

# Geographic Information Systems

California Geographic Information  
Officer

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# Outline

Introduce the topic of Geographic Information Systems (GIS) and develop a path forward for improving 911 function through the investment and use of GIS

- Intro GIO/GIS
- Core Data
- Other States
- Proposed Direction

# GIO Background

- GIO Created as administration action
- Create the California Spatial Data Infrastructure
- Set State Policy w/ respect to GIS
- Lead California coordination
- Collaboration / Align investing / Enterprise

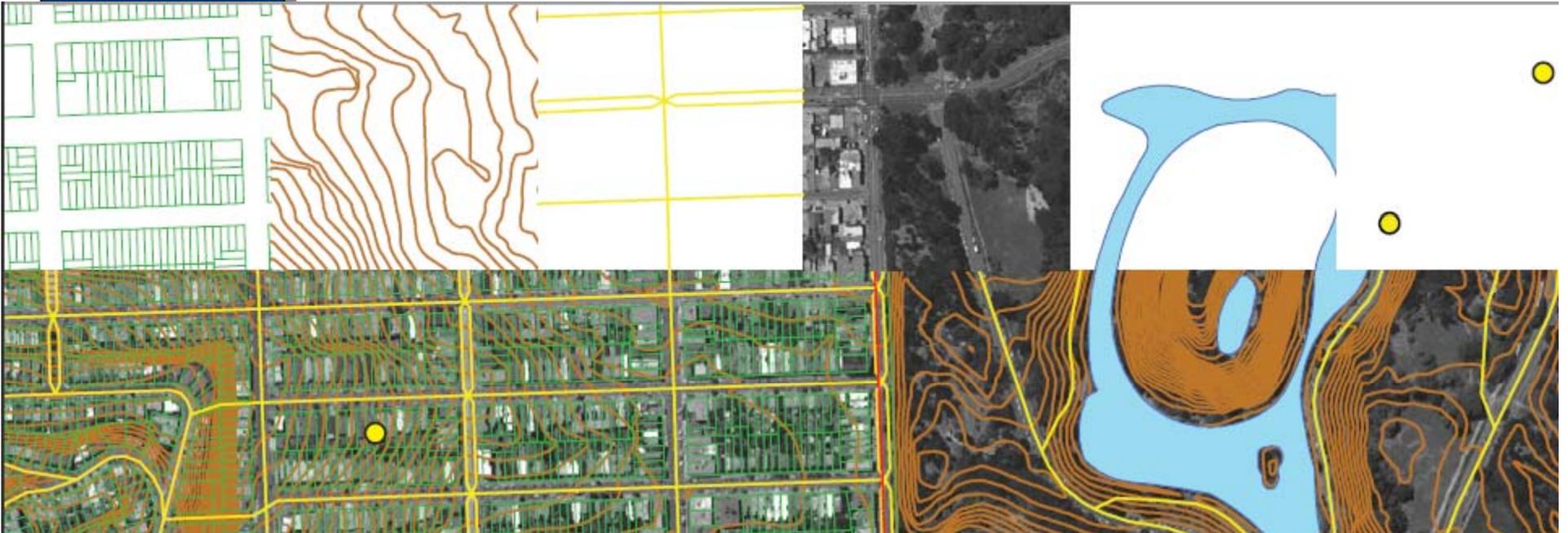
# GIO Strategy

- People – The people who are GIS/mapping experts who manage spatial data
- Data – the geographic data which drives geospatial analysis (imagery, parcels, transportation, elevation, streams, government units and geodetic control)
- Policies/Standards – policies that promote and sustain GIS development and use
- IT Infrastructure – the computer's hardware and software which drives the GIS capacity.

# Future Direction

	Policy Role	Operational Role	Consolidation Role	Enterprise Role
Data	<ol style="list-style-type: none"> <li>1) Establish authority leads for each framework dataset as a matter of state (OCIO) policy</li> <li>2) Require geocoded data</li> </ol>	Increase GIS data availability by publishing state data as GIS data services	Consolidate data reporting at <u>CalAtlas</u> ;	Develop essential data services
People	Bring current GIS classifications into the 20th century	<ol style="list-style-type: none"> <li>1) Implement sound governance for data stewardship</li> <li>2) Define a small focused staff to direct GIO functions</li> </ol>	Align with GRP so enterprise GIS staff are consolidated; outreach to Agencies to ensure data is consolidated at the agency level	Develop enterprise capacity at OTS
IT Infrastructure	<ol style="list-style-type: none"> <li>1) Establish MSA&lt; for GIS products and services making it easy for departments to implement</li> <li>2) Collaborate with Science based computing at key locations (eg National Labs)</li> </ol>	Increase GIS Capacity in Agencies, and assure that this increase is strategically aligned and not duplicative	Through policy memo's ensure infrastructure is consolidated at Agency levels at refresh	Implement data services which 1) publish geographic data and 2) return ancillary geographic data
Policy & Standards	Set statewide policy and standards relating to GIS	Work through the GIS Council to vet and adopt standards	Through policy memos ensure state GIS usage is focused on a handful (rather than dozens) of GIS technologies	Ensure the enterprise development fosters standards established
Products & Services	Establish the <u>CalAtlas</u> as the centerpiece of GIS for California	Work with EA to define enterprise issues; key issue #1 - <u>Geocoding</u>	Ensure GIS data, services and metadata are published through a common portal ( <u>CalAtlas</u> )	Develop future products and services meeting the needs of many

# Framework Data



# Framework Data

## QUICK LINKS

- » [Public Meetings](#)
- » [Governor's IT Reorganization Plan \(GRP\) Transition Information](#)
- » [E-mail Subscription](#)
- » [IT Due Dates](#)
- » [IT Project Tracking](#)
- » [Budget Control Sections](#)
- » [CA IT Strategic Plan](#)
- » [SAM / SIMM](#)

## Geographic Information Systems (GIS) - Data

Data - The GIS data which is developed and used by the people.

The California Atlas (Cal-Atlas) is the centerpiece of GIS Data Discovery, Downloading, Sharing and Viewing in the State. We encourage all groups (local, regional, state and federal) producing and consuming GIS data in the state to:

- Register as a Cal-Atlas User - <http://projects.atlas.ca.gov/account/register.php>
- Check the Atlas for existing data before re-creating the wheel - <http://www.atlas.ca.gov/discover.html>
- Register your data with Cal-Atlas to ensure everyone knows about the data you own, steward and add value to California for - <http://www.atlas.ca.gov/contribute.html>

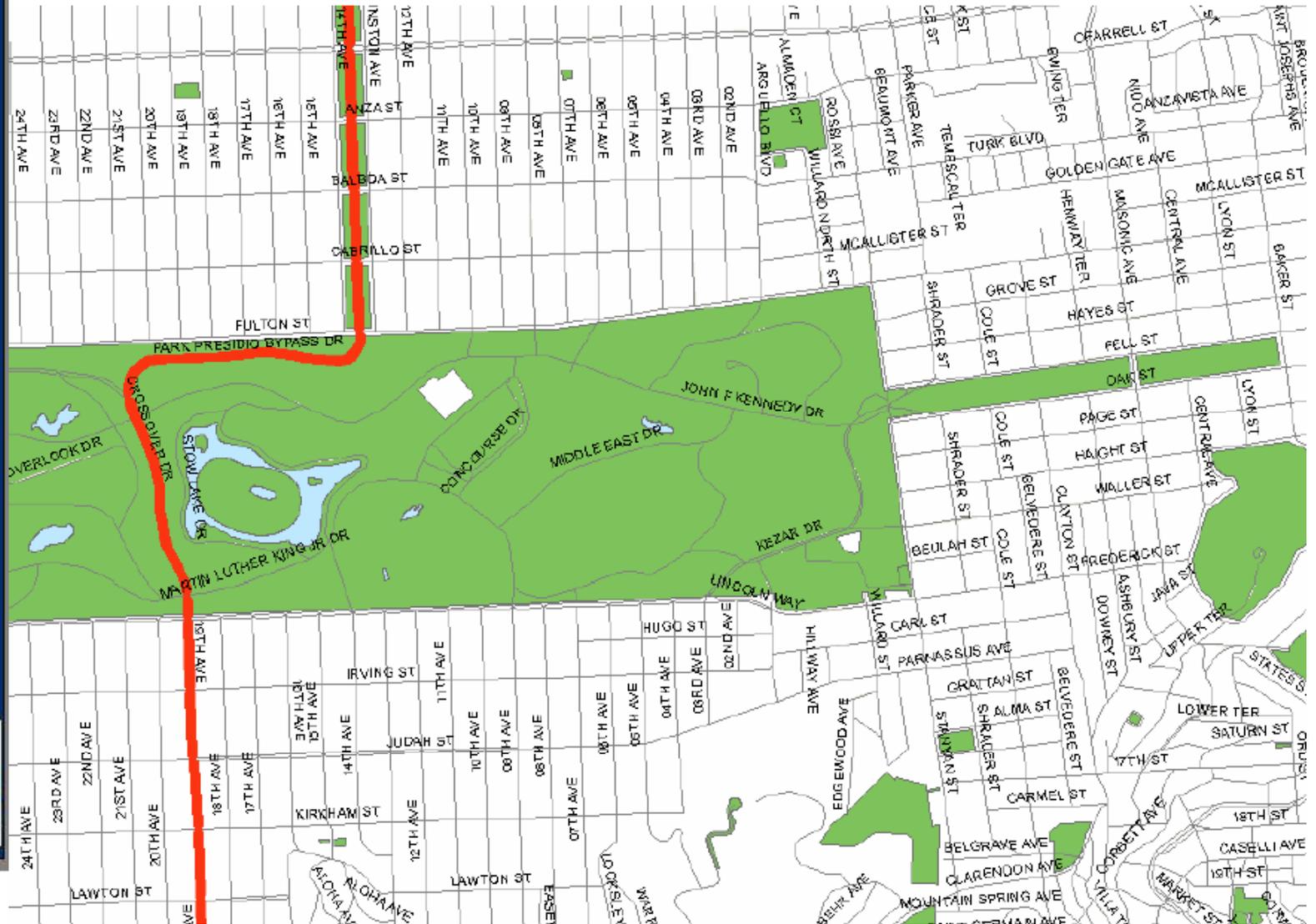
The California GIS Council has endorsed a data plan for the GIS data needs of the state (see <http://cgia.org/geospatial-draftplan.htm>). The primary focus for GIS data are the seven 'framework' layers. Our goal is to have these seamless layers coordinated and available for use:

Data Theme	Working Group	Strategic Plan	Standard	Business Plan	Data
<a href="#">Parcels</a>					
<a href="#">Imagery</a>					
<a href="#">Transportation</a>					
<a href="#">Elevation</a>					
<a href="#">Hydrography</a>					
<a href="#">Geodetic Control</a>					
<a href="#">Government Units</a>					

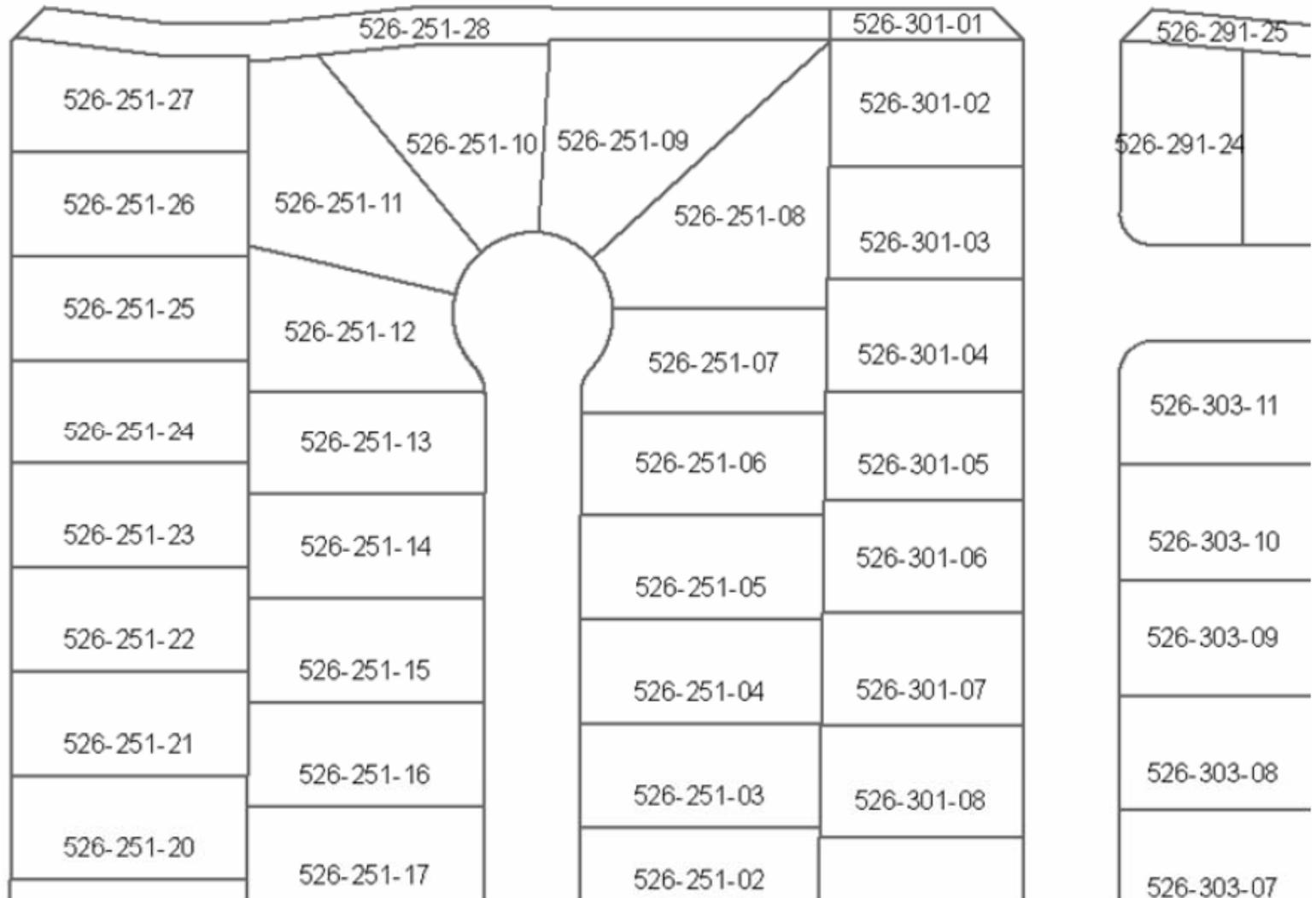
# Imagery



# Transportation

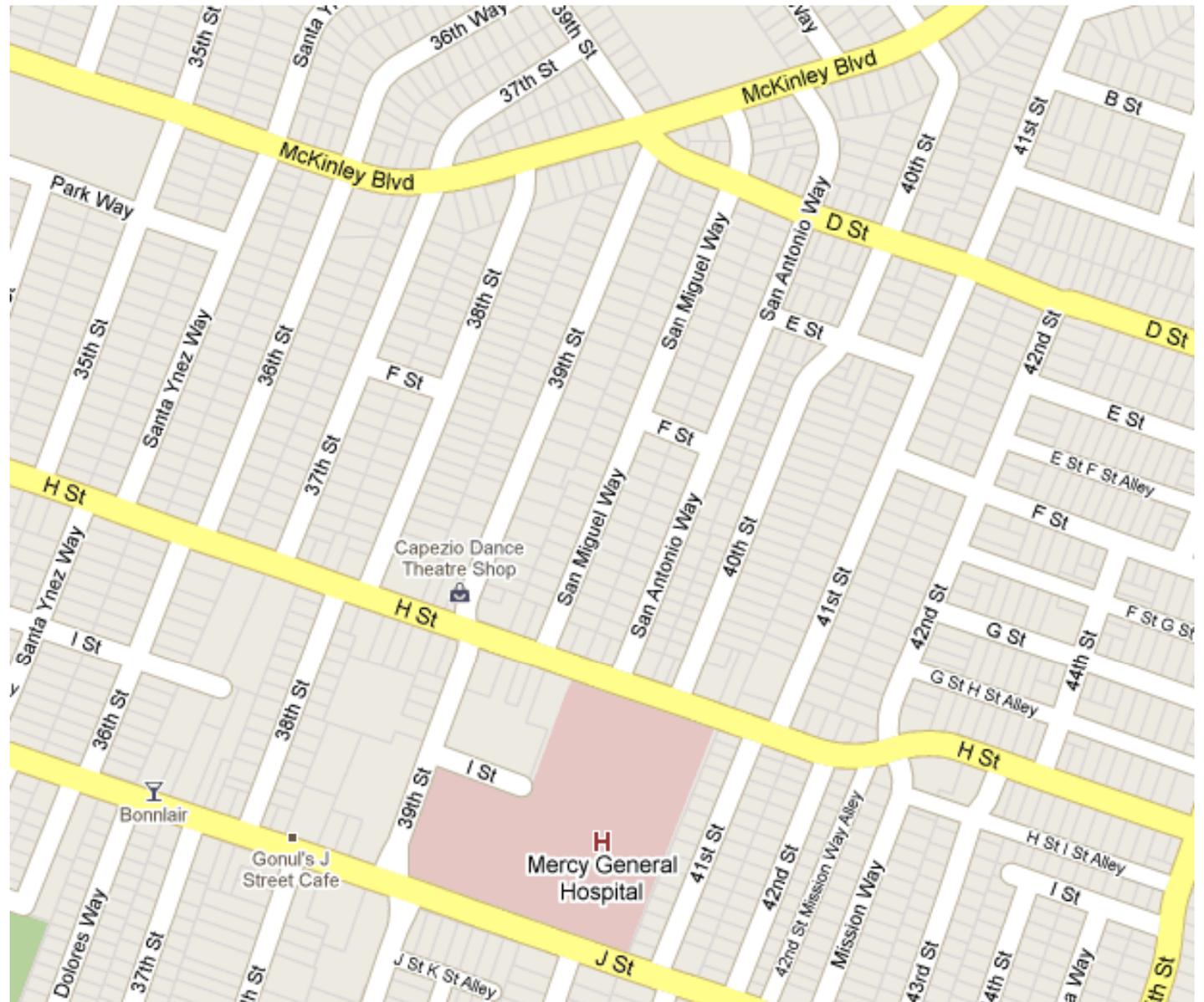


# Parcels / Landmarks



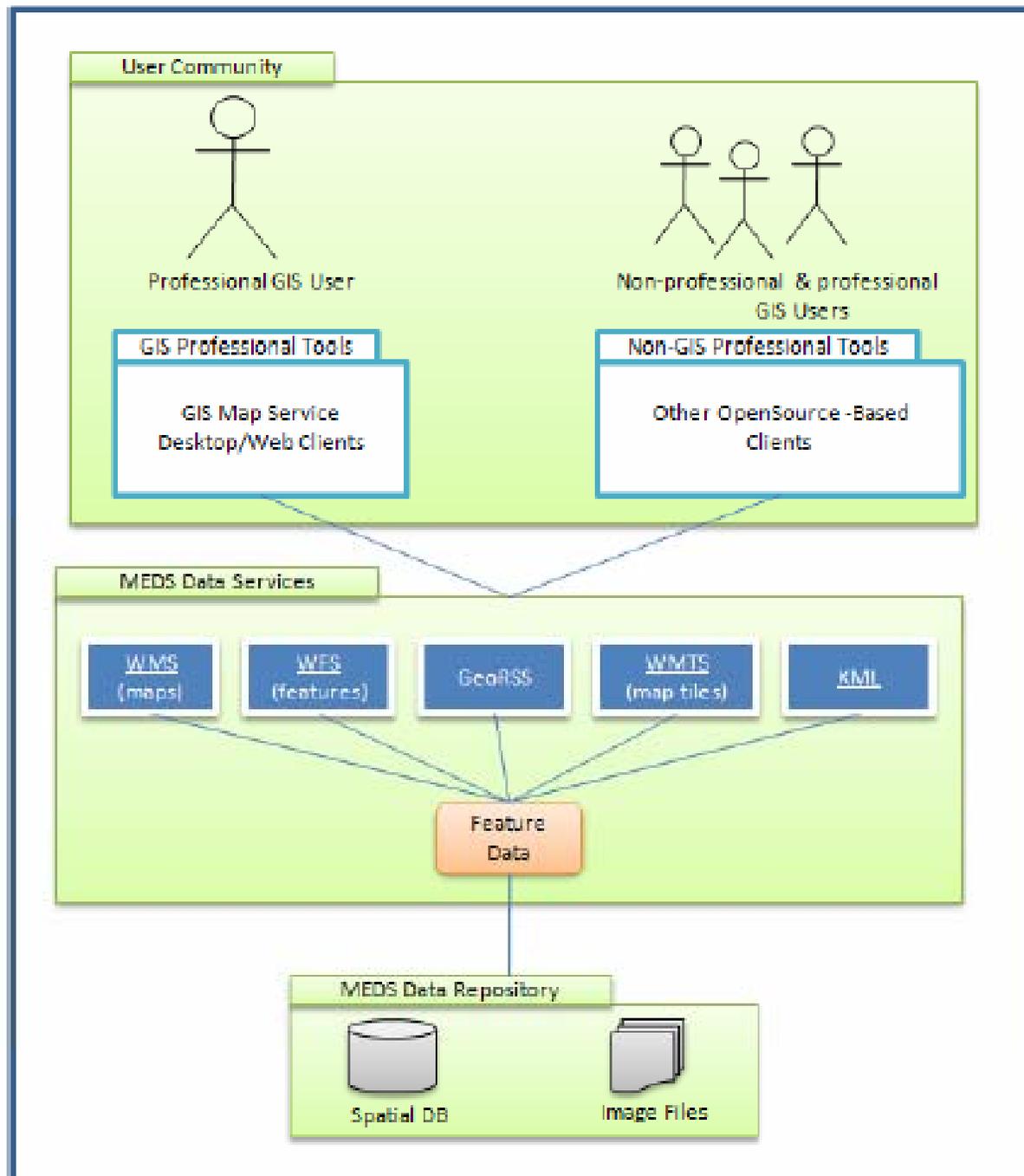
Kern County parcels with APNs

# Parcels



# Minimum Essential Data Sets

- Develop the infrastructure to deliver data as a service for these
  - Imagery
  - Roads
  - Landmarks (Place names and Addresses)
- Requirements Gathering / Pilot
- Build (2010)



# Other States

- **Arizona** (2004) - Improving street centerlines and Emergency Service Zone boundaries in seven counties. The telephone customer addresses in those counties now have a >95% match to the GIS.
- **Maryland** (2007) - Statewide imagery. Natural color. 6" pixel
- **Massachusetts** (2006) - 911 paid for 1-3 contract staff to identify geocode deficiencies in commercial data set which was licensed for state enterprise use. In the first phase of this work, linear geocode enhancement, over 250,000 segments were processed to correct generic mismatches between MSAG and commercial data and problems with address ranges, 4,000 new roads added. In the next phase of this work, 911 will fund up to \$2.5M of work to add point addresses statewide. Automated image processing techniques are being used with LiDAR where available to create building centroid files, that will be geocoded to extent possible with parcel data and then researched at the local level.

# Other States

- **New Jersey** (2004) - orthoimagery (partial contribution), feasibility study for comprehensive statewide road centerline database, partial contribution toward upcoming project to develop the comprehensive centerline data.
- **Ohio** (2001) - Street Centerline and address point development
- **Oregon** (2007)- The e911 fund was used to improve statewide road centerline file. 2005 orthos were used to improve spatial accuracy, and the PSAP master address files and other local government sources were used to improve or populate address ranges.
- **South Carolina** (2005)– Street centerline development

# Other States

- **Tennessee** (2002) – statewide street centerline and address data development
- **Utah** (2005) – Statewide street centerline, address data work/coordination at state level (partnering with counties) in support of e911 community
- **Virginia** (2001) - Pays for statewide orthoimagery every 4 years, as well as maintenance of statewide road centerline data (sourced from local/911 and state DOT).

# Future Direction

- We are asking the Board to approve a subcommittee to address
  - How can GIS be used as an enterprise solution to strategically improve the 911 community, in particular base data development.
  - What are the tactical steps the Board can recommend to the OCIO to further develop framework GIS data to this end
- OCIO (GIO) would staff and lead the group

# Future Direction Timeline

- 12/2009 – Develop Group
- 1/2010 to 3/2010 – develop recommendations
  - Meet once every two weeks to develop framework, and operational steps
  - Develop tactical recommendations for the Board to act on
- 3/2010
  - Present recommendations to the Board for action
- 4/2010
  - If budget actions are required have OCIO make those in the May revise

# QUESTIONS/DISCUSSION

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