Using GIS Technology for Economic Development

Robin Spinks

Greenfield

February 15, 2018
GIS for ED

Not just about what the technology can do......

But more about what you can do with the technology!
GIS for ED

❖ Old way – BEFORE GIS
❖ Maps
❖ Courthouse – Register of Deeds office
❖ Print copies
❖ Draw on them to create/combine data layers

❖ Business info
❖ Yellow pages
❖ Chamber lists
❖ Trade association directories

❖ Analysis of a large area was extremely time-consuming
GIS for ED

Today

- County GIS website
  - Static info to view

- GIS desktop and cloud access
  - Interactive applications
    - Create a database to search and sort
    - Add specific data for any project
    - Proprietary data
    - Large area comparisons

- Not all states promote open access to info as well as NC
GIS for ED

ED uses
- For comparative analysis / decision-making

Engineering uses
- For planning / design
GIS for ED

ED uses

Marketing

- Visual and geographic representation of asset clusters / infrastructure
  - To sell new business
  - To help grow existing business
  - To show off your available sites
- Customer access to data

Product development

- Identify and evaluate multiple sites
- With multiple layers of information

Large area analysis

- Compare and evaluate info from more than one county / source
GIS for ED

Recent Greenfield projects

- NCSE / NC Biotech biomass asset inventory
  - Project partner Thomas & Hutton
- NCRR potential sites
  - Project partner Benchmark Planning
- Transylvania best industrial park site
- CMCOG land use analysis/cluster development
  - Project partner Benchmark Planning
- Project Rock site search
GIS for ED

NCRR potential sites

To identify, catalog and evaluate all potential industrial rail sites in the State of NC

- All rail lines
- 88 counties
- 6809 sq mi
GIS for ED

ID layers
GIS for ED

Almost 3000 site areas identified

575 sites over 500 ac
GIS for ED

‡ Automated evaluation

‡ Search and sort based on site selection criteria for most rail projects

‡ 172 sites on 5 lists of “best” sites for
   ‡ Best interstate
   ‡ Best 4 lane
   ‡ Best major river
   ‡ Best gas
   ‡ Best electric
Central Midlands Council of Governments
Working Lands Study

- Recommend strategies to use agriculture to buffer military lands around Forts Jackson and McEntire, (Columbia, SC)

- They wanted to grow the local food economy

- Based on our analysis of land types, existing cluster assets and the marketplace, we recommended that a better use was growing the wood products cluster
GIS for ED

Encroaching development risk for military operations
GIS for ED

Prime farmland soils not located in the direct buffer areas around Ft Jackson
GIS for ED

Land more well-suited for
- Timber production
- Conservation
GIS for ED

Manufacturing facilities that use agricultural inputs
GIS for ED

Project Rock

- Translate site selection criteria into searchable data layers - examples
  - Physical issues – capital costs
    - Parcels – ownership / tax value
    - Infrastructure – rail access
    - Wetlands / topo
    - Brownfield sites
  - Business issues – operating costs
    - City limits (additional tax jurisdictions)
    - Proximity to customers, port, highway
  - Risk issues – local opposition, regulatory hurdles
    - Distance from schools, hospitals, residential areas
    - Air non-attainment areas
GIS for ED

Limitations – data not perfect

Final decisions still need “eyes on”
- Data can sometimes be wrong or deceiving

Dates on data layers

Lat / long positions of companies not always precise
- Can be mailing address, not physical address
GIS for ED

NCSE Biorenewable and Biotechnology Asset Inventory (NC Biotechnology Center)

- Identify and catalogue Region’s assets
- Create interactive application
- Analyze alignment of assets and industry sectors
- Create marketing strategies to target emerging technologies and companies

Ultimately…. to facilitate industrial biotechnology company recruitment, existing industry expansion, and new company development
GIS for ED

NCSE Biomass App
- 8000+ entities grouped into search layers
  - Input assets
  - User assets
  - Support assets
- Other layers
  - Transportation
  - Infrastructure
- Designed as user-friendly, visual representation of data
- Can be searched, downloaded, and used in many ways
- Analyzed strengths, unique offerings
  - For marketing key messages
  - To design marketing program recommendations
GIS for ED

- NCSE Biomass App examples
  - Biomass power plant siting - demo
  - Biogas facility siting
    - Swine lagoons, waste treatment plants
    - Food processors, natural textiles
    - 50 mile radius around most dense cluster
    - Natural gas lines
    - Competitors
  - Poultry processing plant siting
    - Agriculture volumes (poultry)
    - Competitors
    - 1000 ac parcels
  - Existing waste hauler
    - Restaurants and convenience stores
  - Plastics recycler
    - Existing producers
    - Transportation infrastructure
GIS for ED

Questions ??

“All labor that uplifts humanity has dignity and importance, and should be undertaken with painstaking excellence.”

Martin Luther King, Jr.

Vision without action is a daydream. Action without vision is a nightmare.

Japanese Proverb