Editing Spatial Data in ArcGIS 10: New Workflows and Data Structures

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Editing with ArcGIS 10

- Layer-based editing
  - Editing functionality honors layer properties
    - e.g., Unique symbology in feature templates
- Feature templates
  - Define the types of features you want to create
- More direct access to functionality
  - Promoted tools on the Editor toolbar
  - New floating toolbars
- Simplified snapping environment
  - Snapping toolbar
- Much more…
Feature Templates

- Define information to create a feature:
  - Target layer
  - Symbol used to draw features
  - Default attribute values
  - Default tool
  - Name, description, tags

- Automatically created
  - Beginning of first edit session

- Create manually
  - Copy and update properties
  - Delete

- Saved in .mxd, .lyr
Create Features Window

Feature Template in Action!

Click a feature template to start creating that type of feature

Manage feature templates

The construction tool that will be used to create features
Easy Access to Tools

- Buttons on the Editor Toolbar
  - End Point
  - Arc Segment
  - Trace
  - Cut Polygons
  - Reshape Feature
  - Edit Vertices

- New Mini Toolbars
Two main ways of adding or updating attributes:
- Attributes window
- Table window
Setting Snapping

• Snapping toolbar

• Snapping enabled by default

• Snapping options
  - Snap tips
  - Snapping tolerance
  - Snap symbol color
Editing existing features

- Improved selection experience
  - Coincident selectable features

- Multiple vertex operations
  - Move/delete multiple vertices at once

- Altering segments
  - Change segment from straight to circular arc or Bézier curve
Demo: ArcGIS 10 Editing
Parcel storage/editing with ArcGIS 10

- New parcel editor toolbar
- Based on an optimized model for parcel storage
  - Parcel fabric
- Tools for streamlined parcel editing workflows
  - Splits, merges, resurveys, etc
  - Import digitally submitted data (from CAD or other sources)
  - Optionally maintain metadata for edits – job tracking
- Improve and maintain data integrity
  - Topological integrity
  - Improve positional accuracy of data
- Maintain information on the points, lines, and polygons that constitute the geometry of a parcel
  - Bearings and lengths of boundary
  - Maintain a Cadastral dataset, not just a set of polygons
What is a parcel fabric? In words...

- 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
  - inherent in the model and **validated** during data entry
What is a parcel fabric? In pictures...

- Parcel boundary network
Data model

- Parcel fabric
Data model

- Parcels

 Parcel polygon has related lines

 Lines have related From and To points
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

Point 32 is a line point on parcel 1550
Data model

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

# of lines = 16
# of points = 9
Data model

- **Curves**
  - True, *parametric* curves
  - Radial lines
Data migration

- **Geodatabase topology loader**
  - Loads a clean, validated topology into a parcel fabric
  - Topology is created on a line feature class and polygon feature class
  - Topology is validated against a required set of rules
  - Geoprocessing tool
  - Iterative

- **COGO coverage**
  - Direct migration
  - Can be created with ArcInfo

- **Fabric Source**

- **CAD integration**
Data integrity

- **Fabric adjustment** can use survey control and COGO dimensions to recalculate/update parcel corner points
Parcel Splits

- Divide by area

![Parcel Division](image)

- Divide parcel by proportional area

- Areas are equal

Choose the target for the new parcels:

- Plan...
- Map 8613
- Template...
- Parcels

Divide this parcel:

- into equal areas
- in equal widths
- by proportional area
- into equal areas

Misclose: 0.0134 ftus
Area: 1.078 a

Number of parts: 2
Merging Parcels

- Maintain interior, historic lot lines
Cookie Cutting Parcels

- Create remainder parcels from overlapping parcels
Naming Parcels

• “Snake” tool
Demo: Parcel Fabrics and Parcel Editing
More Resources on Esri.com & ArcGIS.com

- ArcGIS 10 Help topics on Parcel Fabric/Editor
- Land Records Resource center
  - http://resources.arcgis.com/content/local-government/land-records
- Post your ideas/opinions: Ideas Center - http://ideas.esri.com
- Watch demos/presentations: Video Center - http://videos.esri.com
- Free Online Web Training - http://training.esri.com/
  - Many new courses specific to ArcGIS 10
- Scheduling more webcasts throughout the year
- Educational Services is working on web and instructor led classes
Questions?

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Thanks for coming!