# Sussex County Land Use Model

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# Goals for Today's Presentation

- Demonstrate the use of ArcGIS & Community Viz in County land use and growth planning

- Review build-out analysis -- Comp Plan Future Land Use Map for Growth & Zoning

- Compare build-out & demographic impacts

- Discuss potential applications

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# Presentation

- Introduction – Why Community Viz?
- Key Concepts
- Sussex County GIS & Demographic Data
- Community Viz Land Use Model
- Build-Out Applications
  - Sussex County Growth Plan
  - Sussex County Growth with Zoning Plan
- Discussion
  - Use of County-wide Land Use Model
  - Other applications: Sub-area Planning

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# Key Concepts

- Land Use
  - Large scale level (100 A tile) , Not Zoning for individual properties
  - Eleven pre-defined, custom land use designations with assigned assumptions (as "painted")
- Build-Out Parameters
  - Mixed Use - ratio of residential to nonresidential land use
  - Efficiency Factors – % of area reserved for roads, open space, easements, SWM, etc.
  - Land Use Efficiency – summer vacancy rates
- Constraints
  - unbuildable areas

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# Sussex County GIS & Demographic Data

- Sussex County Boundary (938 Square Miles)
- Base GIS data – roads, structures, building footprints, aerial photography, "Out-of-Play" layer, Zoning, 2001 Comprehensive Plan Growth Areas, Agricultural Easements
- 2008 Future Land Use Map
- Sussex County '911' Address Grid

# Community Viz Land Use Model

- Define land use "paint" tiles and designations
- Define land use assumptions and variables
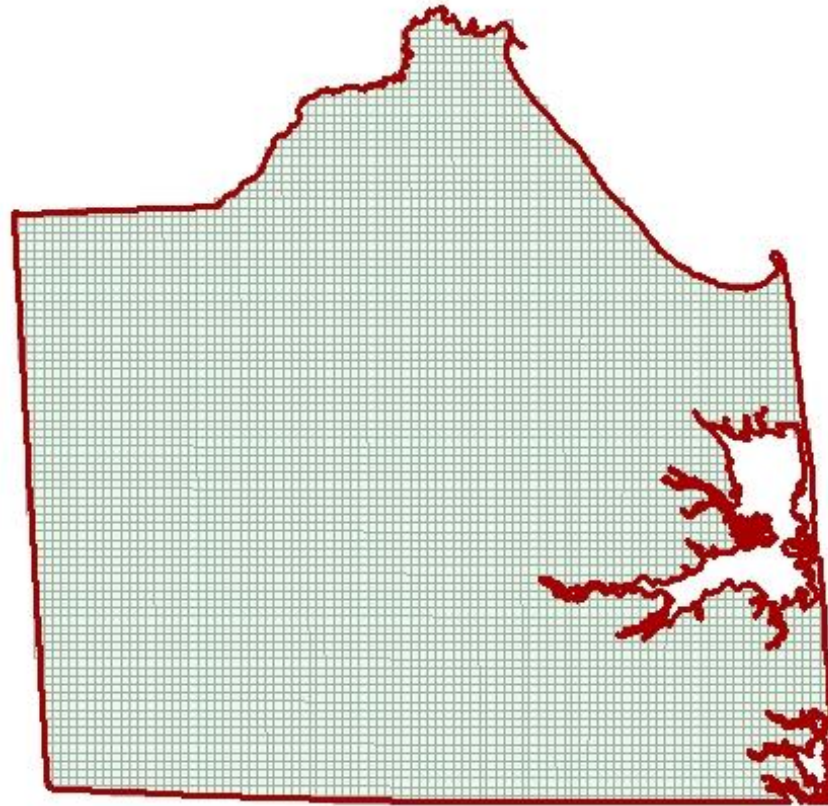- Define land use constraints
- "Paint" land uses
- Run Build-Out
- Analyze Results

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# Sussex County '911' Address Grid
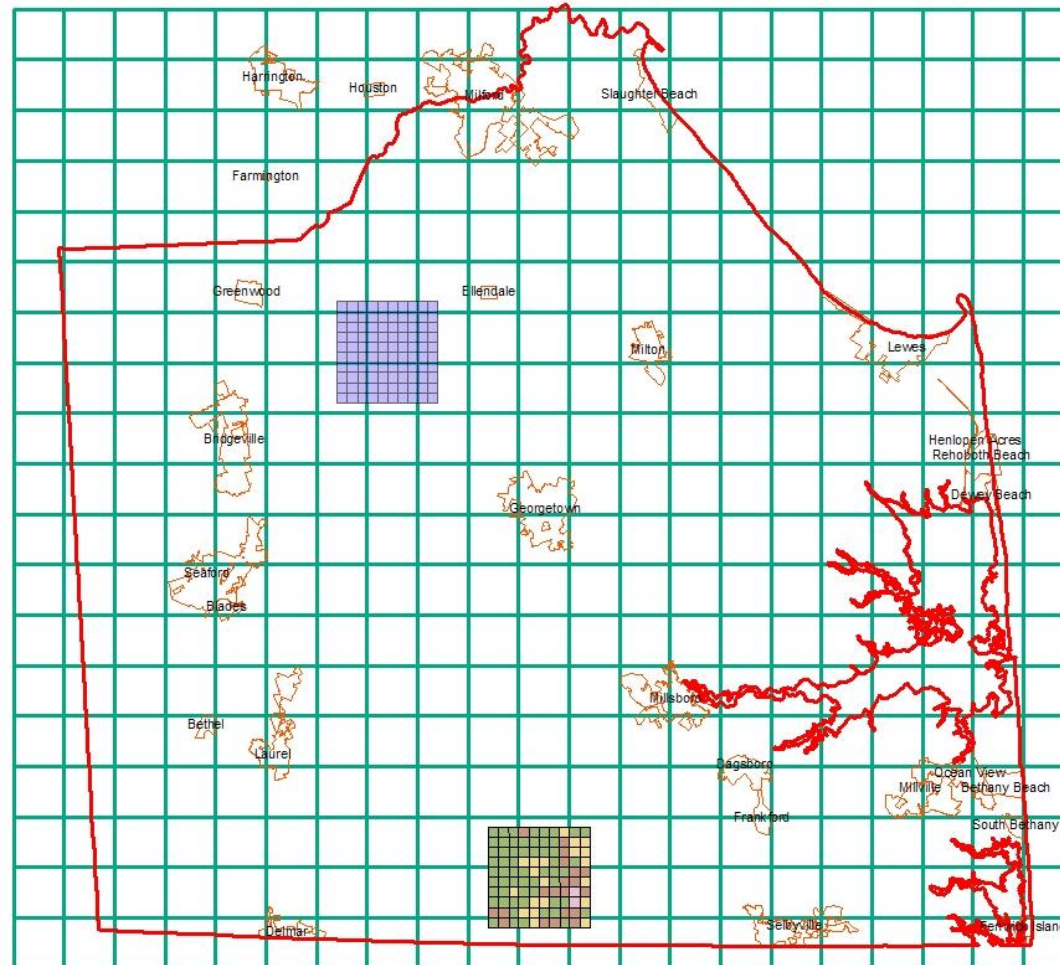
# SC Grid – 100A Land Use Tiles
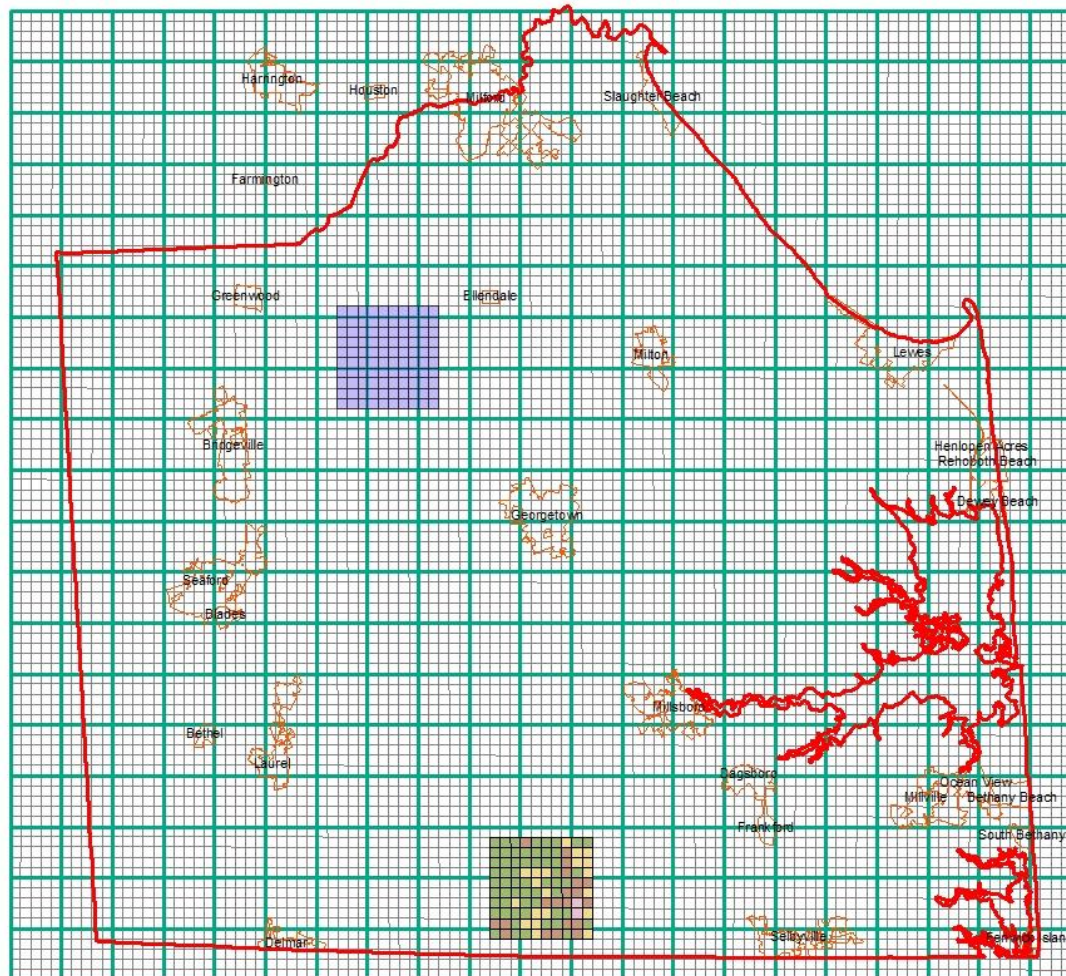
# SC Grid – 938 Square Miles

# SC Land Use Designations

- Low Density:
  - T100-Rural *(1 DU/100A; Preserves & Critical Areas)*
  - T2-Sub-Urban *(2DU/A; Cluster SF residential)*
- Growth Areas
  - T4-Mixed Sub-Urban *(4DU/A; Village SF/MF, Low Dens. Retail)*
  - T6-Urban Mixed *(6DU/A; Village/Town; Neighborhood Business; MU)*
  - T8-Town Center *(8DU/A; HDR, Municipalities, Biz, Office Retail; MU)*
- Zoning (per 2008 Future Land Use Plan)
  - T4-Mixed Sub-Urban *(as above ; Mixed Residential  Zoning)*
  - TM-Business *(Highway Commercial Zoning)*
  - T30K-Employment Center *(Planned Industrial Zoning)*

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# SC Land Use Designations

- Other Designations
  - T20-Rural *(1 DU/20A; Rural areas, AG, Recreation)*
  - T5-Rural *(1 DU/5A; Rural areas, AG, Recreation & Camping)*
  - T1-Rural Village *(1DU/A; Sussex rural villages)*
  - T200K – Commercial *(Large retail shopping centers)*

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# Land Use Model Assumptions

- Focus:
  - Residential Dwelling Units
  - Nonresidential Floor Area (Square Footage)
- Impacts:
  - Population Demographics
  - Residential & Nonresidential Taxes
  - Commercial Employee Statistics
  - Water and Wastewater Usage
  - Vehicle Trips

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# Land Use Model Variables

- Density

- Nonresidential Square Footage

- Mixed Use Percentage

- Build Efficiency Percentage

- Land Use Efficiency Percentage

- *Along with the tile area, the above land use variables generate the build-out values and County-wide summaries for number of dwelling units, nonresidential floor area, and number of buildings*

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# Land Use Constraint

- "Out-of-Play" GIS layer from *Strategies for State Policies and Spending (2004)* database

- "Out-of-Play" lands are generally not available for development

- Examples: rights of way, agricultural easements, and publically-owned lands

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# Land Use "Paint"
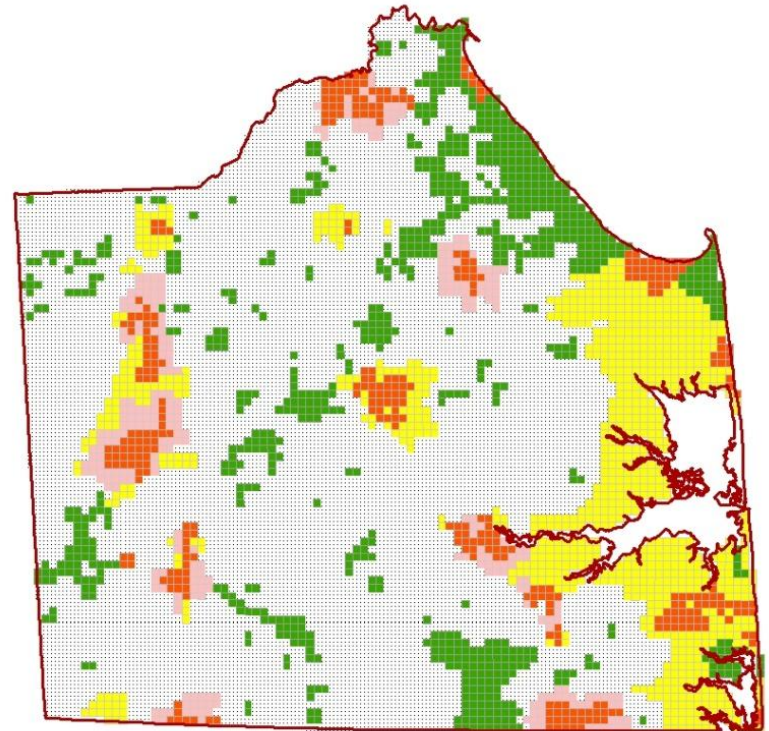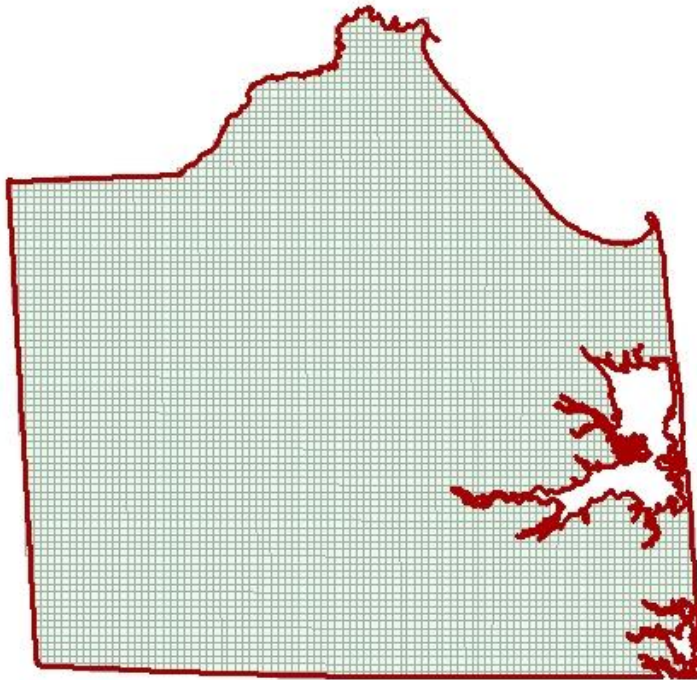
# Growth Plan

**Land Use Designations**

- 🟩 T100A – Rural
- ⬜ T2 – Suburban
- 🟨 T4 – Suburban Mixed
- 🟪 T6 – Urban Mixed
- 🟧 T8 – Municipality



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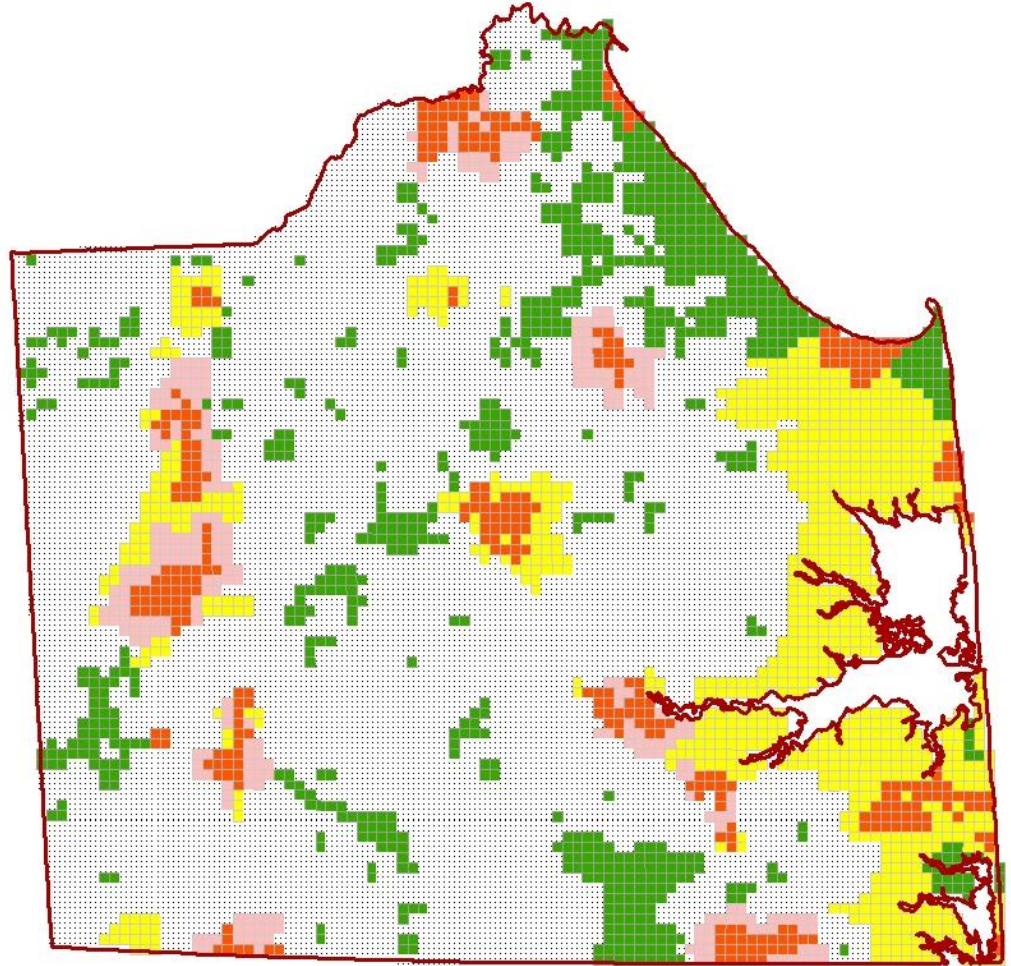
# Growth Plan with Zoning

**Land Use Designations**

- 🟩 T100A – Rural
- ⬜ T2 – Suburban
- 🟨 T4 – Suburban Mixed
- 🟪 T6 – Urban Mixed
- 🟧 T8 – Municipality
- 🟪 T30K - Employment
- 🟥 TM - Strip Mixed Use



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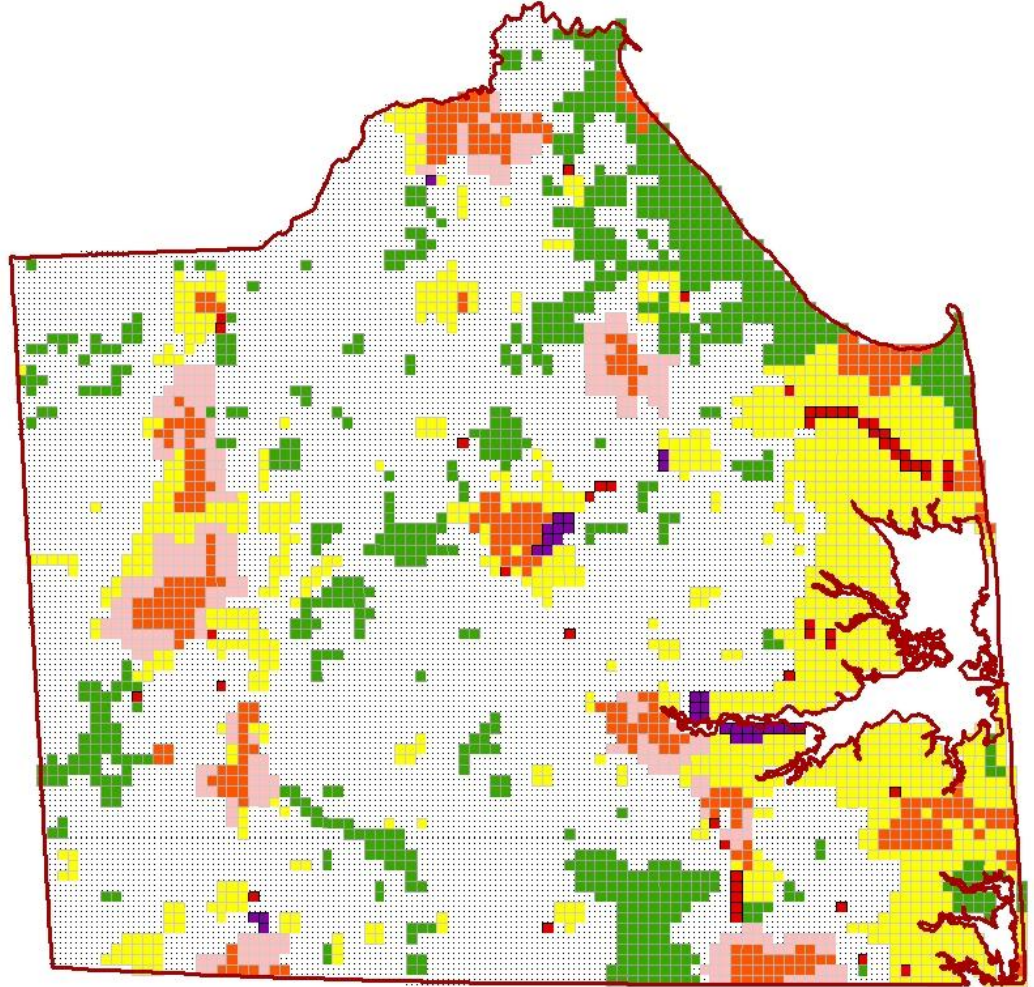
# County Build-Out Results

- Review handout – 4 Scenarios
  - Growth Plan
  - Growth Plan; Out-of-Play Constraint
  - Growth Plan with Zoning
  - Growth Plan with Zoning ; Out-of-Play Constraint

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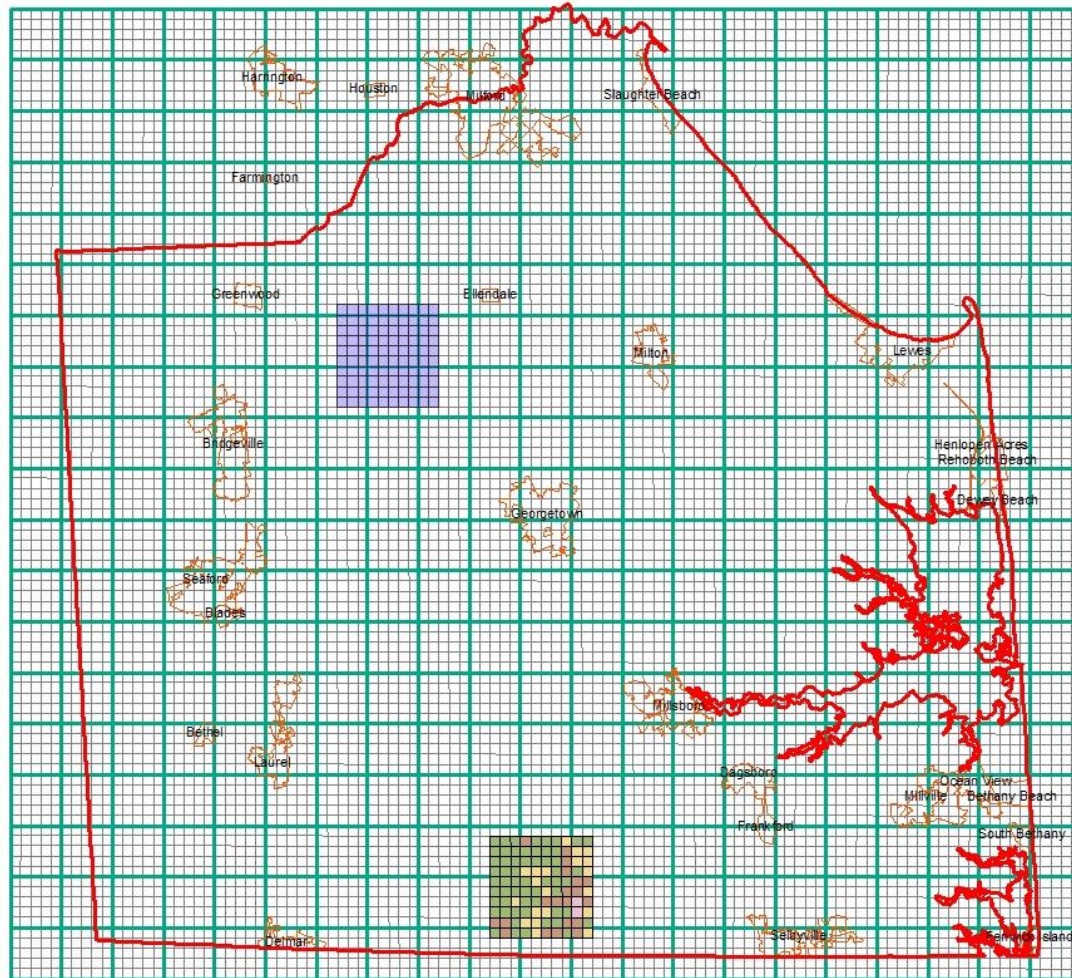A Coastal Community Enhancement Initiative

# Discussion

- Use of County-wide Land Use Model
- Other Applications: Sub-Area Planning
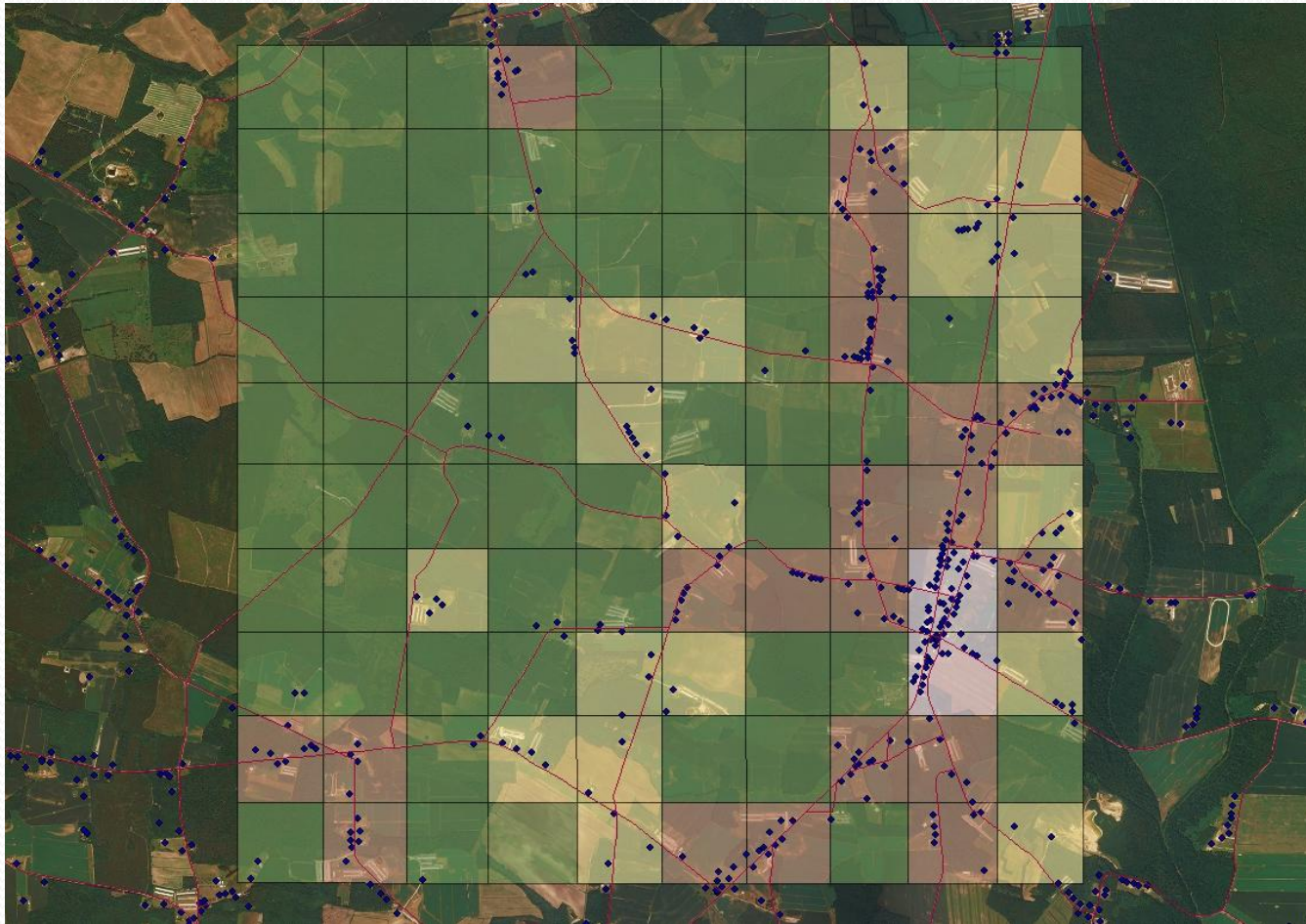
# Other Applications: Sub-Area Planning Rural Example

- Gumboro Area
  - Existing Land Use
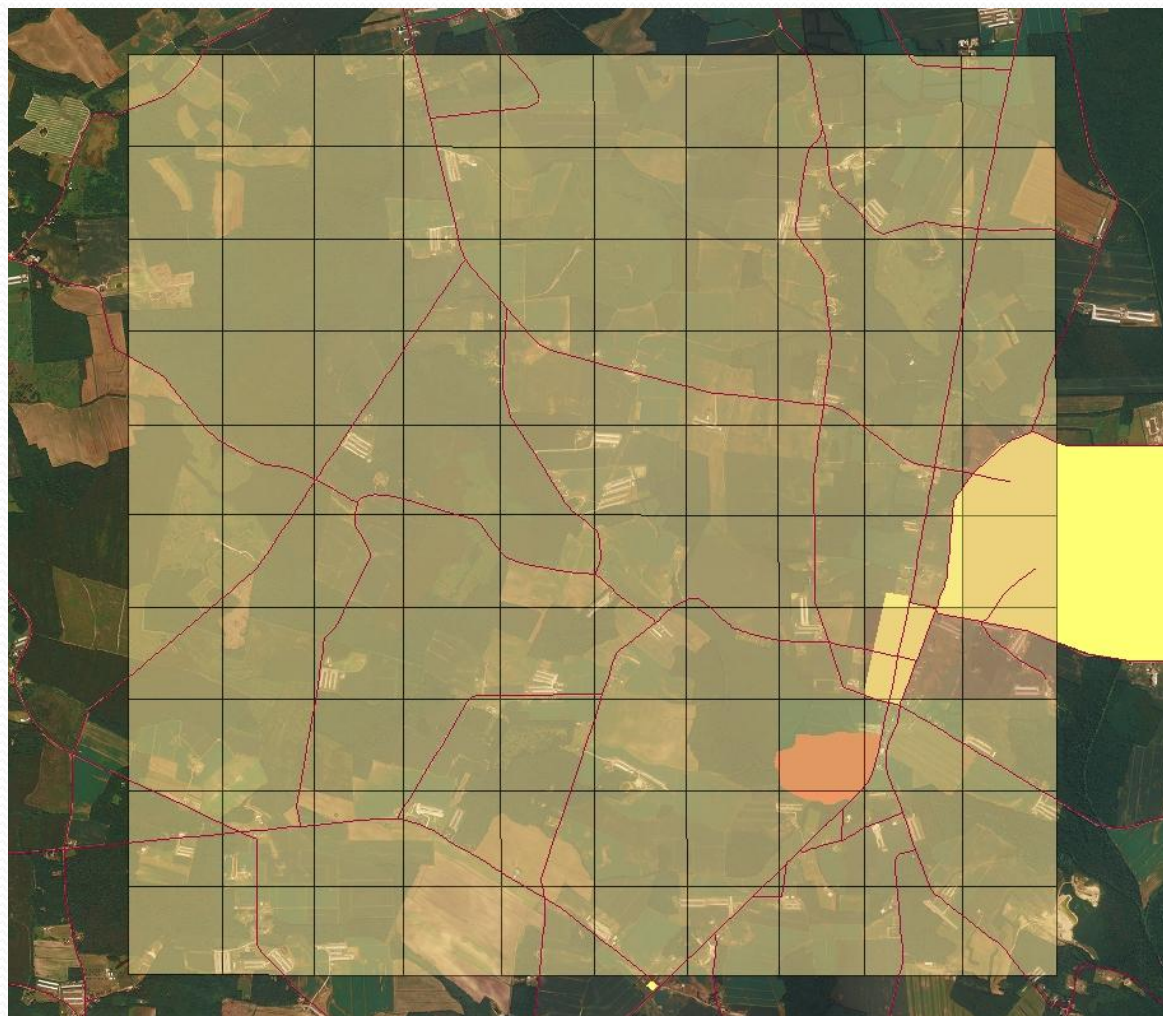  - Current Zoning
  - Future Vision (Example)

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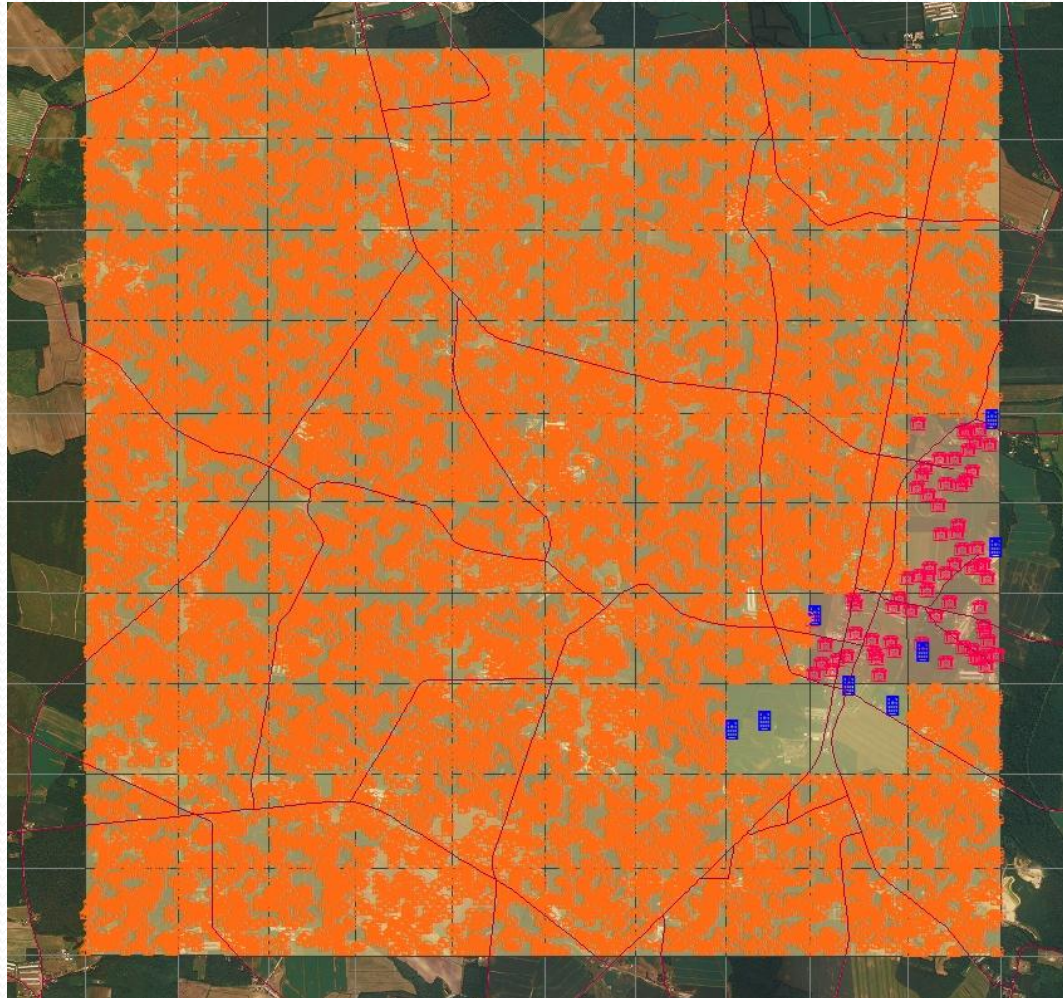
# Sussex Grid – Sub-Area Examples

# Rural Scenario: 'Existing Land Use' "Paint"

# Rural Scenario: 'Current Zoning' "Paint"

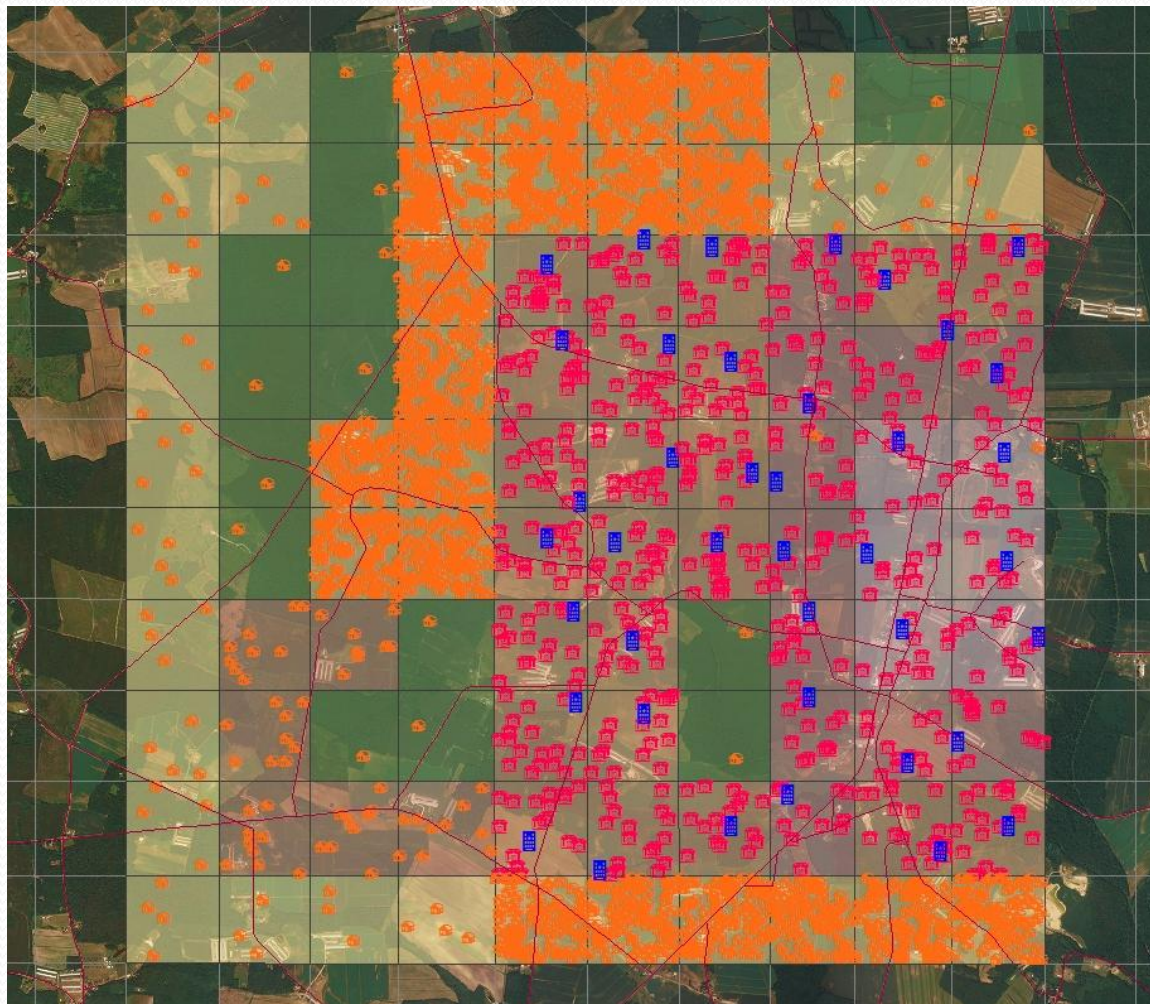# Rural Scenario: 'Current Zoning' Build-Out

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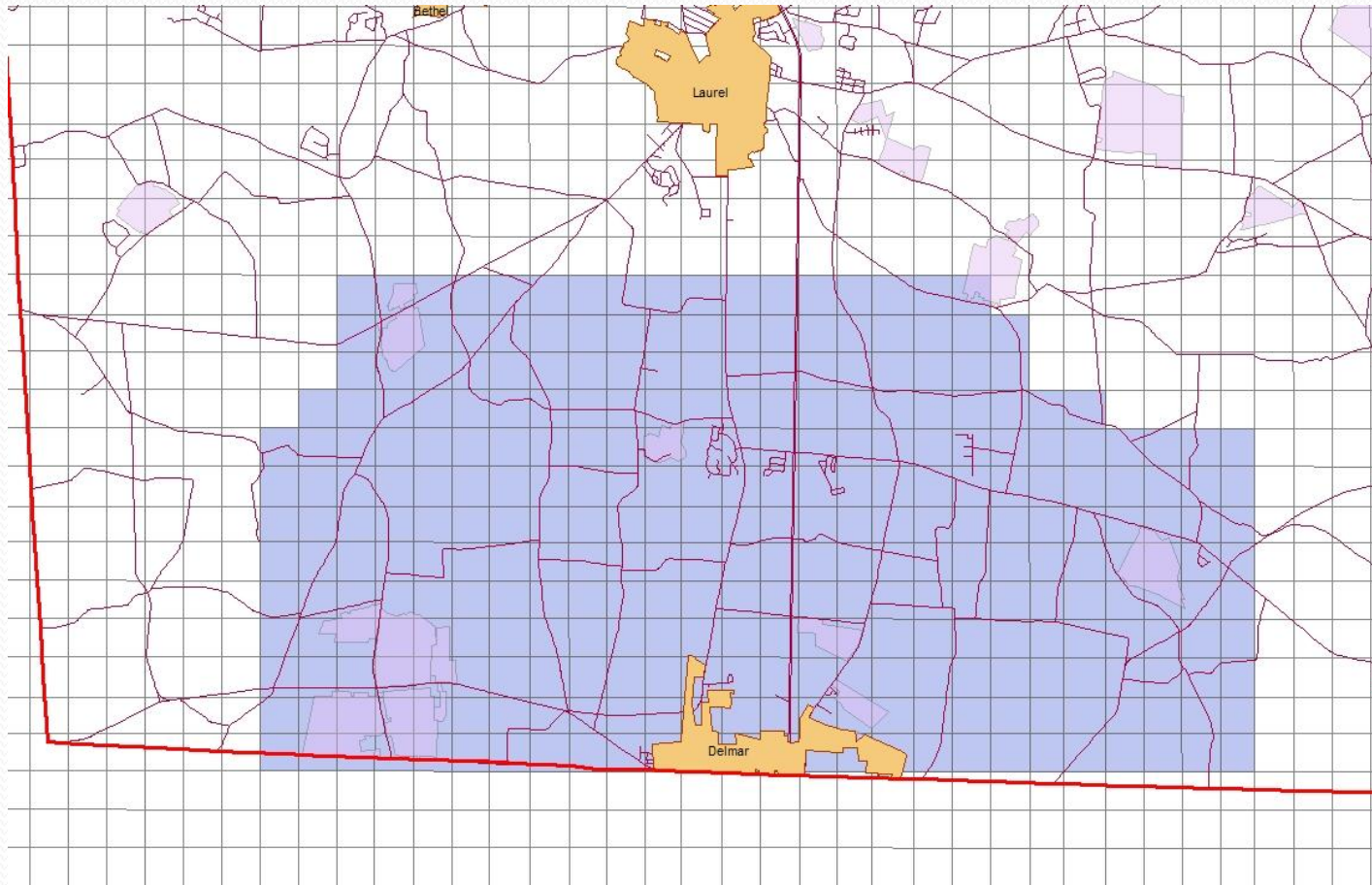A Coastal Community Enhancement Initiative

# Rural Scenario: 'Current Zoning' Build-Out (drill-down)
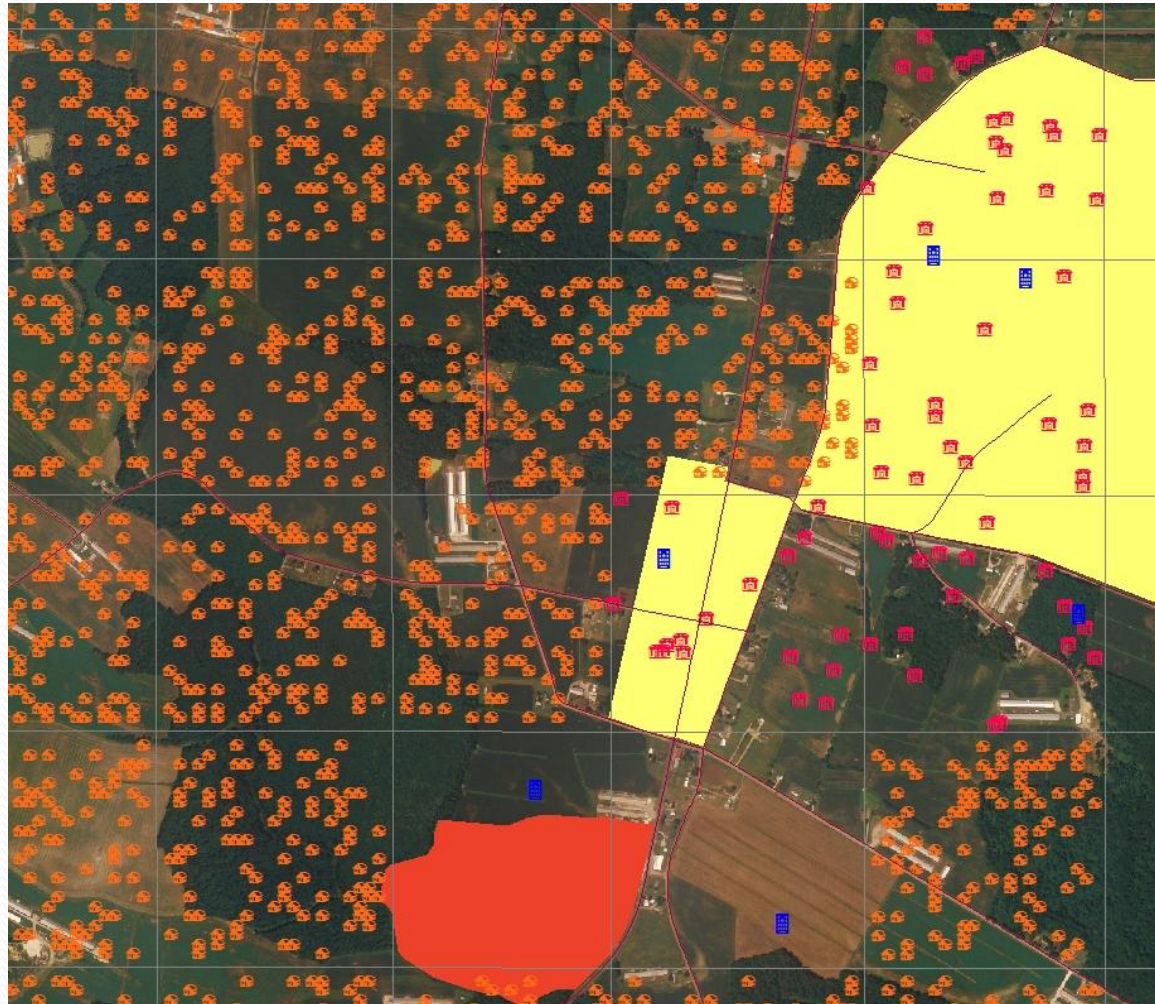
# Rural Scenario: 'Future Vision' Build-Out

# Potential Sub-area Planning Grid (example)

# *Questions?*

*Thank You*