Virtual Pasadena

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**Vision Statement**
Use 3D technology to allow City employees, decision makers, and community stakeholders to visualize Pasadena’s existing and proposed environments.

**Mission Statement**
Ensure informed land use and environmental decision making by providing and maintaining the hardware, software and data tools for the 3D modeling of Pasadena’s infrastructure. Identify, develop and provide appropriate staff training in order to use the 3D modeling tools.
Physical Model of Urban Core
- Budget for physical model: $150,000
- Used for General Plan update, design review, public safety, economic development

Decision to go with virtual model
- Budget for virtual model: $75,000
City contracted with Pictometry

- **8 sq. km. Platinum Product**
  - Urban core, commercial & redevelopment corridors
  - Architectural detail with oblique photo texture

- **8 sq. km. Silver Product**
  - Surrounding community bounding Platinum deliverable
  - Reduced model detail with oblique photo texture
Software Compatibility

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3D Software

ArcGIS Explorer, ArcGlobe, ArcScene, SketchUp, Earth

Files

KML, DAE, SHP, 3DS, FLT

Supported Formats

KML, Collada, ESRI Multipatch*, Autodesk 3DS Max*, Open Flight*
3D Architecture

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Internal 3D Software

ArcGIS Explorer
ArcGlobe
ArcScene
SketchUp
Earth

Pasadena Website
Google Earth Plug In

Public Software
Google Earth
Bing 3D Maps

Internet

External Internet Data Sources

GIS Database
Pasadena GIS Database

KML
DAE
SHP
3DS
FLT

Pasadena Data Server

KML
Collada
ESRI Multipatch*
AutoDesk 3DS Max*
Open Flight*

* Proprietary Data Format
3D Hardware

In support of project City purchased:

- 4 HP 3D Workstations
- 2 HP 3D Laptops
- High-end gaming machine equivalent
- 2GB RAM and 512 MB graphics cards minimum
- 1GB graphics card highly recommended
- 3D Mouse – 3d Connexion Space Navigator
3D Training

City is working to create its own in-house 3D training program

> Using techniques learned in-house by City staff,
> Enterprise version of ESRI’s audio synced conference proceedings, &
> Westfield State College online course - CMED 0719
  Instructor Mike Olkin (GIS Coordinator, City of Amherst)
**Goal**

- Make Virtual Pasadena models available to public in common 3D viewers
  - Google Earth, Bing 3D, ArcGlobe
- Models now available in Bing Maps 3D!
  - AJAX “classic” only
- Working to include non-textured models into Google Earth
- City hosted ArcGlobe when funding is available
3D Digital Submittal

- Required for “projects of community-wide significance
- Supports maintenance of City’s data
- Collada format
- Concerns over intellectual property, public information, redistribution
- Limited legal/policy precedent
ESRI has created best practices for creating 3D cities with 3D Analyst.

ESRI used Pasadena’s models to validate process.

ESRI created an ArcGIS 3D cached map service for Pasadena.

ESRI also created a Basemap using Pasadena GIS data.
Lessons Learned

- Each building needs to be a unique model
- Model naming scheme
- Build strong implementation team
- Own vs. License Data
- Patience
- Rolling Wave Planning
Next Steps

- ArcGIS 10 beta testing
- Make use of analysis capabilities in 3D Analyst
- 3D Land Management
3D Land Management

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- Parcel
- Building
- Lot
- Floor
Thank You

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