



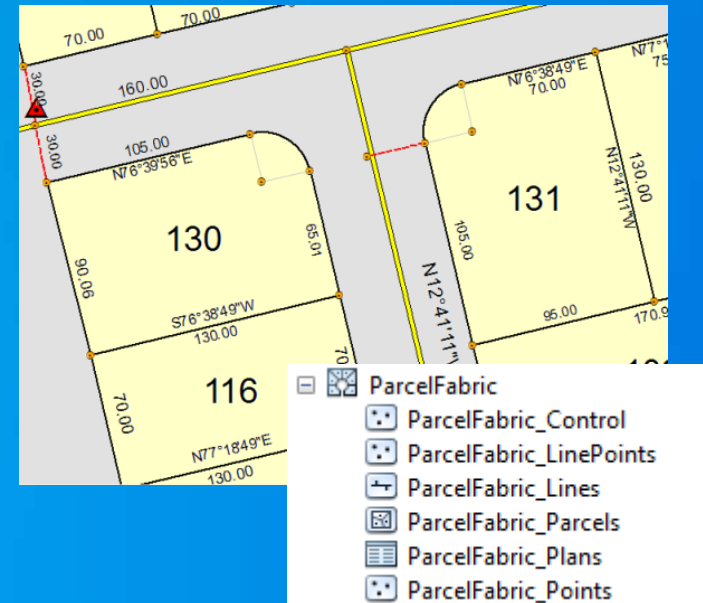
Migrating Data into the Parcel Fabric in ArcMap

Christine Leslie

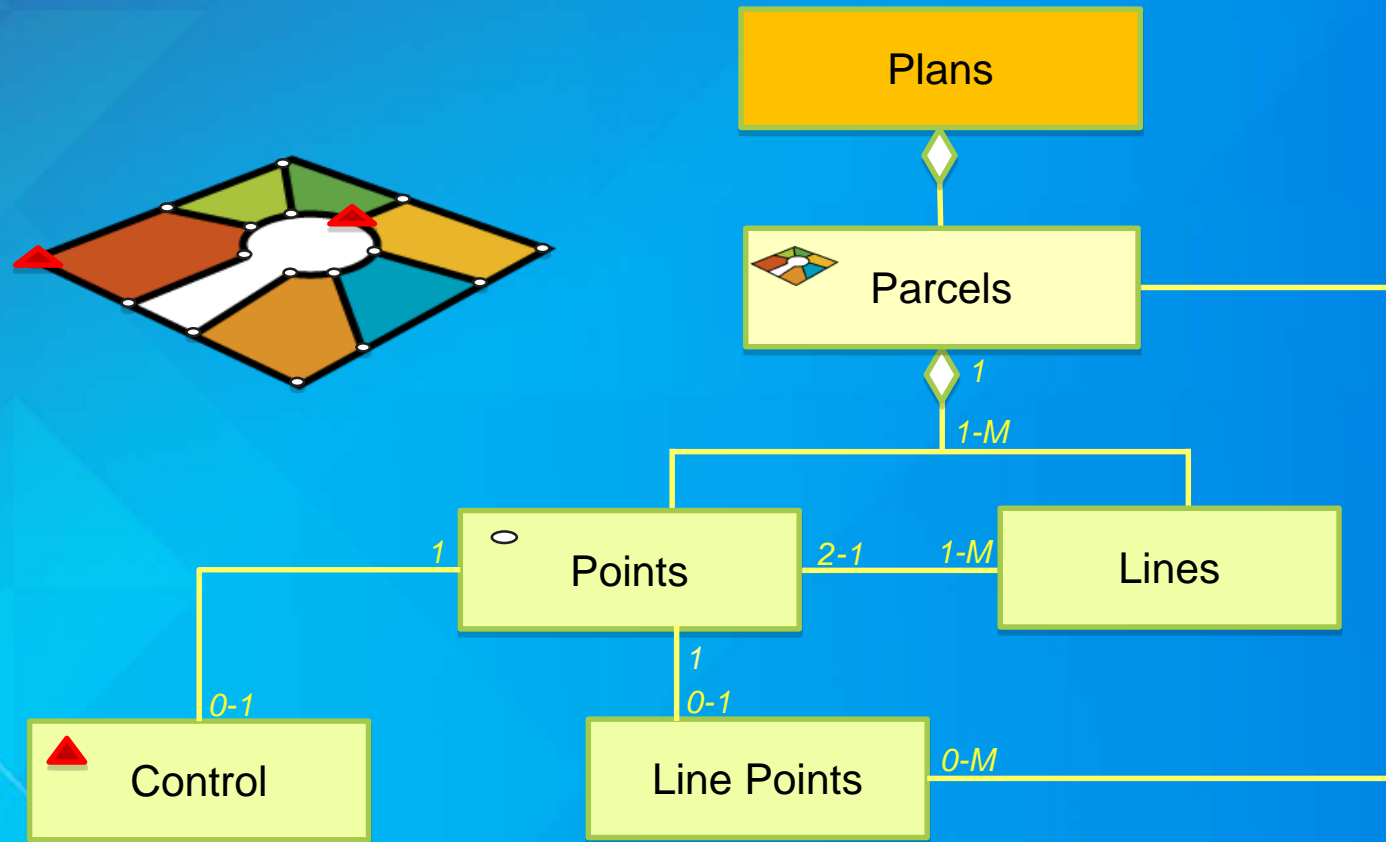
Amir Bar-Maor

What is a parcel fabric?

- Dataset of related feature classes and tables
 - Polygons, lines, points, plans, etc.
 - Predefined system attributes
- Connected parcel groups
 - Forms a parcel boundary network
- Explicit topology
 - Defined by common parcel corner points
- Parcel Editor toolbar



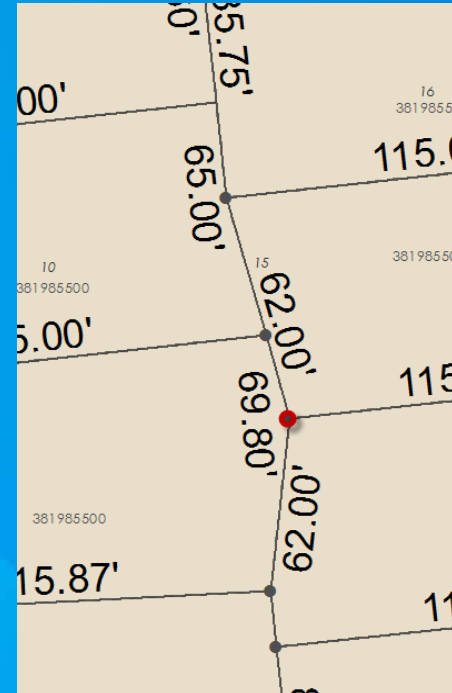
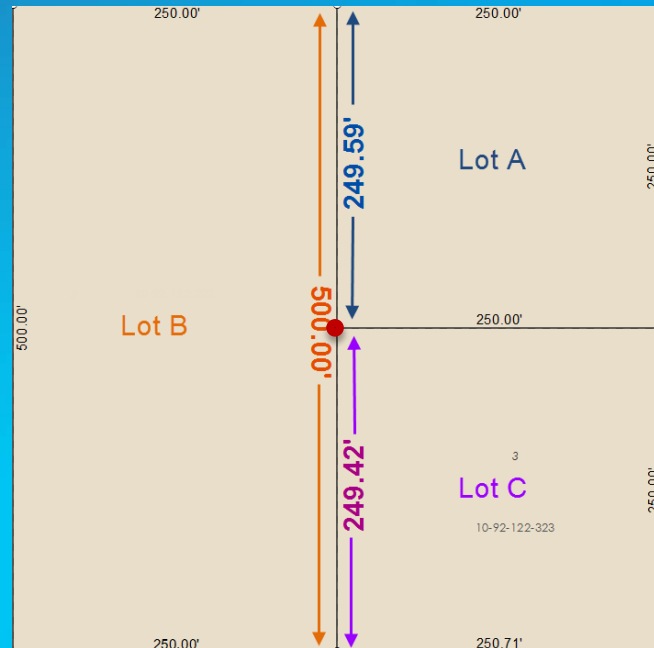
Parcel fabric data model



Parcel fabric data model

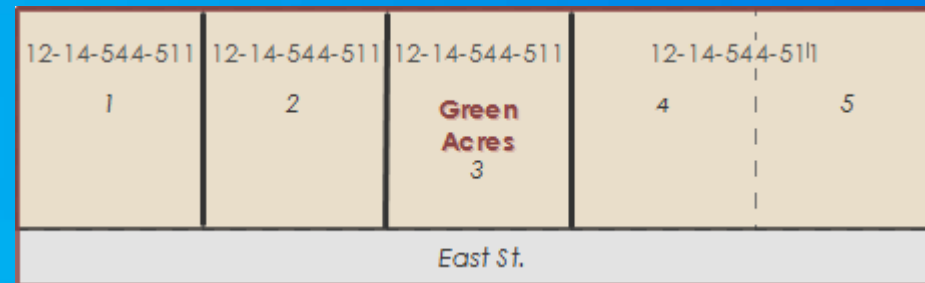
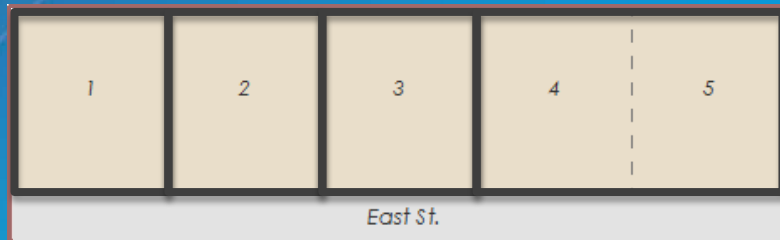
Line points

- Preserve original recorded dimensions, ensure topology between parcels



Parcel fabric data model

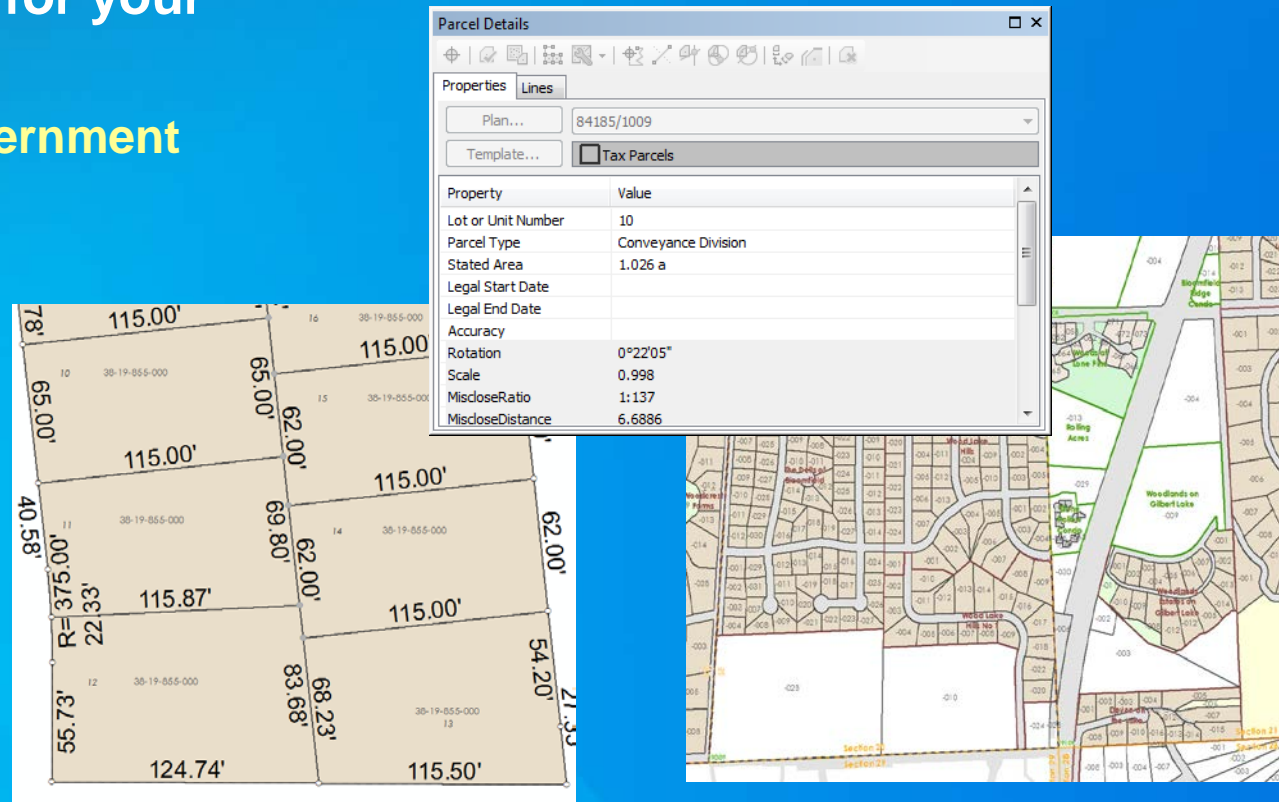
Overlapping parcels



Subdivisions, Lots, Tax Parcels, Historic parcels all share same common points

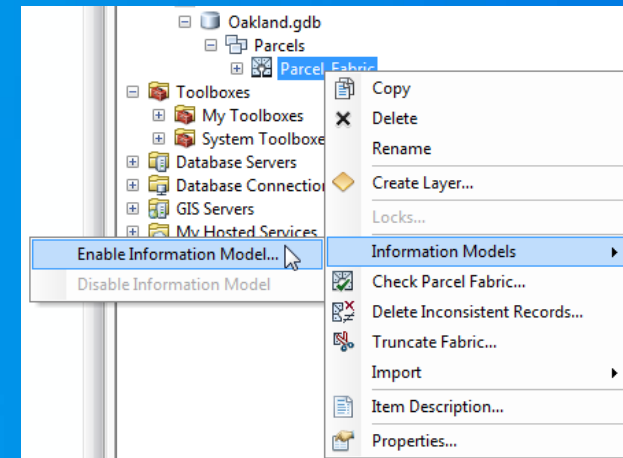
Parcel fabric data model

- Data model can be optimized for your organization
 - for example, esri's **Local Government Information Model**



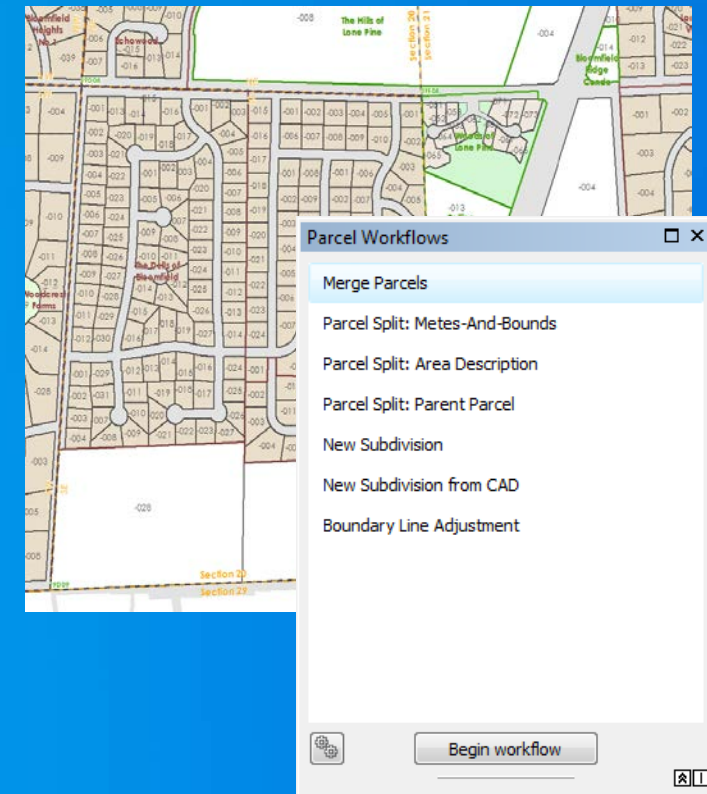
Local government Information Model (LGIM)

- GIS datasets, web services, maps and apps
- GIS information and processes are organized across departments
- Parcel fabric is used for parcel editing
- Parcel fabric can be enabled with the LGIM



Parcel fabric enabled with the LGIM

- Extends the parcel fabric data model
 - **Optimized for parcel editing in the USA**
- Provides a configured map for streamlined editing
- Provides automated parcel editing workflows





Demo

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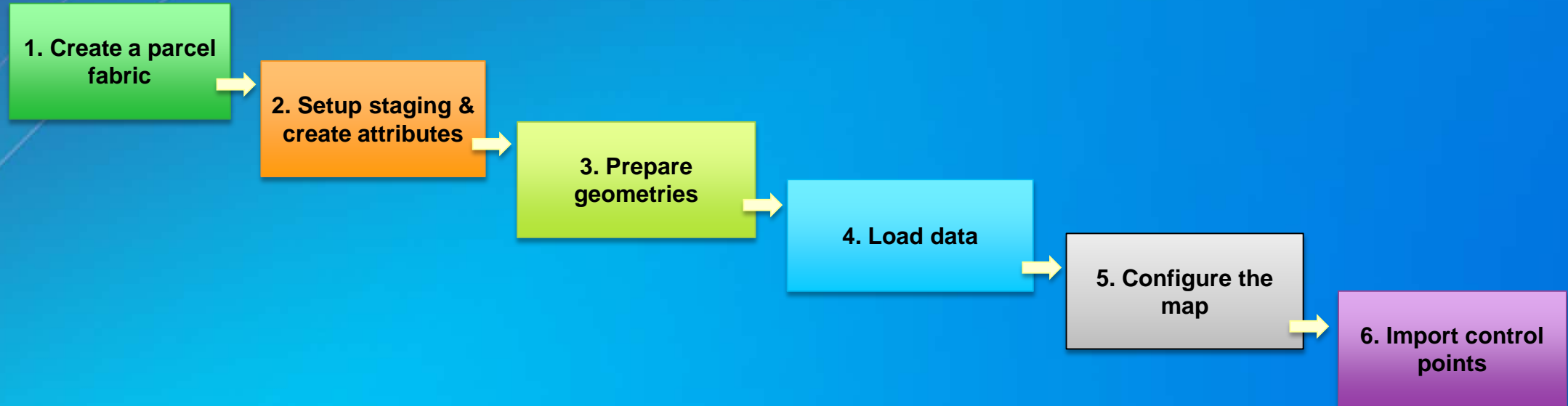
Migrating data to the Parcel Fabric

Steps

- Setup the data model
 - **Extend your parcel fabric model**
 - **Or use the Local Government Information Model**
- Setup a staging environment
- Format and prepare data
- Use the **Load a Topology to a Parcel Fabric geoprocessing tool**
- Import control points

Migrating data to the Parcel Fabric

Steps

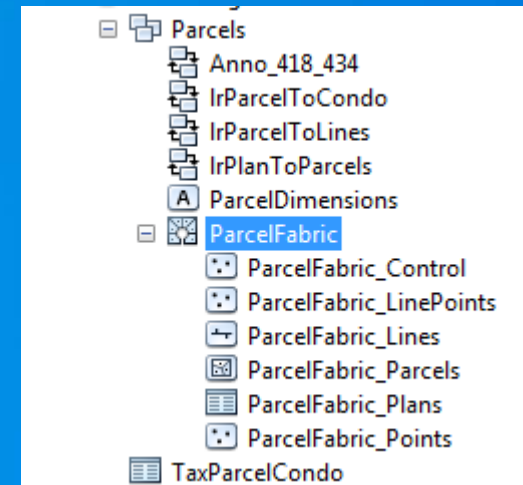


Recommendation: Test the workflow with a small pilot area of parcels

Step 1: Create a parcel fabric

Data migration steps

- Create a parcel fabric in a feature dataset
 - Projected or geographic
- Extend the data model
 - Add your own attributes, tables
 - Or enable the Local Government Information Model (USA)





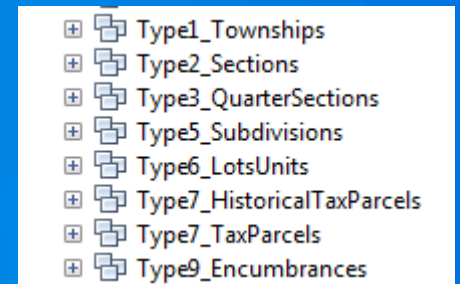
Demo: Step 1

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Step 2: Setup staging & create attributes

Data migration steps

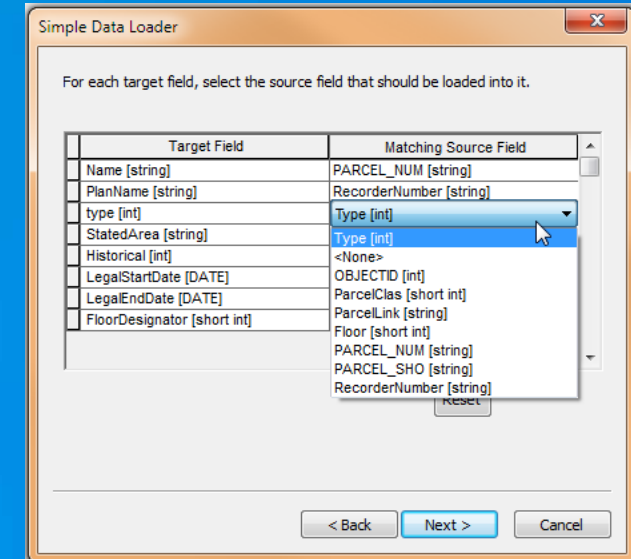
- Review source data
 - Inventory of polygons
- Create an empty polygon feature class for each parcel type
 - In a separate feature dataset
- Add and map attribute fields
 - Fields must match fields in parcel fabric tables (both system and additional)
- Calculate any necessary attributes in source polygons
 - Types, historic parcels
- Check alignments between overlapping polygon types
 - Use the Integrate geoprocessing tool



Step 2 continued... Staging

Data migration steps

- Use Simple Data Loader
 - Load your source polygons into new empty polygons
- If using the LGIM
 - Staging feature classes are setup for you
 - Download and unpack the staging layer package





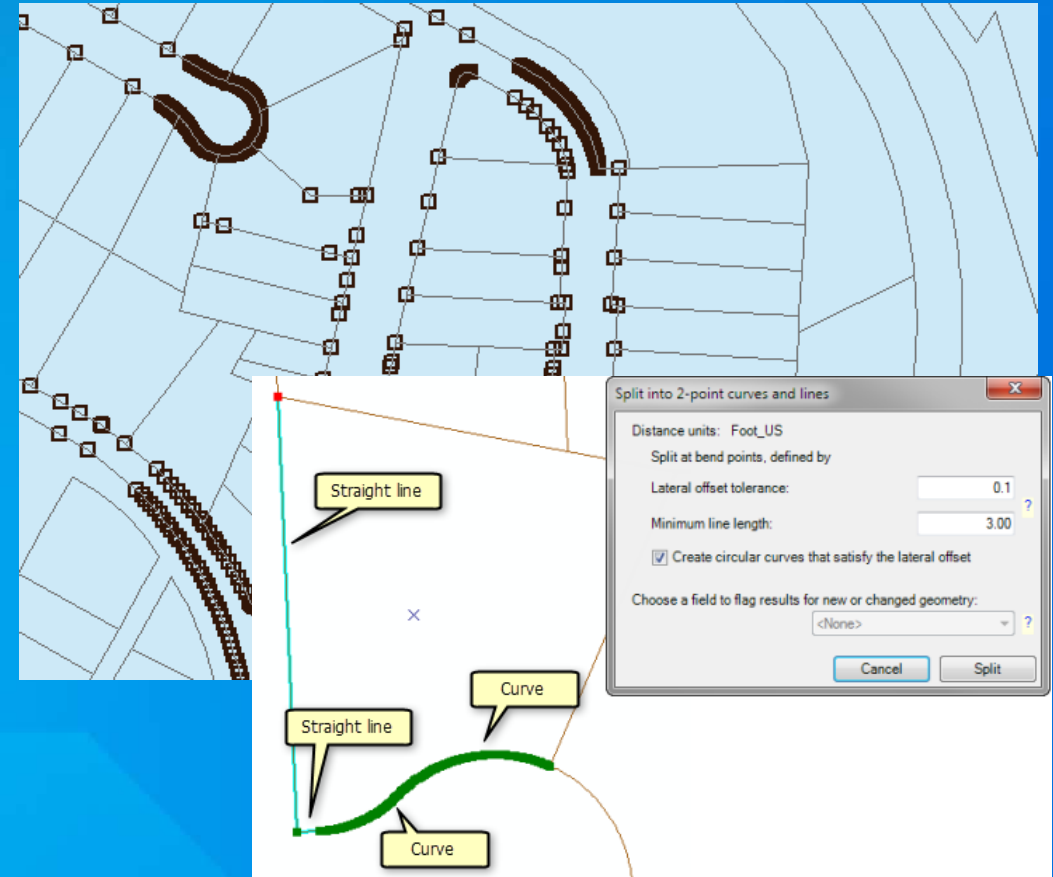
Demo: Step 2

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Step 3: Prepare geometries

Data migration steps

- For each parcel type:
 - Check and repair any polygon geometries
 - Polygons to lines
 - Curves and lines Add-in
 - Rebuild polygons from lines
 - Check polygon inventories

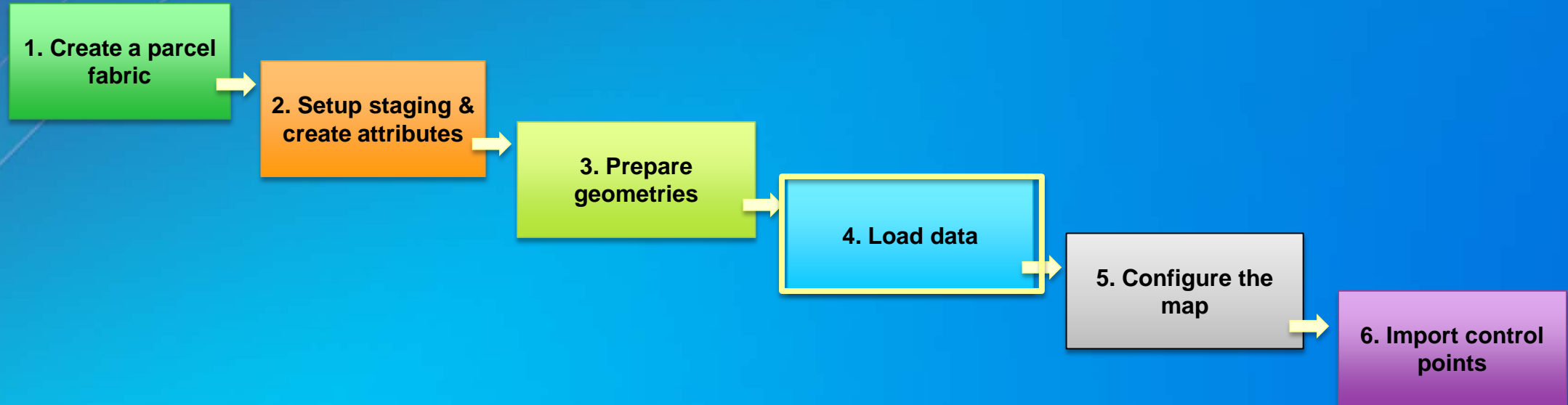




Demo: Step 3

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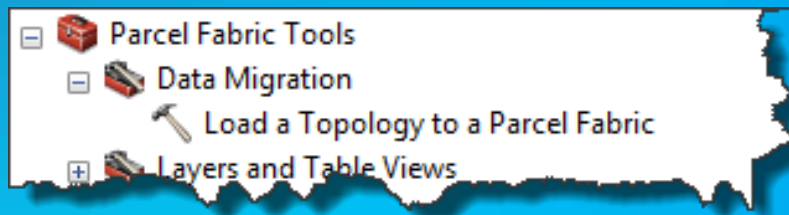
Data migration steps



Step 4: Load data

Data migration steps

- Load a Topology to a Parcel Fabric geoprocessing Tool
- Individual topologies for each parcel type
- Topology validated against a required set of rules



Load a Topology to a Parcel Fabric

Loads polygon and line features that participate in a topology into a target parcel fabric. The topology requires a predefined set of topology rules:

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

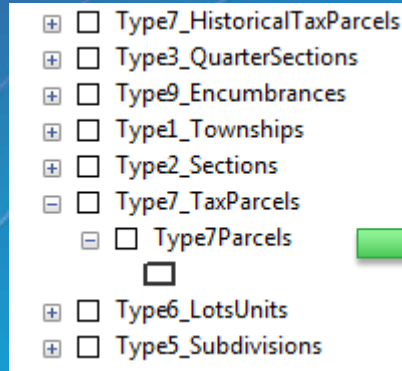


Demo: Step 4

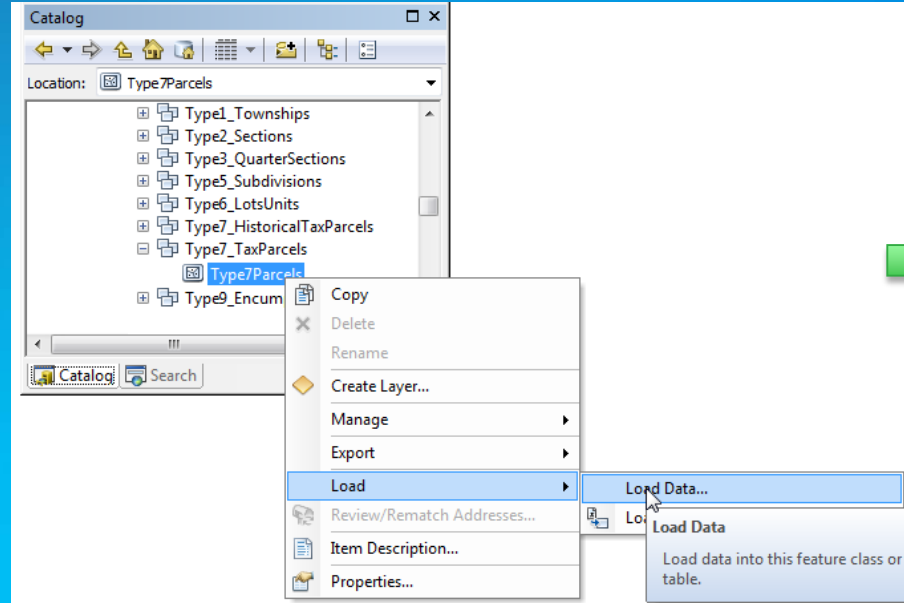
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Steps 1 to 4: Summary of staging

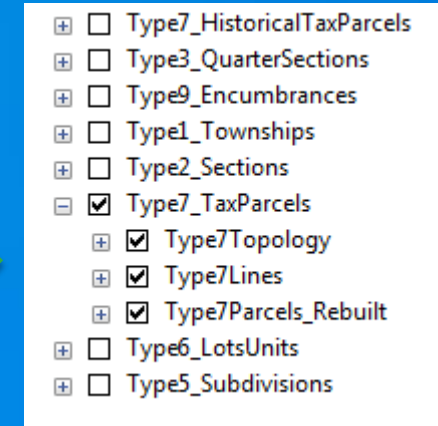
Data migration steps



- Polygon feature class for each type
- Separate feature datasets
- Add/map fields for migration to fabric



- Load source polygons using Simple Data Loader



- Create lines
- Format lines
- Rebuild polygons from lines
- Create/validate topologies
- Load topologies

Step 5: Configure your map

Data migration steps

- If using the LGIM:
 - Drag LGIM-enabled parcel fabric into the map
- If using your own model
 - Query parcels and save layer files

Table Of Contents

Layers

- ParcelFabric
 - ParcelFabric
 - Tax Lines Anno
 - Control
 - Line Points
 - Points
 - Lines
 - Standard Boundary
 - Connection Line
 - Radial
 - Road Frontage
 - Origin Connection to POB
 - Part Connector
 - Historic Parcels
 - Cadastral Framework
 - Subs and Condos
 - Tax Parcels
 - Lots and Units
 - Uncategorized
 - Lot or Unit Type
 - Public Right Of Way
 - Unit
 - Building
 - General Common Element
 - Limited Common Element
 - Lot
 - Ingress/Egress
 - Outlot
 - Park
 - Encumbrances

Parcel fabric layer enabled with the LGIM



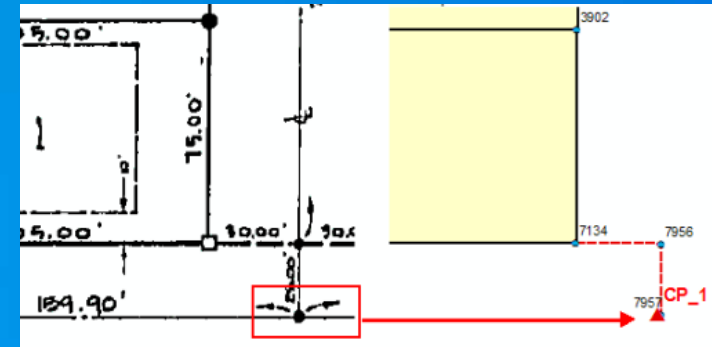
Demo: Step 5

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Step 6: Import control points

Data migration steps

- Why have control?
 - Accuracy for new parcels
 - Deed references control points
- Use Import Control Points wizard
- Use XYZ coordinates or shape geometry
- Loaded multiple times for new updates to coordinates

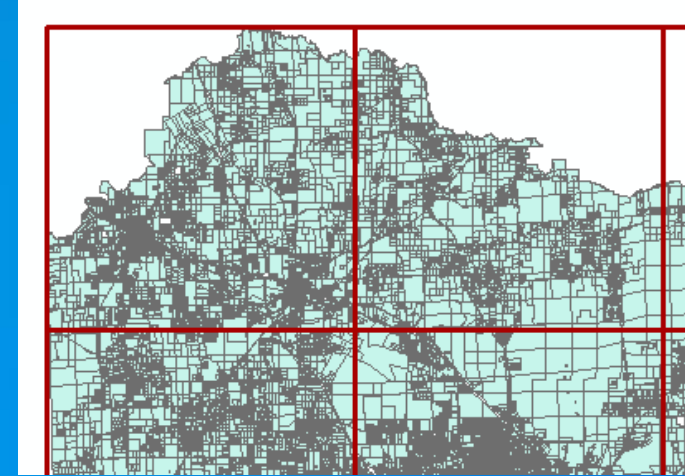


Demo: Step 6

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Additional considerations

- Iterate tool for large datasets
 - **Divide into zones**
- Overlapping parcels of the same type
 - **Planarize your lines**
 - **Merge courses after loading**
- Starting with lines instead of polygons
 - **Format lines, type lines, build polygons**



Resources

Data migration steps

- **Documentation**
 - **Latest release of help documentation**
 - **videos**
- **Land Records resource center**
 - **Local Government Information Model**
 - **Data migration staging package**
 - **Add ins (Large dataset iterator, Curves and Lines, etc.)**
- **Land Records meetup**

Join Our Community – Land Records Meetup

Join the Land Records Meet-up today



<http://www.meetup.com/Esri-Land-Records-Meet-Up/>



Land Records Meetup



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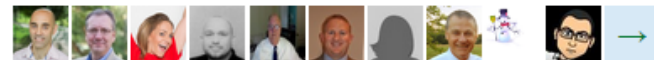
Our calendar



Land Records Meeting at the Esri UC

San Diego Convention Center

111 West Harbor Drive, San Diego, CA (map)



A face to face meeting with members of the Land Records Meetup. Assessors, Cadastral Managers, Parcel Editors, Surveyors, Land Administration Professionals, County...

LEARN MORE

Hosted by: Amir Bar-Maor (Co-Organizer), Brent Jones (Co-Organizer), and Noel Loughrin (Co-Organizer)

Thu Jul 23

12:00 PM

I'M GOING

61 going

8 comments

Additional sessions

Wednesday

- **An Overview of the Urban Land Bank and Tax Reverted Properties Maps and Apps**
 - **Wed 7/16/2014, 11:30 AM - 12:15 PM, Demo Theater - Exhibit Hall B**
- **Modern Approach to Land Records (Demo)**
 - **Wed 7/16/2014, 11:30 AM - 12:15 PM, Demo Theater - Exhibit Hall D**
- **Advanced Parcel Editing in ArcMap (TW)**
 - **Wed 7/22/2015, 03:15 PM - 04:30 PM, Room 02**
- **ArcGIS for Land Records: An Overview (TW)**
 - **Wed 7/22/2015, 03:15 PM - 04:30 PM, Room 33 A**
- **Approaches to Building a National Parcel Data Base (Demo)**
 - **Wed 7/16/2014, 05:30 PM - 06:00 PM, Demo Theater - State and Local Government**

Additional sessions

Thursday

- **ArcGIS for Land Records: Unlock the Potential of Parcel Data (Demo)**
 - Thu 7/23/2015, 9:30 AM - 10:15 AM, Demo Theatre - Exhibit Hall B
- **An Overview of the Land Records Public Access Applications (Demo)**
 - Thu 7/23/2015, 9:30 AM - 10:15 AM, Demo Theatre - Exhibit Hall B
- **Editing and Maintaining Parcels with ArcMap (TW)**
 - Thu 7/23/2015, 10:15 AM - 11:30 AM, Room 02
- **Modern Approach to Land Records (Demo)**
 - Thu 7/23/2015, 10:30 AM - 11:15 AM, Demo Theater - Exhibit Hall D
- **Advanced Parcel Editing in ArcMap (TW)**
 - Thu 7/23/2015, 03:15 PM - 04:30 PM, Room 02
- **Land Records Meetup (SIG)**
 - Thu 7/23/2015, 12:00 PM - 01:00 PM, Room 31 B





Understanding our world.