

FAIR & equitable

MAGAZINE OF THE INTERNATIONAL ASSOCIATION OF ASSESSING OFFICERS



Orange County Property Appraiser, Florida

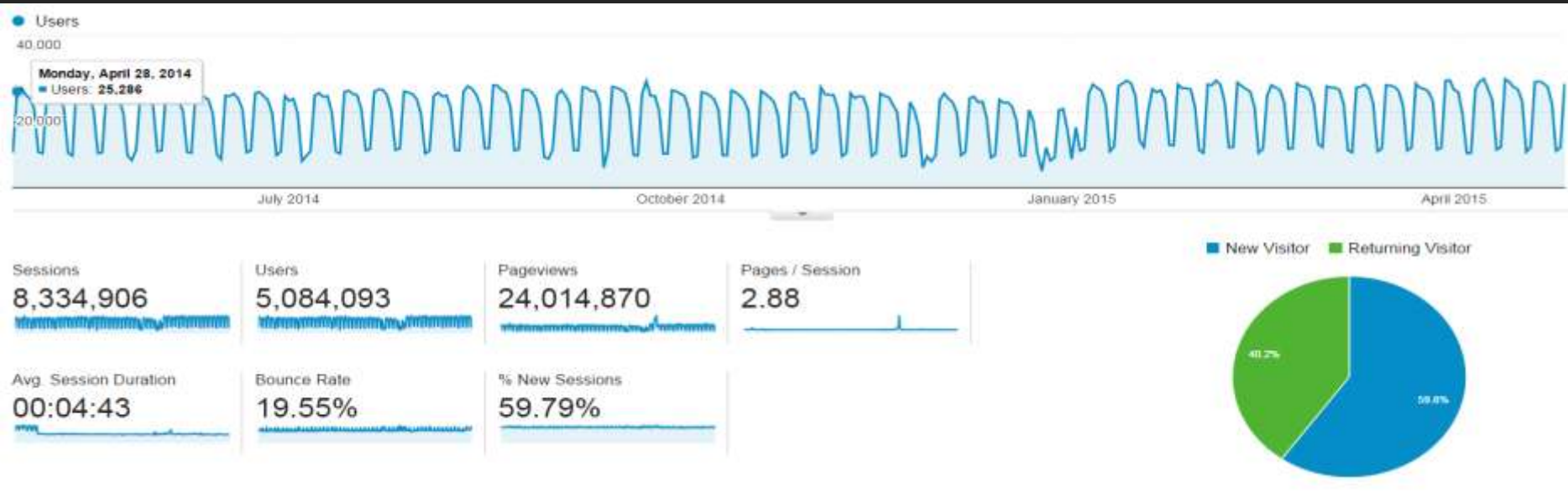
Customer-Centric GIS Solutions for Land Records and Assessment

Manish Bhatt and Rick Singh

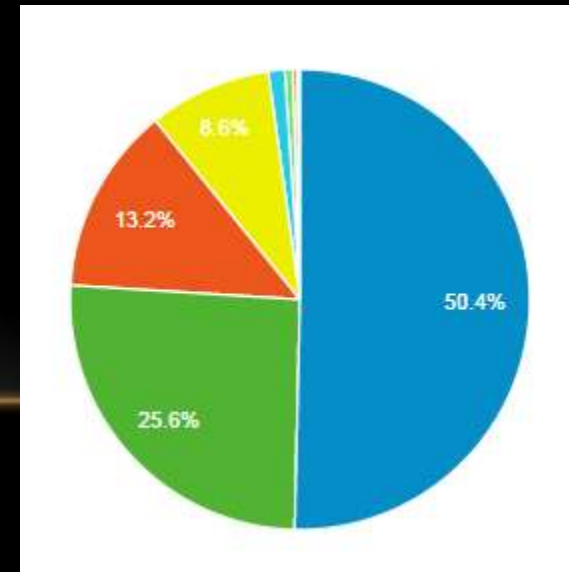
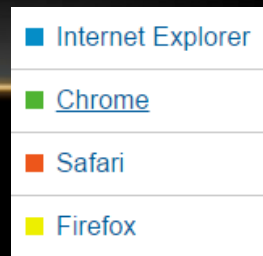
Local Government	Florida State Govt.	Federal Govt.	Education
Orange County City of Orlando City of Winter Park Comptroller's office Supervisor of Elections	Dept. of Health Dept. of Transportation Dept. of Revenue Dept. of Env. Protection Dept. of Motor Vehicles	IRS NASA DHS VA USPS	Orange County Public Schools Univ. of Central Florida Valencia Community College Rollins College Univ. of Florida
Title Insurance	Property Insurance	Mortgage Banking	Home Builders
Fidelity National First American Title Old Republic National Title Stewart Title	State Farm Harry Levine Citizens Liberty Mutual USAA	Suntrust Bank of America BB&T Wells Fargo JP Morgan Chase	K. Hovnanian Meritage Homes Pulte U.S. Home Corp KB Home
Legal	Corporate	Survey & Eng	Real Estate Companies
Akerman Senterfitt Broad and Cassel Shutts & Bowen Provest Law Offices of Gerald Shapiro	Orlando Util. Commission Disney Worldwide Service Lockheed Martin Florida Hospital Orlando Health Fedex Darden Restaurants	Bowyer-Singleton Lochrane Engineers AECOM Kimley-Horn SAIC	CB Richard Ellis Cushman & Wakefield Universal City Dev. Partners ITT Sheraton Knology

The table above shows 12 of our primary user segments – dominated by the FIRE and Governments sectors. This excludes the users connecting using Internet Service Providers – primarily the home users and small businesses not having dynamic IP addresses. Page visits are monitored via Google Analytics – shown in the table are the top users in each segment, as identified by their IP address.

1 year consumption of Public Information – Measured using Google Analytics



	8,334,906	% of Total: 100.00% (8,334,906)
1. United States	8,079,931 (96.94%)	
2. India	111,260 (1.33%)	
3. Philippines	43,211 (0.52%)	
4. Canada	21,870 (0.26%)	
5. Brazil	10,447 (0.13%)	
6. Puerto Rico	7,401 (0.09%)	
7. United Kingdom	7,155 (0.09%)	
8. Venezuela	4,012 (0.05%)	
9. Bangladesh	3,556 (0.04%)	
10. Ireland	3,112 (0.04%)	



Location-Based Information

RICK SINGH | State-Certified Residential Real Estate Appraiser RD3141
ORANGE COUNTY PROPERTY APPRAISER

Home Search Feedback Employee

Searches Sales Search Property Record Card My Favorites Sign up for e-Notify...

7632 Apple Tree Cir < 23-23-28-8273-00-570 >

Names(s) Physical Street Address
 I [redacted] ate 7632 Apple Tree Cir
 I [redacted] Postal City and Zipcode
 I [redacted] Orlando, FL 32819

Mailing Address On File Property Use
 7632 Apple Tree Cir 0102 - Single Fam Class II
 Orlando, FL 32819-4637 Municipality
 Incorrect Mailing Address? Un-Incorporated

SAVE PRINT SEND
 MAP STREET BUDGET
 FAVE FRIM PORT
 ESTIMATE TAXES SETTINGS

Click To Enlarge Or Upload
 282323827300570 05/15/2006

Values, Exemptions and Taxes Property Features Sales Analysis **Location Info** Update Information

Schools ⓘ
Dr Phillips (High School) | View Zone Map
 Principal Mr. Eugene P Trochinski
 Office Phone 407-355-3200
 Grade 2011: B | 2010: B | 2009: B

Southwest (Middle School) | View Zone Map
 Principal Mr. Matthew Arnold
 Office Phone 407-370-7200
 Grade 2012: A | 2011: A | 2010: A

Dr Phillips (Elementary) | View Zone Map
 Principal Mr. Daniel R Merchant
 Office Phone 407-354-2600
 Grade 2012: A | 2011: A | 2010: A

Homeowner's Association Update HOA Info
 Name of HOA St. Ives at Orange Tree Maintenance Association, Inc.
 Gated? Yes
 Mandatory? Yes
 Total Households 91
 HOA's Sunbiz Link

Utilities/Services
 Electric Duke Energy
 Water Orlando Utilities Commission
 Recycling Orange County
 Trash (Thursday, Monday) Orange County
 Yard Waste Orange County

Elected Officials
 State Senate Kelli Stargel
 State Representative Stephen Precourt
 School Board Representative Pam Gould
 US Representative Daniel Webster
 County Commissioner S. Scott Boyd

Census Demographics ⓘ
 Map See Block Group On Map
 Population 5798
 Population Density 2840.3
 Diversity Index 55.1
 Total Households 2192 households
 Total Single Family Homes 2192 homes
 Total Residential Condos 0 condos

Figure 19. Based on thoughtful design considerations and user feedback we have developed the “location info” tab on our website. This tab synthesizes several key location related data elements that our user base finds useful.

Cartographically Appealing Maps



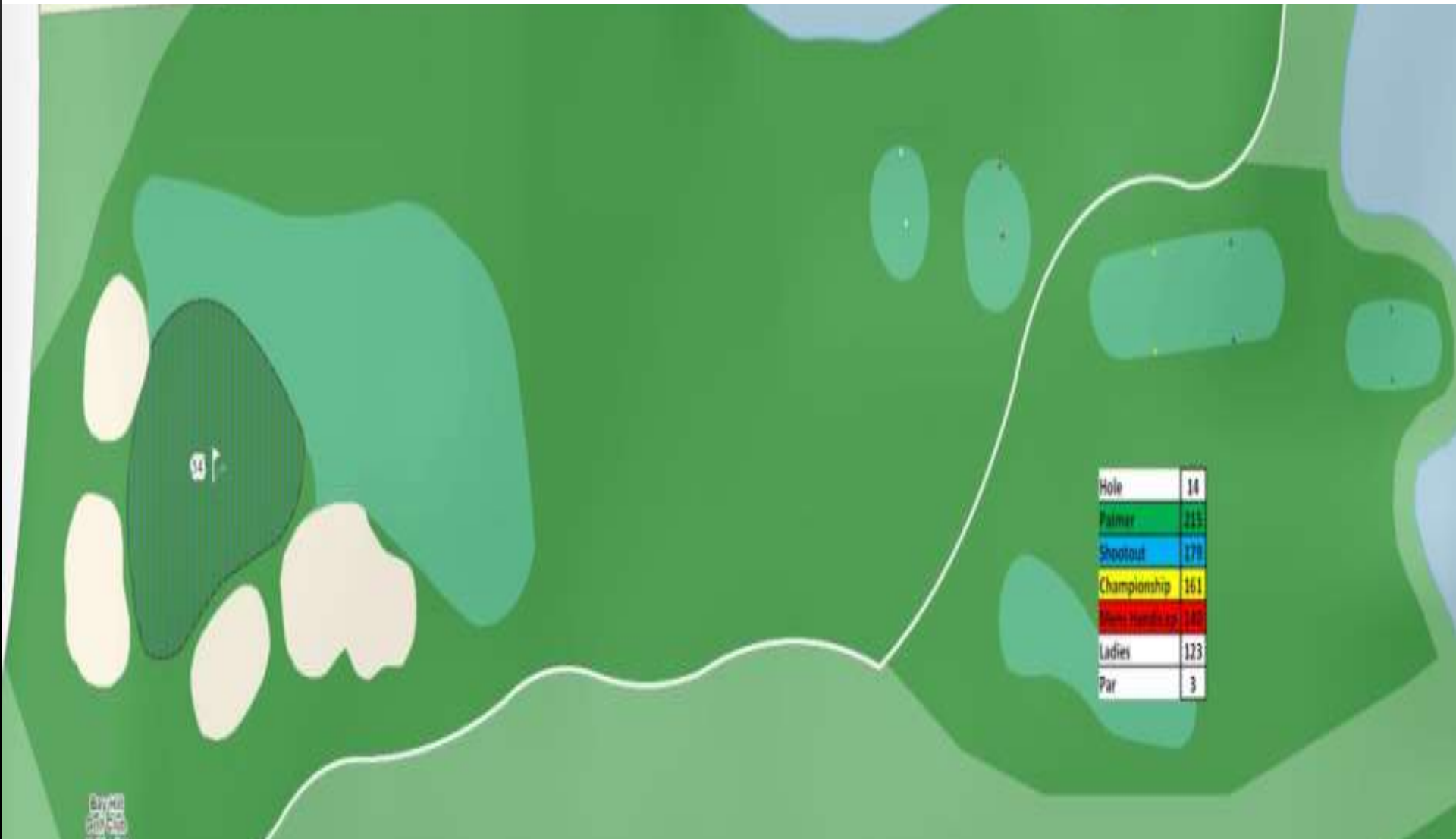
Solution. Magic Kingdom, Disney World – Notice the granularity of mapping details, scale based labeling and thematic display of land use.

Cartographically Appealing



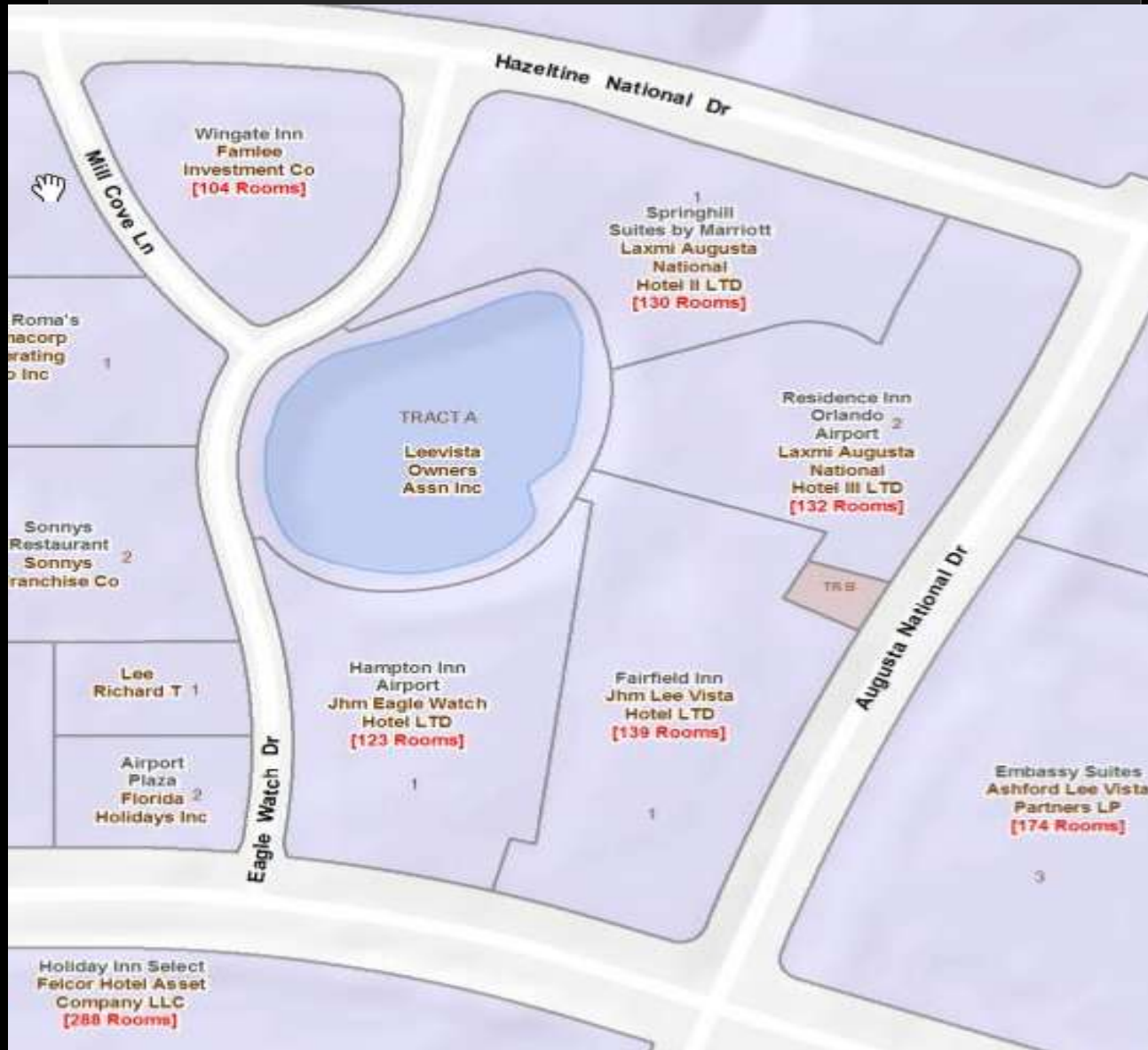
Solution. Lake Nona, Orlando – a mixed used

Quantitative Cartography



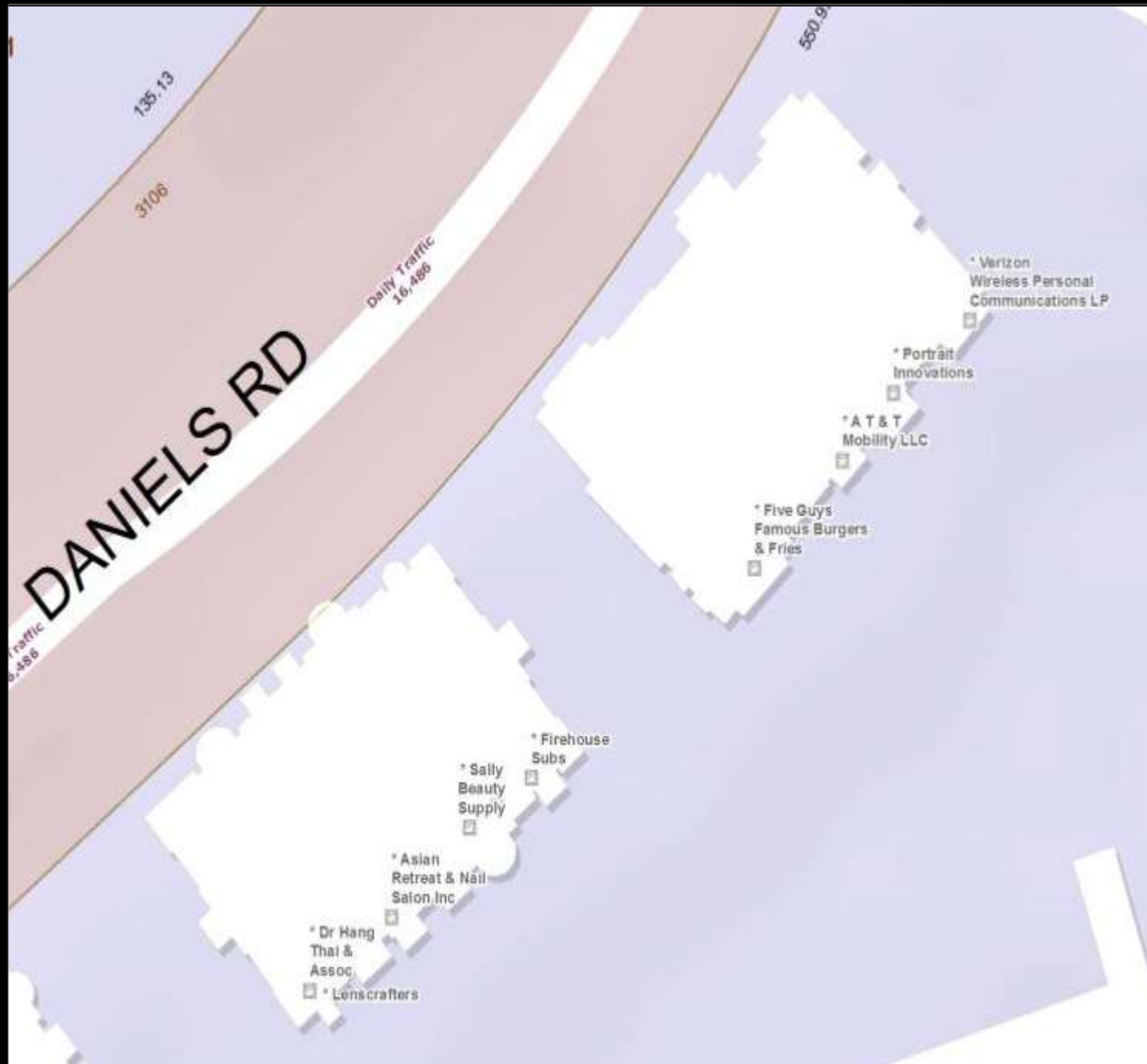
Solution. Hole 14 of the Arnold Palmer's Bay Hill golf course – 215 yards, par 3. This level of cartographic detail is captured in the parcel basemap – we are also interested in the price correlation of golf course properties vs. non golf course properties.

Quantitative Cartography



Solution. Hotel cluster near the Orlando International Airport – notice the labeling of the room capacity, ownership and property name.

Qualitative Cartography



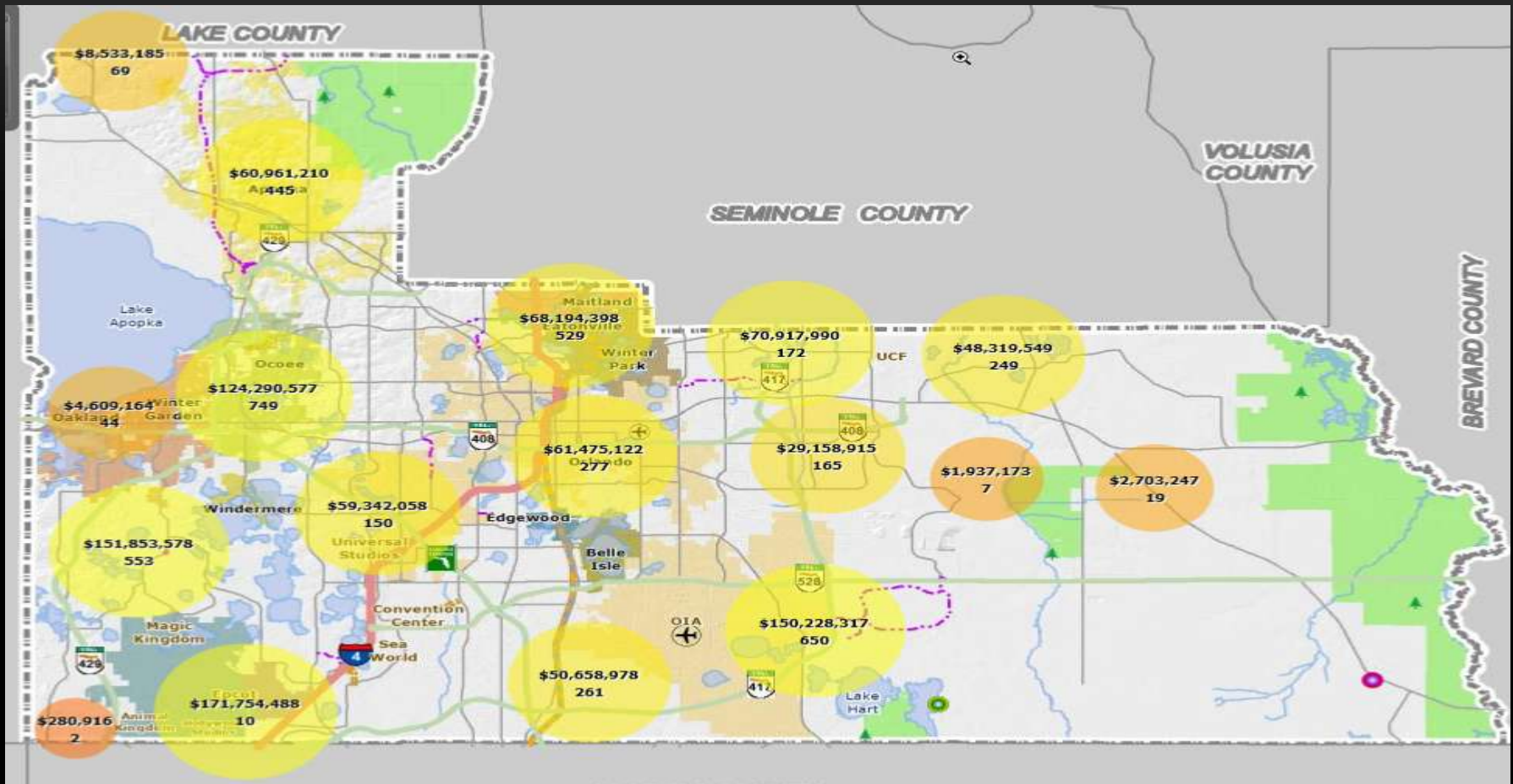
Solution. Note the integration of Tangible Personal Property accounts, accurately placed on the building sketch. Location: Winter Garden Village at Fowler's Grove, a 115 acre retail development.

Qualitative Cartography



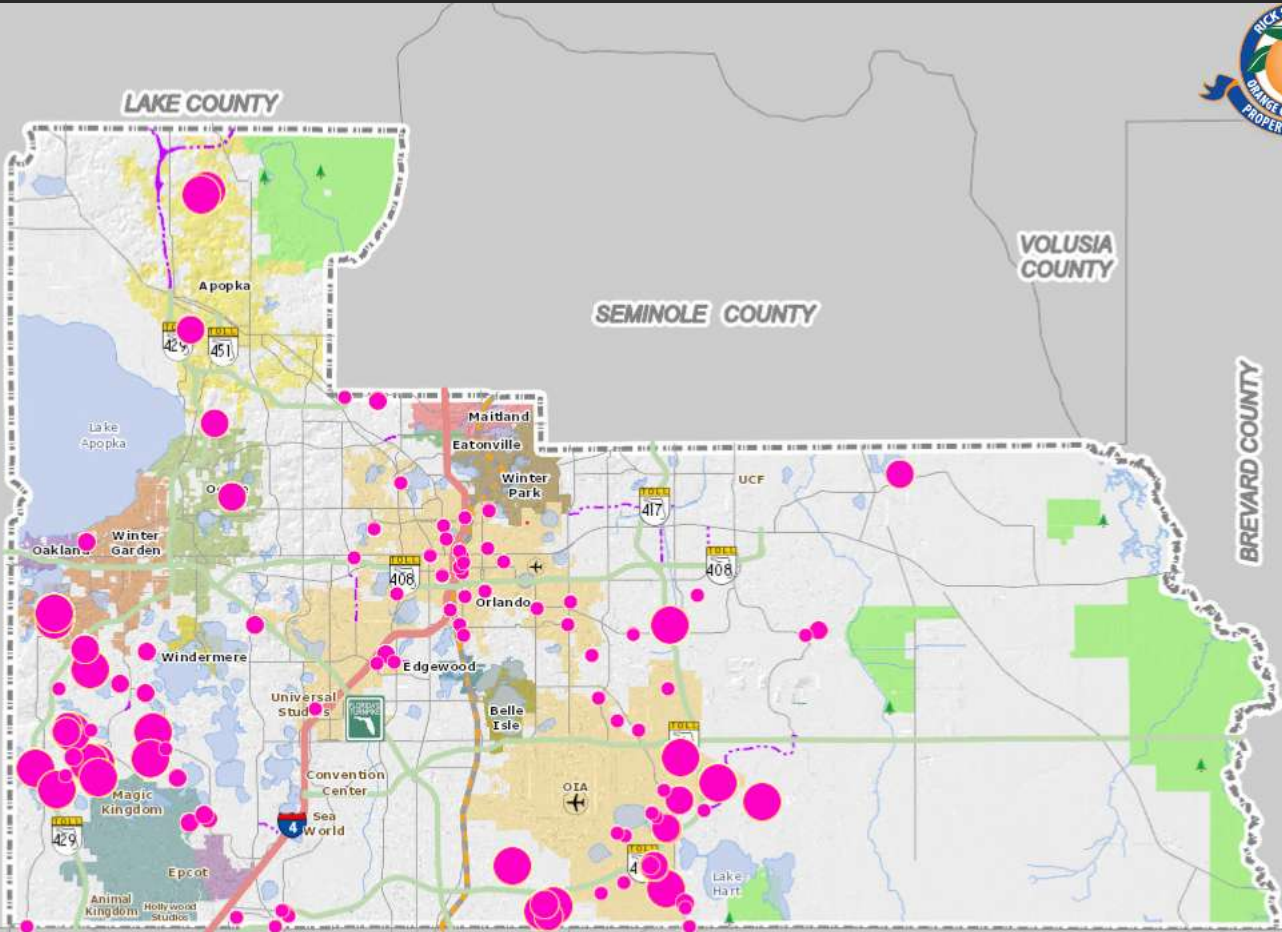
Solution. Notice the unit-level apartment addresses placed accurately on the building sketch. Our Public Safety customers like the ability to pin-point the exact location of an apartment unit within a complex – in this case, 24 buildings and 560 apartments, in two phases.

Advanced Visualization Techniques



Solution. This is an example of an advanced visualization technique which dynamically clusters two variables – value of net new construction & number of new construction properties. This is delivered thru a web application, wherein as the user zooms in, the clusters dynamically change to reflect the same variable in the new zoom extent. Same techniques can be used to visualize foreclosures, permits, exemptions, etc...

Advanced Visualization Techniques



Future Development

115 record(s) found.

NAME	LOTS
LAUREATE PARK PHASE 5B	207
WATERLEIGH PHASE 1B	203
LAKESHORE PH 1	200
RANDAL PARK - PHASE 4	200
LAKEVIEW POINTE AT HORIZON WEST PH 1	192
LAKEVIEW POINTE AT HORIZON WEST PH 1	192
ASHLIN PARK PASE 2	183
ORCHARD HILLS PHASE 2	163
LATHAM PARK SOUTH	162
TWIN WATERS	161
TWIN WATERS	161
LAKE PRESERVE PH 2	154
LAKE PRESERVE PH 2	154
WINDERMERE TRAILS PH 3B	152
SUMMERLAKE PD PH 3B	145
OAKS AT MOSS PARK	133
SAWGRASS PLANTATION PH 1D 2	127
ECON LANDING PH 1	118
STOREY PARK PH1	103
ROCK SPRINGS RIDGE PHASE 7-B	102
ROCK SPRINGS RIDGE PHASE 7-B	102
CREEKSTONE	100
WEST LAKE HANCOCK ESTATES PH 5	91
WYNDHAM LAKES ESTATES PHASE 5N	91
SPRING LAKE RESERVE	88
TOWNHOMES AT THE VILLAGES OF MOSS PARK	84
SUMMERLAKE PD PH 3C	83
APOPKA WOODS SUBDIVISION	81
LAUREATE PARK PHASE 6B	65



Homeowners association layer & info



Identify

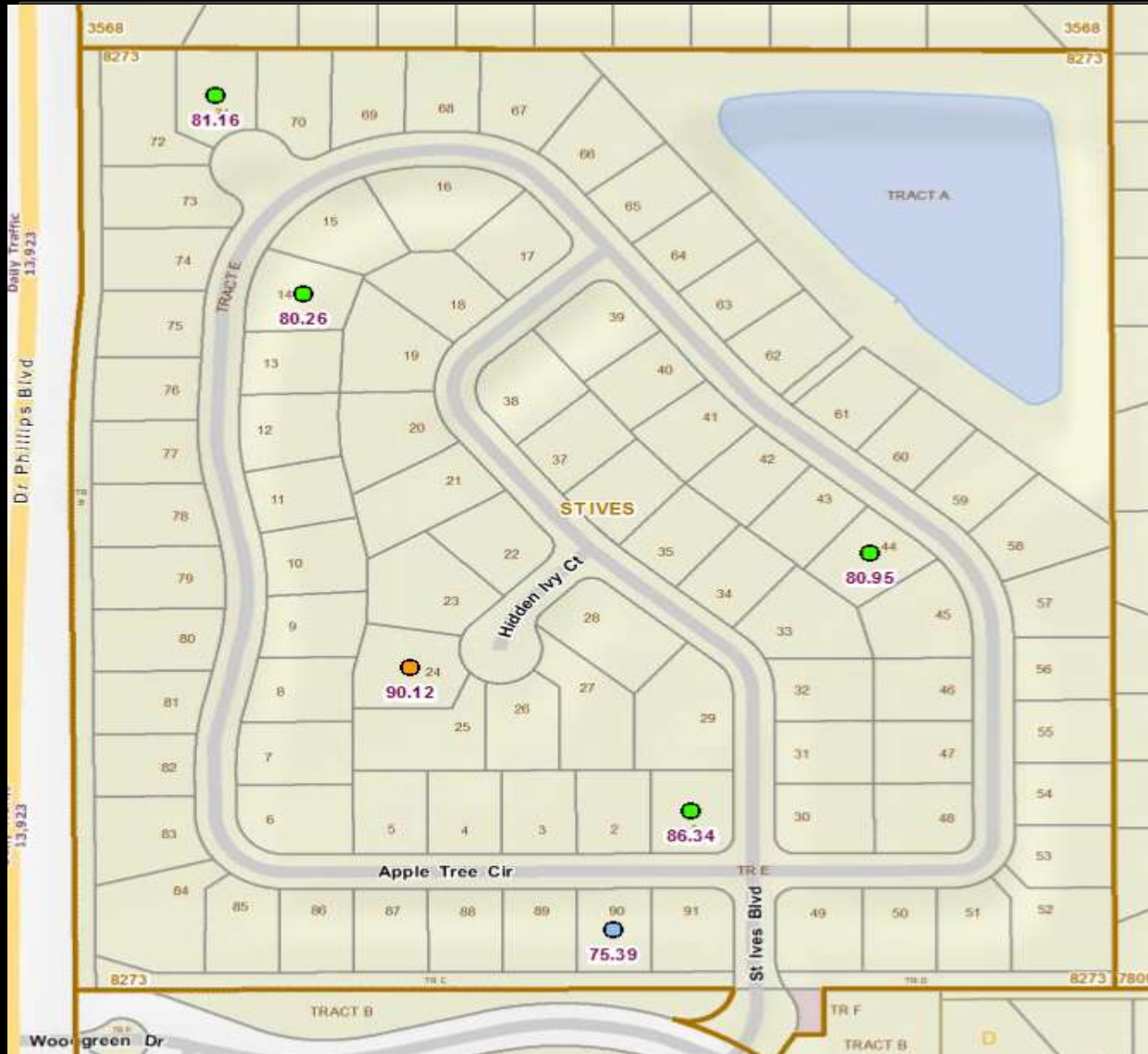
Target Layer: HOA

Hide Pictures(s)

HOA Info

HOA ID	515
HOA NAME	Wetherbee Lakes Homeowners Associat
HOA WEB SITE	HOA WEB SITE
HOUSEHOLDS	444
IS GATED	No
TYPE	Mandatory
ADDRESS	6972 Lake Gloria Blvd
CITY	Orlando
ZIP CODE	32809
SUNBIZ LINK	SUNBIZ LINK

Quality Control Tools



Solution. Sales ratios are thematically displayed and labeled in this web based map application

Quality Control Tools



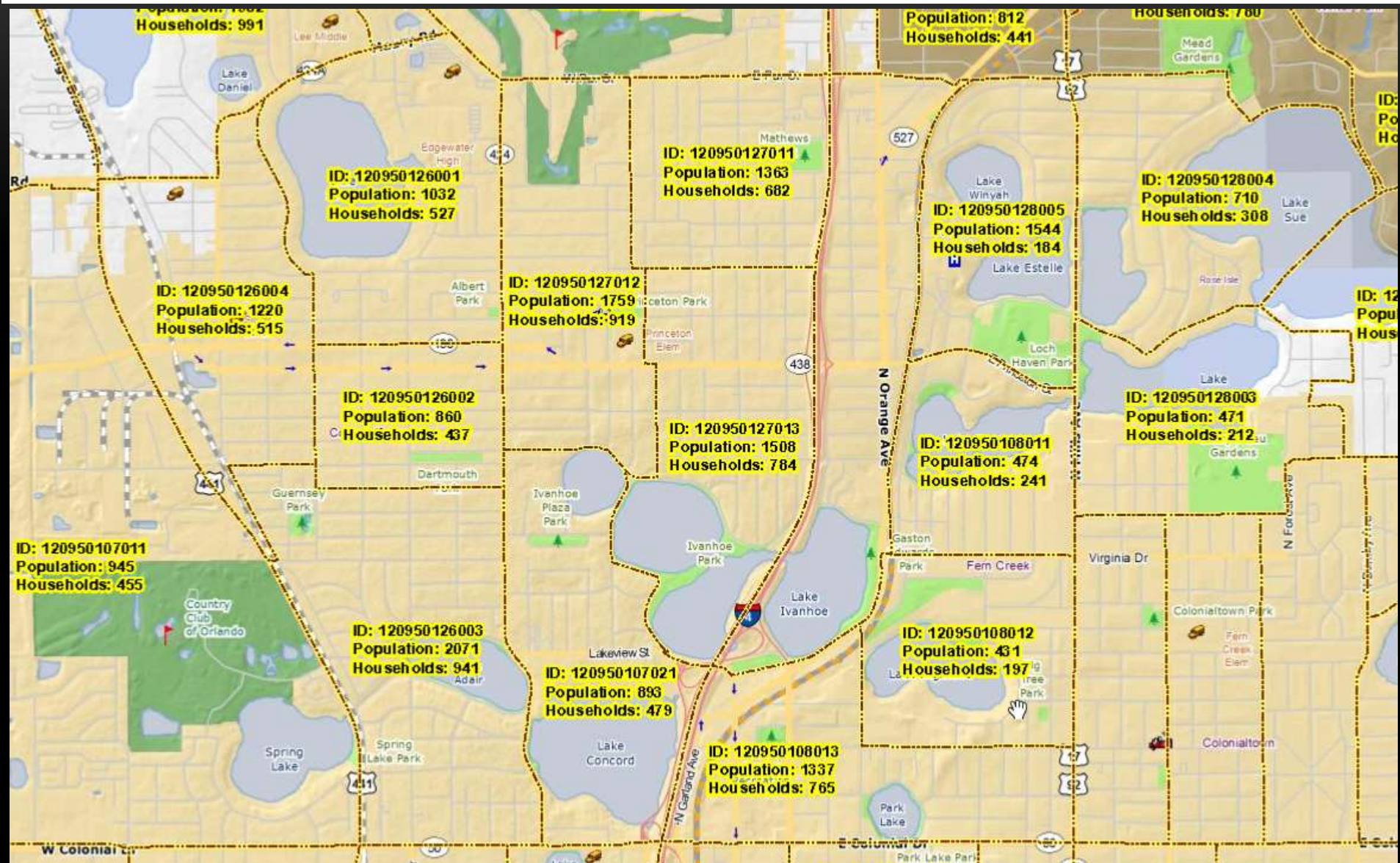
Solution. Basic GIS visualization of percent change in value from prior year to current year. This tool leads to exploring the “why” in data analysis.

Quality Control Tools



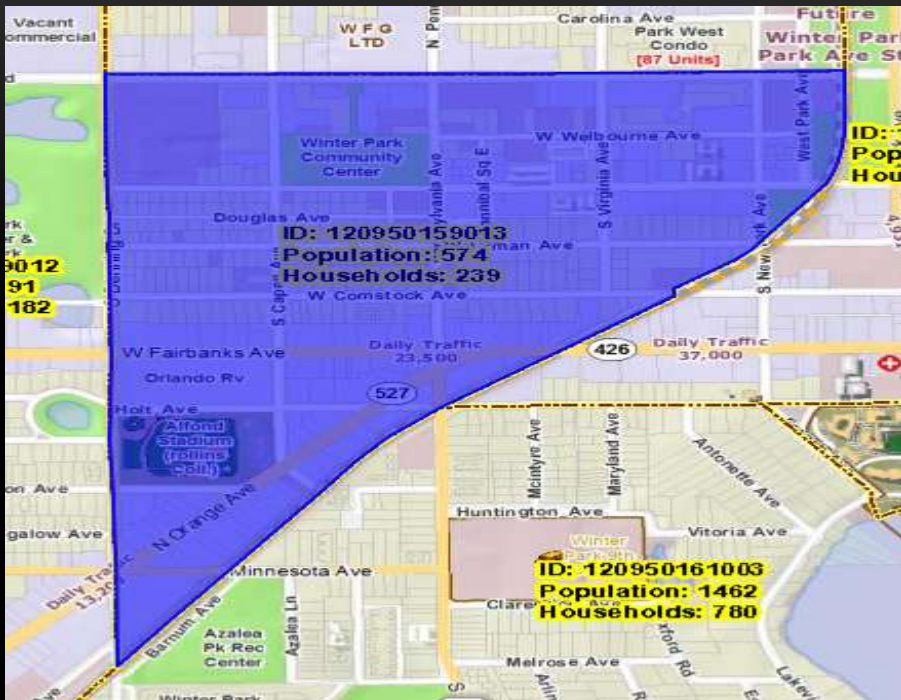
Solution. Example of visualizing the “grade” variable – this tools helps identify variability in a fairly homogenous neighborhood.

Business Intelligence Tools

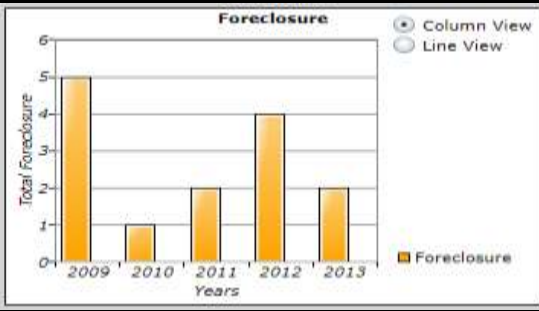
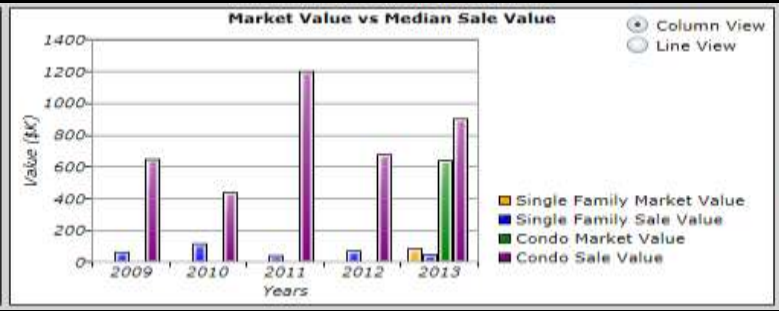
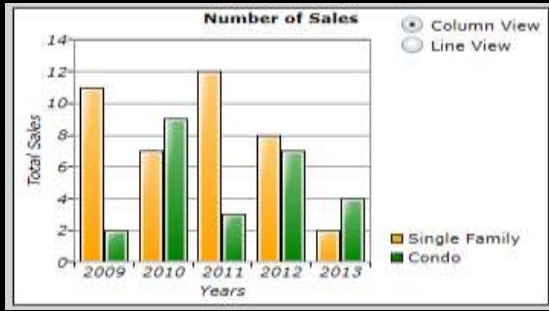
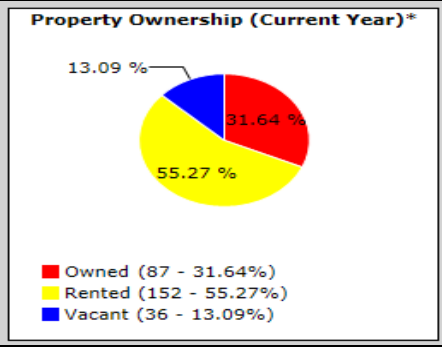
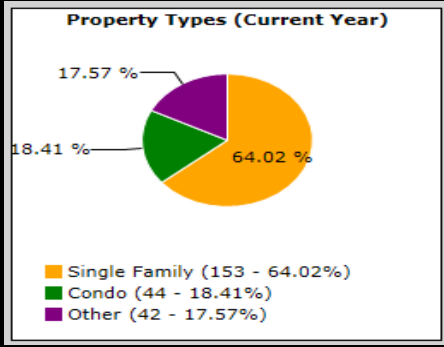


Solution. This example shows the census block-group boundaries integrated with the parcel base.

Business Intelligence Tools

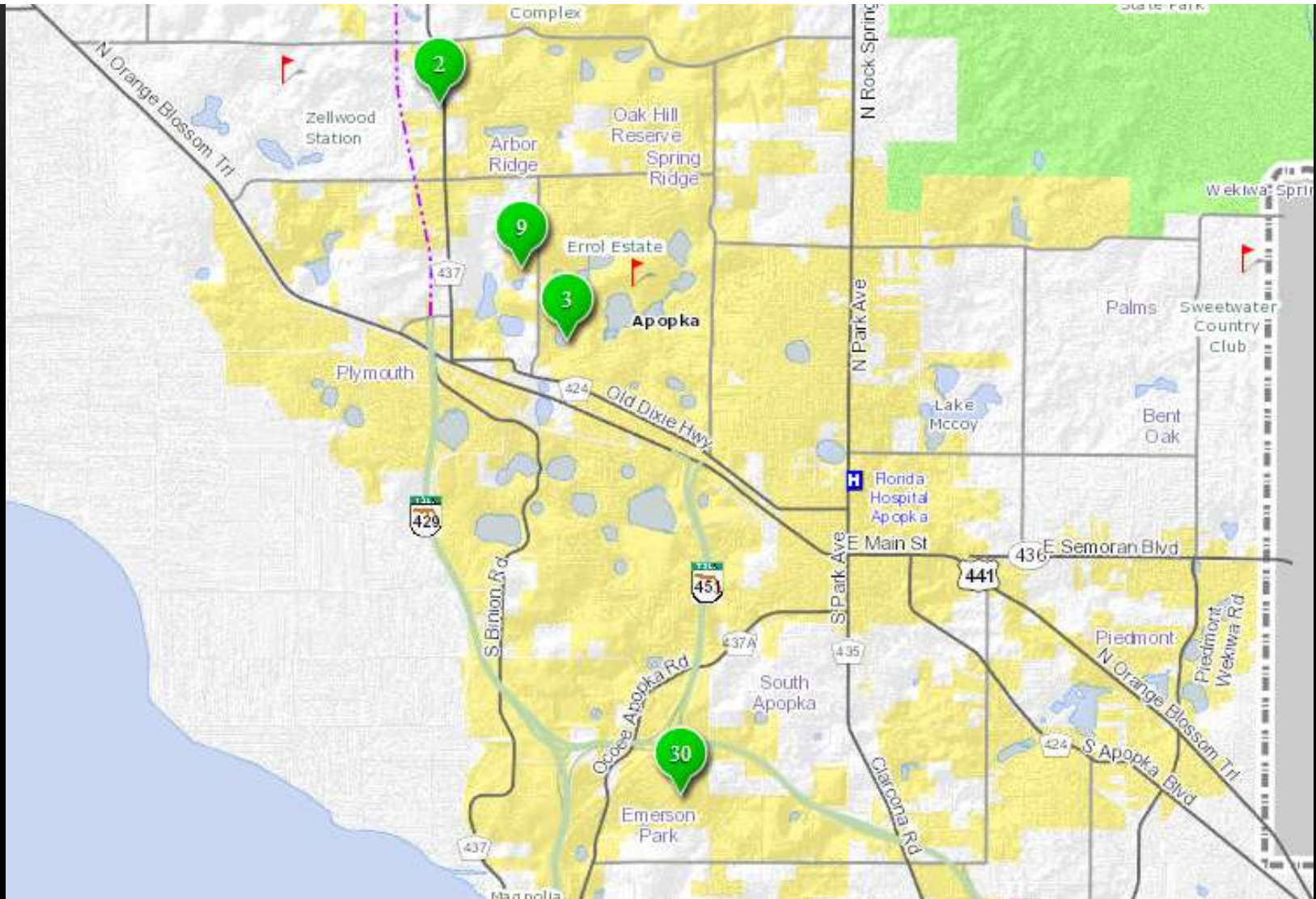


Block Group ID*	120950159013
Total Population*	574
Area (Sq mi)*	0.216
Population Density (Person per Sq mi)*	2732
Diversity Index*	38.4
Total Households	239
Single Family Residential Median Living Area (SqFt)	1260
Condo Median Living Area (SqFt)	2791
Median Single Family Market Value (Current)	
Median Condo Market Value (Current)	
Disclaimer: * indicates the source is from ESRI	



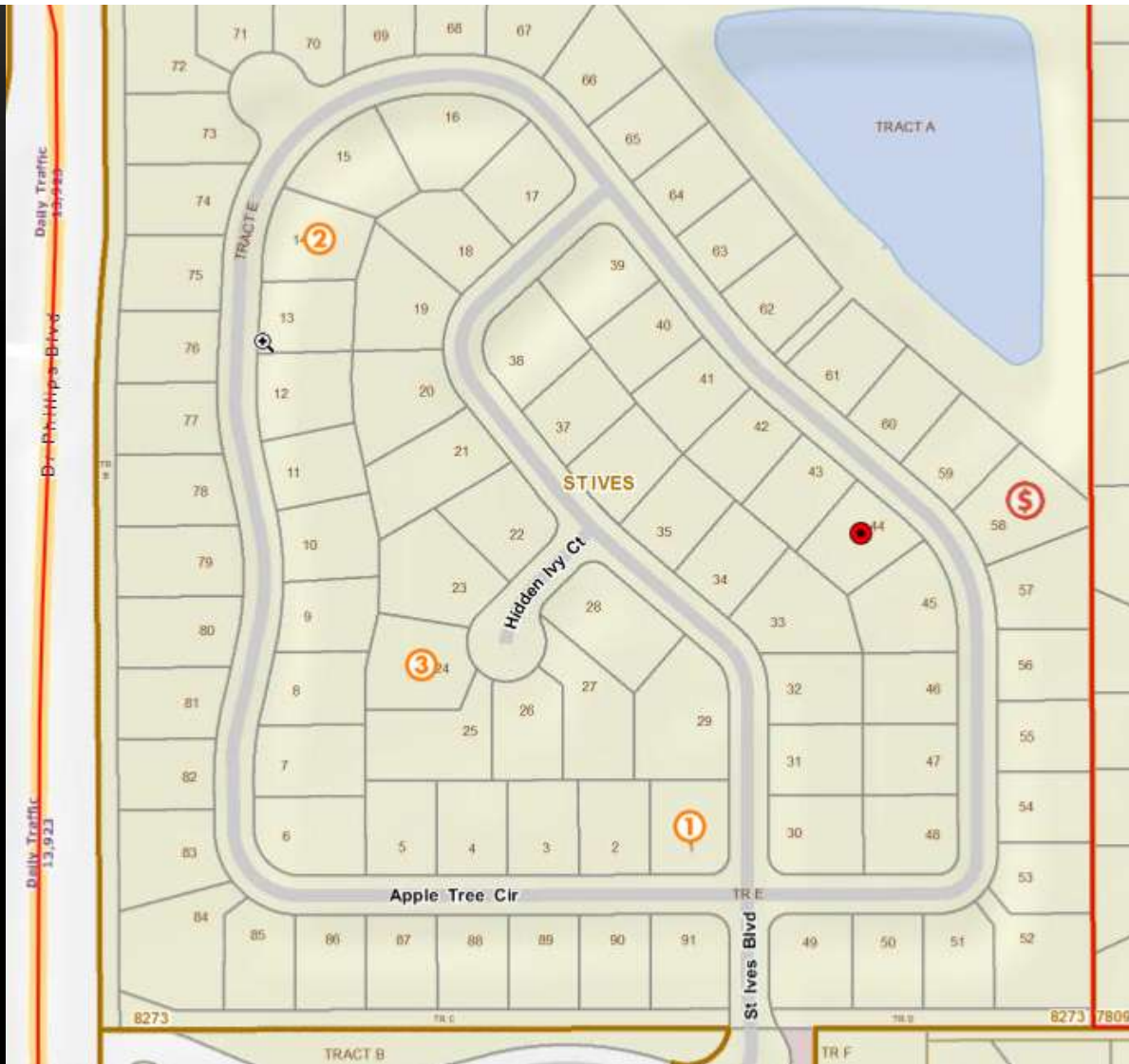
Solution. We have taken the census geography and demographics data from a 3rd party data provider (ESRI), and spatially joined it with our own property related data - at the census block-group level - to create new value-added Business Intelligence reports.

Optimized Field Operations



Solution. Web application screenshot of an appraiser's work assignment. Dynamic cluster changes with zoom levels.

Comparable Sales Analysis








Solution. GIS based comparable sales – users get to pick the sale selection criteria – radial, subdivision, neighborhood, user defined area or manual picks.

Comparable Sales Analysis

Comp Sale Setting:


Compsale Years:

- 2013 
- 2012 
- 2011 
- 2010 
- 2009 

Minmum Compsale:

3 ▼

Show Comparables



Comp Sale Adjsut Rates:

Living Area (Per Sqft): ?

Rate 1: Rate 2:

Pool (Per Unit): ?

Rate 1: Rate 2:

Garage (Per Sqft): ?

Rate 1: Rate 2:

Bed/Bath (Per Unit):

Bed: Bath:

Storage (Per Sqft): ?

Rate 1: Rate 2:


Sale Date (Per Month): %

Porth (Per Sqft): ?

Rate 1: Rate 2:

Solution. Users can customize their adjustments, sales year, etc...

Comparable Sales Analysis

Comparable Sale Report 5/28/2013 5:20:10 PM		Rick Singh ORANGE COUNTY PROPERTY APPRAISER FLORIDA					
	Subject	Comparable #1	Comparable #2	Comparable #3			
Parcel ID	23-23-28-8273-00-580	23-23-28-8273-00-010	23-23-28-8273-00-140	23-23-28-8273-00-240			
Situs Address	7636 APPLE TREE CIR	7769 APPLE TREE CIR	7705 APPLE TREE CIR	7713 HIDDEN IVY CT			
Zoning	P-D	P-D	P-D	P-D			
Land Use	0100	0100	0100	0100			
Proximity	--	593	948	789			
Sale Price	\$328,961	\$365,000	\$425,000	\$347,900			
Sales Prices per sq.ft.		\$106	\$135	\$128			
	Market (Just) Value						
	Value Adjustments	Adjust	Adjust	Adjust			
Sale Date		2012/02/17	\$0	2012/04/30	\$0	2012/04/26	\$0
Site Value	\$86,000	\$85,000	\$1,000	\$85,000	\$1,000	\$85,000	\$1,000
Quality	0102/02	0102/02	\$0	0102/02	\$0	0102/02	\$0
Effective Age	1990	1989	\$3,409	1992	(\$8,176)	1992	(\$6,088)
Exterior Wall	WOOD.FR.ST	CB.STUCCO	0	CB.STUCCO	0	WOOD.FR.ST	0
Roofing	CONC.TILE	CMP.FIB.SH	0	CONC.TILE	0	CONC.TILE	0
Flooring	CARPET	CARPET	0	CERAMIC TL	0	CARPET	0
Heated Living Area	3589	3443	\$14,600	3155	\$43,400	2718	\$87,100
Bedroom	5	3	\$0	4	\$0	4	\$0
Bathroom	3.5	2.5	\$7,000	5	(\$10,500)	3	\$3,500
Garage /Carport	540	572	(\$1,600)	460	\$4,000	738	(\$9,900)
Storage Area	0	0	\$0	0	\$0	0	\$0
Porch Area	326	56	\$6,750	696	(\$9,250)	454	(\$3,200)
Pool	Y	Y	\$0	Y	\$0	Y	\$0
Other Extra Features	7500	7500	\$0	10815	(\$3,315)	7500	\$0
Others	0	0	\$0	0	\$0	0	\$0
	Absolute Adjustments		\$34,359		\$79,641		\$110,788
	Net Adjustments		\$31,159		\$17,159		\$72,412
	Adjust Sale Values		\$396,159		\$442,159		\$420,312
	Indicated Value:			\$419,543			

Solution. In addition to the GIS analysis to generate comp, users also get a web based comparable sales report/grid.

Comparable Sales Analysis

Subject



282323827300580 05/15/2006

Comp 1



282323827300010 05/15/2006

Comp 2



282323827300140 05/15/2006

Comp 3



282323827300240 05/15/2006

Solution. *In addition to the GIS analysis and the comps report, users also get a visual presentation of the subject and comps.*

GIS-Based Sketching



Solution. *Georeferenced building sketches have several benefits – accurate scale and rotation, ability to verify missing building elements, minimizes sketching errors and incorrect attribution and most importantly interoperability.*

Historic Parcel Information



January 2012



January 2013



April 2013

Solution. A progressive visualization of both the land use changes as well as the ownership changes – raw undeveloped land in Jan 2012 was sold as 3 out-parcels of developed land. The brown colored parcels is the current parcel fabric and the purple line denotes the prior parcel fabric.

Visualize changes from 2001 to 2014 – yearly update of aerial imagery

99,234 visits - 2,212 network locations

2001



2006



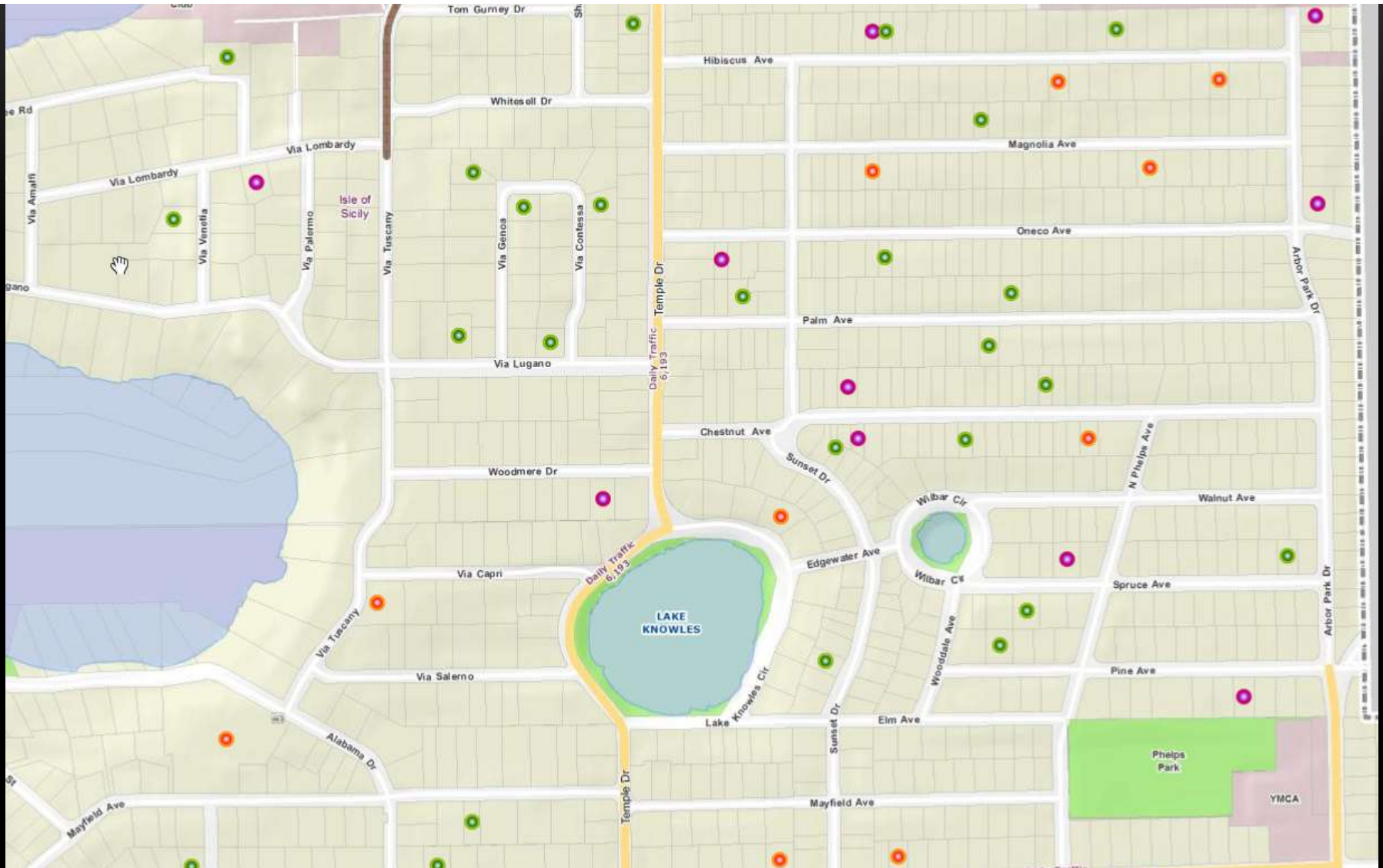
2014



2010

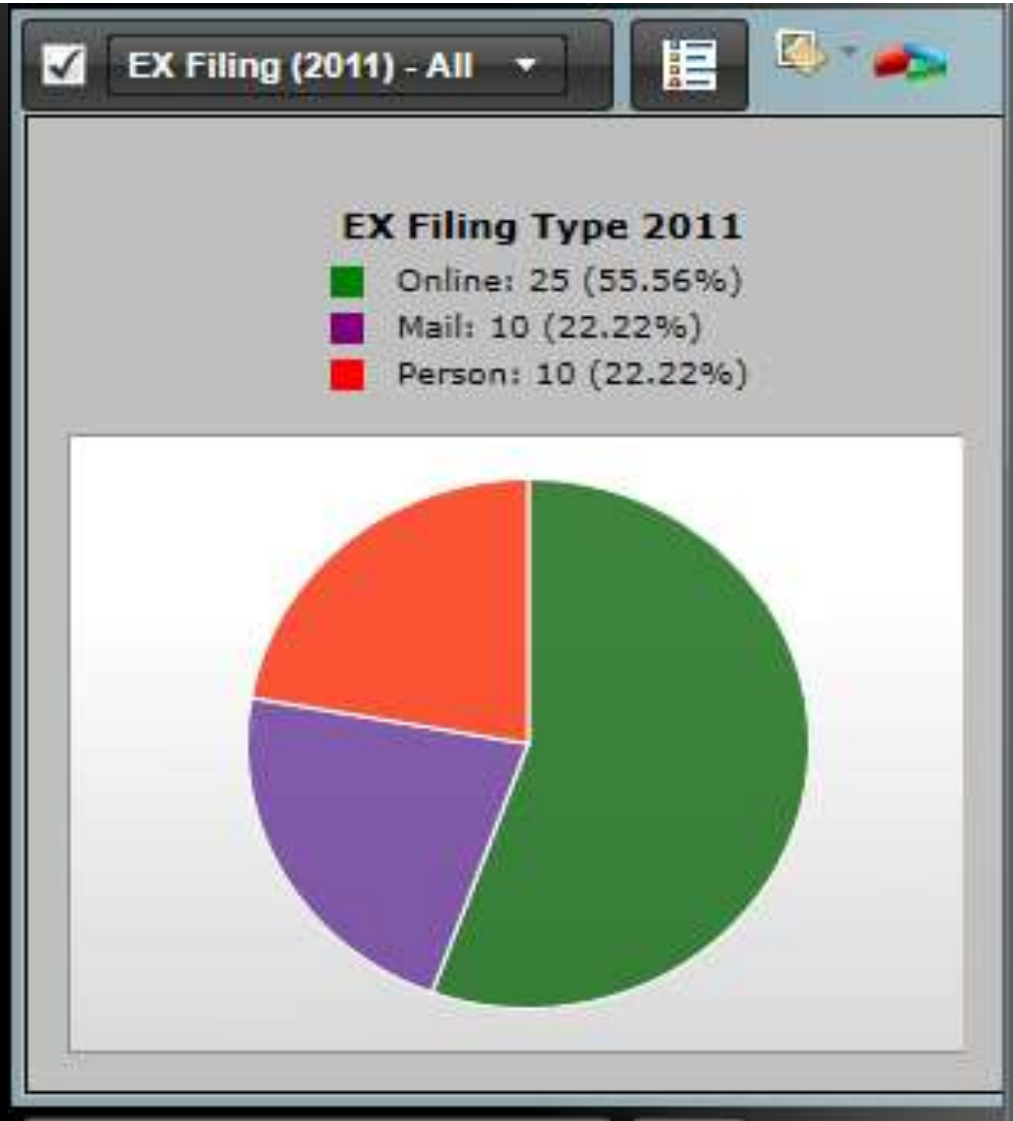


Public Service Efficiency



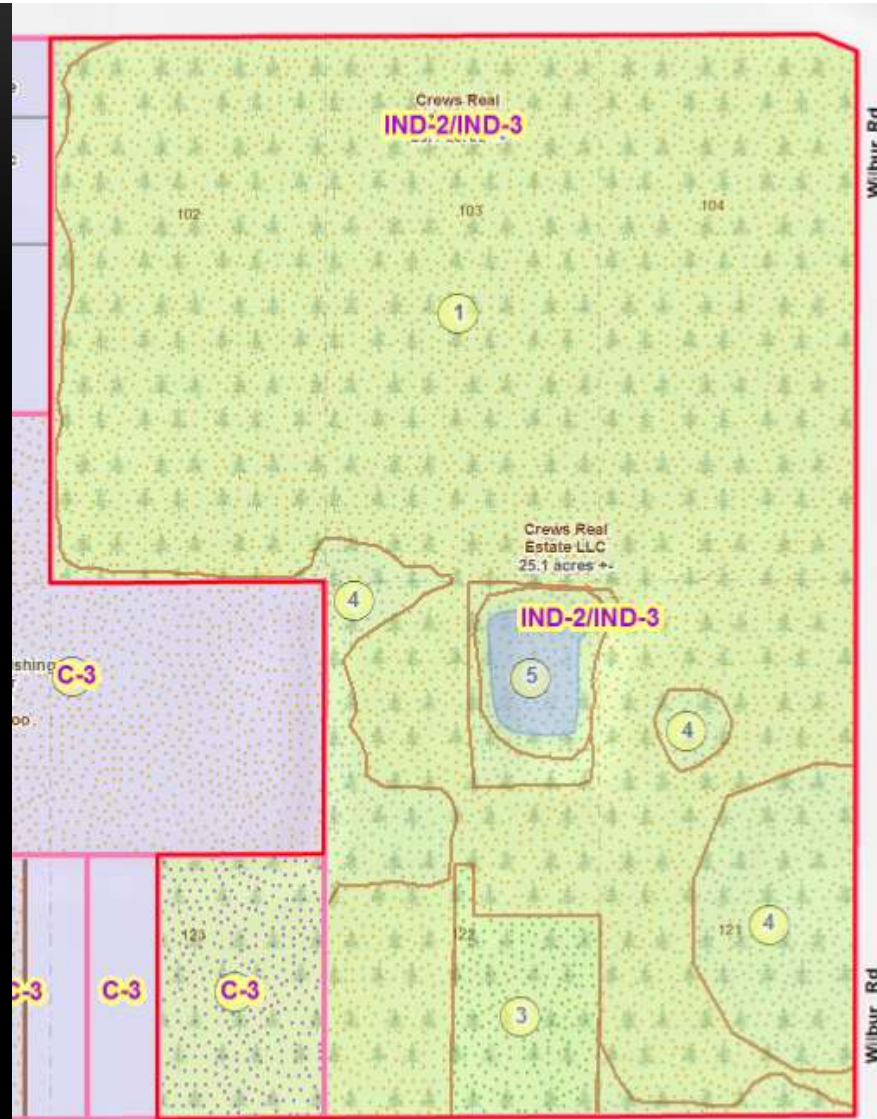
Solution. Spatial distribution of homestead filing preference – we have not seen a clear pattern of online filing strongly correlated with high value neighborhoods, as one might think.

Public Service Efficiency



Solution. *This pie chart is dynamically created in our GIS application, based on the view extent.*

Valuation of Multi-Use



Solution. Example of a 25.1 acres parcel with multiple land uses, each demarcated accurately to allocate correct acreage. Land lines are mapped using surveys where available or using high resolution aerial imagery and field verified.

Valuation of Multi-Use

Land Line Order #: 1 Land ID: 2594490
Land Dorcode: 6100 Zoning: IND-2/IND-3
MKT Value: \$1,025,601 Unit Price: \$54,150.00
Unit Code: AC Land Qty: 18.94

Land Line Order #: 2 Land ID: 2879609
Land Dorcode: 6100 Zoning: C-3
MKT Value: \$77,976 Unit Price: \$54,150.00
Unit Code: AC Land Qty: 1.44

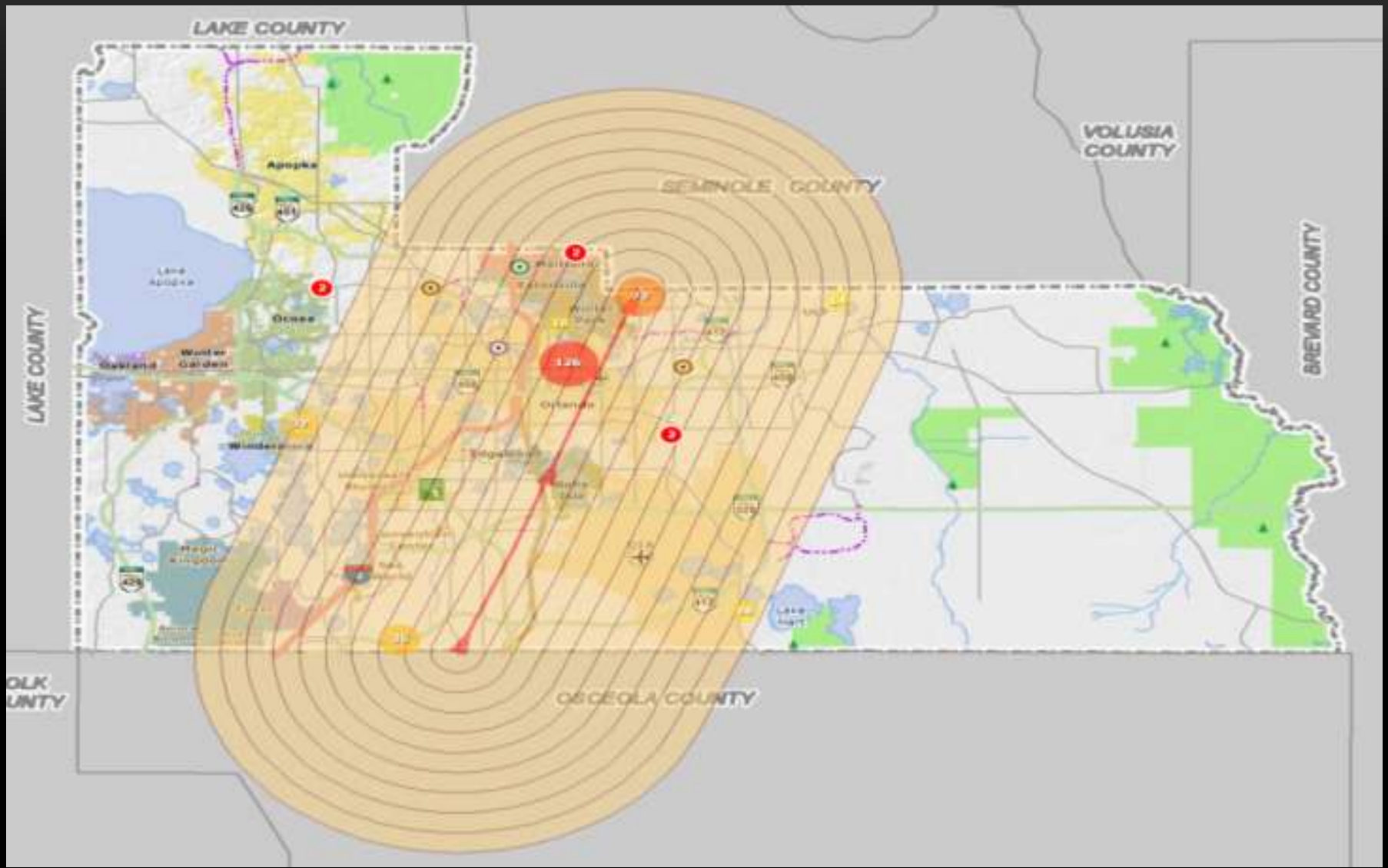
Land Line Order #: 3 Land ID: 2594491
Land Dorcode: 0100 Zoning: IND-2/IND-3
MKT Value: \$42,540 Unit Price: \$42,540.00
Unit Code: AC Land Qty: 1

Land Line Order #: 4 Land ID: 2906999
Land Dorcode: 6999 Zoning: IND-2/IND-3
MKT Value: \$311 Unit Price: \$100.00
Unit Code: AC Land Qty: 3.11

Land Line Order #: 5 Land ID: 2907000
Land Dorcode: 9500 Zoning: IND-2/IND-3
MKT Value: \$6 Unit Price: \$10.00
Unit Code: AC Land Qty: 0.6

Solution. By clicking on the parcel, users get to identify associated landlines – Lines 1, 2, 4 have agriculture use, Line 3 is residential use, Line 5 is submerged land.

Damage Assessment



Solution. Path of Hurricane Charley (Aug 2004) and 1 mile rings, showing a 10 mile radius – this helps us optimize our damage assessment efforts.

Damage Assessment



Solution. Point representation of damage, code by severity (data is simulation based)

Damage Assessment

Damage Assessment Value

Current Time: 7/22/2013 5:25:13 PM

Damage Type	Locations	Damage Values
<input checked="" type="checkbox"/> Minor	101	\$1,303,799
<input checked="" type="checkbox"/> Moderate	76	\$2,452,600
<input checked="" type="checkbox"/> Severe	83	\$8,912,699
<input checked="" type="checkbox"/> Destroyed	62	\$12,633,297
Total	322	\$25,302,395

ALL Refresh Show Map

Auto Refresh every min(s)

Solution. Real-time dashboard of data entry and reflected damage estimate (data is simulated).

Integrated GIS public site...developed using ArcGIS server, caching technology

RICK SINGH CFA **ORANGE COUNTY PROPERTY APPRAISER - FLORIDA**

Pan [Home](#) [Wide](#) [Feedback](#)

Base Map Layers Legend Search Parcel Sales Analysts Tools Print

Identify

Target Layer: Parcel

Hide Pictures(s)

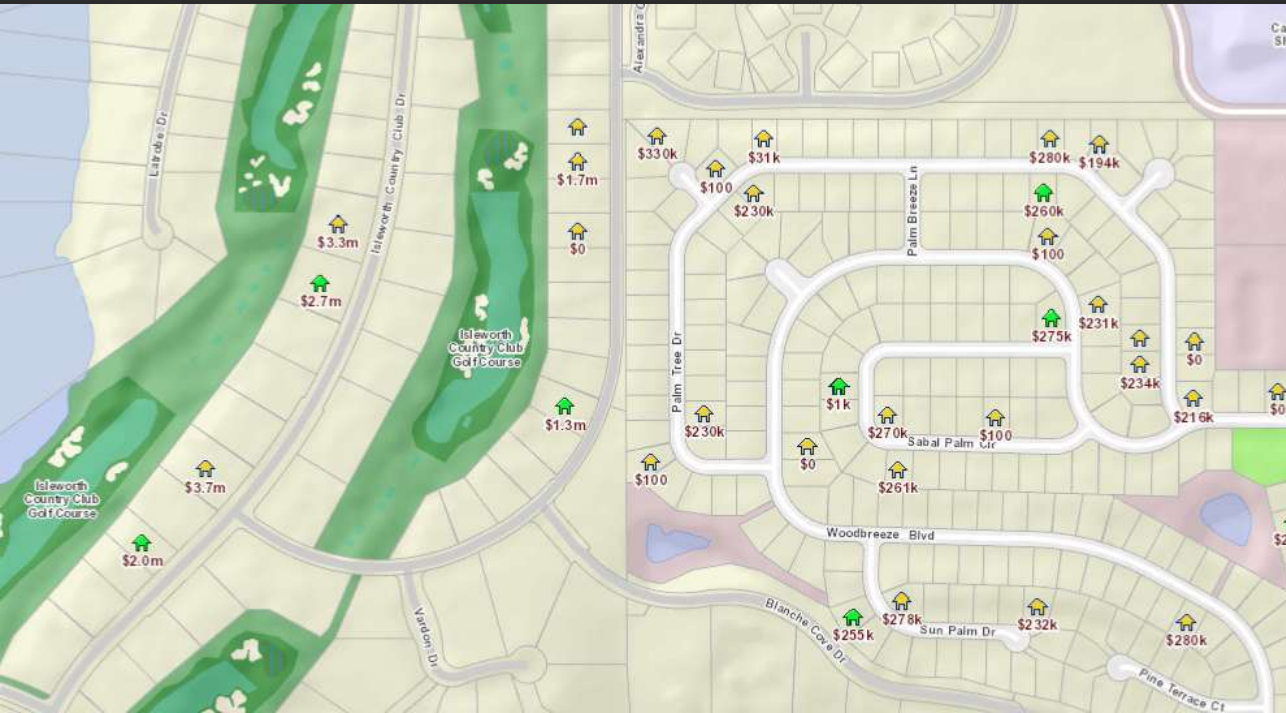
2024 ROBIN RD 02/12/2014

[Home](#) [Layers](#) [Tools](#) [Print](#)

Info Values Building Land Location

PARCEL ID	17-22-30-0524-07-001
STREET ADDRESS	2024 ROBIN RD
NAME (1)	
NAME (2)	
MAILING ADDRESS	2024 ROBIN RD
CITY	ORLANDO
STATE	FL
ZIPCODE	32814
CITY CODE	ORL
MILLAGE CODE	08
PROPERTY USE CODE	0104
NHID CODE	372007120
FEAT CODE	
NC FLAG	0
CONDO FLAG	
ST PLANE X-COORD	348253.84
ST PLANE Y-COORD	3540118.73
ACRESIZE	0.268

Visualizing & Analyzing Sales



Sales Analysis

Quick Search
Advanced Search

Advanced Search:

City

ZIPCODE

School

RADIUS

AREA

Select the 'Polygon' Tool below, draw the polygon on the map, double click to finish drawing, then click the 'Show Sales' button.

🗺️

Area: 0.00 [ACRE(S)]

Sales Type: Single Family Residential

Sales Date: Default Period Flexible Dates

Select Date: Within last 6 months

Only REO (Bank Owned) Sales

Include Sales of \$100 or Less

Optional Criteria

Min Price:

Max Price:

Beds: [All]

Baths: [All]

Min SqFt:

Max SqFt:

Show Sale

Clear

Sales Analysis

Quick Search
Advanced Search

Sale Year:

- 2015
- 2014
- 2013
- 2012
- 2011

Sale Type: Single Family Residential

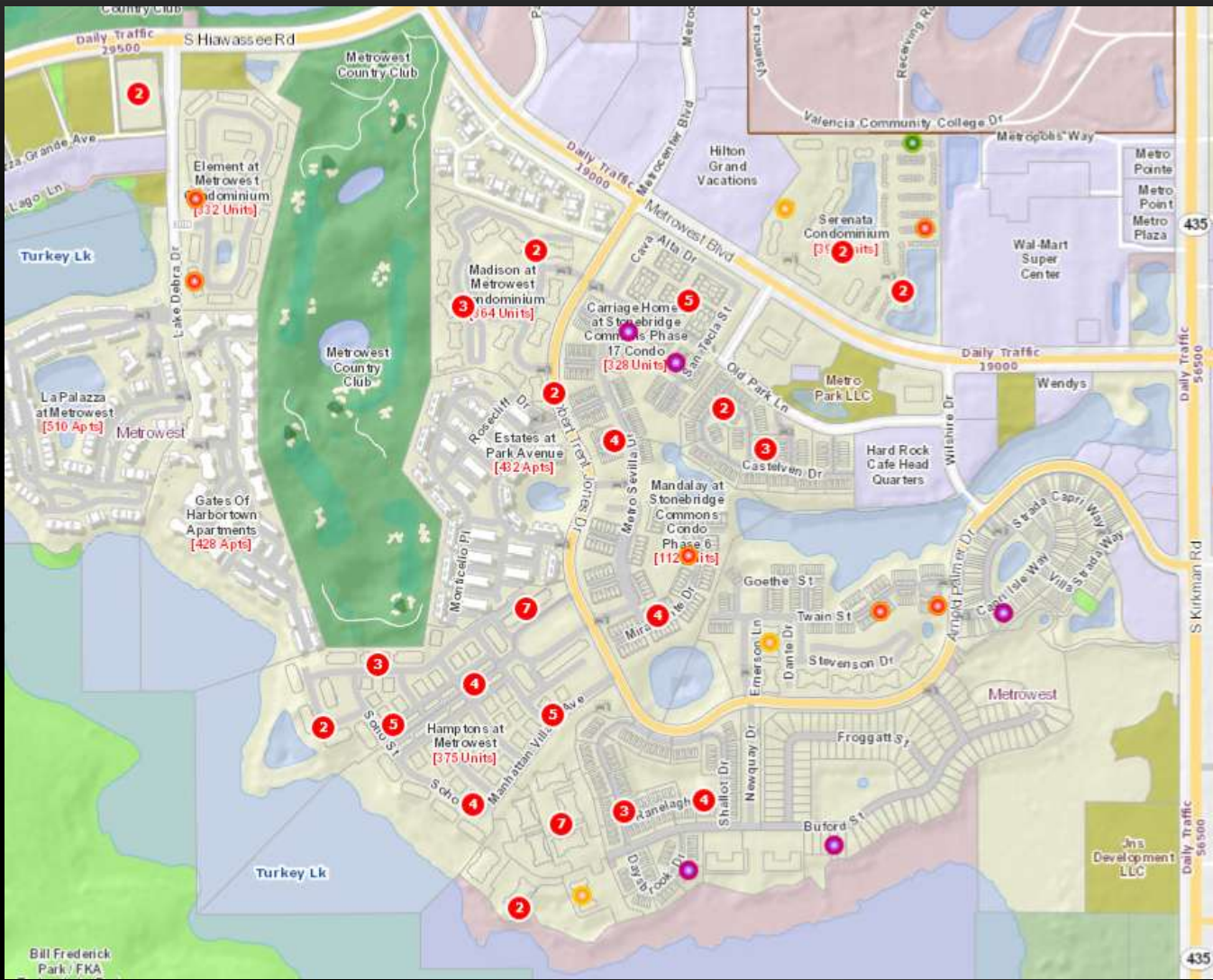
[* View Sales Report Link](#)

Update Map

Tip:

1. Use 'Quick Search' tab to view sales by year and type.
2. Use the 'Advanced Search' to define complex search.
3. View search result from map or list (under the map)

Visualizing Foreclosures



Foreclosure

Owner Type

Foreclosure by Current Owner

Foreclosure Types

- Lender Owned (Total: 2009)
- Fannie Mae Owned (Total: 922)
- Investor Owned (Total: 2036)
- Government Owned (Total: 30)
- HOA Owned (Total: 399)
- Unknown (Total: 94)

Update

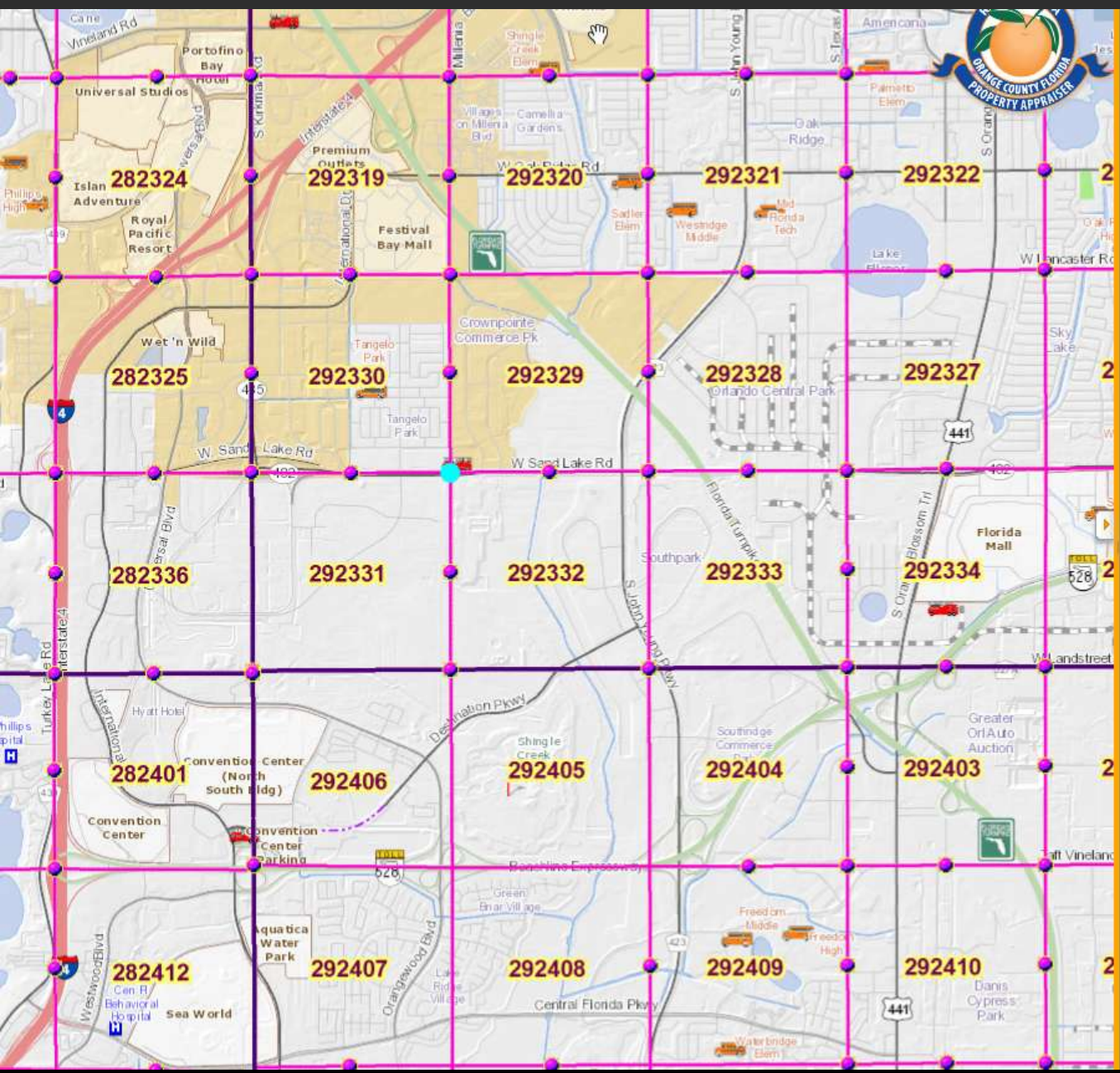
Filtered by: **Current Map Extent**

Foreclosed within: **All Time**

Statistics List Foreclosures

Heat map

Visualizing the PLSS Grid with Control point links



locuity

Target Layer: PLSS/Survey Control

Hide Pictures(s)

Survey Control

PLSS/Survey Control Information

PLSS Control Point found at this location:
 Control Number: **72486**
 Click the link above to see detail information about the control point on LABINS (Land Boundary Information System) website.

Legend

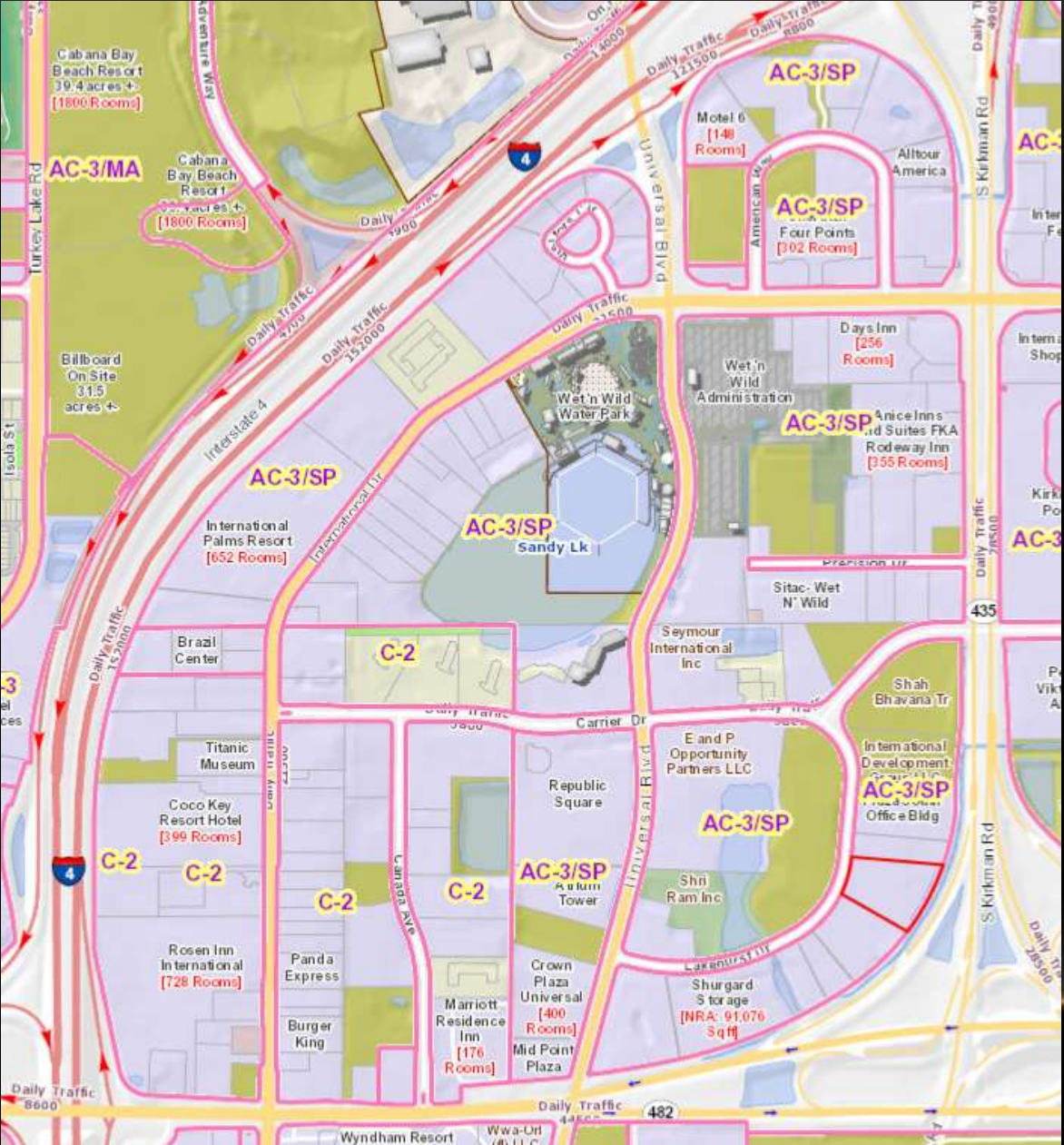
PLSS - Survey Control

- Control Points
- Township Range
- Section
- Quarter Section
- Quarter-Quarter Section
- Land Grant
- Meander
- Gov Lot

Disclaimer

Disclaimer Please be aware that the Section Corner, Quarter Corner, and Witness Corner information of Certified Corner Record locations referenced here are not the only CCR's at a particular corner. There may be more than one CCR number for a corner, however these are the CCR's that are utilized for the OCPA Cadastral Map. As additional Certified Corner Records are filed that refine the Cadastral Map, OCPA will update this layer.

Visualizing Zoning – with deep links to Muni Code ordinances page



Identify

Target Layer: **Zoning**

Hide Pictures(s)

Zoning Info

CITY	ORLANDO
MUNI CODE	Chapter 58 Zoning Districts And Uses
CITY LINK	Link to City's Website
PARCEL LAND ZONING	AC-3/SP

Visualizing Personal Property Accounts – on map & on parcel card



Values, Exemptions and Taxes	Property Features	Sales Analysis	Location Info	Market Stats	Update Information
TPP Accounts					
Page 1 of 6 (51 total records)					
1 2 3 4 5 6 >					
Account	Market Value	Taxable Value	Business Name(s)	Business Address	
REG-126465	\$350,876	\$325,876	Morton's The Steakhouse - Orlando	7600 Dr Phillips Blvd	
REG-142913	\$315,943	\$290,943	Home Goods	7600 Dr Phillips Blvd Ste 164	
REG-182750	\$218,905	\$193,905	W O B Of Orlando LLC World Of Beer	7800 Dr Phillips Blvd Ste 300	
REG-194927	\$155,351	\$130,351	Yogurtology Yogi Eighteen Orlando LLC	7600 Dr Phillips Blvd Ste 96	
REG-006985	\$144,665	\$119,665	Christini's Inc Chris X Christakos	7600 Dr Phillips Blvd Ste 84	
REG-104371	\$136,502	\$111,502	Toojay's Toojay's At Dr Phillips LLC	7600 Dr Phillips Blvd Ste 116	
REG-154517	\$120,842	\$95,842	Office Depot	7600 Dr Phillips Blvd	
REG-011311	\$114,341	\$89,341	Cariera's Cucina Italiana Foxpar Restaurant LLC	7600 Dr Phillips Blvd Ste 12	
REG-170665	\$113,204	\$88,204	Chipotle Mexican Grill Chipotle Mexican Grill Of Colorado LLC	7800 Dr Phillips Blvd Ste 100	
REG-171911	\$106,589	\$81,589	Bosphorous Turkish Cuisine Sm Restaurants Inc	7600 Dr Phillips Blvd Ste 108	

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The Orange County Property Appraiser's Office provides a fair and equitable tax roll, remarkable service, and superior professionalism.


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

PHOTOS >

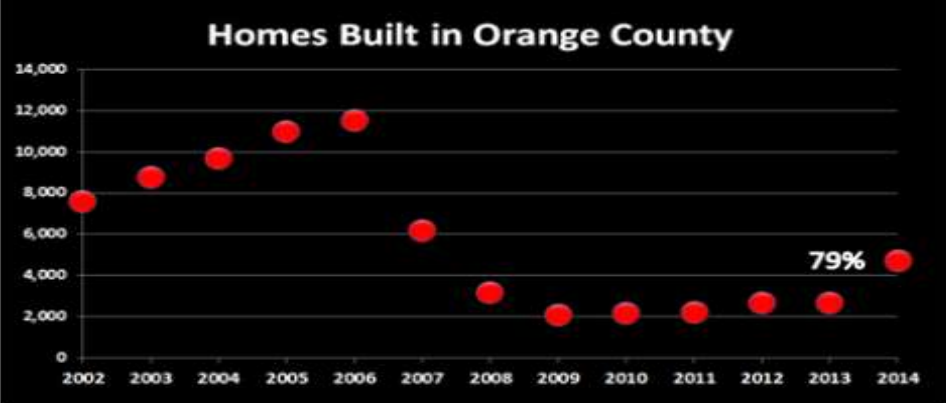


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 **Orange County Property Appraiser, Rick Singh CFA**
June 30 · 🌐

Did you know that in 2014, over 4,500 homes were built in Orange County? That's a 79% increase over 2013, and there are thousands more going up this year!




Year	Homes Built
2002	7,500
2003	8,800
2004	9,800
2005	11,000
2006	11,500
2007	6,200
2008	3,200
2009	2,200
2010	2,200
2011	2,200
2012	2,500
2013	2,500
2014	4,500 (79% increase over 2013)

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Manish Bhatt

