

# ArcGIS for Land Records

ArcGIS User Meeting

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# Leveraging ArcGIS 10 for Land Records

## Agenda

### Welcome and Introductions

### ArcGIS 10 Best Practices for Land Records Management

- Local Government Resource Center
- Parcel Asset Management with ArcGIS 10

### Break

### ArcGIS 10 Land Records Resource Center Templates

- Planning & Analysis
- Mobile GIS & Workforce Automation
- Decision Support and Situational Awareness
- Citizen Engagement

### Wrap-up and Q&A

# ArcGIS 10 is the Foundation

- **New Parcel management tools are core functionality**
  - Fully supported
  - Subject to incremental enhancements
- **Optimized data model for parcel management**
  - Streamlines parcel editing thus saving time and increasing productivity
  - Improves data integrity
  - Allows you to improve positional accuracy over time
- **Templates that extend core ArcGIS platform and promote diverse use of land records data**
- **Cloud-based services that complement your implementation**

# ArcGIS

## A Complete System for Geographic Information

- Easier
- More Powerful
- Everywhere



*Making GIS Available to Everyone*

# ArcGIS supports your work

**Making GIS easier to implement and more effective for government**

- **Core Technology**
  - ArcGIS
- **ArcGIS Online**
  - ArcGIS.com
- **Maps and Apps**
  - Templates
- **Best Practices**
  - Resource Centers, [resources.ersi.com](http://resources.ersi.com)

**ArcGIS for Local Government**

# ArcGIS

## Addresses Common Workflows



Modeling and Analysis



Design and Planning



Asset Management



Situational Awareness



Field Collection



Cartographic Design



Collaboration and Transparency

# ArcGIS for Local Government

Useful maps and apps that help local governments implement GIS

- **Organized around the work you do in local government**

- Reference Data / Basemaps
- Land Records
- Public Infrastructure
- Elections
- Planning
- Code Enforcement
- Public Safety
- Public Health

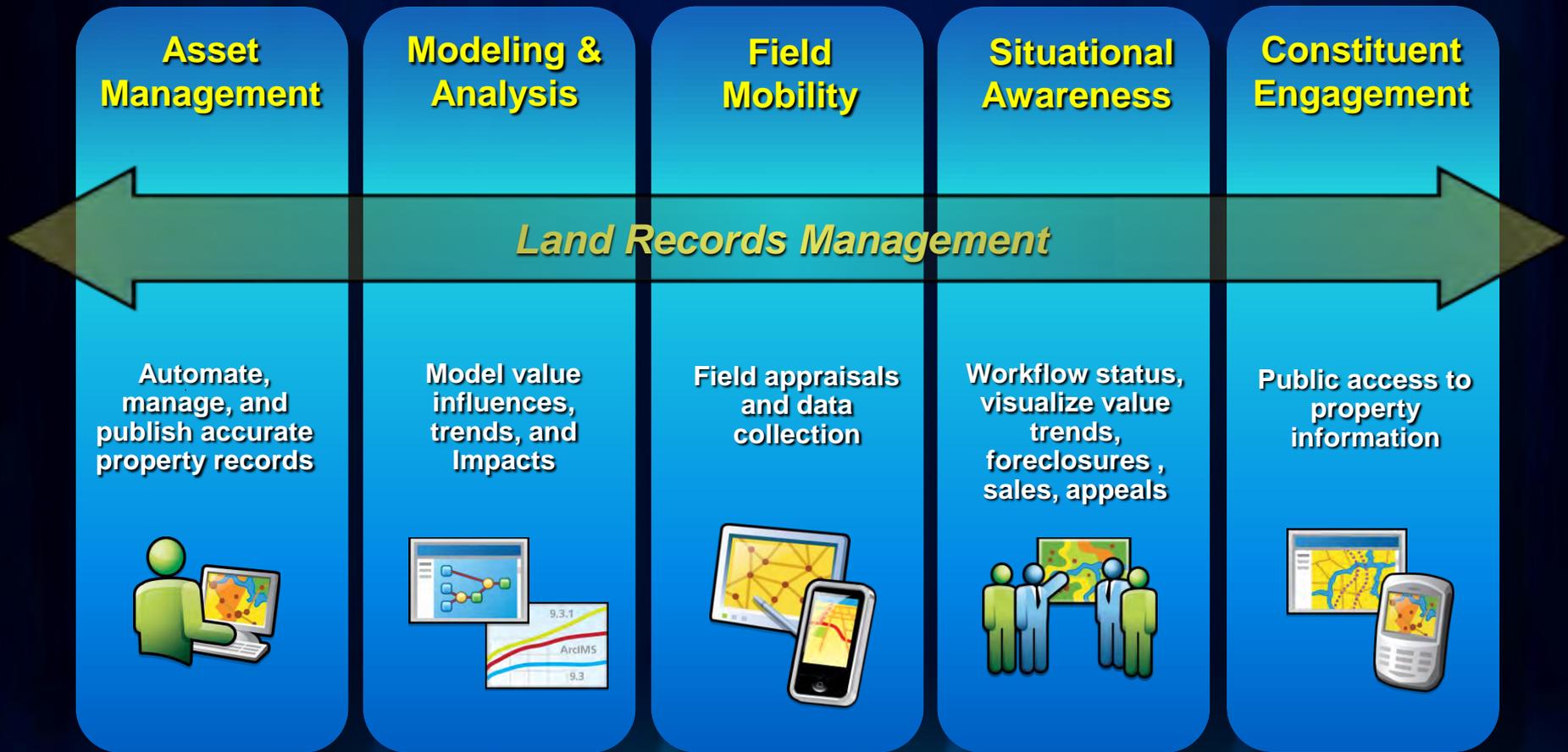
- **Extend the ArcGIS platform**



...a simple pattern to configure and use ArcGIS

# Land Record Technology Patterns

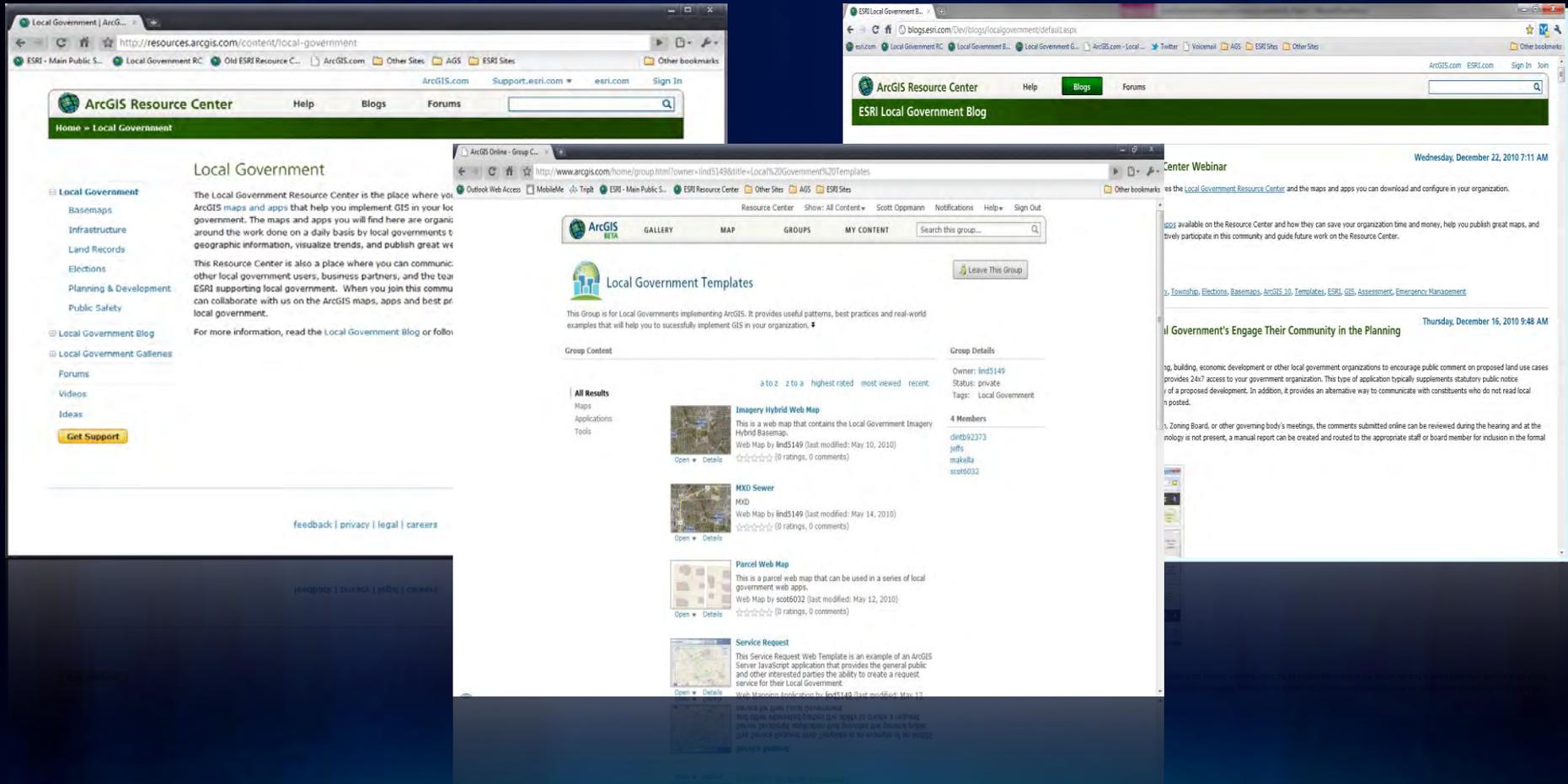
*Best practices Data models, Cartography and Workflows*



*... Making GIS Easier to Implement, Maintain and Use*

# Local Government Resource Center

An online community for Local Government



...a place where users and partners can collaborate

# Goals

- **Simplify GIS**
- **Broaden use of GIS throughout organization**
- **Reduce implementation time**
- **Reduce implementation cost**
- **Promote synergy**
  - **Each app works everywhere**
  - **Each map works everywhere**



# Land Records Maps and Apps

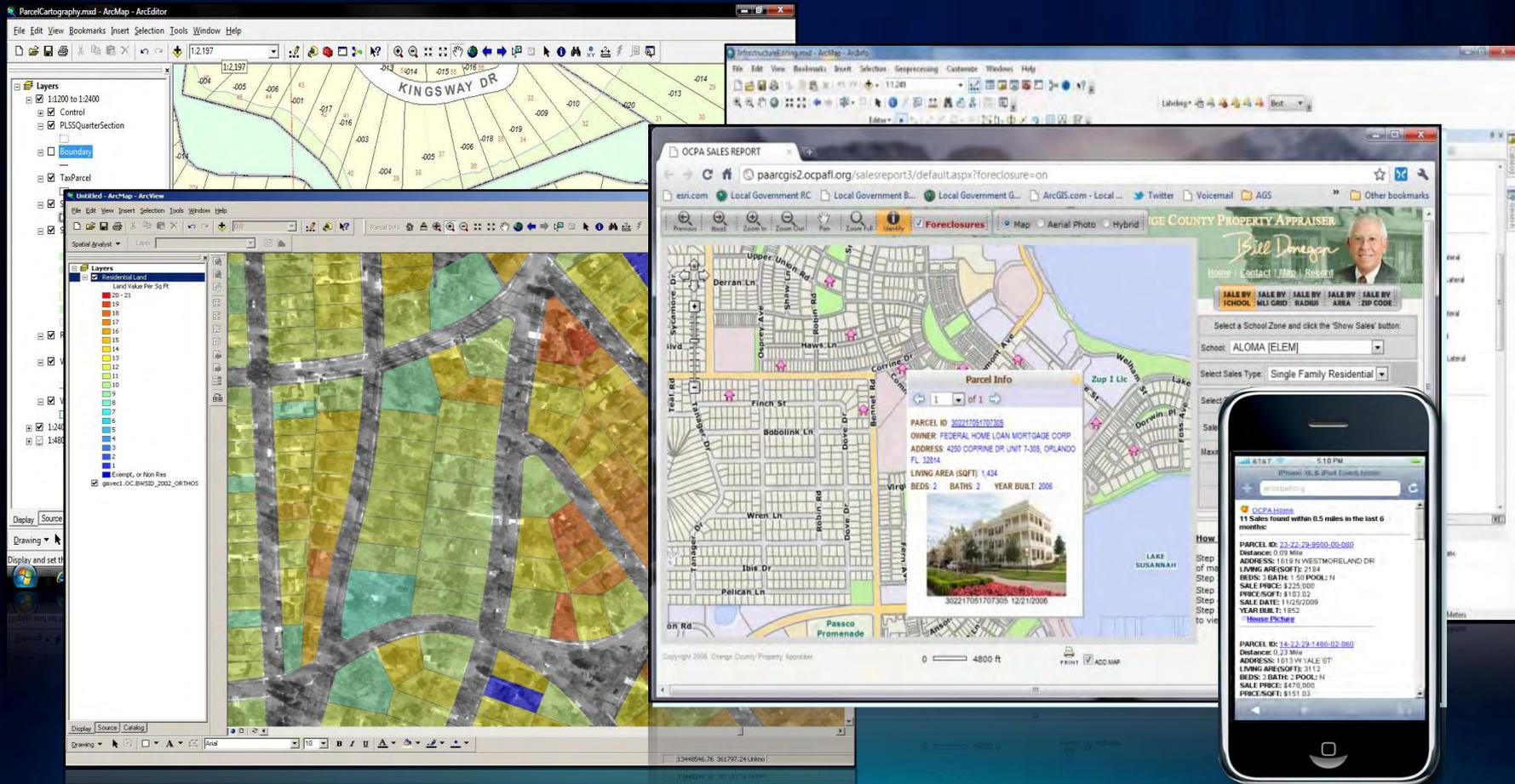
Helps local governments maximize the value of land records information

- **Parcel Value for iPhone**
  - Provides authoritative property maps and characteristics on iOS platform
- **Value Analysis Dashboard**
  - Provides a high-level view into the changes in property assessments and tax revenue
- **Tax Parcel Viewer**
  - Provides focused public access with authoritative property maps and characteristics
- **Parcel Map Templates**
  - Consumer and industry focused multi-scale basemaps

Can be hosted on premise or in the cloud

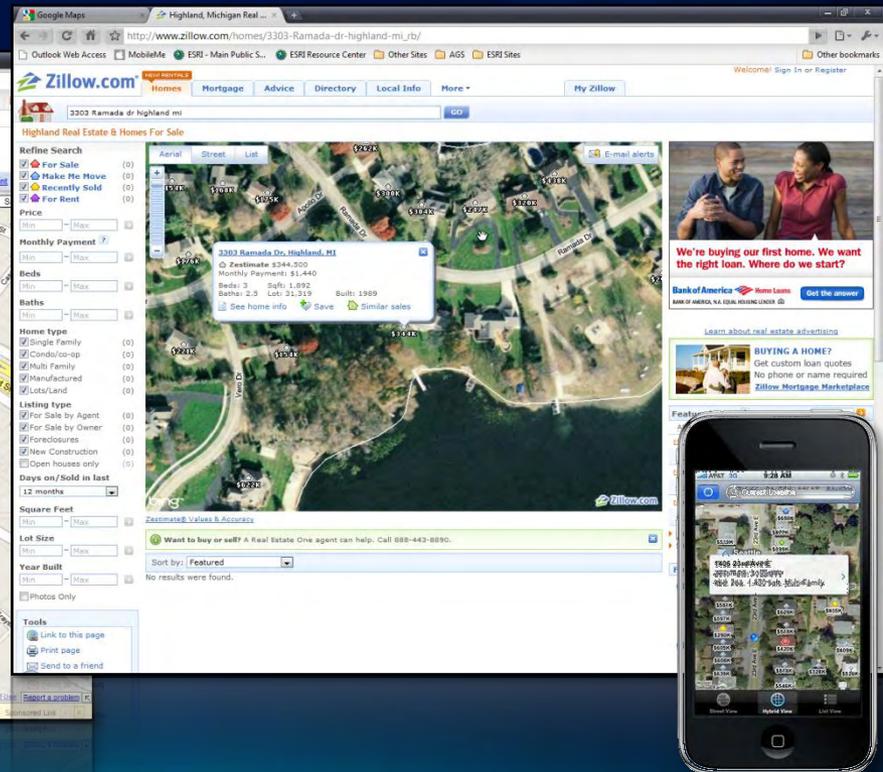
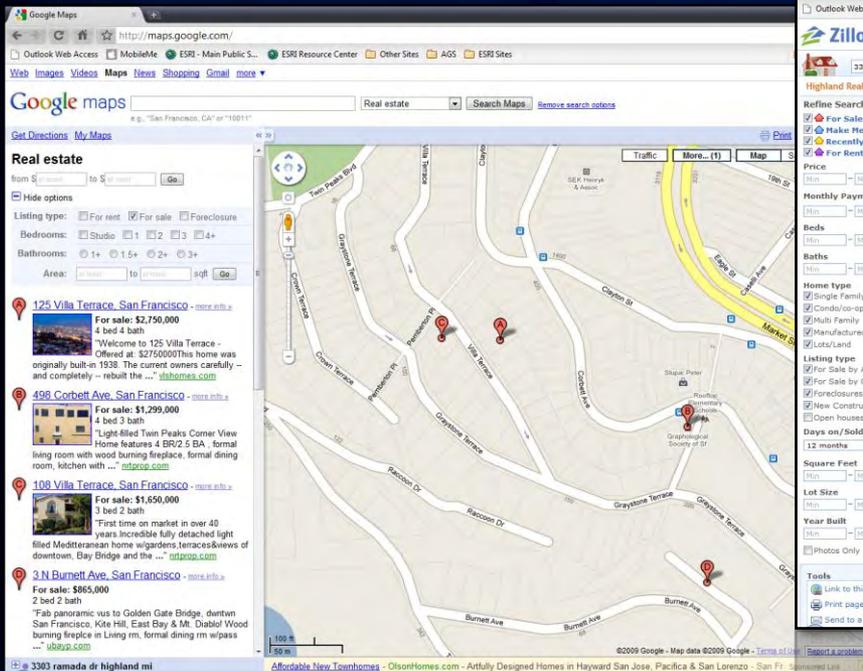
# GIS for Land Records

- Statutory responsibility to inventory legal records and value land
- Used in many vital government operations
  - Assessment and Taxation, Land Use, Infrastructure, Deeds and Documents



# Evolving Land Records Requirements

- Historically, land records information has been used internally by local governments
  - And under valued and poorly utilized by public audiences
- But that is changing.....



# ArcGIS for Land Records

Helps local governments maximize the value of land records information

- Efficient data management workflows
  - To manage the land records life cycle
  - Structured parcel content and improved accuracy
  - Imagery management
  - CAMA integration
  - Simple map atlases
- Analytical tools for value analysis and geo-accounting
- Mobile solutions for field data collection and public access
- Great web maps and public access solutions
  - Can be hosted on [ArcGIS.com](https://www.arcgis.com)

# ArcGIS 10 is the Foundation

- **New Parcel management tools are core functionality**
- **Optimized data model for parcel management**
  - **Streamlines parcel editing**
  - **Improves data integrity**
  - **Allows you to improve positional accuracy over time**
- **Templates that extend core ArcGIS platform**
- **Cloud-based services that complement your implementation**

# Land Records Asset Management

- At ArcGIS 10, tools within core software support editing workflows
  - Splits, merges, new subdivisions & condominiums, resurveys, etc.
- Optimized information model preserves record measurements
  - Improve integrity and positional accuracy over time

The image displays three screenshots from ArcGIS 10 illustrating land parcel editing workflows.

**Left Screenshot:** Shows a map view with various parcel layers and dimensions. The 'Table of Contents' on the left lists layers such as 'Cadastral Reference', 'Subs and Condos', 'Parcel Dimensions', 'Tax Parcels', 'Control', 'LinePoints', 'Points', 'Lots and Units', 'Reference Layers', 'Editing Basemap', and 'Municipal Boundaries'. The map shows several parcels with dimensions and labels like 'Copperwood Dr' and 'Exeter St'.

**Middle Screenshot:** Shows a 'Join Parcel' dialog box with the following table:

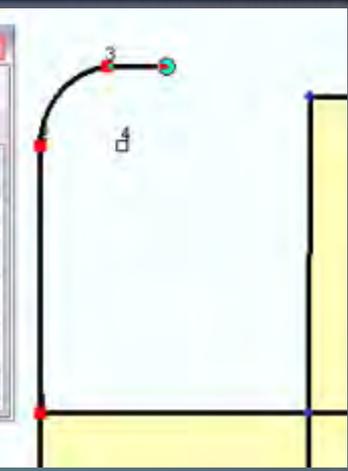
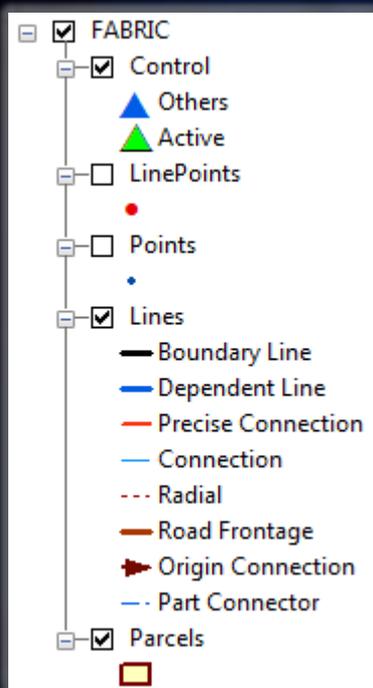
Joining Point	Fabric Point	X Residual	Y Residual
1	1668		
2	1669		
3	6607		
4	1667		

The dialog box also includes options for 'Use the following method when I click OK:', 'Use coordinate averaging', and 'Rotation: 13°17'02\".

**Right Screenshot:** Shows a map view with a parcel being edited. A dialog box is open for joining points, with options for 'a parallel line on the Right side' and 'get distance of 71'. The map shows parcels with dimensions and labels like 'Copperwood Dr' and 'Exeter St'.

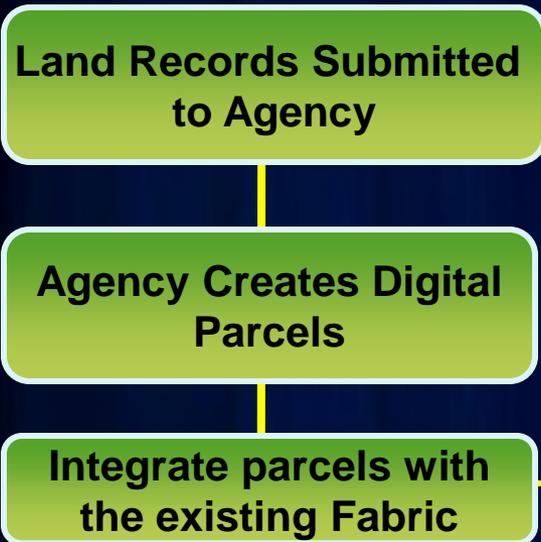
# New Set of Tools for Editing Parcels in ArcGIS 10

- Data Model – Parcel Fabric
- Set of Parcel Editing tools

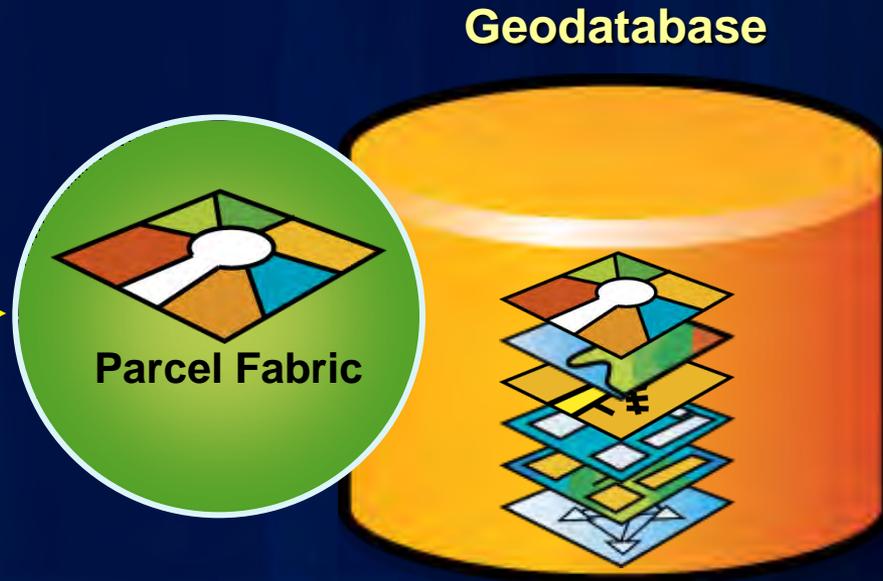


# Scope of the Technology

## The Workflow



## A Framework for Parcel Information Management



# Learning about Parcel Editing in ArcGIS 10

Contents Favorites Search

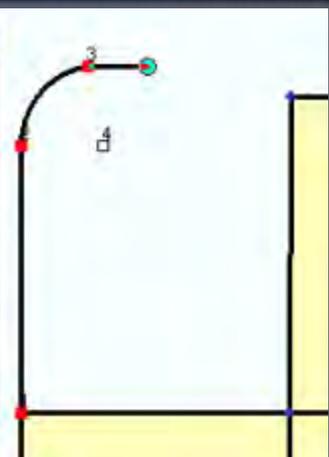
- What's new in ArcGIS
- Essentials Library
- Professional Library
  - what's in the Professional Library
  - Data Management
    - A quick tour of Data Management
    - Managing geodatabases
    - Geographic data types
      - About geographic data formats
      - Annotations
      - Dimension features
      - CAD
      - Coverages
      - Domains
      - Feature classes
      - Feature datasets
      - Geometric network
      - KML
      - Locators
      - Metadata
      - NetCDF
      - Network datasets
    - Parcel fabrics
      - What is a parcel fabric?
      - The parcel data model in the parcel fabric
      - An overview of land records
      - Managing the parcel fabric dataset
      - Migrating data to the parcel fabric
    - Rasters and images
    - Shapefiles
    - Subtypes

**Parcel Fabric**

Contents Favorites Search

- Professional Library
  - What's in the Professional Library
  - Data Management
    - A quick tour of Data Management
    - Managing geodatabases
    - Geographic data types
    - Editing data
      - Fundamentals of editing
      - Editing tutorial
      - Common editing tasks
      - Using snapping
      - Creating new features
      - Creating new features from existing features
      - Creating and editing annotation
      - Editing vertices and segments
      - Editing attributes
      - Editing topology
      - Spatial adjustment
      - Editing parcels
        - What is parcel editing?
        - A quick tour of parcel editing in the parcel fabric
        - Tutorials
        - Plans and the record of survey in the parcel fabric
        - The parcel fabric layer
        - The parcel fabric editing environment
        - Creating parcels using the parcel traverse
        - Creating parcels from construction lines
        - Fabric editing and COGO tools

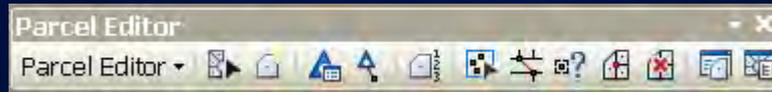
# Demonstration



# Land Records Apps

<b>Deliverable</b>	<b>Description</b>	<b>Audience</b>	<b>Platform</b>
<b>Valuation Analysis Web Map</b>	<b>Illustrates real estate trends within a local government and demonstrates the impact of real estate sales on property value</b>	<b>Assessing Department Staff, Tax Collection Department Staff, Finance and Budget Department Staff</b>	<b>ArcGIS Server Flex Viewer Sample Application</b>
<b>Public Access Web Map</b>	<b>Provides in-house and public access to parcel and related assessment information</b>	<b>Assessing Department Staff, Other Local Government Staff, General Public/Customers</b>	<b>ArcGIS Server Flex Viewer Sample Application</b>
<b>Parcel Value iPhone Map</b>	<b>Provides public access to tax parcel value and related assessment information</b>	<b>General Public/Customers</b>	<b>ArcGIS Server iPhone Sample Application</b>
<b>Parcel Editing Map</b>	<b>Supports parcel updates (splits, combos, subs, condos, etc.) and parcel data publishing</b>	<b>GIS Mapping Technicians</b>	<b>ArcGIS Desktop Parcel Editor Toolbar</b>
<b>Tax Parcel Atlas Map</b>	<b>Supports tax map atlas production</b>	<b>Assessing Department Staff, Other Local Government Staff, General Public/Customers</b>	<b>ArcGIS Desktop</b>

# Set of Tools for Editing Parcels



- Merge parcels



**Merge** [?] [X]

Plan... Vernor Estates No 1

Parcel name:

Attributes for the new parcel

Copy values from:

Parcel Name  
1916478001  
1916478002

Choose a template:

Template...

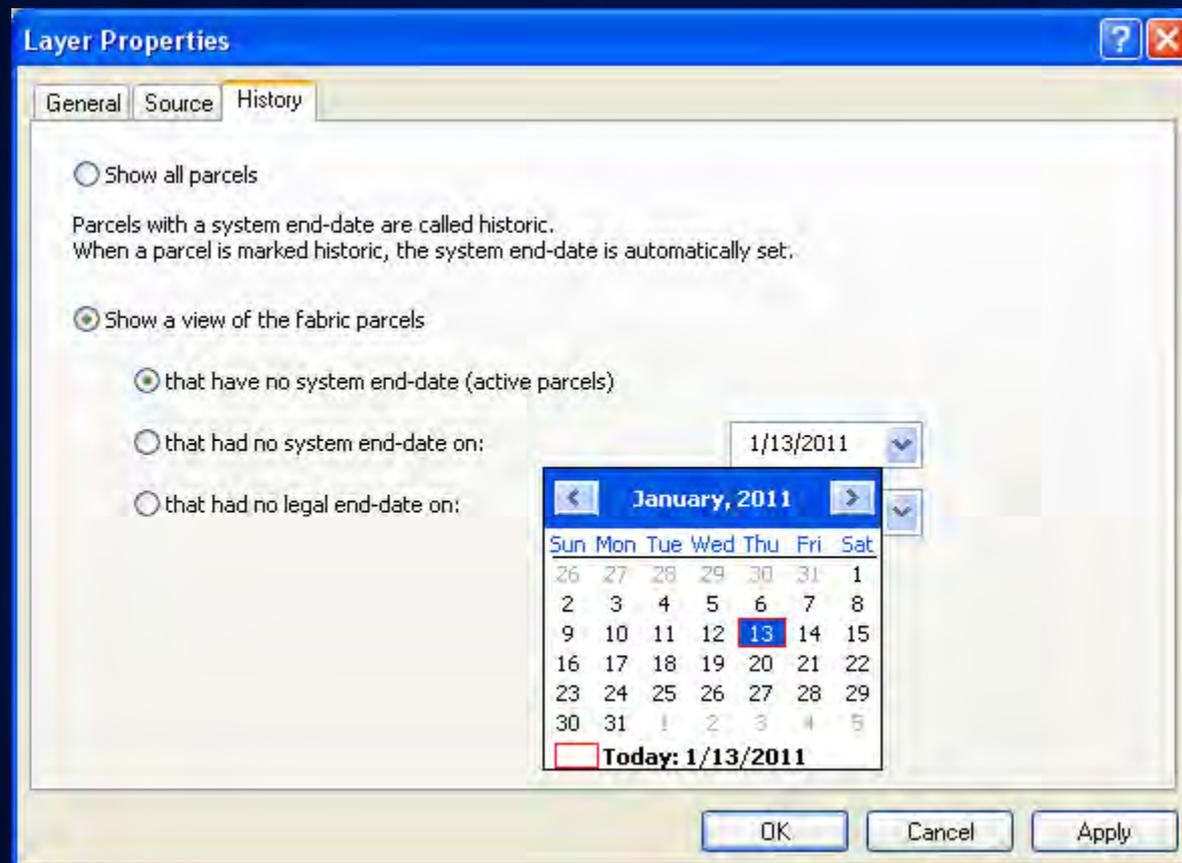
Update overlay lines on parent parcels:

Template...

OK Cancel



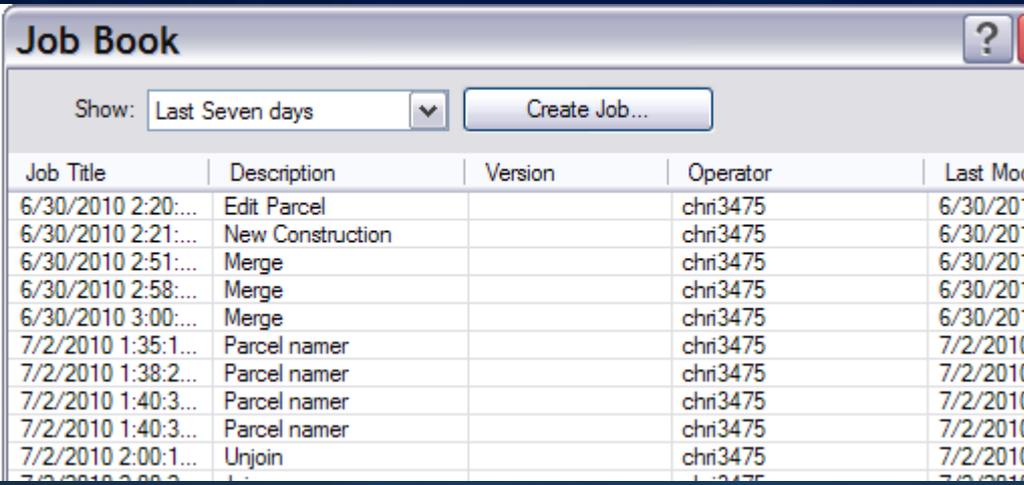
# Parcel Fabric has Built-in History Management





# Tracking Parcel Edits

- **Jobs keep track of edits**
  - **Who** - user name
  - **What** - type of edit
  - **When** - Date/time of edit
  - **Where** - selects edited parcels



The screenshot shows a window titled "Job Book" with a help icon in the top right corner. Below the title bar, there is a "Show:" dropdown menu set to "Last Seven days" and a "Create Job..." button. The main area contains a table with the following columns: Job Title, Description, Version, Operator, and Last Modified. The table lists several jobs performed by user "chri3475" on 6/30/2010 and 7/2/2010.

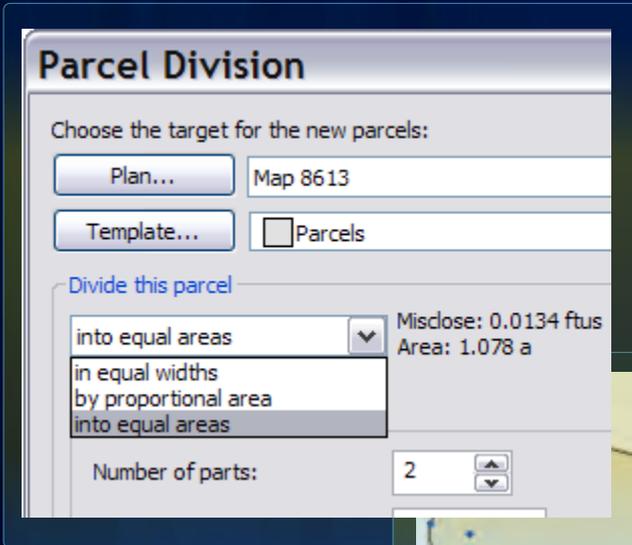
Job Title	Description	Version	Operator	Last Modified
6/30/2010 2:20:...	Edit Parcel		chri3475	6/30/2010
6/30/2010 2:21:...	New Construction		chri3475	6/30/2010
6/30/2010 2:51:...	Merge		chri3475	6/30/2010
6/30/2010 2:58:...	Merge		chri3475	6/30/2010
6/30/2010 3:00:...	Merge		chri3475	6/30/2010
7/2/2010 1:35:1...	Parcel namer		chri3475	7/2/2010
7/2/2010 1:38:2...	Parcel namer		chri3475	7/2/2010
7/2/2010 1:40:3...	Parcel namer		chri3475	7/2/2010
7/2/2010 1:40:3...	Parcel namer		chri3475	7/2/2010
7/2/2010 2:00:1...	Unjoin		chri3475	7/2/2010
7/2/2010 2:00:2...	Unjoin		chri3475	7/2/2010

- Optionally create and manage your own jobs

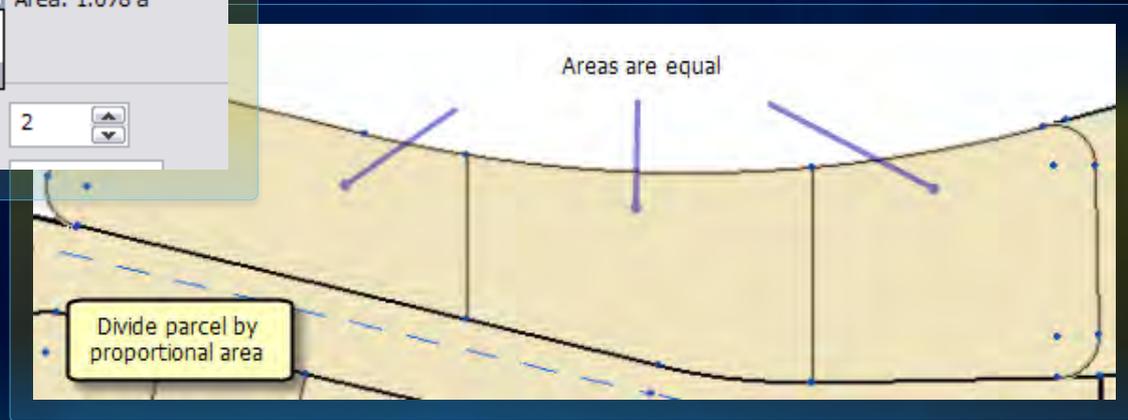


# Streamlined workflows – parcel division

- Divide by area



Part of the NW  $\frac{1}{4}$  Section 20, Township 2 North, Range 10 East, Bloomfield TWP, Oakland Co. Michigan. Further described as the **East half of Lot 3**, Supervisor's Plat of North Devon Acres recorded March 30th, 1949.



# Streamlined Workflows – Naming Parcels

- Parcel Namer aka “Snake” tool



**Parcel sequence naming** ✕

Starting parcel number:

Increment:

Prefix:

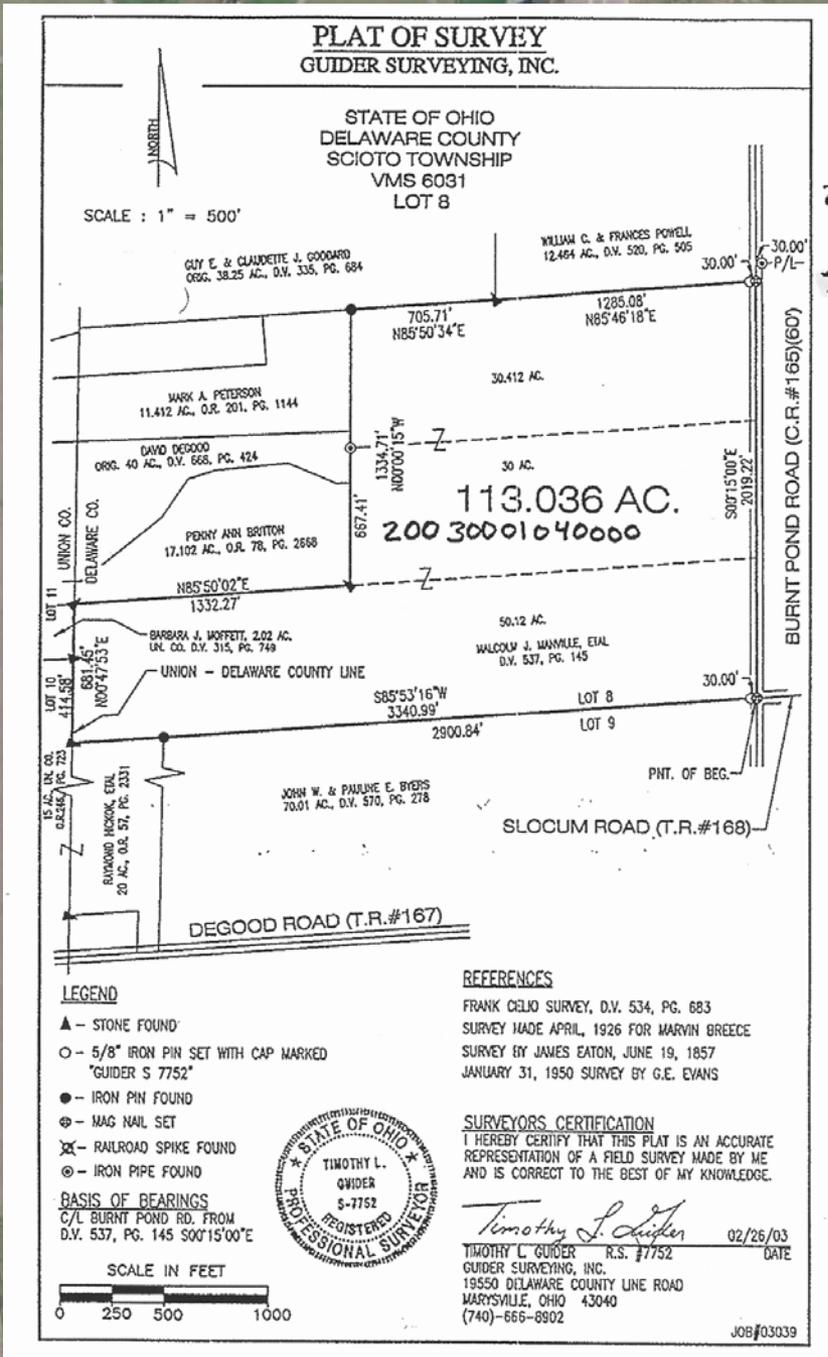
Suffix:



# Anatomy of a Parcel

- Parcel is an area of land

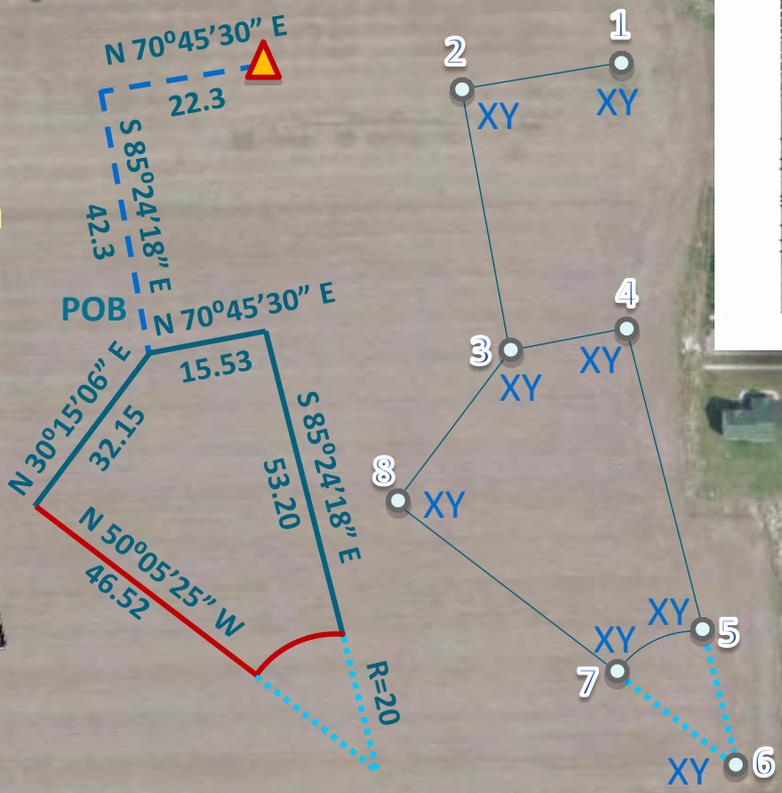
Parcel polygon



# Anatomy of a Parcel

- Parcel is an area of land
  - Related set of lines
  - Defined by From/To Points

Parcel polygon



## LEGEND

- ▲ - STONE FOUND
- - 5/8" IRON PIN SET WITH CAP MARKED "GUIDER S 7752"
- - IRON PIN FOUND
- ⊕ - MAG NAIL SET
- ⊗ - RAILROAD SPIKE FOUND
- ⊙ - IRON PIPE FOUND

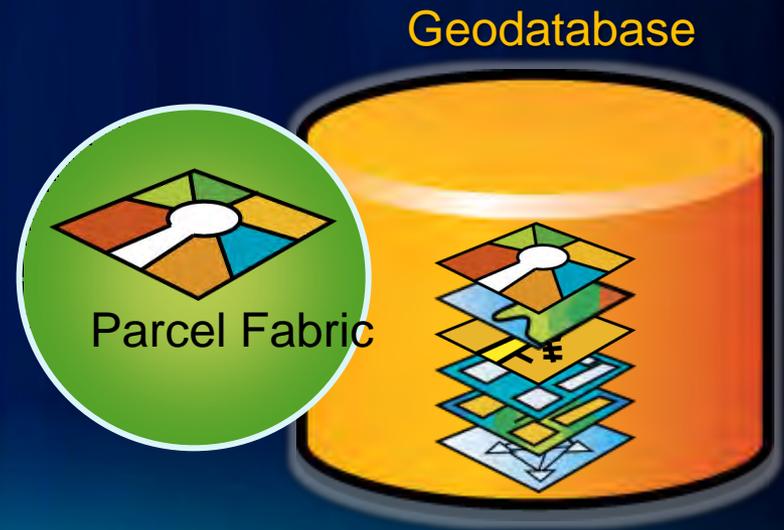
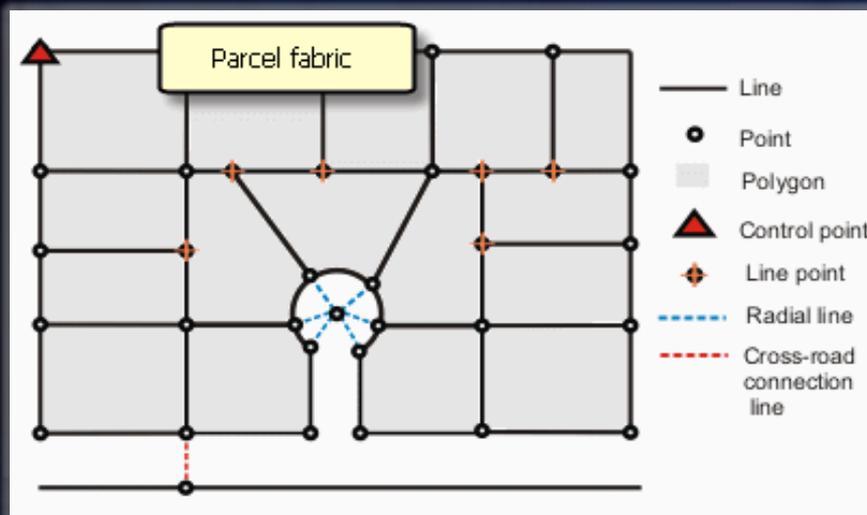
BASIS OF BEARINGS  
 C/L BURNT POND RD. FROM  
 D.V. 537, PG. 145 S00°15'00"E

SCALE IN FEET



# What is a Parcel Fabric?

- Set of **related tables** and **feature classes** stored in a geodatabase
- Forms a **parcel boundary network**
- **Explicit topology**
  - defined by **common parcel corners**, no overlaps and gaps between neighboring parcels



# Maintaining Parcel Data Accuracy in ArcGIS 10

- Attribute data – **correct dimensions**
  - Data entry, parcel misclose

The image displays a screenshot of the ArcGIS 10 interface, focusing on the Parcel Details window and a map view. The Parcel Details window shows a table of parcel boundary lines with columns for From, Bearing, Distance, Radius, Arc Length, To, and Category. A red box highlights the Misclose value at the bottom of the window.

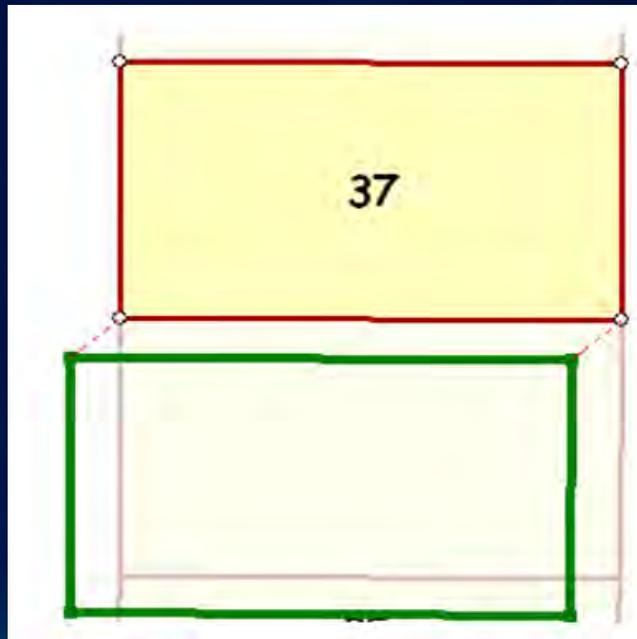
From	Bearing	Distance	Radius	ArcLen...	To	Category
1	S84°29'42"E		-48.000	37.730	2	5 Road Frontage
2	S32°30'00"E	110.360			4	0 Boundary
4	S57°30'00"W	4.010			5	5 Road Frontage
5	S57°30'00"W		-1051.000	132.220	6	5 Road Frontage
6	N5°31'00"E	163.100			1	0 Boundary
1	N5°30'18"E	48.000			3	4 Radial
2	N39°31'55"W	48.000			3	4 Radial

Misclose: N25°28'04"W 0.013 ftus Acc: 1:35606 Area: 0.2290 a

The map view shows a parcel boundary with handwritten annotations in black ink. The annotations include bearings and distances for various boundary segments, such as N.15°04'3", 55.00, 1 P.U.E., N.74°55'29", 110.00, 8.00, N.17°37'46", and 29.85. The map also shows a yellow parcel area with red boundary lines and numerical values like 18.38, 50.0, 57, 30, 70, and 31. A blue box highlights the bearing and distance values (N74°55'29", 110.00) in the Identify window, which are also reflected in the Parcel Details table.

# Maintaining Parcel Data Accuracy in ArcGIS 10

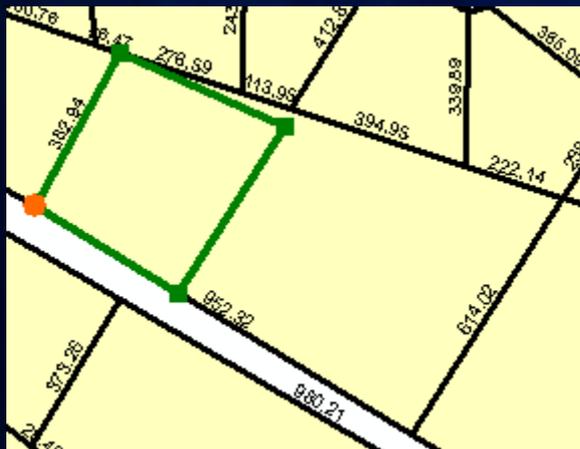
- **Topological accuracy**
  - Parcels are joined using shared points



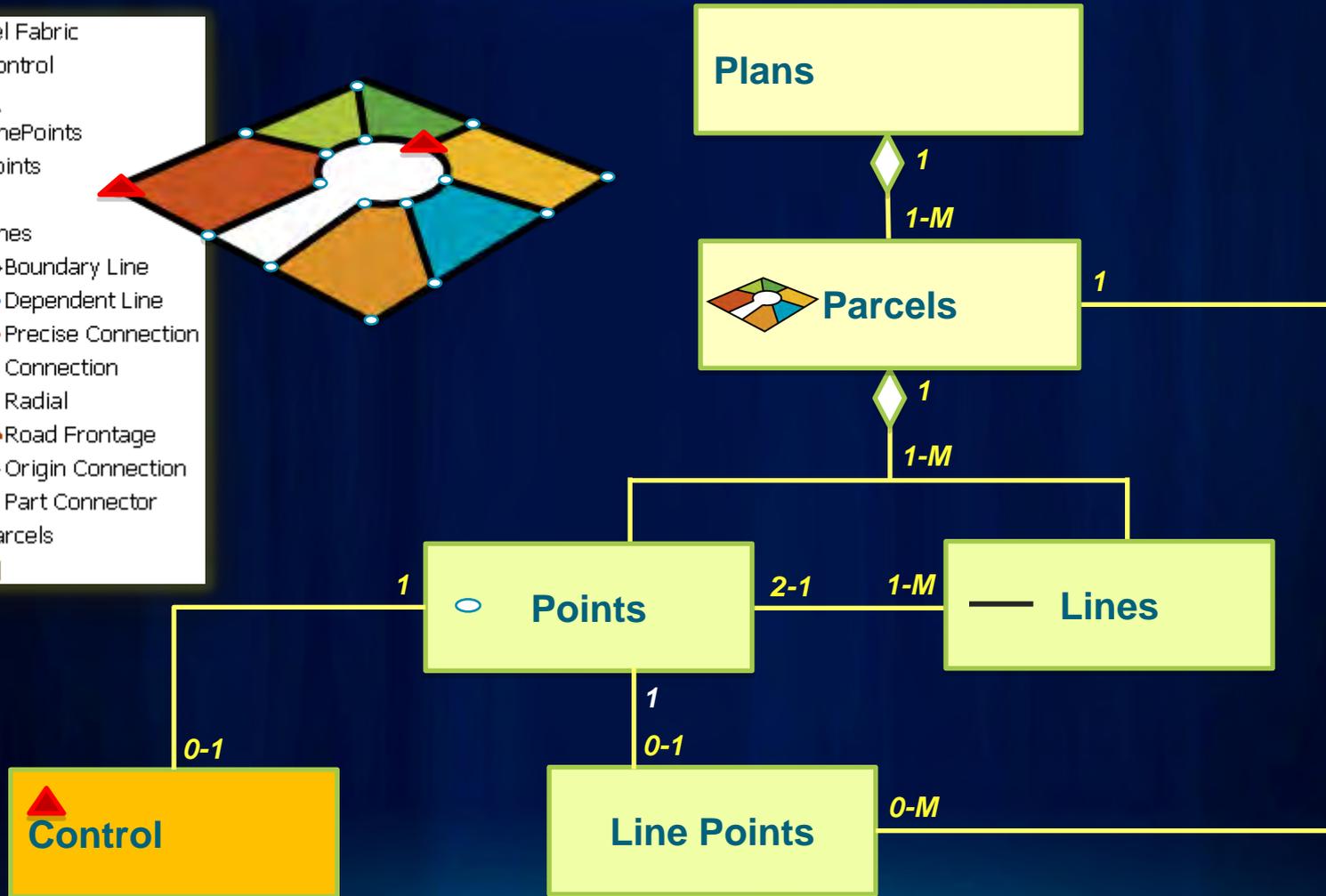
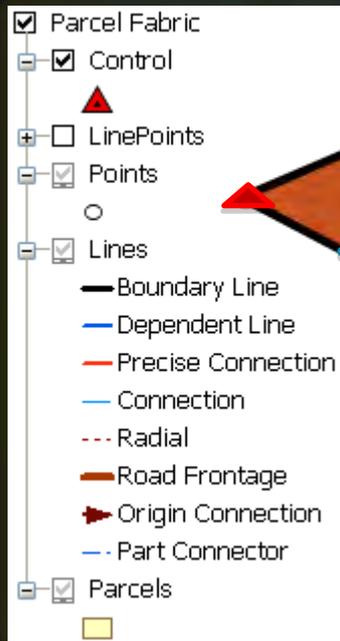
# Data Integrity

Eliminate slivers and gaps

- Easily and quickly incorporate new data
- Preserve parcel connectivity during incorporation
- Maintain positional relationships with other layers (easement, right of ways, utilities, etc.)

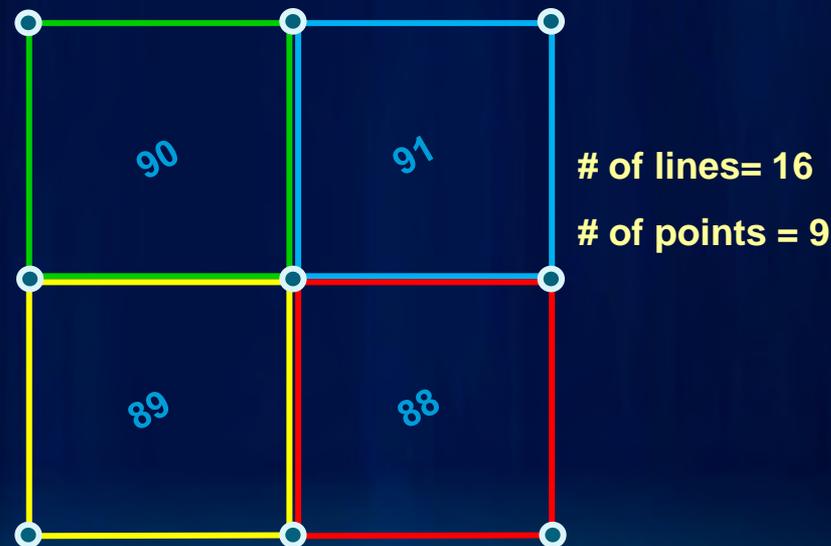


# Data Model : Relationships



# Data Model : Redundancy supports Spatial Quality

- Each parcel has its own set of related lines
  - Overlapping lines for a common boundary
- Redundant network
  - More boundary lines define relatively fewer points



# Data Model

- Fabric allows overlapping parcels
- Natural boundaries
- Donut/island and multipart parcels
- Historic parcels



# Data Model designed for managing Land Records

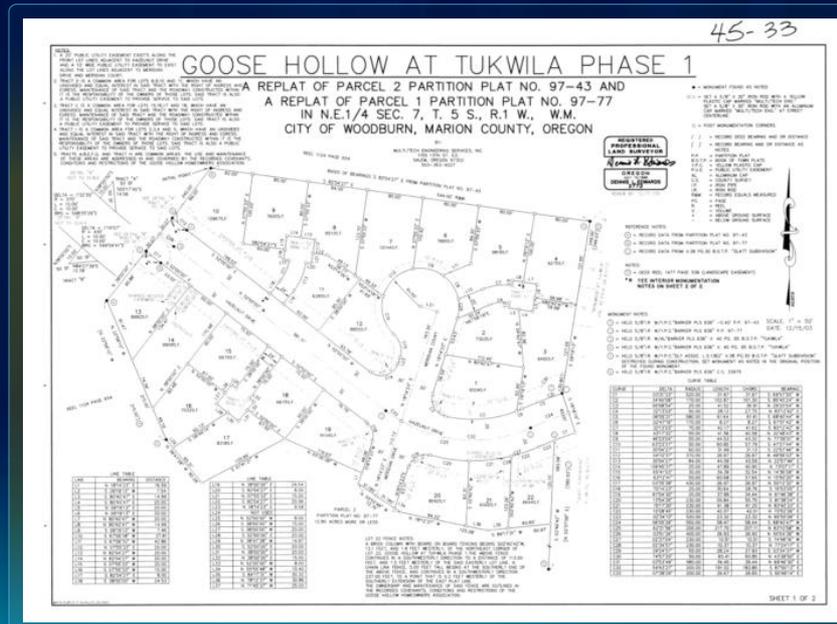
- Parcel Fabric
- Control
  - LinePoints
  - Points
    - Lines
      - Boundary Line
      - Dependent Line
      - Precise Connection
      - Connection
      - - - Radial
      - Road Frontage
      - Origin Connection
      - - - Part Connector
- Parcels



Plans



Parcels



# Break



**Modeling and  
Analysis**



**Design and  
Planning**



**Asset Management**



**Situational  
Awareness**



**Field Collection**



**Cartographic Design**



**Collaboration  
and  
Transparency**



esri

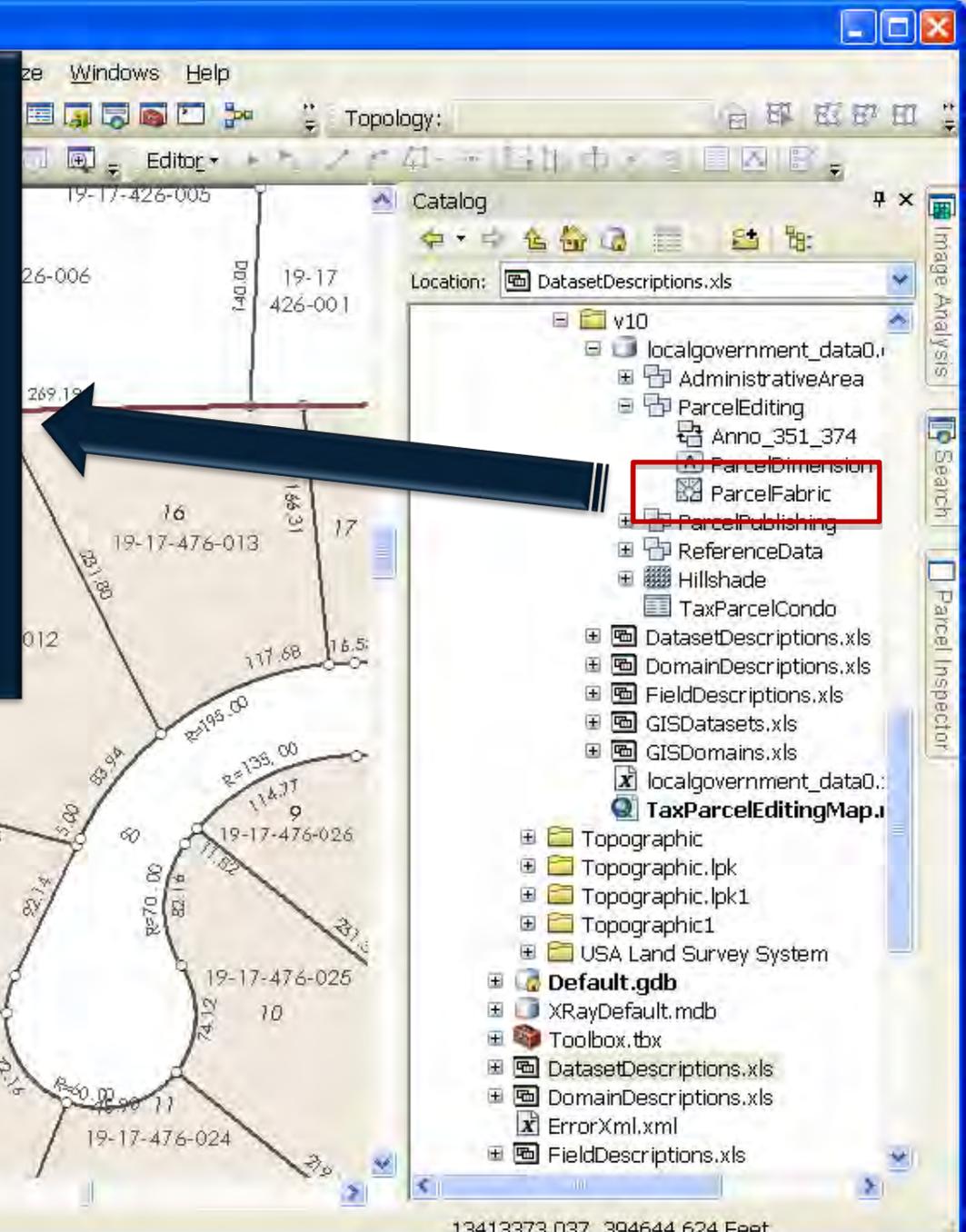
# Remaining Agenda

- **Asset Management**
  - Parcel types
  - Workflow Manager
  - Task Assistant
- **Other Patterns**
  - Field Mobility
  - Planning and Analysis
  - Situational Awareness
  - Constituent Engagement
- **Implementation**
- **Final Thoughts**



# ParcelType Domain

- 1 PLSS Township
- 2 PLSS Section
- 3 PLSS Quarter Section
- 4 Special Survey
- 5 Simultaneous Conveyance
- 6 Conveyance Division
- 7 Tax
- 8 Ownership
- 9 Encumbrance
- 10 Separated Right
- 11 Other



Legend

- Conveyance Division
- Encumbrance Boundary
- Other
- Parcel Boundary
- ROW Boundary
- Unknown
- Tax Parcels
- Lots and Units
  - Lot or Unit Type
  - Building
  - General Common Element
  - Ingress/Egress
  - Limited Common Element
  - Lot

# Tax Parcels

Table Of Contents

- Subs and Condos
- Parcel Dimensions
- Tax Parcels
  - Control
    - Active
    - Inactive
    - Active
  - LinePoints
  - Points
  - Lines
    - Cartographic Line Type
    - Block Boundary
    - Control Boundary
    - Control Reference Line
    - Conveyance Boundary
    - Conveyance Division
    - Encumbrance Boundary
    - Other
    - Parcel Boundary
    - ROW Boundary
    - Unknown
  - Tax Parcels
- Lots and Units
  - Lot or Unit Type
  - Building
  - General Common Element
  - Ingress/Egress

**Layer Properties**

General Source Selection Display Symbology Fields **Definition Query** Labels Joins & Relates Time HTML Popup

Definition Query:

**(SystemEndDate IS NULL) AND ("Type" = 7)**

Query Builder...

- ParcelType Domain**
- 1 PLSS Township
  - 2 PLSS Section
  - 3 PLSS Quarter Section
  - 4 Special Survey
  - 5 Simultaneous Conveyance
  - 6 Conveyance Division
  - 7 Tax**
  - 8 Ownership
  - 9 Encumbrance
  - 10 Separated Right
  - 11 Other

# Subs and Condos

87	85	-00.5	-00.6	82	-00.7
----	----	-------	-------	----	-------

Subs and Condos

## Layer Properties

General Source Selection Display Symbology Fields Definition Query Labels Joins & Relates Time HTML Popup

Definition Query:

**(SystemEndDate IS NULL) AND ("Type" = 5)**

Query Builder...

- ParcelType Domain**
- 1 PLSS Township
  - 2 PLSS Section
  - 3 PLSS Quarter Section
  - 4 Special Survey
  - 5 Simultaneous Conveyance**
  - 6 Conveyance Division
  - 7 Tax
  - 8 Ownership
  - 9 Encumbrance
  - 10 Separated Right
  - 11 Other

Parcel Editor

- Subs and Condos
- Parcel Dimensions
- Tax Parcels
  - Control
    - Active
    - Inactive
    - Active
  - LinePoints
  - Points
  - Lines
    - Cartographic Line Type
    - Block Boundary
    - Control Boundary
    - Control Reference Line
    - Conveyance Boundary
    - Conveyance Division
    - Encumbrance Boundary
    - Other
    - Parcel Boundary
    - ROW Boundary
    - Unknown
  - Tax Parcels
  - Lots and Units
    - Lot or Unit Type
    - Building
    - General Common Element
    - Ingress/Egress

Lots and Units

**Layer Properties**

General Source Selection Display Symbology Fields **Definition Query** Labels Joins & Relates Time HTML Popup

Definition Query:

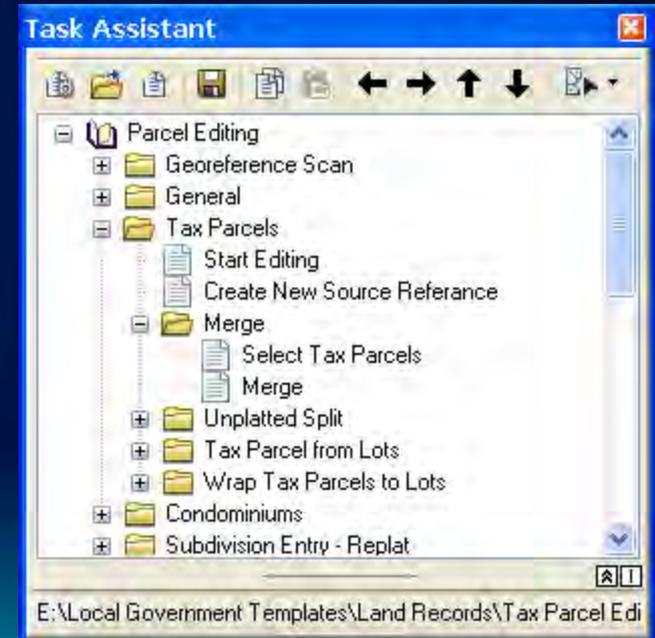
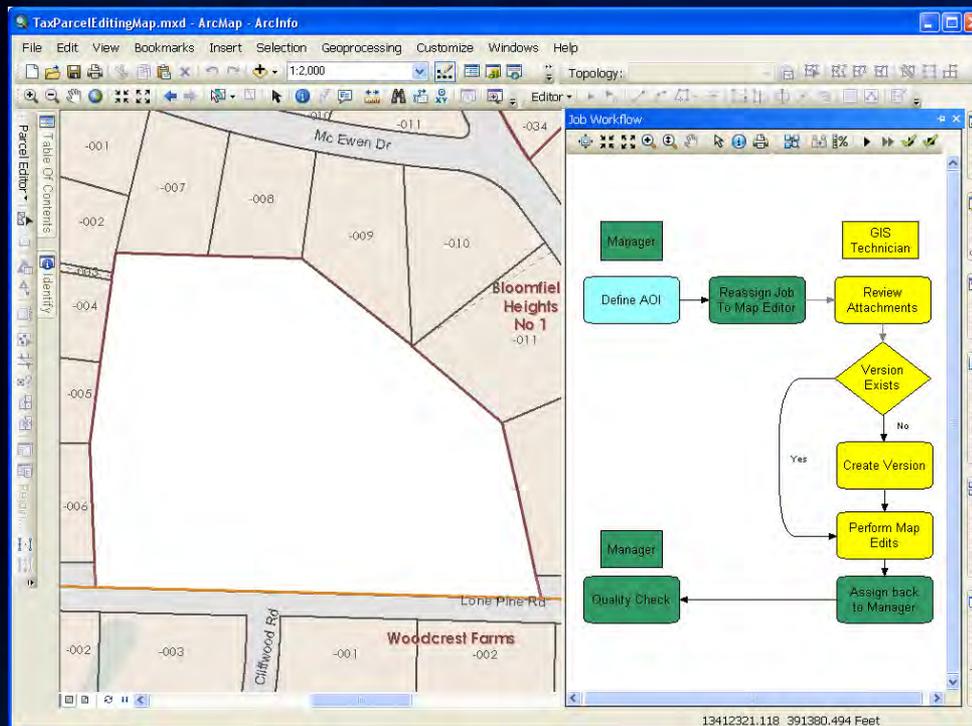
**(SystemEndDate IS NULL) AND ("Type" = 6)**

Query Builder...

- ParcelType Domain**
- 1 PLSS Township
  - 2 PLSS Section
  - 3 PLSS Quarter Section
  - 4 Special Survey
  - 5 Simultaneous Conveyance
  - 6 Conveyance Division**
  - 7 Tax
  - 8 Ownership
  - 9 Encumbrance
  - 10 Separated Right
  - 11 Other

# ArcGIS Workflow Manager

- Enterprise workflow management application
- Key Features
  - Workflow management ; Job/Task tracking
  - User/Role/Version management



# Jobs – Unit of Work

Job Queries

The screenshot shows the ArcGIS Workflow Manager interface. On the left is a 'Jobs' tree view with folders for Public Queries, Personal Queries, and User Queries. The main area is split into two panes. The top pane, 'Job Query Results - List View', displays a table of jobs. The bottom pane, 'Job Properties', shows details for the selected job (ID: 8).

ID	Name	Assigned To	Job Type
1	TRANS_JOB_1	TStark	Transportation Updates
3	HYDRO_JOB_3	BWayne	Hydrography Updates
5	HYDRO_JOB_5	PParker	Hydrography Updates
7	TRANS_JOB_7	BBanner	Transportation Updates
8	TRANS_JOB_8	MJWatson	Transportation Updates
9	TRANS_JOB_9	LLane	Transportation Updates
10	TRANS_JOB_10	MMurdock	Transportation Updates
401	HYDRO_JOB_401	student	Hydrography Updates

**Job Properties**

Created by student user on 8/26/2009 at 4:54 PM  
Job ID: 8 Job Type: Transportation Updates

**Job Status**

Job Status: Editing Current Step: Edit Data  
ADI Defined 30% Complete

**Ownership** | Dates | Data Workspace | Description

**Job Ownership**

Job Owner: student user  
Job Name: TRANS\_JOB\_8  
Priority: Low  
Parent Job:

**Job Assignment**

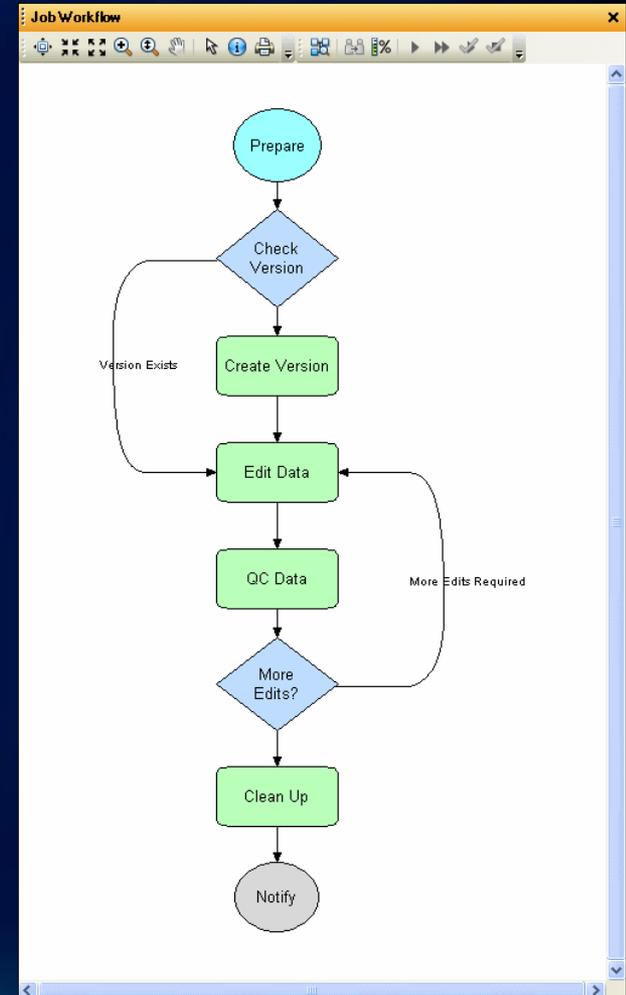
User  
 Group  
 Unassigned  
Mary Jane Watson

Job List

Job properties

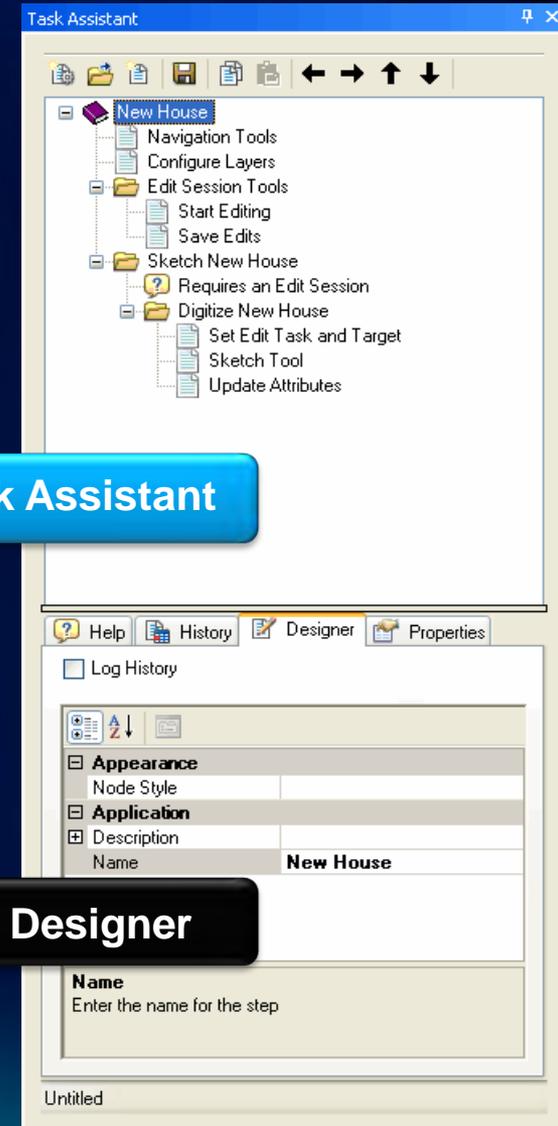
# Workflows

- Defines steps/tasks that need to be completed
- Standardizes tasks
  - Create Job Types
- Supports:
  - Streamlining standardization of job tasks or steps
  - Visual task management and execution



# Task Assistant

- Links a series of tasks together in a workflow
- Design step-by-step instructions
- Include ArcMap commands and geoprocessing tools
- Assists GIS users in completing workflow



Task Assistant

Task Designer

# Scope of Technology

## The Workflow

Land Records Submitted to Agency

Agency Creates Digital Parcels

Integrate parcels with the existing Fabric

Adjust Fabric

Adjust other GIS Layers

## A Framework for Parcel Information Management

### Geodatabase

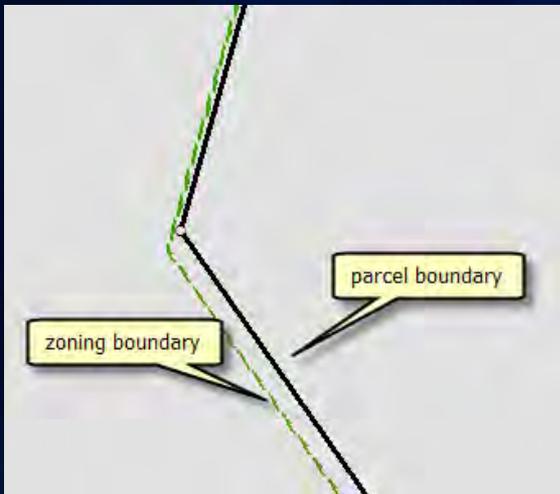


# Adjustments

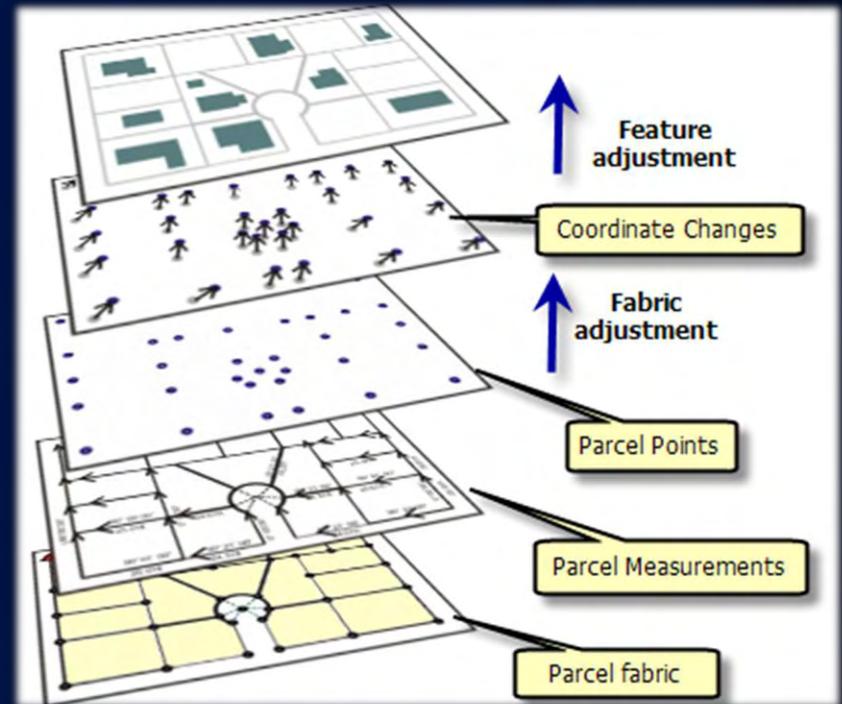
Two types of adjustments



**Fabric adjustment  
(least-squares)**



**Feature adjustment**



# ArcGIS 10

## Foundation for Land Records Solutions

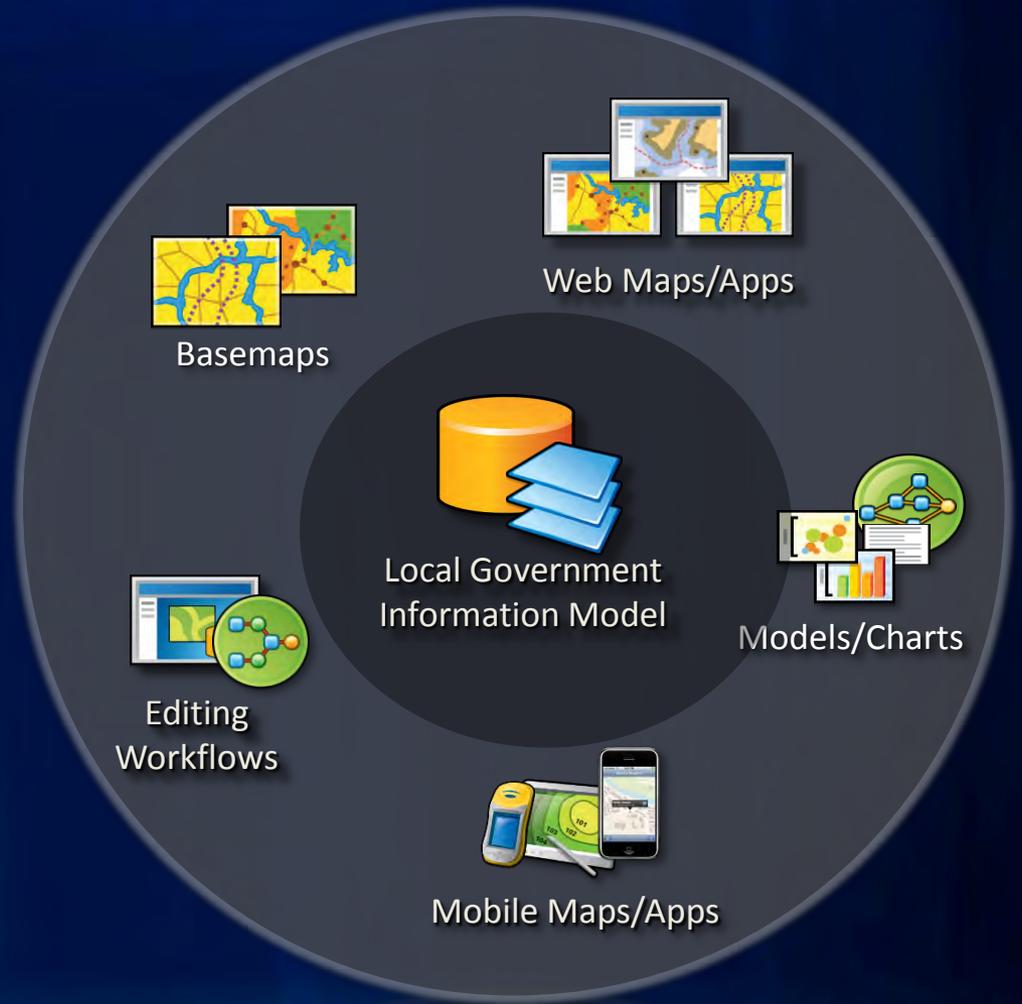
- ✓ Many new tools and templates are available for free at the Local Government Resource Center
- ✓ New Parcel management tools are now included within the ArcGIS Desktop
- ✓ Optimized geodatabase parcel fabric model
  - Streamlines parcel editing workflows
  - Integrated COGO and survey control capabilities
  - Provides for improved positional accuracy over time

# Field Mobility

- Access to relevant information in the field improves productivity
- Efficient data collection workflows improves data quality
- Mobile technology is a great platform for public access applications



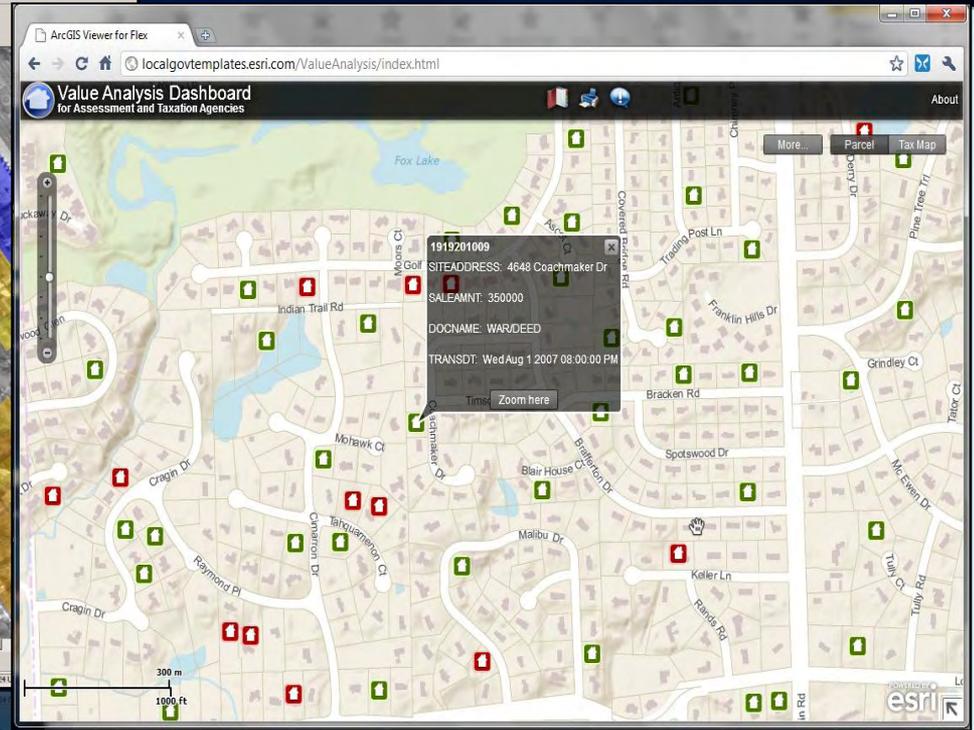
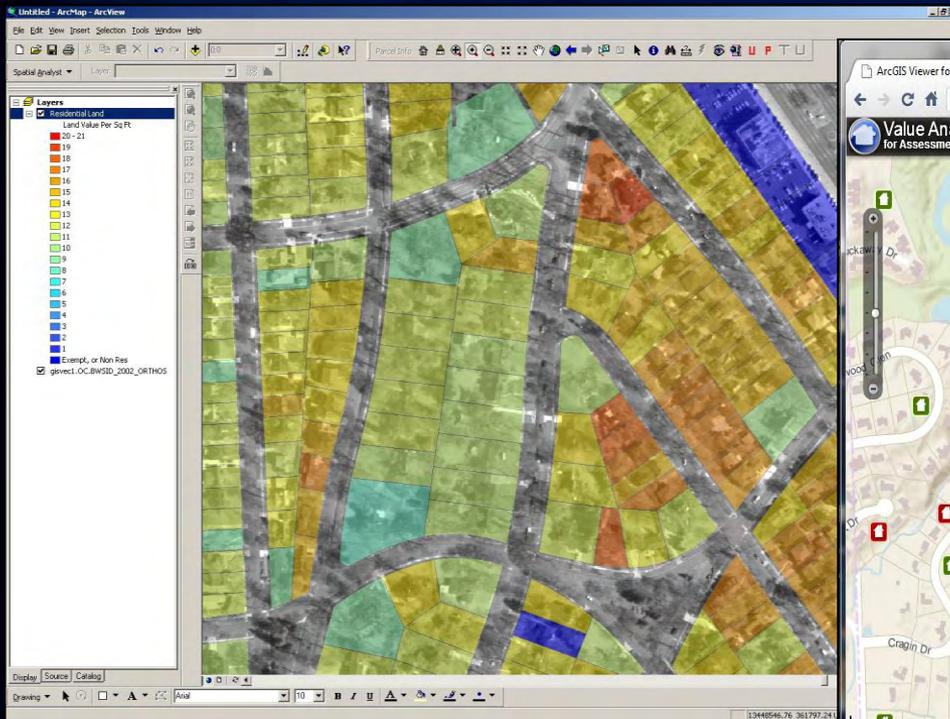
# Demonstration



Mobile Maps/Apps

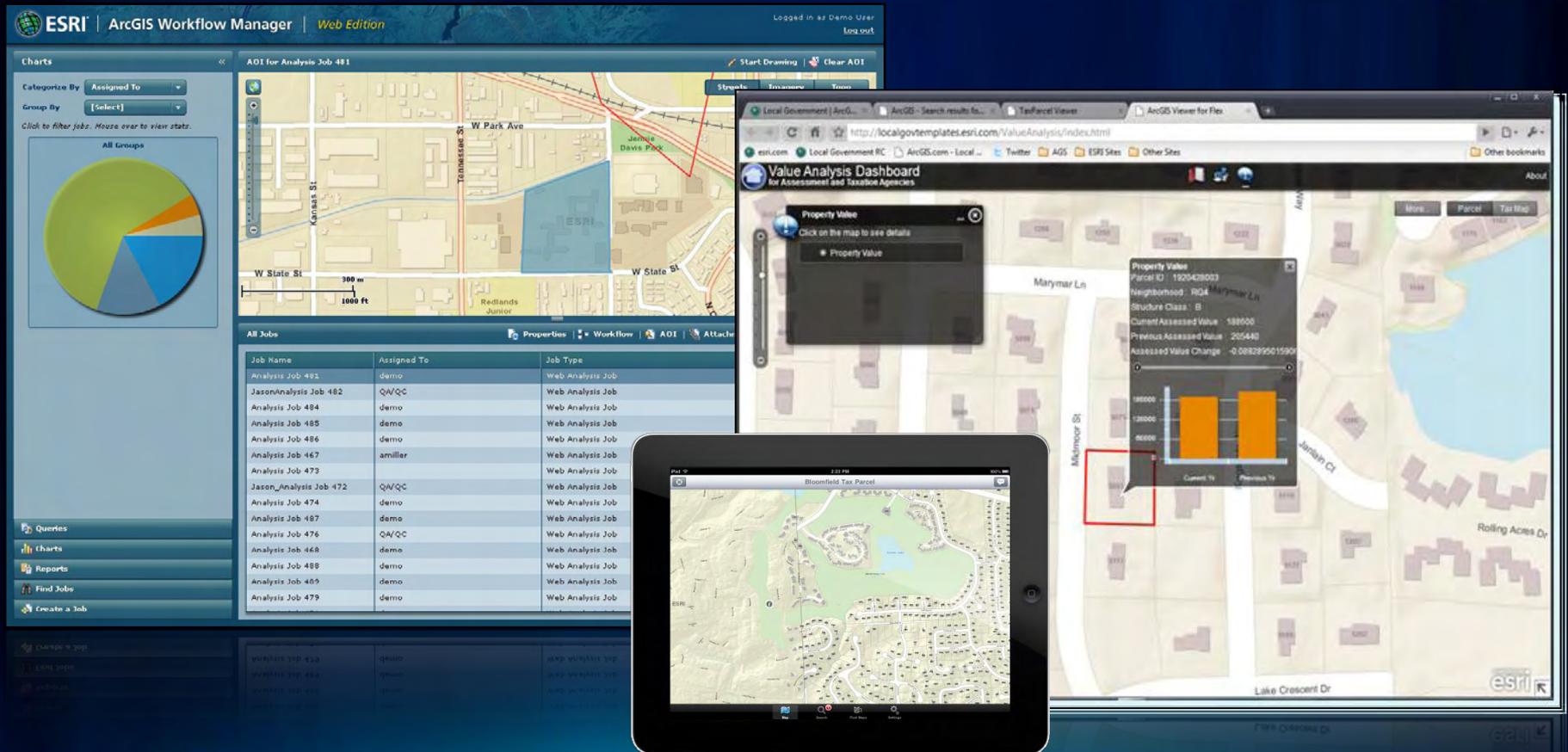
# Planning and Analysis

- Visualize property characteristics and analyze trends
  - Integration with Assessment and Taxation systems
- Identify geographic influences on property value and land use



# Operational Awareness

- Tools to manage the performance of your organization
  - Increase internal accountability and transparency



# Constituent Engagement

- Provides access to authoritative land records information
- Invokes feedback from constituents

Local Government Public Comments - Mozilla Firefox

Local Government Public Comments

### Land Use Public Comment

NapervilleDowntown2030.pdf - Adobe Reader

Page: 27 of Agenda Item B.3.

**Naperville**  
PLAN COMMISSION  
AGENDA ITEM

Case Number: 10-1-114  
Applicant Name: City of Naperville  
Case Description: Naperville 2030 is an update to the Master Plan and includes recommendations related to transportation, parks, and urban design.  
Case Type: Regulatory Change  
Case Status: Plan Commission Review  
Hearing Date: Sep 14 2011  
Hearing Location: Naperville City Hall

**Naperville Downtown 2030**

Case Number: 10-1-114  
Case Name: Naperville Do  
Hearing Date: Sep 14 2011

TaxParcel Viewer

http://serverapps.esri.com/taxparcelviewer/index.html

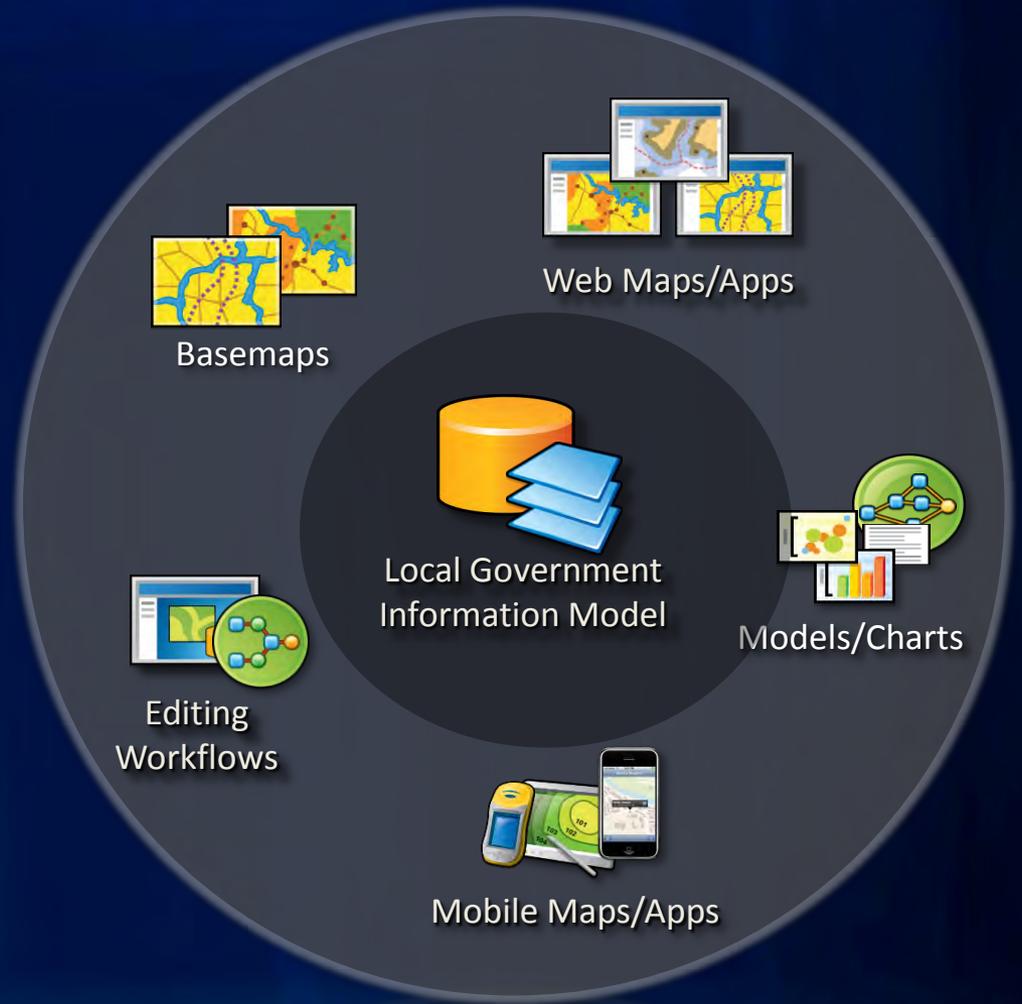
Search: sandhurst

Parcel ID	Address
1916452019	980 Sandhurst Rd
1916452020	968 Sandhurst Rd
1921201001	979 Sandhurst Rd
1921201002	967 Sandhurst Rd
1921201009	927 Sandhurst Rd
1921201010	905 Sandhurst Rd
1921202006	920 Sandhurst Rd
1921202007	900 Sandhurst Rd

**927 Sandhurst Rd**

TaxParcel ID: [1921201009](#)  
Use Description: Residential Improved  
Sub or Condo: Vendor Estates No 2  
Building : Unit: Not Applicable  
Tax District: Bloomfield Township  
School District: Bloomfield Hills Schools  
Owner Name: Terence Desmond  
Structure Type: Colonial/2Story  
Floor Area (Res): 3,978 Square Feet  
Assessed Value: \$ 298,950  
Taxable Value: \$ 285,420  
Current Taxes: \$ 9,983

# Demonstration



Mobile Maps/Apps

# Implementing the Land Records Solution

- **Identify your business needs**
  - Which land records application will provide the largest business value in your organization
- **Review content on the Resource Center**
  - Templates, hosted apps, videos, blogs
  - Identify ArcGIS platform requirements
  - Configure template(s) in your organization
- **Plan your migration**
  - Data, workflows, apps
- **Identify areas where you may need help**
  - Esri and Partner Network available if needed

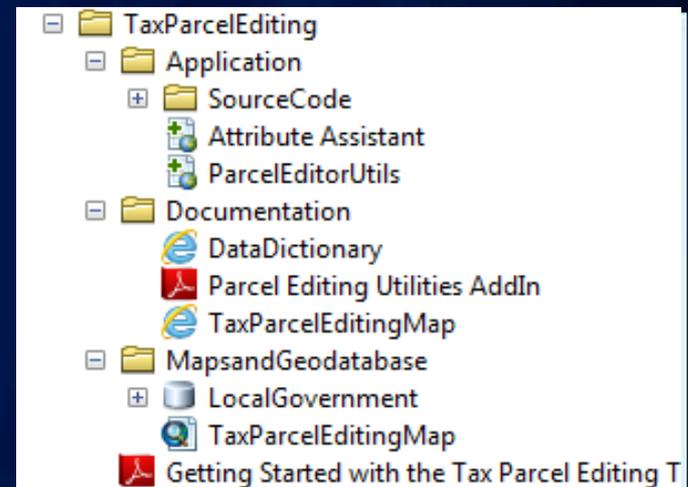
# Business Needs

- **General Land Records Platform**
  - Start with Tax Parcel Editing and then add other apps
- **Data Management**
  - Start with Tax Parcel Editing and Tax Map Book
- **Constituent Engagement**
  - Start with Tax Parcel Viewer and Parcel Value for iPhone
- **Planning and Analysis**
  - Start with Value Analysis Dashboard

...many ways to leverage the maps and apps on the ArcGIS for Land Records system

# Resource Center Content

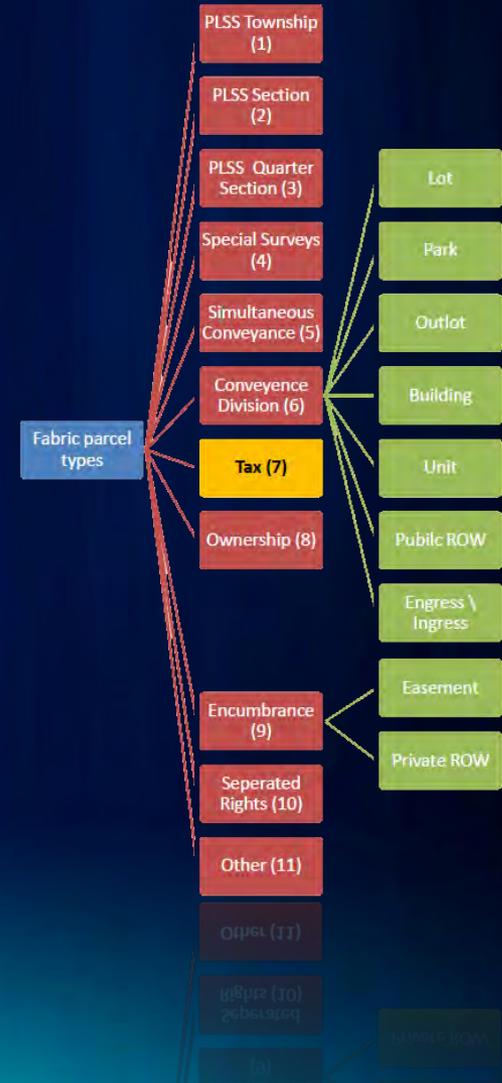
- Review template downloads, they include:
  - Maps and Geodatabase
  - Documentation
  - Application
  - Getting Started Document
- Watch the videos, read the blogs
- Work with sample data
- Review Local Government GDB
- Ask questions



Email: [ArcGISTeamLocalGov@esri.com](mailto:ArcGISTeamLocalGov@esri.com)

# Scenario: Implement Tax Parcel Editing Template

- **Review Tax Parcel Editing Template**
  - Editing map – well defined layers, label expressions and attractive cartography
  - Productivity tools – enhance the core editing environment
  - Geodatabase – methods for managing multiple parcel types in a parcel fabric, annotation best practices
- Review how consistent your data is with the Local Government Model GDB

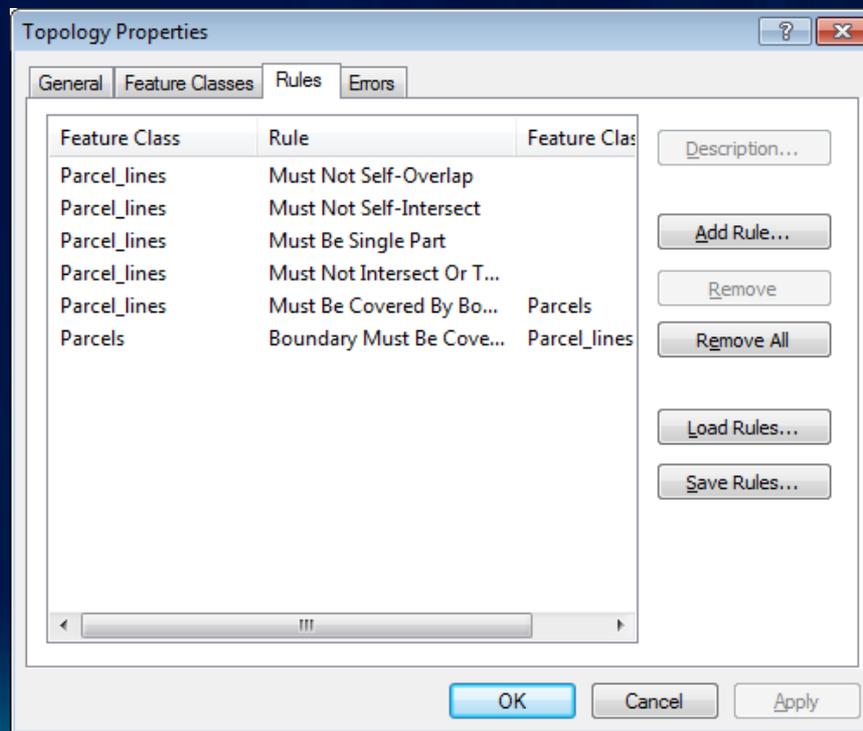


# Scenario: Implement Tax Parcel Editing Template

- **Download White Paper - *Loading Data Into a Parcel Fabric***
- **Important aspects:**
  - **Different paths depending on state of source data**
  - **Using a topology to check initial data integrity**
  - **Delineating curves**
  - **Modeling different parcel types (lots, subdivisions, etc.)**
  - **Annotation**

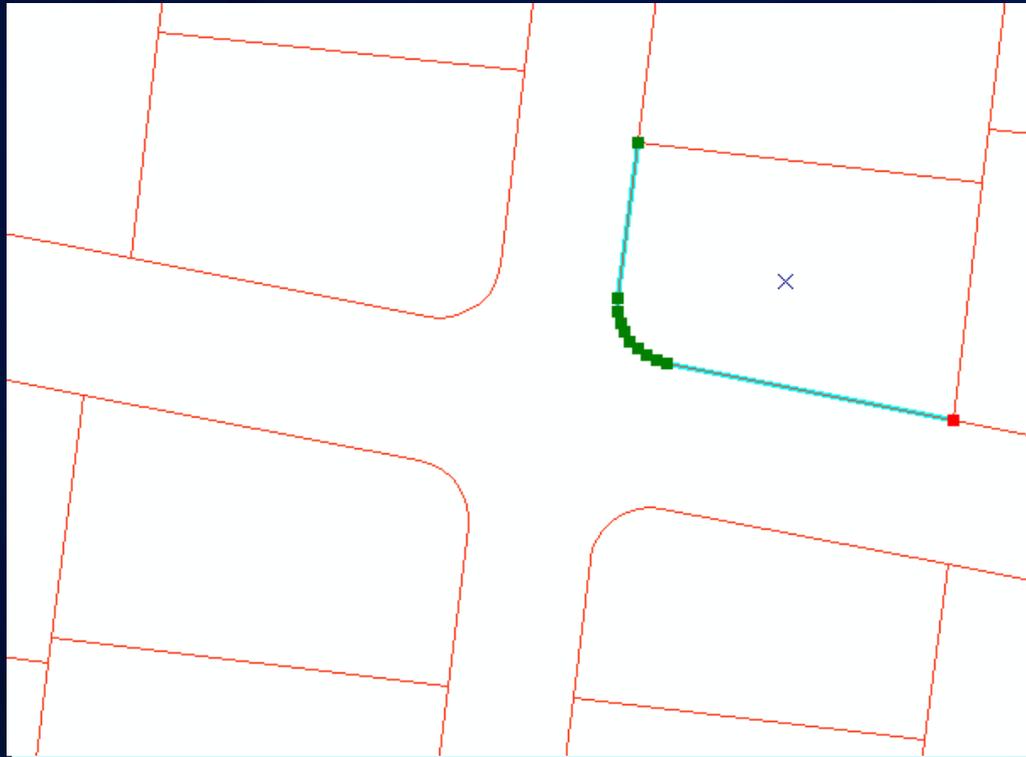
# Scenario: Implement Tax Parcel Editing Template

- Lets start migrating data
  - The parcel fabric expects some level of spatial integrity to start
- Question #1 – How well do your tax parcels, boundaries, lots, etc. line up?

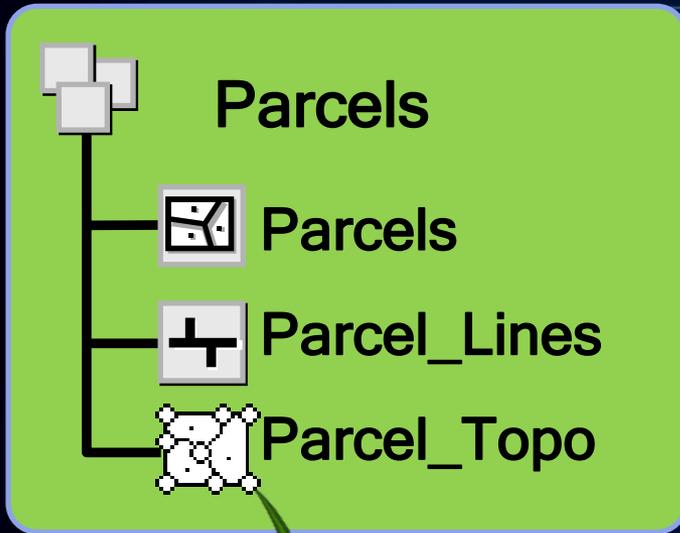


# Scenario: Implement Tax Parcel Editing Template

- Question #2 – How are curves represented within your data?



# Loading data into the Parcel Fabric Data Model

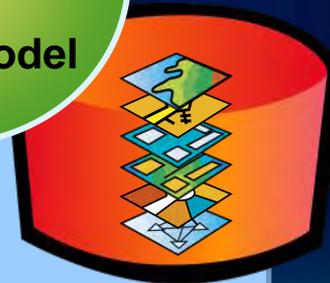


"Name" = Parcel\_ID

"Type" = 7

## ParcelType Domain

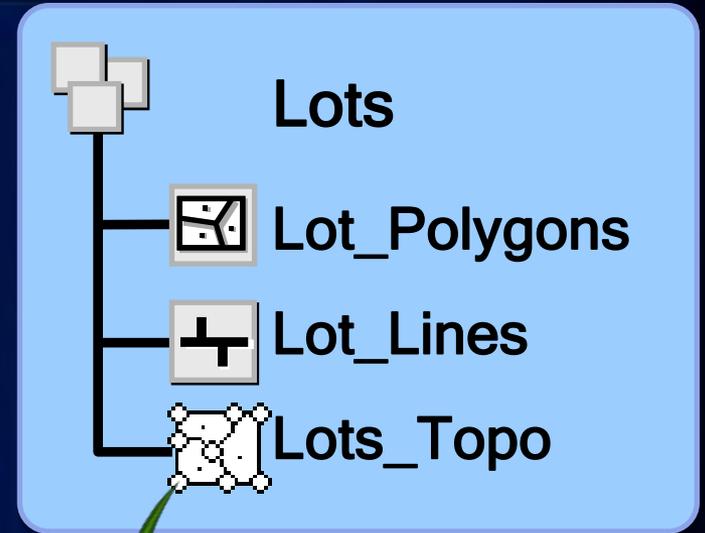
- 1 PLSS Township
- 2 PLSS Section
- 3 PLSS Quarter Section
- 4 Special Survey
- 5 Simultaneous Conveyance
- 6 Conveyance Division
- 7 Tax**
- 8 Ownership
- 9 Encumbrance
- 10 Separated Right
- 11 Other



- Line—Must be Single Part
- Line—Must Not Self-Overlap
- Line—Must Not Self-Intersect
- Line—Must Not Intersect Or Touch Interior
- Line—Must be Covered by Boundary Of (polygon)
- Polygon—Boundary Must be Covered By (Line)

# Loading data into the Parcel Fabric Data Model

"Name" = Lot\_Number  
"Type" = 6  
" SimConDivType " = "Lot"

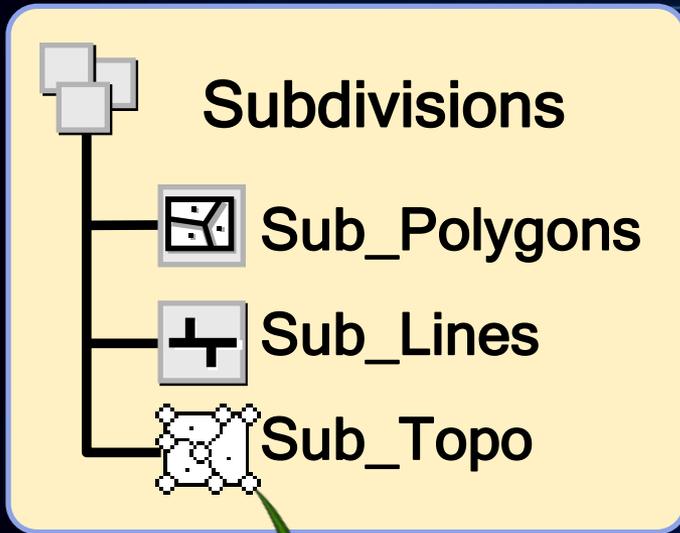


- Line—Must be Single Part
- Line—Must Not Self-Overlap
- Line—Must Not Self-Intersect
- Line—Must Not Intersect Or Touch Interior
- Line—Must be Covered by Boundary Of (polygon)
- Polygon—Boundary Must be Covered By (Line)

## ParcelType Domain

- 1 PLSS Township
- 2 PLSS Section
- 3 PLSS Quarter Section
- 4 Special Survey
- 5 Simultaneous Conveyance
- 6 **Conveyance Division**

# Loading data into the Parcel Fabric Data Model



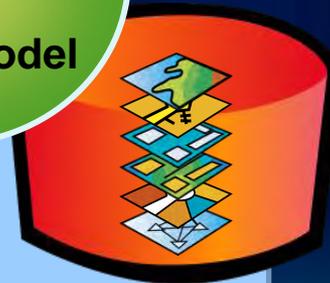
"Name" = Sub\_Name

"Type" = 5

"ConveyanceType" = "Subdivision"

## ParcelType Domain

- 1 PLSS Township
- 2 PLSS Section
- 3 PLSS Quarter Section
- 4 Special Survey
- 5 **Simultaneous Conveyance**
- 6 Conveyance Division



- Line—Must be Single Part
- Line—Must Not Self-Overlap
- Line—Must Not Self-Intersect
- Line—Must Not Intersect Or Touch Interior
- Line—Must be Covered by Boundary Of (polygon)
- Polygon—Boundary Must be Covered By (Line)

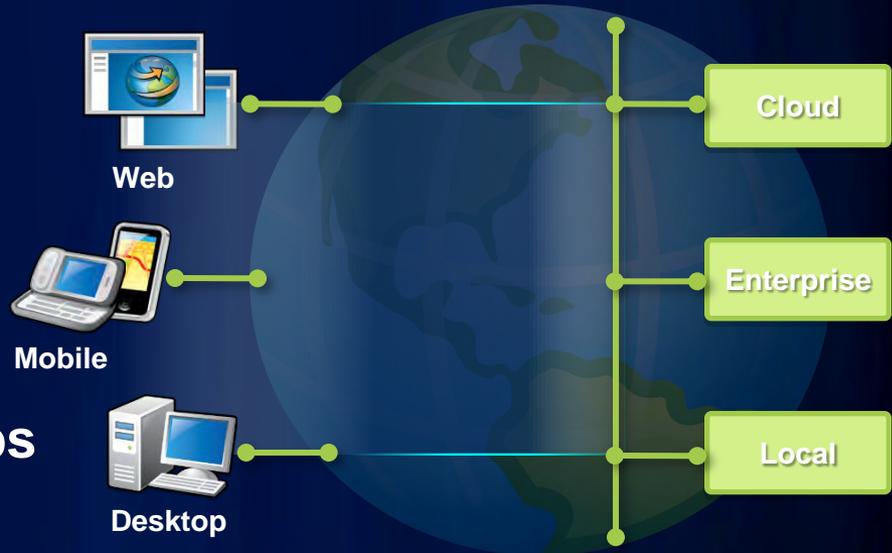
# Scenario: Implement Tax Parcel Editing Template

- **Ultimately, you'll follow a process similar to this:**
  - **Step 1 - Prepare your Fabric Data Model**
  - **Step 2 - Prepare your Source Data**
  - **Step 3 - Clean up the Geometry on your Source Data**
  - **Step 4 - Establish Topology Required for Fabric Loading**
  - **Step 5 - Load your Source Data to the Fabric**
  - **Step 6 - Set up your Editing Map**

# GIS is a *destination*

*For accessing and using geographic information*

- For **creating and sharing** intelligent maps and related geographic information.
- For **discovering and using** maps and geographic information



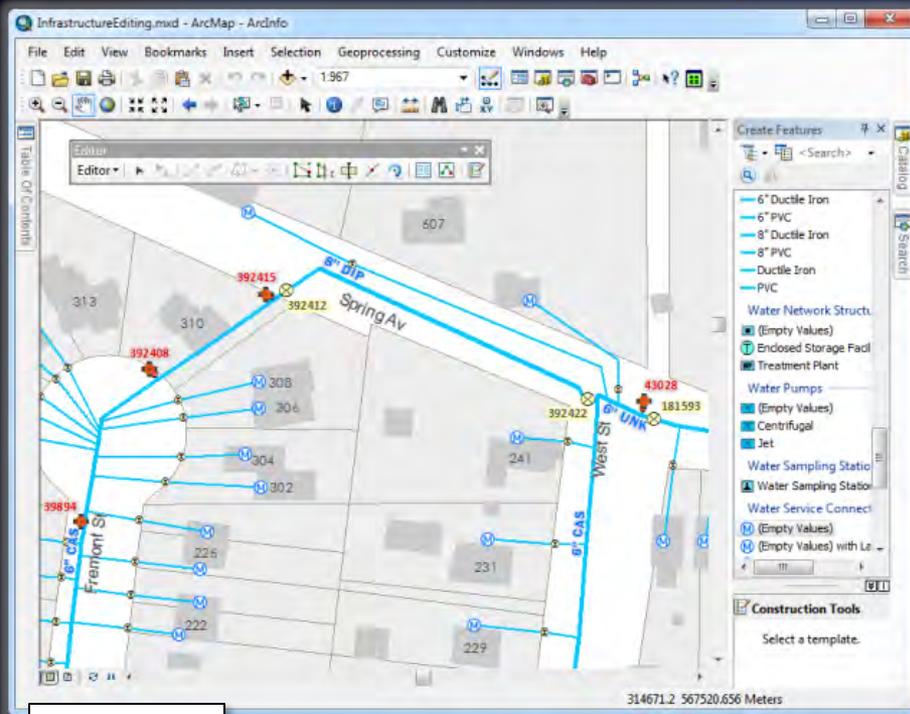
*... Online*

# Using GIS maps

*The map is the app*

Professional GIS maps to share with peers

Web maps to share with everyone



ArcMap



- Web
- Mobile
- Tablet
- Desktop

*To share geographic data, editing, analysis, reporting, workflows, . . .*

# ArcGIS provides an information surface

## Of useful maps and apps

Mobile workforce



Web communities



Developers



Professional staff



Use

Publish

An Information Surface

- Maps
- Apps
- Services



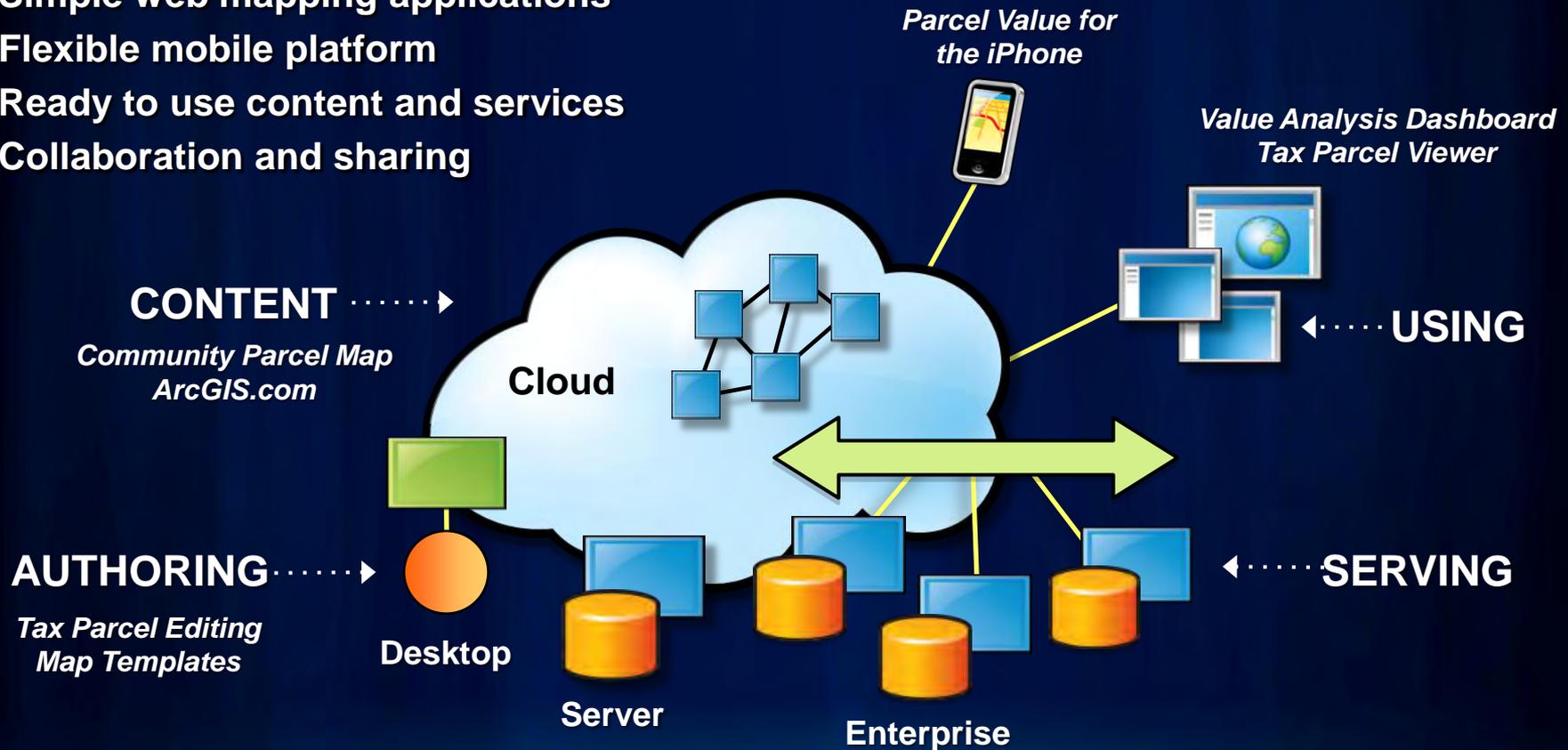
Author

GIS "Back Office"

# The ArcGIS for Land Records Solution

A scalable solution for your organization

- Robust desktop tools
- Simple web mapping applications
- Flexible mobile platform
- Ready to use content and services
- Collaboration and sharing



# ArcGIS 10

Foundation for Land Records Solutions

## Summary

- ✓ GIS can now be a destination for useful maps and apps
- ✓ Access to powerful planning and spatial analysis capabilities
- ✓ Full access to your data with Smart Phones and Mobile GIS
- ✓ New Generation of Web 2.0 capabilities that can provide easy near-real-time access to your land records data
- ✓ Citizen Engagement tools for transparent inquiry and feedback
- ✓ Enterprise Licensing provides simple low-cost access to the full range of ArcGIS tools
- ✓ Comprehensive application support from Esri and our Business Partners



esri