Editing Parcels With ArcGIS
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Editing parcels with ArcGIS

- Based on an optimized model for parcel storage
  - Parcel fabric
- Parcel Editor toolbar
  - Tools for streamlined parcel editing workflows
- Maintain and improve
  - Topological integrity
  - Positional accuracy of parcels
What is a parcel fabric?

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

- Plans
  - Parcels
    - Points
      - Control
      - Line Points
    - Lines
Parcel fabric data model

- Parcels

Parcel polygon has related lines

Lines have related From and To points
Parcel fabric data model

• Parcel lines store (COGO) dimensions
  - Each parcel has its own set of related lines

• End points are common
  - Topological integrity
Parcel fabric data model

- **Plans**
  - Store manage plans, plats, legal records…
  - Parcels created in and grouped by their associated legal record
Parcel fabric data model

- **Line points preserve data integrity**
  - A line point is a parcel corner point that sits on an adjacent boundary line but does not split it
Parcel fabric data model

- **Curves**
  - True, parametric curves
  - Radial lines
Parcel fabric data model

• Supports:
  - Overlapping parcels
  - Natural boundaries
  - Donut/island and multipart parcels
  - Historic parcels
Data migration

- **Load topology geoprocessing tool**
  - Loads a clean, validated topology into a parcel fabric
    - Line feature class, polygon feature class
    - Topology is validated against a required set of rules
Demo: Data Model
Parcel Editing
Parcel editing

- Parcel traverse
- Parcel division
  - Split by area
  - Split using construction lines
- Parcel merge
- Parcel remainder
- COGO tools
  - Bearing, distance, tangent curve, intersection, parallel, perpendicular, etc
- Snake tool for parcel naming/numbering
- Parcel joining
Streamlined workflows – parcel division

- Divide by area
Streamlined workflows – parcel merge

- Maintain interior, historic lot lines
Streamlined workflows – parcel remainder

- Create remainder parcels from overlapping parcels
Streamlined workflows – parcel remainder

- “Snake” tool
Tracking parcel edits

- Jobs keep track of edits
  - Date/time of edit, type of edit and user
  - Optionally create and manage your own jobs
Data Integrity and Accuracy
Data Integrity

- **Parcel layer is topologically correct**
  - Parcel joining enforces connectivity during incorporation
  - Land records from plans/deeds are integrated into a continuous, topologically correct parcel layer

- **No slivers and gaps**
Data integrity

• Parcel dimensions are correct
Data Integrity - spatial accuracy

- Fabric least-squares adjustment uses control points and COGO dimensions to recalculate/update parcel coordinates
- Fabric feature adjustment aligns layers from other sources to adjusted parcel boundaries
Fabric least-squares adjustment

- Parcel network is adjusted to control network
- COGO dimensions used to recalculate coordinates
- Parcel point coordinates are updated, dimensions are not changed
- Finds mistakes/blunders in parcel data
- Parcel data should be correct
  - Topologically clean
  - Correct dimensions
Fabric least-squares adjustment

- Accuracy categories on parcels and lines affect the outcome of the adjustment
  - Parcels/lines with high accuracy category adjust less than parcels/lines with low accuracy category
  - Accuracy categories act as weights in adjustment
Fabric least-squares adjustment

- Least –squares adjustment will be successful if:
  - Parcel network fits/transforms well to control network
  - Good connectivity in parcel network
  - No blunders in COGO dimensions
Fabric feature adjustment

- Coordinates changes from fabric adjustment are stored as vectors
- Vectors are used in a feature adjustment to adjust and align overlaying layers
Other sessions

- ArcGIS for Land Records - Parcel Maintenance Solution
  - Tue, Jul 12, 3:15PM - 4:30PM
- ArcGIS for Land Records Implementation Examples
  - Wed, Jul 13, 8:30AM - 9:45AM
- ArcGIS for Land Records: Migrating your Data
  - Wed, Jul 13, 10:15AM - 11:30AM
- Migrating Coverages to the Parcel Fabric
  - Wed, Jul 13, 3:15PM - 3:35PM
Other sessions

- Integrating CAD Data with the Parcel Fabric
  - Thu, Jul 14, 11:05AM - 11:25AM

- ArcGIS for Land Records - Improving Data Quality
  - Thu, Jul 14, 4:05PM - 4:25PM