Parcel Editing in ArcGIS: Migrating Data
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

- **Plans**
  - Represent the legal document
  - Plans table stores record information
- **Parcels**
  - Polygon defined by a sequence of lines (traverse)
- **Lines**
  - Store recorded dimensions
  - Have a To and a From point
- **Points**
  - Have X Y Z coordinates
  - Can have a control point
Line points

- Ensure topology between parcels
- Preserve recorded dimensions
Demo

Amir Bar-Maor
Local Government Information Model (LGIM)

- Data model can be extended for your organization
- In the USA, the Local Government Information Model is used (LGIM)
- Parcel fabric can be enabled with the LGIM
- LGIM provides a configured parcel fabric layer
- LGIM provides automated parcel editing workflows
Migrating data to the parcel fabric

• 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
Data migration steps

1. Create a parcel fabric
2. Setup staging & create attributes
3. Prepare geometries
4. Load data
5. Configure the map
6. Import control points

• Recommendation: Test the workflow against a small pilot area of parcels
Step 1: Create a parcel fabric

- Create a parcel fabric in a feature dataset
- Extend the data model
  - Add your own attributes, tables
  - Or enable the Local Government Information Model (USA)
Demo: Step 1
Amir Bar-Maor
Step 2: Setup staging and create attributes

- Review source data
  - Inventory/count of polygons

- Create an empty polygon feature class for each parcel type
  - In a separate feature dataset

- Add attribute fields
  - Fields must match fields in parcel fabric tables (both system and additional)

- Calculate/format attributes in source polygons
  - Prepare source attributes for loading into staging feature classes
  - For example, Types, Historic parcels

- Check alignments between overlapping polygon types
  - Use the Integrate geoprocessing tool
Step 2 continued - Staging

• Load source polygons into staging feature classes
  - Use the Simple Data Loader

• If using the LGIM
  - Staging feature classes are setup for you
  - Download and unpack the staging layer package
  - Use the Simple Data Loader
Demo: Step 2

Amir Bar-Maor
Step 3: Prepare geometries

- For each parcel type:
  - Check and repair polygon geometries (GP Tool)
  - Convert polygons to lines (GP Tool)
  - Clean curves (GP Tool in ArcGIS Pro)
  - Rebuild polygons from lines (GP Tool)
  - Check polygon inventories/counts
Demo: Step 3
Amir Bar-Maor
Data migration steps - recap

1. Create a parcel fabric
2. Setup staging & create attributes
3. Prepare geometries
4. Load data
5. Configure the map
6. Import control points
Step 4: Load data

- Use the Load a **Topology To A Parcel Fabric** geoprocessing tool
- Individual topologies for each parcel type
- Topology validated against a **required set of rules**
Demo: Step 4

Amir Bar-Maor
Steps 1 to 4: Summary of staging

- Polygon feature class for each type
- Separate feature datasets
- Add/map fields that match fabric fields

Load source polygons into staging using Simple Data Loader

- Create lines
- Format lines
- Rebuild polygons from lines
- Create/validate topologies
- Load topologies
Step 5: Configure your map

- If using the LGIM:
  - Add LGIM-enabled parcel fabric to the map
- If using your own model:
  - Query parcels and save layer files
Demo: Step 5

Amir Bar-Maor
Step 6: Import control points

• Why have control?
  - Accuracy for new parcels
  - Deed references control points
  - Least-Squares adjustment

• Use **Import Control Points** wizard
• Use XYZ coordinates
• Can be loaded multiple times for new updates to coordinates
Demo: Step 6

Amir Bar-Maor
Additional considerations

- Iterate tool for large datasets
  - Divide into fishnet 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

• Documentation

• LGIM
  - Download the Maintain Tax Parcel Inventory app to get staging layer package http://solutions.arcgis.com/local-government/land-records/manage-property/
  - Enable parcel fabric with the LGIM in Catalog

• Land Records Meetup

• Esri supported parcel fabric Add ins
  - http://www.arcgis.com/home/item.html?id=7f35ed8034a942b98bf3290f7adcbf13
Please Take Our Survey on the App

Download the Esri Events app and find your event

Select the session you attended

Scroll down to find the feedback section

Complete answers and select “Submit”
### See Us Here – Wednesday 11th July

<table>
<thead>
<tr>
<th>WORKSHOP</th>
<th>LOCATION</th>
<th>TIME FRAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parcel Editing in ArcGIS: Migrating Data</td>
<td>SDCC Room 04</td>
<td>Wednesday 8:30am – 9:30am</td>
</tr>
<tr>
<td>Land Records and the Parcel Fabric (Paper Presentations)</td>
<td>SDCC – Room 24 B</td>
<td>Wednesday 8:30am – 9:30am</td>
</tr>
<tr>
<td>Parcel Editing in ArcGIS: Advanced Topics</td>
<td>SDCC Room 03</td>
<td>Wednesday 2:00pm – 3:30pm</td>
</tr>
<tr>
<td>WORKSHOP</td>
<td>LOCATION</td>
<td>TIME FRAME</td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>------------</td>
</tr>
<tr>
<td>Parcel Editing in ArcGIS: Advanced Topics</td>
<td>SDCC Room 32 A/B</td>
<td>Thursday 10:00am – 11:00am</td>
</tr>
<tr>
<td>Parcel Editing in ArcGIS: Migrating Data</td>
<td>SDCC Room 33 A/B</td>
<td>Thursday 10:00am – 11:00am</td>
</tr>
<tr>
<td>ArcGIS For Land Records: A System of Engagement for the Assessor’s Office</td>
<td>Esri Showcase – Envisioning Center 2 - Hall B1</td>
<td>Thursday 10:00 am – 10:45 am</td>
</tr>
<tr>
<td>UC Land Records Meetup</td>
<td>SDCC - Room 24 B</td>
<td>Thursday 11:30 am – 12:30 am</td>
</tr>
</tbody>
</table>
# See Us Here – Thursday 12th July, PM

<table>
<thead>
<tr>
<th>WORKSHOP</th>
<th>LOCATION</th>
<th>TIME FRAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Assessment and Tax Maps and Apps for Local Government</td>
<td>• SDCC – Room 30 B</td>
<td>• Thursday 1:00pm – 2:00 pm</td>
</tr>
<tr>
<td>• Editing and Maintaining Parcels: An Introduction</td>
<td>• SDCC Room 33 A/B</td>
<td>• Thursday 4:00pm – 5:00 pm</td>
</tr>
</tbody>
</table>