Route 120 Build-out Analysis

Using CommunityViz Scenario 360

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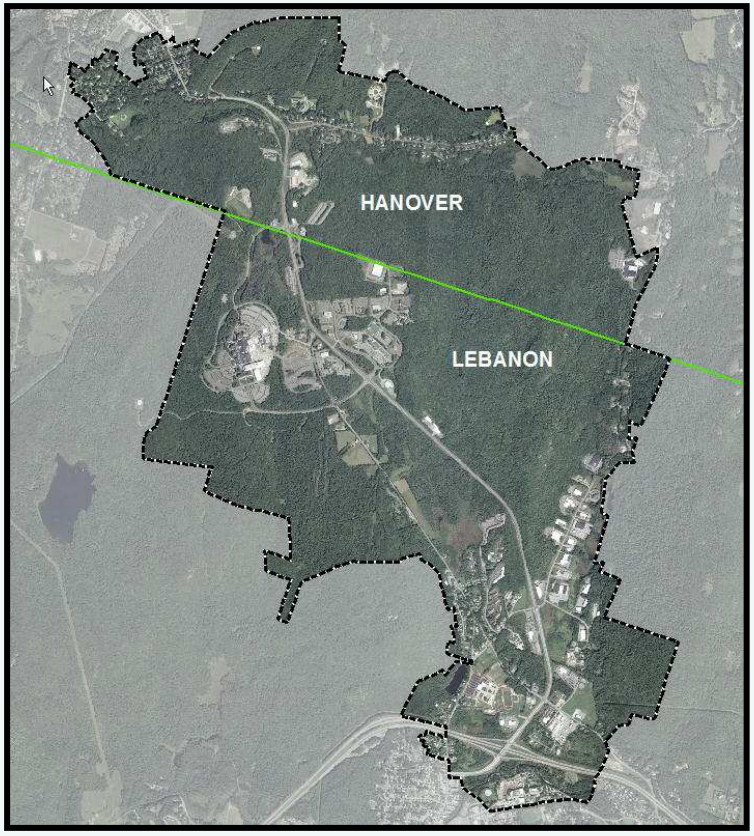


Scenario 360

UVLSRPC

GRANIT

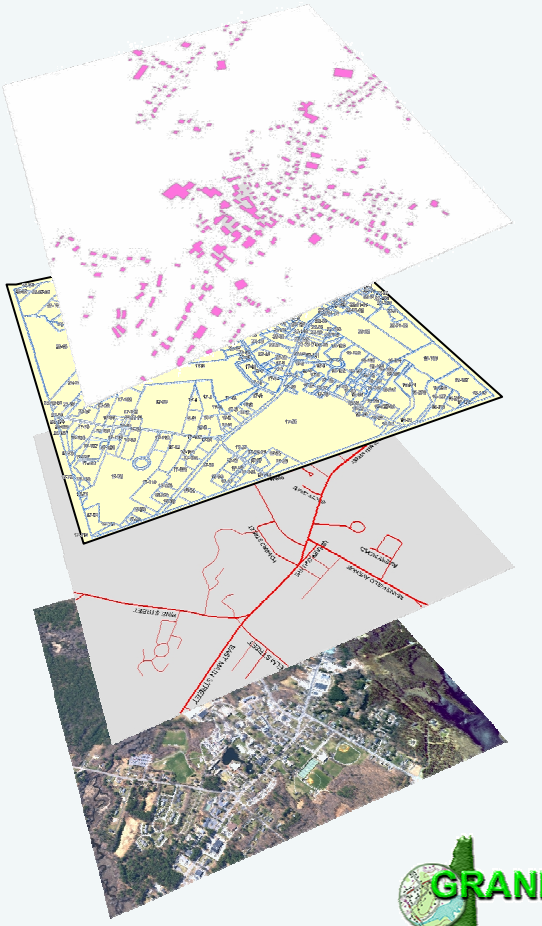
NH GRANIT

- Central GIS Data Clearinghouse at UNH Complex Systems Research Center

- Core Activities:
  - Data development/archiving/serving/distribution
  - Coordination/standards development
  - Spatial data analysis
  - Training and technical support

- Multiple Data Providers and Data Users
  - State government
  - Federal agencies
  - Regional planning agencies
  - Municipalities

- Multiple Funding Sources



CommunityViz Technical Resource Center

- Funded by the New Hampshire GIS Conservation Collaborative (NHGCC)

- Provide technical support to CommunityViz users throughout the state
  - CommunityViz selected as the build-out tool for the I93 expansion project

- Develop and host a website containing technical information and case studies

- Conduct pilot projects to build CommunityViz skill set
  - Dedicate three weeks to the RT 120 Corridor Management Study – conduct build-out analysis and possibly other advanced analysis as time/budget allows

- Collaborate with The Jordan Institute (networking and promoting the use of the software)

CommunityViz Scenario 360

Decision support software for GIS…

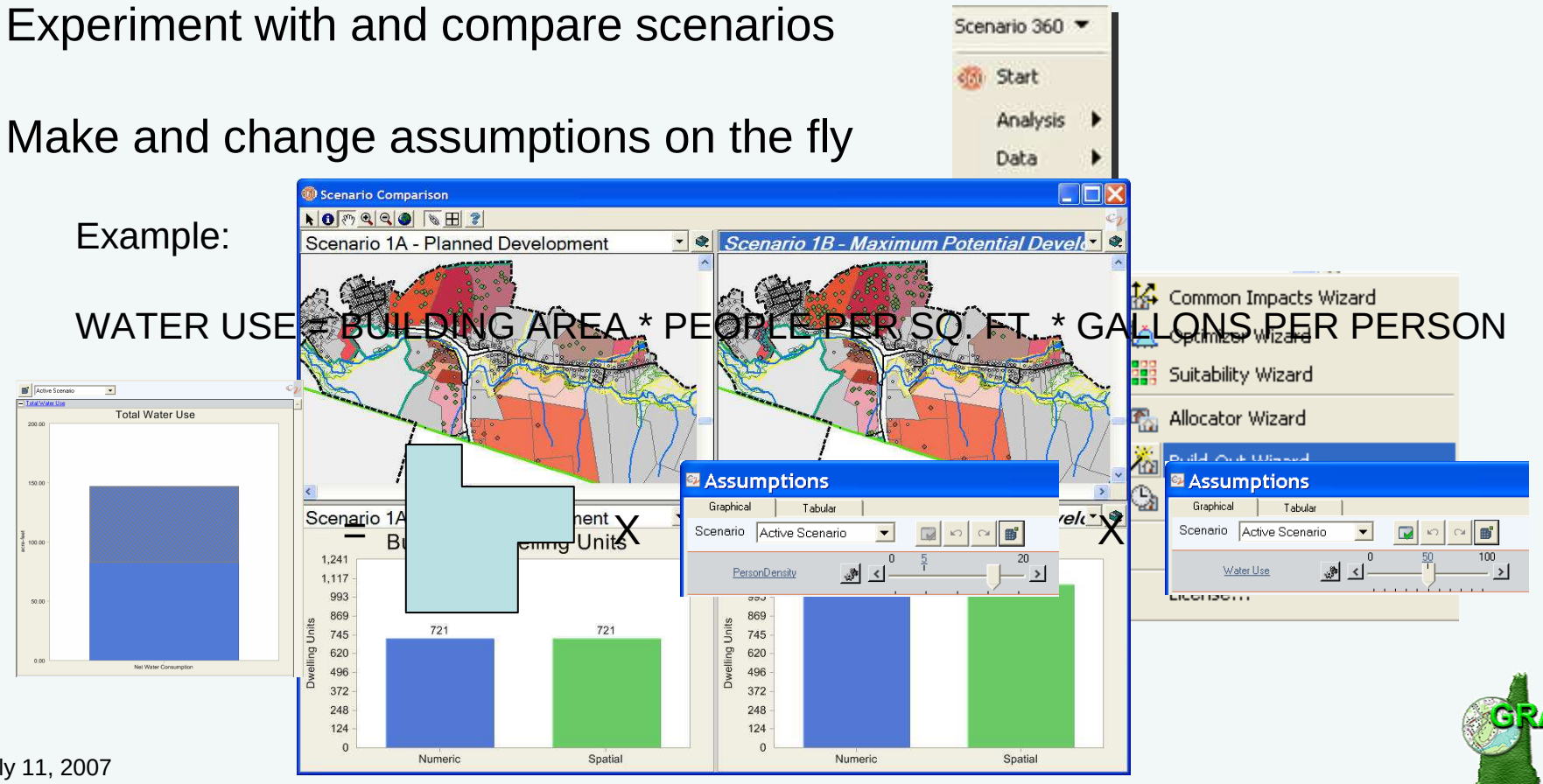
Adds interactive analysis tools to existing GIS software (ArcGIS)

Experiment with and compare scenarios

Make and change assumptions on the fly

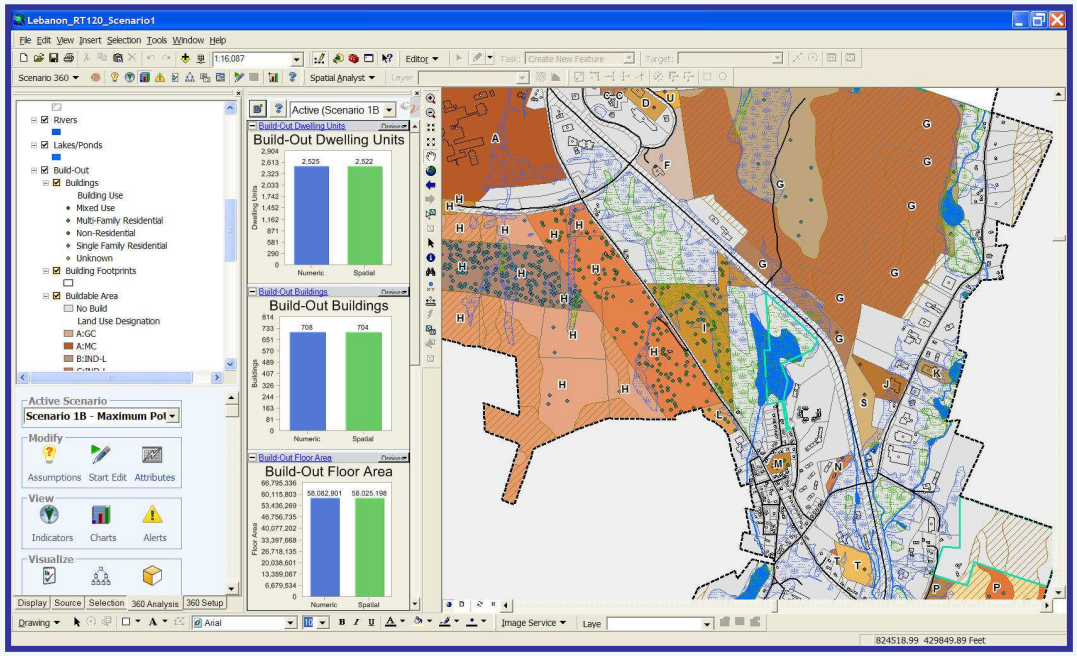
Example:

WATER USE = BUILDING AREA * PEOPLE PER SQ. FT. * GALLONS PER PERSON



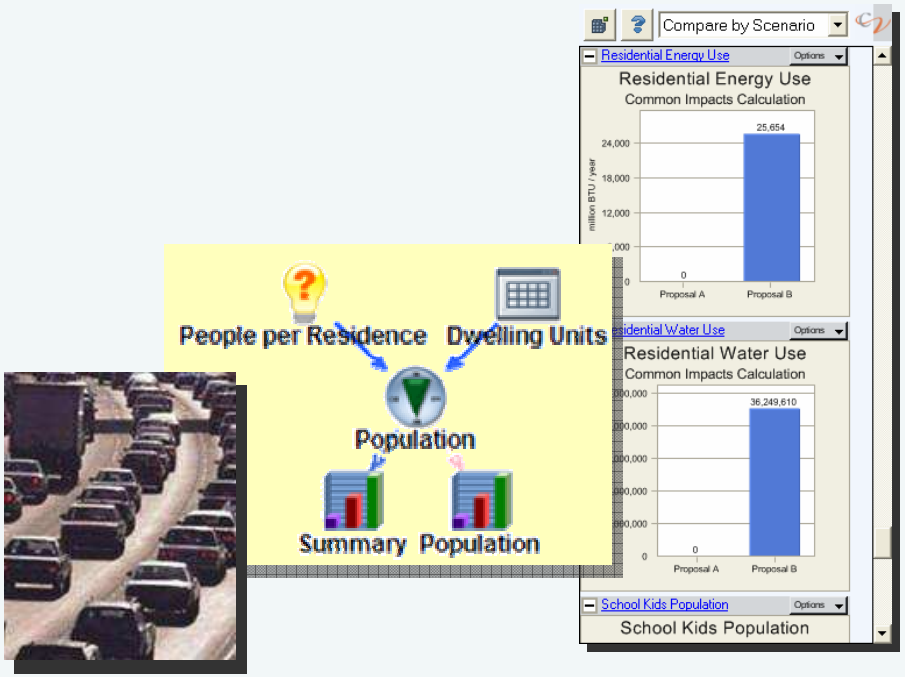
Scenario 360 Decision Tools

- Build-out
  - Places hypothetical buildings on a map according to land-use designations.
  - Can be used to create many different scenarios for evaluation.
  - Estimates the numeric capacity as well as spatial distribution of buildings in a scenario.
  - Results can be further analyzed using Common Impacts, Suitability, and TimeScope.



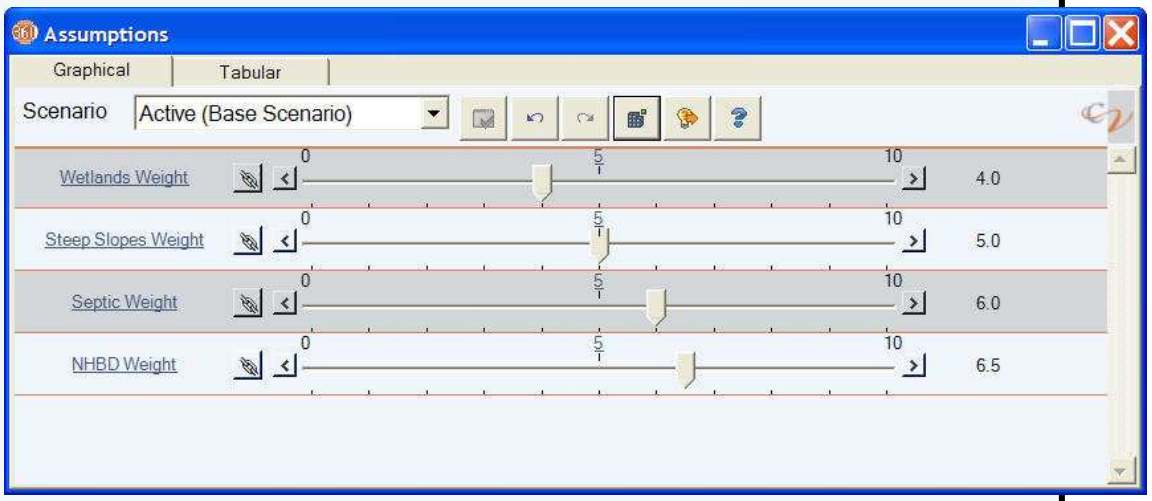
Scenario 360 Decision Tools

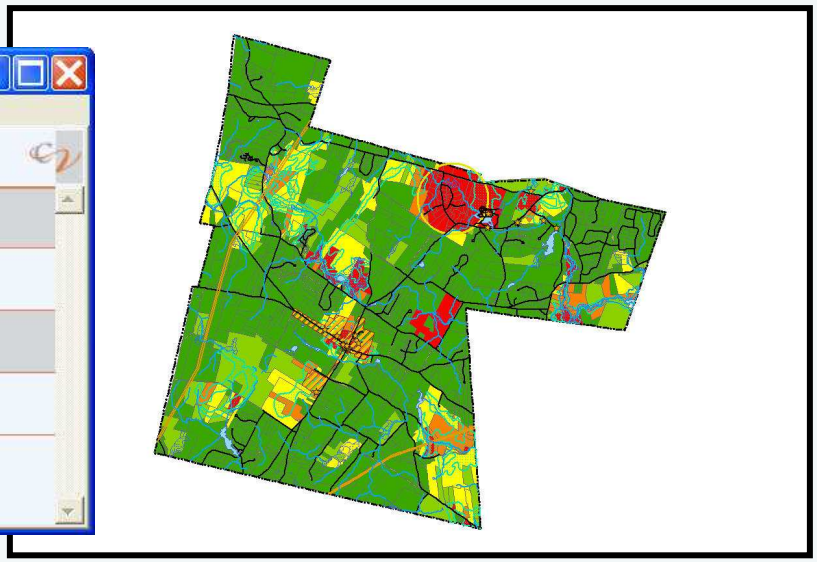
- Common Impacts
  - Automatically create socioeconomic and environmental impact analyses based on projected growth.
  - Analyze impacts on auto emissions, energy use, tax revenue, water use, school kids …



Scenario 360 Decision Tools

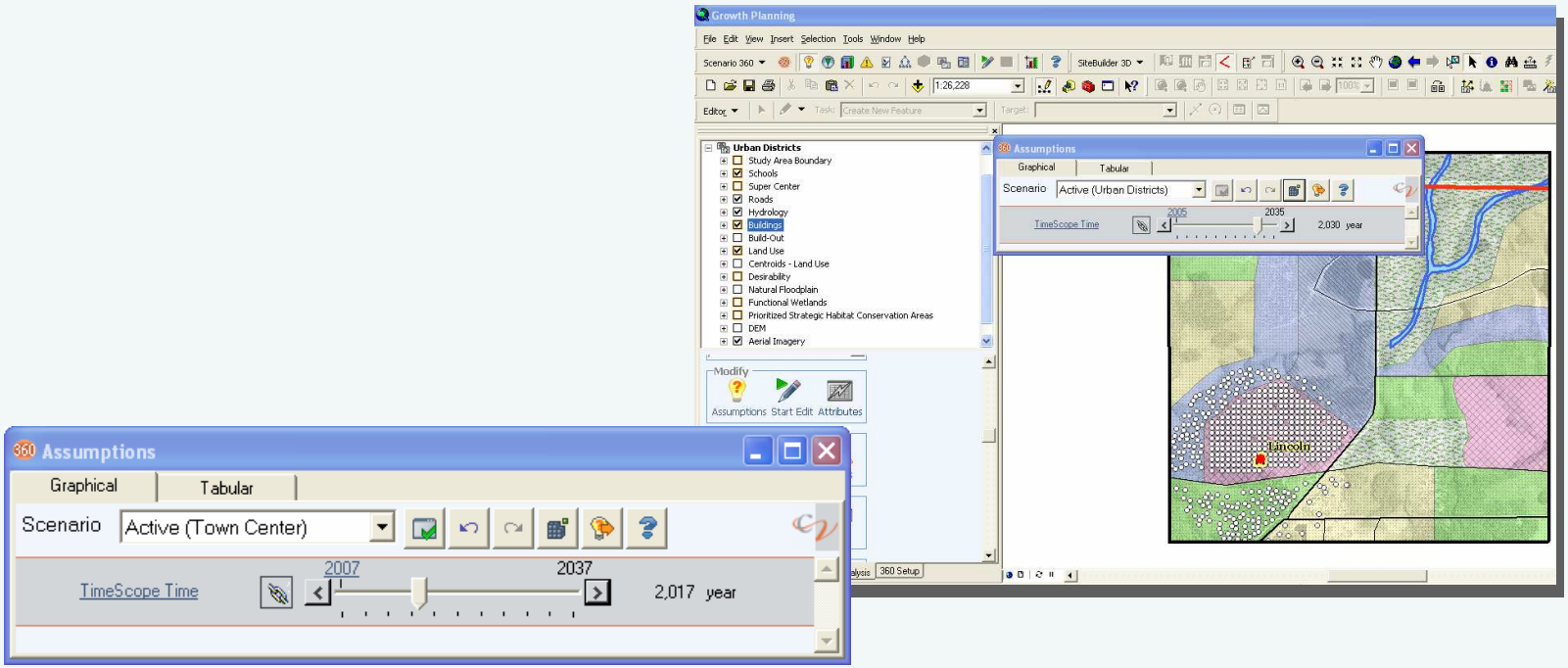
- Suitability Analysis
  - Assess the **desirability of locations**, e.g. where houses are most likely to be built (could be based on land cost, accessibility or other constraints to development).





Scenario 360 Decision Tools

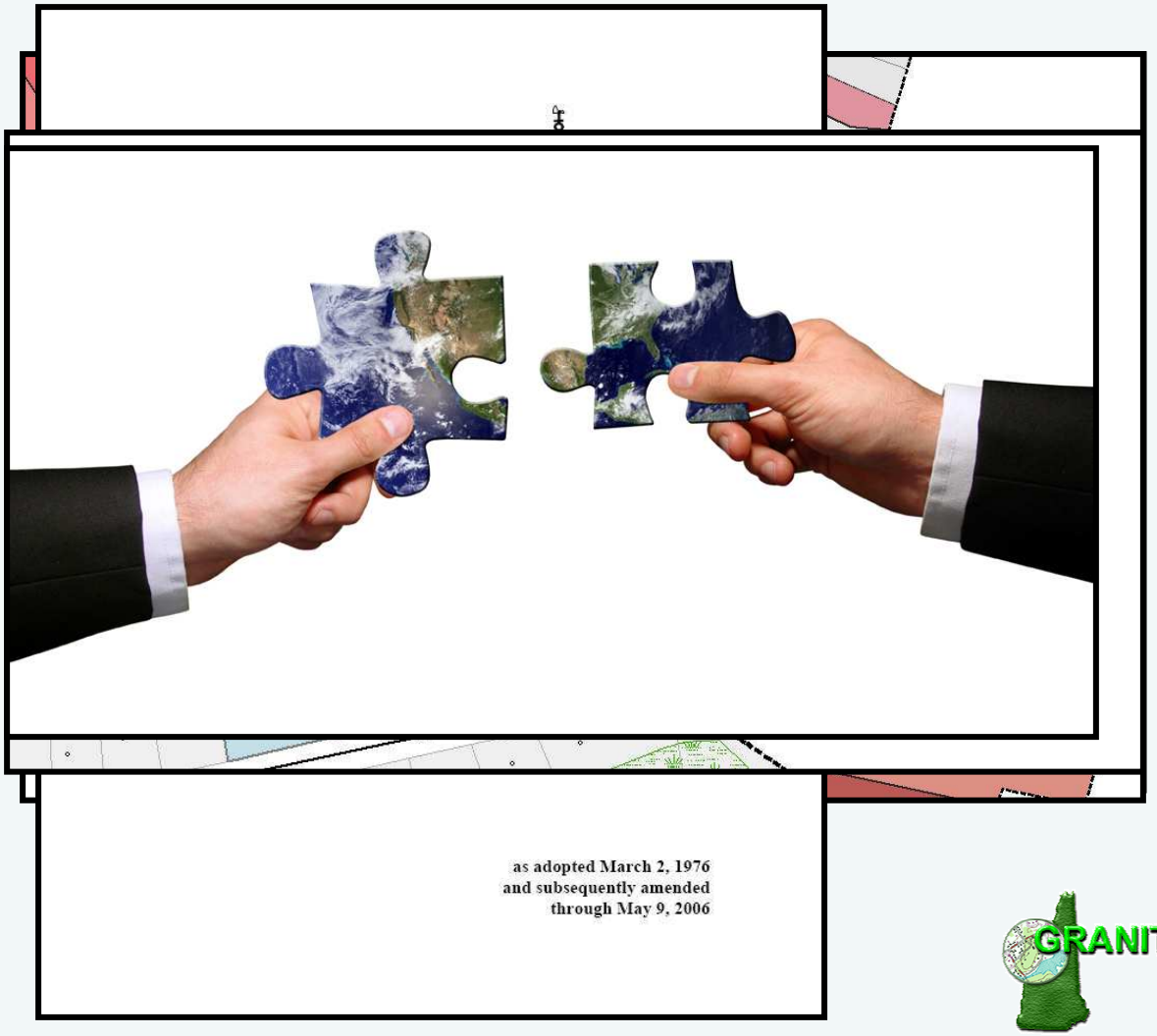
- TimeScope
  - Model development over a specified period of time using growth rate and building sequence.



Route 120 Build-out Analysis

Requirements for build-out analysis…

- Tax parcel data with zoning information attached
- Building locations with descriptive information
- Road centerline data
- Zoning ordinance
- Constraints data
- Close working relationship between GIS Analyst and Planner



Route 120 Build-out Analysis

Build-out process involves three separate, but integrated steps:

1. Numeric build-out
   - Provides an estimated building capacity (in numbers) for each parcel in the layer

2. Spatial build-out
   - Places building points on a two-dimensional map

3. Visual build-out
   - Associates spatial build-out building points with three-dimensional models

Route 120 Build-out Analysis

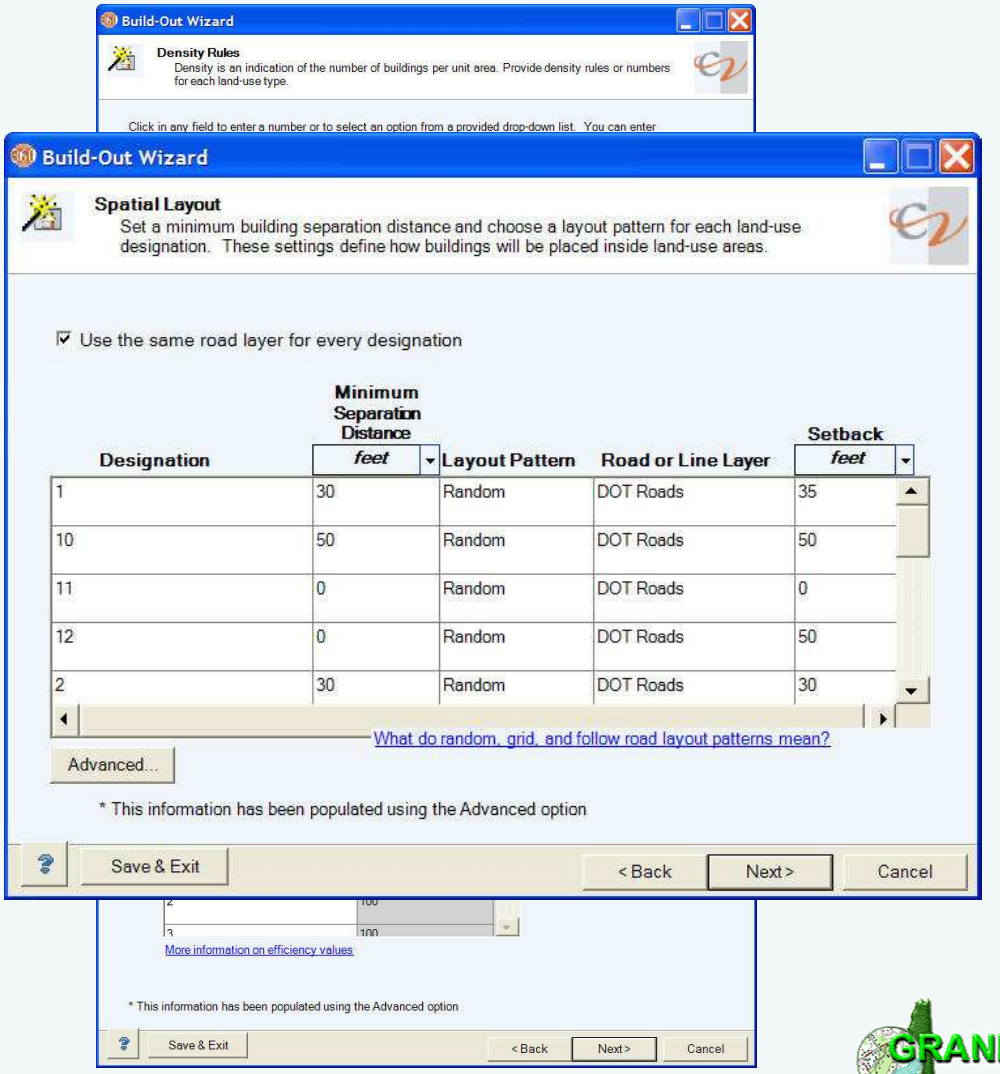
Inputs to build-out analysis…

1. Numeric:

- Density Rules and Efficiency Factors
- Building information
- Constraints to development
- Existing buildings

2. Spatial:

- Separation distances, setbacks, and layout patterns



Route 120 Build-out Analysis

Numeric and spatial build-out run on three scenarios so far:

Scenario 1A – Planned Development based on existing zoning regulations

Scenario 1B – Maximum Possible Development based on existing zoning regulations

Scenario 2A – Planned Development based on proposed future zoning regulations

Communication with UVLSRPC facilitated by CommunityViz build-out reports

Next Steps …?

- Common Impacts
  - Automatically create socioeconomic and environmental impact analyses based on projected growth.
  - Analyze impacts on auto emissions, energy use, tax revenue, water use, school kids …
- Suitability Analysis
  - Assess the **desirability of locations**, e.g. where houses are most likely to be built (could be based on land cost, accessibility or other constraints to development).
- TimeScope
  - Model development over a specified period of time using growth rate and building sequence.

Questions?

Comments?

Suggestions?

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