



Creating and editing attributes

Miriam Schmidts

Lesson 2



Learning objectives

- **Perform efficient attribute edits using**
 - **Attributes window**
 - **Field Calculator**
 - **Calculate Geometry**
 - **Attribute Transfer**
- **Choose the most appropriate attribute assignment method**

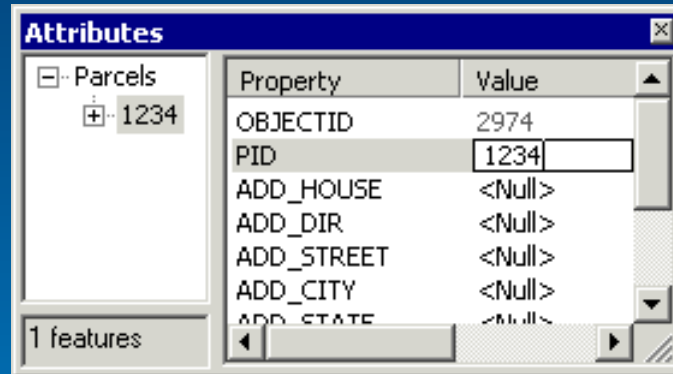
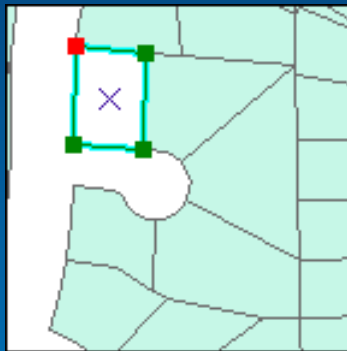
Attribute assignment methods

- **Add as each feature is created**
Method: Use the Attributes editor or the open table
- **Add after features are created**
Method: Select features, calculate common attribute values
(Use the Attributes editor or the table Field Calculator)
Method: Join a table of attributes to all features
(Use an ArcMap join)
- **Transfer from another feature layer**
Method: Use the Attribute transfer tool... feature-by-feature
Method: Use geoprocessing and spatial join... all features
- **May use all methods in any combination**

Add during feature creation

- With Attributes editor or in open table
 - Best when features have unique attributes

Add feature



Type values in Attributes editor or table

Advantages

- Simple and systematic
- Features complete and ready to use (have both geometry and attributes)

Disadvantages

- Slow (often have no other choice)
- A lot of typing

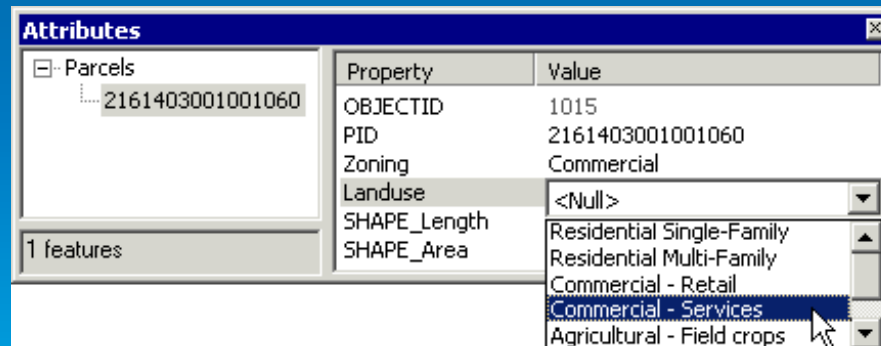
Defaults and domains help

- **Attribute defaults**

- Set default attribute in feature template properties
- Automatic attribute assignment as feature is created

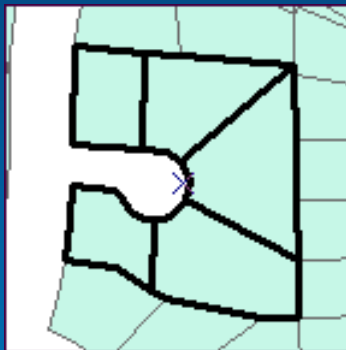
- **Attribute domains**

- Faster attribute assignment – select from a list with no typing
- Geodatabase only

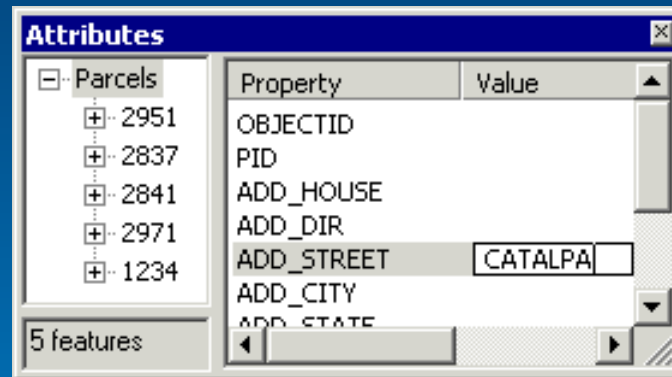


Add after feature creation

- With Attributes editor or table Field Calculator
 - Best when features share common attributes



Select features



Select layer, type values

Advantages

- Fast – may set attributes for many selected features at once

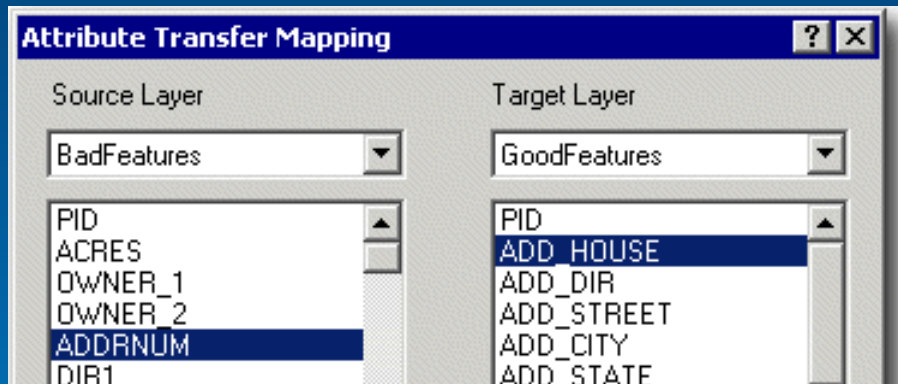
Disadvantages

- Features must have common attributes (like street name)
- May only work for a few fields

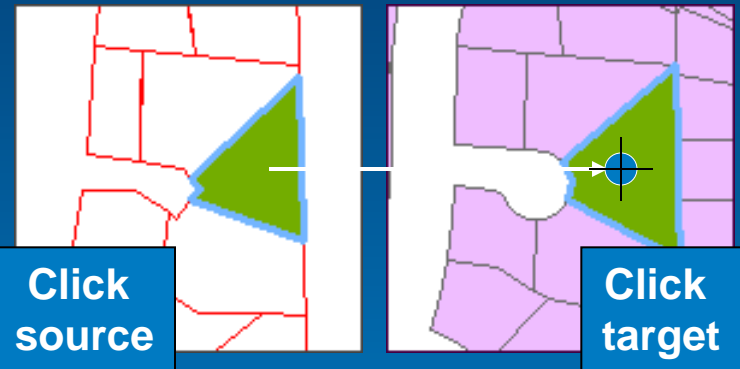
Add from a feature layer – Attribute transfer



- With Attribute transfer tool
 - Best when transferring attributes for a few features



Set source and target, map fields



Advantages

- No spatial relationship needed
- Works with different geometries
- May select fields to transfer

Disadvantages

- Must have a source feature layer
- Slow for hundreds of features (but much faster than typing)

Add from a table

- With ArcMap Join
 - Best when features have many attributes

Attributes of Parcels		
OBJECTID*	SHAPE*	PID
1	Polygon	2161403001001050
2	Polygon	2161403001001060
3	Polygon	2161403001001070
4	Polygon	2161403001001040
5	Polygon	2161403001001060

Attributes of ParcelData				
PID	ADD_HOUSE	ADD_STREET	ADD_CITY	ADD_ST.
2161403001001030	3209	AMHERST AVE	MANHATTAN	KS
2161403001001070	3700	CATALPA CIR	MANHATTAN	KS
2161403001001040	3701	CATALPA CIR	MANHATTAN	KS
2161403001001050	3709	CATALPA CIR	MANHATTAN	KS
2161403001001060	3710	CATALPA CIR	MANHATTAN	KS

Must have a common key

Advantages

- May automate attributes separately
- Others may manage attributes
- May make permanent (export FC)

Disadvantages

- Must manually add key to features
- Cardinality must be 1:1 or Many:1
- Local to ArcMap map or layer

Field calculations

String concatenation

First	Last	Name
Joe	Smith	Joe Smith

```
Name = !First! + " " + !Last!
```

Trimming blanks

City	NewCity
__ New York __	New York

```
NewCity = !City!.strip()
```

Changing case

Name	FullName
JOE SMITH	Joe Smith

```
FullName = !Name!.title()
```

```
!Name!.capitalize(), !Name!.upper(), !Name!.lower()
```

Python examples, VBScript also available

Parsing text fields

Formatted text strings

EcoUnit	Basin	SubBasin
BBBsssss	BBB	sssss

`Basin = !EcoUnit![0:2]`

`SubBasin = !EcoUnit![3:]`

* zero-based index

Delimited text strings

Name	First	Last
Smith, Joe	Joe	Smith

`Last = !Name!.split(", ")[0]`

`First = !Name!.split(", ")[1]`

* zero-based index

Python examples, VBScript also available

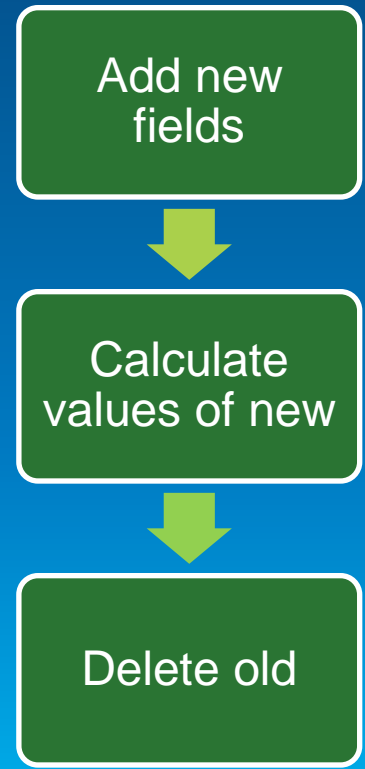
Reordering fields

- You cannot! (You must create new.)

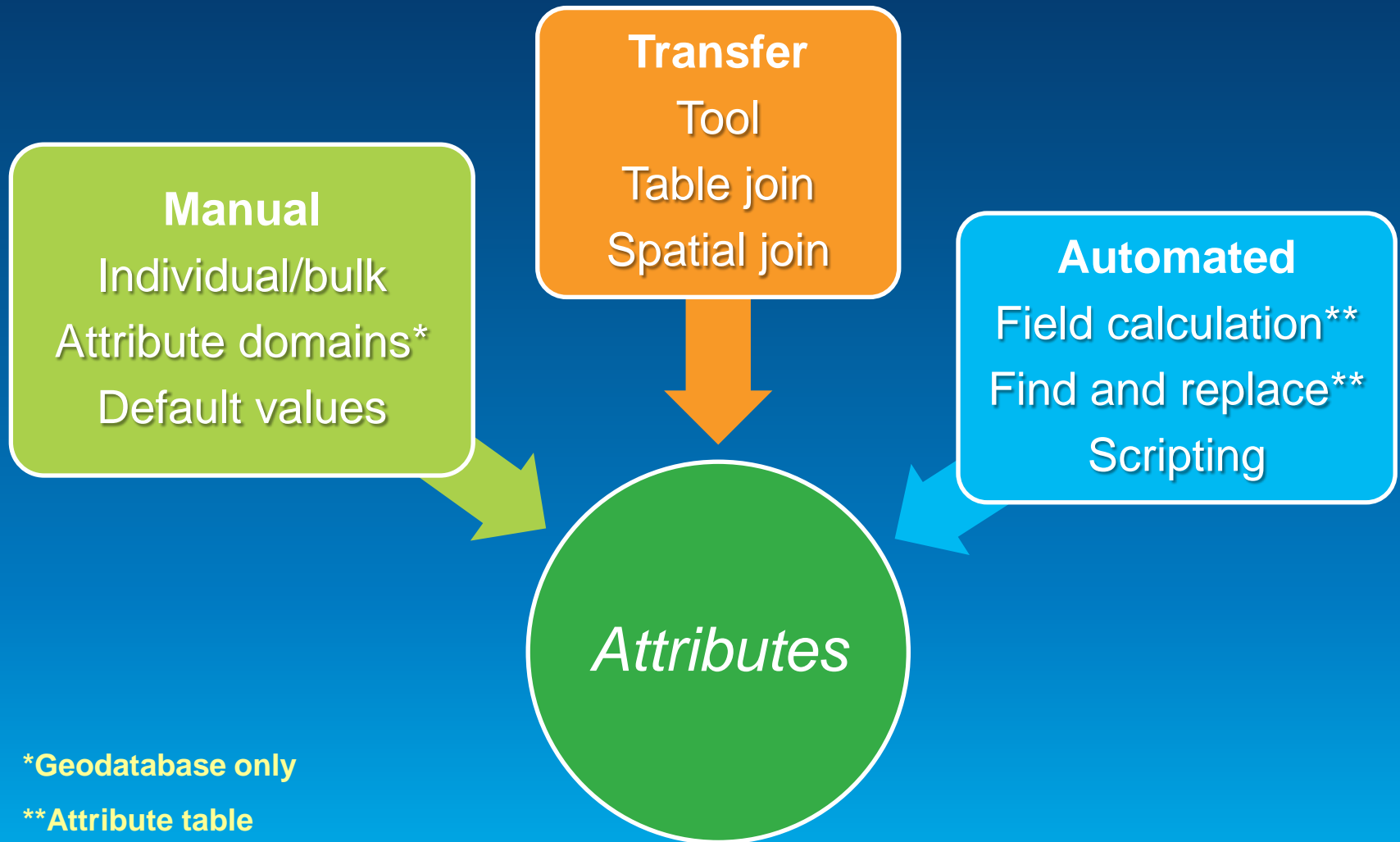
ID	Old1	Old2	Old3	New3	New2	New1
123	A	B	C	C	B	A

ID	New3	New2	New1
123	C	B	A

Field Calculator can change data types: i.e., integer to text



Choose an attribute assignment method



Demo

Edit feature attributes



Exercise introduction

Assign attributes “in bulk”

- **By typing into the Attributes window**
- **Using the Field Calculator**
- **Using Attribute Transfer**