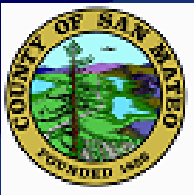


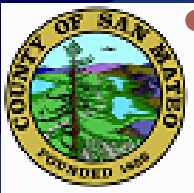
San Mateo County, California: Countywide Spatial Data Management Backbone

Gloria Kanu, San Mateo County
David Lapp, Farallon Geographics



County Profile

- Located next to San Francisco
- Workforce of 5,000 in 21 agencies and depts. – one of which is Info. Svcs Dept.
- Serves 712,400 residents
- Budget of \$1.2 billion
- Covers 531 square miles
- 13th largest county in the state

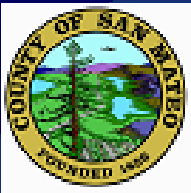
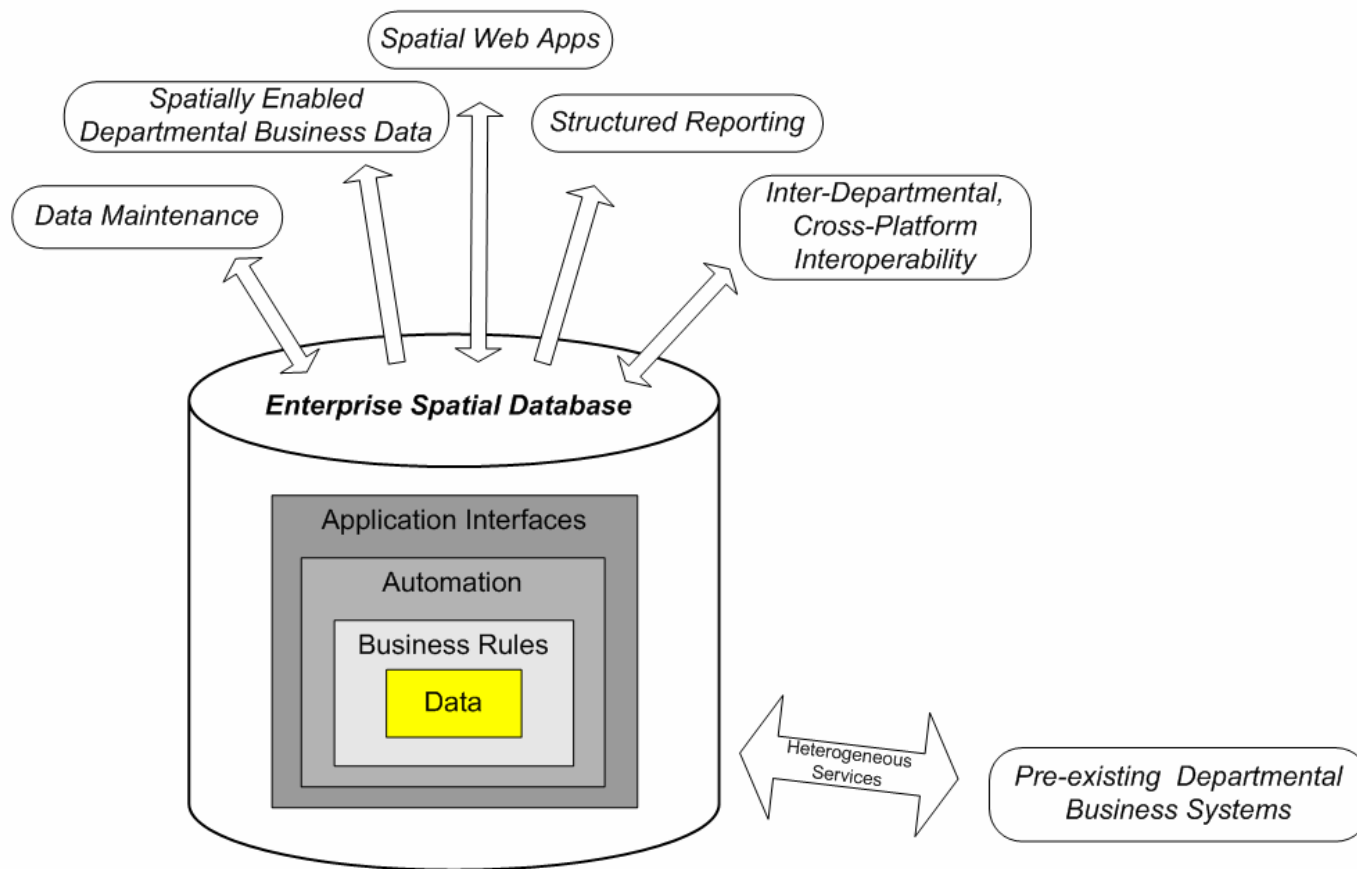


Farallon Profile

- Based in San Francisco
- Satellite office in Boston
- Vendor-neutral spatial systems integration services
- Oracle Partner Network member
- 9i, 10g beta program
- www.fargeo.com

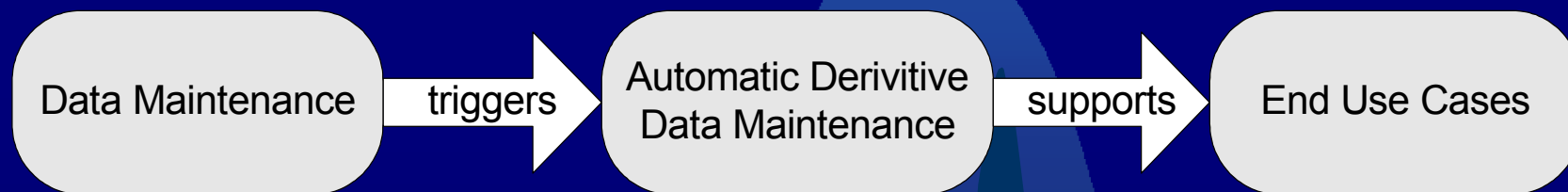


System Overview



Data Lifecycle Examples

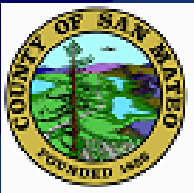
Parcels and Streets in context of...



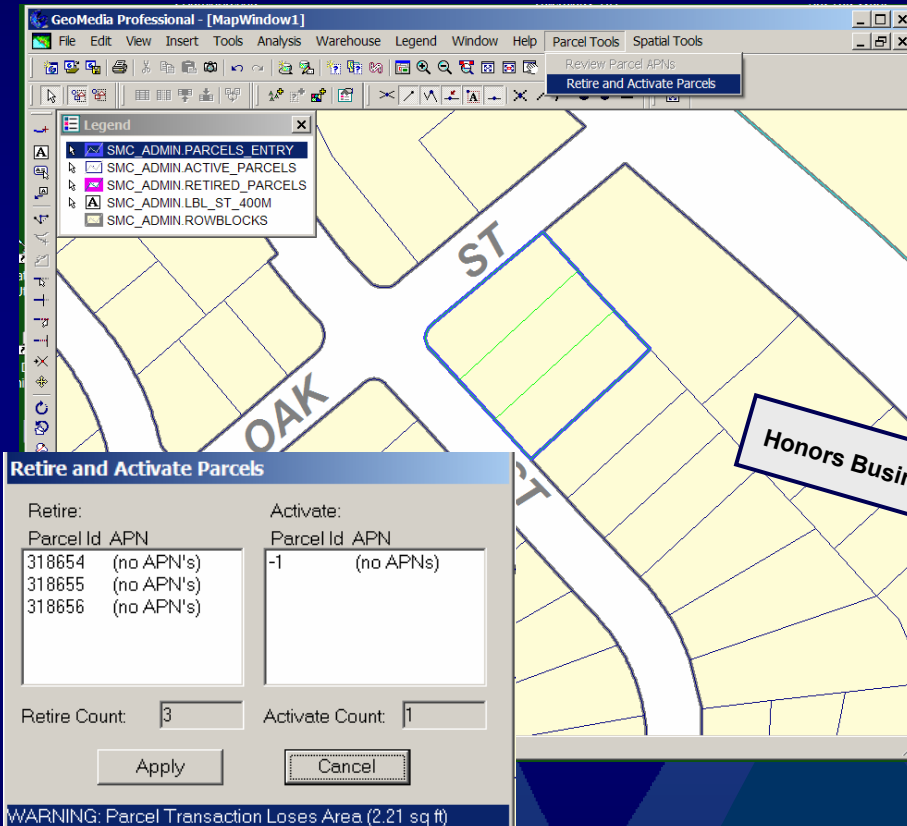
Parcel Examples

Oracle Spatial controlling...

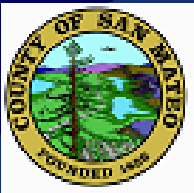
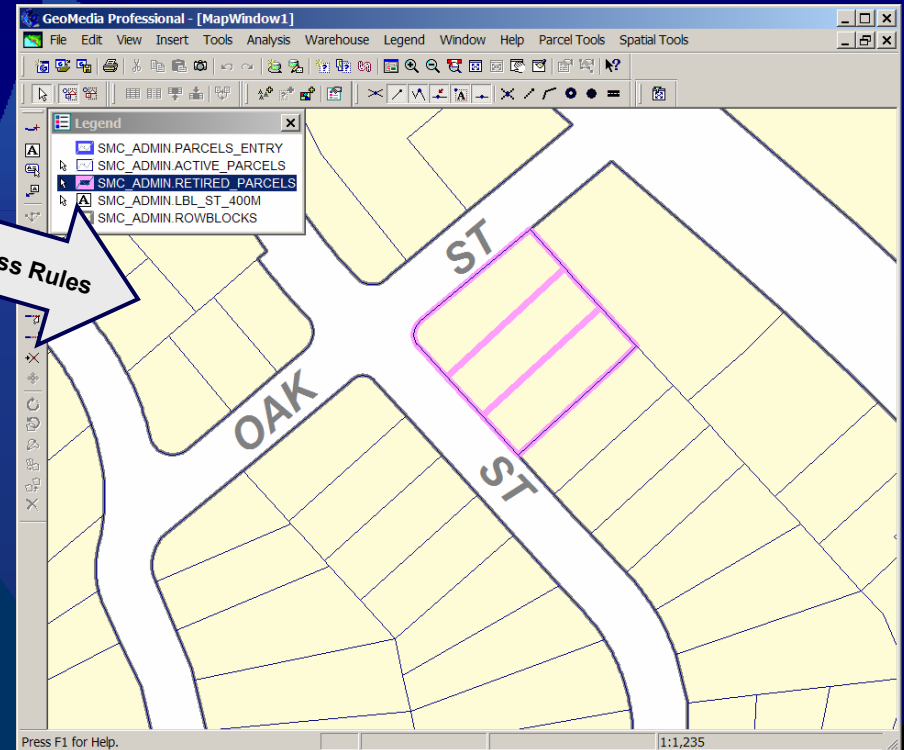
- Maintenance - *Parcel Tools app*
- Derivative Maintenance - *Right-Of-Way blocks*
- Use Cases - *Web Portal apps*



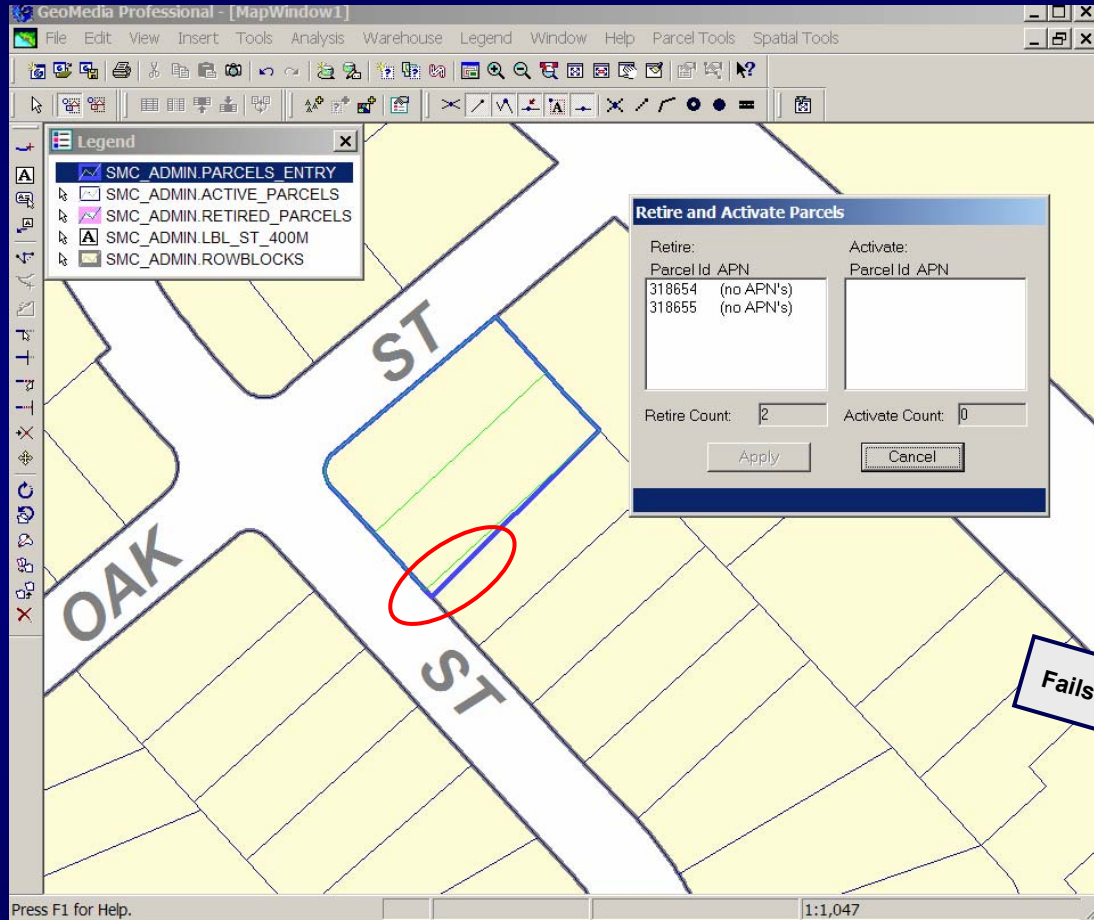
Spatial Processes Valid Transaction



Honors Business Rules

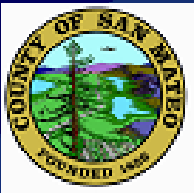


Spatial Precludes Invalid Transaction



Fails Business Rules

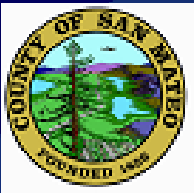
Disallowed



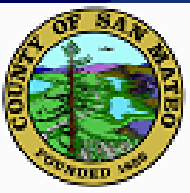
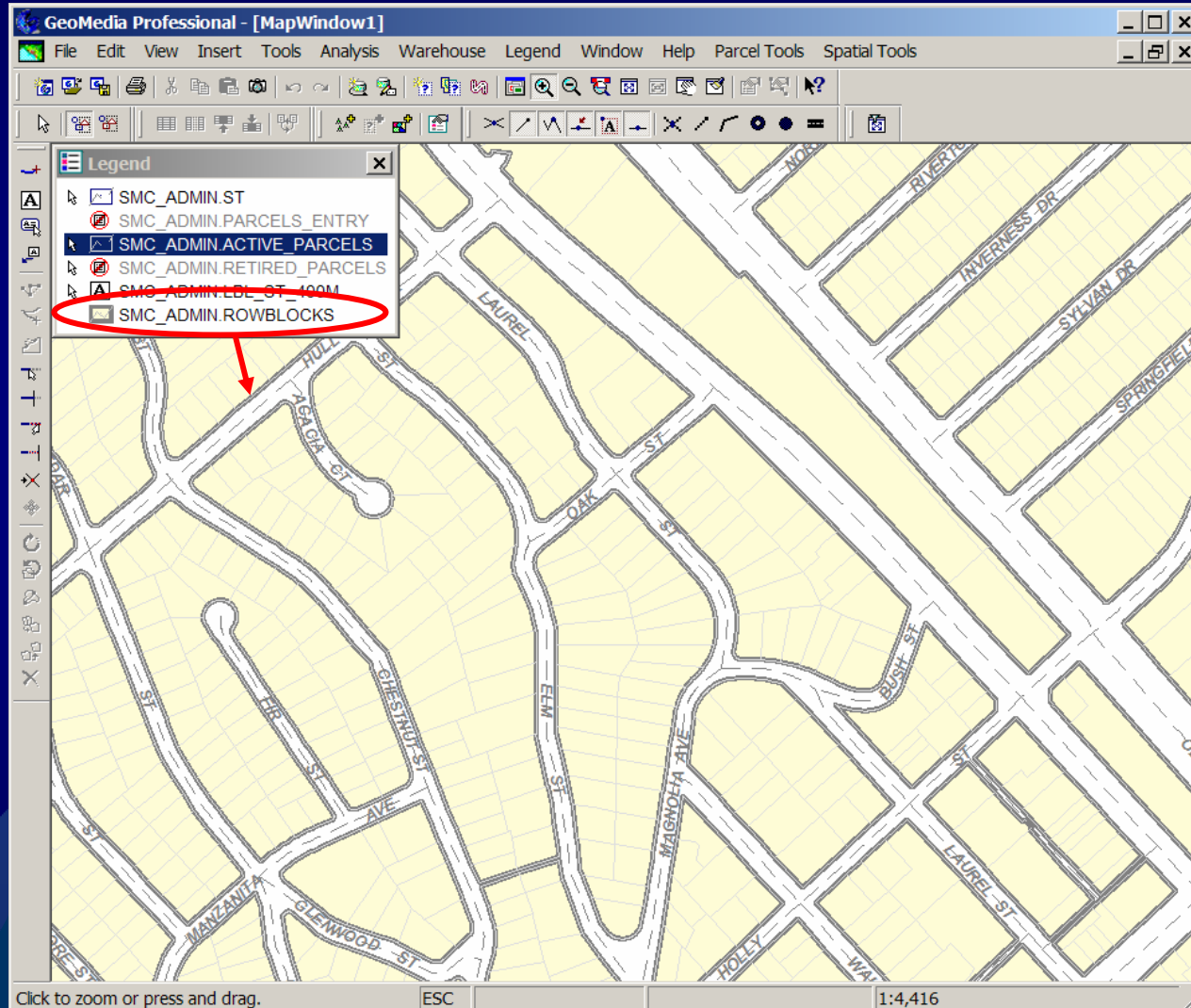
Parcel Examples

Oracle Spatial controlling...

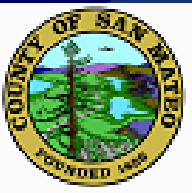
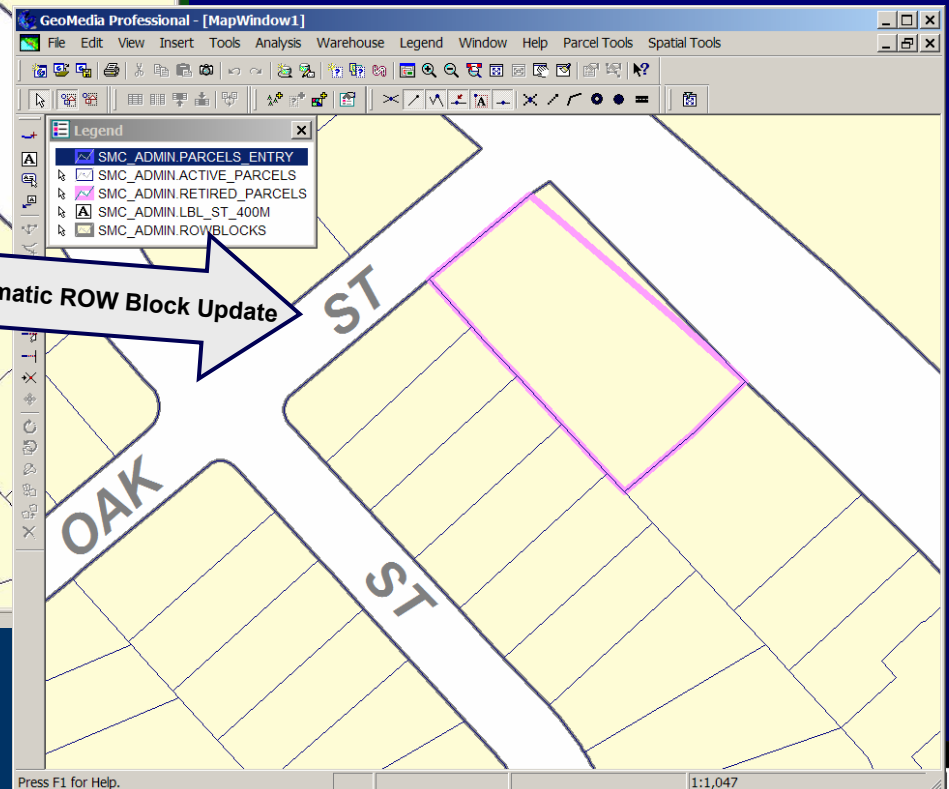
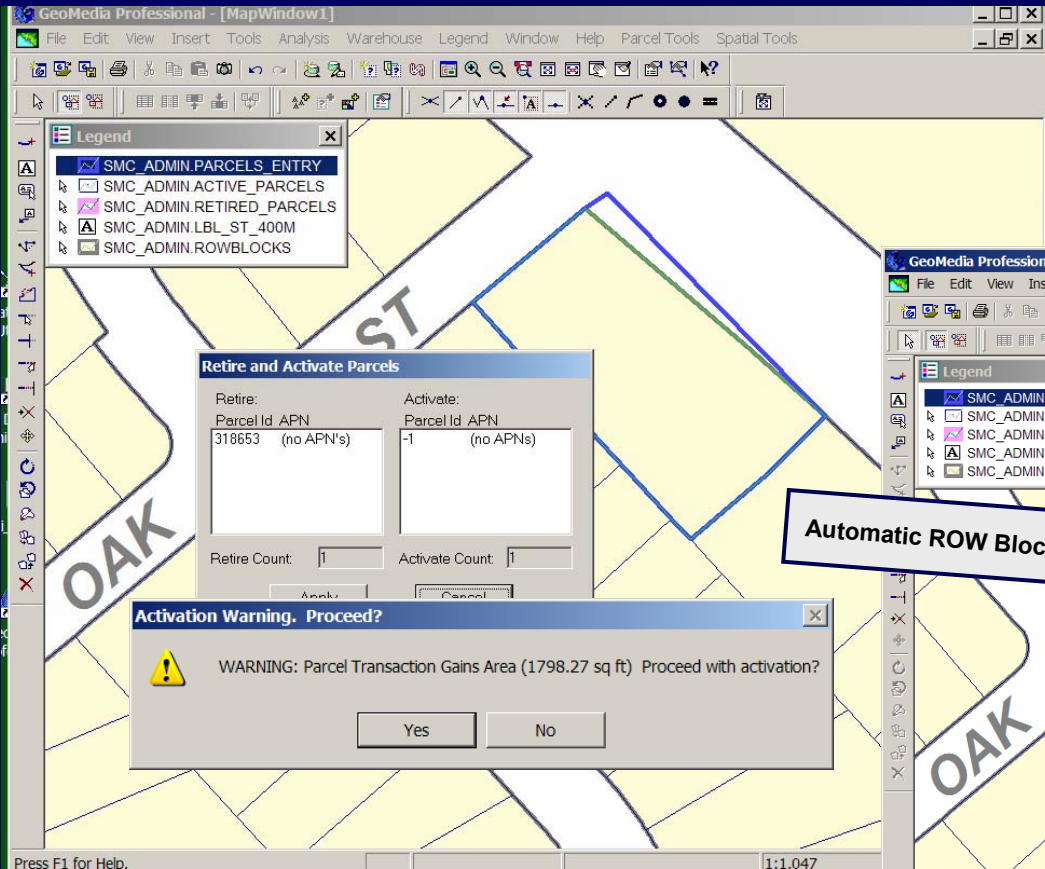
- Maintenance - *Parcel Tools app*
- Derivative Maintenance - *Right-Of-Way blocks*
- Use Cases - *Web Portal apps*



Right-Of-Way Block Constitutes Important Cartographic Feature



Parcel Transaction Spawns Right-Of-Way Block Update



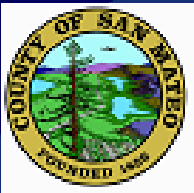
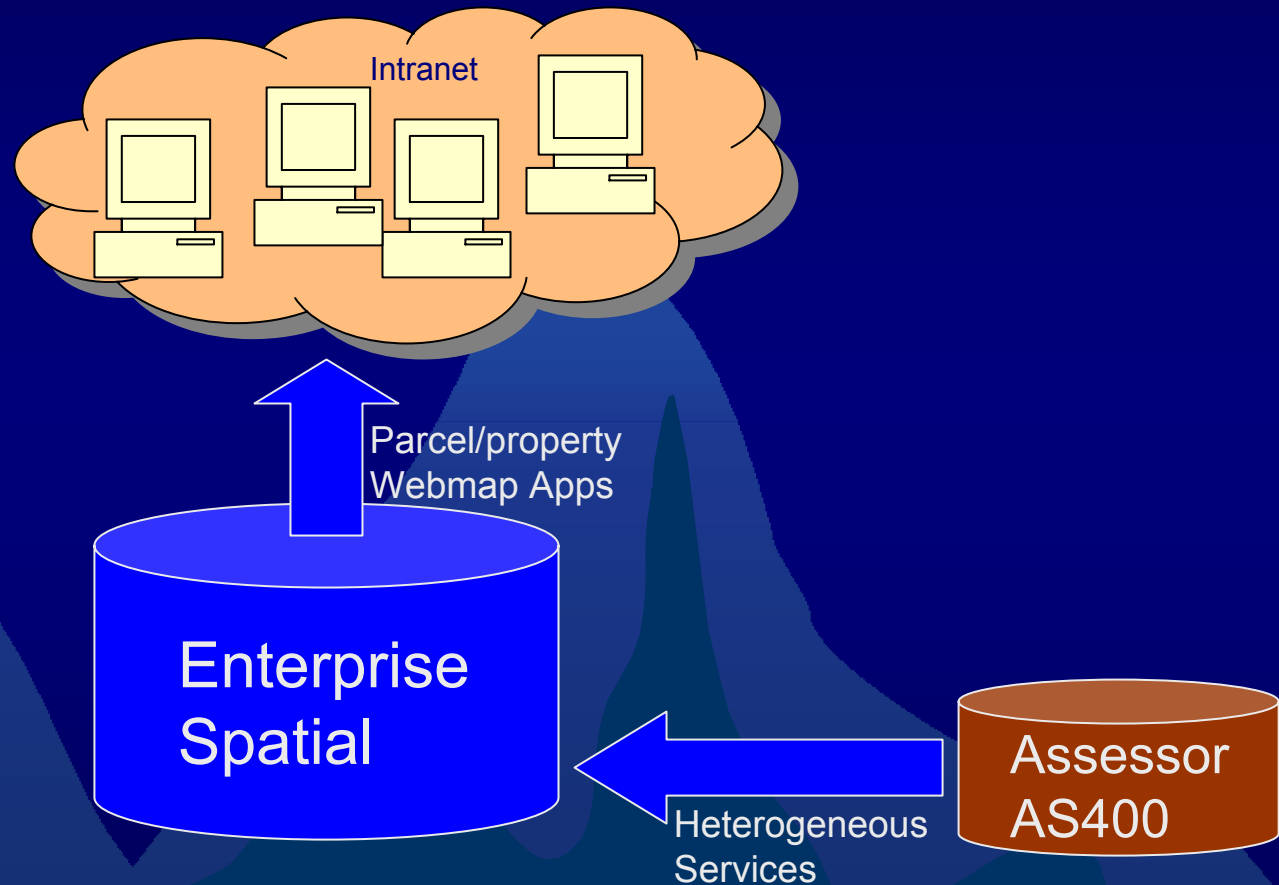
Parcel Examples

Oracle Spatial controlling...

- Maintenance - *Parcel Tools app*
- Derivative Maintenance - *Right-Of-Way blocks*
- Use Cases - *Web Portal apps*



Parcel/Property Applications



COUNTY DEPARTMENTS

[Assessor-County Clerk-Recorder](#)

[icare](#)

[weCare](#)

<http://www.care.co.sanmateo.ca.us/>

<http://www.shapethefuture.org/>

[Records Center](#)

[Board of Supervisors](#)

[Clerk of the Board](#)

[Controller](#)

[County Counsel](#)

[County Manager's Office](#)

[Courts](#)

[Employee and Public Services](#)

[New Employee Welcome](#)

[Employee of the Month](#)

[Nomination Form](#)

[Environmental Services](#)

[Health Department](#)

[Human Services Agency](#)

[Information Services](#)

[Public Works](#)

[Commute Alternatives](#)

[DPW Safety](#)



[Recycling Programs](#)

[SamCERA \(Retirement\)](#)

[Benefits Estimator - \(New Formulas\)](#)

[San Mateo Medical Center](#)

[Tax Collector / Treasurer](#)

County Documents

County Forms

San Mateo County INTRANET

[What's the County Intranet?](#)

[Site Map](#)

WHAT'S NEW

[Comprehensive Annual Financial Report \(CAFR\)](#)

-- Fiscal Year ended June 30, 2004



[Countywide IT Standards](#)

[Walk Smart Poster Contest](#)

[New Employee Welcome](#)

Benefits, Retirement, County Policies

[Cafeteria Menu](#)

[Computer Ergonomics Program](#)

[Ergonomic Evaluation](#)

[HIPAA Gap Analysis Reports](#)

[Internet Service Delivery Study](#)

[Job Opportunities](#)

[OBM Survey](#)

[Outcome-Based Management \(OBM\)](#)

[Popular Annual Financial Report \(PAFR\)](#)

-- Fiscal Year ended June 30, 2004

[Tax Collector's Intranet Property Information](#)

[Site](#)

[W-2 Tax Information](#)

GIS

Geographic Information System

CSAC

California State Association of Counties

[Listen to Board of Supervisors' Meetings](#)

MEDIA DIRECTORY & PRESS GUIDE

[Communications & Media](#)

[Workshop - March 10, 2005](#)

BUDGET INFORMATION

[Adopted Budget FY 04-05 & 05-06](#)

[Adopted Budget Highlights](#)

[September Revisions \(Final](#)

Budget Changes)

[June Revisions FY 04-05 & 05-06](#)

[Recommended Budget FY 04-05](#)

[& 05-06](#)

[Recommended Budget](#)

[Highlights](#)

[Budget Instructions](#)

Resource Information



[American Heart Walk](#)

GROUPWISE



[Groupwise Web](#)

[Access](#)

[Groupwise Security](#)

[Directions](#)



County of
San Mateo
Internet



Geographic Information System

County of San Mateo

Saturday, March 5, 2005

GIS

Services Hotlist

- [Applications](#)
- [Metadata](#)
- [Resources](#)
- [Standards](#)
- [Related Links](#)
- [Procedures](#)
- [Communications](#)
- [GIS Charter](#)
- [Help](#)

PROPERTY REVIEW

Access summary data on any County parcel.

NOTIFICATION

Generate a parcel owner mailing list using a buffer radius from a specified parcel as a search criteria.

RASTER MAP ACCESS

Research scanned maps and documents using geography as a search criteria.

PROPERTY ASSESSMENT

Display assessment information about an individual parcel.

Last Updated January 11, 2005

Local intranet



Property Review - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print

Address http://gisapp/gisportal/applications/app_PropReview.asp Go

Geographic Information System

County of San Mateo

Saturday, March 5, 2005

PROPERTY SEARCH FOR INFORMATION REVIEW

Services Hotlist

[Applications](#)[Property Review](#)[Notification](#)[Raster Maps](#)[Property Assessment](#)[Metadata](#)[Resources](#)[Standards](#)[Related Links](#)[Procedures](#)[Communications](#)[GIS Charter](#)[Help](#)☐ Select By Property APNAPN: ☒ Select By Owner NameLast Name:

----- All County Cities -----

☐ Select By AddressHouse Number: Street Name:

----- All County Cities -----

Search Tips

- **APN** (Assessor Parcel Number) is an 9 digit (i.e. 004050570) number that identifies a property (DO NOT include special characters or spaces).
- Enter a **Last Name** to generate a list of properties. Partial entries, such as "Smi", will return "Smith" and "Smiley".
- Entering a **house number** is optional. If left blank, your search will return each address on the street.
- **Street Name** is required, although the type (rd, ave, st, etc.) is optional. If you enter "Main", your search will return addresses on Main st, Main ave, Maine st, etc.
- To limit the search to "Main", type a space after the word: "main ".

Done

Local intranet



10.33.240.37 - Remote Desktop

San Mateo County -- Geographic Information Services -- -- Geographic Information Services - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print

Address http://gisapp/gisportal/applications/app_DisplayList.asp?OwnerName=greena&querytype=OwnerNameReview&City=All Go



Geographic Information System

County of San Mateo

Saturday, March 5, 2005

Services Hotlist

- [Applications](#)
- [Property Review](#)**
- [Notification](#)
- [Raster Maps](#)
- [Property Assessment](#)
- [Metadata](#)
- [Resources](#)
- [Standards](#)
- [Related Links](#)
- [Procedures](#)
- [Communications](#)
- [GIS Charter](#)
- [Help](#)

PROPERTY SEARCH RESULTS

3 item(s) were found | For Input: greena

APN	Owner Name	Situs Address	City	
02400440	CONFIDENTIAL DATA	7400 14	San Bruno	Get Map
06	CONFIDENTIAL DATA		Atherton	Get Map
03071200	Greenland Richard & C R	5 Bay, Eng	San Mateo	Get Map

If you have any questions about this site, please contact giswebmaster@co.sanmateo.ca.us.

Local intranet





Geographic Information System

County of San Mateo

Saturday, March 5, 2005

Services Hotlist

[Applications](#)[Property Review](#)[Notification](#)[Raster Maps](#)[Property Assessment](#)[Metadata](#)[Resources](#)[Standards](#)[Related Links](#)[Procedures](#)[Communications](#)[GIS Charter](#)[Help](#)

SELECTED PROPERTY

Situs: 71

Owner: Gr

APN: 02

CONFIDENTIAL DATA

8617



Property Owner Summary

APN: 02

Parcel ID: 29

Situs: 71

Owner: Gr

Owner Address: 71

94

CONFIDENTIAL DATA

CA,

Create Notification Map

New APN:

Assessor Information

020192140

GO

Related Documents

Assessor Map:



02019.tif

Recorded Maps:

[Access Documents](#)

Jurisdictions

Supervisorial: 1

Congressional: 12

Assembly: 19

Senatorial: 8





Geographic Information System

County of San Mateo

Saturday, March 5, 2005

SELECTED PROPERTY

Situs: 138
Owner: Gre
APN: 049

CONFIDENTIAL DATA

Services Hotlist

- [Applications](#)
- [Property Review](#)
- [Notification](#)
- [Raster Maps](#)
- [Property Assessment](#)
- [Metadata](#)
- [Resources](#)
- [Standards](#)
- [Related Links](#)
- [Procedures](#)
- [Communications](#)
- [GIS Charter](#)
- [Help](#)

View: [Subdivision Maps \(RSM\)](#) [Records of Survey \(LLS\)](#) [Corner Records \(CR\)](#) [Parcel Maps \(PM\)](#)

Subdivision Maps (RSM)

DEVONSHIRE PROPERTIES

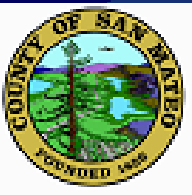
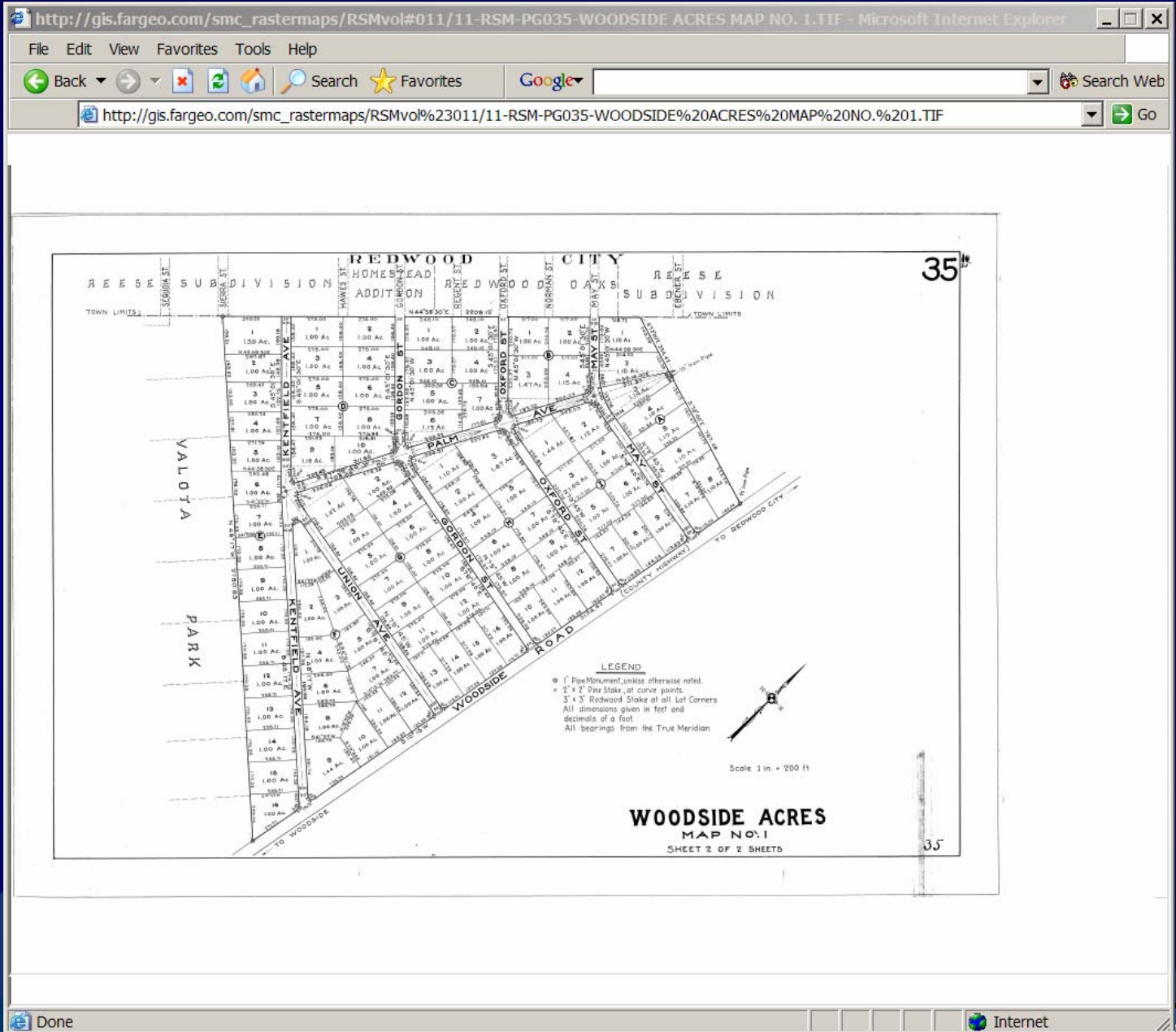
[12-RSM-PG036](#)[12-RSM-PG037](#)

PULGAS RANCHO

[18-RSM-PG009](#)

C.D. CUNNINGHAM SUB.

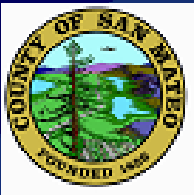




Street Examples

Oracle Spatial controlling...

- Maintenance - *LRS calibration*
- Derivative Maintenance – *Intersection nodes*
- Use Cases - *Engineering Dynseg, Sheriff RMS*

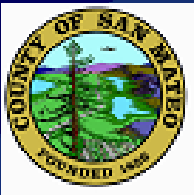




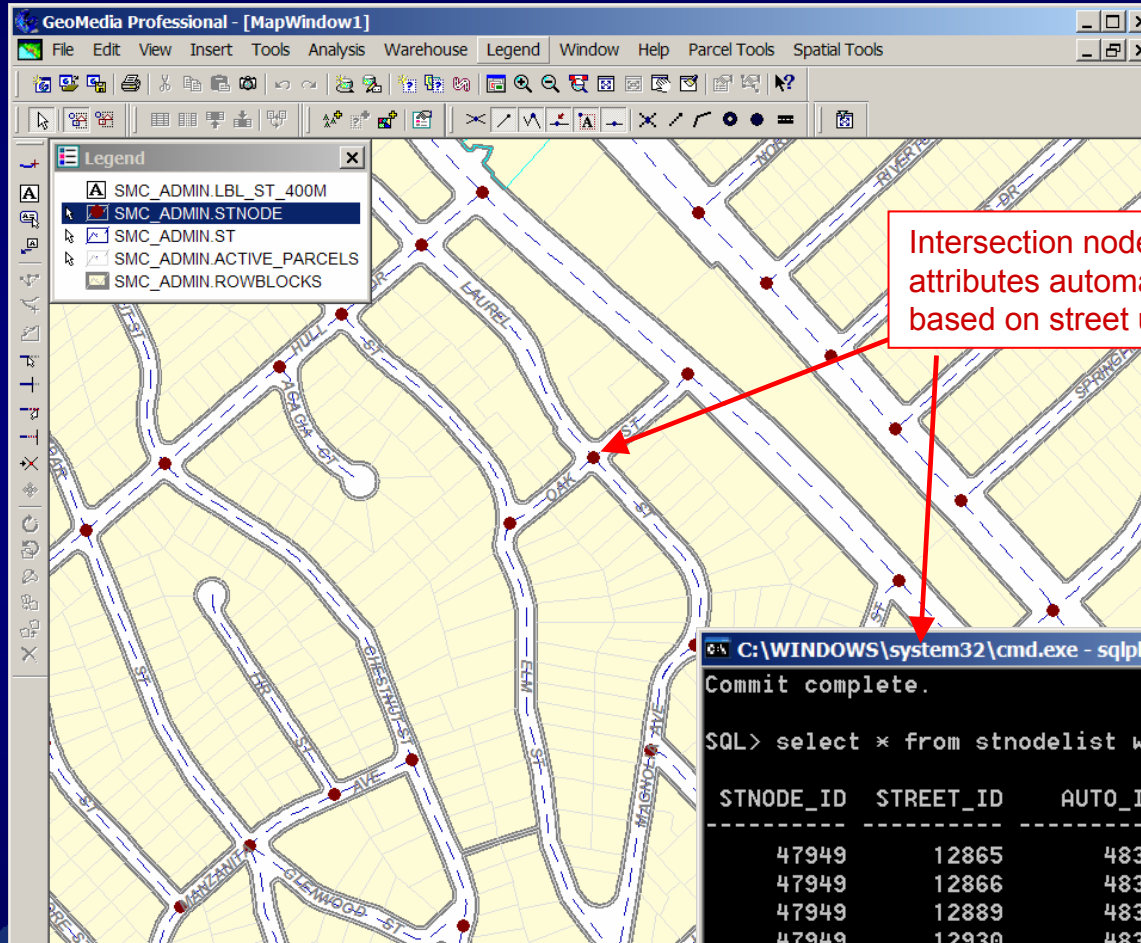
Street Examples

Oracle Spatial controlling...

- Maintenance - *LRS calibration*
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Street Maintenance Spawns Intersection Nodes



```
C:\WINDOWS\system32\cmd.exe - sqlplus smc_admin/smc_admin
Commit complete.

SQL> select * from stodelist where stnode_id=47949;

STNODE_ID  STREET_ID  AUTO_ID
-----
47949      12865     4835
47949      12866     4836
47949      12889     4837
47949      12930     4838

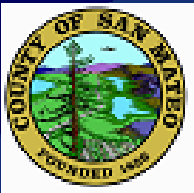
SQL>
```



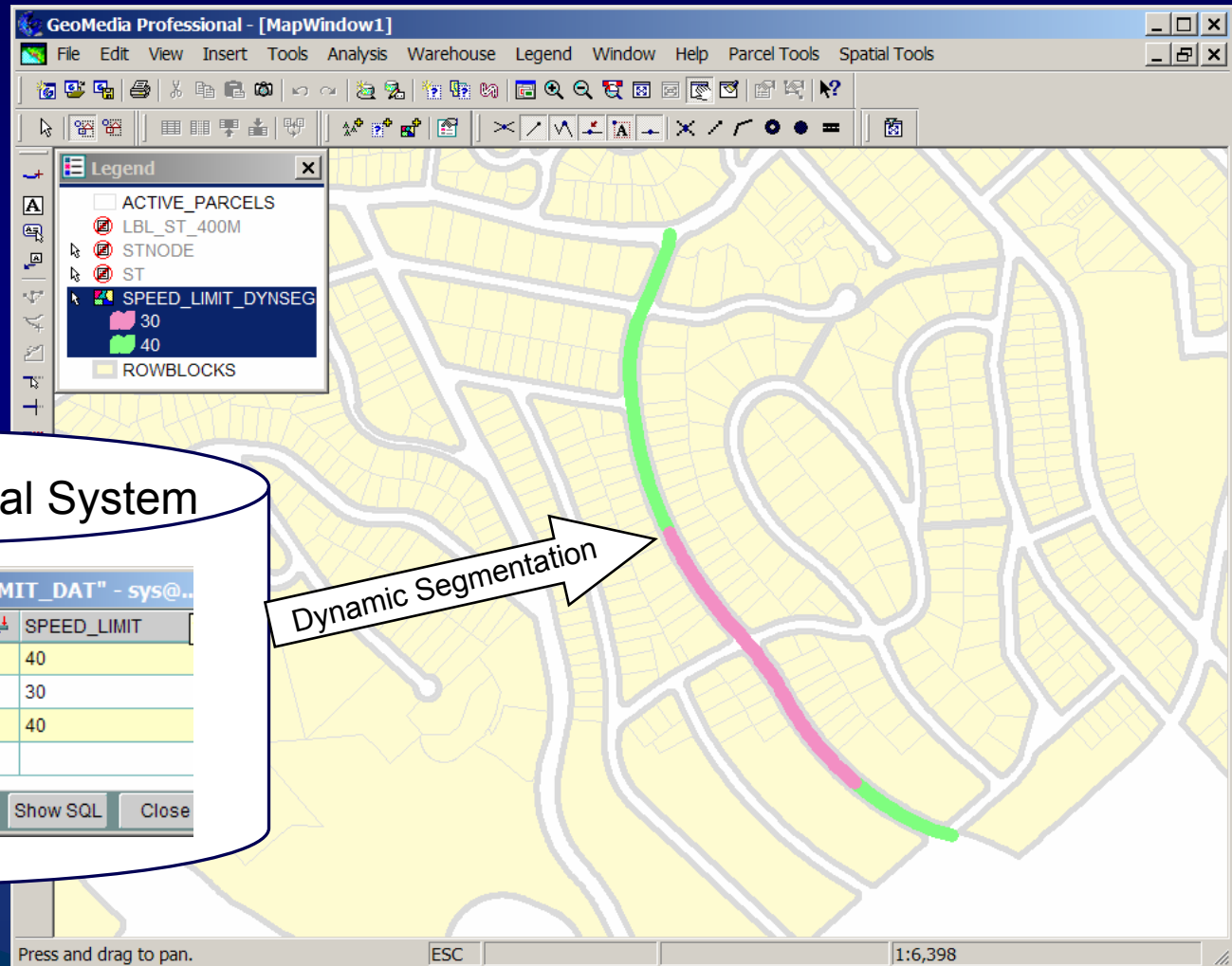
Street Examples

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LRS Integration

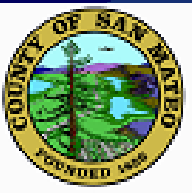


Remote Departmental System

Table Editor : "SMC_ADMIN"."SPEED_LIMIT_DAT" - sys@..

STNA_UID	MEAS_FR	MEAS_TO	SPEED_LIMIT
1210896.01	0	1100	40
1210896.01	1100	2200	30
1210896.01	2200	2594	40

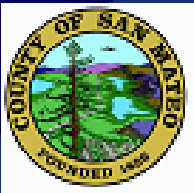
Execute time (s): 0.01 Apply Revert Show SQL Close



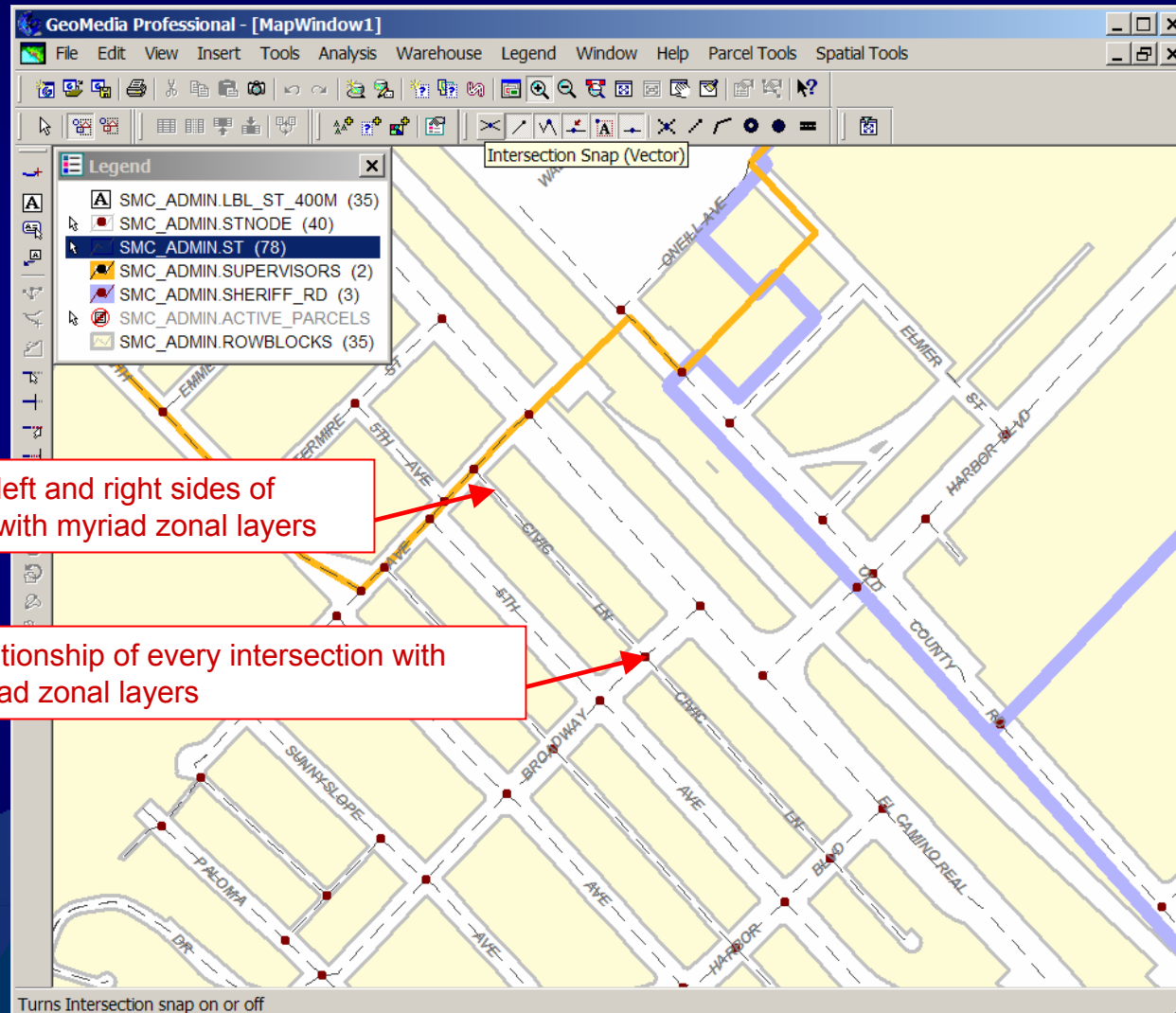
Street Examples

Oracle Spatial controlling...

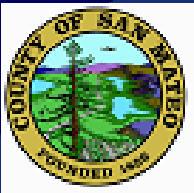
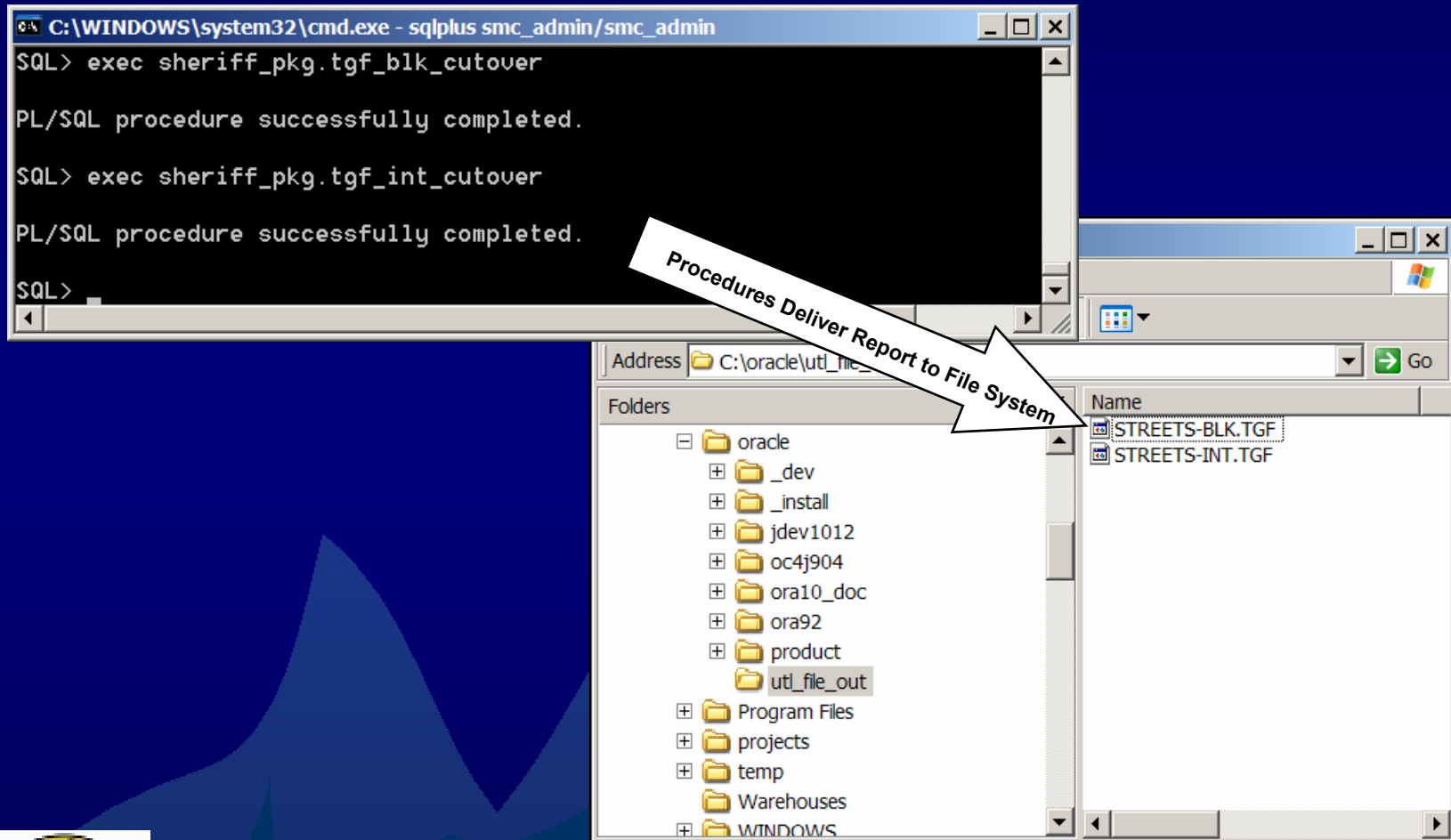
- Maintenance - *LRS calibration*
- Derivative Maintenance – *Intersection nodes*
- Use Cases - *Engineering Dynseg, Sheriff RMS*



Sheriff Dept Requires Structured Reporting of Streets and Intersections



Structured Reports Derived By Spatial



Results Fed Directly Into Departmental RMS System

Previously a ½ day workflow, now an automated procedure in the Oracle scheduler!



The screenshot shows two Oracle TextPad windows. The top window, titled 'TextPad - [C:\oracle\utl_file_out\STREETS-BLK.TGF]', displays a table of street data. The bottom window, titled 'TextPad - [C:\oracle\utl_file_out\STREETS-INT.TGF]', displays a table of intersection data. Both windows have standard menu bars (File, Edit, Search, View, Tools, Macros, Configure, Window, Help) and toolbars. The bottom window also has an 'ANSI Ch' dropdown menu.

STREETS-BLK.TGF Data:

TGF	3.0	BLOCKFACE	20050306	1216	tgf_blk_cutover
12732	LAUREL	ST	1	17	SCL 6048586 2014068 6048789 2013890 L F
12732	LAUREL	ST	2	18	SCL 6048586 2014068 6048789 2013890 R F
12789	LAUREL	ST	51	95	SCL 6048789 2013890 6049216 2013558 L SPRING
12789	LAUREL	ST	50	96	SCL 6048789 2013890 6049216 2013558 R SPRING
12866	LAUREL	ST	129	133	SCL 6049216 2013558 6049657 2013011 L HULL

STREETS-INT.TGF Data:

TGF	3.0	INTERSECTION	20050306	1217	tgf_int_cutover
1	LAUREL	ST	993	SCL MORSE	BLVD 1161 SCISCL6052647 2009764 1
2	LAUREL	ST	1000	SCL MORSE	BLVD 1161 SCISCL6052647 2009764 1
3	LAUREL	ST	799	SCL OLIVE	ST 0 SCISCL6051775 2010679 1
4	LAUREL	ST	801	SCL OLIVE	ST 0 SCISCL6051775 2010679 1
5	LAUREL	ST	579	SCL SAN CARLOS	AVE 1188 SCISCL6050827 2011712 1
6	LAUREL	ST	18	SCL SPRING	ST 0 SCISCL6048789 2013890 1
7	LAUREL	ST	50	SCL SPRING	ST 0 SCISCL6048789 2013890 1
8	LAUREL	ST	298	SCL OAK	ST 1199 SCISCL6049657 2013011 1
9	LAUREL	ST	301	SCL OAK	ST 1199 SCISCL6049657 2013011 1
10	LAUREL	ST	364	SCL MAGNOLIA	AVE 1242 SCISCL6049917 2012531 1
11	LAUREL	ST	600	SCL SAN CARLOS	AVE 1188 SCISCL6050827 2011712 1
12	LAUREL	ST	363	SCL MAGNOLIA	AVE 1242 SCISCL6049917 2012531 1

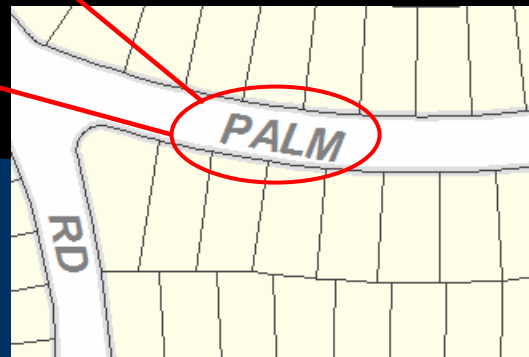
For those interested...

- Geomedia text as SDO_GEOMETRY

```
SQL> SELECT GEOMETRY1 FROM LBL_ST_400M WHERE ID1=11906;  
GEOMETRY1(SDO_GTYPE, SDO_SRID, SDO_POINT(X, Y, Z), SDO_ELEM_INFO, SDO_ORDINATES)  
-----  
SDO_GEOMETRY(3001, NULL, NULL, SDO_ELEM_INFO_ARRAY(1, 0, 6001, 8, 1, 1), SDO_ORDINATE_ARRAY(350.064411, 0, 0, 1, 65536, 4, 1296843088, 6047712.46, 2010520.31, 0))
```

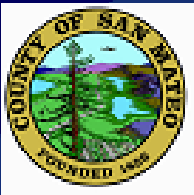
```
SQL> SELECT DBL.TXT2GMINT('PALM') FROM DUAL;
```

```
DBL.TXT2GMINT('PALM')  
-----  
1296843088
```



Conclusions

- Spatial can play an active role in controlling the entire enterprise geodata lifecycle
- Implementation improves efficiency and can be straightforward
- Database focused architecture insulates system from variations in GIS technology
- Maximize existing investment in Oracle software and expertise



Thank you for attending!

Gloria Kanu - gkanu@co.sanmateo.ca.us

David Lapp - dlapp@fargeo.com

