Advanced Parcel Editing

Amy Andis
Tim Hodson
Overview

- What to expect in this technical workshop

- Parcel Editing, Parcel Fabric
  - Workflows
  - Tips and Tricks

- Esri Supported Add-ins

- Assessing Quality of Parcel data

- Methods for Adjusting Parcel data
Why use the Parcel Fabric?

- Optimized Data Model for Maintaining Parcels
- Preserves original recorded information
- Ensures topology between parcels
- Supports Overlapping Parcels
- Maintain Historic Parcels
- Efficient workflows
- Adjust to Control Points
- Create a More Accurate parcel layer
Topics

- Fabric Editing Demos
  - Editing Workflows
  - Editing Tips and Tricks

- Esri Supported Add-ins
- Accuracy in Parcel Data
- Fabric Adjustment
  - Demo
Demo

Parcel Editing Workflows
Tips and Tricks
Esri supported Add-ins

Tim Hodson
Esri Supported Add-ins
ArcGIS Online items supported

- Parcel Fabric Quality Control
- Fabric Point Move to Feature
- Curves and Lines
- Delete Fabric Records
- Extended Fabric Properties
- Parcel Fabric Geoprocessing Tools
- Parcel Edit Helper (Developer Samples - SDK support only)
Parcel Fabric Quality Control
Esri supported Add-in

- Visualize Quality indicators on parcels
- Re-calculate directions or distances (Inverse)
  - Filter by geometry comparison with existing attributes
  - Distance also calculates a combined factor
- Add elevations to control points from a surface (TIN / DEM)

Parcel Fabric Quality Control
http://arcg.is/28ROQfd
Fabric Point Move To Feature
Esri supported Add-in

- Update fabric points using point or line features
  - Configurable behavior
  - Uses standard feature classes
  - Batch merge close fabric points

Fabric Point Move To Feature
http://arcg.is/28OeXB2
Parcel Fabric Geoprocessing Tools
Esri supported Add-in

- 6 Parcel Fabric Toolboxes with tools for:
  - Fabric Adjustment
  - Feature Adjustment
  - Data Migration
  - Export and Reporting
  - Field Calculations
  - Sample python script code

- Installer places the toolboxes in

Parcel Fabric Geoprocessing Tools
http://arcg.is/29QobNB
Accuracy in Parcel Data

Types of accuracy in parcel data

- Attribute data
- Topological
- Spatial accuracy (ground truth)
- Relative accuracy
Accuracy in Parcel Data

Attribute data

- Correct dimensions
  - Data entry, parcel misclose
Accuracy in Parcel Data

Topological accuracy

• Parcel joining
Accuracy in Parcel Data

Topological accuracy

- Merge close points
Accuracy in Parcel Data
Spatial Accuracy

- Spatial accuracy (Ground Truth)
Accuracy in Parcel Data
Relative Accuracy

- Relative accuracy between different
  - Layers / datasets
  - Parcels in the same dataset
  - Points in the same parcel
Accuracy in Parcel Data

Relative Accuracy

• Relative accuracy between layers
Accuracy in Parcel Data

Relative Accuracy

• Relative accuracy between layers
Accuracy in Parcel Data

Relative Accuracy

- Relative accuracy between different parcels
Accuracy in Parcel Data

Relative Accuracy

• Relative accuracy in same parcel
  • Map Coordinates vs Measurements
  • “Shape” accuracy
Accuracy in Parcel Data

Relative Accuracy

• Relative accuracy in same parcel
  • Map Coordinates vs Measurements
  • “Shape” accuracy
• Comparing Distances
Accuracy in Parcel Data

Relative Accuracy

- Relative accuracy in same parcel
  - Map Coordinates vs Measurements
  - “Shape” accuracy
- Comparing Distances
- Comparing Angles
Fabric Adjustment

Tim Hodson
Adjustment
Two types of adjustment

• Fabric Adjustment
• Feature Adjustment

Fabric adjustment

Feature adjustment
Fabric Adjustment
Benefits and Limitations

- Improve spatial accuracy of parcel corners
  - Uses control points, and COGO attributes
  - Fabric points (parcel corner) updated
  - Reduces distortion in parcel shape
  - Attributes on lines are *not* changed
  - Control points held fixed

- Quality Control
  - Find mistakes/blunders in parcel data
  - Find where more control or connectivity is needed
  - Added value in achieving “adjust-ability”

- Consistent end result regardless of starting geometry (repeatability)
Fabric Adjustment
Benefits and Limitations

- Requires good record attribute information
- Requires control points
- Requires lots of data for processing (redundancy)
- High initial time investment in data fixes
Feature Adjustment
Relative accuracy with related feature layers

- Fabric feature adjustment aligns layers from other sources to adjusted parcel boundaries

- Coordinate changes in fabric are stored as vectors

- Vectors are used in a feature adjustment to adjust and align overlaying layers
Demo

Fabric Adjustment
Community
Land Records Meetup

Community
Geonet Land Records Group

- geonet.esri.com/groups/land-records
Community
Geonet ArcGIS Ideas

• geonet.esri.com/community/arcgis-ideas
Community
Geonet Parcel Fabric Developers Group

- geonet.esri.com/groups/parcel-fabric-developers
<table>
<thead>
<tr>
<th>WORKSHOP</th>
<th>LOCATION</th>
<th>TIME FRAME</th>
</tr>
</thead>
<tbody>
<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>
<tr>
<td>WORKSHOP</td>
<td>LOCATION</td>
<td>TIME FRAME</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>----------------</td>
<td>-------------------------------</td>
</tr>
<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>
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”
Esri will support parcel management in future releases of ArcGIS Pro. The new generation of parcel management will be of interest to customers who maintain cadastral records at any scale, domestically and internationally.

The new generation will introduce 2D/3D editing capabilities and a simpler more efficient approach for parcel maintenance. The new generation of the parcel fabric can be edited from the entire ArcGIS Platform and maintained using the new improved editing functionality of ArcGIS Pro.

Existing customers will be able to easily upgrade their parcel fabric without having to re-migrate their data, thus saving their investment.