Introduction to Model Builder

What is a ModelBuilder?

A tool in ArcMap that helps you capture spatial analysis in a model. A spatial model helps you discover spatial relationships in data.

A model records the processes, such as buffering or overlaying themes, required to convert input data into an output map.

Because the processing sequence is saved and documented, the spatial analysis becomes automated and reusable.

What is a Model?

A model is a representation of reality.

The purpose of creating a model is to help understand, describe, or predict how things work in the real world by exploring a simplified version of a feature or phenomenon.

A spatial model consists of a collection of processes performed on spatial data that will produce information, usually in the form of a map.

Spatial Model
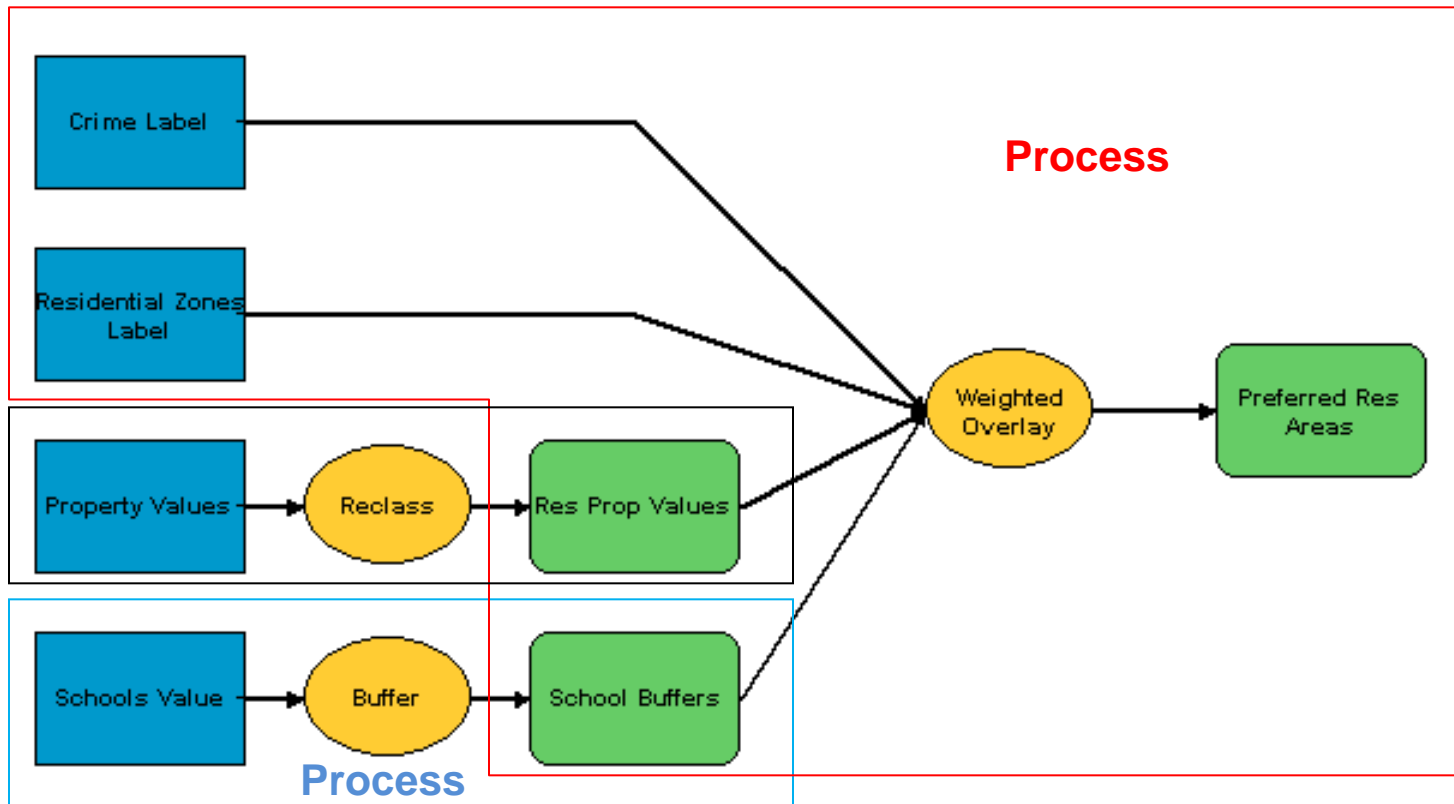
In ModelBuilder a spatial model is displayed graphically as a diagram that looks like a flow chart and it shows the sequence of processing of input data.
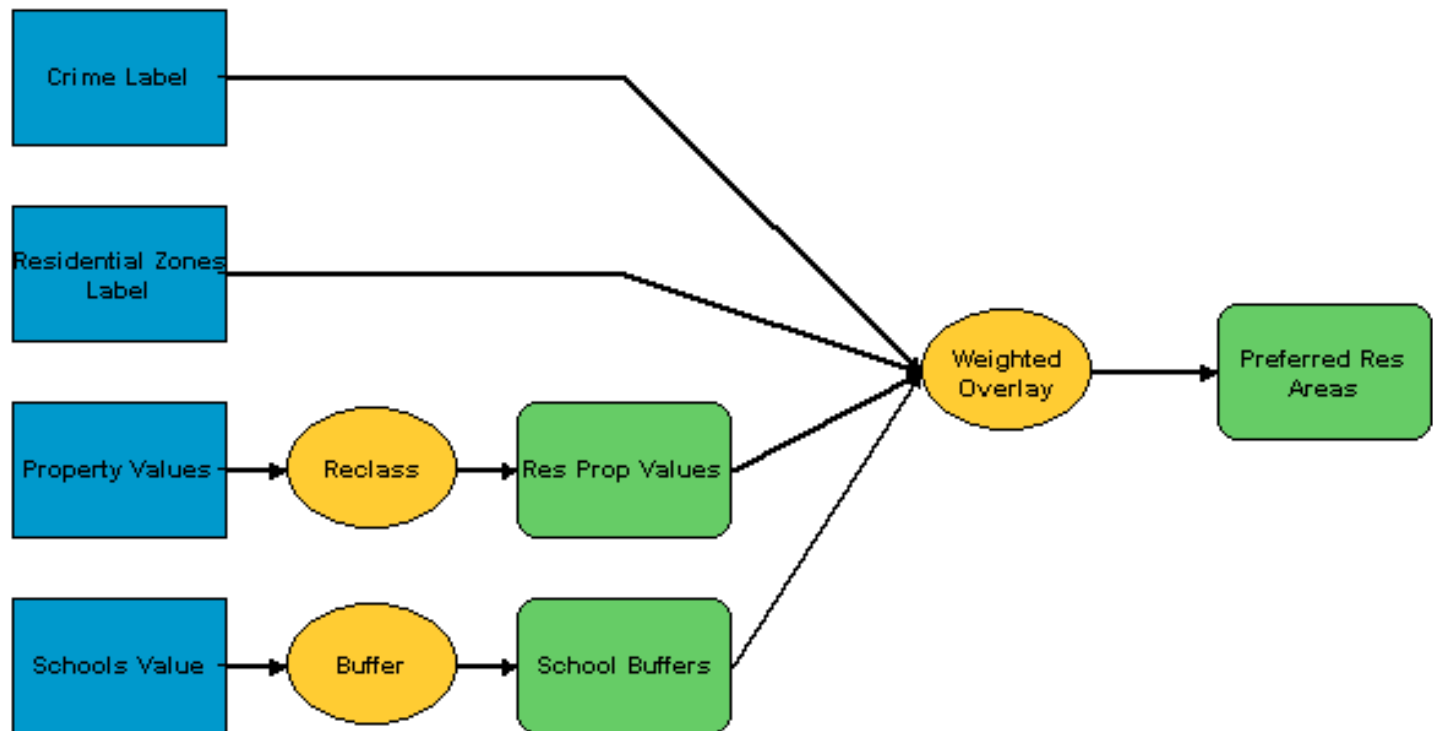
Spatial Model

A process is a single operation on a dataset and it is represented by nodes and connectors in a model.

Large models can be built by connecting several processes together.
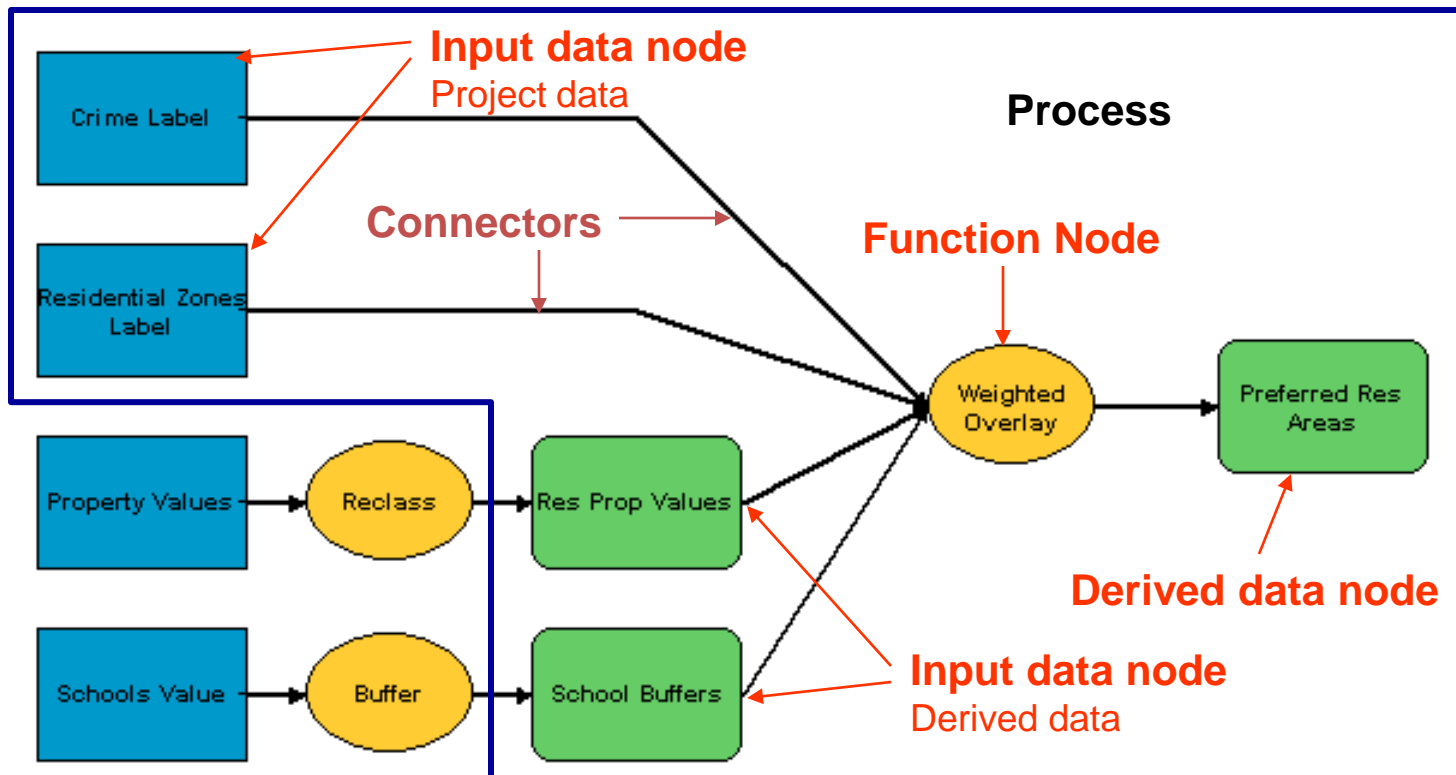
Model Representation in ModelBuilder

Input data – **blue oval** in ArcGIS 10

Functions that process the input data – **yellow rounded rectangle** in ArcGIS 10

Output data that is created when the model is run – **green oval** in ArcGIS 10

Model in ModelBuilder

The model is much more than a static diagram; it stores all the properties and instructions necessary to run the model in ArcMap.

- Input data

- Processes

- Output data

Weighted Overlay – Table

Input Theme	% Inf	Input Field	Input Label	Scale Value
Residential Zones	50	Label		
		Mobile Homes	Mobile Homes	2
		Not Residential	Not Residential	Restricted
		Planned Comm Devel	Planned Comm Developi	4
		Residential	Residential	5
		NODATA	No Data	Restricted
Crime	10	Label		
		Above Average	Above Average	2
		Below Average	Below Average	5
		High	High	1
		Very High	Very High	Restricted
		NODATA	No Data	Restricted
Res Prop Values	20	Value		
		1	0 - 100000	5
		2	100000 - 200000	4
		3	200000 - 300000	3
		4	300000 - 400000	2
		5	400000 - 500000	1
		NODATA	No Data	Restricted
School Buffers	20	Value		
		1	0 - 0.25	4
		2	0.25 - 0.5	5
		3	0.5 - 1	3
		4	1 - 2	2
		NODATA	No Data	Restricted

**Benefits of
using Model Builder:**

Apply same model
to different areas

Modify the model
to explore "what if"
scenarios and explore
different solutions.

Thank you