

# City of Pasadena

Department of Information Technology

## Virtual Pasadena

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**GIS Division Manager**  
**City of Pasadena**

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# Project Background

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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.

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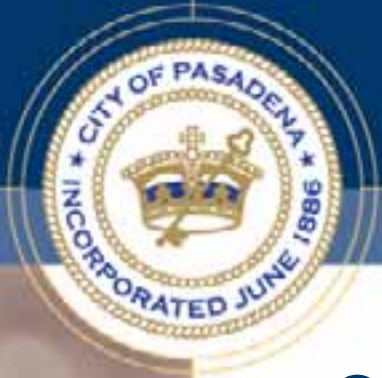
# Project Background

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- **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**



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# Pictometry

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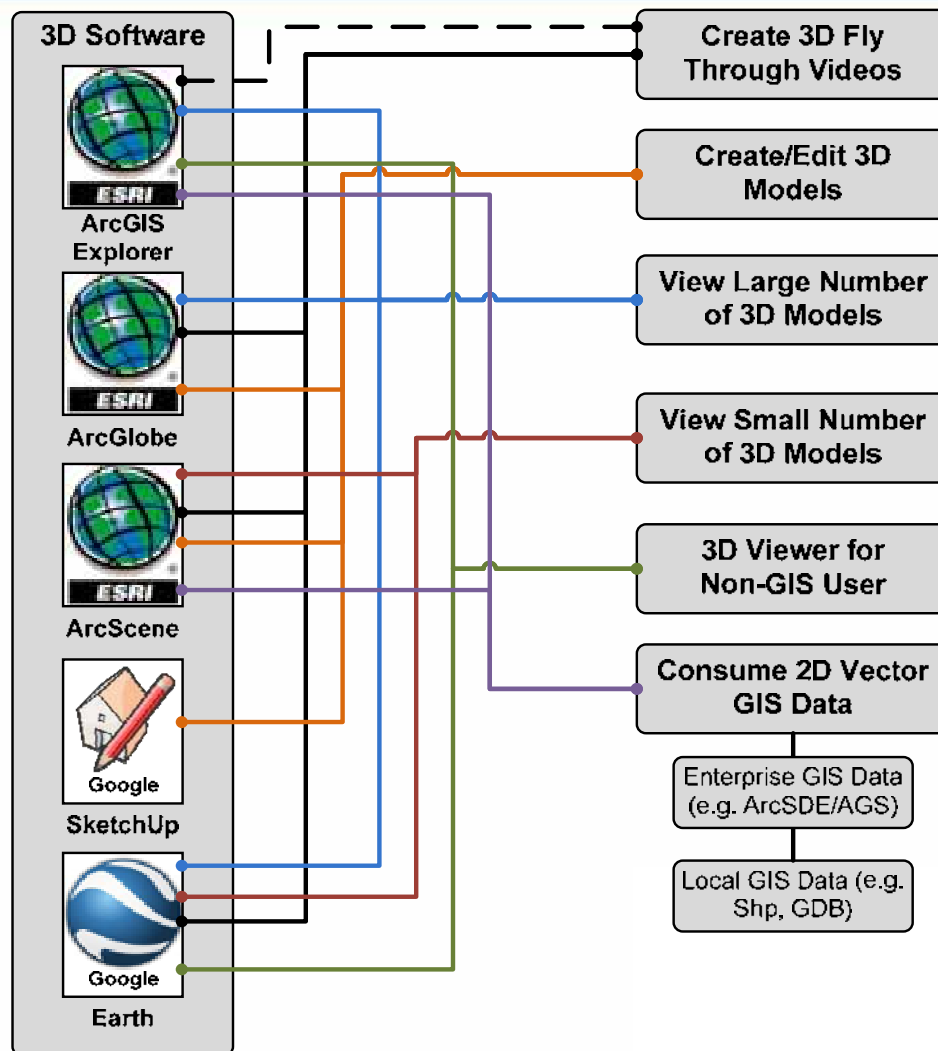
- **City contracted with Pictometry**
- **8 sq. km. Platinum Product**
  - > Urban core, commercial & redevelopment corridors
  - > Architectural detail with oblique photo texture
- **8 sq. km. Silver Product**
  - > Surrounding community bounding Platinum deliverable
  - > Reduced model detail with oblique photo texture

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# Software Compatibility

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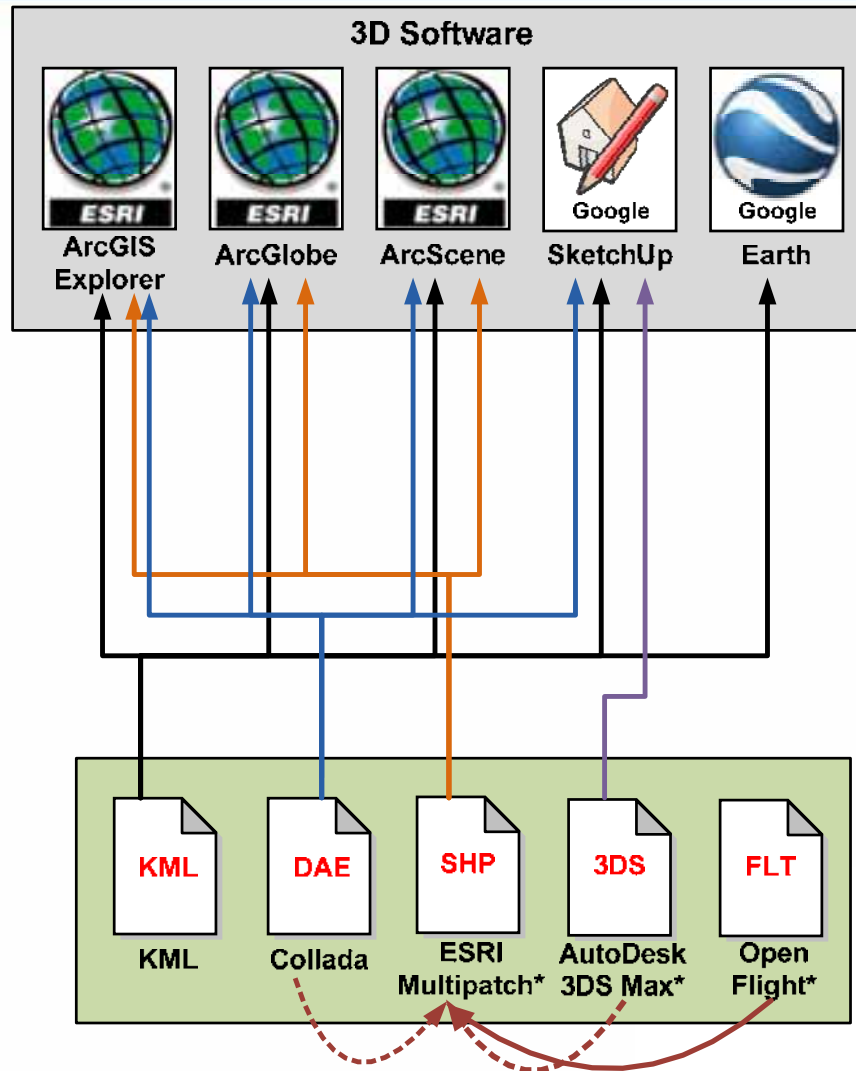






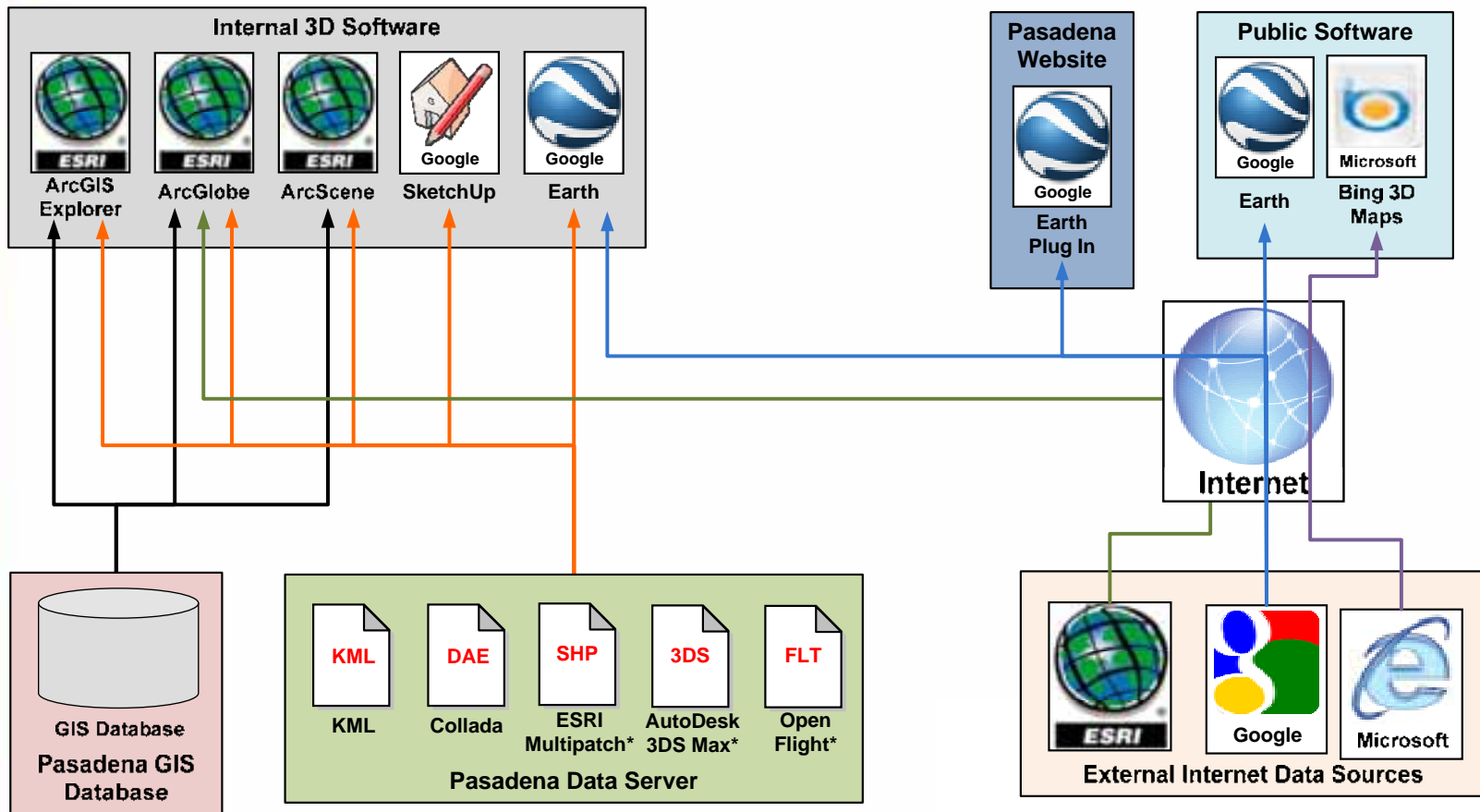
# Software Compatibility

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# 3D Architecture

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\* Proprietary Data Format

# 3D Hardware

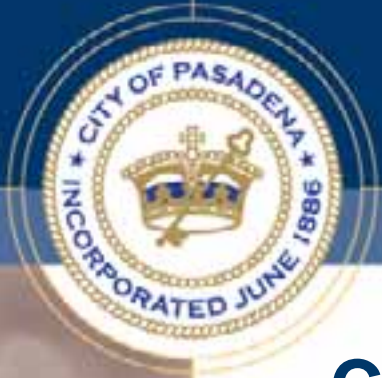
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- **In support of project City purchased:**
  - 4 HP 3D Workstations
  - 2 HP 3D Laptops
- **High-end gaming machine equivalent**
- **2GB RAM and 512 MB graphics cards minimum**
- **1GB graphics card highly recommended**
- **3D Mouse – 3d Connexion Space Navigator**

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# 3D Training

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- **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, &
  - > New ESRI book: *Introduction to 3D Data: Modeling with ArcGIS 3D Analyst and Google Earth* by K. Heather Kennedy
  - > Westfield State College online course - CMED 0719  
Instructor Mike Olkin (GIS Coordinator, City of Amherst)

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# Public Presence

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## 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**

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# 3D Digital Submittal

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- 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



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# 3D Cached Service

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- 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.

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# Lessons Learned

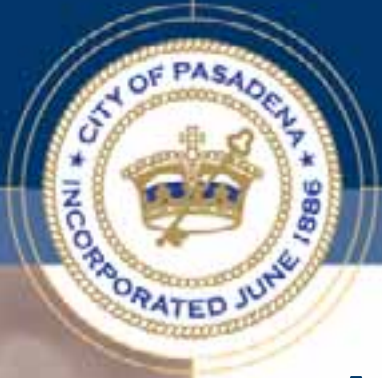
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- **Each building needs to be a unique model**
- **Model naming scheme**
- **Build strong implementation team**
- **Own vs. License Data**
- **Patience**
- **Rolling Wave Planning**

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# Next Steps

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



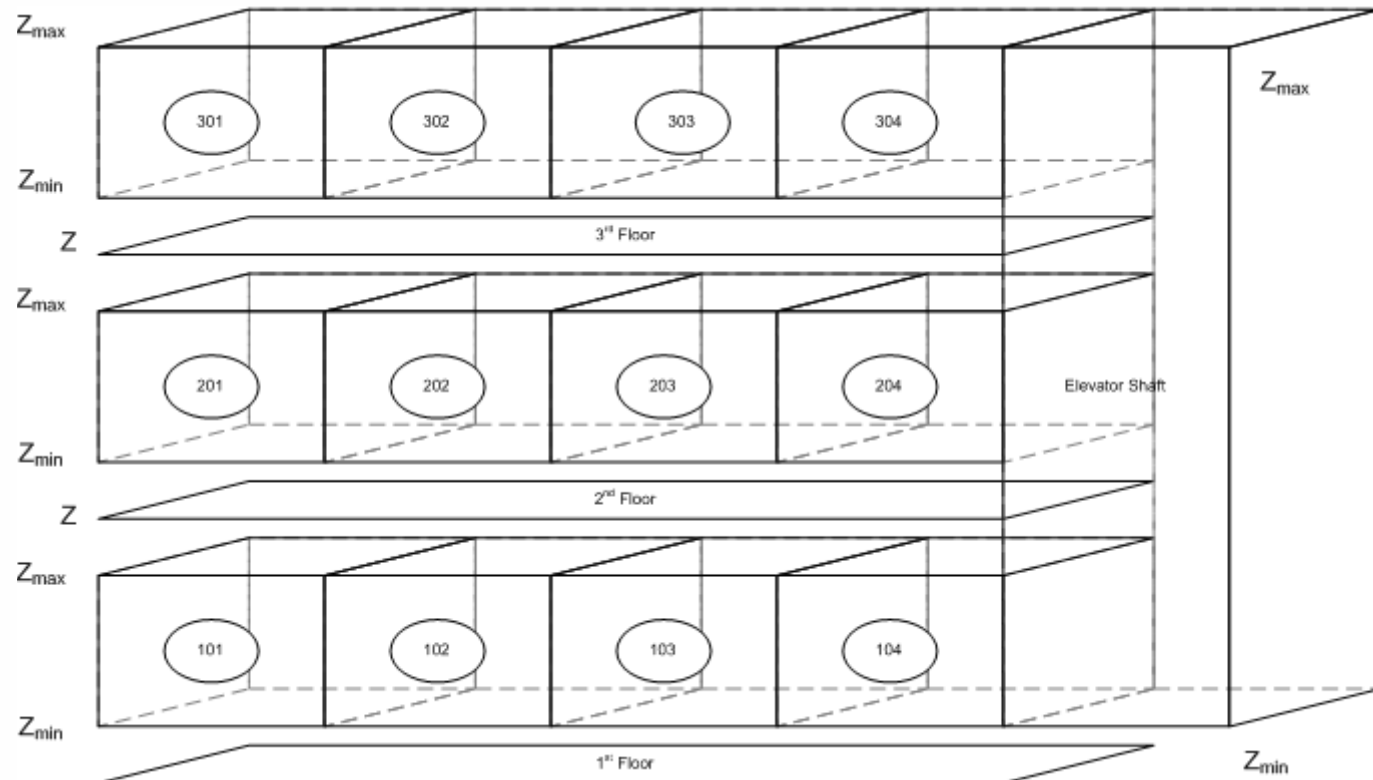
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# 3D Land Management

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- Parcel
- Building
  - Lot
  - Floor



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## Thank You

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