UD's Land Use Model, Community Viz, and the weTable

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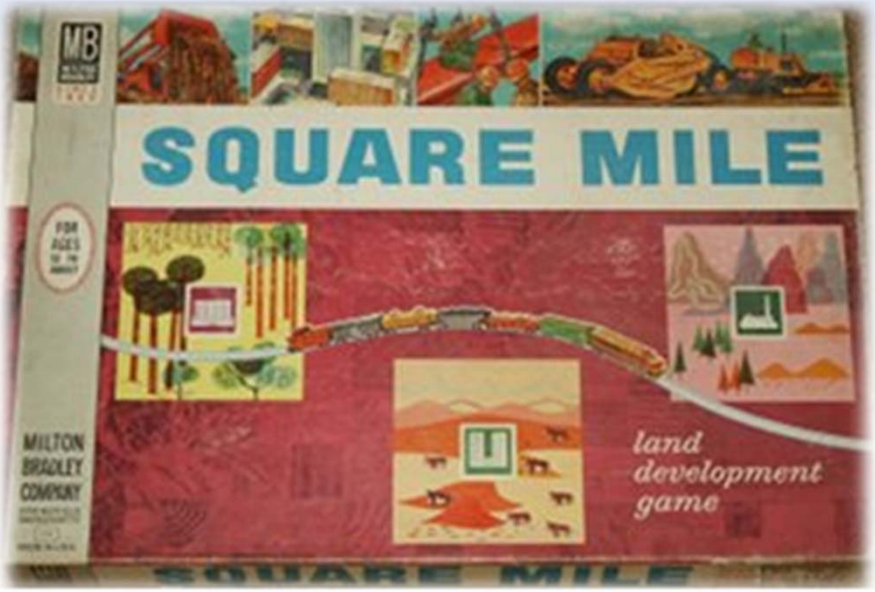
November 13, 2013

"The end game of public engagement should be empowerment: creating a **real** and **meaningful** mechanism for **public input** to be heard far enough upstream in policy making and program development to **influence decisions"**.

-Source: scienceprogress.org

The UD Community Land Use Model – A Simple Origin

- Sell: Sell any property, in any stage of development, at market value.
- Develop: Pay the cost to increase the value of any number of tracts,
  - Build roads
  - Subdivide
  - Construct buildings
- Buy: Buy, at market value, any tracts not fully developed or already owned.



SQUARE MILE VALUE CARD
COSTS
Filling Swamp $5,000
Road Section $10,000
Bridge Section $15,000
Subdivision $25,000
School, Church & Houses $25,000
Industrial Bldgs. $50,000
Shopping Center $75,000
Apartment Bldgs. $100,000
MARKET VALUES Undeveloped Tracts
Not Zoned $8,000
House $10,000
Industry $12,000
Shopping Center $15,000
Apartment $15,000
Plus $15,000 for each Road — with or without Bridge
Tract ready for Subdivision $75,000 Zoned or Not Zoned
Subdivided Tract $125,000 Zoned or Not Zoned
BUILT-UP VALUE for Final Sale
Houses $200,000
Houses and Church $220,000
Houses and School $230,000
Industrial Buildings $210,000
Shopping Center $275,000
Apartments $300,000
SWAMP
SQUARE MILE

The U of D Community Land Use Model

SIMPLY – It is a tool for public involvement in land use decisions

Some Basic Definitions and Concepts

- Density – The number of dwelling units per acre of land.
- Land Use – The various types of development that might occur on a given piece of land.
- Zoning – An administrative powers measure in which the community is divided into districts or zones where permitted uses are established governing densities, lot sizes, building placement , sizes and heights, and other development standards.

*The Model discusses **DENSITY and LAND USE**.*

UD-SCC Land Use Model

Form-Based Planning Transects

Source: 2003 by Duany Plater-Zyberk & Company.

Source: UD-SCC Community Land Use Model

Community Land Use Model – What Is It?

- **Geographical Representation of Community Land Use**
  - 100-Acre tiles forming a cross-county grid
  - Impartial, Representative, and Reproducible
- **Set of Assigned Land Use Designations**
  - Form-based Code
  - Sussex County Custom Land Use
- **Numeric and Spatial Analysis**
  - Build-Out Growth Scenarios
  - Demographic Impacts
- **Set of Assumptions and Constraints**

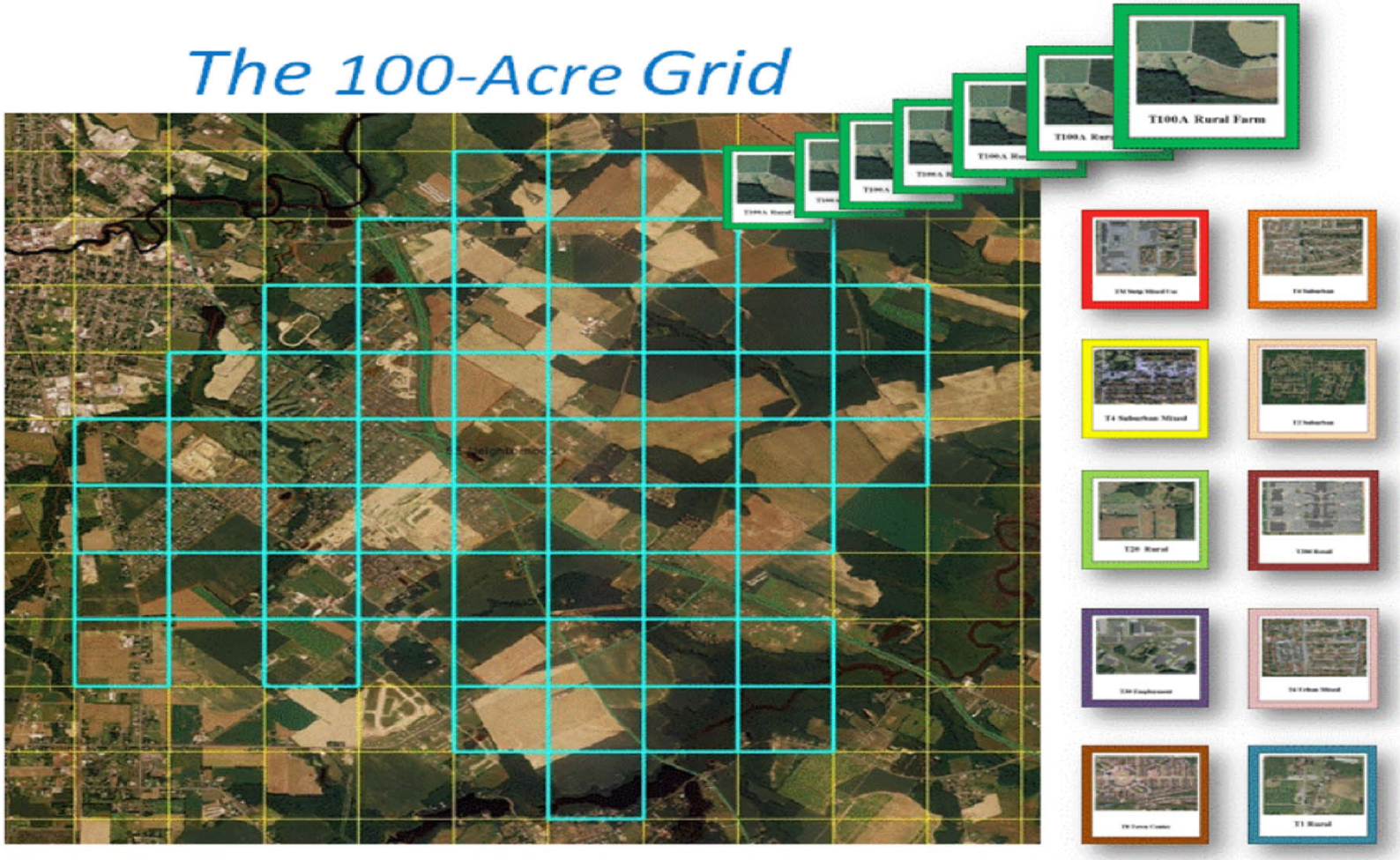
Why 100 acres?!?

100 acres is equal to the developed portion of the DelTech campus in Georgetown

Benefits of the UD-SCC Land Use Model

- Stakeholder interests ➔ visualized and analyzed
- Public ➔ deliberates and makes land use choices
- "On-the-fly" impact analysis ➔ identifies consequences
- "What-if" process ➔ provides implementation options
- Iterative tradeoff & visualization process ➔ leads to consensus
- Ready-to-go Model ➔ at State, Local, and Regional Planning

The 100-Acre Grid



Density Designations

Community Land Use Type	Legend	Density (Residential DU)	Floor Area (SQFT) (Nonresidential) (Per 100 Acres)	Build Efficiency (Full Occupancy)	Mixed Use Factor	Net Density (Residential DU) (Per 100 Acres)	Net Floor Area (Residential) (Per 100 Acres)
T100 – Rural		4 DU / 100A	0	100%		4	
T20 – Rural		20 DU / 100 A	0	100%		20	
T2 – Suburban		2 DU / A	0	70%		140	
T4 – Suburban		4 DU / A	0	80%		320	
T6 – Urban Mixed		6 DU / A	300,000 SQFT	75%	70%:30%	315	225,000 SQFT
T8 – Town Center		8 DU / A	500,000 SQFT	90%	50%:50%	360	450,000 SQFT
T16 – High density Residential		16 DU / A	50,000 SQFT	90%	90%:10%	1300	45,000 SQFT
T30 -Employment		0	200,000 SQFT	80%		0	160,000 SQFT
T200 – Retail		0	800,000 SQFT	80%		0	640,000 SQFT

Rural Places

- T100-Rural: 1 DU per 100 acres
- T20-Rural: 5 DU per 100 acres

Non-Residential Places

T30: Employment/Institutional

T200: Retail/Shopping Centers

Suburban and Urban Mixed Use Places

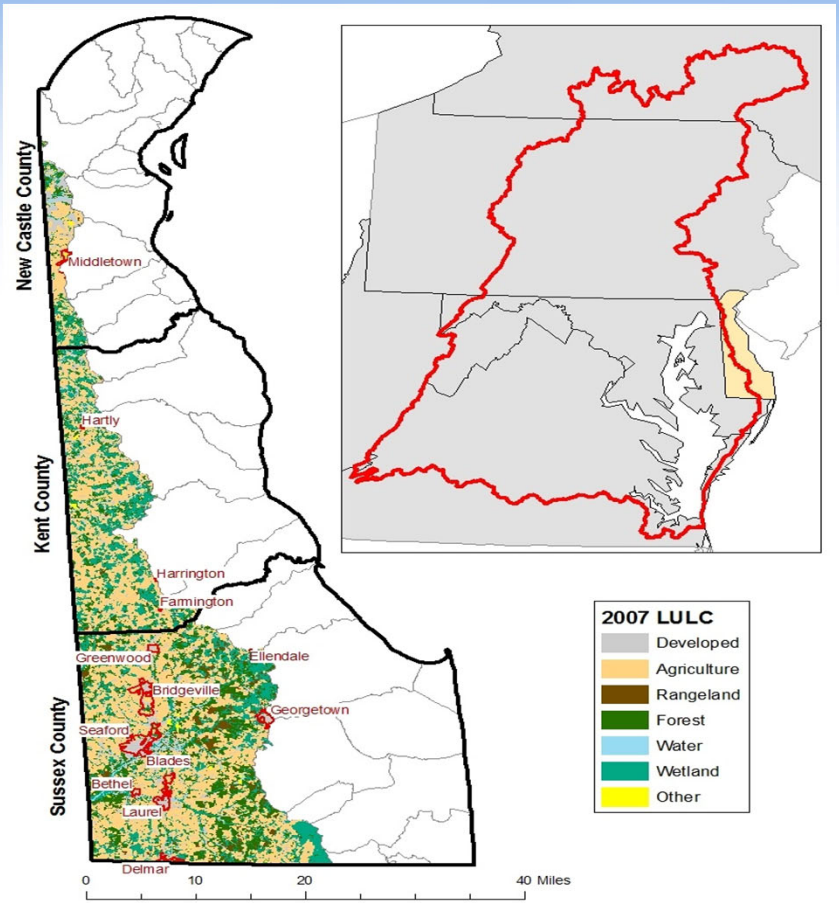
- T2- Suburban: 2 DU per acre
- T6-Urban Mixed: 6 DU per acre / Mixed Use
- T8-Town Center: 8 DU per acre / Mixed Use

Chesapeake Bay Watershed

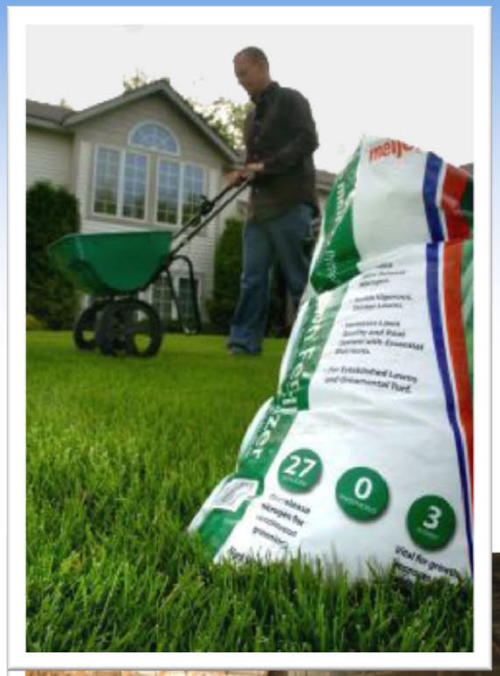
- Six-state, 64,000 sq. mile watershed
- 10,000 miles of shoreline
- Over 3,600 species of plants, fish and other animals
- $750 million to local economies
- Home to 18 million people

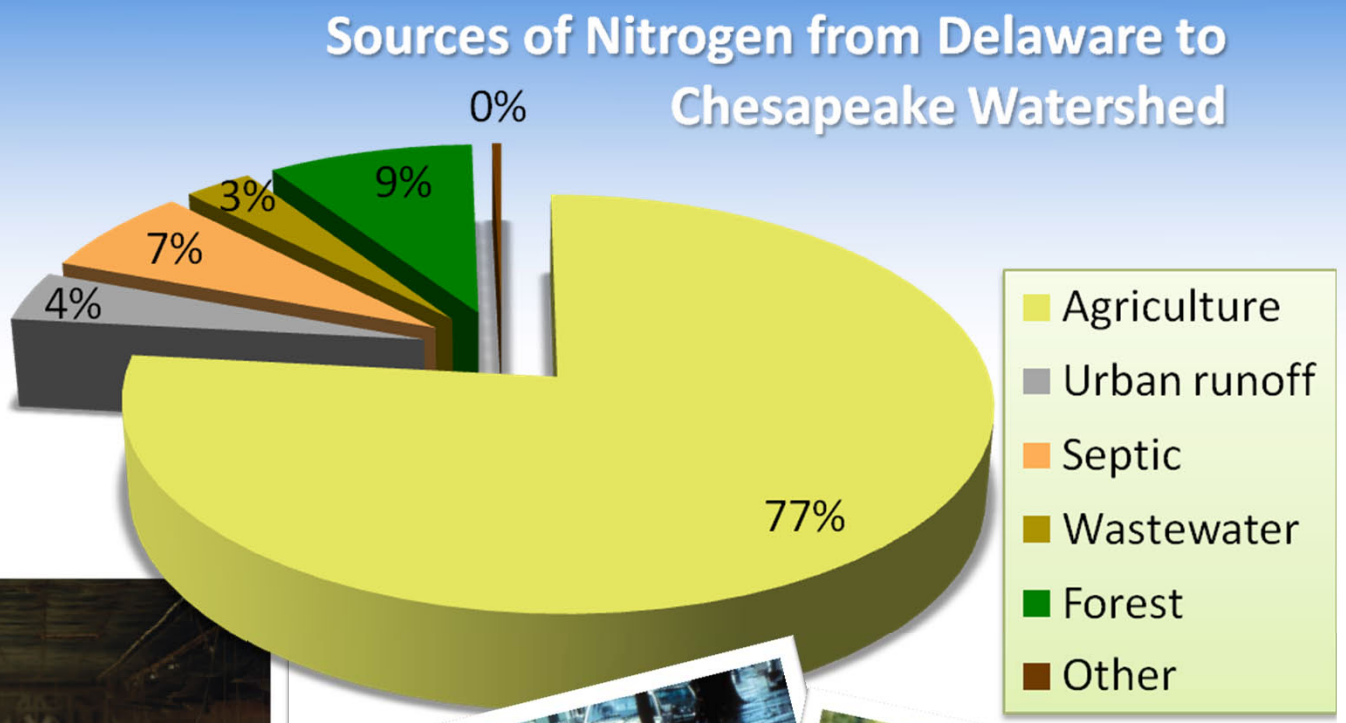
The Chesapeake Bay Watershed in Delaware

- Within all 3 counties
- Very rural character:
  - Developed 10%
  - Agriculture 48%
  - Rangeland 03%
  - Forest 16%
  - Water 01%
  - Wetland 21%
  - Other 01%
- Small, but growing, towns



WHERE DOES POLLUTION COME FROM?



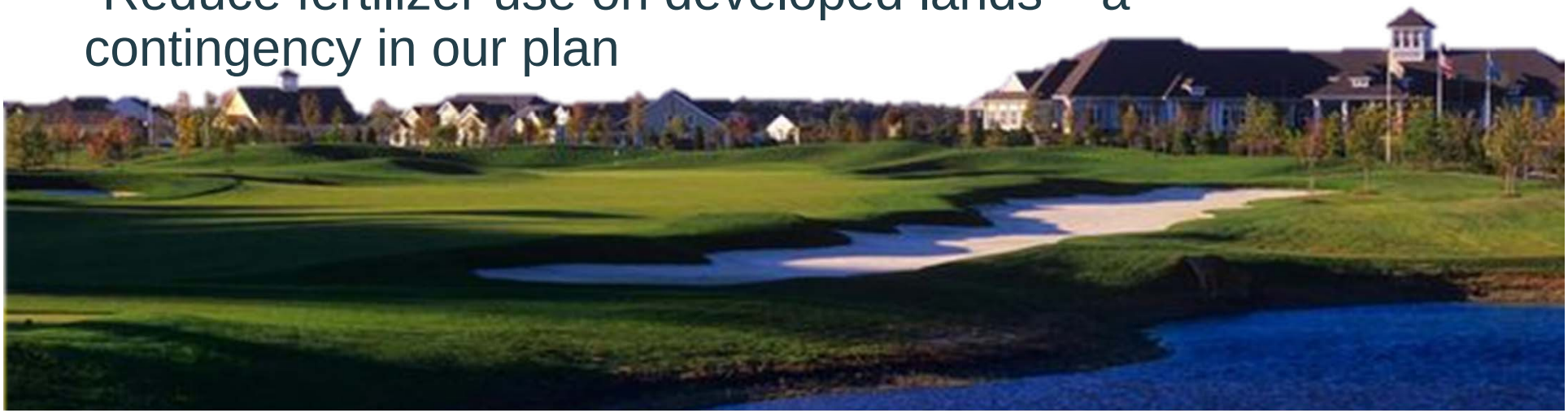


UNIVERSITY OF DELAWARE

STRATEGIES FOR CLEANER WATER IN THE CHESAPEAKE

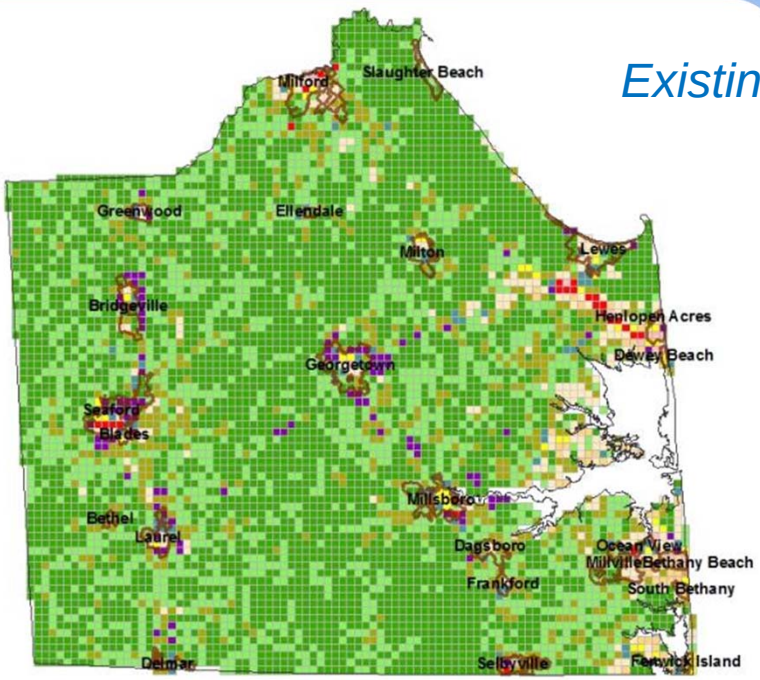
Land Use within the Bay Watershed

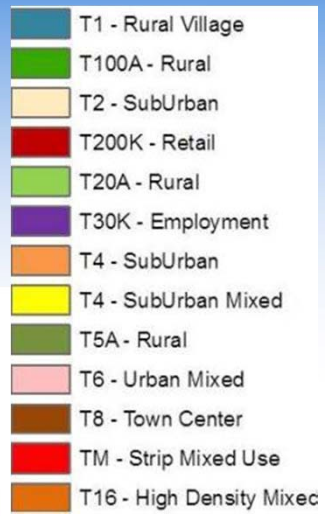
- Develop regional master plans for future land use
- Capitalize on existing planning and infrastructure
- Provide technical assistance on ordinances, incentives and funding mechanisms
- Reduce fertilizer use on developed lands – a contingency in our plan



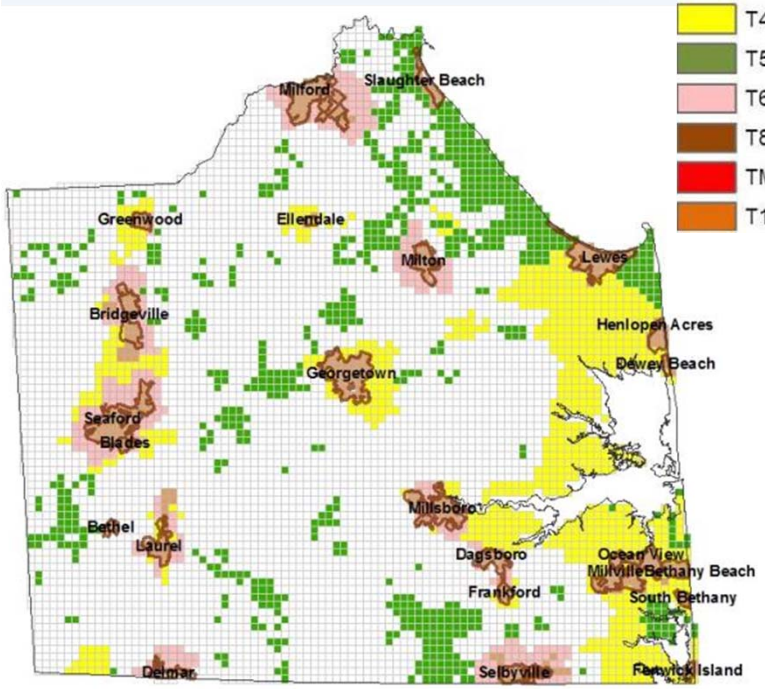
County-wide Analysis

Existing Land Use Scenario

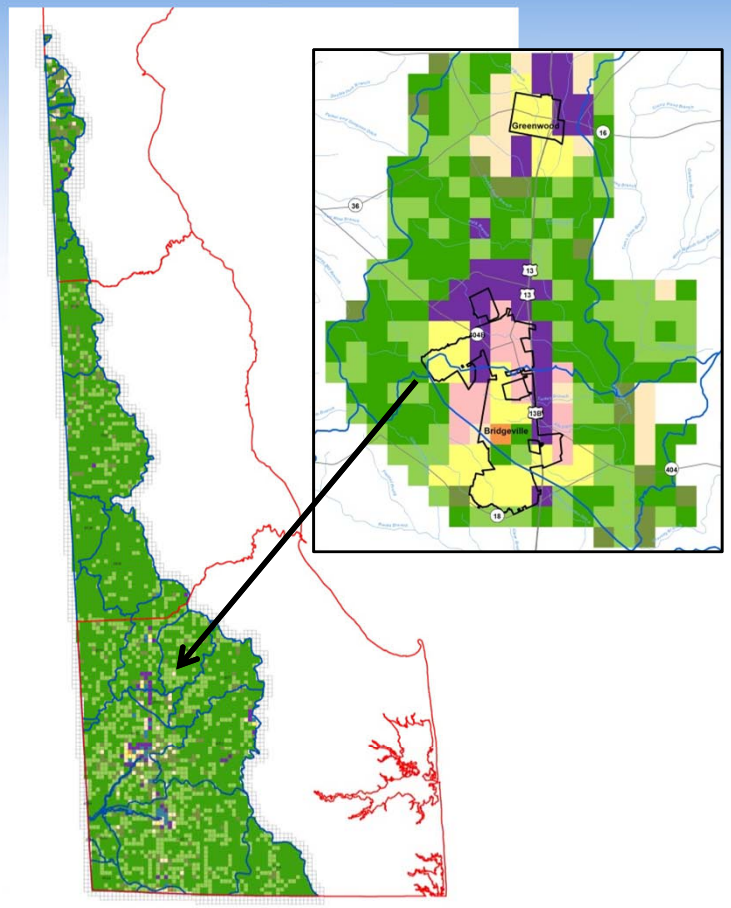


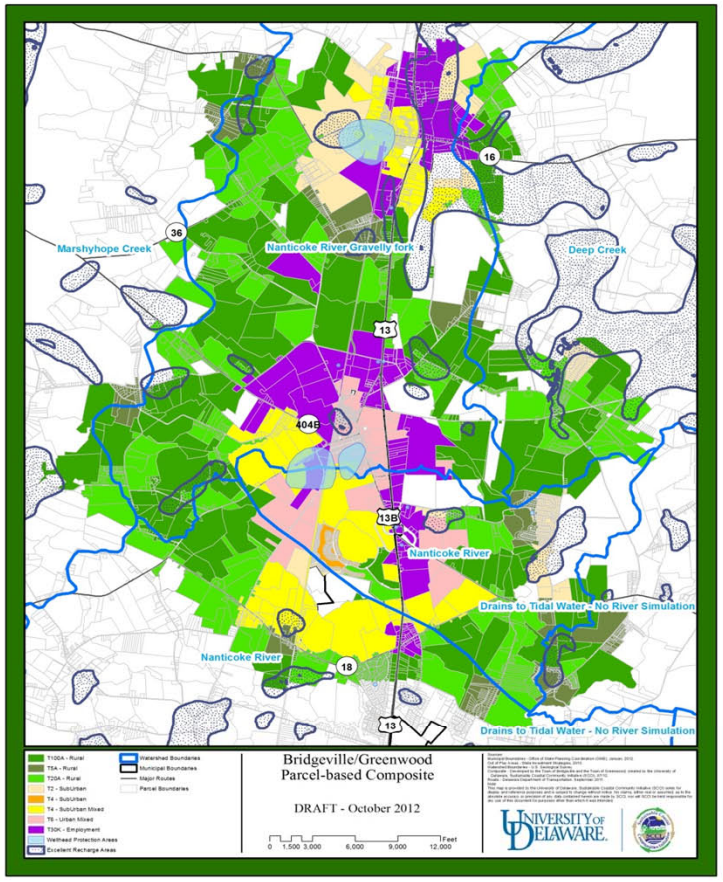


Comprehensive Plan Scenario



Watershed Analysis





The *weTable* Origins

- Use of “smartboard” technology for participatory GIS was pioneered by Placematters, a nonprofit spinoff of the Orton Family Foundation
  - inclusive decision making at the community level
- The *weTable* was developed through a collaboration between Texas Sea Grant and Placematters

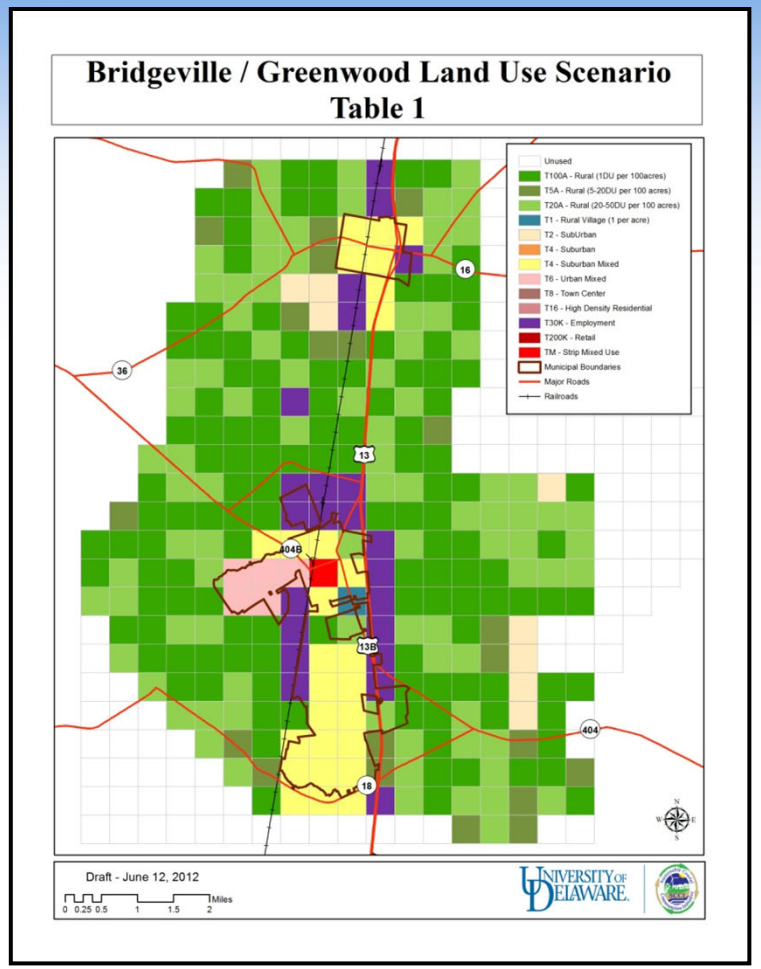
Table
No. 3
MASTER PLANNING IN DELAWARE:
WHAT, WHY, WHO, WHERE AND HOW

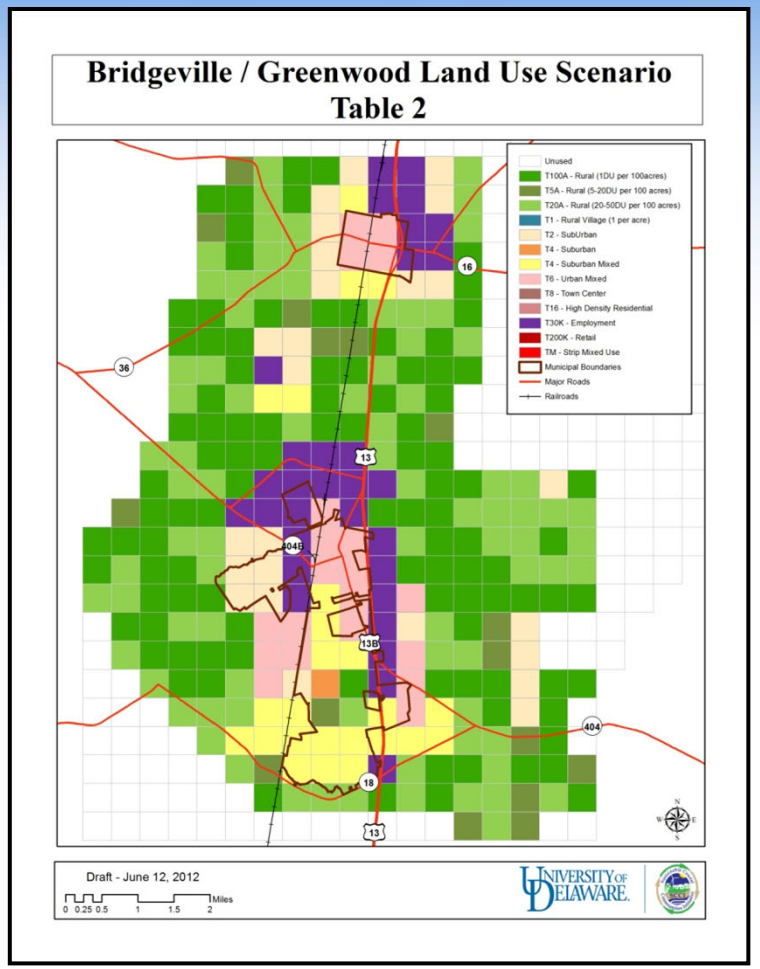
Basic Equipment List

The *weTable*

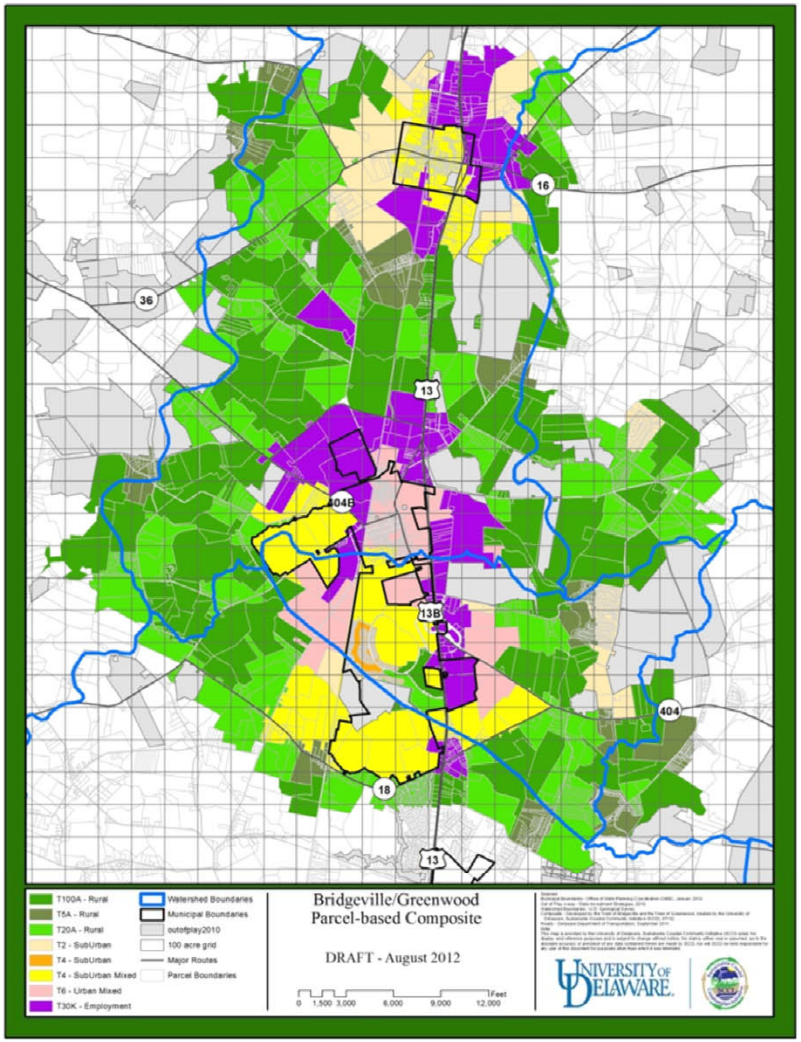
- Laptop (Bluetooth enabled) with Smooth-board
- Projector
- Tripod stand
- Phone holder
- *Wii-Remote*
- Infrared pen
- Table
- White, tri-fold poster board

Developing Scenarios



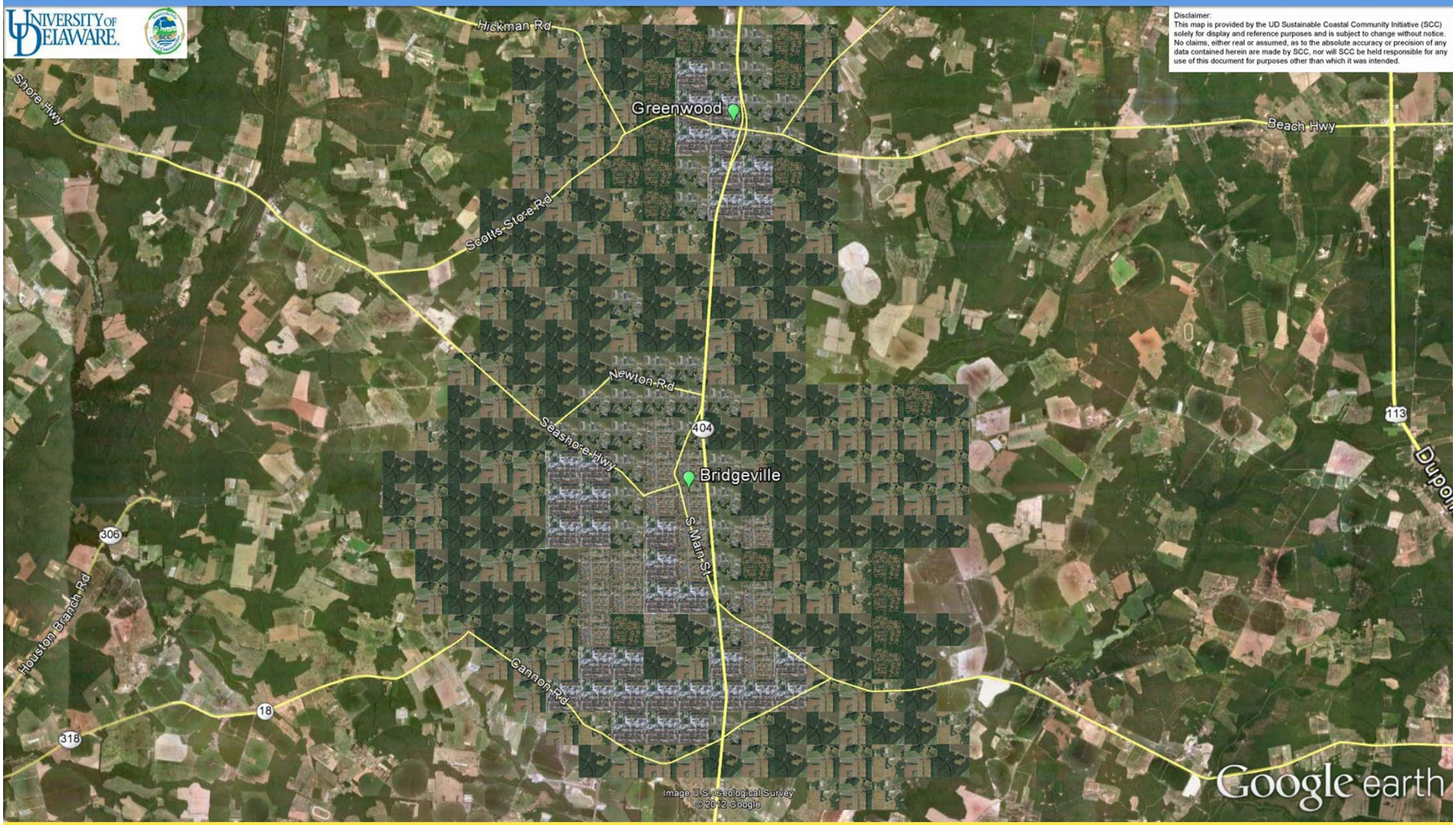


Building Consensus



The Numbers Behind a Preferred Scenario

Scenarios	Base Build-Out	Comp Plan	Table 1	Table 2	Composite
	(Existing LU)				7/12/2012
Build-Out Run					
Build-Out -- Dwelling Units	4,637	54,600	10,849	16,599	16,513
Build-Out -- # Buildings	4,372	24,636	4,219	6,536	5,715
Build-Out -- Floor Area	3,092,750	27,095,000	8,409,250	12,160,000	12,705,000
Residential Demographics					
DwellingUnits	4,637	54,600	10,849	16,599	16,513
Residents	12,023	136,262	27,731	42,016	41,887
Children	2,992	28,584	6,495	9,145	9,234
Res Taxes	421,220	5,305,830	1,050,655	1,634,565	1,626,130
Res VTD	46,370	525,480	108,490	165,990	165,130
Res Waste Water	881,030	10,374,000	2,061,310	3,153,810	3,137,470
Res Water Use	881,030	10,374,000	2,061,310	3,153,810	3,137,470
Non-Residential Demographics					
Commercial FloorArea (SQFT)	3,092,750	27,095,000	8,409,250	12,160,000	12,705,000
Employees	7,410	36,740	16,354	22,932	24,213
Commercial Taxes	153,779	1,223,528	418,608	605,416	632,550
Commercial VTD	75,112	677,423	224,937	319,577	339,692
Commercial Waste Water	135,112	685,423	316,937	443,577	471,692
Commercial Water Use	168,889	856,779	396,171	554,471	589,615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