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
- Reduce feature complexity
  - Simplify Line
  - Smooth Line
  - Simplify Buildings
  - Smooth Polygon
  - Simplify Polygon

Conflict Resolution
(Graphic Conflicts toolset)
- Symbolize data for output scale
  - Propagate Displacement
  - Resolve Building Conflicts
  - Resolve Road Conflicts
- Detect Graphic Conflicts
- Manual editing

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  - Simplify Polygon
  - Simplify Line
  - Simplify Buildings
- Resolve Road Conflicts
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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