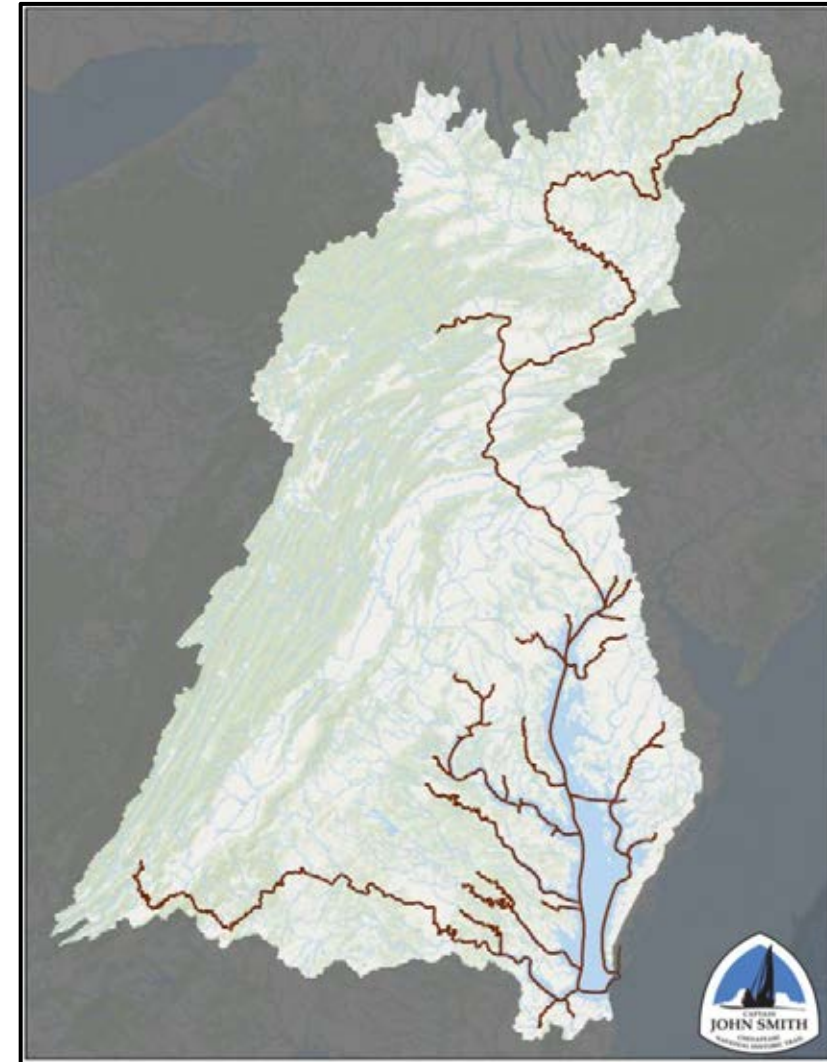


Tracking Easements in a New Web-based Mapping Application

Colin Stief

Senior Application Designer, Chesapeake Conservancy





Data

Web services

Curating



Web-based tools

Access

Outputs



Over 1000 easements
to monitor!



Paper-based



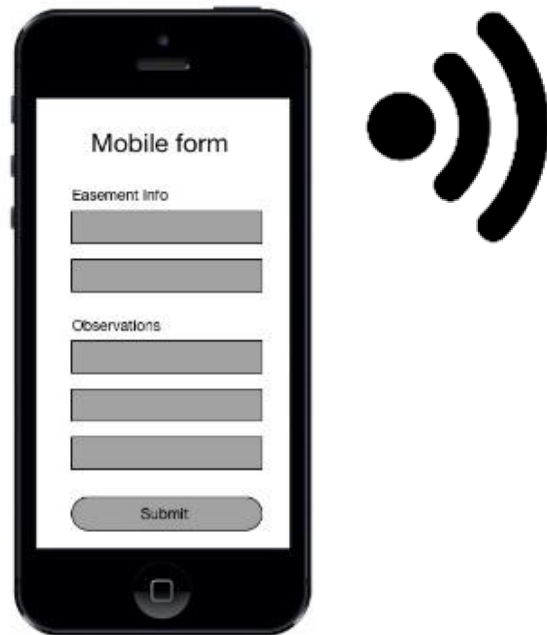
Microsoft Access database



Manual photo-point entry

Updated MET protocol for monitoring

1. Mobile field report form




2. Web application for storage / display



Easement database

Maryland Environmental Trust MET Monitoring Application Dashboard Easements Logout



Account ID: 1007196717

Co-holder: Any County: Any

Showing 1 to 4 of 1079

Search:

Easement ID	Co-holder	County
0001GAR72.ANNE		ANNE
0002RAD74.DORC		DORC
0003WEL74.KENT		KENT
0004PEA75.FRED		FRED

Previous Next

Reports Accounts Upload report Remote monitoring

Joe Smith

1007179812

MAP / GRID / PARCEL
0029 / 0001 / 0003
LAND AREA
160.75

Jane Smith

1007196717

MAP / GRID / PARCEL
0029 / 0007 / 0108
LAND AREA
40

Widget Co.

1008185417

MAP / GRID / PARCEL
0018 / 0024 / 0029
LAND AREA
152460

Jane Smith

1007196717

MAP / GRID / PARCEL
0029 / 0007 / 0108
LAND AREA
40
LAST TRANSFER
Seller: RADCLIFFE, GEORGE M. L/E THEN
TO
Date: 1991 / 06 / 20
SDAT LINK
[Open new tab](#)
GOOGLE MAPS
[Open new tab](#)
Last updated: 20170502

Report display

The screenshot shows a web application interface for the Maryland Environmental Trust (MET) Monitoring Application. The top navigation bar includes 'MET Monitoring Application', 'Dashboard', and 'Easements'. The main content area is split into two columns. The left column features a satellite map with a yellow boundary and two blue callout boxes labeled '1' and '2'. Below the map are buttons for 'Prepare map', 'Open it', 'Print summary report', 'Zip photos', and 'Download'. The right column displays report details for '0002RAD74.DORC', including 'ACCOUNTS 1007196717', 'VISIT DATE 2017/05/22', 'VISIT TYPE Ground', 'TIME From 12:00 pm to 1:00 pm', 'ORGANIZATION Chesapeake Conservancy', and 'MONITOR Colin (Staff)'. At the bottom, there are tabs for 'Report' and 'Photo gallery', and a footer with 'Comments', 'Visit', and 'Land use' sections.

Summaries

Report fields

Photo points

Downloads

Summary report

Zip of photos

Easement map

Salesforce integration

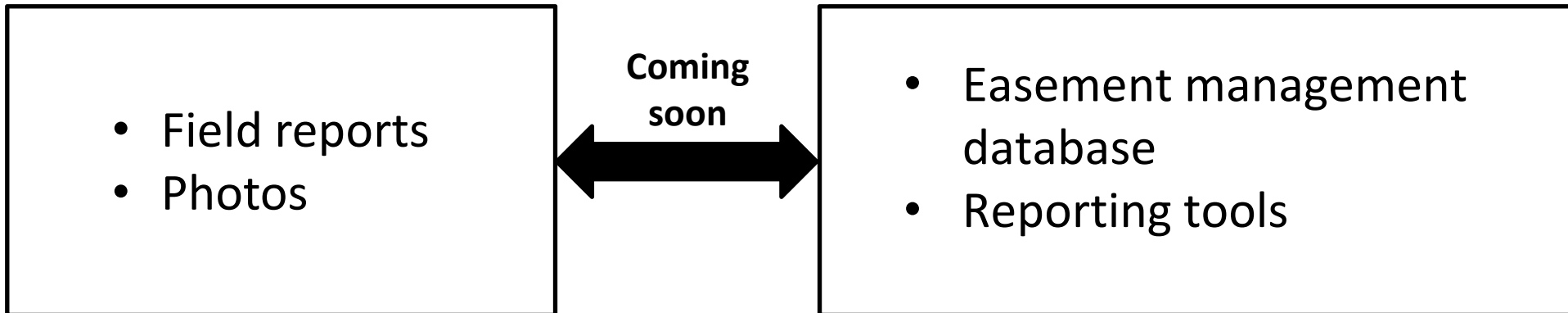


- Field reports
- Photos



- Easement management database
- Reporting tools

Salesforce integration



Contact Information

Colin Stief

cstief@chesapeakeconservancy.org

www.chesapeakeconservancy.org



**Intro to Easements:
College Students and Land
Stewardship**
Dave Minges

Pilot Partnership with St. Mary's College of Maryland

- Keystone Seminar in Environmental Studies – Dr. Barry Muchnick
- Real world land trust experience as part of the course
- 9 students
- 18 Field Files – St. Mary's County Easements
- Partnering with Patuxent Tidewater Land Trust (PTLT) for monitoring on co-held easements
- Building stronger connections between higher education, local land trust, easement property owners – and MET
- Engaging the next generation of land stewards

Training

- Volunteer Land Steward Training at Summerseat Farm, where MET holds an easement with Patuxent Tidewater Land Trust (PTLT)
- 16 participants @ session
- Morning overview of MET and Land Trusts
- Introduction to monitoring and field files
- Class exercises, reading easements, reviewing details
- Field activities, simulated monitoring in the afternoon

- Dr. Barry Muchnick, SMCM Faculty
- Kaitlin Aaby
- Hunter Balog
- Joe Bavarro
- Max Taylor
- Nicholas Fugate
- Glenn Havens
- Madison Jones
- Margaret Rudy
- Tyler Scott
- Frank Allen, PTLT Chairman
- Susan Wilkinson, PTLT Board Member
- Andrew Mowbray, MET Volunteer
- Frank and Ingrid Sylvester, MET Volunteers
- Dave Minges, MET Staff



Morning Introductions and Overview





Maryland Environmental Trust

- Quasi-public statewide land trust governed by a citizen Board of Trustees
- Established in 1967, accepted first easement donation in 1972
- To date, MET has protected over 130,000 acres on more than 1,085 easement properties state-wide
- Roughly half of our easements are co-held
- One of the largest land trusts in country
- A unit of DNR – component of Land Resources Division



What is a Conservation Easement?

- A legal agreement between a landowner and land trust that permanently limits the uses of the land in order to protect specified conservation values.
- Perpetuity
- Remains in private ownership
- Landowner may reserve development rights

Conservation Values

- Scenic viewshed protection from public roads and waterways
- Protection of wildlife habitat
- Protection of water quality
- Preservation of significant historical and cultural sites
- Protection of productive agricultural land
- Protection of forested land
- Shoreline and riparian protection





Reviewing Deed of Easements in Field Files



Looking at maps and getting oriented to the easement



Small group discussions – Andrew Mowbray shares his experience

Terms and Provisions of a Typical Conservation Easement

- Industrial & commercial activities
- Number of residences
- Dumping
- Display of billboards & signs
- Timber Harvest
- Excavation / changes in topography
- Public access not required
- Subdivision
- Buffers around water bodies
- Perpetuity



Obligations Under the Easement

Landowner

- Abide by the terms and restrictions of the easement
- Maintain the property in its protected state

Land Trust

- Monitor the property on a regular basis to ensure all terms are being met
- Respond to any questions, concerns, or requests of the landowners
- Maintain contact and good relationships with landowners
- When necessary, enforce the terms of the easement





Lunch al fresco









Monitoring

- Monitoring is how a Land Trust determines that no violations have occurred year after year and maintains its responsibility to the easement donor and the public.
- Monitoring protects the easement's conservation values
- Maintains and improves landowner relations





Farm structures for review



Interacting with the landowner





Discussing structures and land use



Dick Wildes briefs the group on raising American Bison





Buffalo goes bananas, thanks to Walmart





A good training day in the field



Back to the Summerseat farm house

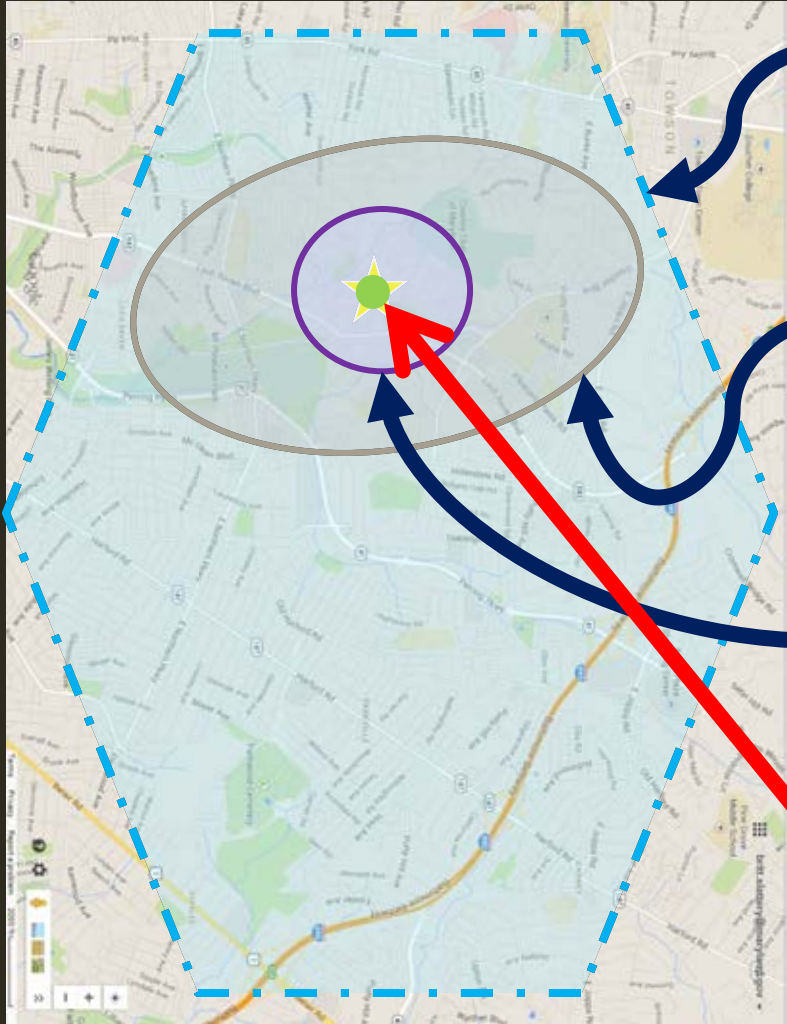


NEARBY NATURE: MARYLAND PARK EQUITY

Maryland
Land Conservation Conference
6/8/17



Shrinking Habitat- for Humans!



Great-grandfather – in **1919**, would walk **6 miles** to go fishing; walked to school. Uphill. Both ways.

Grandfather – **1950**, could walk **1 mi** on his own in the woods; walked to school. Outside for hours until dark.

Father – **1979**, allowed to walk alone **½ mile** to pool; rode bike to school.

Son – **2012**, only allowed to walk on his own to end of his street (**300 yards**); is driven to school.









© Play At Home Mom, LLC







Nature Connection Pyramid

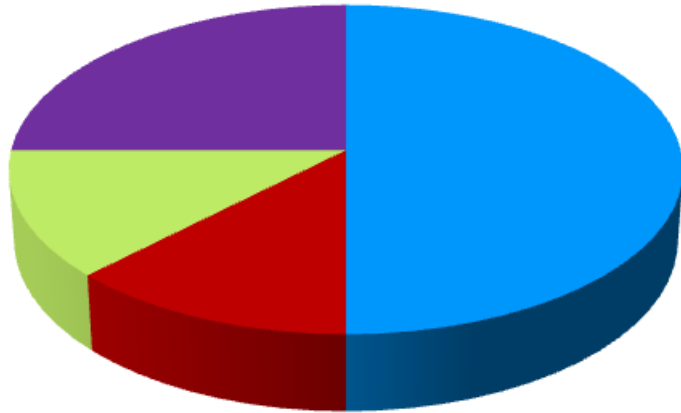


Together we can bring childhood back outside, one day at a time.



PARK EQUITY ANALYSIS

Park Equity



■ Proximity to Parks

■ Income Level

■ Age

■ Density

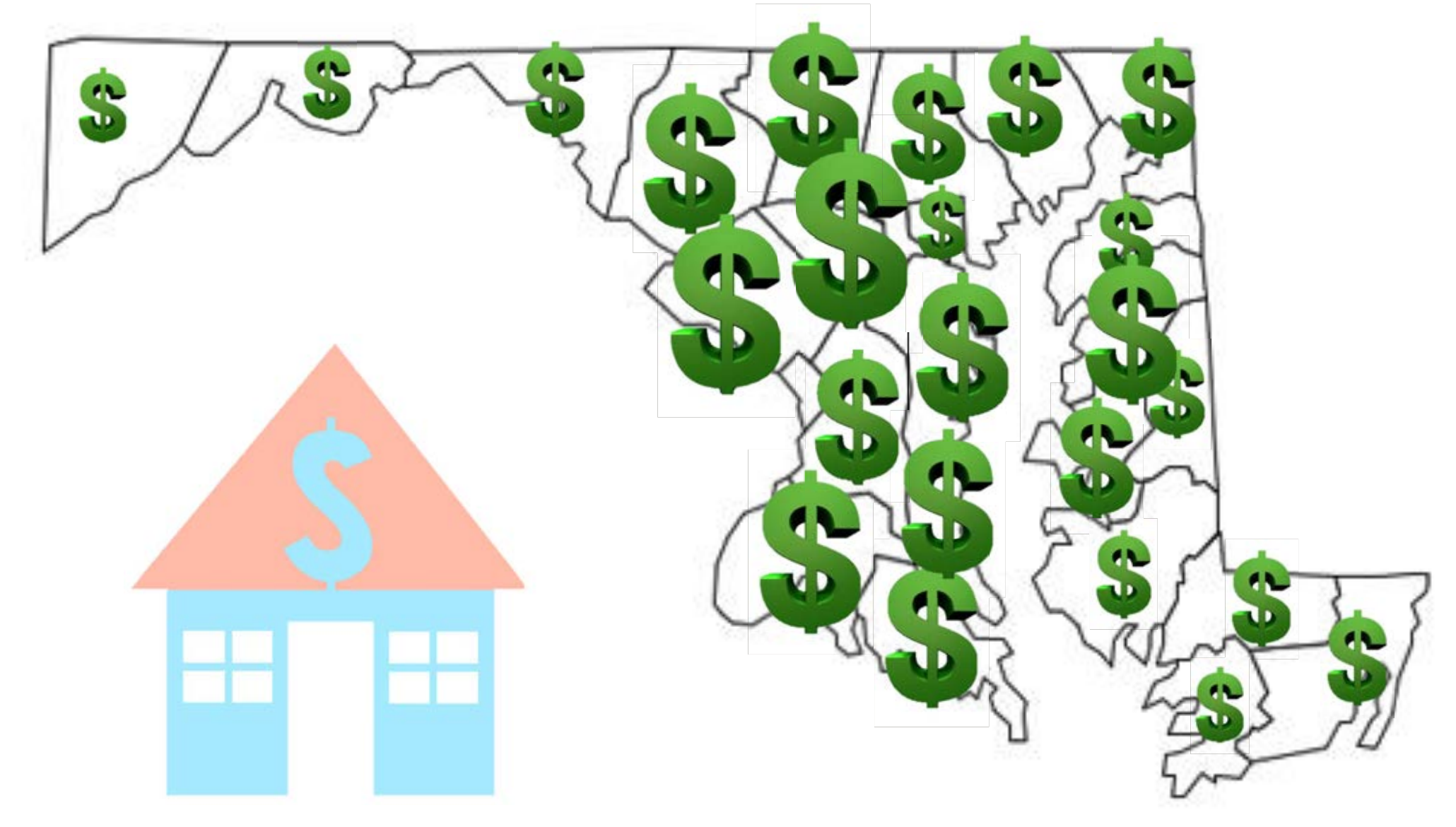


<http://dnr.maryland.gov/Pages/ParkEquity.aspx>





INCOME







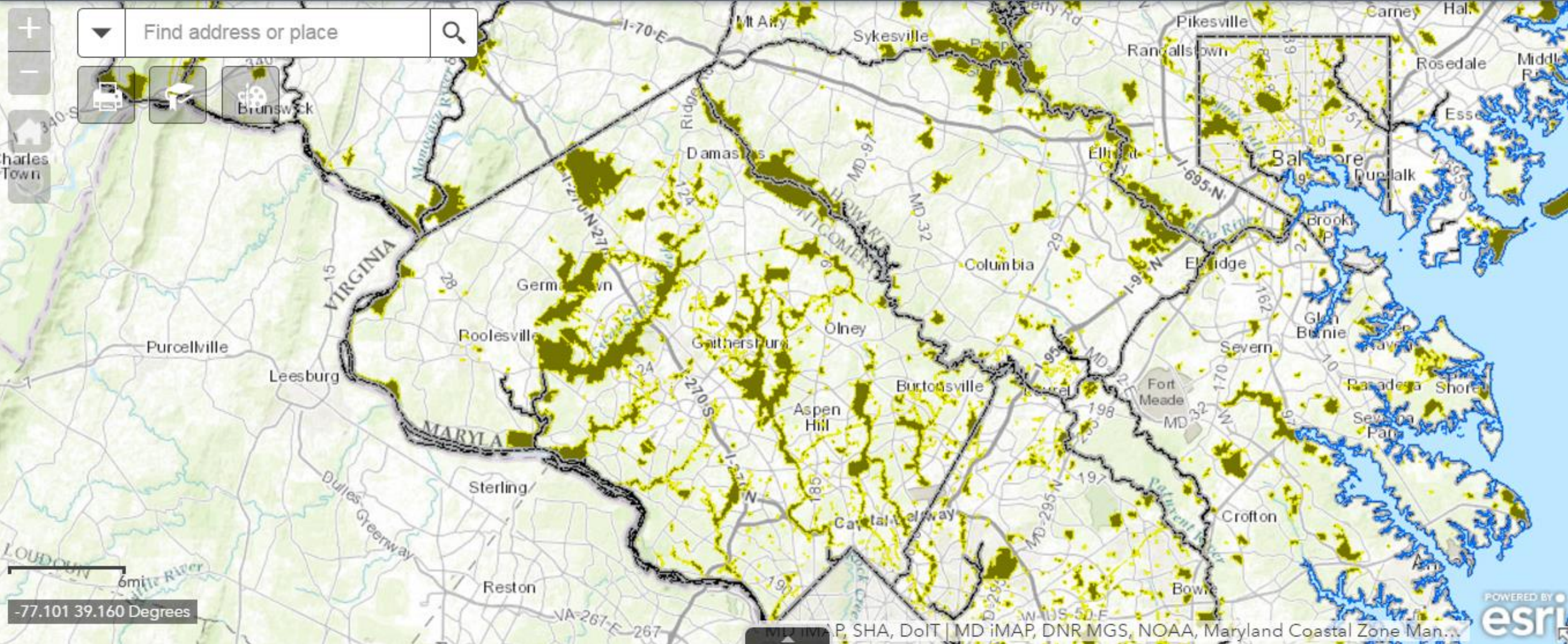
Maryland Park Equity Mapper

Maryland Department of Natural Resources

Maryland Park Equity



Find address or place



-77.101 39.160 Degrees

Search for an Address



Germantown

Columbia

Baltimore

Aspen Hill

Sterling

Reston

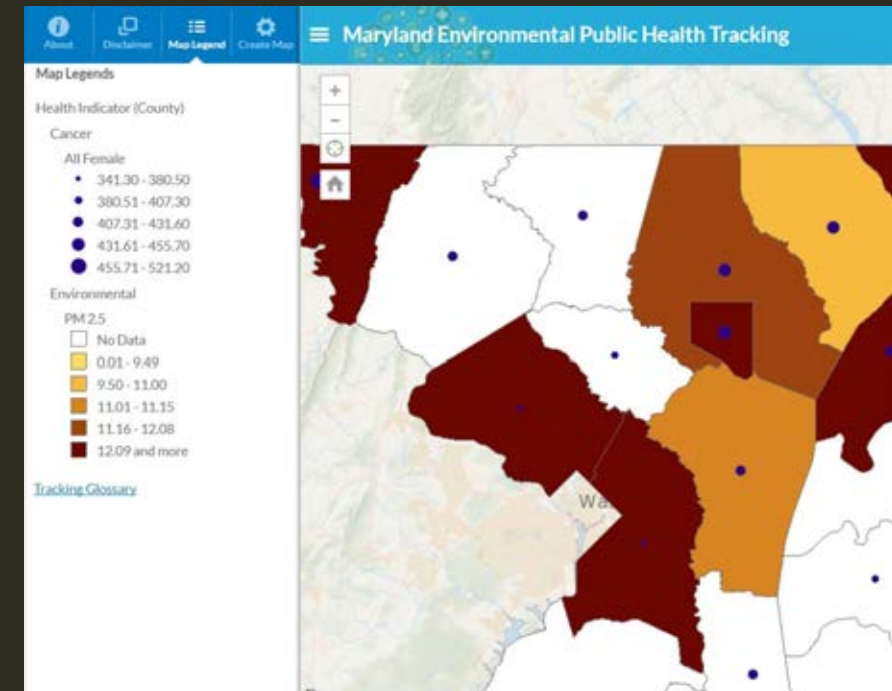
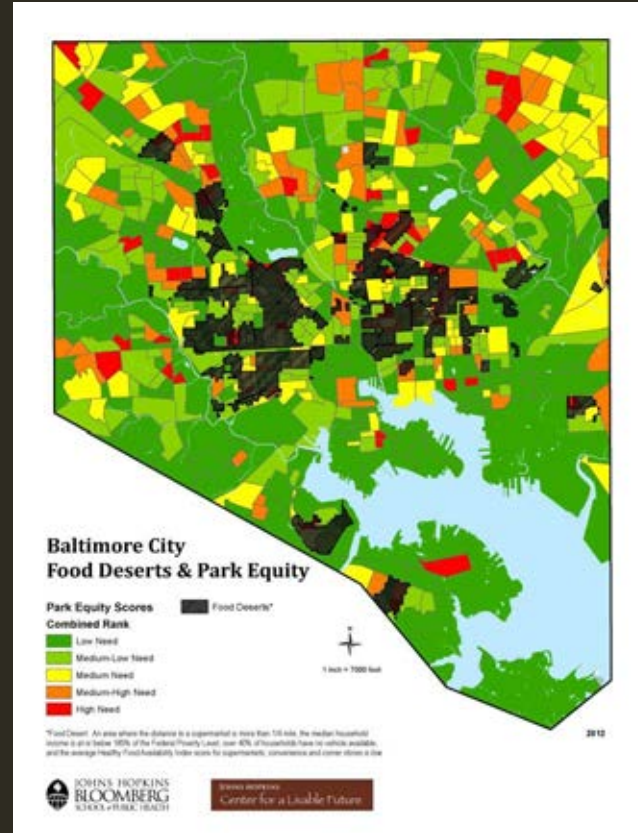
Bowie

Annapolis

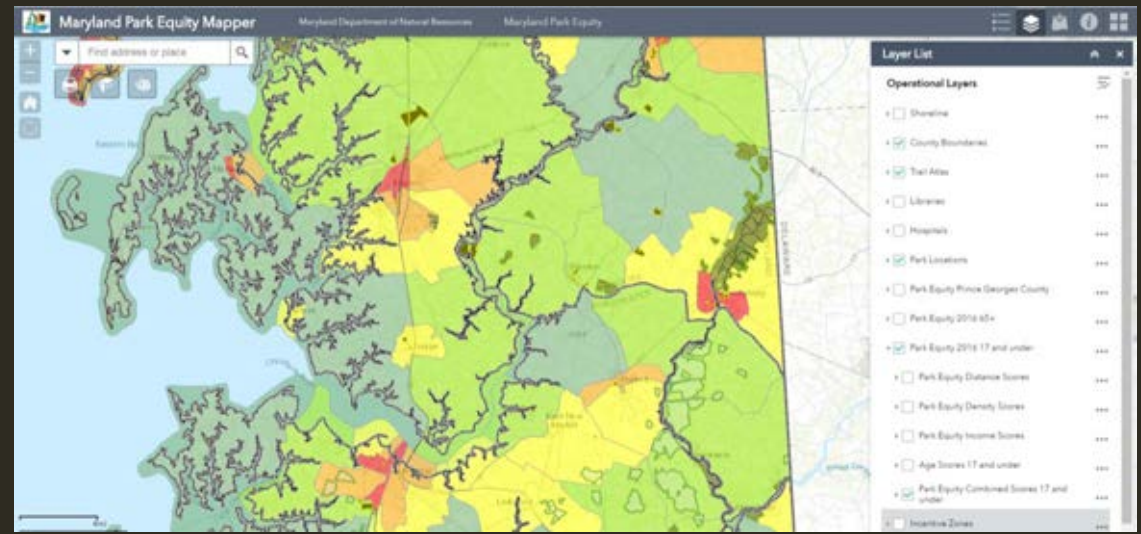
6mi

2 -76.947 Degrees

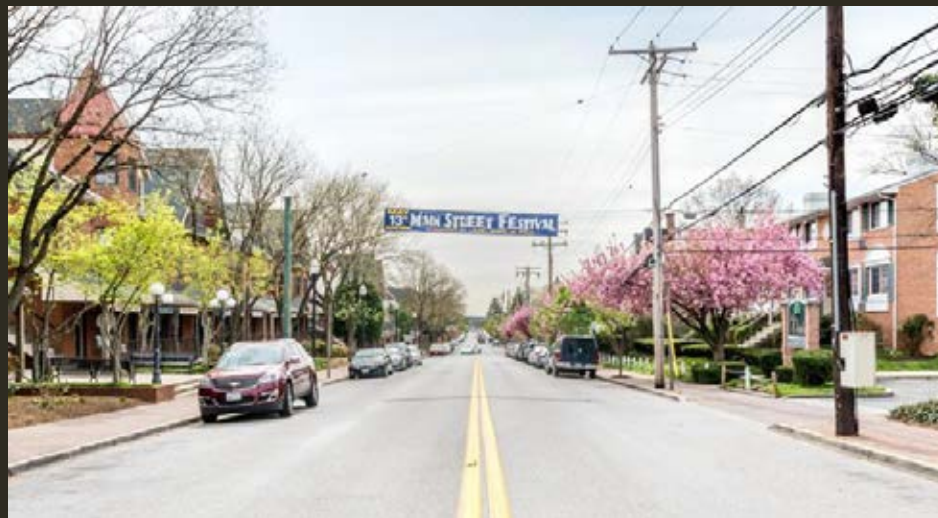
PARK EQUITY ANALYSIS & PLANNING



CAROLINE COUNTY



PRINCE GEORGES COUNTY



NEXT STEPS/ REFINEMENT OF MODEL



www.dnr.maryland.gov/park_equity.asp



Anne Arundel County Forestry and Forested Land Protection Grant Program



Jeffrey Popp
Senior Program Officer
Chesapeake Bay Trust



Mission

The **MISSION** of the Chesapeake Bay Trust is to promote public awareness and public participation in the **protection** and restoration of the Chesapeake Bay and its rivers and streams.



Where the Money Comes From:

Maryland's Treasure the Chesapeake license plate



Federal, state and corporate partnerships



Individual and private donations



Chesapeake Bay Fund Tax Check-off



Where the Money Goes:



Education

Ensuring that students are environmentally literate through K-12 curriculum development, field experiences, and green school development.

Restoration

Advancing the science and implementation of restoration best management practices that reduce pollution and improve habitat.

Community Outreach

Engaging citizens and communities to improve the health of local waterways through community clean-ups, tree plantings, and other stewardship practices and projects.





2017 Anne Arundel County Forestry and Forested Land Protection Grant Program

- Deadline:** January 12, 2017 - 5:00 PM
- Funding Levels:** \$300,000 for Forestry and up to \$1,000,000 for Forested Land Protection
- Eligible Applicants:** Land trusts, community associations, faith-based organizations and more, see RFP for full list.

The goal of this program is to implement cost-effective reforestation and greening projects and increase the number of acres of protected forested land in the County. By protecting forested land, valuable ecological services such as habitat, water quality, and flood control can be ensured for the future.



Anne Arundel County Forestry and Forested Land Protection Grant Program

Project Details:

- ✓ Reforestation/Afforestation of lands already under long-term or permanent protection. Projects can be completed on public property with long-term protection agreements.
- ✓ Permanent Protection of lands already forested through conservation easements.
- ✓ Reforestation/Afforestation and protection of lands that are currently uneased and not already forested.

In February 2017, we awarded a total of \$504,065 in land protection grants through this program, placing 148 acres under permanent protection through conservation easements!







How Much Can I Get?

- Grant supports requests at or below the threshold based on the Fiscal Year 2015 Market Analysis completed for the Natural Resources Conservation Service (NRCS) Wetland Reserve Program (\$3,083 per wooded acre) OR at the average of two certified appraisals less than five years old.
- Applicants requesting easement values of \$3,083 or less per acre do not have to provide certified appraisals with their applications.
- Applicants requesting > \$3,083 per acre have two options:
 1. apply without a certified appraisal, but will be required to obtain two certified appraisals as a contingency of the award.
 2. request easement costs above the threshold and be responsible for obtaining appraisals as a condition of the award at an expense that will only be reimbursed if the project moves forward.











<https://cbtrust.org/forestry-and-forested-land-protection/>

Jeffrey Popp

jpoppp@cbtrust.org

410-974-2941 x103

Urban Ecosystem Restorations

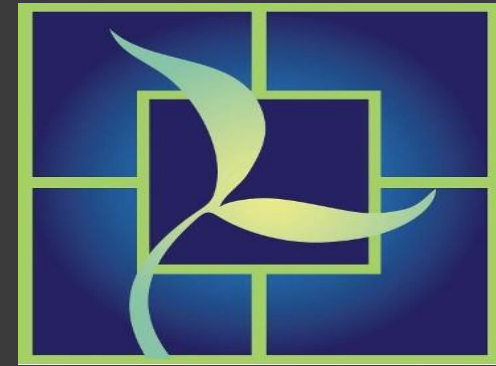
MAPPING STRATEGIC PRIORITIES

www.urbanecosystemrestorations.org



Urban Ecosystem Restorations

- ❖ Conserves AND Restores
- ❖ Urban/Suburban Areas
- ❖ Eco-Functioning Spaces



*Make Every Square Foot
Count*

Eco-Functioning Spaces



Native Habitat/
Biodiversity



Public Health/
Science Education

Stormwater
Retention and
Filtration



Air Quality & GHG
Absorption



Eco-Functioning Spaces



Mapping Project: Overarching Goals

1. Identify Areas of Opportunity
2. Identify Areas of Need
3. Identify UER's Strategic Priorities

What did we need to know first?

1. Where are opportunities for UER & EFS?

- ✓ Existing EFS NOT already protected (i.e. on private land without easement)
- ✓ “Dead” zones available to create EFS

2. Which of these areas could allow UER to aggregate new EFS with existing EFS?

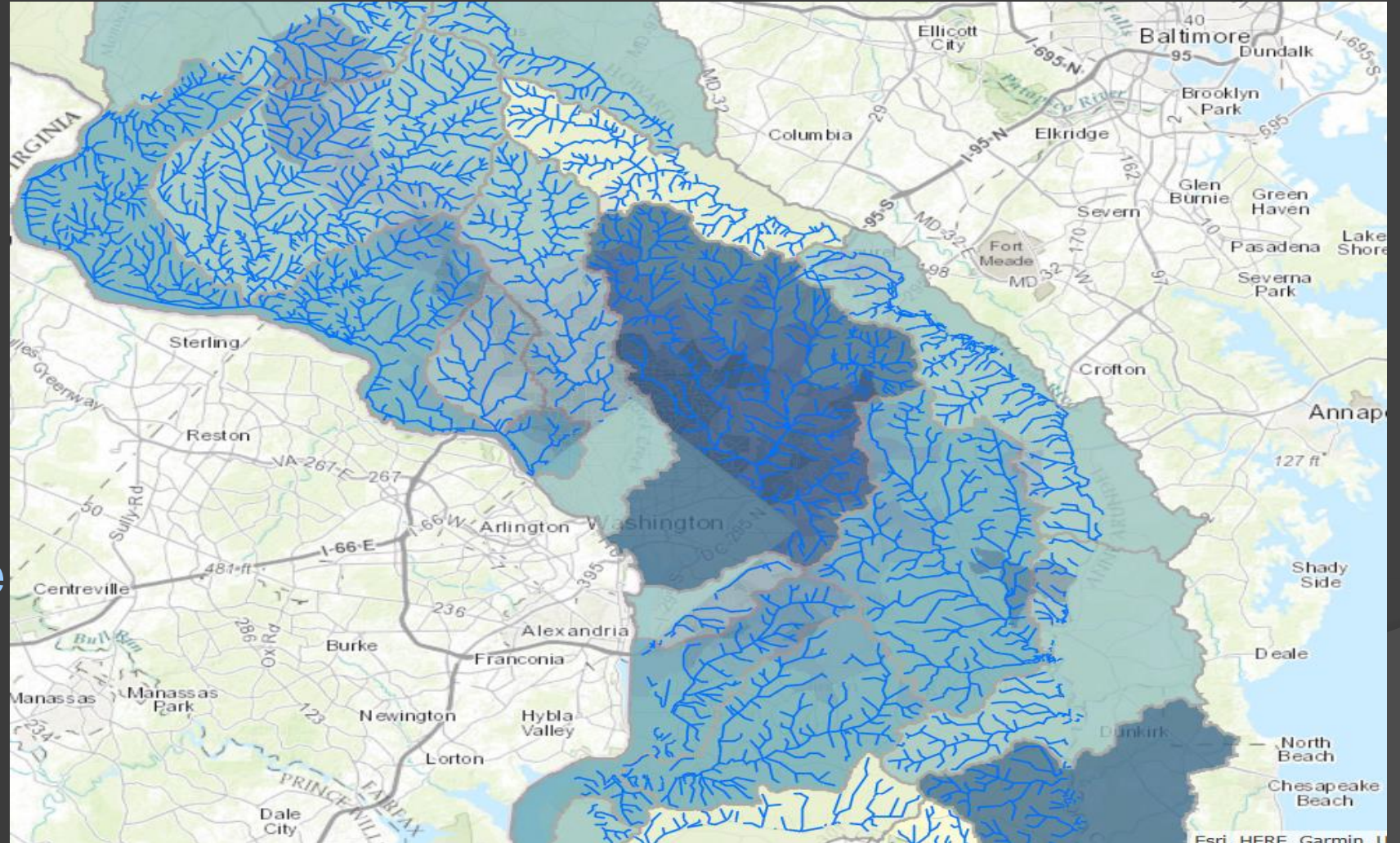
- ✓ Locate regional public investments in restoration
- ✓ Locate publicly-owned/protected EFS

Map 1 – Existing Opportunities



Map 2 – Where is the Need?

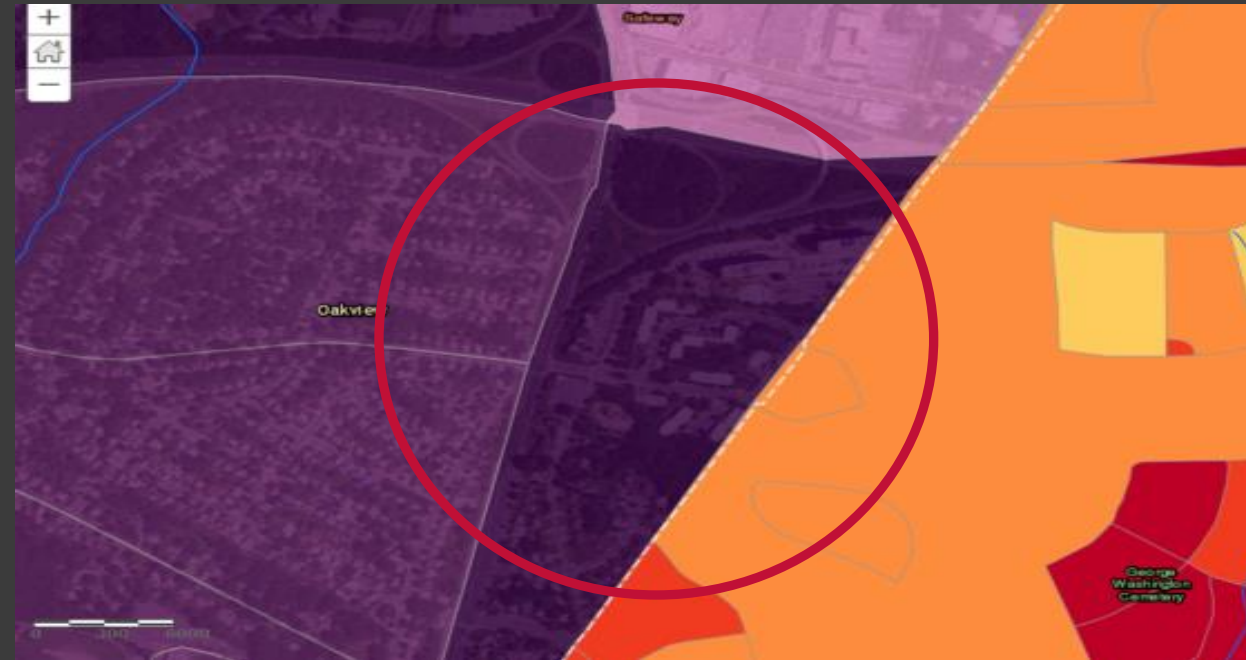
- Location of “broad spectrum” ecosystem failure
- Degrees of failure



Example: Parcel in Map 1/Map 2



Existing Condition/ Land Cover

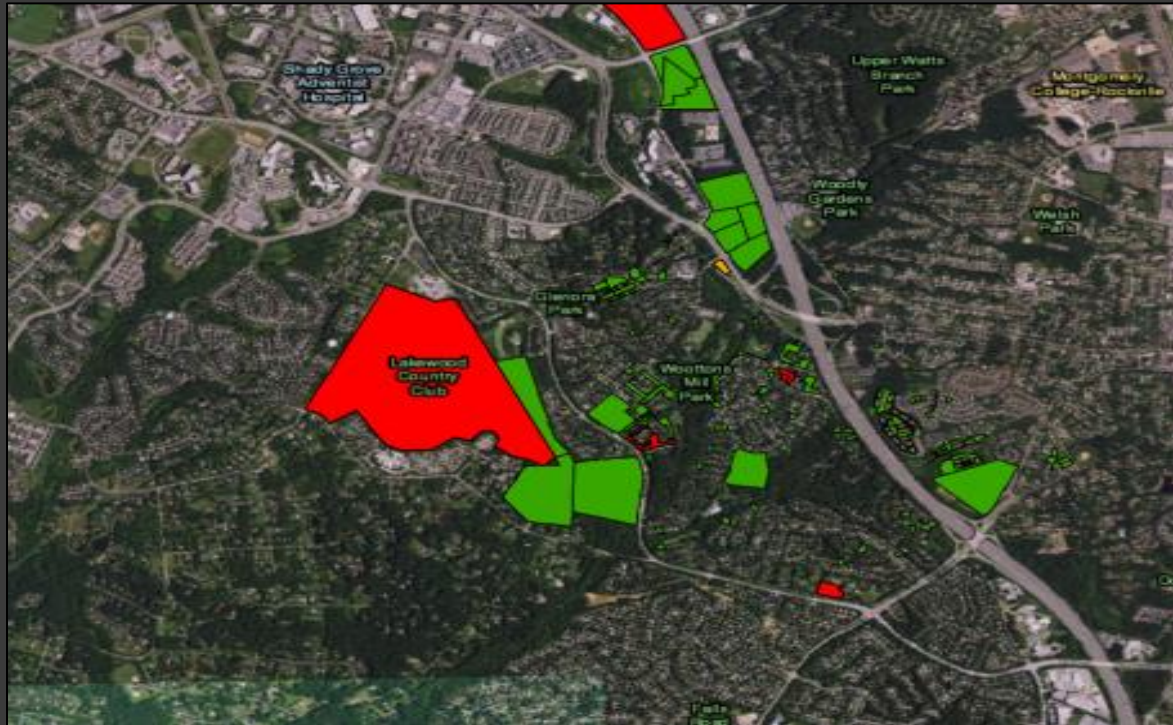


Status of Ecosystem Services

Narrowing down spatial focus – how?

- ✓ **Hot Spots and Connectors**
- ✓ **Opportunity to Grow/Expand EFS**
- ✓ **Nearby Public Investments**
- ✓ **Government/Community Priorities**

Map 3 – Sample Finding



Lakewood Country Club – Identified Site



Lakewood Country Club – Aerial/Satellite map

Next Step: Craft UER Strategy

- ✓ **No Duplication of Effort**
- ✓ **Under-Resourced Targets**
- ✓ **Potential for Economic and Social Value Creation**
- ✓ **Potential to Increase Delivery of Ecosystem Services**

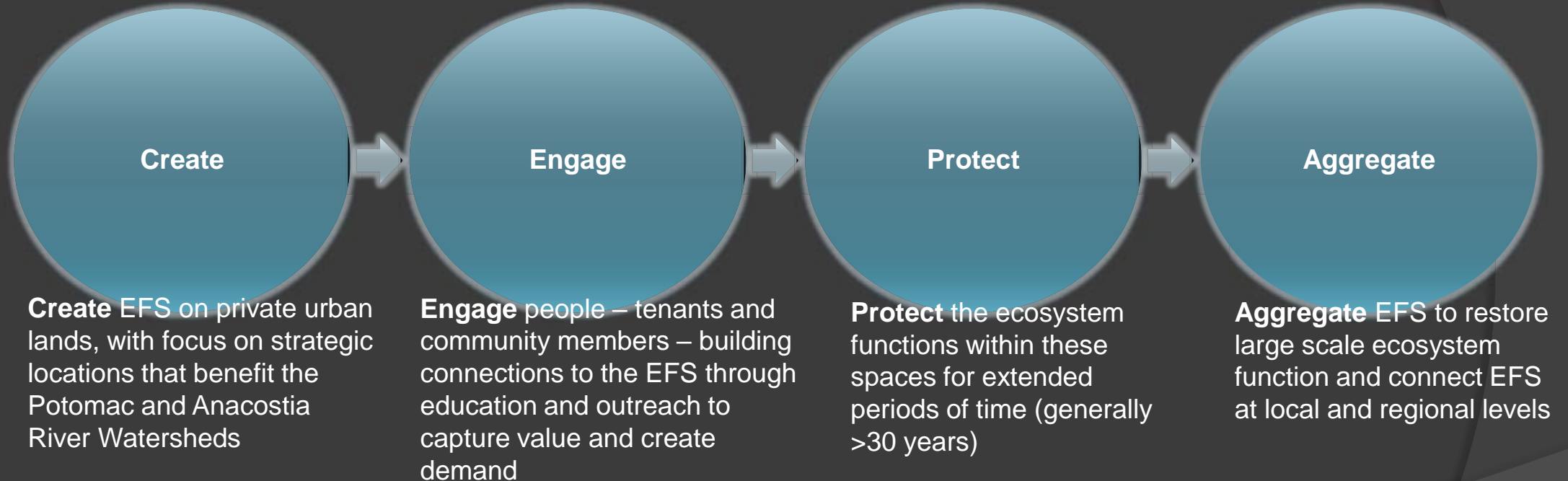


Urban Ecosystem Restorations

Who we are

Urban Ecosystem Restorations, Inc. (UER) is a nonprofit urban land trust that develops and protects **Eco-Functioning Spaces (EFS)** – spaces that provide environmental, social and financial value – on private lands.

What we do



Why were Maps 1 & 2 so difficult?

◎ How Was This Effort Different?

- Data on ecosystem failure and restoration was dispersed and fragmented
- High-density urban space
- Focus on ecosystem services rather than “parks” or “open space”

◎ Data Gaps (Required Use of Proxy Data)

- Public vs. Private Ownership
- EFS vs. “Green” Space or Stormwater BMP

Chicken Bridge Road






innovative funding to address an underserved community's needs.

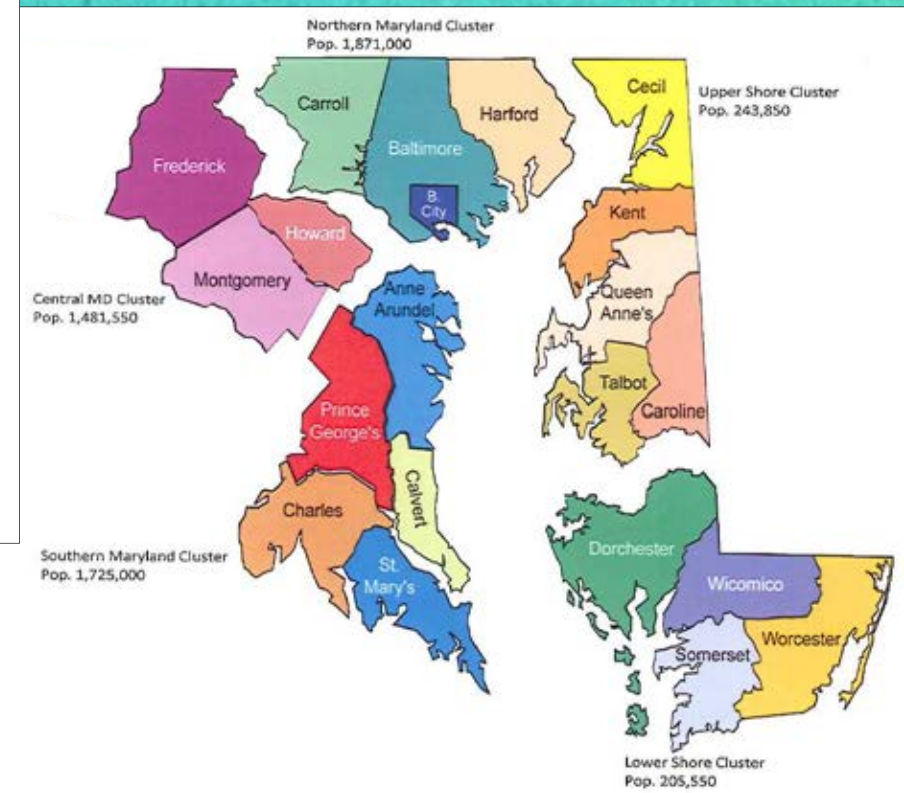
*Eric Buehl, Regional Watershed Restoration Specialist
University of Maryland Sea Grant Extension*

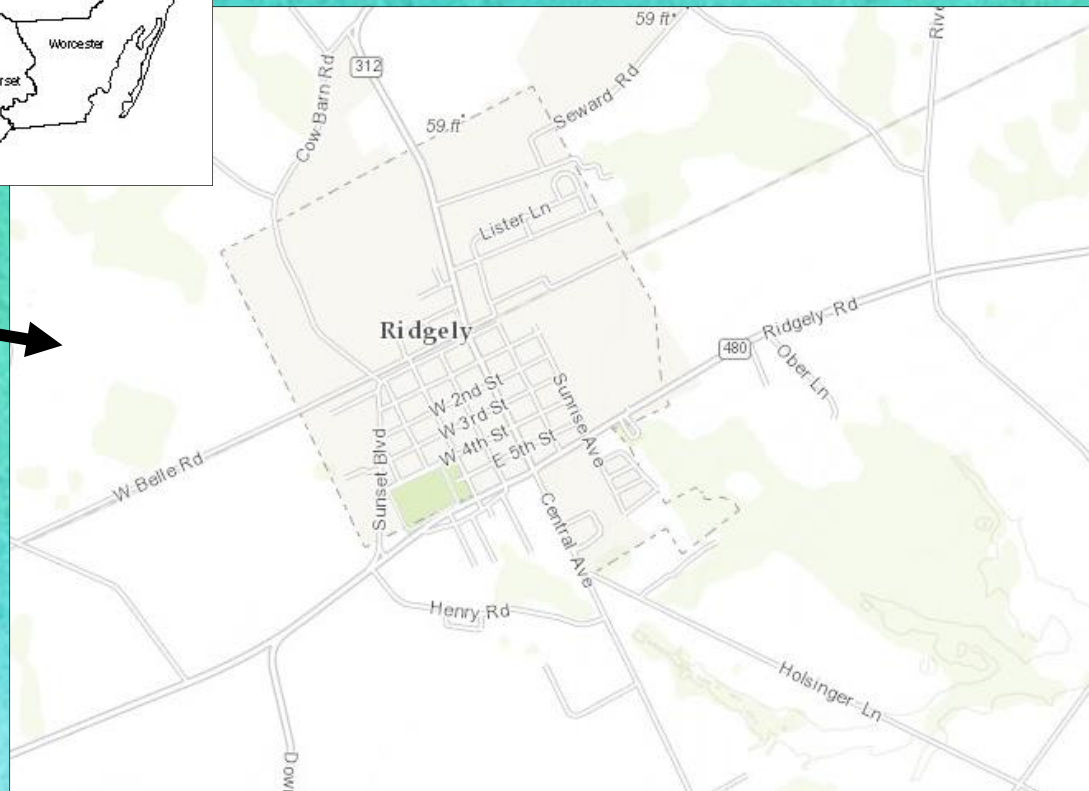
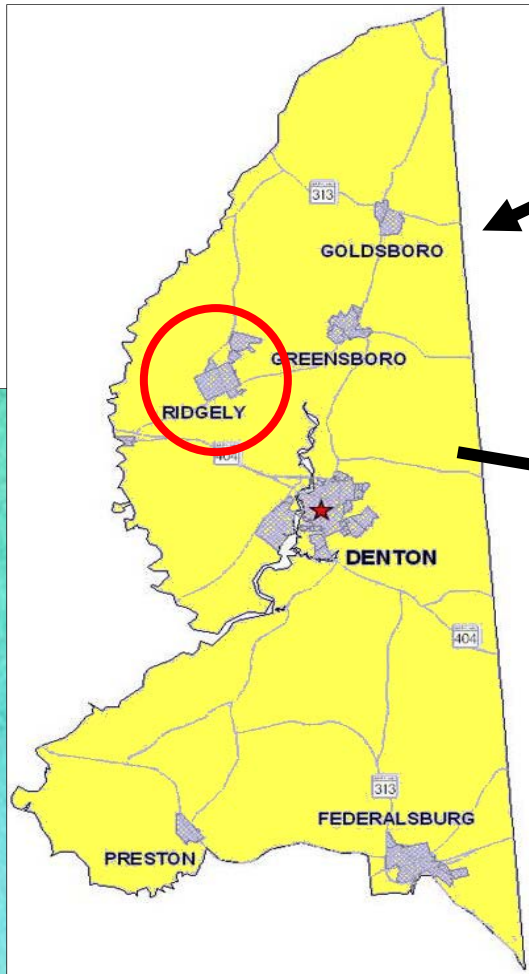
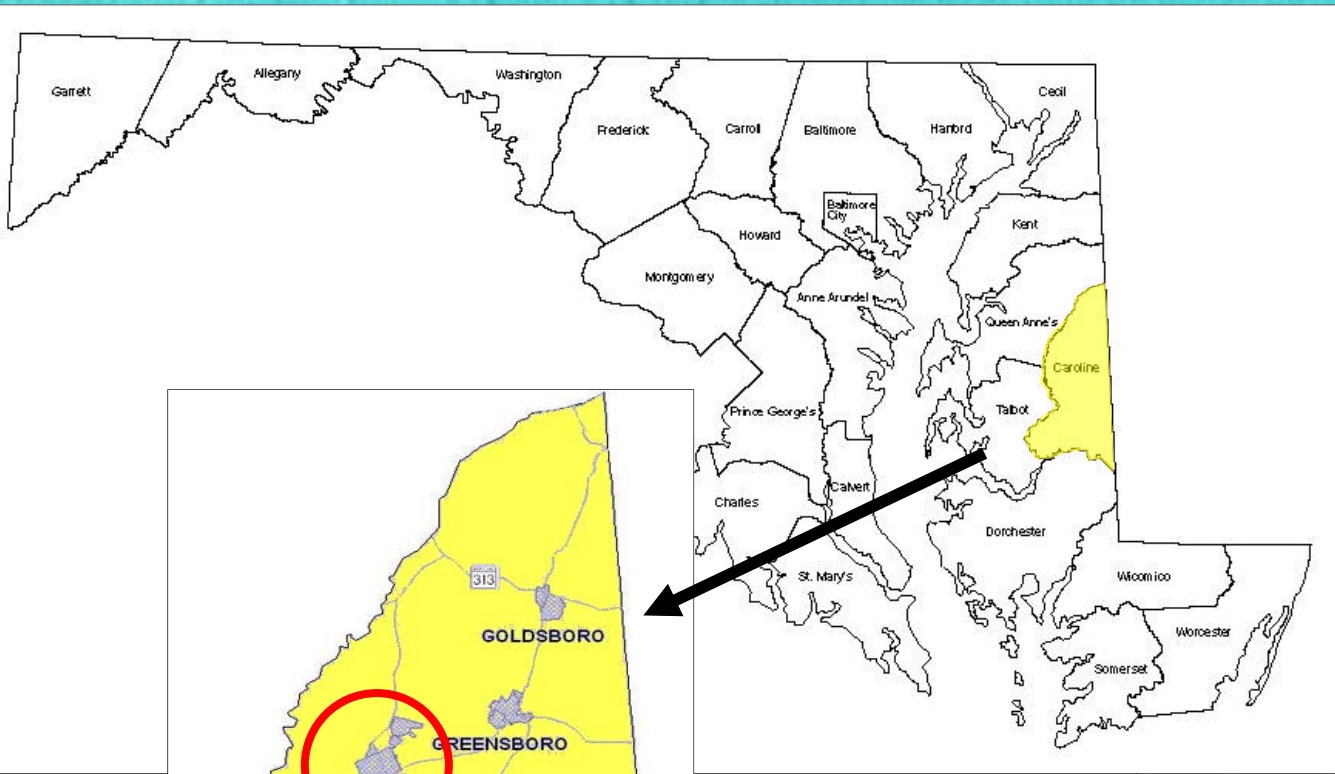
Watershed Protection & Restoration Program

Build programs to assist local governments and non-profits in achieving measureable improvements in water quality.

- Capacity building
- Grants assistance
- Project implementation
- Education & outreach

	Northern Maryland (Baltimore, Carroll, and Harford Counties and Baltimore City) Kelsey Brooks
	Central Maryland (Frederick, Howard, and Montgomery Counties) Amanda Rockler
	Southern Maryland (Anne Arundel, Calvert, Charles, Prince George's, and St. Mary's Counties) Jackie Takas
	Mid and Upper Eastern Shore (Caroline, Cecil, Kent, Queen Anne's, and Talbot Counties) Eric Buehl
	Lower Eastern Shore (Dorchester, Somerset, Wicomico, and Worcester Counties) Jennifer Dindinger



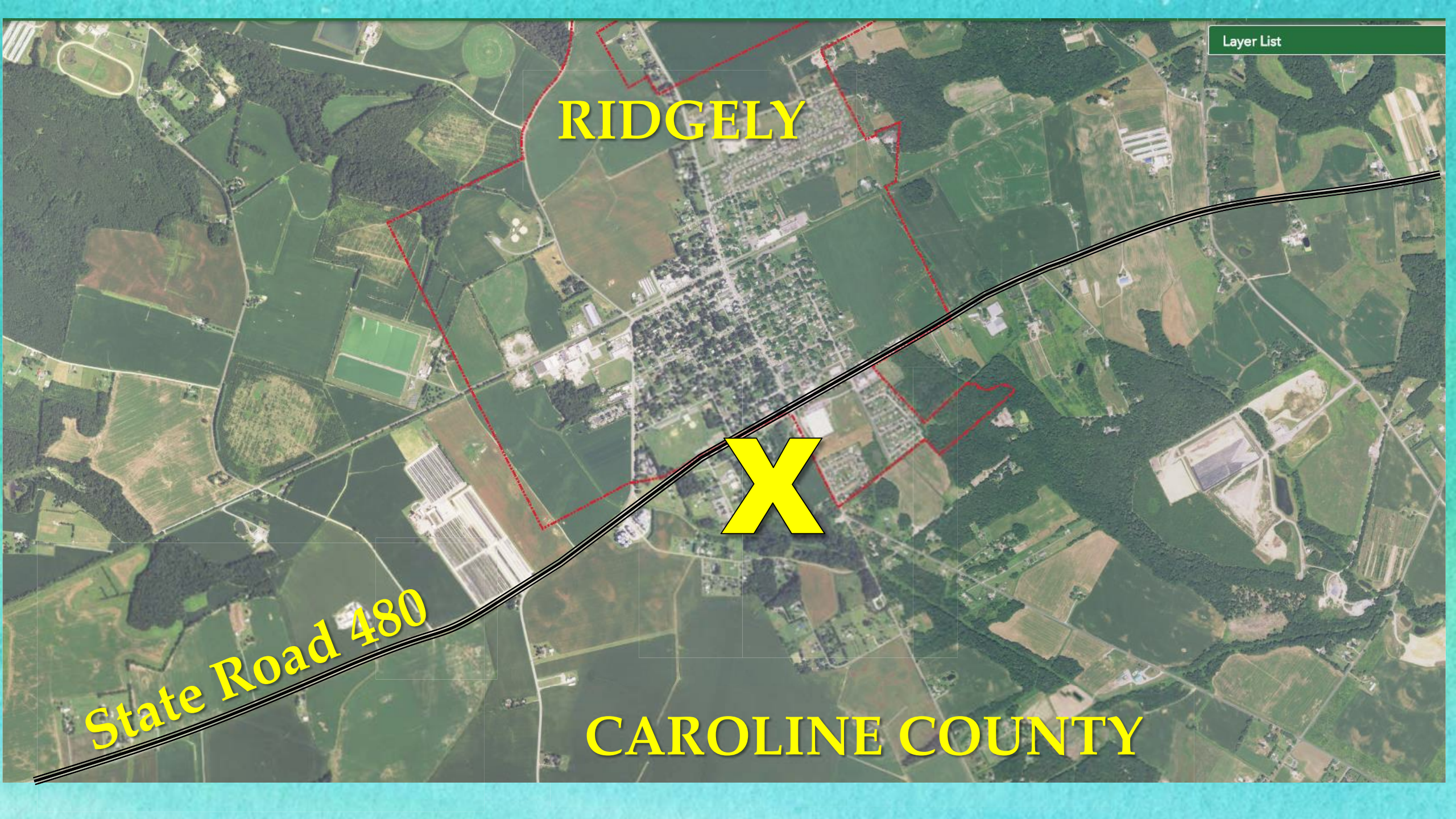


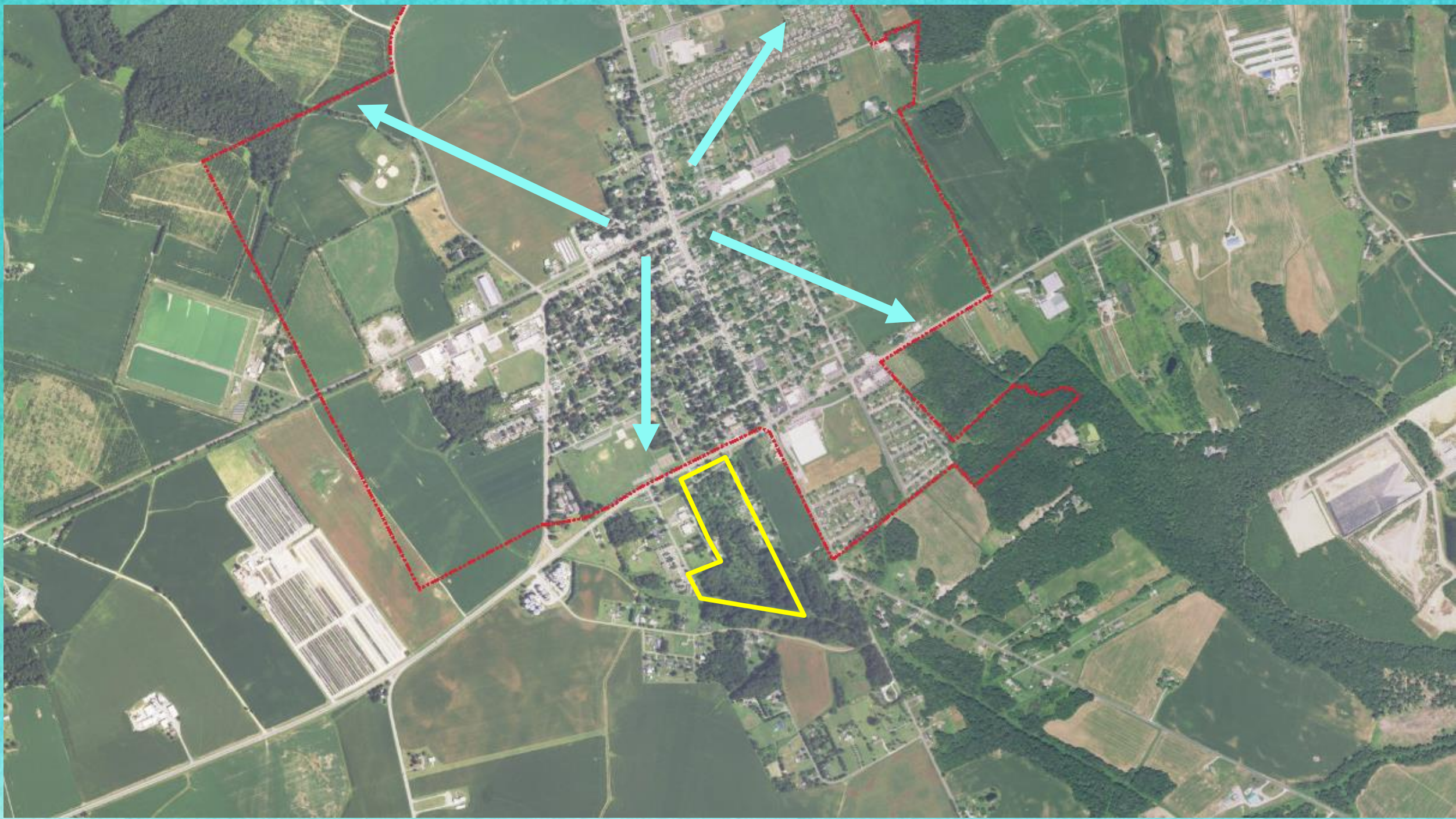
RIDGELY

X

State Road 480

CAROLINE COUNTY





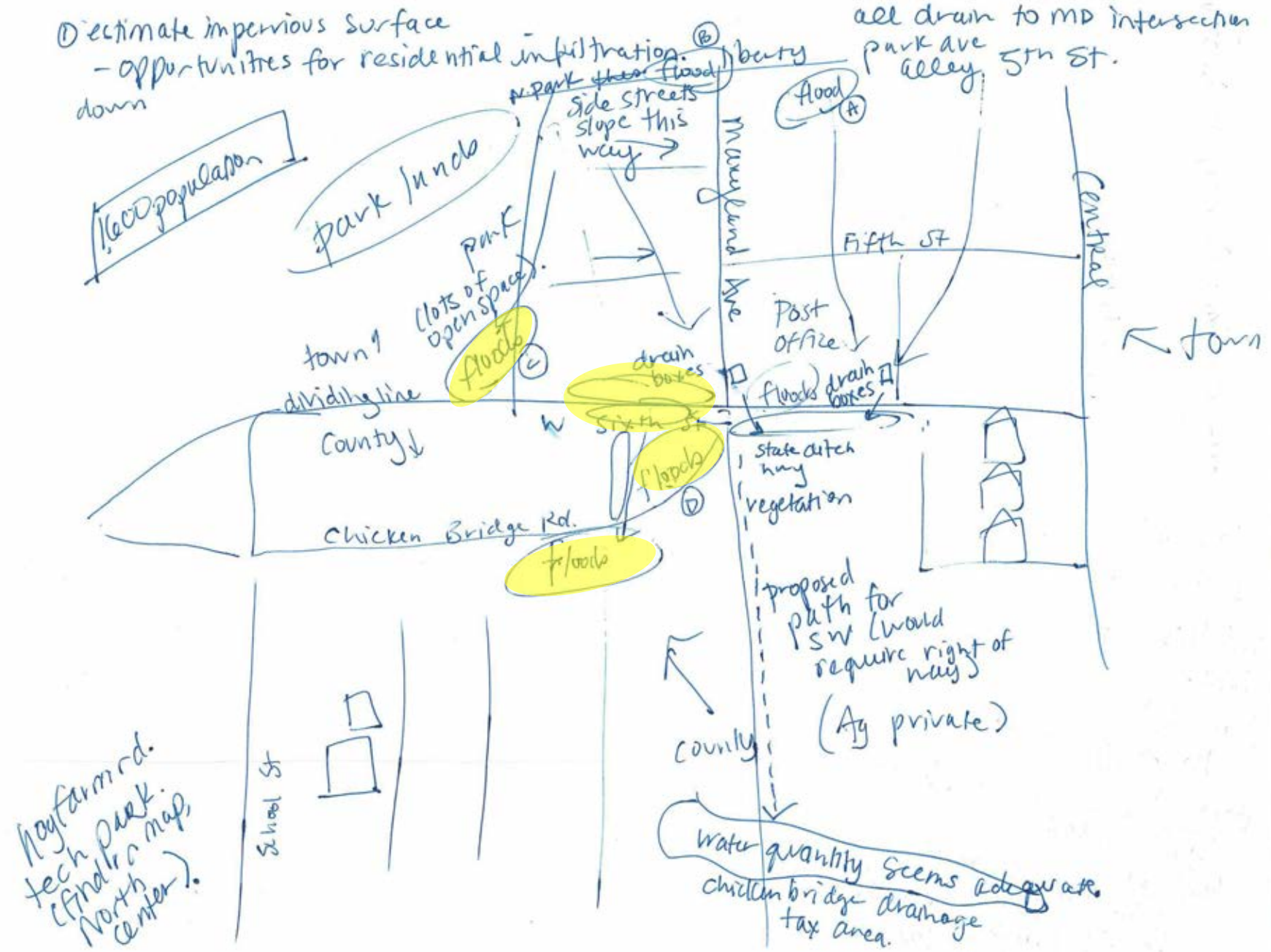


GUESS WHAT HAPPENS WHEN IT RAINS?





Dr. Amy Scaroni December 2012



PROJECT PARTNERS



TECHNICAL ASSISTANCE



**Chicken
Bridge
PDA**

THE FUNDING . . . SO FAR



\$5,001 grant for concept

\$29,620 grant for full design



Request \$76,814 for easements & acquisition



CCS for construction?





THE LANDOWNERS


- The *Guardian* – grant easement and community liaison
- The *Saint* – willing to donate land at no cost
- The *Realtor* – grant easement and may donate land
- The *Builder* – grant easement



**CHICKEN BRIDGE
NEIGHBORHOOD WETLANDS
STORMWATER PROJECT
CAROLINE COUNTY MD**

Legend

-  Municipal Boundary
-  Streams/Drainageways

-  Participating Properties



Data Sources:
Caroline County Dept of Planning and Codes
Maryland State Highway Administration
Maryland Department of Planning
Maryland Department of Natural Resources

MAY 2017

Caroline County Dept of Planning and Codes
403 South 7th Street, Suite 210
Denton, Maryland 21629
410-479-8100
410-479-4187 (fax)
www.carolineplancode.org

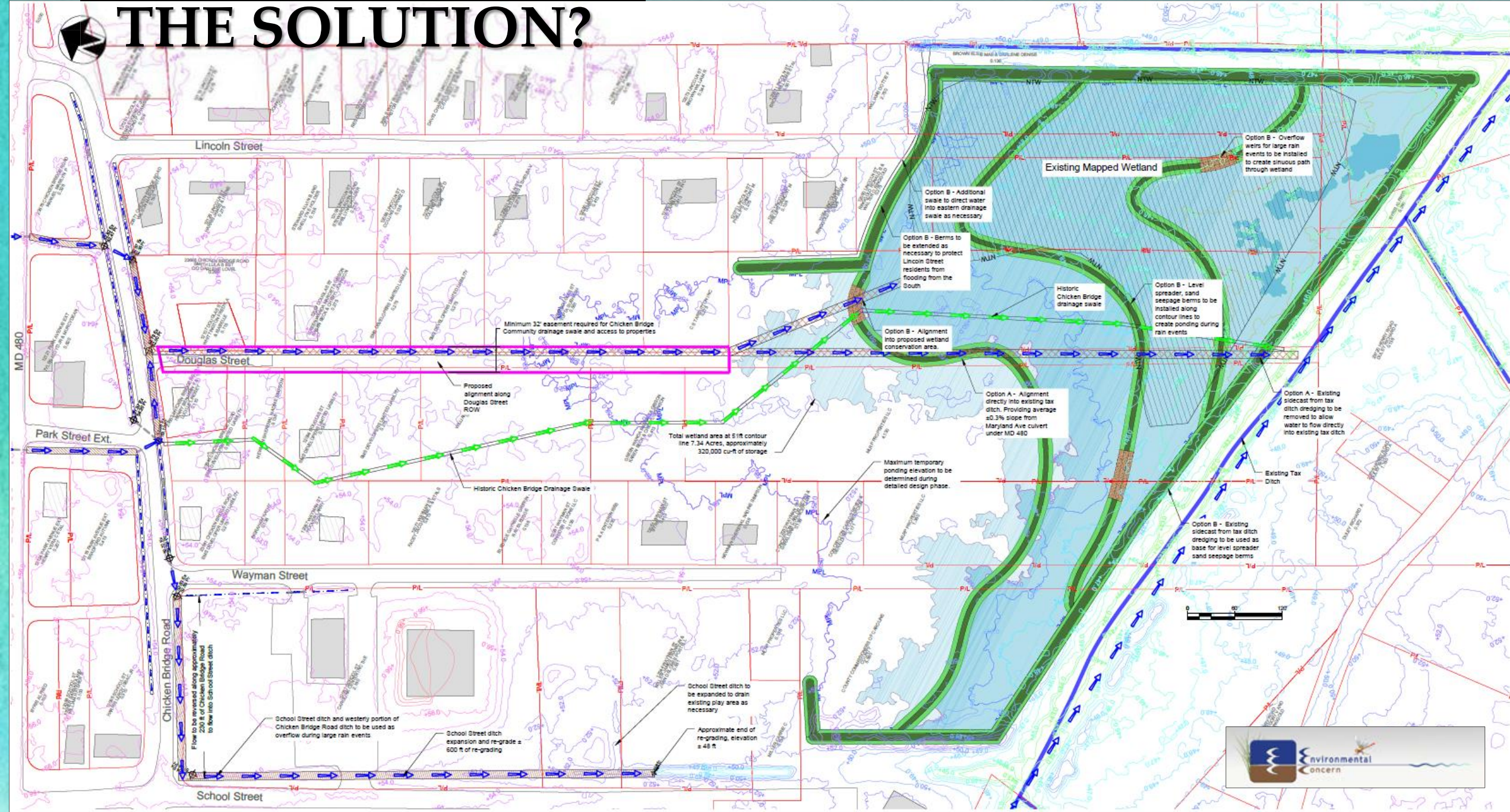
0 50 100 200 300
Foot





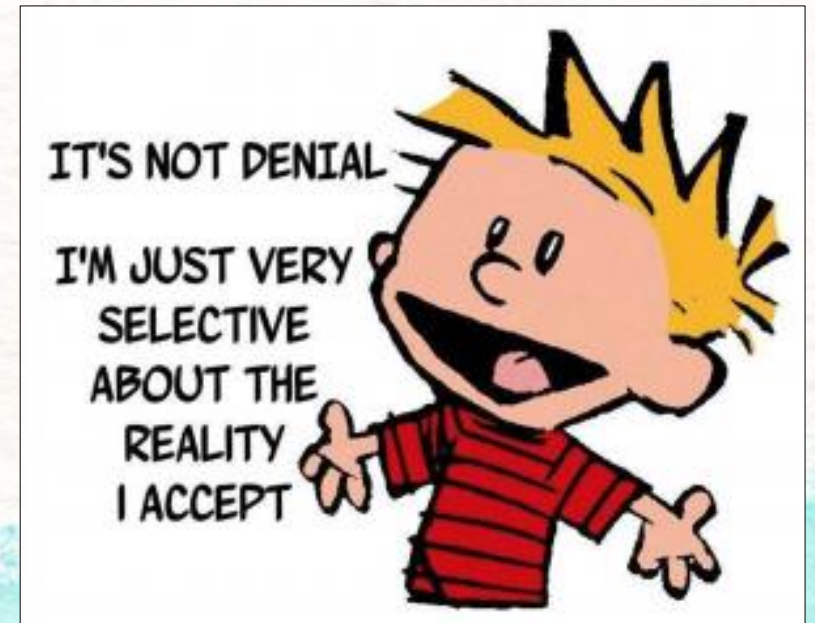


THE SOLUTION?



LESSONS LEARNED...SO FAR

- Don't be afraid to ask
- Expect to hear "No"
- Take funders to the site
- Patience is mandatory



- People have good hearts
- Look for multiple benefits
 - *addresses the human impact*
 - *treats 30 acres of highly developed urban land*



THANK YOU!

Eric Buehl, Regional Watershed Restoration Specialist
University of Maryland Sea Grant Extension
Wye Research & Education Center
124 Wye Narrows Drive
Queenstown, Maryland 21658
ebuehl@umd.edu

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- Caroline County Dept of Planning & Codes
- Bill Waterson
- Highlandtrailriders.com
- State of Maryland
- Psychologytoday.com

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Conservation Burial

A LAND CONSERVATION OPPORTUNITY

When I die...



A place where...



Simply placed into the ground...



A Place where...



Conservation or Natural Burial Ground



The Green Burial Association of Maryland (GBAM)

The logo for the Green Burial Association of Maryland (GBAM) consists of a blue rectangular block at the top and a green rectangular block at the bottom. The text "Green Burial Association of Maryland" is written in white, sans-serif font across the green block.

Green
Burial
Association
of
Maryland

GBAM's mission is to promote environmentally sound burial practices. Green Burial supports natural resource conservation, carbon emissions reduction, worker health protection, and land restoration and conservation.

We do this through :

- Public Education
- Funeral Industry Outreach
- Legislative Advocacy

<http://greenburialmaryland.org/>

Natural/Conservation Burial Grounds in Maryland...

- One in Pennsylvania
- One in New Jersey
- Two in Virginia
- None in Maryland



Why Natural Burial?

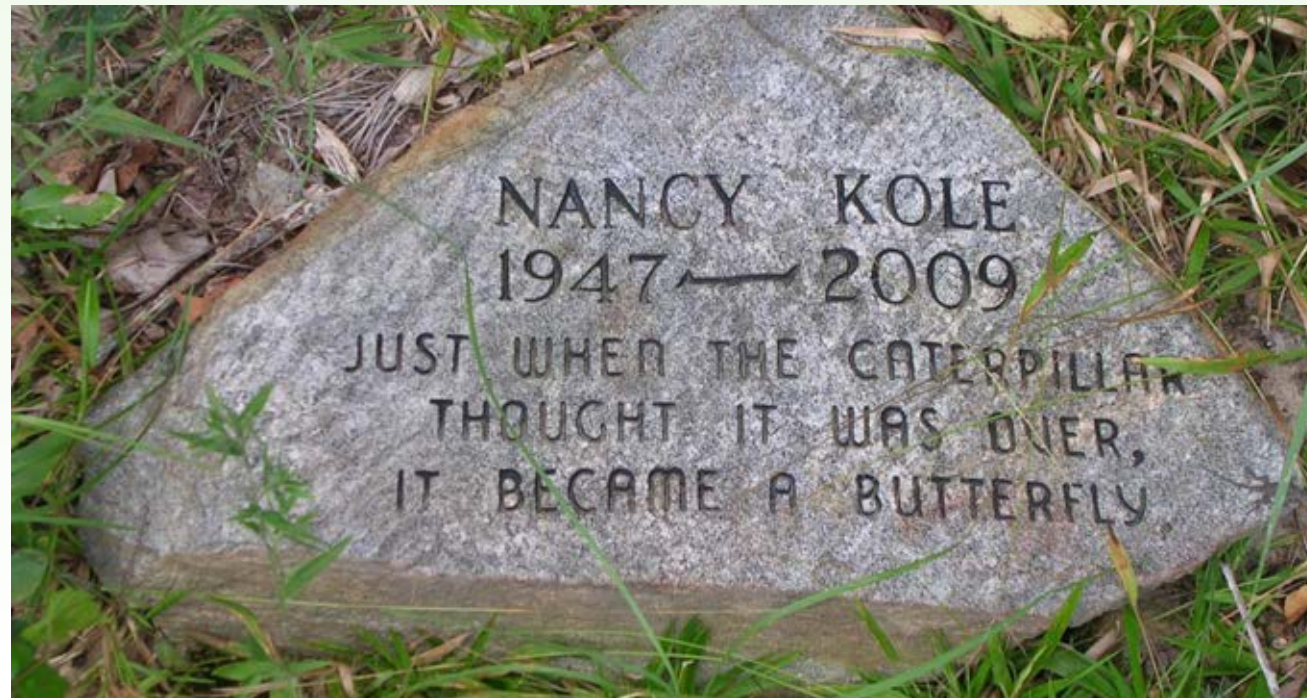


- Three Values:
 - To protect and preserve this planet for future generations
 - Humans are part of the natural cycle of nature
 - To make a positive difference in the world.

Why not cremation?



I am here today...Join with us!



Some Ideas to Consider...

1. Add your name to our mailing list: <http://greenburialmaryland.org/>
2. Maryland Environmental Trust: create and enforce a land preservation easement that allows green burial.
3. Use your influence to create reasonable and logical regulations for natural burial
4. Locate land in Maryland suitable for a natural burial ground in Maryland
5. Let's have a conversation to explore options...

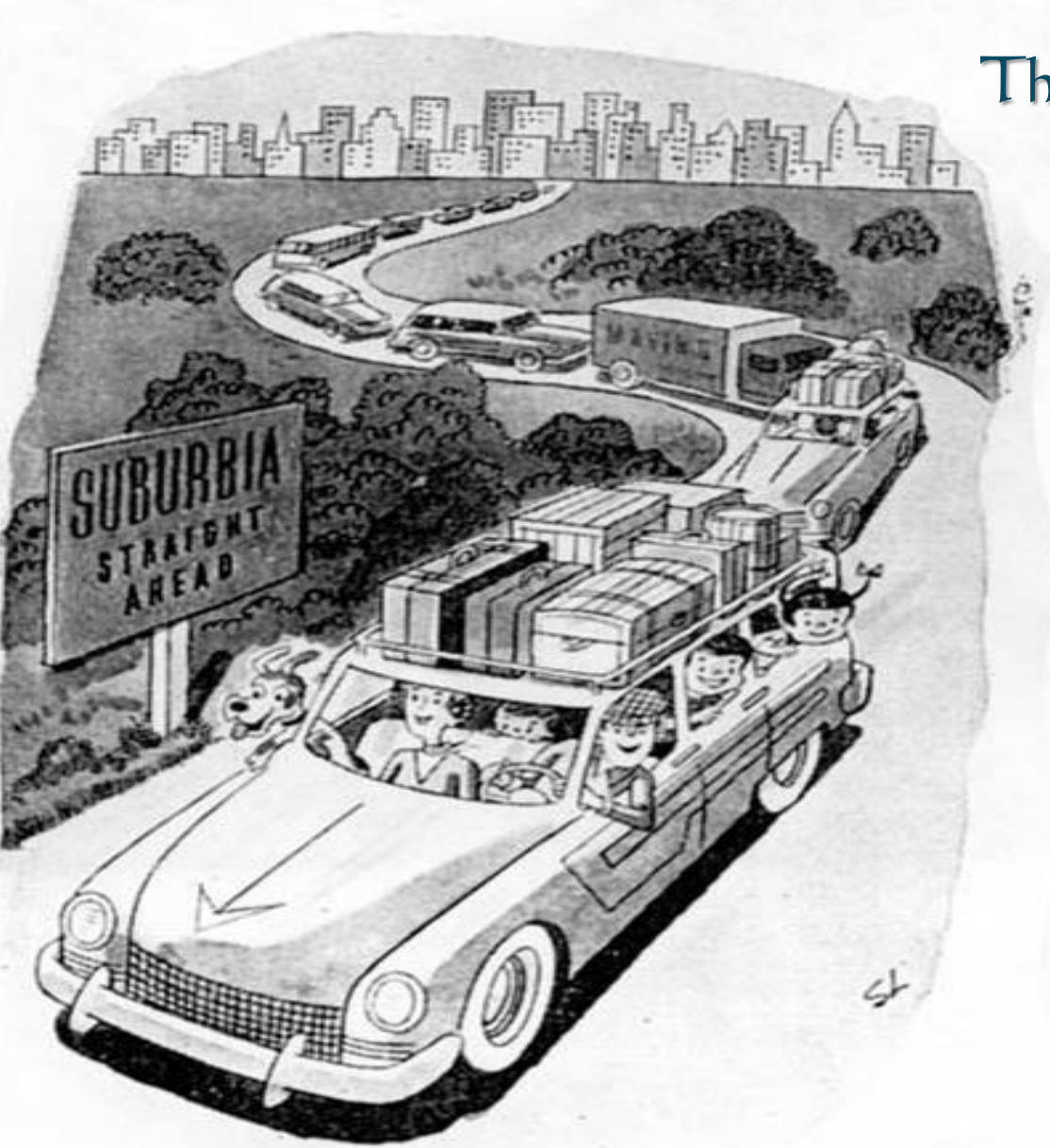
The Why and How of Retrofitting Sub“URDL”ia

Barbara L. Hopkins, Esq., ASLA
Exec. Director, NeighborSpace of Baltimore County

NeighborSpace
of Baltimore County, Inc
Protecting Land to Improve Communities



www.neighborspacebaltimorecounty.org



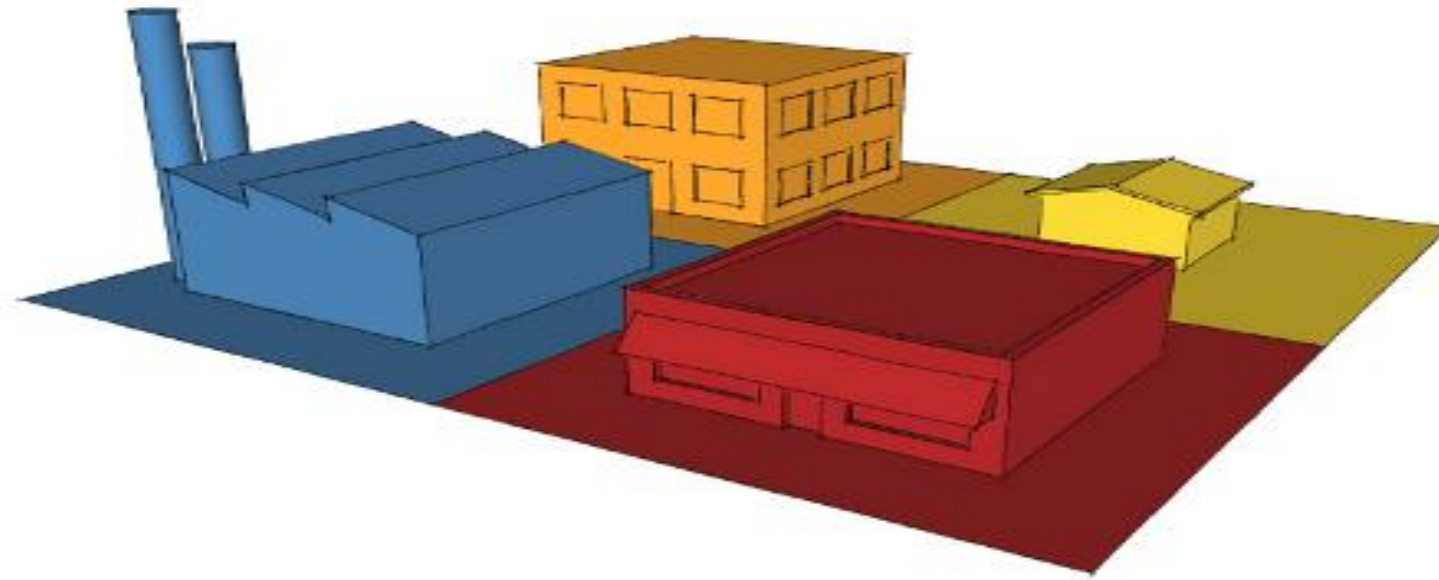


Where is this?



Attributed to Gertrude Stein in discussing her childhood home of Oakland, CA.

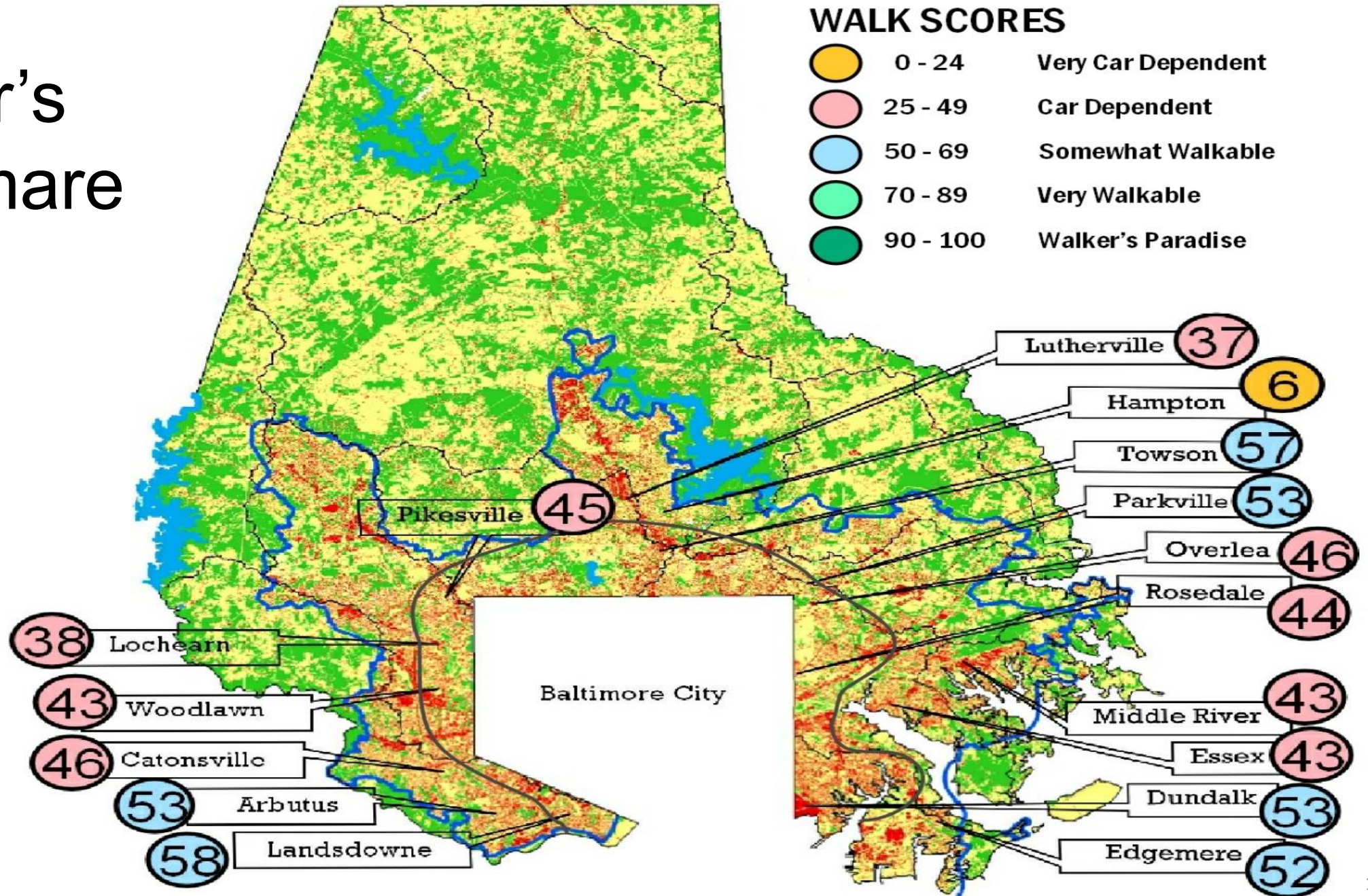
EUCLIDEAN ZONING

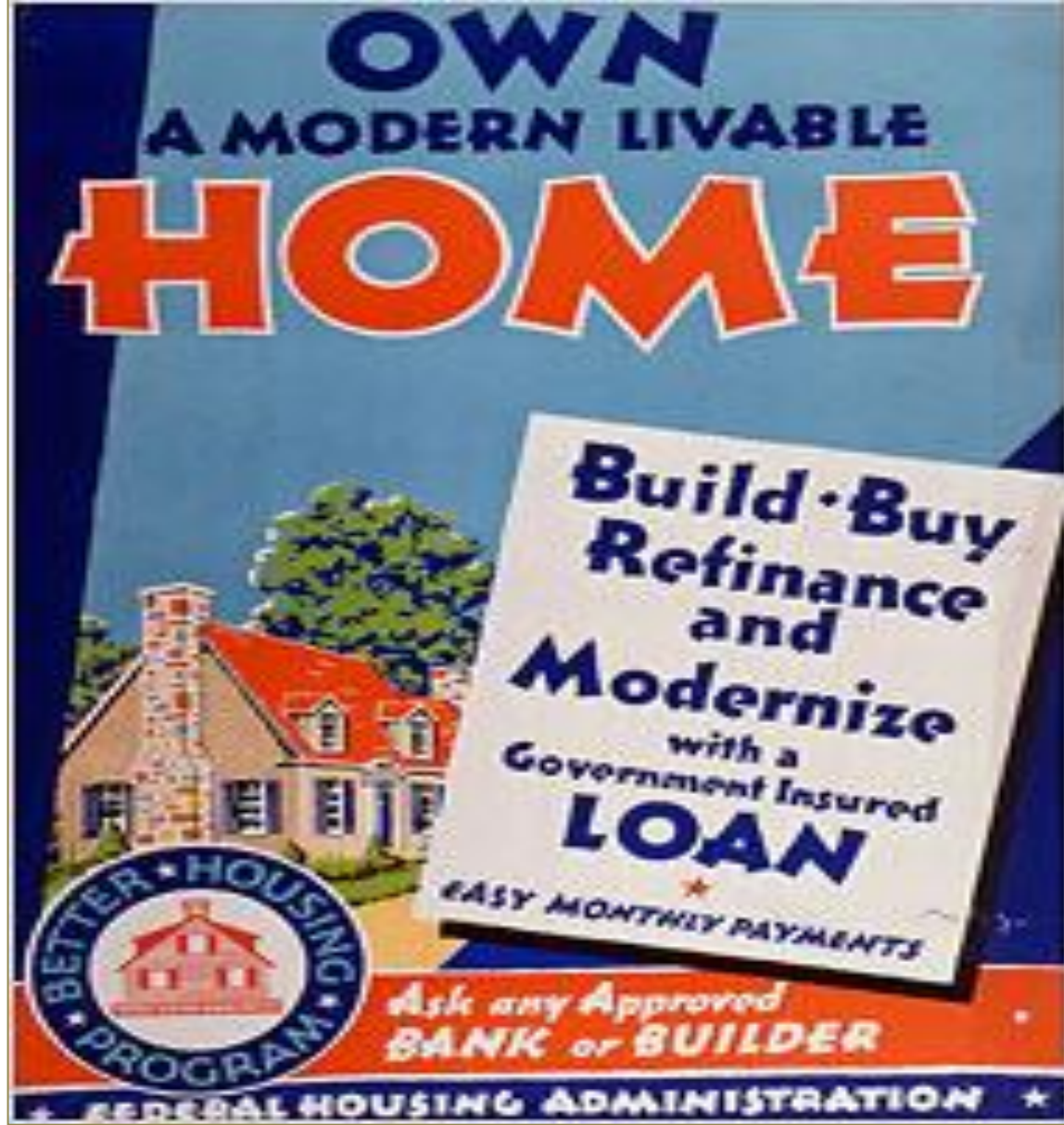


- Separates uses
- Requires a car

1926

Walker's Nightmare





1934

Federal Housing Administration





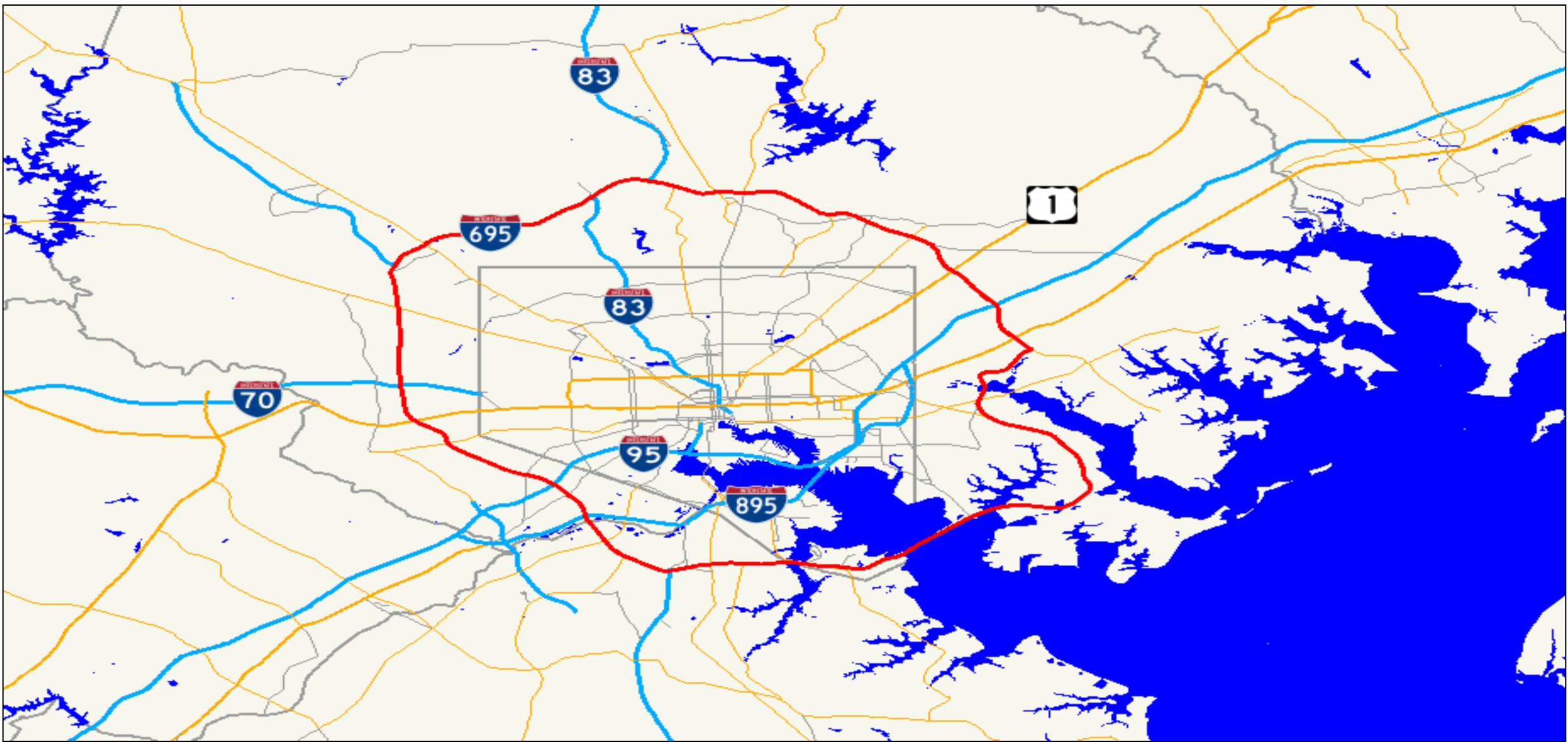
1947

Levittown, NJ



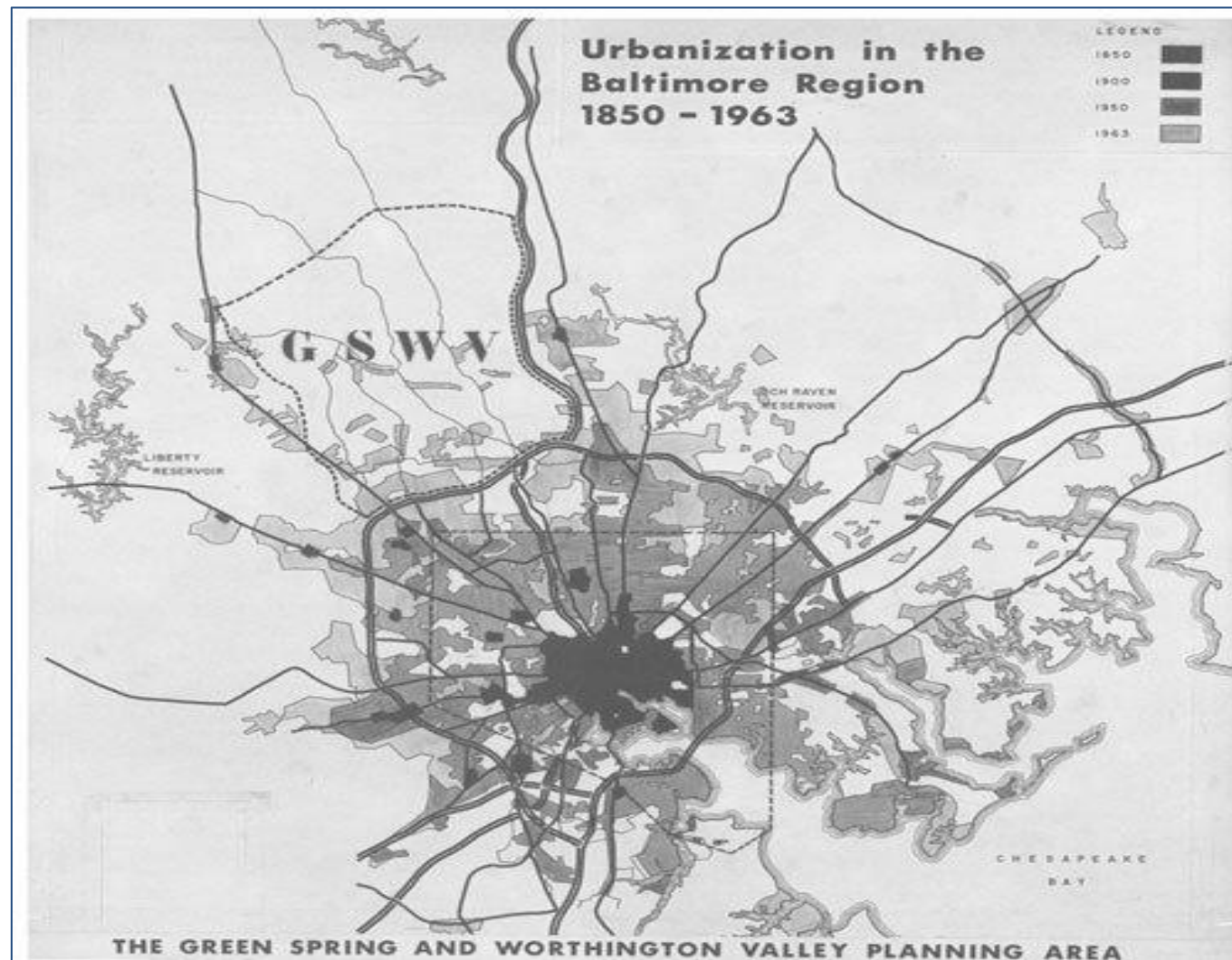
2014

Parkville, MD (Baltimore County)



I957

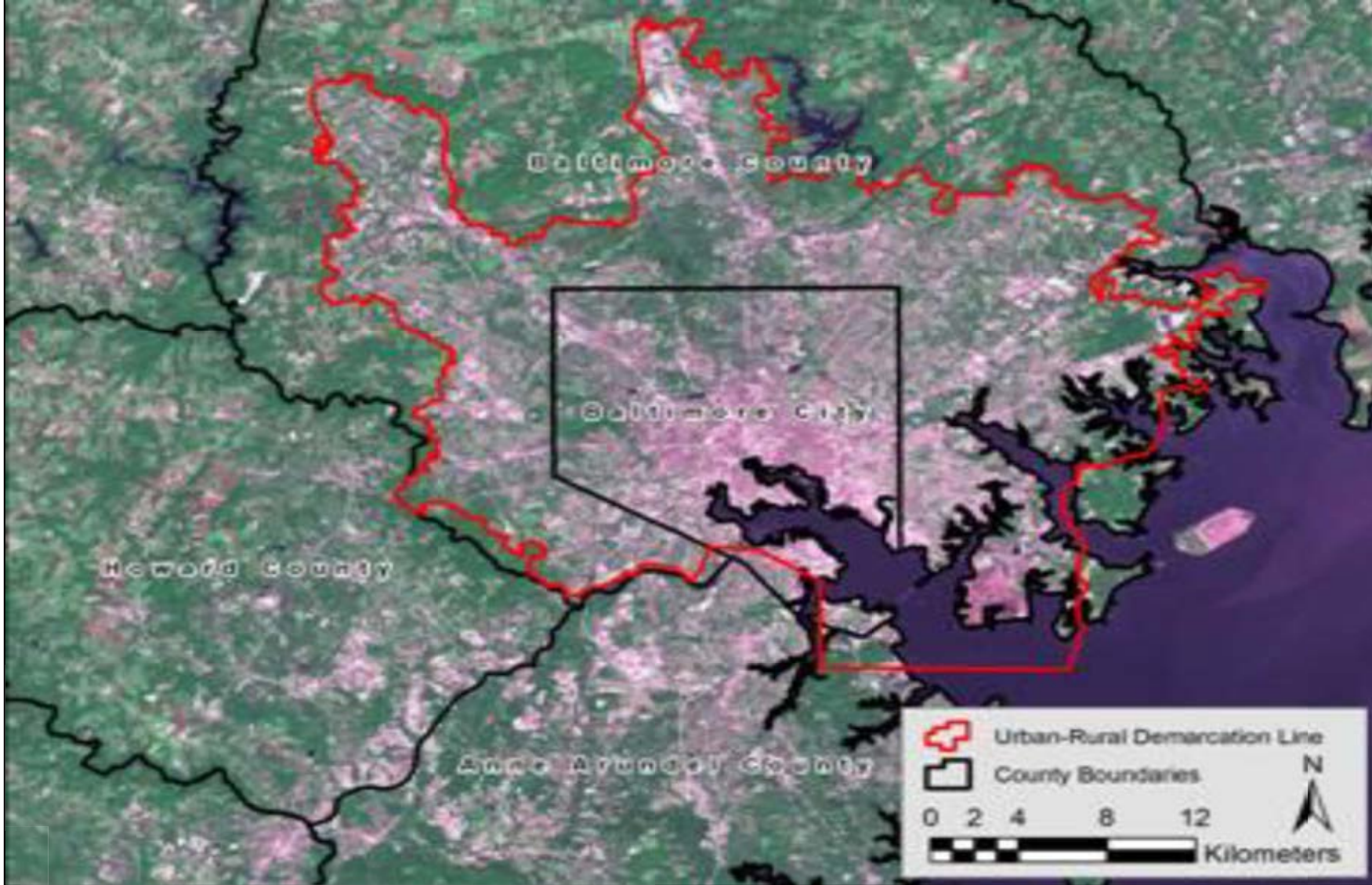
The Baltimore Beltway



1964

The Plan for the Valleys

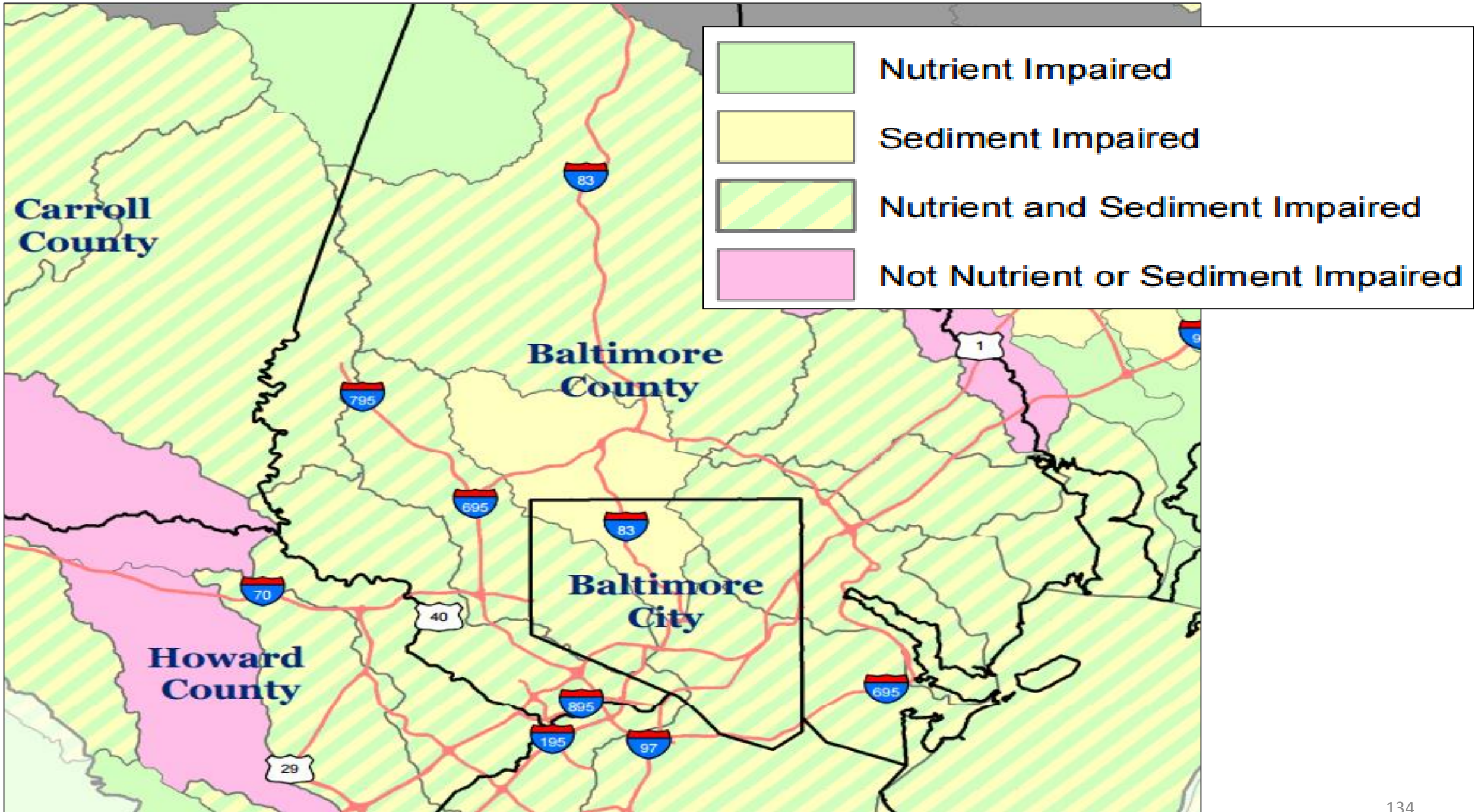
Keep development out of rural areas to protect the water and food supply



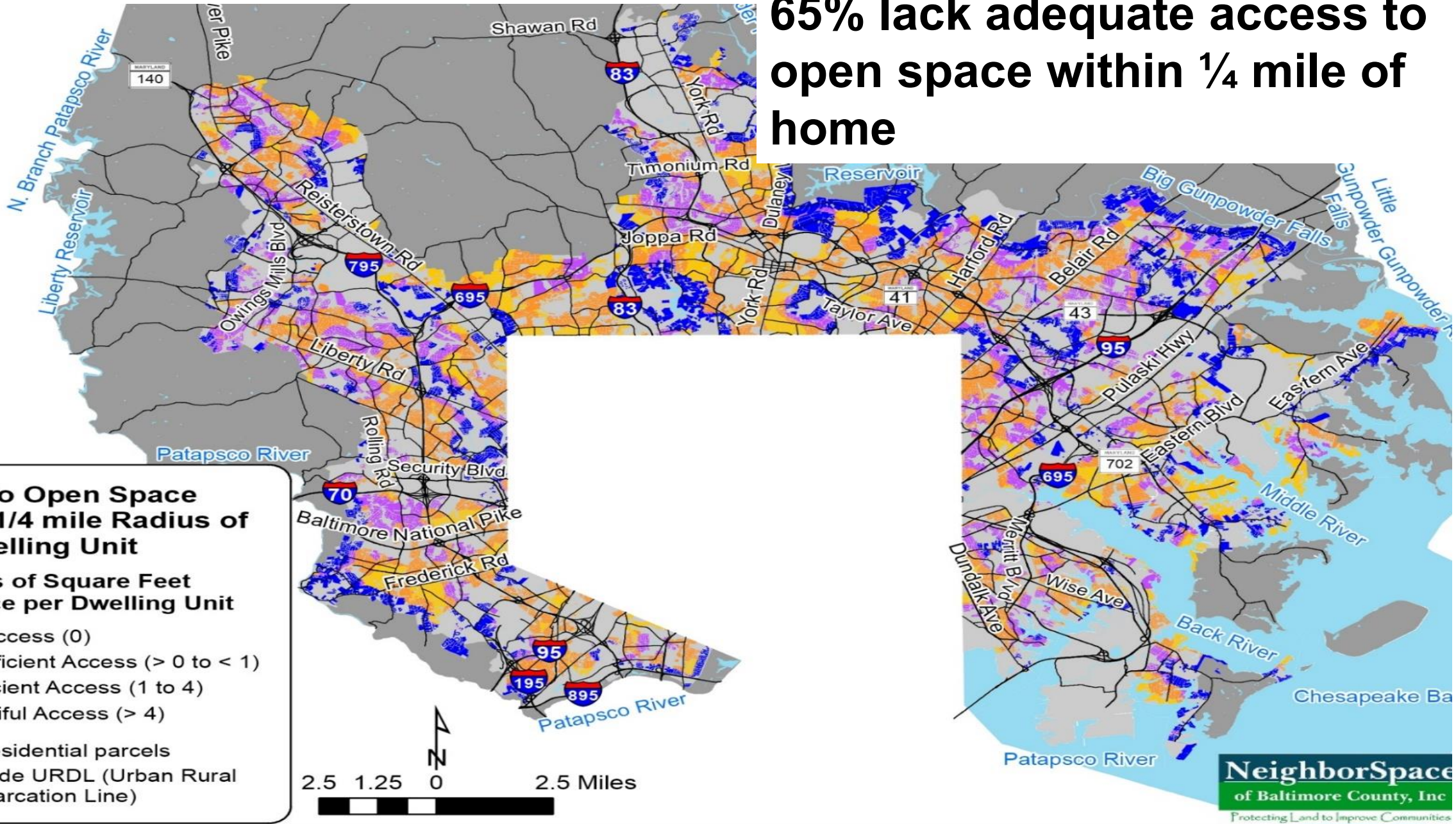
1967

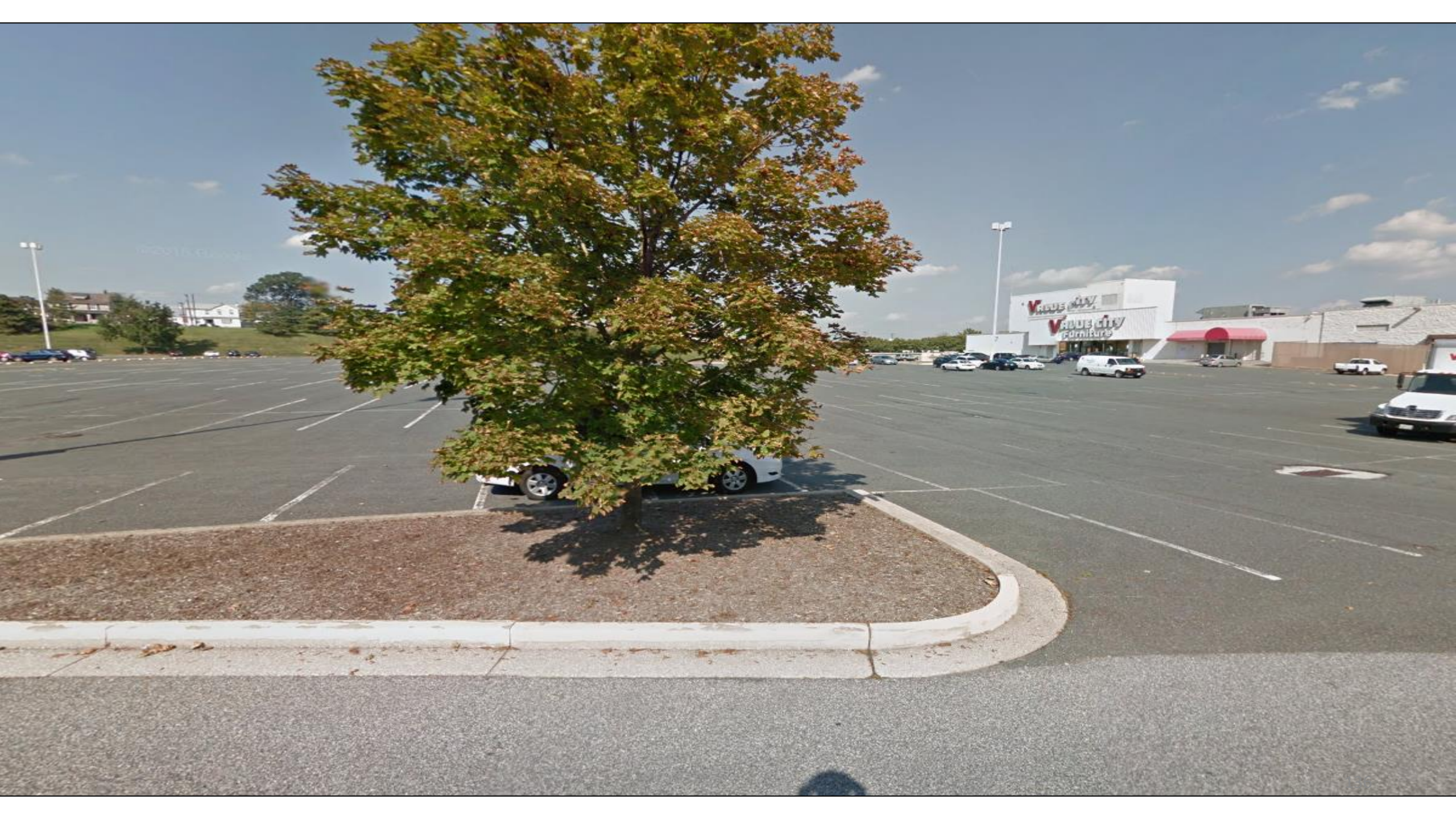
Urban Rural Demarcation Line (URDL)

Public water & sewer boundary

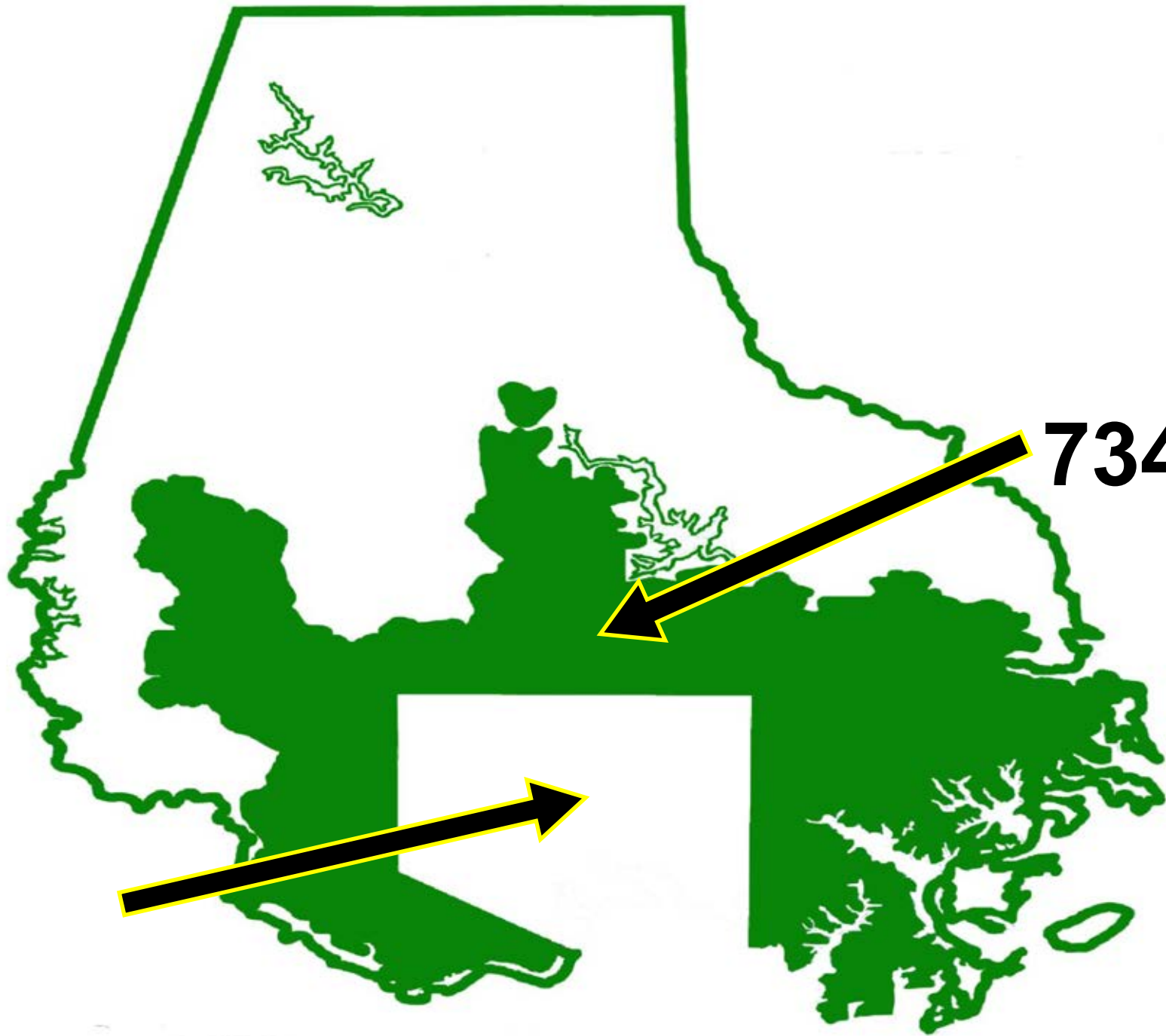


65% lack adequate access to open space within 1/4 mile of home





621,000



734,000

ELLEN DUNHAM-JONES AND JUNE WILLIAMSON

RETROFITTING

URBAN DESIGN SOLUTIONS *for* REDESIGNING SUBURBS

SUBURBIA

“SUBURDLIA”

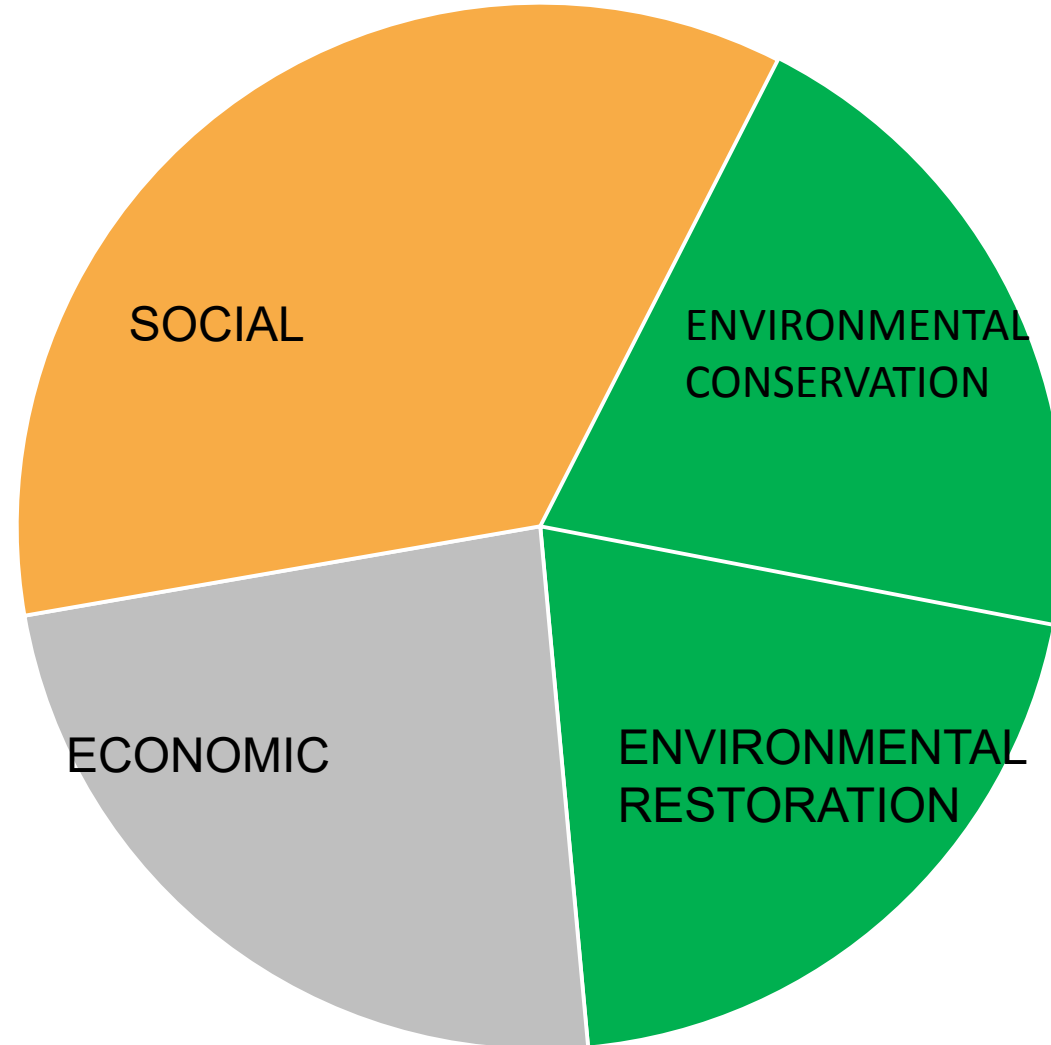
Conservation Goals & Objectives*

Improving Access to Open Space

- VULNERABLE POPULATIONS
- POTENTIAL TO PROVIDE OPEN SPACE TO MULTI-FAMILY RESIDENCES
- DEFICIT OF OPEN SPACE

Enhancing Economic Value

- ASSESSMENTS (REAL PROPERTY VALUE)
- BUILDING PERMITS (UPKEEP)
- UNDER-USED IMPERVIOUS SURFACE



Preserving & Restoring the Environment

- POTENTIAL TO PRESERVE OR EXPAND
 - STREAM FOREST BUFFERS
 - WETLANDS
 - FOREST
 - CORE HABITAT
 - CONNECTIVITY
- POTENTIAL FOR:
 - REFORESTATION OF OPEN SPACE & UNDER-USED IMPERVIOUS
 - REFORESTATION OF STREAM BUFFERS
 - CONSTRUCTED WETLANDS

*Based on: NeighborSpace mission of improving livability and the 3 established pillars of livability: (1) Economic; (2) Environmental; (3) Social; and pairwise weights applied to each goal.



neighborspace_properties_rev

Inside URDL

Outside

council_districts_2014

Open Space Deficit

-1.000 to -0.150 Lowest Priority

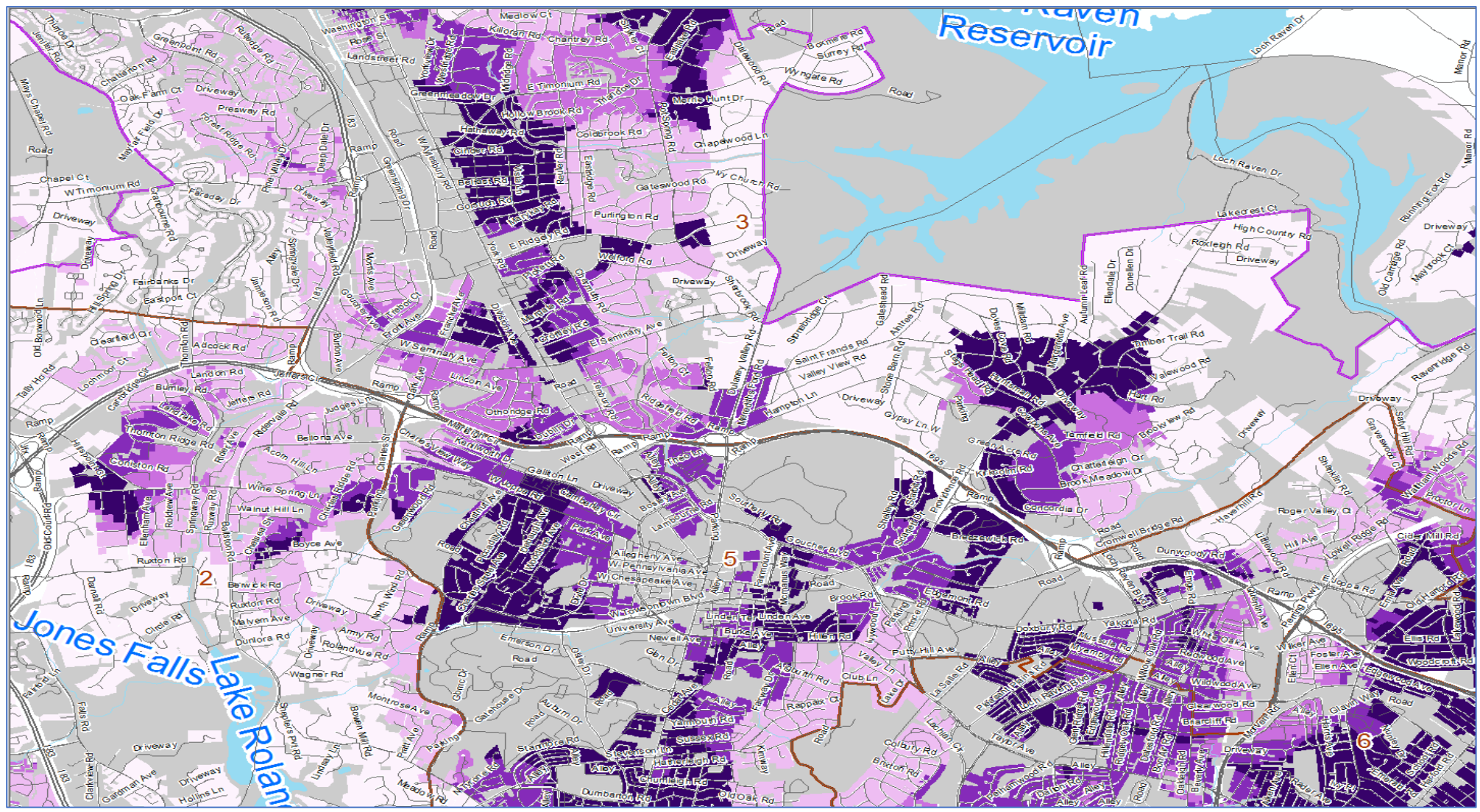
> -0.150 to 0.000

> 0.000 to 0.500

> 0.500 to 0.900

> 0.900 to 1.000 Highest Priority

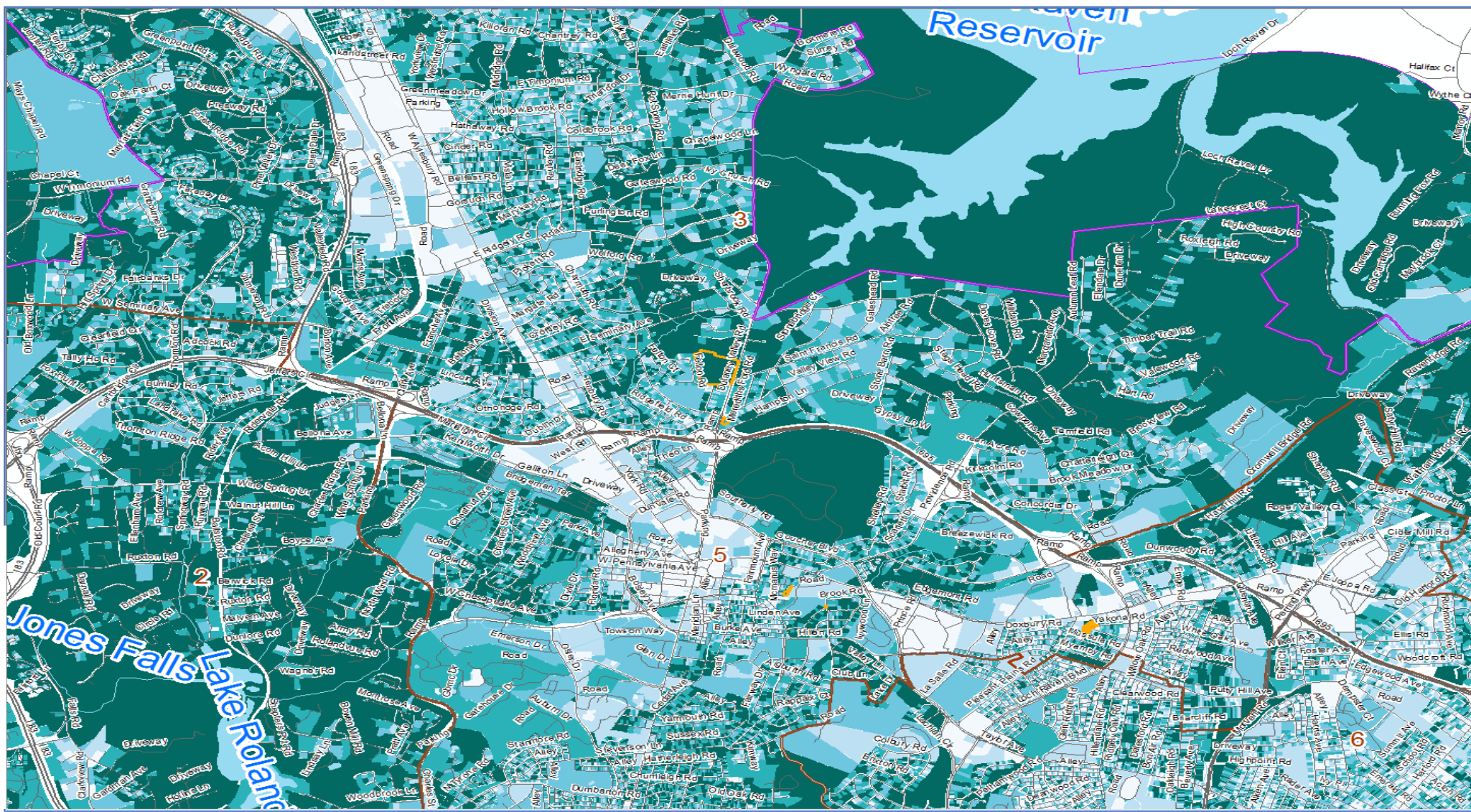
No residential parcels



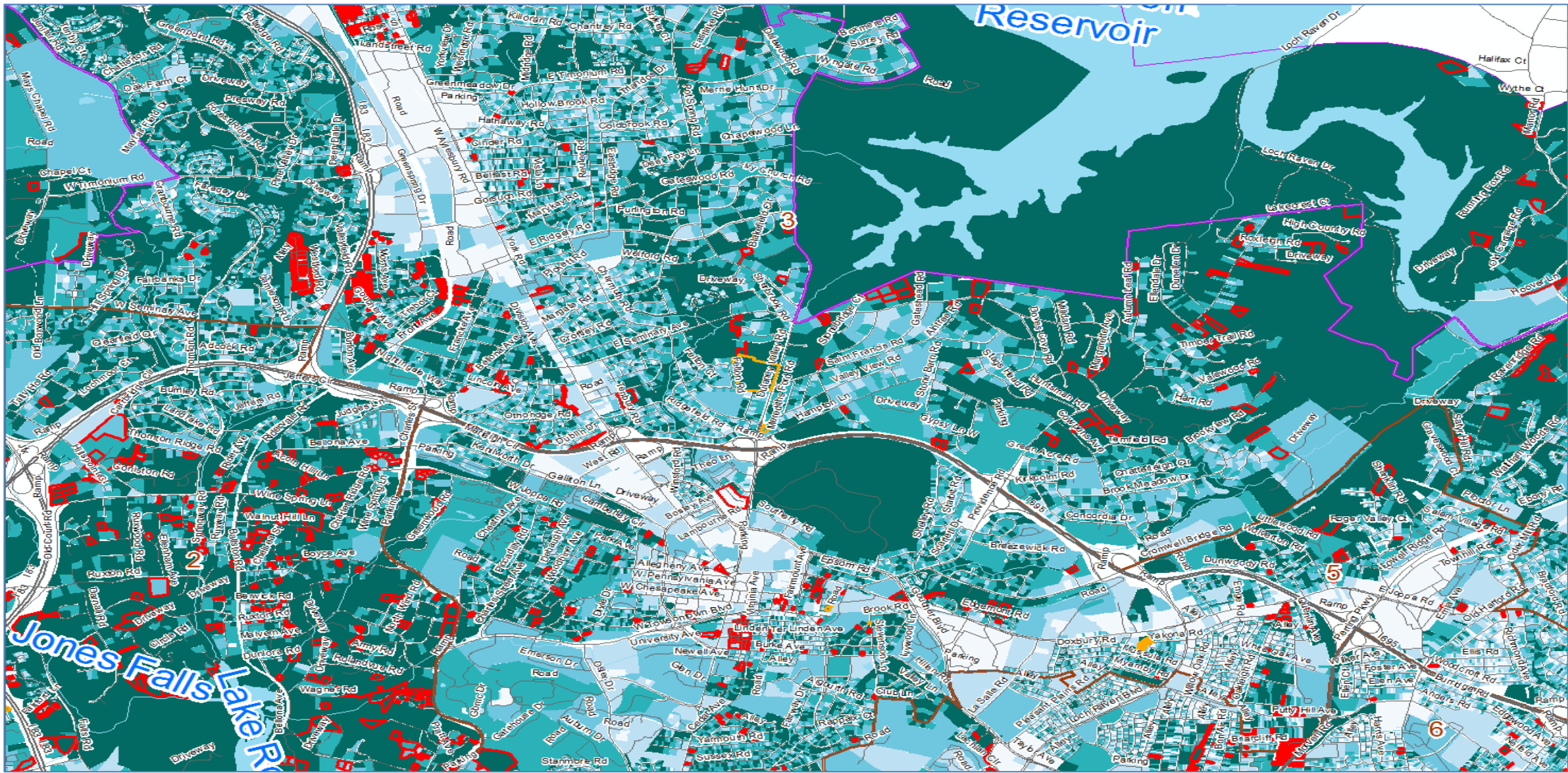
Towson, MD: Deficit of Open Space



- neighborspace_properties_rev
- Inside URDL
- Outside council_districts_2014
- Forest Preservation
 - 0.464 to -0.400 Lowest Priority
 - > -0.400 to -0.200
 - > -0.200 to 0.000
 - > 0.000 to 0.300
 - > 0.300 to 1.000 Highest Priority
 - No Data



Towson: Forest Preservation





Ridgely Manor Park, Towson, MD



Adelaide Bentley Park Towson, MD



Powhatan Farms Park, Lochearn, MD





The goats of the Harmony Herd







Faculty & Student's from Morgan's Landscape Architecture Program



Site Analysis Day at Powhatan Park



Bentley Garden
East Towson Community, Maryland

BLUEBELL GROVE AND STONE
REFLECTION CIRCLE

ASHLEY JONES & ABIGAIL LEONARD
MORGAN STATE UNIVERSITY
NEIGHBORSPACE

RENDERING
NOT TO
SCALE



Student Rendering for Adelaide Bentley Park



Groundbreaking for Project That Partially Paid for Adelaide Bentley Park



Community Clean-up at Powhatan Farms Park, 2016



Tree Planting at Powhatan Farms Park, 2014



Ridgely Manor Park, Towson, MD



Movie Night at Gwynn Oak Ave Site, Woodlawn, MD

THANK YOU!



Adelaide Bentley Park, Towson, MD
Ribbon-Cutting & Celebration Under Tent
Wednesday, June 21, 2017
6-8 PM

Marylands Land Preservation Programs:

*Protecting our farms, parks, forests,
playgrounds and historic areas*

**Ann Jones, Director
Partners for Open Space**