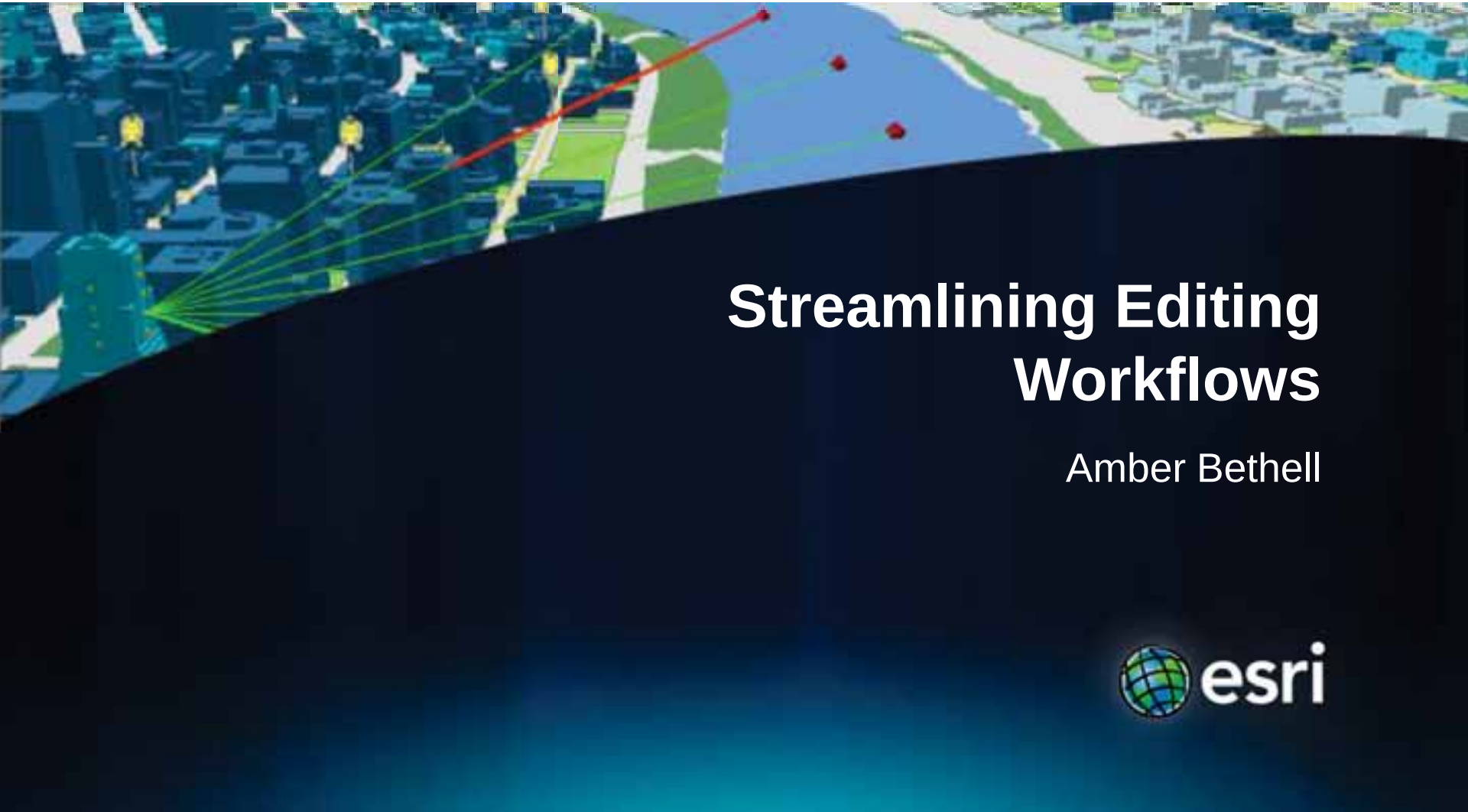
Esri | California · Hawaii · Nevada

Regional User Group Conference

February 23–24, 2011 • Esri • Redlands, CA

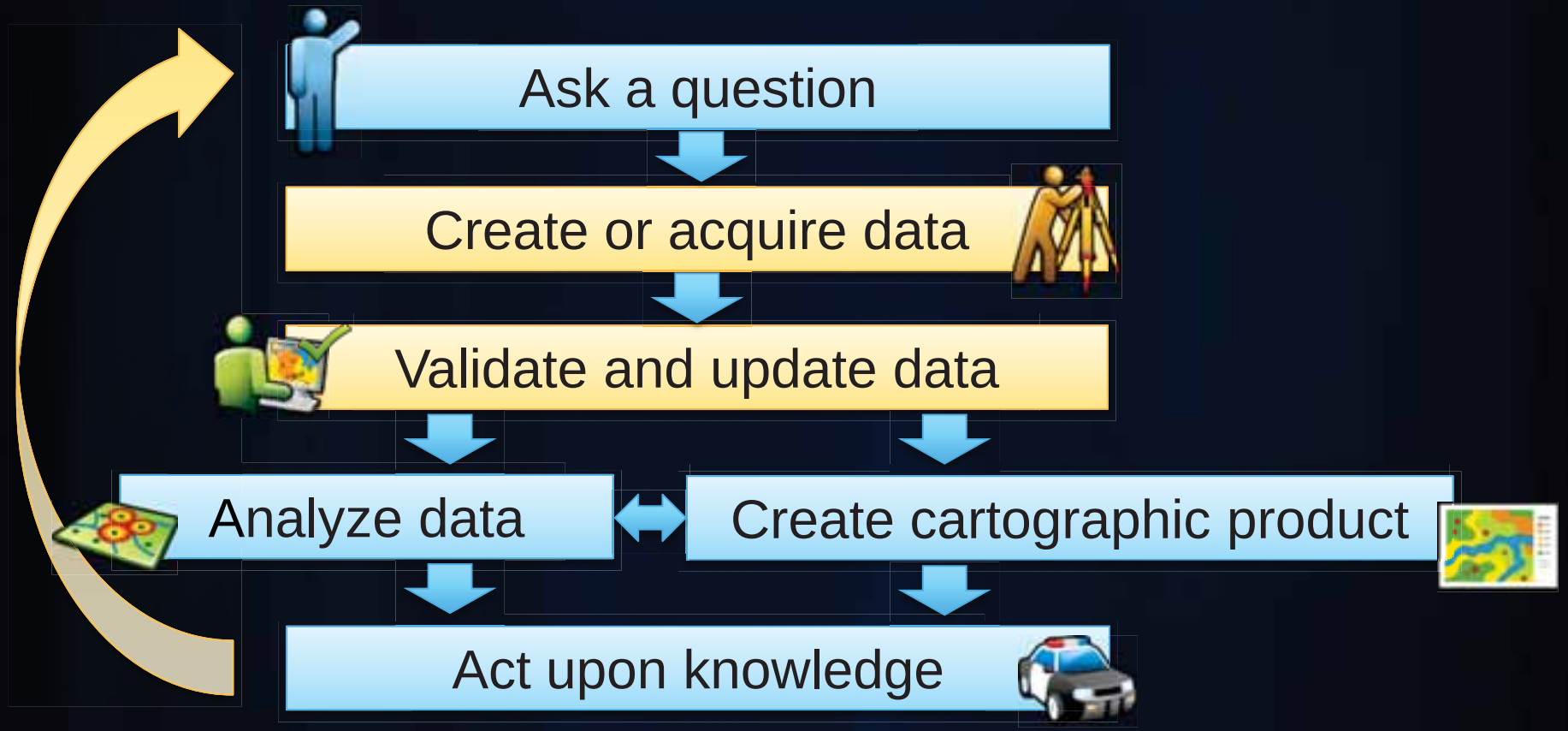


Streamlining Editing Workflows

Amber Bethell

esri

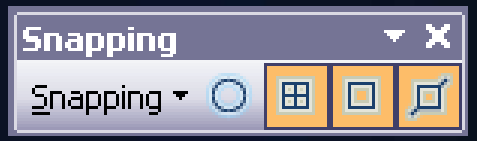
Workflow for solving geographic problems



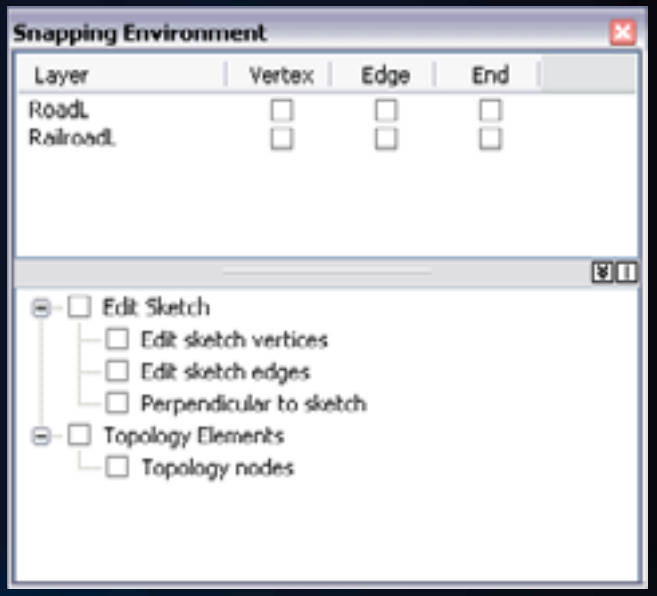
Creating Data

Setting the Editing Environment

- **Snapping**
  - **Toolbar**
    - **By Type**
      - **Point, End, Vertex Edge**
    - **Feedback in Map**
  - **Classic Snapping**
    - **By Layer**



- **Feature construction toolbar**



Feature Templates

- Define:
  - Target layer
  - Attributes
  - Default Construction Tool
- Automatically created if none exist
- Stored in map document (.mxd) and layer file (.lyr).

Creating Features and Working with Templates

Tips for creating features

- Author map before you start editing the first time
  - Set up symbology
  - Add all layers
- Set appropriate database defaults in the data model
- Use layer files, mxds, and packages to distribute and reuse the templates.

- Use Tab – position Feature Construction toolbar
- Use Z X C Q – quick navigation
- Use Space Bar – Toggle Snapping

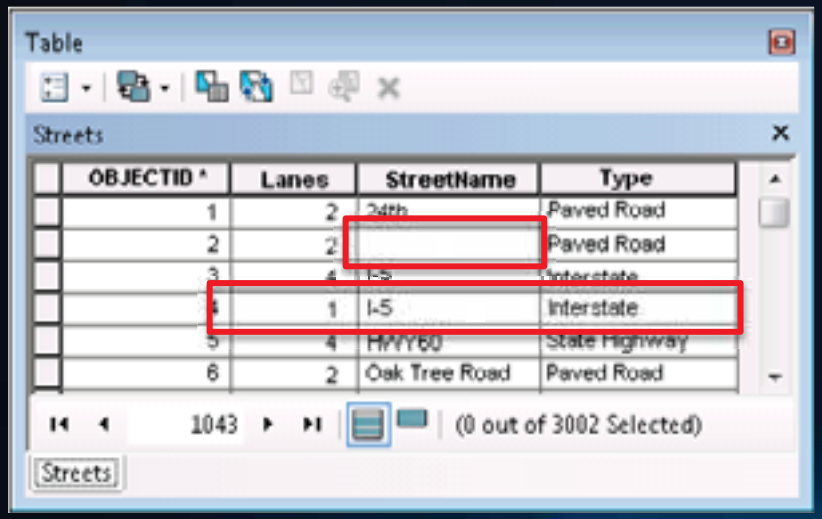
Creating Quality Data

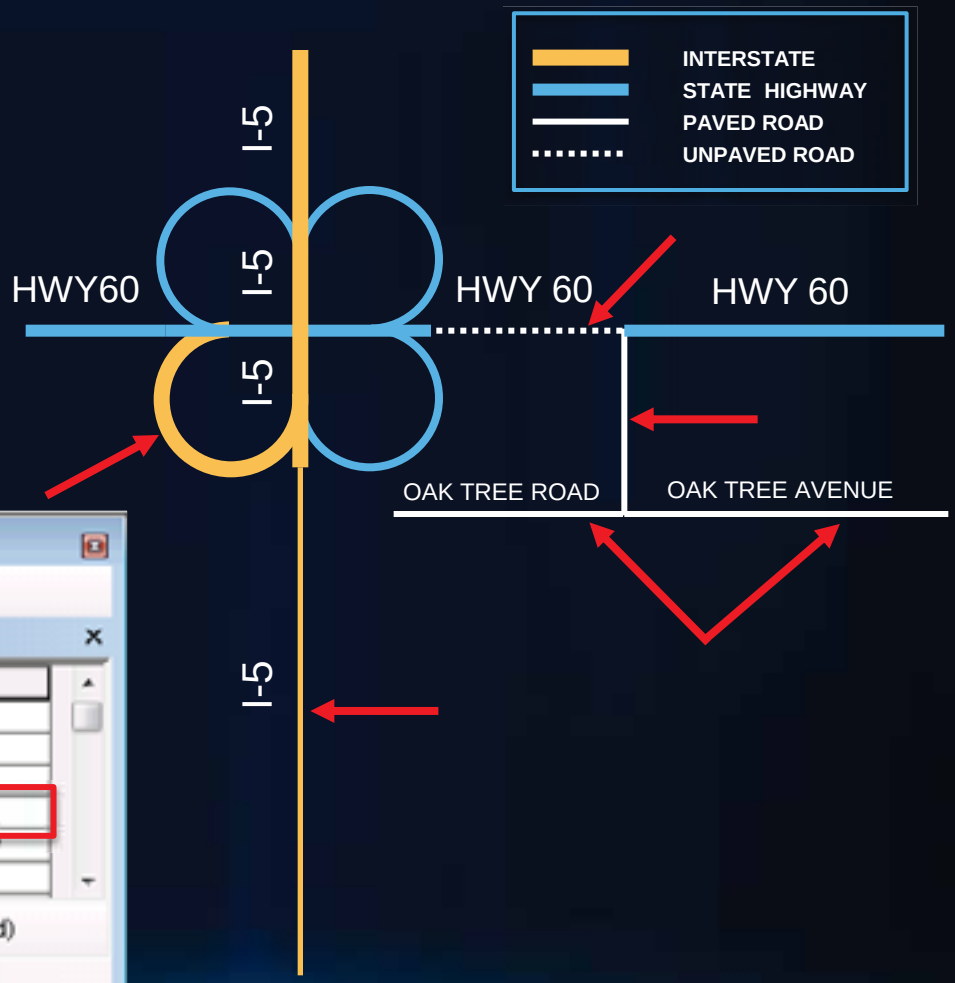
Quality

- What is Quality?
  - Intended purpose and usage
  - Technical specifications
  - Client requirements
- Performing analysis on bad data leads to bad conclusions
- Consider attribution and geometry of features

Common Types of Attribute Errors

- Completeness
- Consistency
- Accuracy
- Valid combinations





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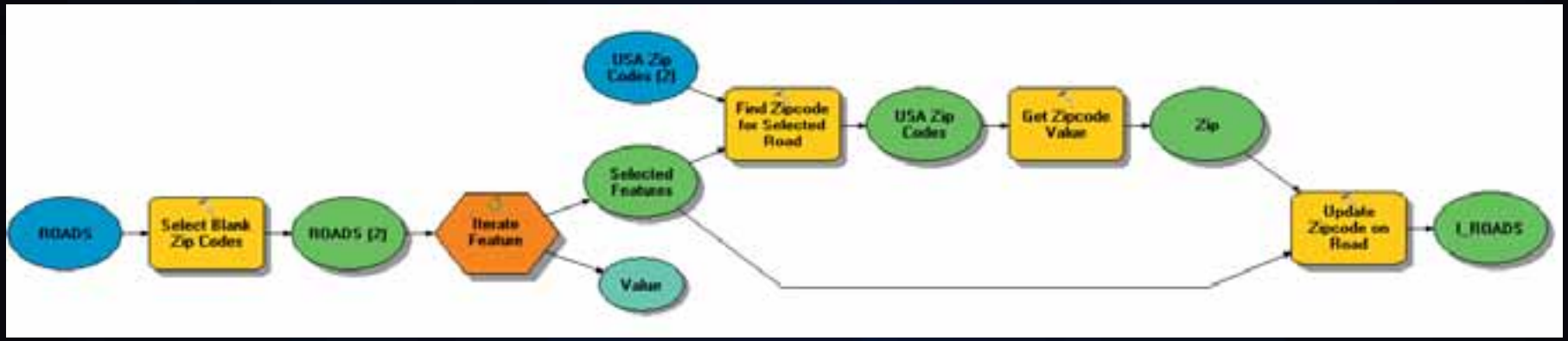
Finding attribute issues with queries

- **Issue: Highways of type interstate must have at least 2 lanes**
- **Select highways with type = interstate and lanes < 2 using Select By Attributes**

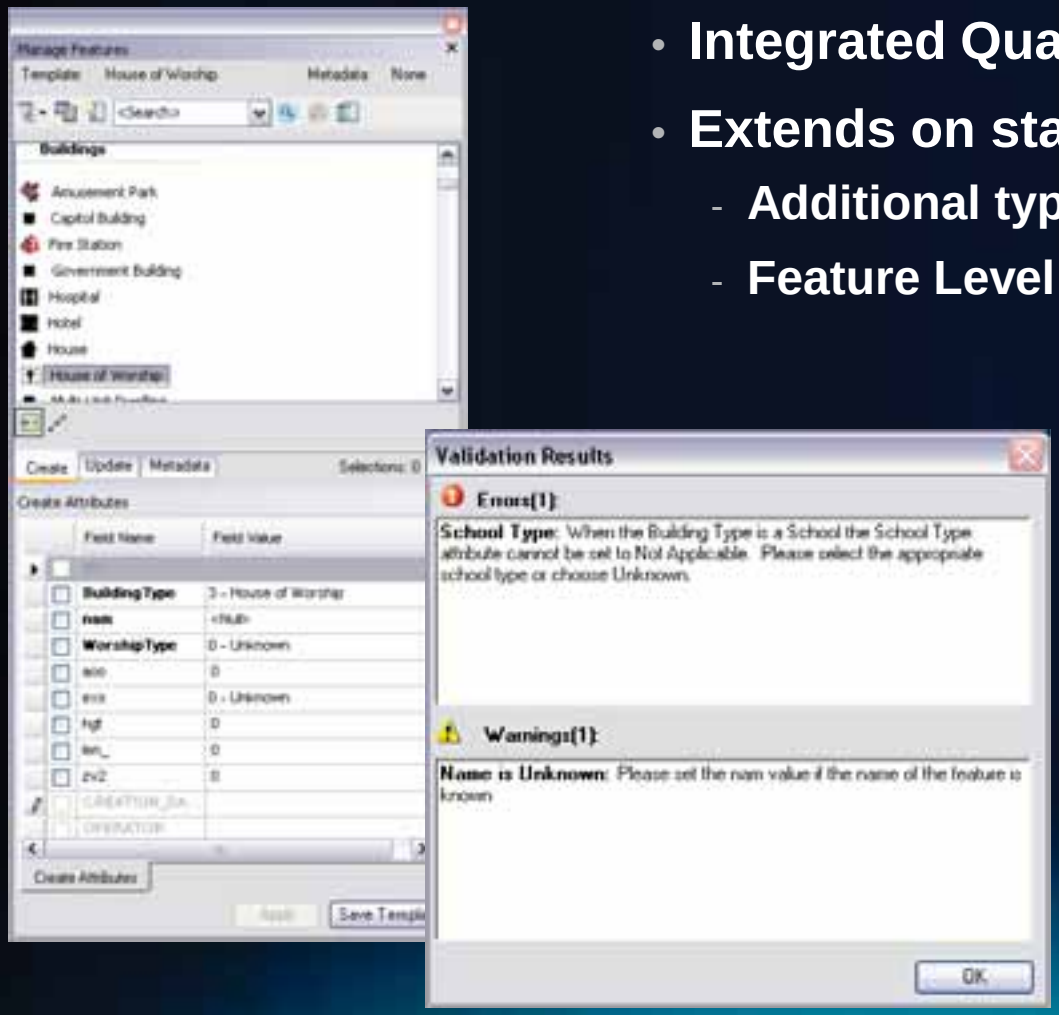
Finding and fixing attribute issues with GP

- Use Geoprocessing
  - Run queries on data to find issues
  - Perform calculations on data to fix issues
- Well defined data model
- Use templates when creating features



Editing with Production Mapping

Extension for Producing Data and Cartographic Products



- **Integrated Quality Control**
- **Extends on standard Editing**
  - **Additional types of templates**
  - **Feature Level Metadata**

Creating Features with Production Mapping

Common Types of Geometry Errors

- **Relational Accuracy**
  - **Misplaced Features**
  - **Gaps & Overlaps**
  - **Connectivity**
- **Missing Features**
- **Positional Accuracy**

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Finding and fixing geometry errors

- Use Map Topology
- Use appropriate geometry types
  - Topology
  - Geometric Networks
  - Parcel Fabrics
- Use Geoprocessing
  - Create Spatial Queries
  - Use GP tools to adjust features
- Use Data Reviewer

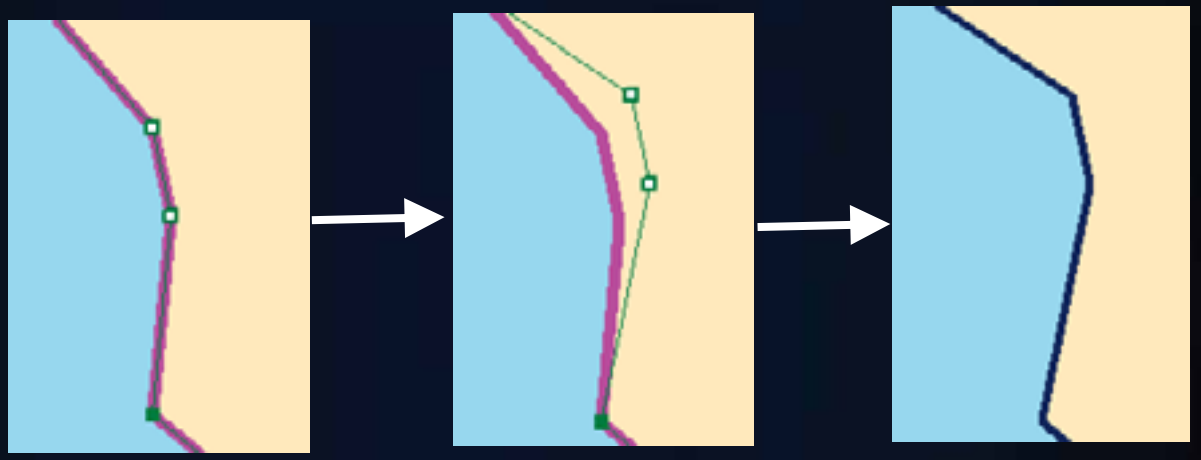
Editing coincident geometry

- Prevents introduction of errors
- Topology Edit tool

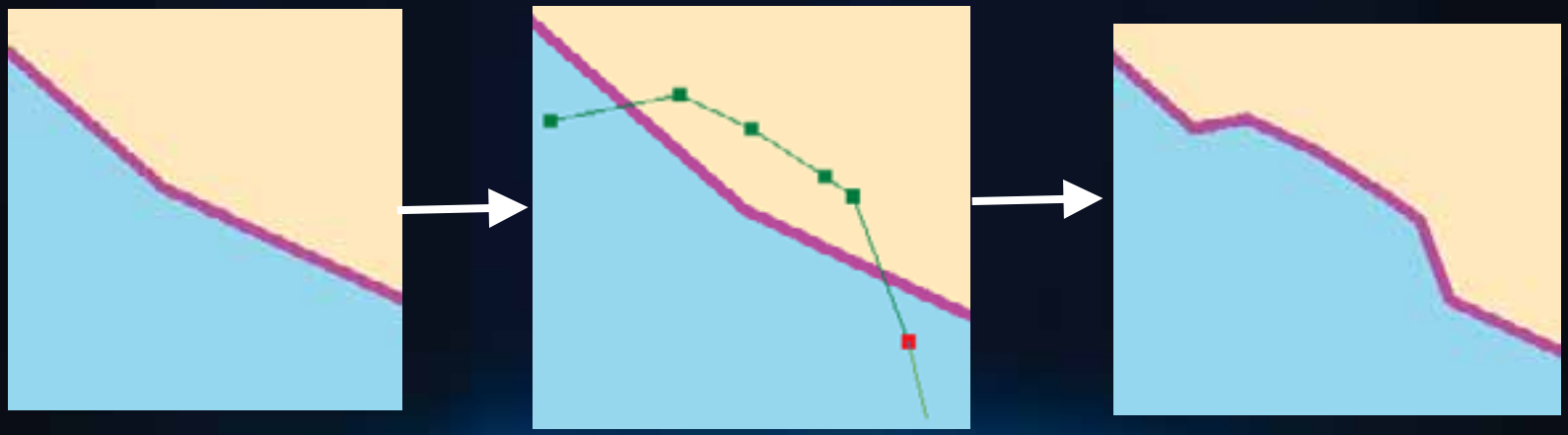
  - Press E to select only edges, N to select only nodes

Editing coincident geometry

- **Modify Edge**

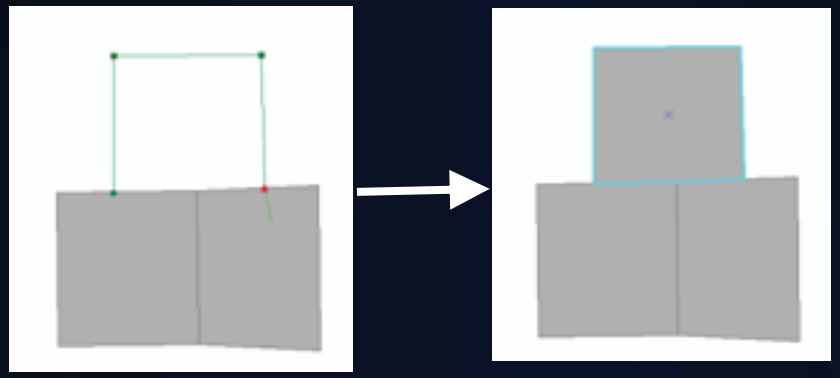


- **Reshape Edge**

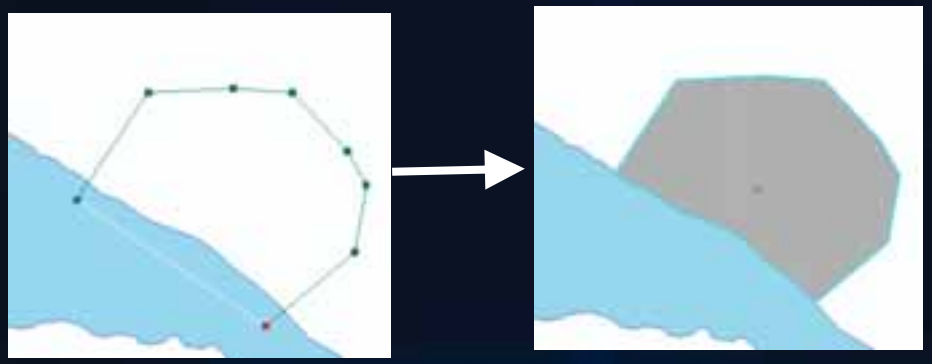


Editing coincident geometry

- **Autocomplete Polygon**

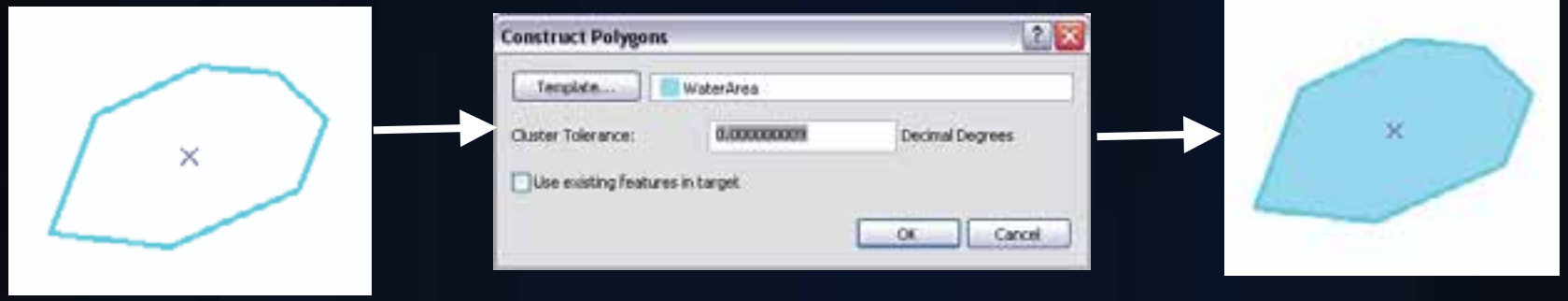


- **Difference Polygon (Production Mapping)**

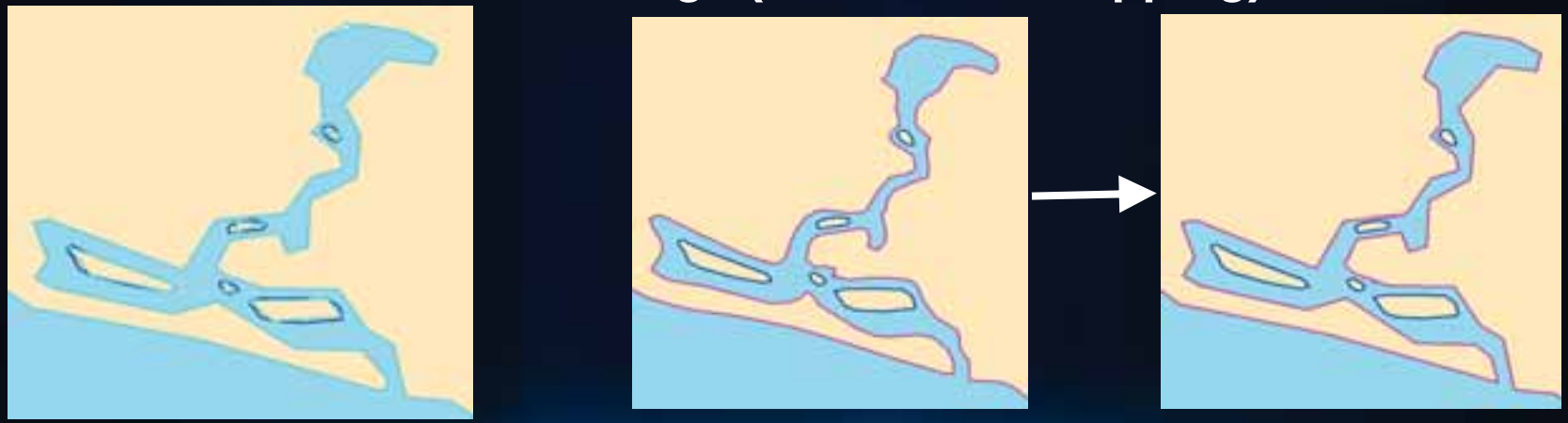


Editing coincident geometry

- **Construct Features**

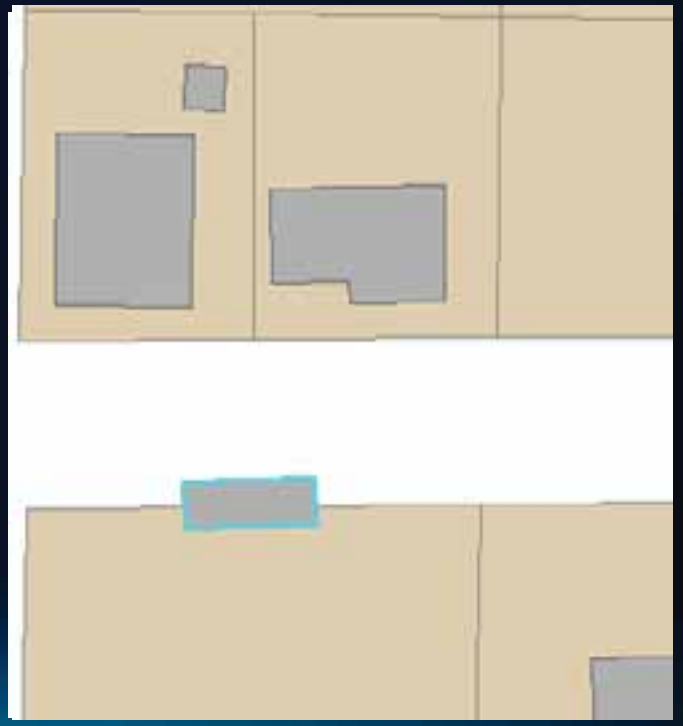


- **Generalize Shared Edge (Production Mapping)**



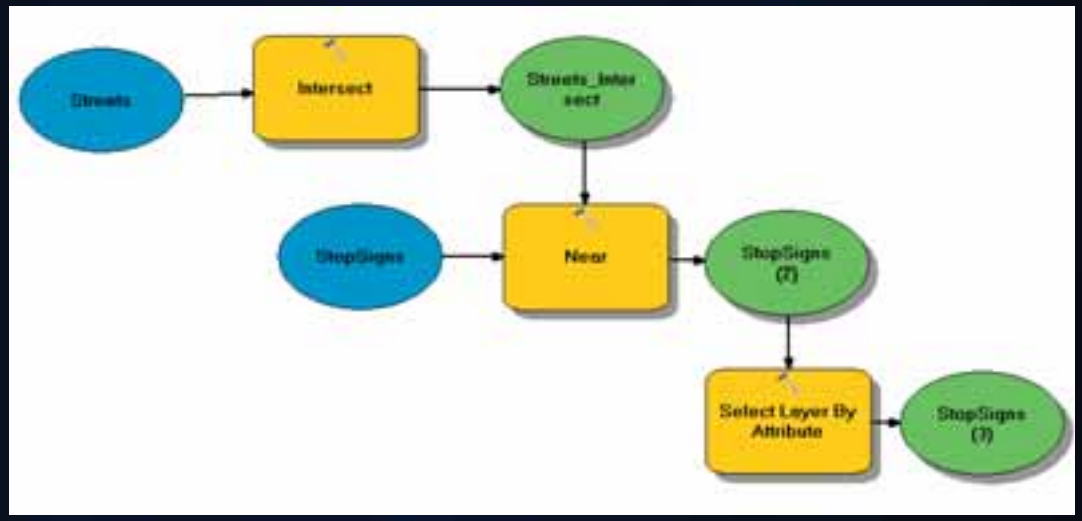
Finding spatial issues with queries

- Issue: Buildings must be within a parcel
- Step 1: Select Buildings within a Parcel using Select By Location
- Step 2: Switch Selection



Identifying spatial errors with GP

- Used for complex analysis problems
  - Issue: Stop signs not within 50 feet of an intersection
- Important tools
  - Analysis Tools
  - Database Management Tools
- Create new data



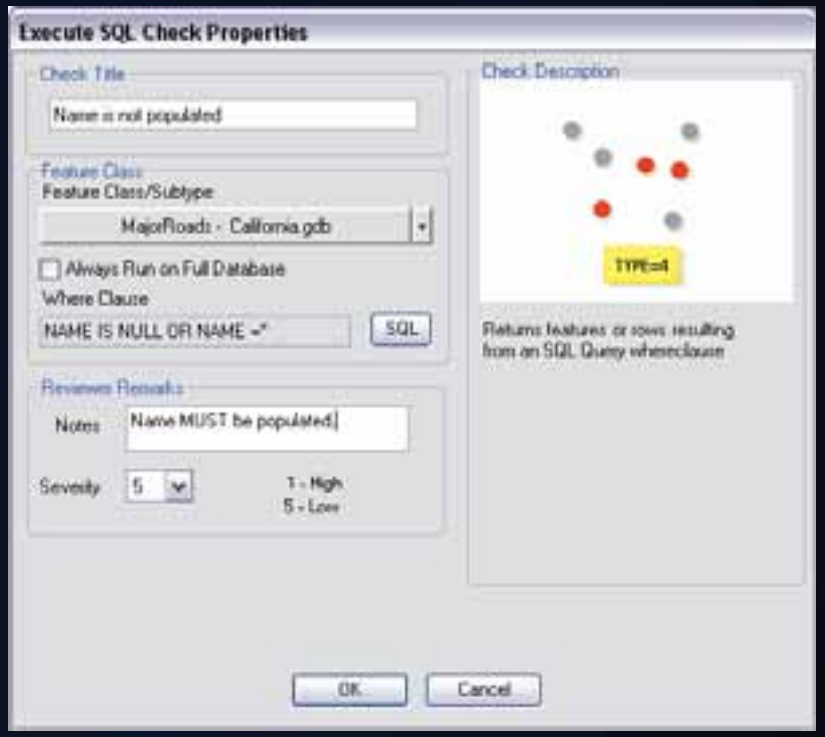
Topology errors

- Requires geodatabase topology with rules
- Validate Topology
  - Checks dirty areas
- Error Inspector helps fix

Validating Data with Data Reviewer

Extension for Data Validation and Analysis

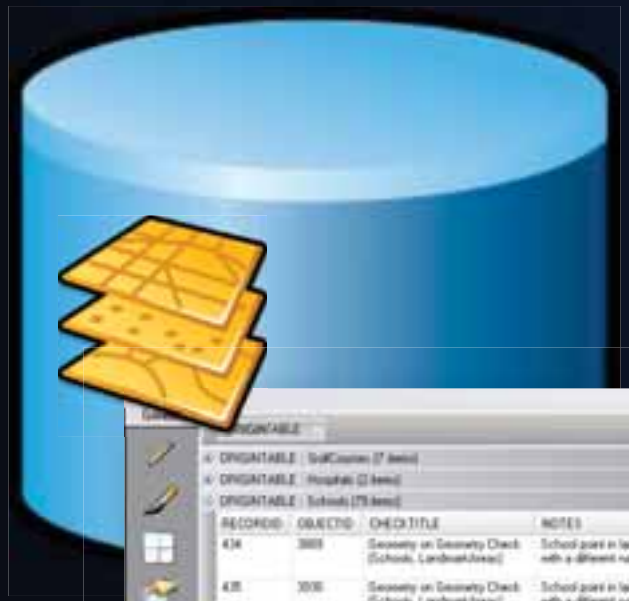
- Automated Checks
  - Attribute
  - Spatial
  - Feature integrity
  - Metadata
- Batch Jobs
  - Distributable
- Visual Review
  - Guided inspection
  - Missing Features



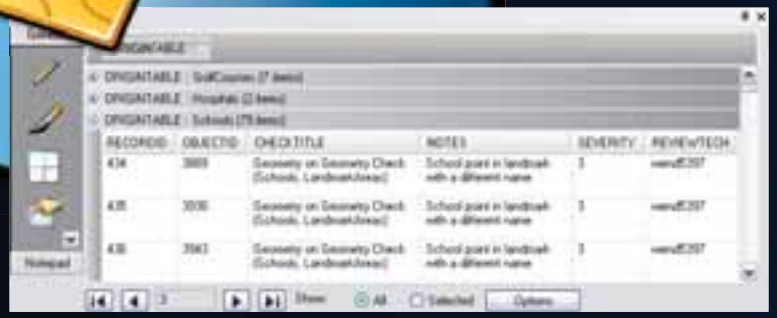
Reviewer Checks Poster - http://www.esri.com/library/fliers/pdfs/arcgis-data-reviewer-checks.pdf

Tracking Information with Data Reviewer

Extension for Data Validation and Analysis



- Store information about errors
- Navigate to error features
- Validate, Correct, Verify
- Create Reports



How to choose

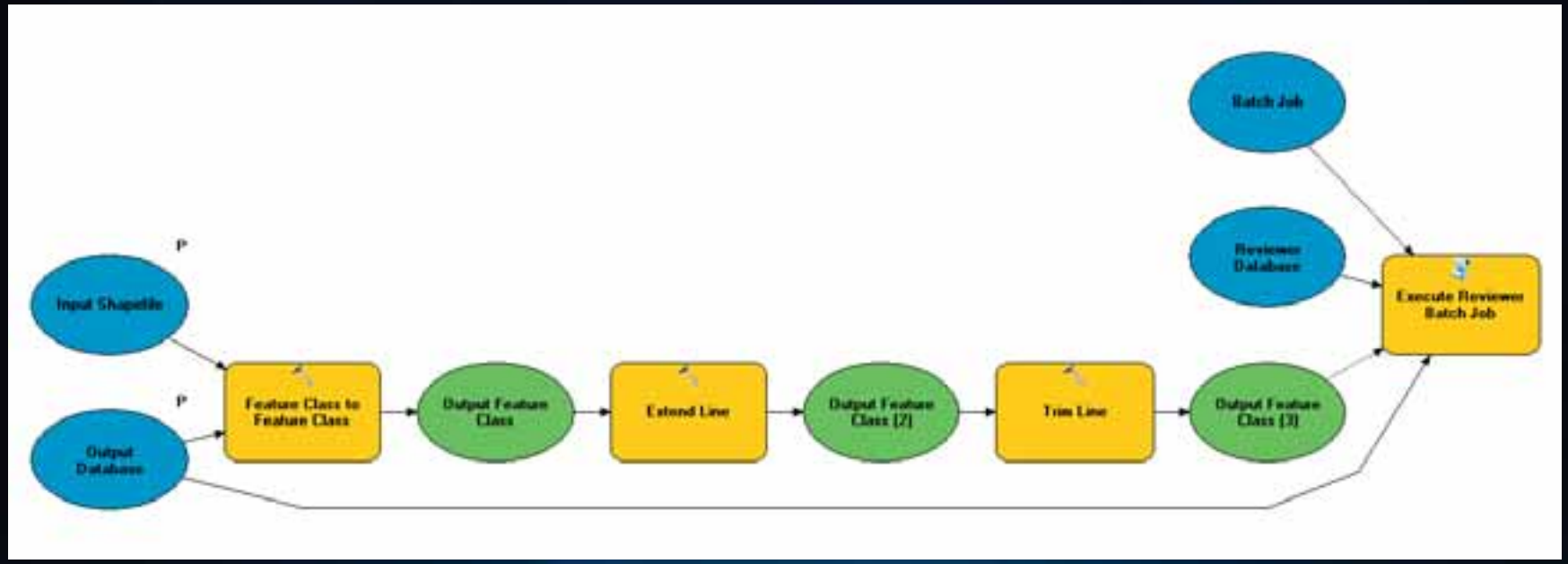
- Map Topology
  - Data from same workspace
  - Ensure coincidence when editing
  - No rules to validate
  - Must be in edit session
- Geodatabase Topology
  - Requires feature dataset
  - Ensure coincidence when editing
- Data Reviewer
  - Shapefiles or databases
  - Compare between workspaces
  - No tools to edit data

Validating Geometry with Data Reviewer

Ensuring Consistency

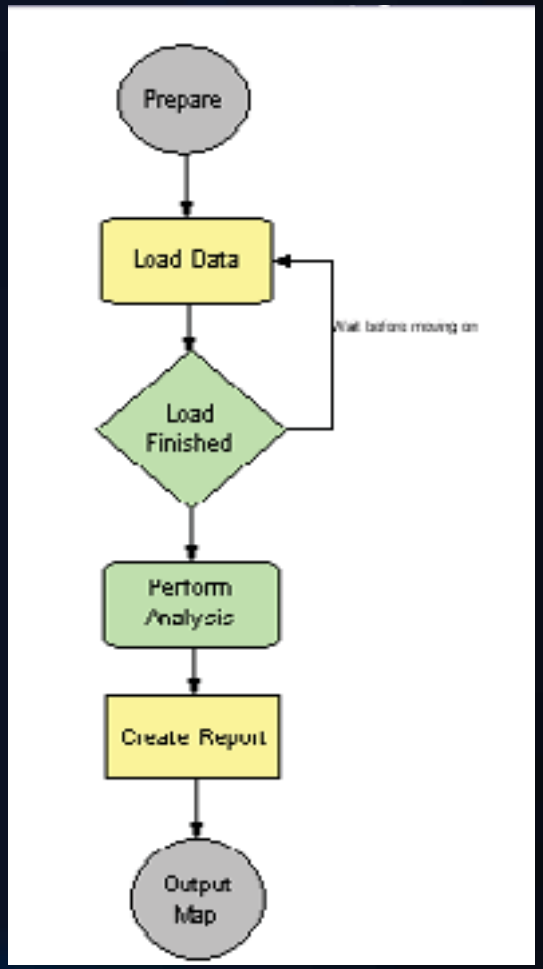
Geoprocessing and Models

- Automate common processes
- Little or No manual interaction
- Run in or out of edit session



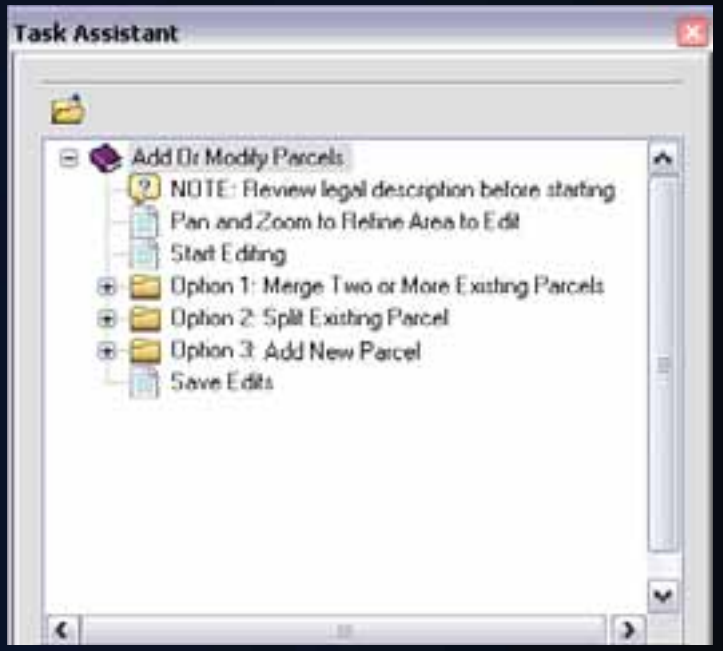
Workflow Manager

- Standardize workflow to automatically launch necessary programs
  - non-GIS
  - ArcMap
- Manage database versions
- Create and assign units of work (jobs)
- Notify users of pending work
- Track and manage status of work



Task Assistant

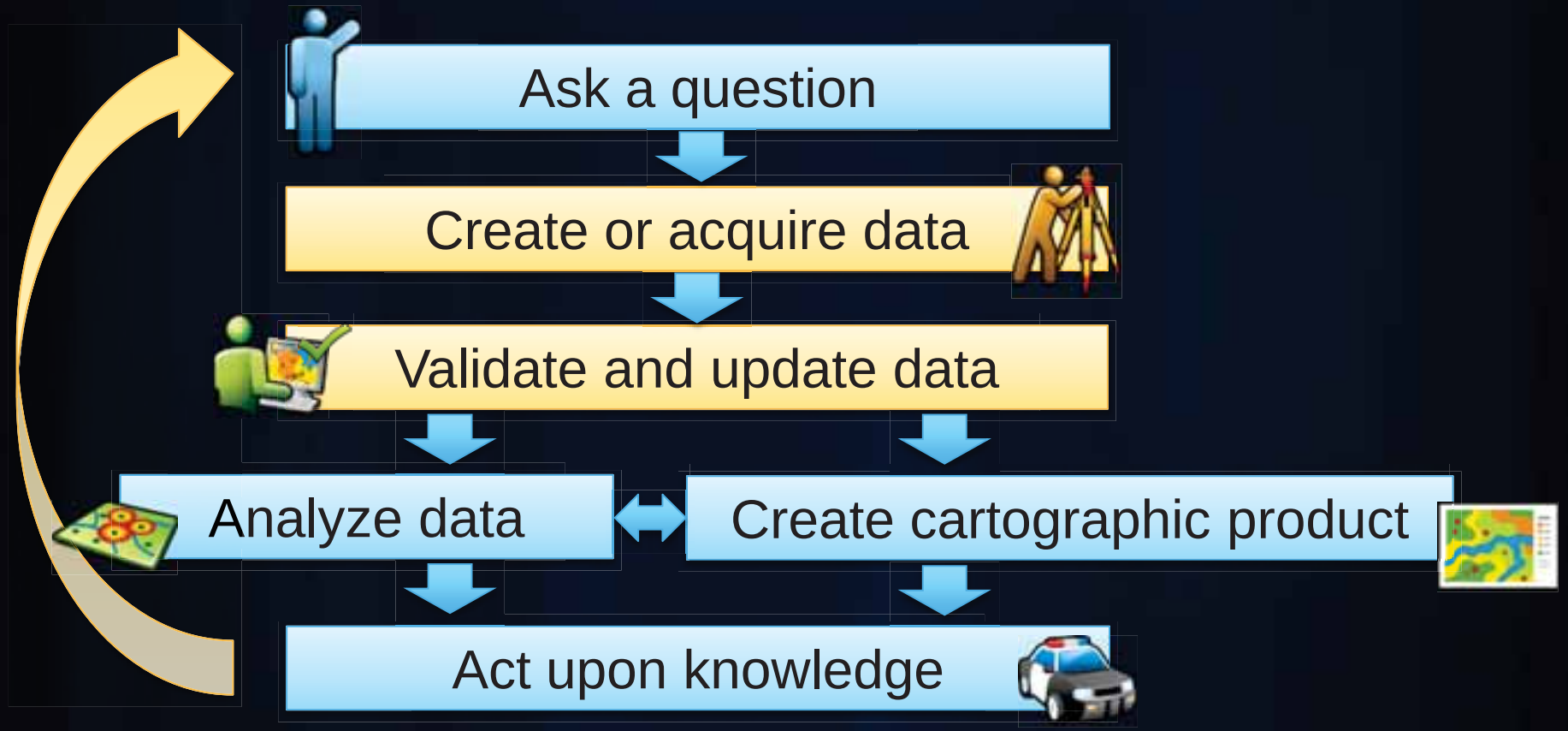
- Take up where Workflow Manager leaves off
- Standardize ArcMap workflows
  - Reduce learning curve
- Combine multiple tasks into one click



Automating Processes with Workflow Manager and Task Assistant

Further Information

Workflow for solving geographic problems



Production Mapping Product Information

- Enables high volume, high quality production
- Facilitates standard, repeatable workflows
- Individual Extensions
  - Data Reviewer
  - Workflow Manager
- Suite of Extensions
  - Production Mapping

Great Resources

- Resource Center
- Blogs
  - Editing - http://blogs.esri.com/Dev/blogs/arcgisdesktop/archive/tags/Editing/default.aspx
  - Data Reviewer - http://blogs.esri.com/dev/blogs/datareviewer/Default.aspx
- Product Information
  - Data Reviewer - www.esri.com\datareviewer
    - 60-day Free Evaluation
    - ArcGIS Data Reviewer Checks poster
  - Production Mapping – www.esri.com\productionmapping
  - Workflow Manager – www.esri.com\workflow

Questions?