Generalization for Multi-Scale Mapping

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Contextual Generalization

- Early automated generalization tools considered the geometry of each feature sequentially without regard to symbology or other feature relationships.

- Contextual generalization tools assess multiple features from multiple layers simultaneously.

- Maintain representative pattern, density, and character.

- Resolve conflicts between symbolized features at scale.
Multi-Scale Mapping Workflow

Data Generalization
(Generalization toolset)

- Reduce feature count
- Aggregate Polygons
- Thin Road Network
- Merge Divided Roads
- Delineate Built-Up Areas
- Simplify Line
- Smooth Line
- Simplify Polygon
- Smooth Polygon
- Simplify Shared Edges
- Smooth Shared Edges
- Collapse Road Detail
- Simplify Buildings
- Simplify Road
- Simplify Road
- Smooth Road

Conflict Resolution
(Graphic Conflicts toolset)

- Symbolize data for output scale
- Resolve Road Conflicts
- Propagate Displacement
- Resolve Building Conflicts
- Detect Graphic Conflicts
- Manual editing
- Reduce feature count
- Reduce feature complexity
- Detect Graphic Conflicts
- Smooth Polygon
- Simplify Polygon
- Simplify Shared Edges
- Simplify Shared Edges
- Smooth Line
- Smooth Line
- Smooth Polygons
- Smooth Polygons
- Smooth Polygons
- Smooth Polygons
Partitioning Large Datasets

- Establish partitions for data
  - Feature layers, map sheet boundaries, or
  - use Create Cartographic Partitions tool

- Set the Cartographic Partitions geoprocessing environment variable to this partitions layer
  - Each partition processed independently
  - Edge matching handled
Generalization Demo
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