

Orthophotography Project

Maricopa County

Contract Time Span

- Maricopa County has a 3 year cycle to obtain aerial photography
 - Year 1 Fly Metro Area
 - Year 2 Fly Entire County
 - Year 3 Fly Metro Area
- Contract has the option to be extended for 2 more years.
- Current contract is with Sanborn and expires this year

RFP

- Require that every mapping company submits tiff images of the same area for comparison purposes.
- Selection is based on
 - Quality of the images
 - Similar projects / Size of Company
 - Price

Quality of Acquisition

■ Resolution

- Depending on the elevation of the aircraft, the images show more or less detail of artifacts at ground level. The county has the option of flying at different altitudes to collect the images.

- 0.32' per pixel (3,900-feet above ground)
- 0.5' per pixel (5,075-feet above ground)
- 0.8' per pixel (9,500-feet above ground)

■ Digital imagery Only.

Optional Items

- NIR Data
 - (for each resolution)
- Planimetrics
 - 1"=100
 - 1"=200
- Contours
 - 2ft
 - 4ft
 - 10 ft
- Lidar
 - 30 Sq.Mi
 - 50 sq. mi.
 - 75 sq. mi
 - 200 sq. mi
 - 500 sq. mi
 - 1000 sq. mi
 - 4000 sq. mi



DTM

- County acquire the 10 ft contour DTM that included breaklines in 2000
- We have been using the same DTM for each year of image acquisition
- Updates are done to the DTM by:
 - New developments
 - New collected mapping
 - Mapping provided by Jurisdictions

Deliverables

- Flight dates polygon shapes
- Bridge point file for updated bridges
- Images at the requested resolution and at 0.8 for all areas
- Formats Tiff & MrSid
- 2 TB hard drives for image delivery

Restrictions

- County Owns the data and has the ability to re-sell it or distribute it.
- Consultant could also sell the data to third party customers.
- All participating jurisdictions also get full ownership of the data.

Area Determination Metro Area

- County – All new developments. Use residential completions. Base price for 0.8 ft pixel
- Cities – provide a footprint of the desired areas and the desired resolutions.
- County acts as the coordinating entity to determine final foot print to be collected with the approval of all participating jurisdictions.

Current Pricing

- 0.32 – foot \$199.68 per sq. mi
- 0.5 – foot \$138.86 per sq. mi
- 0.8 – foot \$ 52.08 per sq. mi

- 3070 tiles @ 0.32
- 3945 tile @ 0.8

Cost Allocation

- Cost is distributed among participants requesting the same tile.
 - If SRP buys at 0.32 the East Valley; and Gilbert wants tiles in the area; and Chandler also wants the tiles, the cost is divided by 3.
 - For areas only one participant is acquiring, that participant pays the total amount. For instance flood control structure in an undeveloped area.

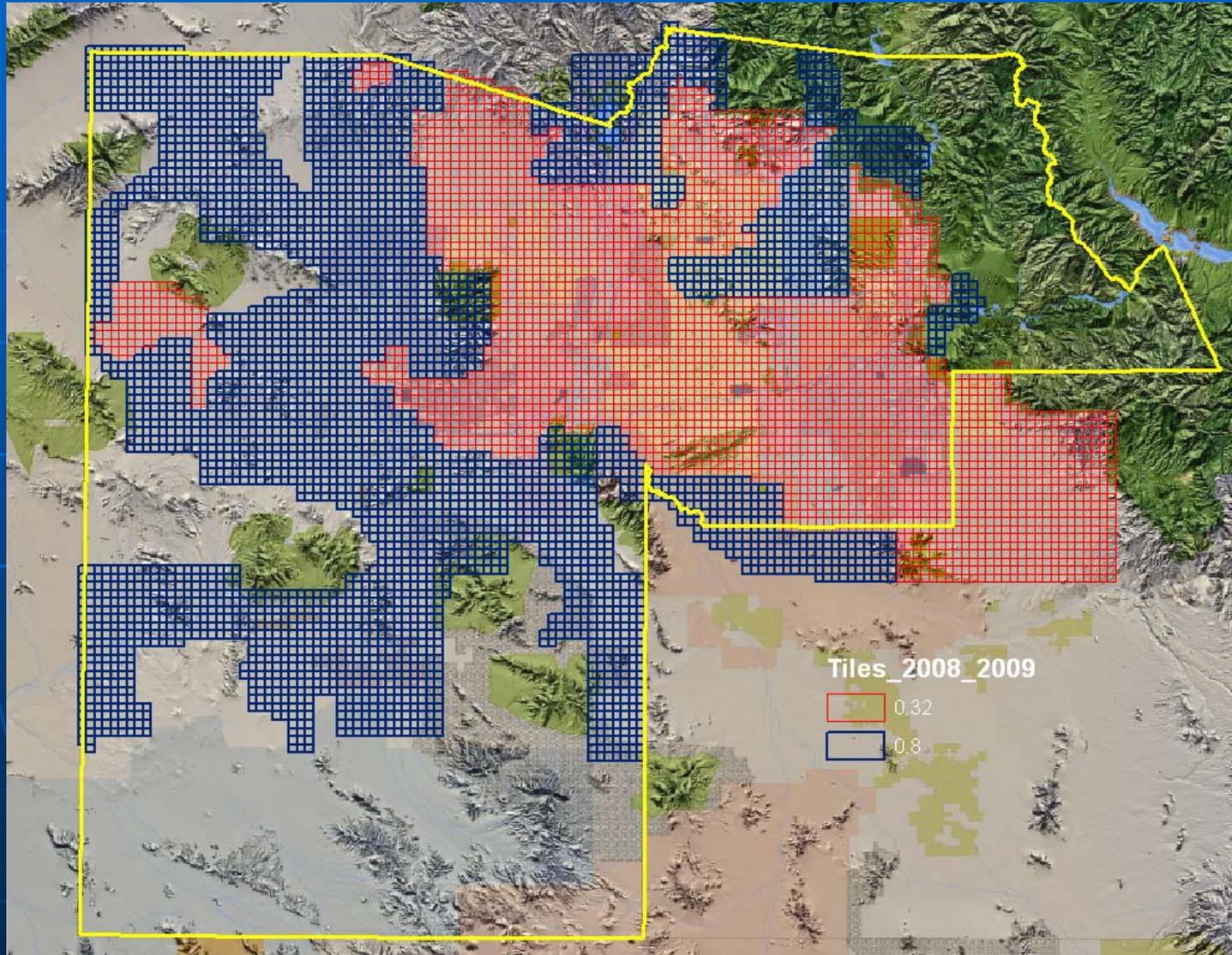
External Partners This Year (\$587K)

- Apache Junction
- Avondale
- Buckeye
- *Carefree
- Cave Creek
- Chandler
- El Mirage
- Fountain Hills
- *Gilbert
- Glendale
- Goodyear
- *Luke Airforce Base
- Mesa
- Paradise Valley
- Peoria
- Phoenix
- Queen Creek
- SRP
- SRPMIC
- Surprise
- Tempe
- USGS

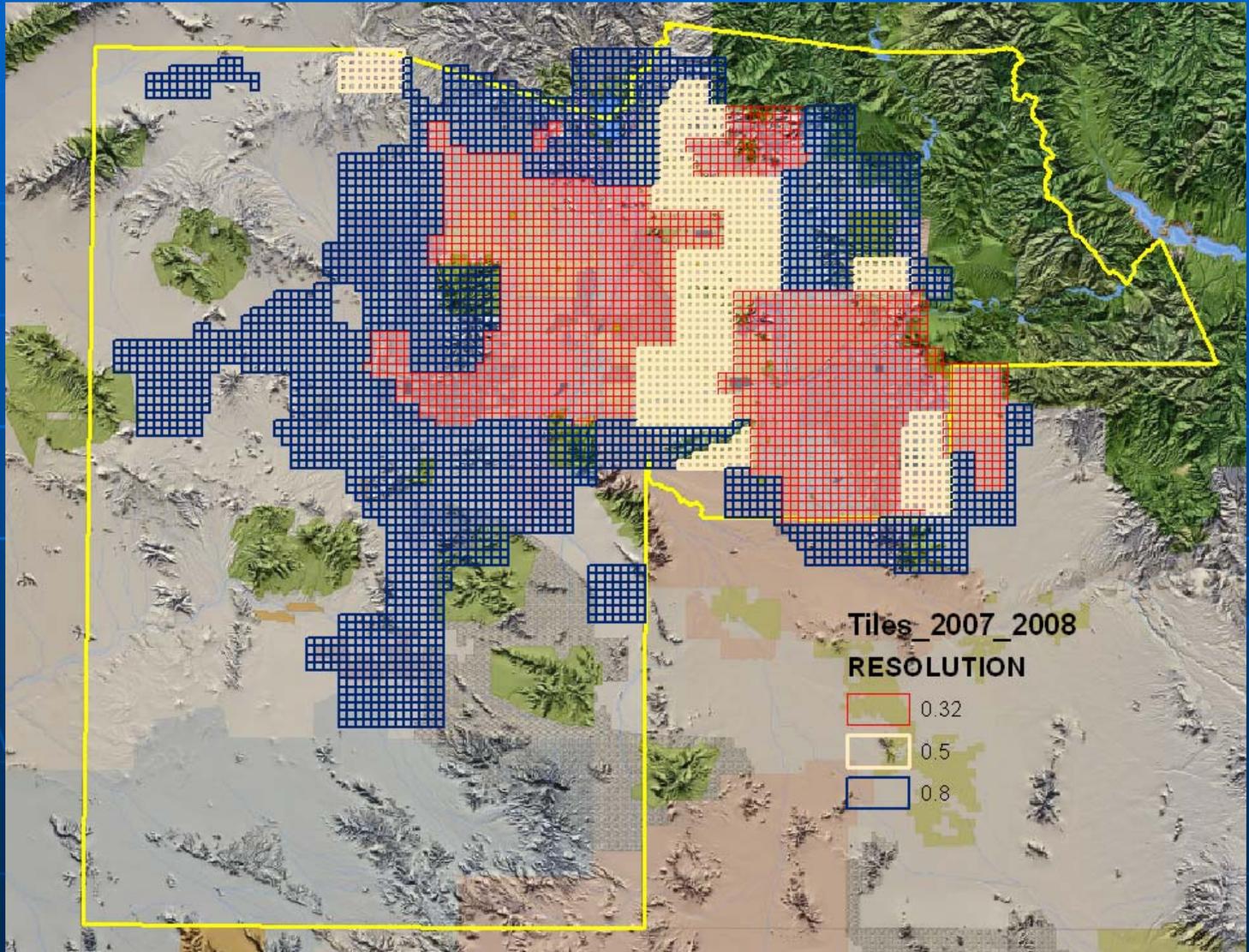
Internal Partners (\$163K)

■ Flood Control	19.37%	(~31.5K)
■ Transportation	14.58 %	(~24K)
■ Assessors	14.58%	
■ Air Quality	5.72 %	(~ \$10K)
■ County Attorneys Office	5.72%	
■ Elections	5.72%	
■ Emergency Management	5.72%	
■ Environmental (West Nile)	5.72%	
■ MCSO	5.72%	
■ Parks & Recreation	5.72%	
■ Planning & Development	5.72%	
■ Public Health	5.72%	

Nov 2008 Flight

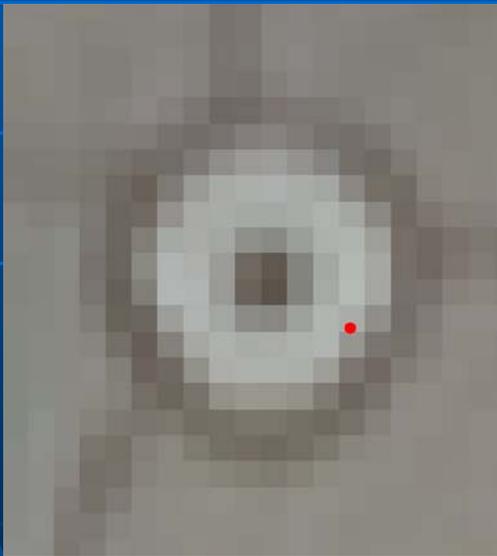


Nov 2007 Flight



Accuracy

- County Survey department provides data to GIS.
- Compare points with aerials to check accuracy



Consultant guarantees +/- 5 ft accuracy.
However field surveys show better accuracies

Accuracy

Surveyed
manhole (x)

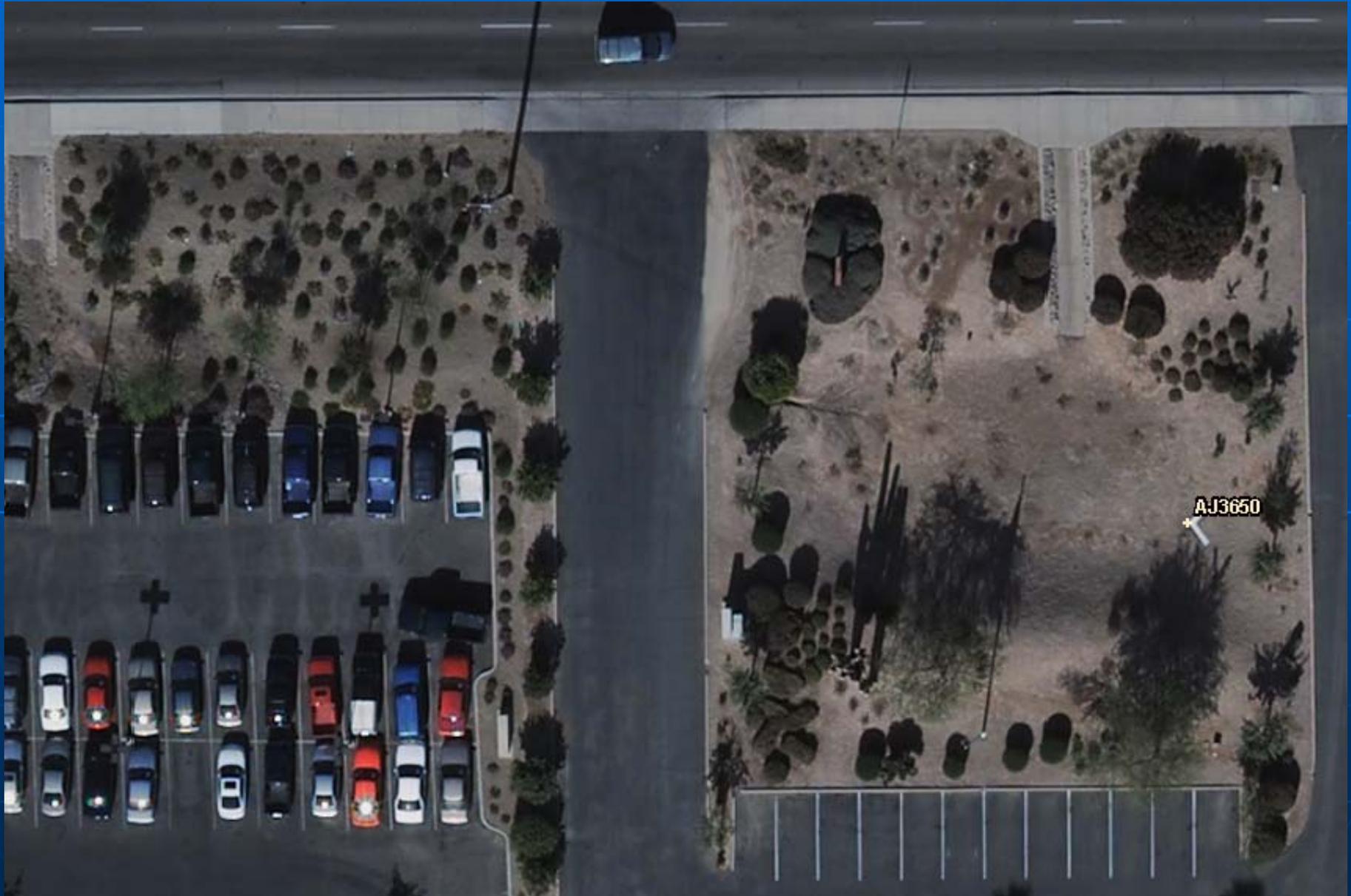


Surveyed
manhole (x)

Check against control from

1. Cities
2. Gdacs
3. Survey Photo ID points

Accuracy



How can better images help?

- When you can see features in the ground such as fence lines, etc. You can have a quality check as you do your work. 1.3 million parcels will be checked once.



Quality Control

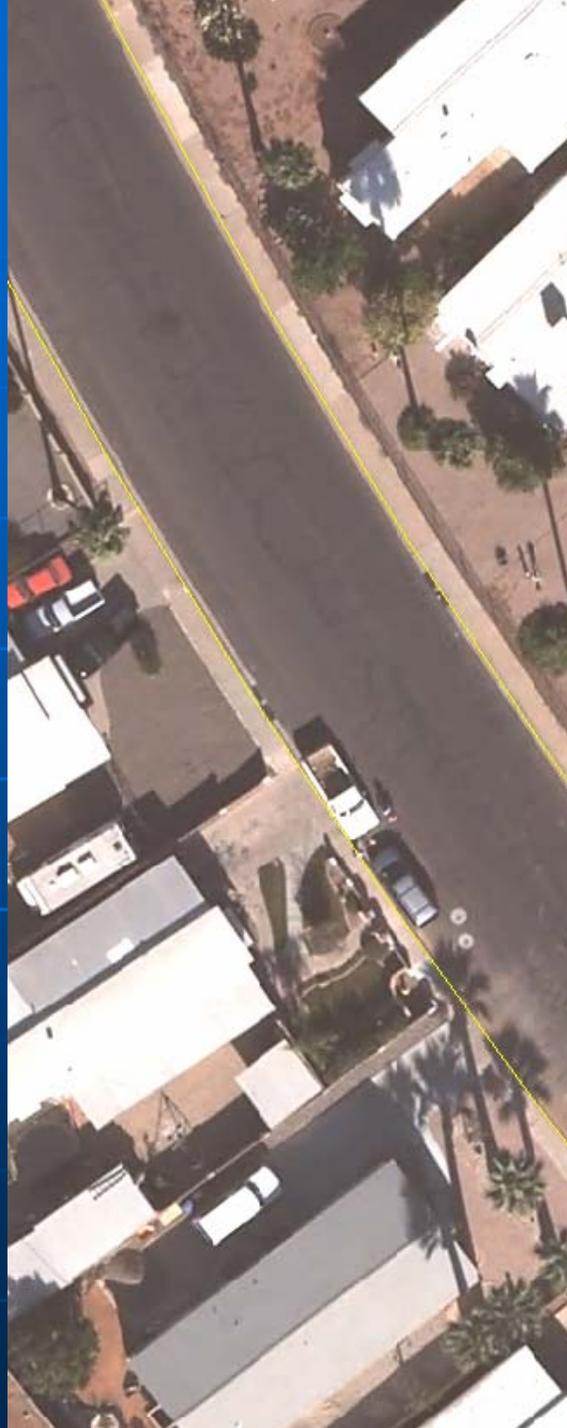
- Images are all distributed to partners when received from consultants
- Each Jurisdiction check their images
- Done on a web site provided by the consultant.
- Last year out of 4839 tiles, 158 needed a correction. Success rate of 97%

Datum

- This year we might have 2 datums delivered.
- City of Surprise is moving towards a Lambert conic projection.
- Maricopa is in State Plane NAD 83 AZ central, International feet, HARN

Comparisons

Aerials Express
Vs.
0.32 Orthophotos



Historical Aerials

- Orthophotos
- Obliques