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## **2012 Professional Practices Program**

# **GIS Public Redistricting Interface**

**Maricopa County, Arizona**

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# GIS Public Redistricting Interface

## Recorder/Elections Maricopa County, Arizona

### 1. Abstract

The public expectation continues to drive the provision of online services and operability. For the redistricting of electoral districts in Maricopa County in 2011 we implemented a one-stop website which provided information on public hearings, samples of educational presentations, and most importantly, an interactive mapping tool developed by our staff for the submittal of public suggestions.



The Redistricting Webpage when it was first launched. The page evolved and grew in content as the process progressed and additional maps were proposed for the public to consider.

This mapping tool allowed for public suggestions and input factoring in Census data, existing boundaries, communities of interest, and geographic barriers resulting in a more informed experience. Because it was all done electronically, the data was easily integrated into official analysis for plausibility in implementation.

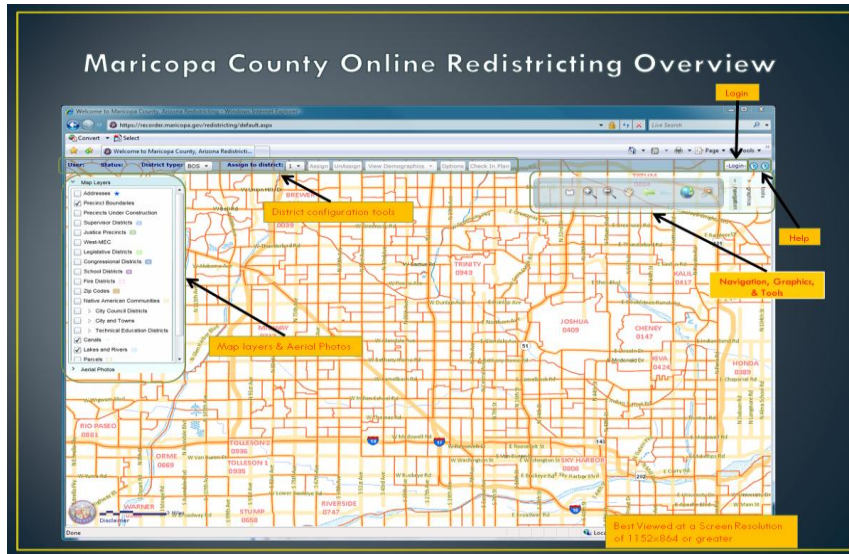
### 2. Description

Users created an account and password and were then able to access the mapping tool and could either 1) start from scratch and draw their own districts or 2) utilize existing districts as their base and make changes to the current lines. Other options

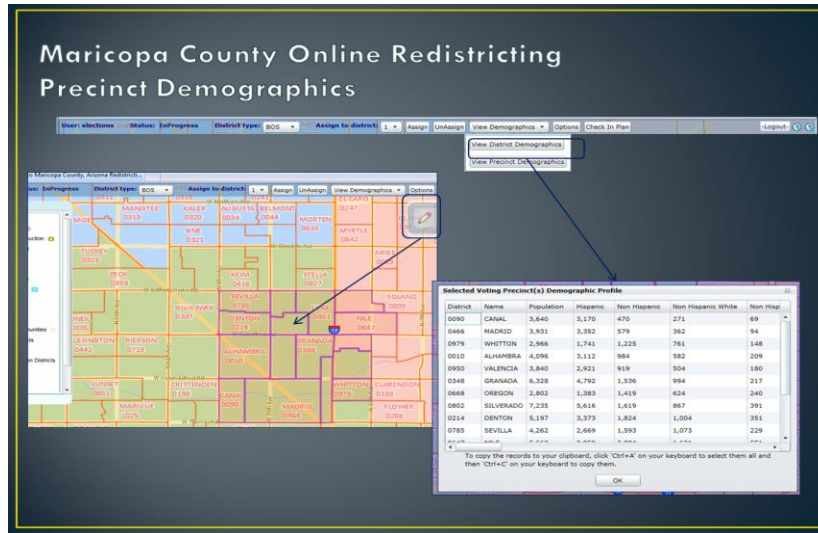
# GIS Public Redistricting Interface Application

## Maricopa County, Arizona

existed as well. Voters could choose from four separate maps: Board of Supervisor/Community College/Special Health Care districts, Justice of the Peace/Constable districts, East Valley Institute of Technology (E.V.I.T.), or Western Maricopa Education Center (West-Mec) —they could opt to make adjustments to any, or all.



When a line move was being contemplated the user had the ability to review the resulting changes in demographic and voter registration data as well as overlay other districts (IE: municipal, legislative, congressional, school, tribal land, etc.) and geographic features (canals, mountains, rivers, lakes, etc.).



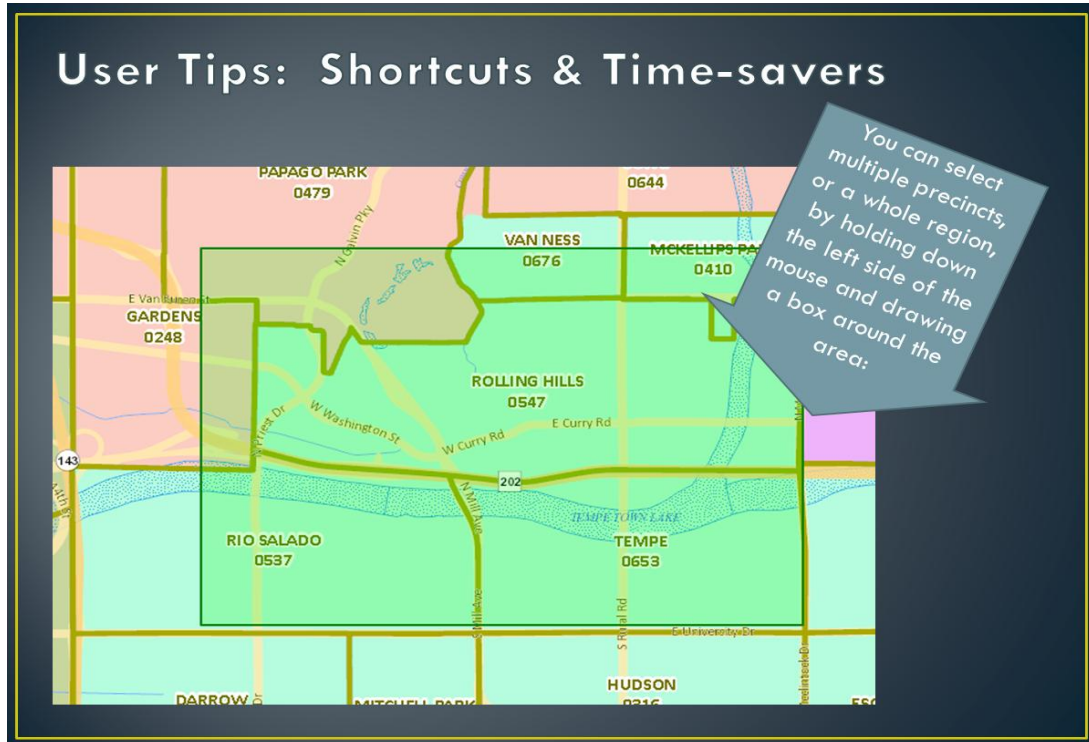
### 3. Worthiness

While this program increases efficiency of data collection and review, it is always important to keep the voter and the public at the center of everything that we do, and when that can be accomplished with a low-cost solution that allows for increased interaction between the people and the government that serves them, you have a worthwhile effort.

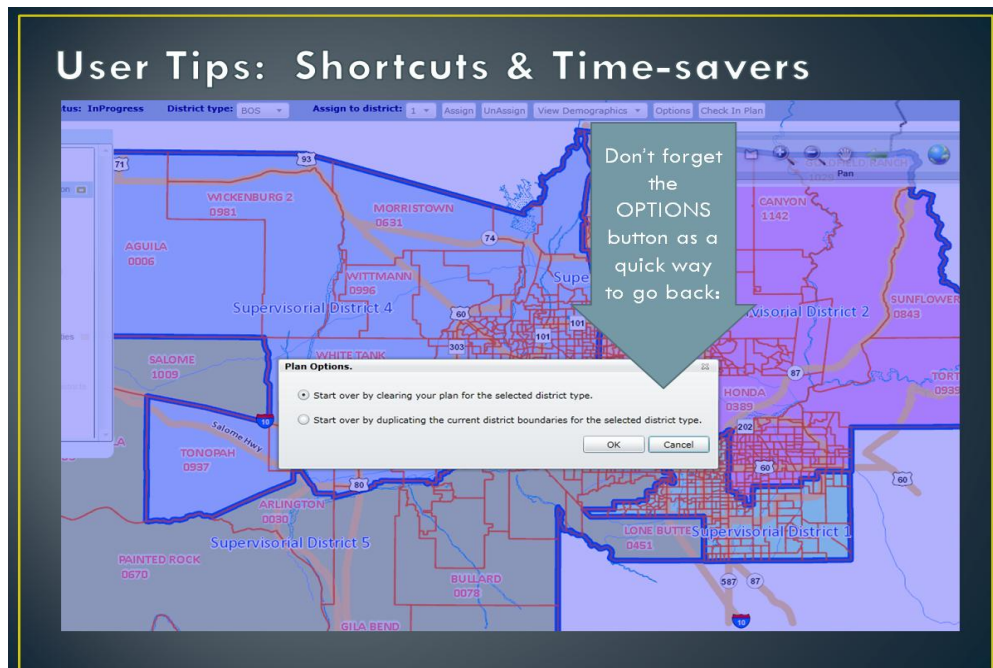
## Supporting Documentation

### Usability of System

There were many timesaving and ease of use options included in the design. Users could opt to select single voting precincts or an entire area to assign to the new district:



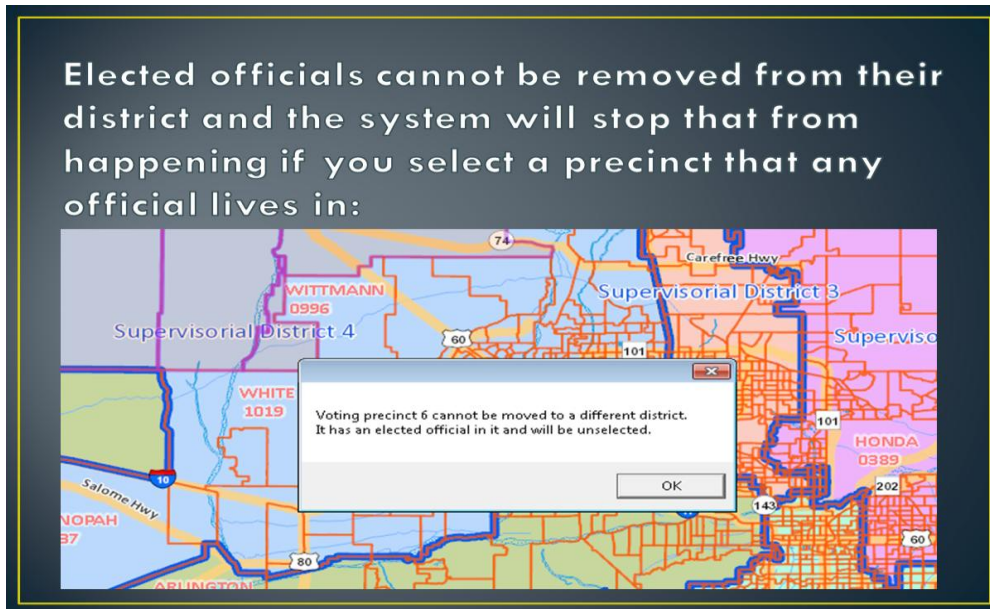
The user could opt to clear their work entirely or simply revert back to our existing district lines:





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Because our districts become effective once approved by the Department of Justice (and not at the canvassing of the next election) incumbent officials cannot be drawn out of their district as that would cause a vacancy and no representation for those voters. This system froze precincts which contained the elected officials for those districts and did not allow them to be moved to another:



Providing the public with the electronic tools to suggest the boundaries of their representation resulted in a transparent process where all the plans could be offered for public review and comment. Because this was submitted to our GIS Department electronically, the proposals could quickly be incorporated into existing plans and reviewed for overlapping consensus of recommendations without exhaustive manual intervention that paper map suggestions require.

Additionally, because of the embedded demographic tables and multiple layer possibilities the interactive nature of this tool enriched the foundation for making intelligent and informed suggestions

## Cost

The costs incurred in creating the Online Mapping Tool include planning & programming costs for the upgrades provided to our existing election management system. These costs are not reflective of what it would take if starting without that base. However, any elections department would already have a similar election management system.

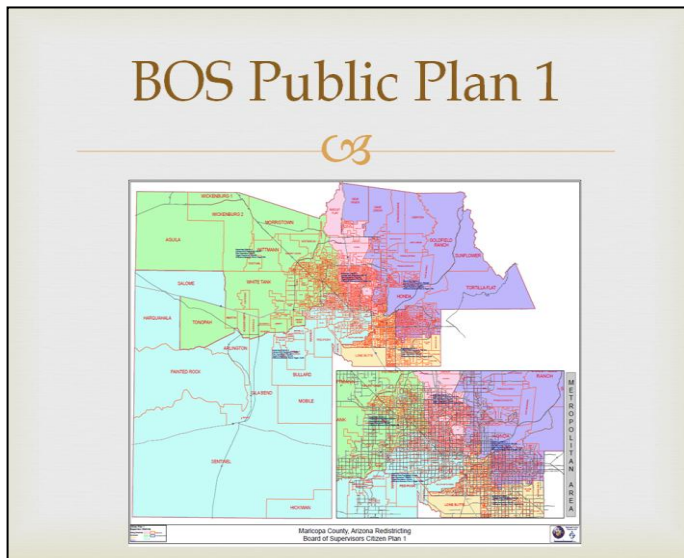
80 hours GIS programming X \$40.00 = \$3200.00

# GIS Public Redistricting Interface Application Maricopa County, Arizona

## Results

The website had close to a thousand hits and although many people signed up, only a handful submitted maps. However, all maps submitted were reviewed and taken into consideration in the drawing of the final lines. Our lines precleared with minimal questioning by the Department of Justice because of the comprehensive public process.

Because maps were created using the Online Mapping Tool demographic review was possible with minimal effort and could quickly be provided for additional public evaluation:



### BOS Public Plan 1

Maricopa County, Arizona Citizen Plan 1 Supervisorial Districts - 2010 Census Demographics	1	2	3	4	5	Maricopa County Totals
Population	787,817	763,264	763,799	764,277	758,020	3,817,117
Hispanic	160,947	123,065	171,500	175,657	497,572	1,128,741
Non Hispanic	626,870	640,199	592,299	588,620	260,448	2,688,376
Non Hispanic White	491,493	578,668	508,218	508,687	152,989	2,540,055
Non Hispanic Black	35,973	15,465	28,729	33,409	63,914	177,490
Non Hispanic American Indian	14,197	11,248	13,825	5,767	14,415	59,252
Non Hispanic Asian	44,276	19,531	24,632	23,699	16,163	128,301
Non Hispanic Hawaiian	1,859	1,536	1,111	1,129	1,088	6,723
Non Hispanic Other One Race	1,276	889	1,186	999	1,158	5,508
Non Hispanic Other Multiple Races	17,796	12,862	14,798	14,930	10,721	71,047
Population 18+	572,629	583,407	582,166	570,561	500,493	2,809,256
Population 18+ Hispanic	103,375	75,795	107,772	107,107	300,100	604,149
Population 18+ Non Hispanic	469,254	507,612	474,394	463,454	200,393	2,115,107
Population 18+ Non Hispanic White	388,577	465,917	414,568	409,768	127,015	1,805,845
Population 18+ Non Hispanic Black	25,986	11,293	21,254	25,257	48,973	125,763
Population 18+ Non Hispanic American Indian	9,943	7,574	9,706	4,147	10,088	41,458
Population 18+ Non Hispanic Asian	33,654	14,837	19,317	17,778	12,197	97,783
Population 18+ Non Hispanic Hawaiian	1,318	1,057	824	798	780	4,787
Population 18+ Non Hispanic Other One Race	819	554	778	607	705	3,463
Population 18+ Non Hispanic Other Multiple Races	8,957	6,380	7,947	7,099	5,625	36,008
Percent Minority	35.99%	24.19%	33.46%	33.44%	79.82%	41.32%
Percent Hispanic	20.96%	16.12%	22.46%	22.96%	65.64%	29.57%
Population 18+ Percent Minority	32.14%	20.14%	28.79%	28.18%	74.62%	35.72%
Population 18+ Percent Hispanic	18.05%	12.99%	18.51%	18.77%	59.96%	24.71%
Political Party Affiliation						
Republicans	152,905	204,525	152,219	163,644	43,247	716,540
Democrats	113,791	102,263	119,784	108,933	104,737	549,508
Libertarians	3,564	2,883	3,901	2,463	5,375	16,190
Other Political Party	140,123	147,545	132,999	131,179	89,142	643,791
Total Active Voters	411,188	457,216	408,903	406,219	240,505	1,926,031

## GIS presentation by Gary Bilotta:

