ArcMap 9.x  ArcInfo  MapInfo  
 Others (please specify): \_\_\_\_\_

Does city have GIS data?  Yes  No  
If yes, please check:  Existing Land Use Data  General Plan Land Use Data  Zoning Data  
 Building Permit  Park/Open Space  Flood Zone  
 Endangered Species  Endangered Habitat  Parcel  
 Others (please specify): \_\_\_\_\_

What types of GIS data?  Shape Files  Geodatabase  AutoCAD Files  
 Others (please specify): \_\_\_\_\_

Who performs GIS work?  City permanent GIS staff  City permanent planning staff  City Interns  
 City Consultant: (Specify name and contact information) \_\_\_\_\_  
 No one at this time

How many City Staff members have knowledge of GIS software?  
Total: \_\_\_\_\_ in the Planning Department: \_\_\_\_\_ in the Public Works/Engineering Department: \_\_\_\_\_  
Others (please specify): \_\_\_\_\_

What printers does the City have?  Laser Printer  Color Printer  Plotter  Others (please specify): \_\_\_\_\_



# The Southern California Association Of Governments



## COGs and MPOs by State

### Alabama

[Alabama Tombigbee Regional Commission](#)  
[Birmingham Regional Planning Commission](#)  
[Central Alabama Regional Planning and Development](#)  
[East Alabama Regional Planning and Development](#)  
[Lee-Russell Council of Governments](#)  
[North-Central Alabama Regional Council of Governments](#)  
[South Alabama Regional Planning Commission](#)  
[South Central Alabama Development Commission](#)  
[Southeast Alabama Regional Planning and Development](#)  
[TARCOG-Top of Alabama Regional Council of Governments](#)  
[WAPDC-West Alabama Planning & Development Council](#)

### Arizona

[Flagstaff Metropolitan Planning Organization](#)  
[MAG-Maricopa Association of Governments](#)  
  
[NACOG-Northern Arizona Council of Governments](#)  
[PAG-Pima Association of Governments](#)  
[South-Eastern Arizona Governments Organization](#)  
[Western Arizona Council of Governments](#)  
[Yuma Metropolitan Planning Organization](#)

### Arkansas

[Metropolitan - Little Rock](#)  
[WCAPDD-West Central Arkansas Council of Governments](#)

### California

[ABAG-Association of Bay Area Governments](#)  
[BCAG-Butte County Association of Governments](#)  
[COFCG-Council of Fresno County Governments](#)  
[Council of San Benito County Governments](#)  
[Coachella Valley Association of Governments](#)  
[MCAG-Merced County Association of Governments](#)  
[MTC-Metropolitan Transportation Commission](#)  
[Kern Council of Governments](#)  
[Kings County Association of Governments](#)  
[Mendocino Council of Governments](#)  
[Association of Monterey Bay Area Governments](#)  
[Orange County Council of Governments](#)  
[SACOG-Sacramento Area Council of Governments](#)  
[San Bernardino Associated Governments](#)  
[SANDAG-San Diego Association of Governments](#)  
[SBCAG-Santa Barbara County Association of Gov](#)  
[SCAG-Southern California Association of Governments](#)  
[SCRTPA-Shasta County Regional Transportation](#)  
[SEDD & SPO-Sierra Economic Development District](#)  
[SGVCOG-San Gabriel Valley Council of Governments](#)  
[SJCOG-San Joaquin Council of Governments](#)  
[SLOCOG-San Luis Obispo Council of Governments](#)  
[StanCOG - Stanislaus Council of Governments](#)

### Connecticut

[CCRPA-Central Connecticut Regional Planning Agency](#)  
[CRCOG-Capitol Region Council of Governments](#)  
[CRERPA-The Connecticut River Estuary Regional Council of Governments of the Central Naugatuck Valley](#)  
[South Central Regional Council of Governments](#)  
[Windham Region Council of Governments](#)

### Delaware

[Dover/Kent County MPO](#)  
[WILMAPCO-Wilmington Area Planning Council](#)  
[Metropolitan Washington Council of Governments](#)

### Florida

[Brevard Metropolitan Planning Organization](#)  
[Central Florida Regional Planning Council](#)  
[Charlotte County/Punta Gorda Metropolitan Planning Council](#)  
[Collier County Metropolitan Planning Organization](#)  
[Central Florida Regional Planning Council](#)  
[Dade County Metropolitan Planning Organization](#)  
[Florida MPO Advisory Council](#)  
[Hillsborough County MPO](#)  
[Hillsborough County Planning Commission](#)  
[Lee County Metropolitan Planning Organization](#)  
[Metropolitan Dade](#)  
[Metropolitan Planning Organization of Miami](#)  
[North Central Florida Regional Planning Council](#)  
[Northeast Florida Regional Planning Council](#)  
[Palm Beach County Metropolitan Planning Organization](#)  
[Orange/Orange County Metropolitan Planning Organization](#)  
[Seminole County Florida Regional Planning Council](#)  
[Volusia Metropolitan Planning Organization](#)  
[West Florida Regional Planning Council](#)  
[Withlacoochee Regional Planning Council](#)

### Georgia

[Albany Planning and Development](#)  
[Atlanta Regional Commission](#)  
[CSRA-Central Savannah River Area](#)  
[CVRD-Coosa Valley Regional Development Center](#)  
[MTRDC-McIntosh Trail Regional Development Center](#)

### Hawaii

[OMPO-Oahu Metropolitan Planning Organization](#)

### Idaho

[Ada Planning Association](#)  
[Bannock Planning Organization](#)  
[SICOG-Southeast Idaho Council of Governments](#)

### Illinois

[Bi-State Regional Commission](#)  
[Chicago Area Transportation Study](#)  
[Coles County Regional Planning and Development](#)  
[Eastern Will County Regional Council](#)  
[North Central Illinois Council of Governments](#)  
[Northeastern Illinois Planning Commission](#)  
[Northwest Municipal Conference](#)  
[South Central Illinois Regional Planning](#)  
[Southeastern Illinois Regional Planning](#)  
[Tri-County Regional Planning Commission](#)

### Indiana

[Bloomington/Monroe County Metropolitan Planning](#)  
[Delaware-Muncie Metropolitan Plan Commission](#)  
[Evansville Urban Transportation Study](#)  
[Indianapolis Metropolitan Planning Organization](#)  
[Madison County Council of Governments](#)  
[Michiana Area Council of Governments](#)  
[Northwestern Indiana Regional Planning Commission](#)  
[Tippecanoe County Area Plan Commission](#)

### Iowa

[Area XV Regional Planning Commission](#)  
[Bi-State Regional Commission](#)  
[Des Moines MPO](#)  
[East Central Intergovernmental Association](#)  
[East Central Iowa Council of Governments](#)  
[Iowa Northern Regional Council of Governments](#)  
[Iowa Regional Council of Governments](#)  
[Northwest Iowa Planning and Development Commission](#)  
[Region Six Planning Commission](#)  
[Region XII Council of Governments](#)  
[SIMPCO-Six Metropolitan State Metropolitan Planning](#)  
[Southeast Iowa Regional Planning Commission](#)  
[Southwest Iowa Council of Governments](#)  
[Upper Explorerland Regional Planning Commission](#)

### Kentucky

[Green River Area Development District](#)  
[Kentucky Regional Planning and Development](#)  
[Louisiana Regional Planning Commission](#)  
[Louisiana Regional Planning Commission](#)  
[Northwest Louisiana Council of Governments](#)  
[Regional Planning Commission for Jefferson, Orleans,](#)

### Maine

[Androscoggin Valley Council of Governments](#)  
[Eastern Maine Development Corporation](#)  
[Kennebec Valley Council of Governments](#)  
[Mid-Coast Regional Planning Commission](#)  
[NMDC-Northern Maine Development Commission](#)  
[Greater Portland Council of Governments](#)  
[South Maine Regional Planning Commission](#)

### Maryland

[Baltimore Metropolitan Council](#)

### Massachusetts

[Berkshire Regional Planning Commission](#)  
[Boston Metropolitan Area Planning Council](#)  
[Boston Region Metropolitan Planning Organization](#)  
[Cape Cod Commission Information Center](#)  
[Central Massachusetts Regional Planning Commission](#)  
[Franklin Regional Council of Governments](#)  
[Merrimack Valley Planning Commission](#)  
[Montachusett Regional Planning Commission](#)  
[Old Colony Planning Council](#)  
[PVPC-Pioneer Valley Planning Commission](#)  
[SRPEDD-Southeastern Regional Planning](#)

### Michigan

[SEMCOG-Southeast Michigan Council of Governments](#)

### Minnesota

[Arrowhead Regional Development](#)  
[Duluth-Superior Metropolitan](#)  
[Fargo-Moorhead Metropolitan](#)  
[Metropolitan Council](#)  
[St. Cloud Area Planning Org](#)

### Missouri

[Boonslick Regional Planning](#)  
[East-West Gateway Coordin](#)  
[Harry S. Truman Coordinati](#)  
[MARC-The Mid-America Re](#)  
[Kaysinger Basin Regional P](#)  
[Mark Twain Regional Counc](#)  
[Meramec Regional Plannin](#)  
[Mid-America Regional Coun](#)  
[Mid-Missouri Regional Plan](#)  
[Mo-Kan Regional Council](#)  
[Northeast Missouri Regiona](#)  
[Northwest Missouri Regiona](#)  
[South Central Ozark Counc](#)  
[Southeast Missouri Regiona](#)  
[Southwest Missouri Council](#)

### Nebraska

[NENEDD-Northeast Nebras](#)

### New Hampshire

[Southern New Hampshire P](#)

### New Jersey

[DVRPC-The Delaware Vall](#)  
[New Jersey Transportation](#)

### New Mexico

[Middle Rio Grande Council](#)  
[New Mexico Association of](#)

### New York

[CDRPC-Capital District Reg](#)  
[Capital District Transporta](#)  
[Central New York Regional](#)  
[Elmira-Chemung Transporta](#)  
[Genesee/Finger Lakes Reg](#)  
[Greater Buffalo-Niagara Res](#)  
[Council](#)  
[Ithaca-Tompkins County Tra](#)  
[Lake Champlain-Lake Geor](#)  
[New York Metropolitan Tran](#)  
[Southern Tier West Regiona](#)  
[Southern Tier Central Regio](#)  
[Syracuse Metropolitan Tran](#)

### North Carolina

[Burlington - Graham MPO](#)  
[Capital Area Metropolitan P](#)  
[Cape Fear Council of Gover](#)  
[Centralina Council of Gover](#)  
[Land-of-Sky Regional Coun](#)  
[NWRCOG-Northwest Piedm](#)  
[Triangle J Council of Govern](#)  
[WPCOG-Western Piedmont](#)  
[North Dakota](#)

SCAG is largest  
of nearly 700  
Councils of Governments  
in the U.S.

# Metropolitan Planning Organization



**Most socially  
& culturally  
diverse region  
in the world**



**19 million people now...  
23 million by 2035**



**15<sup>th</sup> largest  
economy  
in the world**

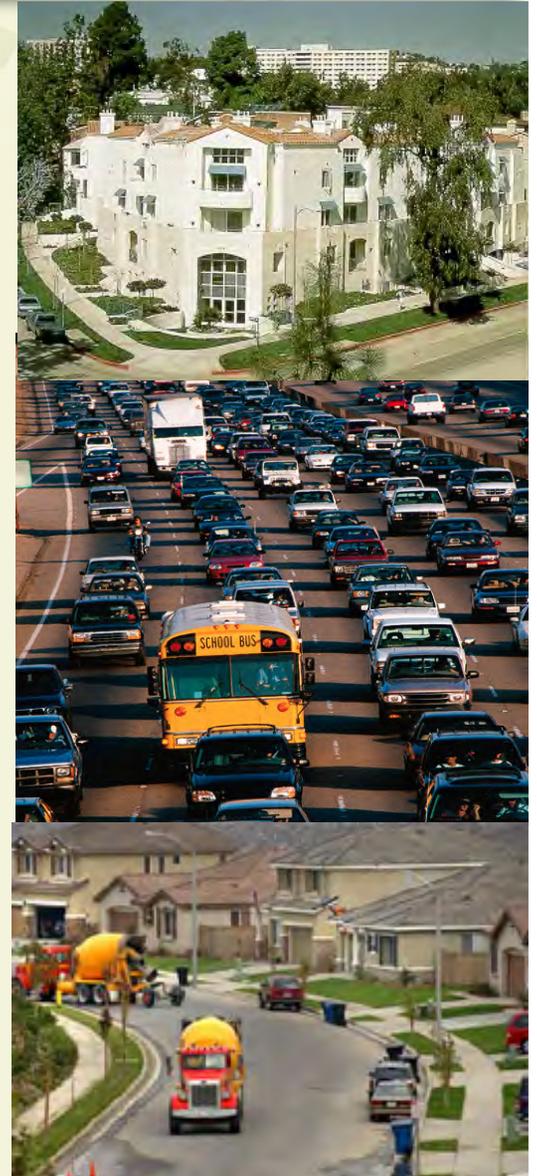


**Shares the  
characteristics of  
many nations**



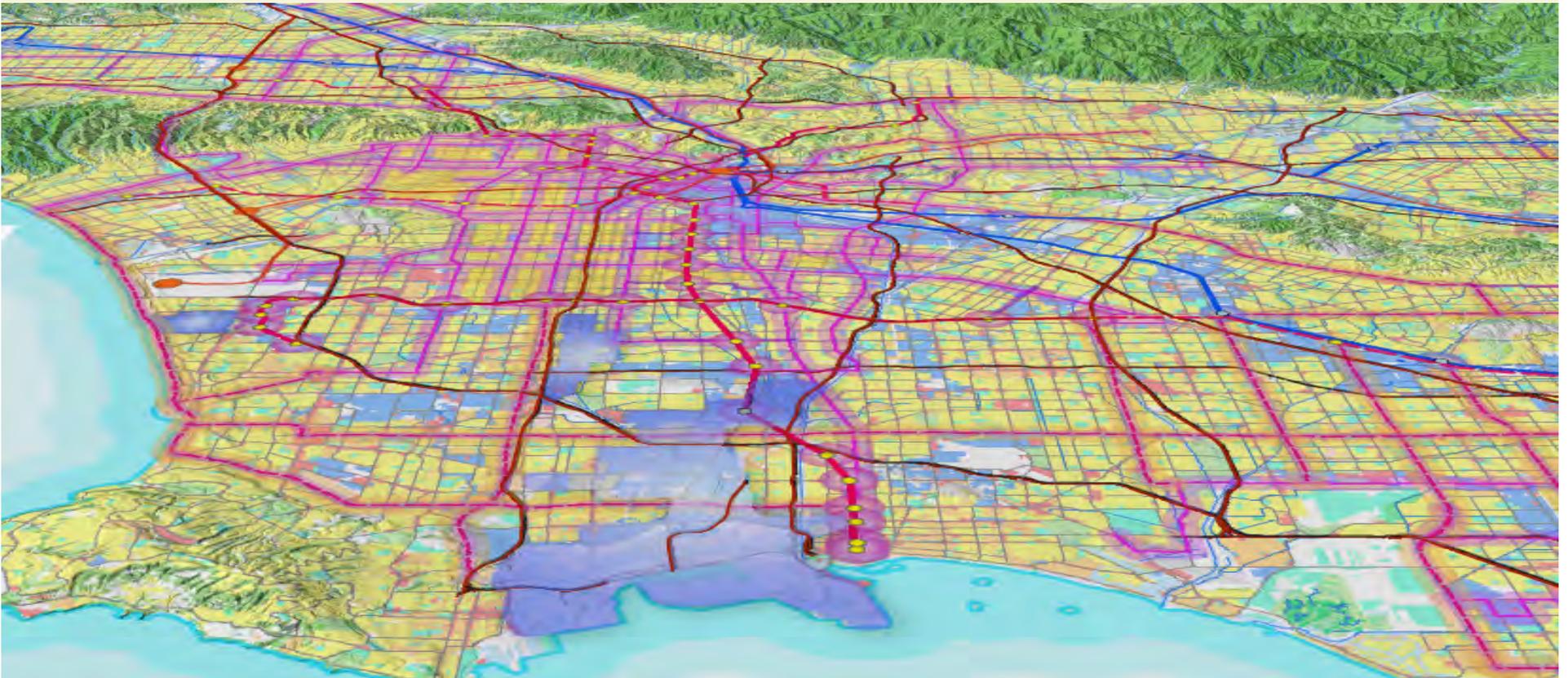
# Background

- CA Senate Bill (SB) 375
  - Combine land use decisions with transportation planning
  - Provide the most updated and current land use info
- Local Input for the RTP2012 development
  - Socioeconomic Data (SED)
  - Review, revise, and update planning & GIS data (Land Use , General Plan, Zoning)



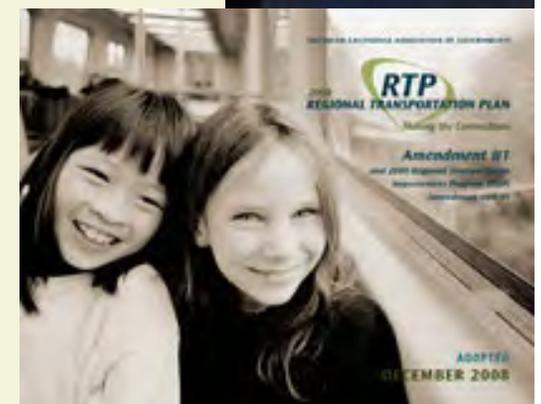
# Background

- Challenges:
  - Lack of GIS capability to share info in standardized form
- Solution: **SCAG Pilot GIS Services Program**



# Goal

- Assist SCAG and local jurisdictions in the development of the upcoming 2012 RTP and SB 375 compliance
- Using GIS technology to promote
  - Data sharing
  - Data updating
- Enhance region-wide GIS data standardization
- Establish solid relationship

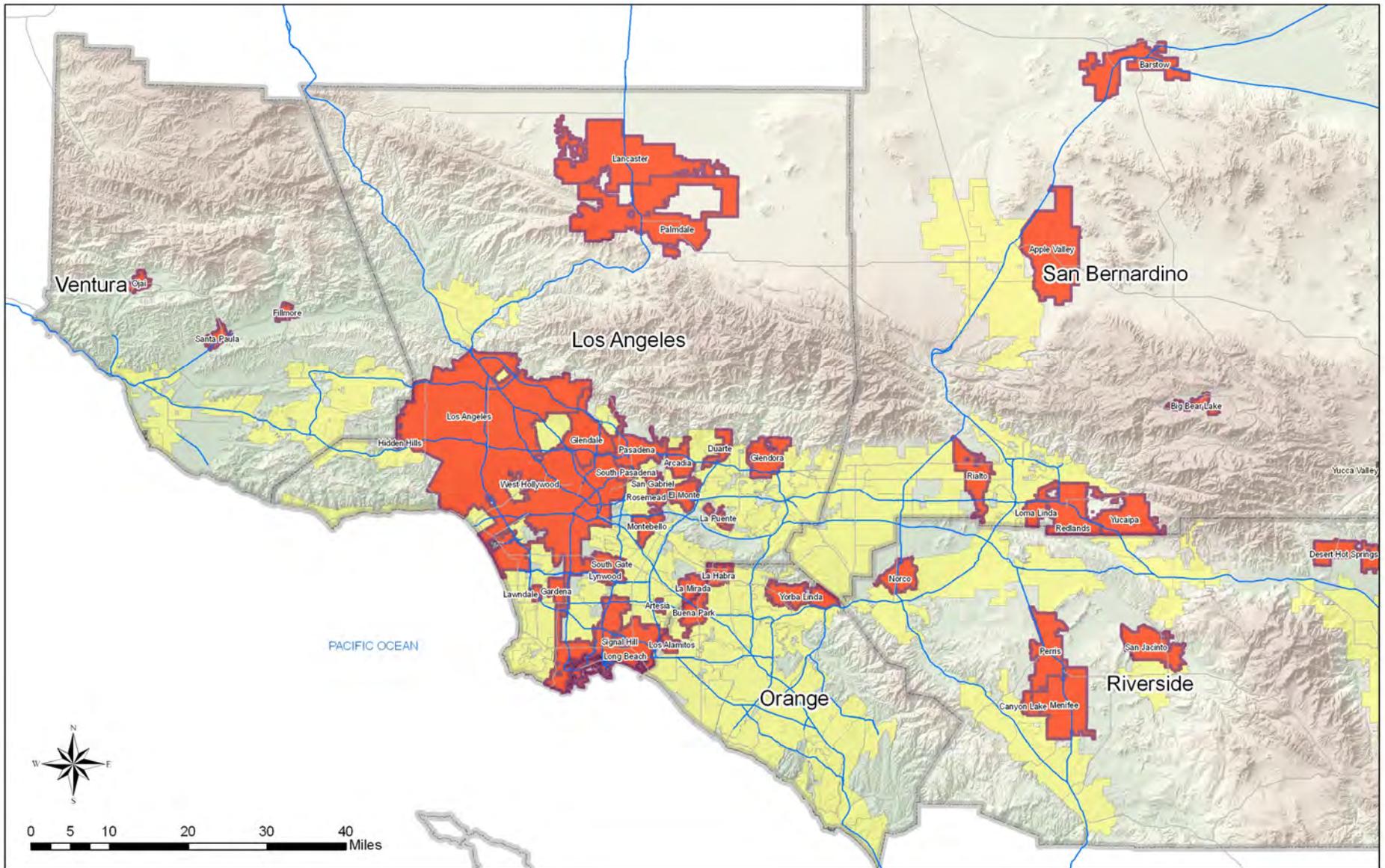


# Implementation

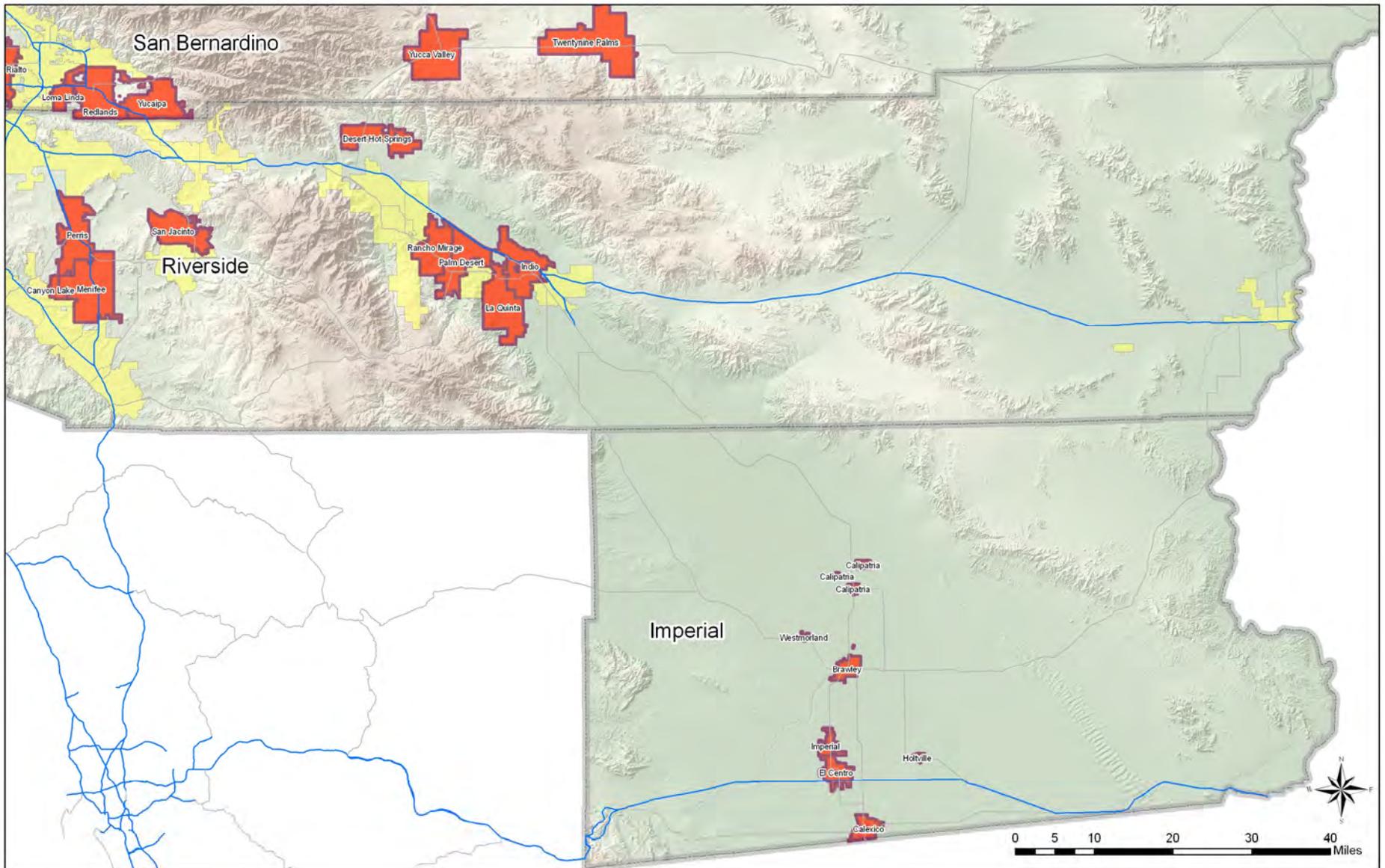
- The program began in the Mid of January, 2010
- 58 local jurisdictions participating
- 5 Regional agencies
  - Caltrans
  - Metro
  - OCTA
  - Ventura County APCD
  - CVAG



# Map of 58 Participating Local Jurisdictions



# Map of 58 Participating Local Jurisdictions



# 58 Participating Local Jurisdictions

Table: Participants Distribution by County

County	# Jurisdictions in SCAG	%	Participating	% in SCAG	% Participation
Imperial	8	4%	8	14%	100%
Los Angeles	89	46%	24	41%	27%
Orange	35	18%	4	7%	11%
Riverside	27	14%	9	16%	33%
San Bernardino	25	13%	10	17%	40%
Ventura	11	6%	3	5%	27%
<b>Total</b>	<b>195</b>	<b>100%</b>	<b>58</b>	<b>100%</b>	<b>30%</b>

# 58 Participating Local Jurisdictions (cont.)

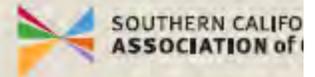
■ Table 2: Participating Jurisdictions by Population Size

Population Size	# Jurisdictions in SCAG	% in SCAG	Participating	%	% Participation
200K +	13	7%	3	5%	23%
100K-200K	31	16%	6	10%	19%
50K – 100K	52	27%	17	29%	33%
<b>20K – 50K</b>	<b>61</b>	<b>31%</b>	<b>18</b>	<b>31%</b>	<b>30%</b>
<b>10K – 20K</b>	<b>19</b>	<b>10%</b>	<b>7</b>	<b>12%</b>	<b>37%</b>
<b>2K – 10K</b>	<b>14</b>	<b>7%</b>	<b>7</b>	<b>12%</b>	<b>50%</b>
Less than 2K	5	3%	0	0%	0%
<b>Total Population</b>	<b>195</b>	<b>100%</b>	<b>58</b>	<b>100%</b>	<b>30%</b>

# Questions to Participants

- GIS software
- GIS data
- GIS data types
- GIS staff

## Application for SCAG Members Pilot GIS Services Program



Please email this form to [wangp@scag.ca.gov](mailto:wangp@scag.ca.gov) or fax to (213) 236-1962.

### City Information

City Name:

Address:

Contact Person:  Department:  Title:

Phone:  Fax:  Email:

### GIS Information

Does city have GIS software?  Yes  No  
If yes, please check:  ArcView 3.x  ArcMap 9.x  ArcInfo  MapInfo  
 Others (please specify):

Does city have GIS data?  Yes  No  
If yes, please check:  Existing Land Use Data  General Plan Land Use Data  Zoning  
 Building Permit  Park/Open Space  Flood Zone  
 Endangered Species  Endangered Habitat  Parcel  
 Others (please specify):

What types of GIS data?  Shape Files  Geodatabase  AutoCAD Files  
 Others (please specify):

Who performs GIS work?  City permanent GIS staff  City permanent planning staff   
 City Consultant:  (Specify name and contact information)

# Questions to Participants (cont.)

## Question: GIS Software

- Yes – 69%

<b>ArcView 3x</b>	<b>24%</b>
<b>ArcMap 9x</b>	<b>44%</b>
<b>ArcInfo</b>	<b>12%</b>
<b>MapInfo</b>	<b>0%</b>
<b>Others</b>	<b>24%</b>

# Questions to Participants (cont.)

## Question: GIS Data

Yes 78%

Existing Land Use Data	54%
General Plan Land Use Data	56%
Zoning Data	59%
Building Permit	14%
Park/Open Space	32%
Flood Zone	29%
Endangered Species/ Habitat	4%
Parcel	49%
Others	29%

# Questions to Participants (cont.)

## Question: GIS Data Types

Shape files	69%
Geodatabase	36%
AutoCAD Files	34%
Others	15%

# Questions to Participants (cont.)

## Question: GIS Staff

Permanent GIS staff	24%
Permanent planning staff	32%
Interns	7%
Consultant	24%
No one at this time	27%

# Questions to Participants (cont.)

## Question: Expectation and Linkage of SCAG programs

Please email this form to [wangp@scag.ca.gov](mailto:wangp@scag.ca.gov) or fax to (213) 236-1962.

### Expectation of GIS Services

My City desires assistance from SCAG to: (please rank highest 1 to lowest 7)

- Update City's existing GIS data
- Develop new GIS data for City
- Create City paper maps
- Create web-based GIS application (allows City staff to have access to GIS data without purchase of GIS software)
- Provide training on ArcGIS software
- Have SCAG staff perform GIS analysis
- Others (please specify):

GIS services would assist my City in the following SCAG related programs: (please rank highest 1 to lowest 6)

- RTP
- RHNA
- EIR
- SB 375 - Sustainable Communities Strategy (SCS)
- Growth monitoring
- Others (please specify):

# Questions to Participants (cont.)

## Overall Expectation

	<b>1</b> (highest)	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b> (lowest)	<b>Others</b>
Update existing data	7%	<b>20%</b>	7%	16%	7%	13%	3%	12%
<b>Develop new data</b>	<b>28%</b>	<b>14%</b>	<b>23%</b>	<b>10%</b>	3%	0%	1%	6%
Create paper maps	1%	3%	6%	13%	23%	<b>26%</b>	6%	7%
<b>Create web-based application</b>	<b>23%</b>	<b>12%</b>	<b>17%</b>	9%	6%	7%	6%	6%
<b>Provide GIS training</b>	<b>13%</b>	<b>13%</b>	<b>13%</b>	<b>14%</b>	<b>13%</b>	7%	6%	6%
Have SCAG perform GIS Analysis	10%	7%	7%	13%	<b>22%</b>	14%	7%	4%
Other	6%	4%	0%	1%	1%	0%	23%	49%

# Questions to Participants (cont.)

## Linkage with SCAG Programs

	1	2	3	4	5	6	Others
<b>RTP</b>	12%	<b>25%</b>	20%	15%	12%	3%	12%
<b>RHNA</b>	22%	14%	25%	12%	8%	7%	12%
<b>EIR</b>	12%	3%	10%	22%	<b>36%</b>	3%	14%
<b>SB 375</b>	<b>31%</b>	<b>31%</b>	<b>12%</b>	<b>12%</b>	2%	3%	10%
<b>Growth monitoring</b>	19%	10%	15%	24%	17%	5%	10%
<b>Others</b>	7%	2%	2%	2%	0%	22%	66%

# Highlights in Implementation

- **One on one meeting with each city (huge effort)**
- **Provided meeting summaries and SOW**
- **Reach agreements with cities**
- **Collaborating work as a team in SCAG**



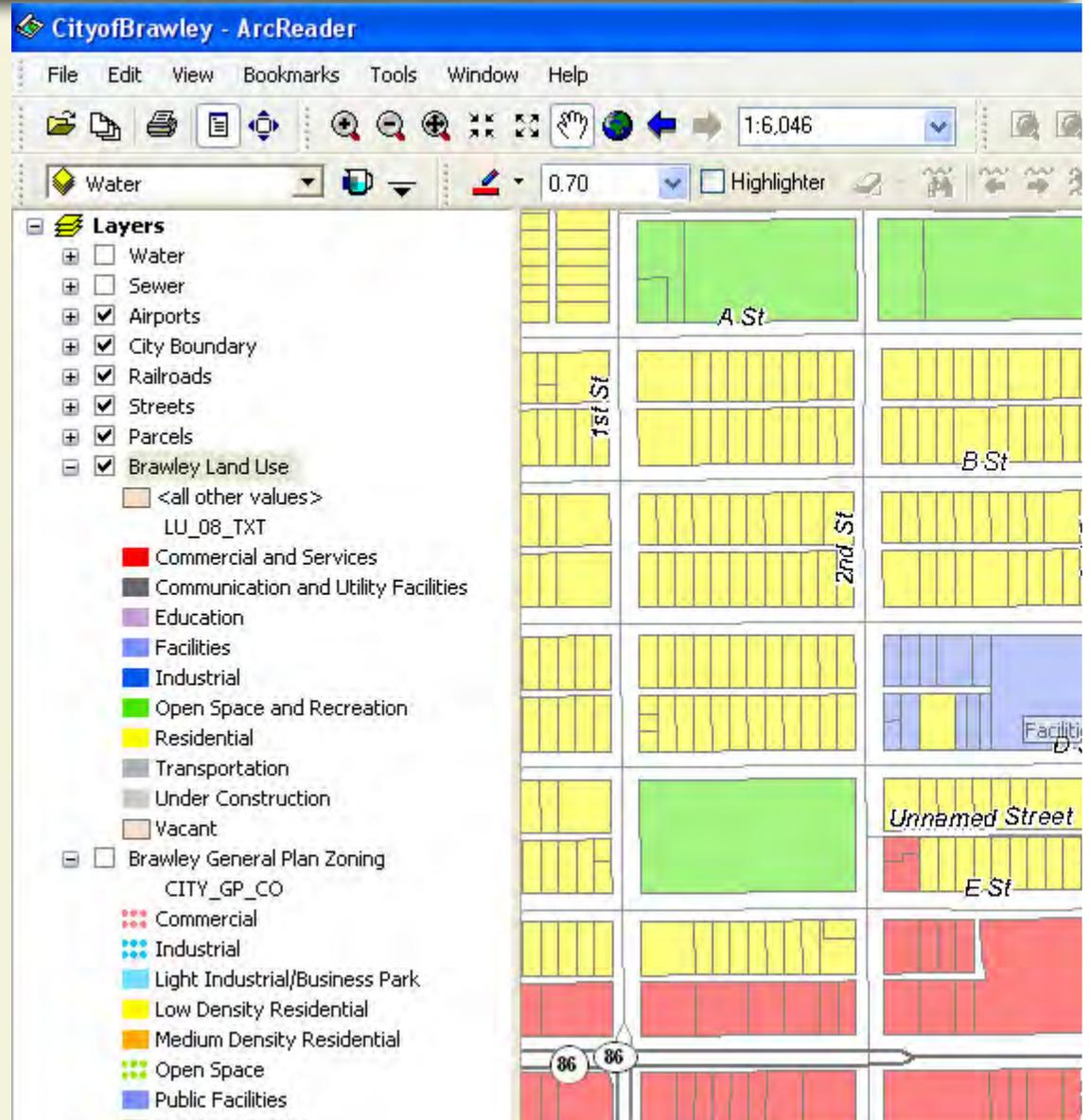
# GIS Services provided

GIS Training	56%
Provide Land Use Data	32%
Desktop ArcReader Viewer	22%
City tabulate data link to GIS	20%
Web-based Mapping Application	19%
Provide Other Data	19%
CAD Data Conversion	17%

ESRI discounts

# Desktop ArcReader Application

- ArcReader is a free, easy-to-use desktop mapping application that allows users to view, explore, and print maps.
- High-quality interactive maps in ArcReader can be published with the ArcGIS Publisher extension.



# Web-base GIS Mapping Application

SCAG Pilot GIS  
SERVICES PROGRAM

Calipatria GIS Web Mapping Application

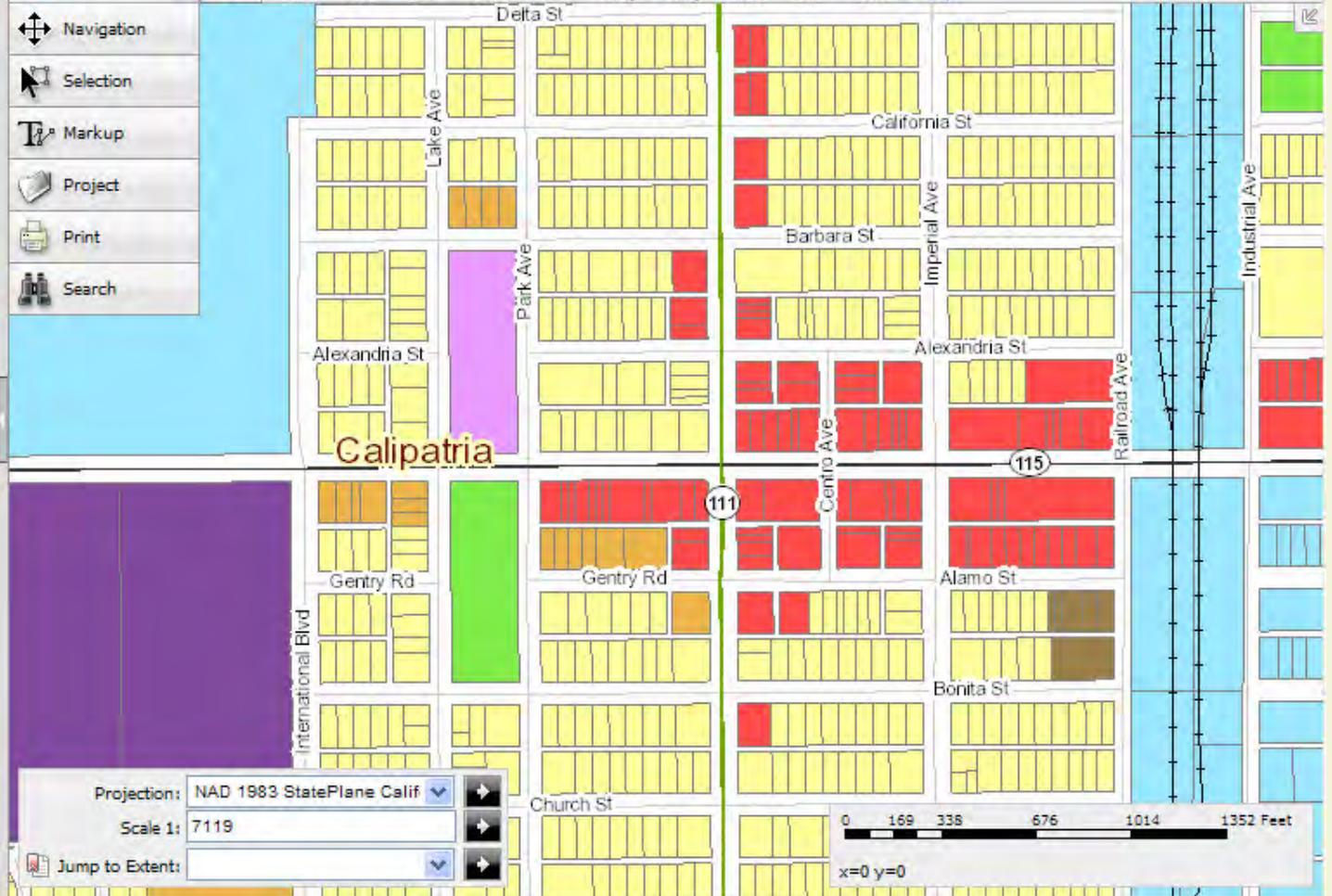
Layer List

- Calipatria Airport  ⓘ
- Calipatria Streets  ⓘ
- Railroad  ⓘ
- City Limits  ⓘ
- Parcels  ⓘ
- Calipatria General  ⓘ
- Calipatria Landuse  ⓘ

Toolbox

- Navigation
- Selection
- Markup
- Project
- Print
- Search

- Navigation
- Selection
- Markup
- Project
- Print
- Search
- Identify
- Identify
- Measure
- Grid
- Coord
- Map Tips



Show Legend

Selection

No features are currently selected.  
You can select features from one  
or more layers using the selection  
tools.

# Partnership

- ESRI
- City of Redlands
- University of Redlands
- Other government agencies
- Other Colleges and Universities



# Key Findings

- Very successful beginning
- SCAG acts as a facilitator
- Educational GIS workshop with cities experience
- Collaboration:
  - Internal SCAG
  - Internal City
  - Between SCAG and City
- Does the Pilot program take over GIS consultants' jobs?

# Lessons Learned

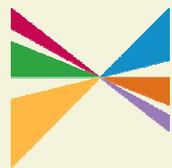
- Improve communication channels
  - SCAG vs. Cities
  - City in different departments
- Balance SCAG resources with GIS services committed
  - through SCAG EGIS Steering Committee



# What's Next

- Welcome 190 cities to participate
- Integrate the Sustainability Tool application
- Develop a GeoPortal site
- Design a Program Logo to promote the GIS Services
- Publish a monthly newsletter to enhance communication
- Develop a GIS web site with an editing function

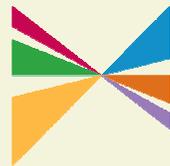
# Questions ?



**SOUTHERN CALIFORNIA  
ASSOCIATION of GOVERNMENTS**

# Thank You

Ping Wang  
wangp@scag.ca.gov



**SOUTHERN CALIFORNIA  
ASSOCIATION of GOVERNMENTS**