

THE POWER OF TEN

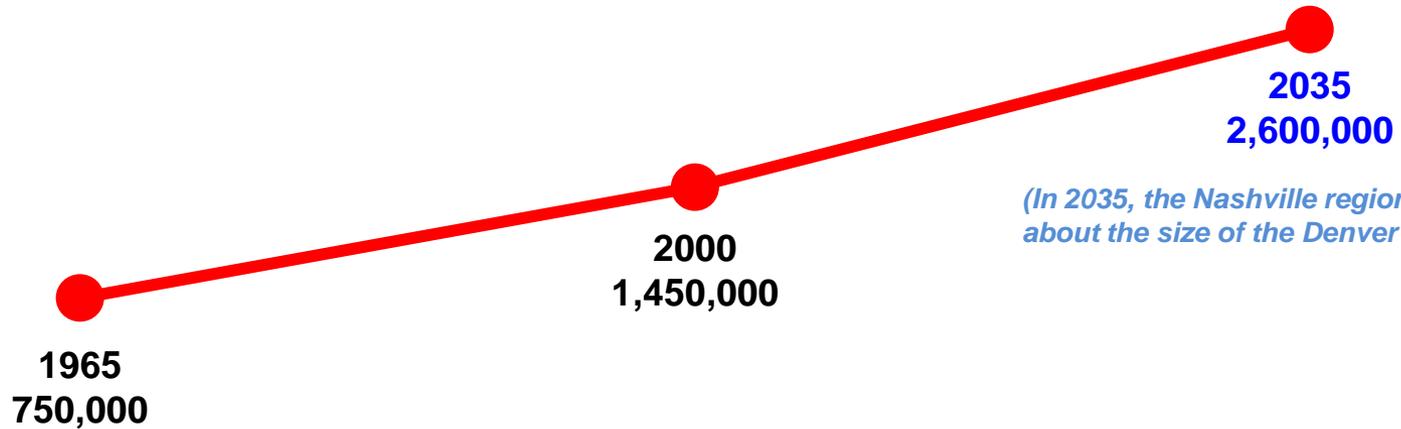


Michael Skipper

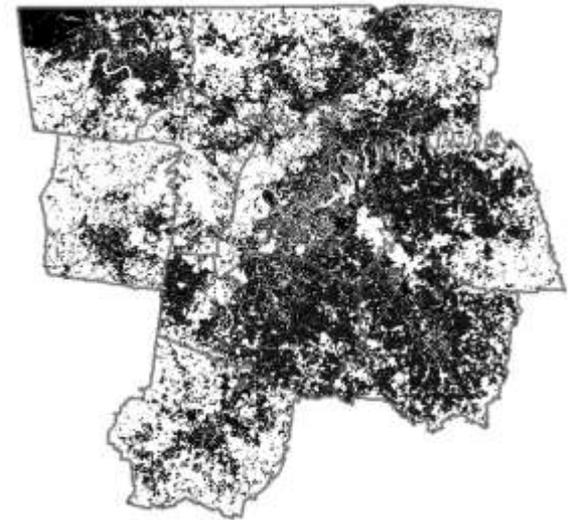
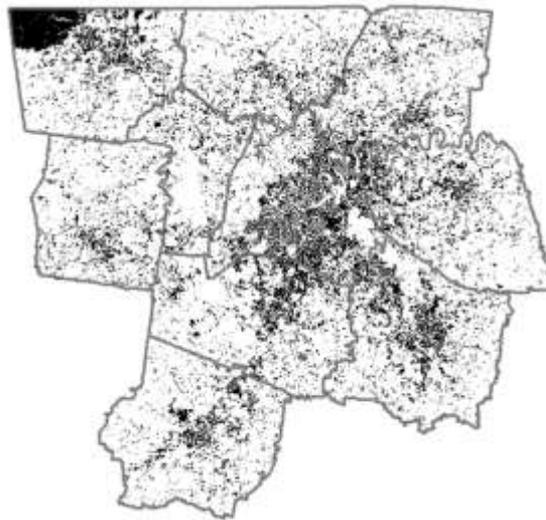
**Executive Director of the Nashville
Area Metropolitan Planning
Organization**

Development Pattern, 1965-2035

Population



(In 2035, the Nashville region will be about the size of the Denver region today)



Properties affected by development

Resiliency in Urban Congestion

TODAY



2030

w/ Short-Term Improvements



2030

After Long-Term Improvements



Congestion in Urban Areas Cannot Be Treated with Roadway Capacity Alone.

 Daily Recurring Congestion on Major Roadways.

New Guiding Principles

- ➔ **Livability** - Work to enhance the quality of life in the region by supporting initiatives that increase opportunities for affordable housing, education, jobs, recreation, and civic involvement without increasing the burden on citizens to enjoy their community.
- ➔ **Sustainability** – Strive to support growth and prosperity without sacrificing the health, environment, natural and socio-cultural resources, or financial stability of this or future generations.
- ➔ **Prosperity** – Contribute to the continued economic well-being of the greater Nashville area by investing in transportation solutions that increase access to education, jobs, and amenities, reduce the cost of living and doing business, and attract new investment to the region.
- ➔ **Diversity** – Recognize the multitude of needs and the variety of perspectives and backgrounds of the people that live and work in the greater Nashville area by promoting a range of transportation choices that are designed with sensitivity to the desired context.

Nashville Area Metropolitan Planning Organization

2035
NASHVILLE AREA
Regional Transportation Plan

Respectfully prepared for the citizens of the Nashville region by the:
Nashville Area Metropolitan Planning Organization
800 Second Avenue South
Nashville, Tennessee 37201
Phone: (615) 862-7201 Fax: (615) 862-7209

#1

A Bold, New Vision
for Mass Transit

#2

Support for Active
Transportation & Walkable
Communities

#3

Preservation &
Enhancement of Strategic
Roadways

nashvillempo.org



Ed Cole

**Executive Director of the Transit
Alliance of Middle Tennessee**

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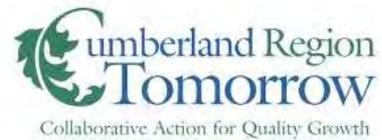
Marion Fowlkes

**Principal of Centric Architecture
and CRT Co-Chair**

Quality Growth Toolbox



QUALITY GROWTH TOOLBOX





www.10power.org

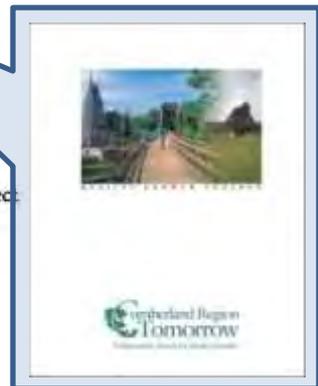
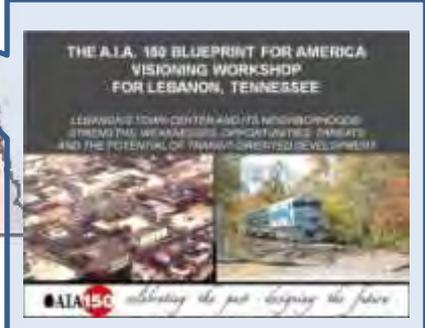
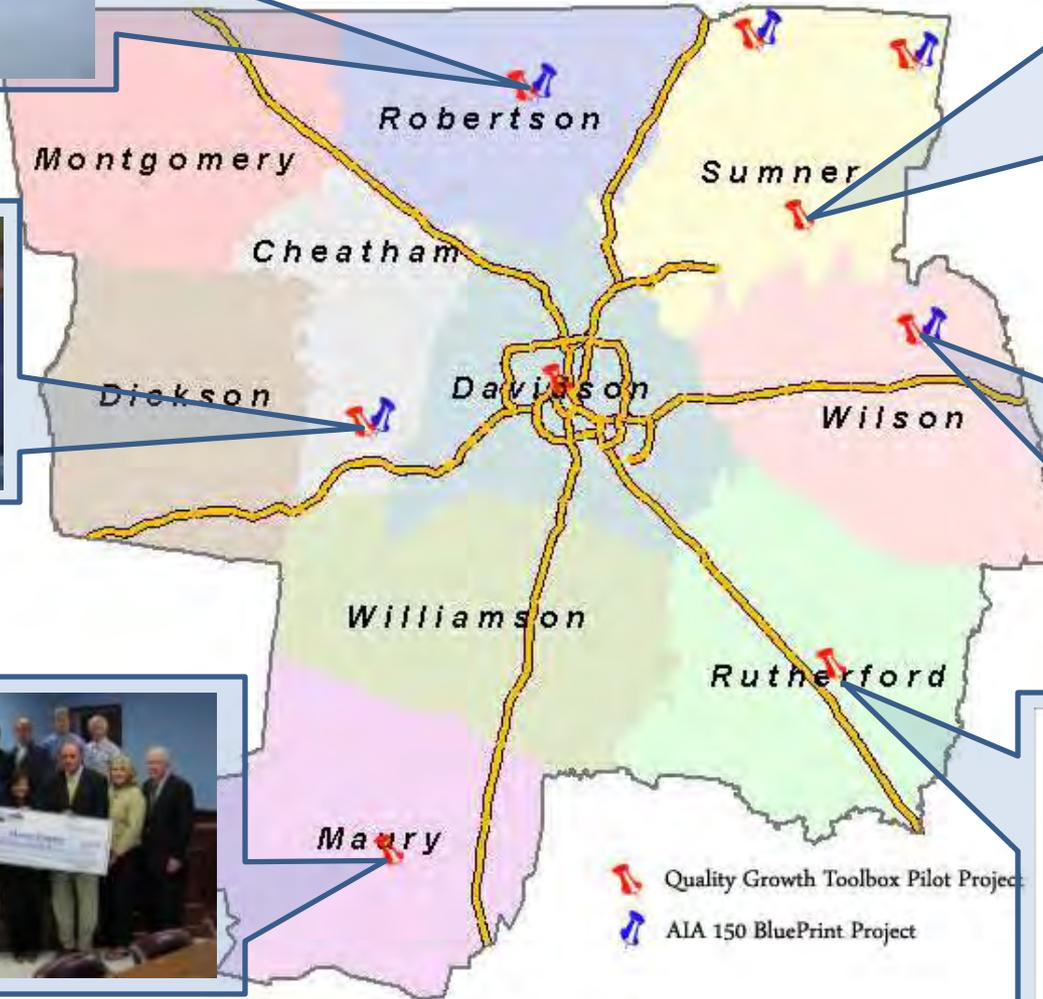
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Rick Bernhardt

**Executive Director of Nashville
Metro Planning Department**

Regional Pilots...



Red pushpin icon: Quality Growth Toolbox Pilot Project
Blue pushpin icon: AIA 150 BluePrint Project

Quality Growth Toolbox

“All of the concepts, ideas, strategies, tools, and resources presented in the Toolbox greatly improve our Ten Counties and the Cumberland Region as a whole and guide our imminent growth in a way that insures our continued livability and economic vitality.”

Quality Growth Toolbox

“Successful implementation of Quality Growth will require collaboration among all of us as never before. Quality communities and regions don’t just occur by happenstance. Desired community and economic development requires thoughtful approaches.”

Toolbox Lead Partners



AIA Middle Tennessee



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Everett Cowan

**CEO of AE Guidance and CRT
Director**

Infrastructure In 10 County Region

Conceptual, Planning, Design, or Construction Phase (GNRC)

• Water/ Waste Water	1.8 B (60% of Total)
• Other Utilities	435 K
• Telecommunications	40 M
• Storm Water	27.5 M
• Solid Waste	14.7 M
• Recreation	410 M
• Law Enforcement	285 M
Total	3.02 Billion

Infrastructure Report Card by ASCE

•Recreation	D+
•Rail	C
•Bridges	B-
•Roads	B-
•Schools	C+
•Transit	D
•Water/ Wastewater	C

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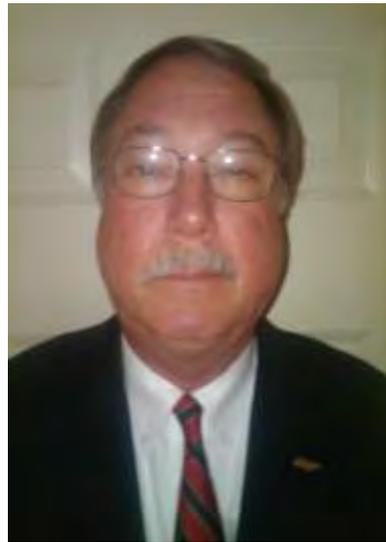
Scott Potter

**Director of Metro Water
Services**



www.10power.org

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Darwin Newton

**Retired State Soil Scientist with
the U.S. Department of
Agriculture and CRT Director**

Value of Agriculture Economy in Robertson County

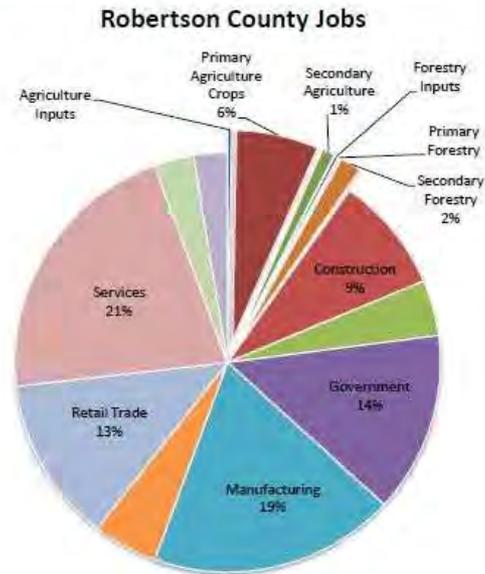
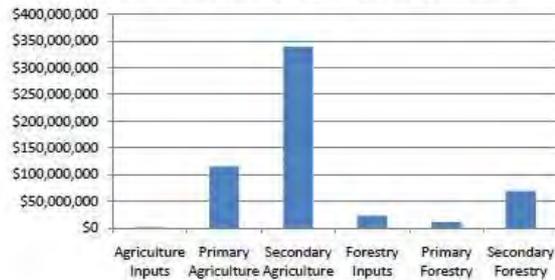
2008 Agricultural Economic Profile: Robertson County

Employment in Agriculture and Forestry made up 9.5% of total jobs created in Robertson County in 2008 with 2,694 total jobs in these sectors. Primary agriculture was the largest job creator with 1,773 jobs or 66% of total agriculture jobs created. Overall, the forestry industry created 571 jobs or 2.1% of total agriculture and forestry jobs created in 2008.

The value of Agriculture Outputs totaled \$456M in 2008 and was 10% of the total Robertson County economy in 2008. There were over \$115M worth of primary agricultural products and services produced with grain farming, tobacco and nurseries as the top three producers. Ninety-seven percent (97%) of the County's secondary agricultural outputs consisted of tobacco manufacturing (\$190M) and pet food manufacturing (\$134M).

The value of Forestry Outputs totaled \$102M or 2.4% of the total Robertson County economy in 2008. Commercial logging was a \$23M industry in Robertson County that supported 76 jobs in 2008 passing wood through sawmills, and eventually supported the \$69M homebuilding industry of cabinets, furniture, and prefabricated home construction materials.

Robertson County Ag & Forestry Outputs



Value of Agriculture Economy in the Region

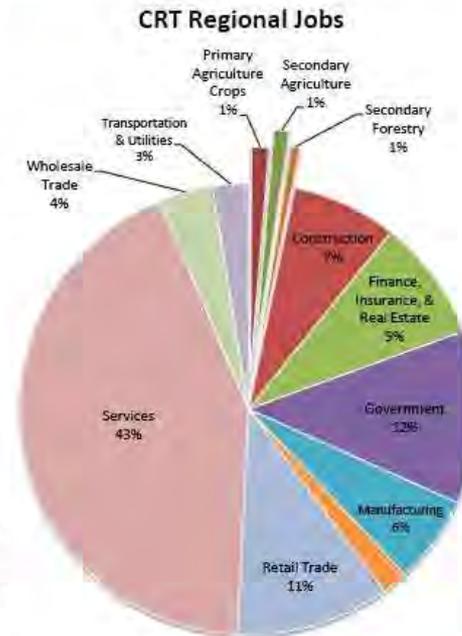
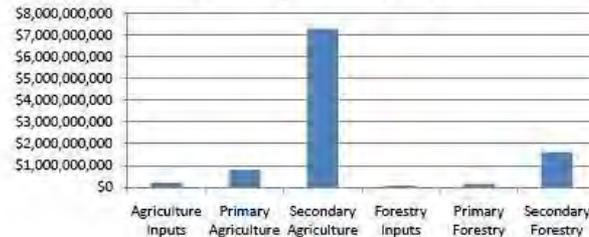
2008 Agricultural Economic Profile: 10-County CRT Region

Employment in Agriculture and Forestry made up 3.1% of total jobs created in the 10-county CRT Region in 2008 with 34,551 total jobs in these sectors of which 77% came from the agricultural sector. Grain farming, cattle farming and other crop farming (excluding oilseeds) made up over 50% of total primary agricultural employment, while animal slaughtering (excluding poultry), apparel manufacturing, and frozen food manufacturing made up 28% of secondary agricultural employment. Overall, the forestry industry created 7,914 in 2008, 30% of which were employed in cardboard and kitchen cabinet manufacturing.

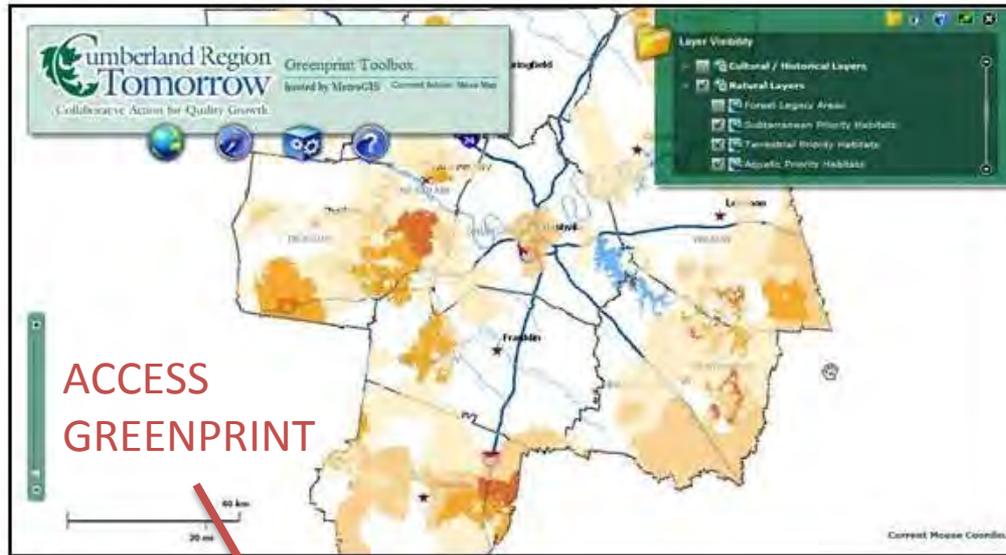
The value of Agricultural Outputs totaled \$8.2B in 2008 and made up just less than 5% of the total regional economy in 2008. There were over \$778M worth of primary agricultural products and services produced with crop production, cattle and poultry as the top three producers. Tobacco manufacturing was a \$2.6B industry in 2008. Pet food and meat production followed with \$594M and \$725M.

The value of Forestry Outputs totaled \$1.8B in 2008. Commercial logging was a \$43M industry in the region that supported 147 jobs in 2008 passing wood only through sawmills. Cardboard manufacturing was the largest secondary forestry sector with \$461M produced.

CRT Regional Ag & Forestry Outputs



GIS Greenprint Tools for Quality Growth

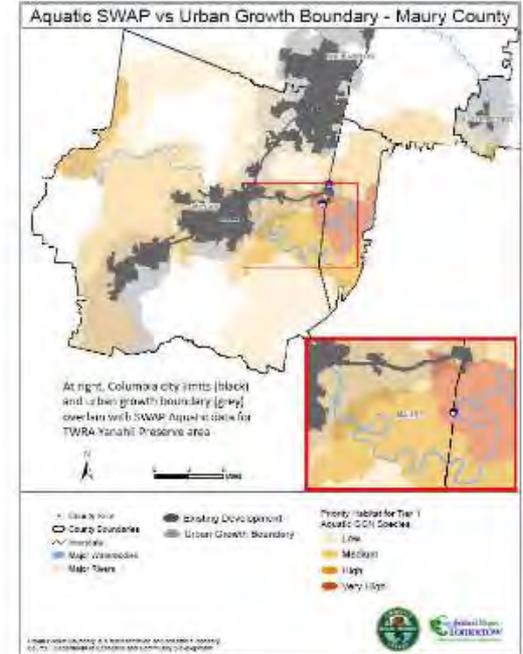


ACCESS
GREENPRINT

The *GIS GreenPrint Tools for Quality Growth* web-based publication and project is a significant part of the Quality Growth Toolbox Pilot Project and was also identified as a needed key regional project in the *Proceedings of the CRT Lincoln Institute for Land Policy Clinic for Regional Collaboration in 2006*.

Included as a key regional strategy in the *Conserving Our Region's Land, Water, Natural and Cultural Resources Chapter of the CRT Quality Growth Toolbox*, this resource fulfills the need for a regional GIS based decision making tool that can be used by local and state government planners to insure access to and knowledge of critical lands for conservation. The information in this report is intended to provide a better basis for decision making as projected impacts and costs of land use and transportation decisions are being made and land resource conservation priorities are included in local and regional plans. Consolidated GIS information can also assist other lead agencies identify and establish land, water, natural and cultural resource priorities and use existing resources for strategic land conservation within the scope of their activities and missions.

GreenPrint Toolbox (GIS based decision making tool) [click to enter](#)



GIS GreenPrint Tools for Quality Growth Download Center



(27 MB PDF) It can take a bit to download, but the GreenPrint Manual is worth saving to your computer to use while utilizing the GIS GreenPrint.

MANUAL

Layers

- 30 layers or data sets of information comprise current Greenprint
- Data from wide variety of sources: USGS, TNGIS, NPS, TWRA, TDOT, ECD



Uses for the Greenprint

- Analyzing Data
 - Projecting different data sets
 - Comparing scenarios
- Setting Priorities
- Balancing projects with conservation concerns



Sumner County Open Space Comprehensive Plan Case Study

Quality Growth Case Study

Sumner County: Preserving Open Spaces & Cultural Places

Background

Sumner County is a growing region projected to increase by 80,000 people by 2035. This anticipated increase will change the landscape in Sumner County and impact infrastructure such as roads, schools, and utilities. Community leaders had discussed creating a comprehensive plan for years in order to set guide lines for future growth, but the decision to proceed gained momentum because of the Tennessee Three Star Program.

"It was our desire to move up from the one level in the Three Star program and we knew not having the comprehensive plan held us back."
Michael Briggs, Sumner County Planner

The Tennessee Three Star Program lowers matching funds requirements for local governments based on a three level ranking system, thus saving money for local governments.

Collaborative Leadership

In creating the plan Sumner County drew from a deep well of information and studies from such organizations as the Nashville MPO, Cumberland Region Tomorrow, Tennessee Department of Economic Transportation and the Department of Forestry.

Visioning and Consensus

Sumner County used a combination of data analysis from these groups and their own in conjunction with community input to establish a common vision.

Some of the tools used to gain this information included the following. In particular, the online surveys helped Sumner County gain qualitative information that otherwise did not have.

- Growth Projections and Trends
- Public Input Opportunities
- On-line Visioning Survey
- On-line Transportation Survey
- Transportation Plan Projects
- Visual Preference Survey

Based on the information obtained from public input, Sumner County created a simple and direct vision statement to guide their Comprehensive Plan.

Vision Statement

"Sumner County will maintain the high quality of life of those that live, work, and play in unincorporated Sumner County."

Program Action

Through the various public forums it was made clear that Sumner County residents were most concerned about preserving the county's remaining open spaces and cultural places. The plan addresses this concern by defining these open spaces, setting goals for preservation and implementing strategies to achieve the goals. Briggs gives a lot of credit to the Climate Project Act Grant, which helped to form a lot of the baseline information for the plan.

Goals & Strategic Implementation

Protection of Natural Resources Objectives and Strategies

Goal 1. To identify and protect the most critical resources exist in Sumner County – Enhance existing policies to minimize the impact of future

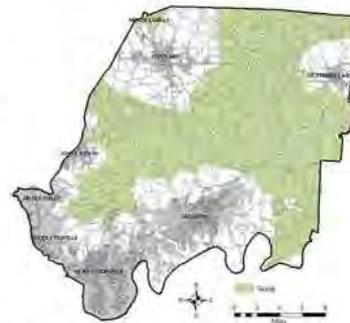


Figure A is a map showing defined rural areas in Sumner County.

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Julian Bibb

**Attorney for Stites and Harbison,
PLLC and CRT Director**



NASHVILLE:
NATURALLY



Nashville's Open Space Plan

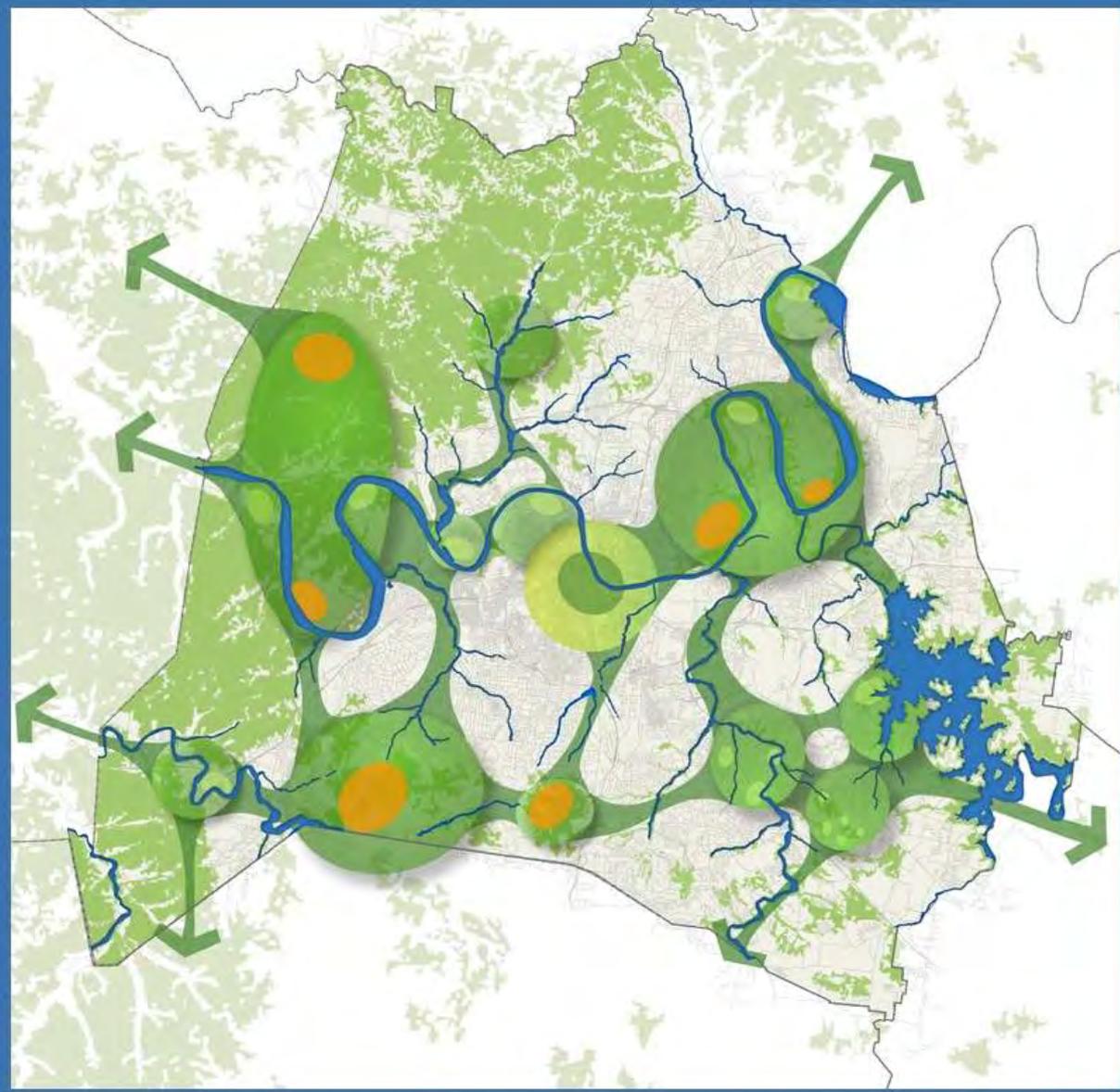


Four Corners, Nine Bends and a Heart of Green

NASHVILLE:
NATURALLY



A VISION FOR DAVIDSON COUNTY



- Four anchor reserves, one in each quadrant of the county
- Protected land in each bend of the Cumberland River
- A vibrantly green downtown

22,000 additional acres protected by 2035

Four Corners:

- Minimum 6,000 acres added to the park system
- Minimum 6,000 acres privately protected

Nine Bends:

- 10,000 acres of floodplain and other sensitive area
- 1,500 acres of agricultural land

Heart of Green:

- Add small parks and landscaped gateways
- Turn 110 acres of paved surface to natural or pervious

NASHVILLE:

NATURALLY



Implementation Goals



An open space system is essential to the viability of a region that markets itself on its „quality of life’

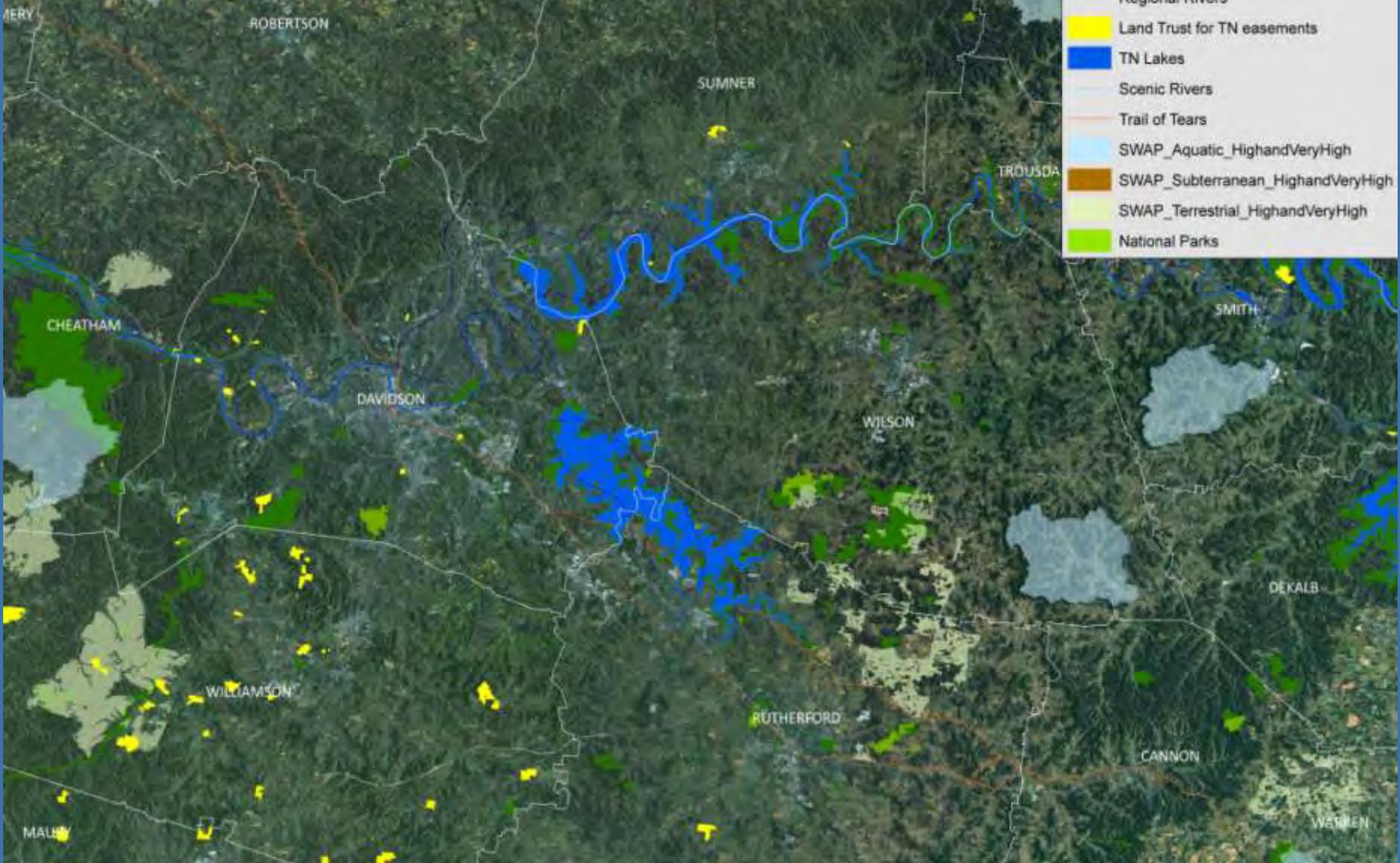


NASHVILLE:
NATURALLY



The Economic Argument





NASHVILLE:
NATURALLY



Middle TN Regional Natural Resources



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Larry McElroy

**General Manger of Consolidated
Utility District of Rutherford
County**

Water is our most precious natural resource. With only 3 percent of the world's water existing as fresh water, nearly every continent is feeling the affects of the global water crisis. For some, it's the lack of clean drinking water. For farmers, it's the inability to feed the thirst of valuable crops. Just as "easy oil" has dried up, fresh water has become more difficult to access and transport.

Housing Density - 1980



Housing Units per Km²

0

2 - 4

8 - 16

>128

0 - 2

4 - 8

16 - 128

Water

Housing Density - 1990



Housing Units per Km²

0

2 - 4

8 - 16

>128

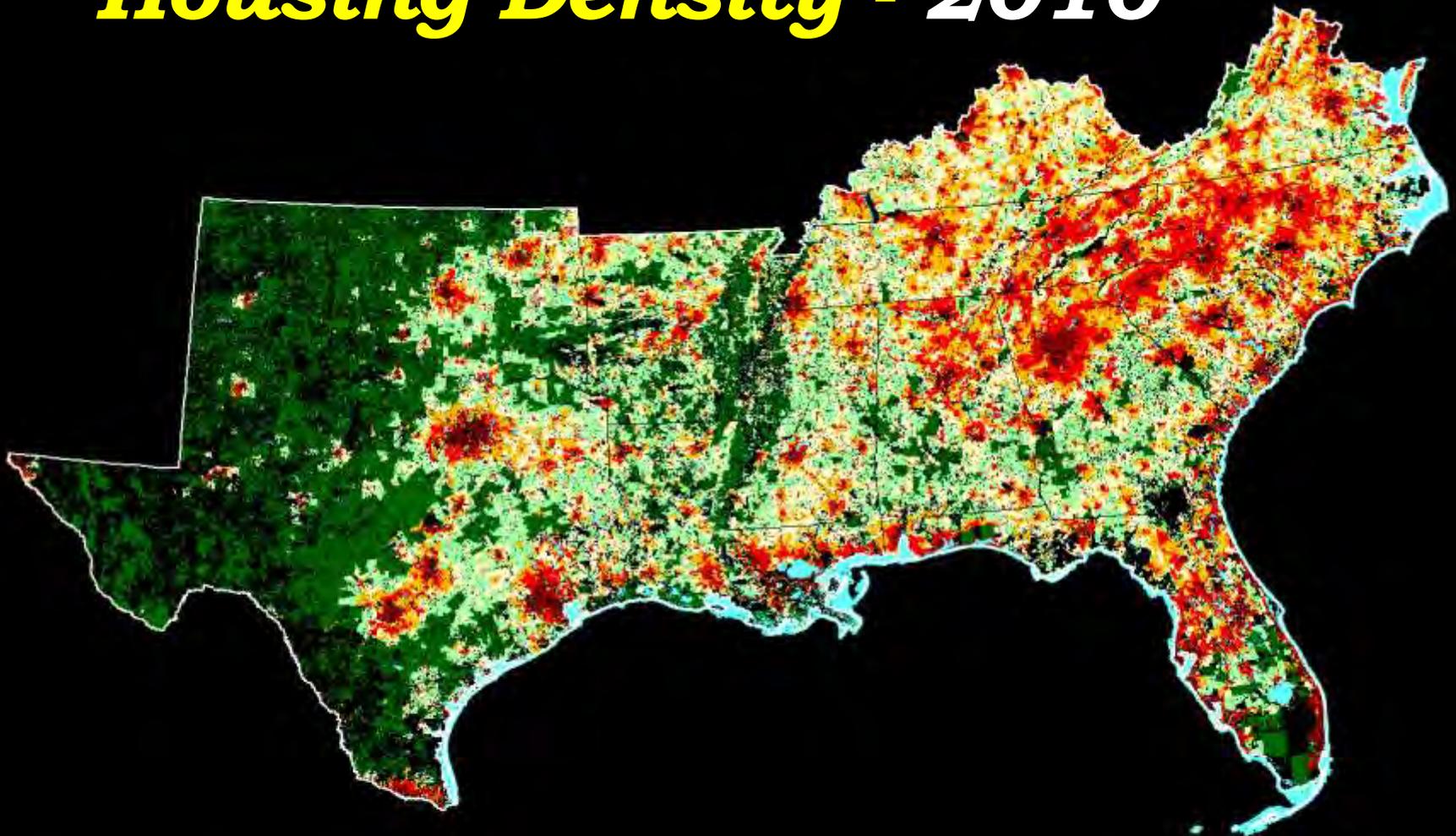
0 - 2

4 - 8

16 - 128

Water

Housing Density - 2010



Housing Units per Km²

0

2 - 4

8 - 16

>128

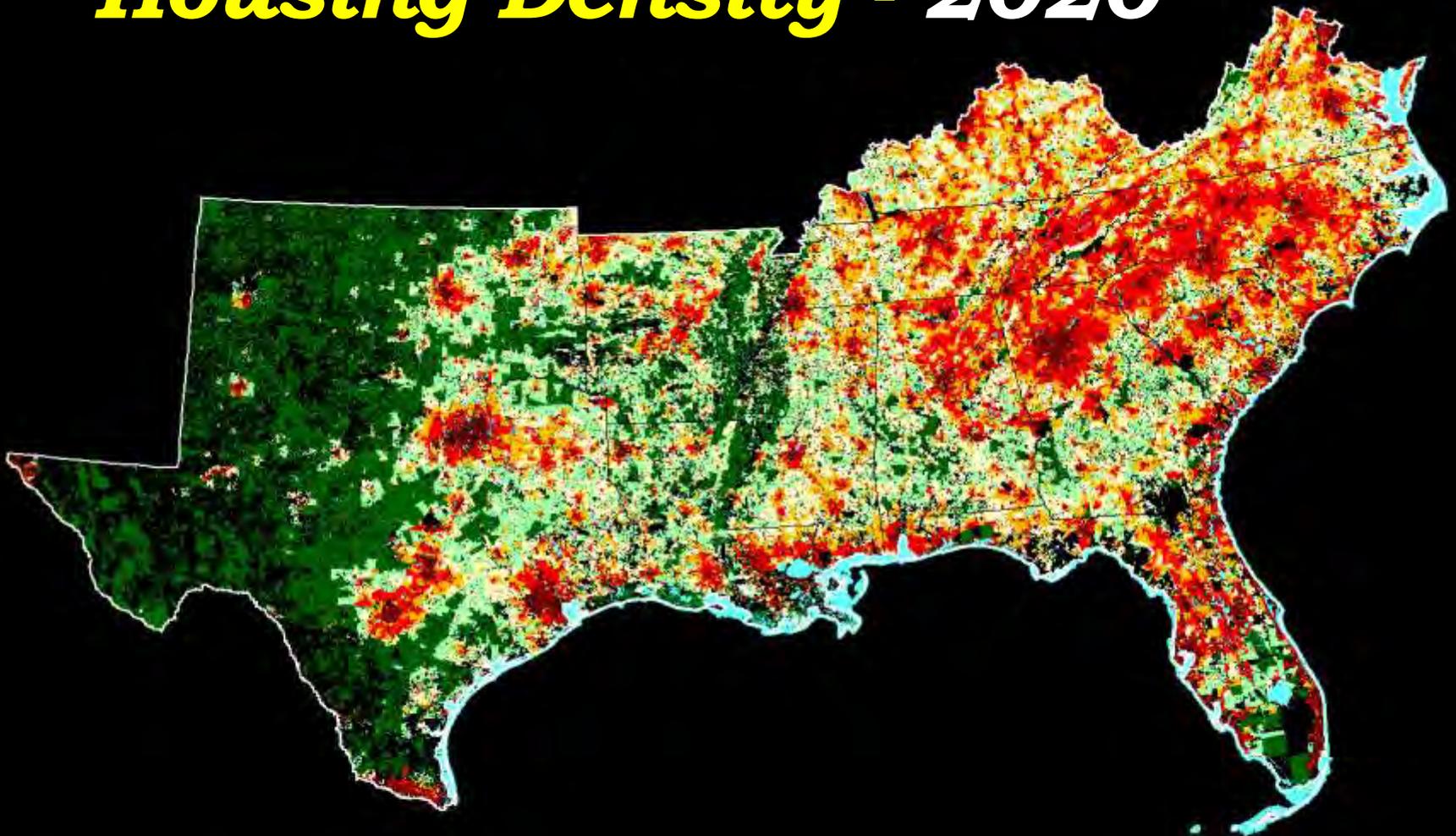
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4 - 8

16 - 128

Water

Housing Density - 2020



Housing Units per Km²

0

2 - 4

8 - 16

>128

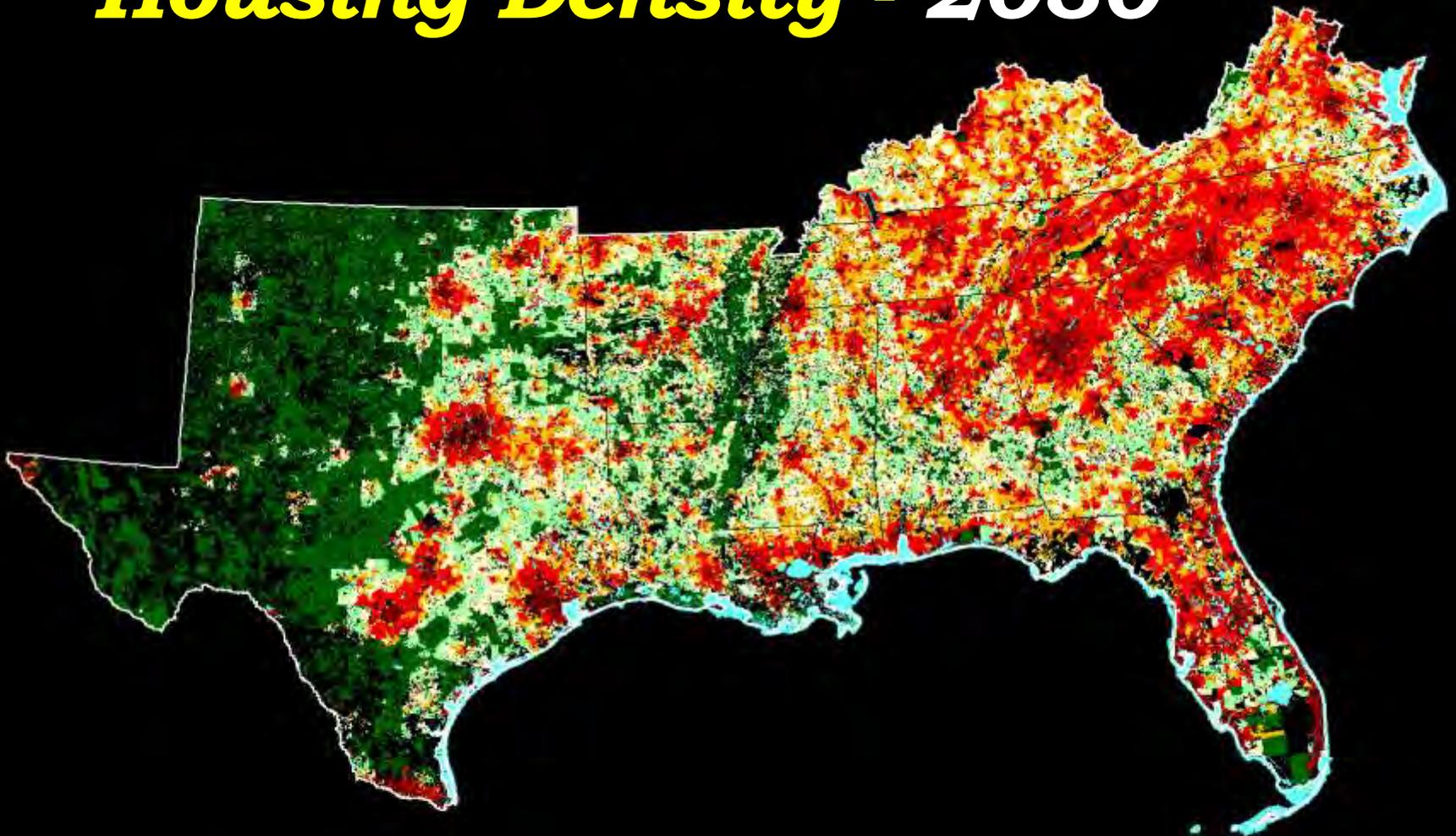
0 - 2

4 - 8

16 - 128

Water

Housing Density - 2030



Housing Units per Km²

0

2 - 4

8 - 16

>128

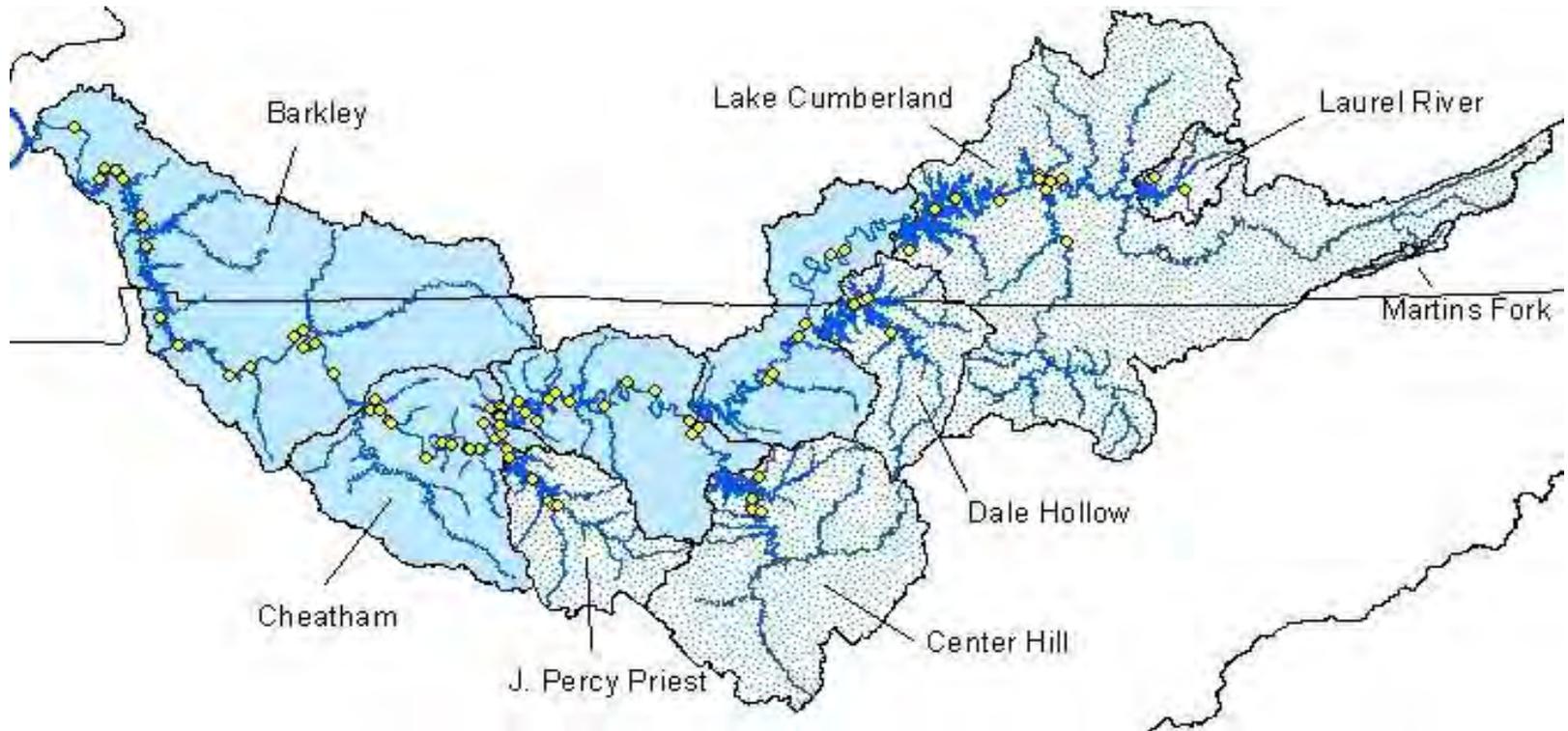
0 - 2

4 - 8

16 - 128

Water

Cumberland River Basin Municipal and Industrial Water Supply Intakes



Water Manufacturing Plants?

- Water Treatment Plants
- Wastewater Plants

Planning for Future Generations

Tennessee is a popular destination state now—people move here because of our resource-rich environment and quality of life. Our state is expected to grow by a million people between July 2000 and 2025. We must ensure we have water to meet all our needs. We need an ample supply of water, and we need it to be clean.

It is estimated that from 2005-2010:

- ✓ Tennessee's population will increase by more than 300,000
- ✓ More than 100,000 new homes will be built
- ✓ Energy demand will increase 12%

Adding all these new people and homes will have consequences. Though farms still cover almost half of our landscape, they are being converted to subdivisions, and rising land prices make it harder for farmers to be profitable. As natural areas are paved or cleared of trees and native vegetation, changes in land use may make clean water scarce, just as demand for it increases.

We have been accustomed to abundant water—in the past, Tennessee averaged between 44 and 64 inches of rain a year. But in recent years, severe droughts have reminded us that we cannot afford to take our water for granted.

We must deal with growth in an effective way. We have always stepped up to the challenges of life—those are our Tennessee values and what makes us “the Volunteer State.” It is much cheaper to prevent damage to our watersheds than to make costly fixes later. Common sense dictates that we deal with these changes before we are blindsided by their effects.

To accomplish these goals, we need a water plan for Tennessee. Long-term planning will ensure our water systems can handle our many uses. Expansion demands that we use water efficiently. Preserving our clean abundant water is good for Tennessee's economic health—and for the health of our people.

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Bob Martineau

**Commissioner of Tennessee
Department of Environment and
Conservation**



Air Quality: Challenges and Priorities

Bob Martineau, Commissioner
Tennessee Department of Environment and Conservation
Power of 10 Regional Summit
Nashville, Tennessee
May 25, 2011



The Big Picture

Air is cleaner in Tennessee than anytime in the last 40 years – since the passage of the Clean Air Act.

Grown our economy at the same time air quality has improved.

>20% population increase last decade

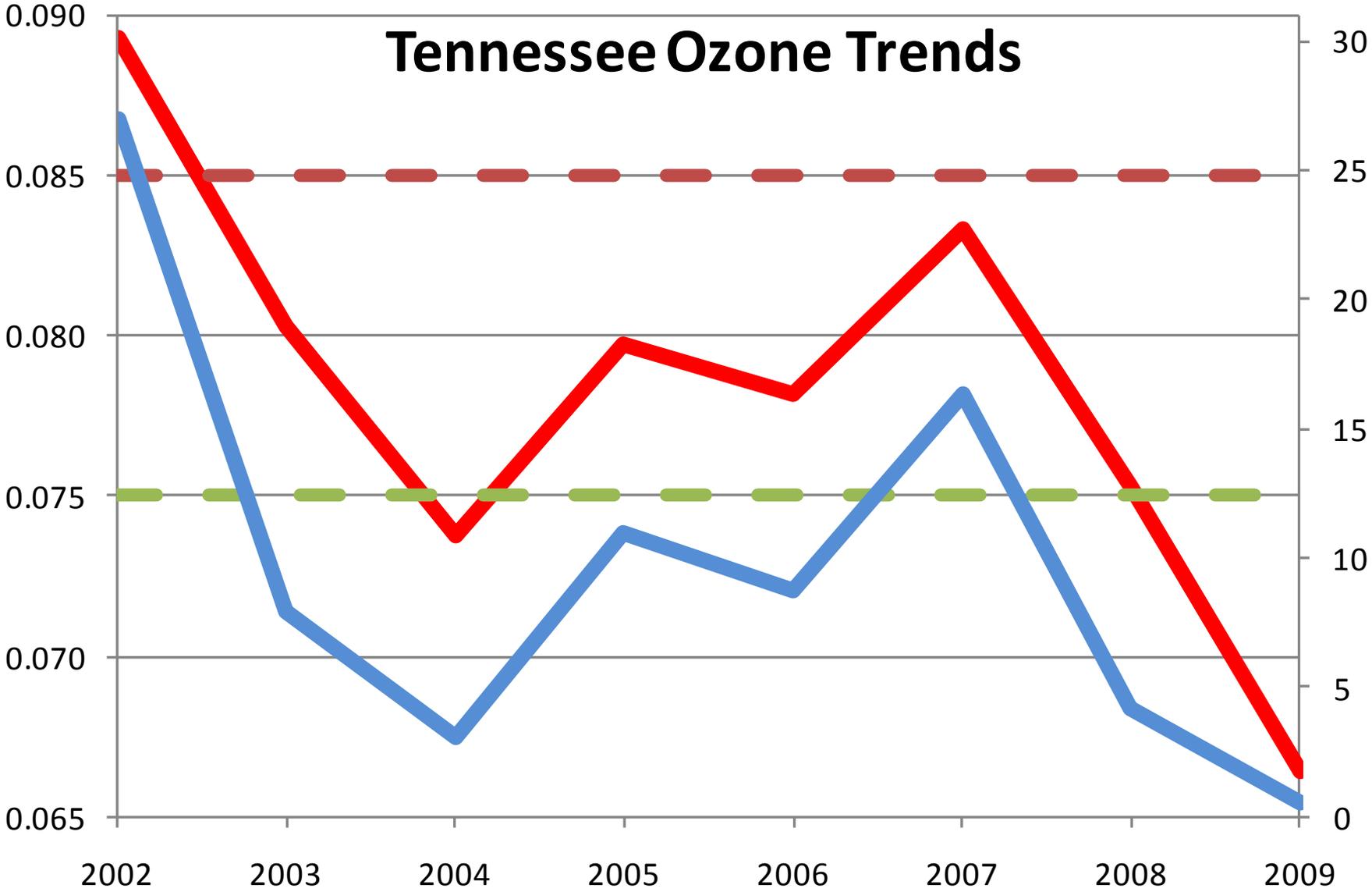
42% increase in VMT 1990-2009

EPA plans to make national standards more stringent to protect human health.

Tennessee Ozone Trends

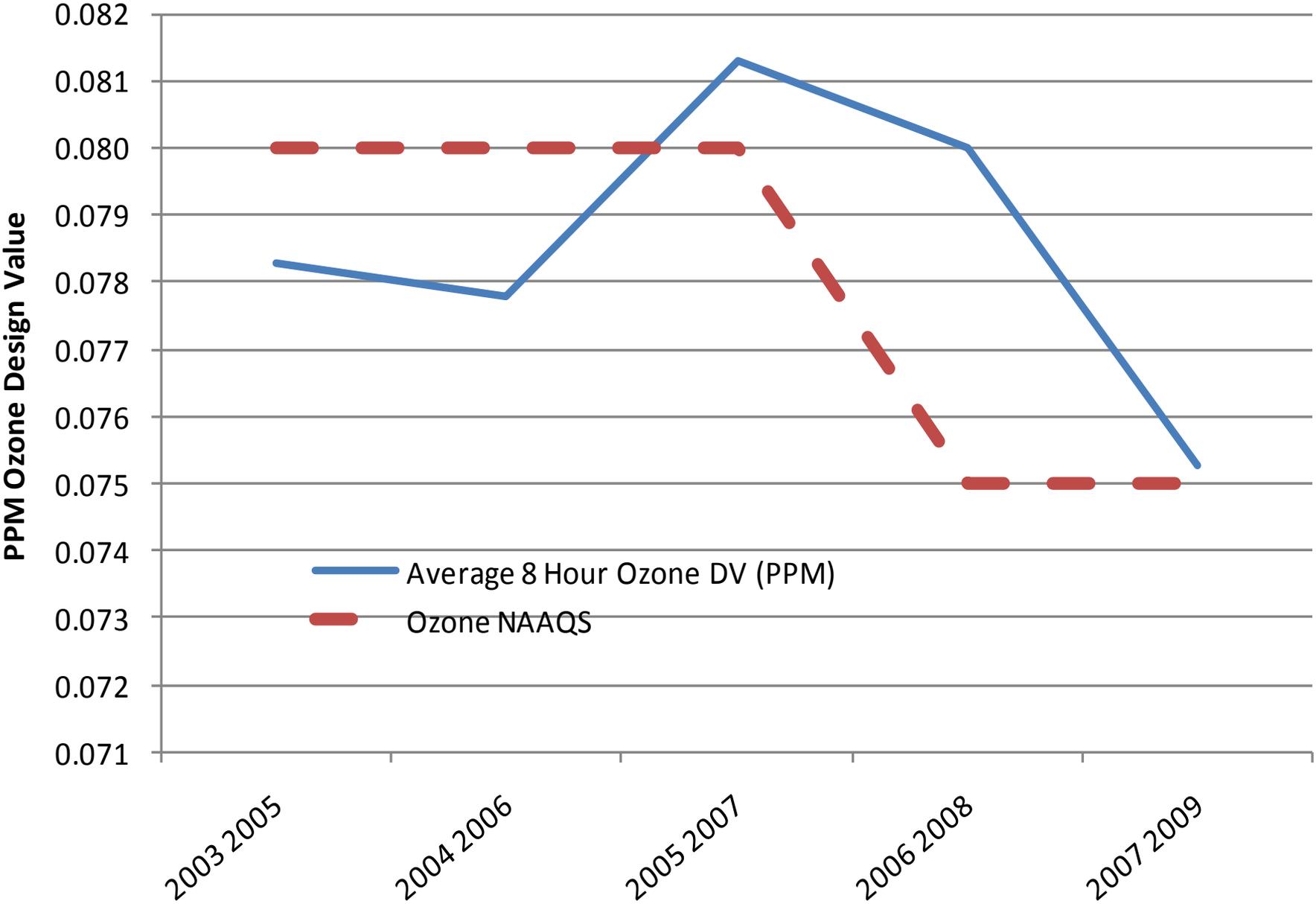
Yearly Avg 4th Max 8 Hr Avg Ozone (PPM)

Avg # Of Ozone Exceedances By Year Per Site



- Avg 4th Max 8 Hr Avg Ozone By Year All Sites PPM
- - - Previous 8 Hr Ozone NAAQS 0.085 PPM
- - - Current 8 Hr Ozone NAAQS 0.075 PPM
- Avg # Ozone Exceedances By Yr. Per Site (0.075 Std.)

Tennessee Ozone Design Value Trends





How to Attain Stricter EPA Ozone Standard?

Reducing combustion emissions from:

Power Plants & Industry stationary sources

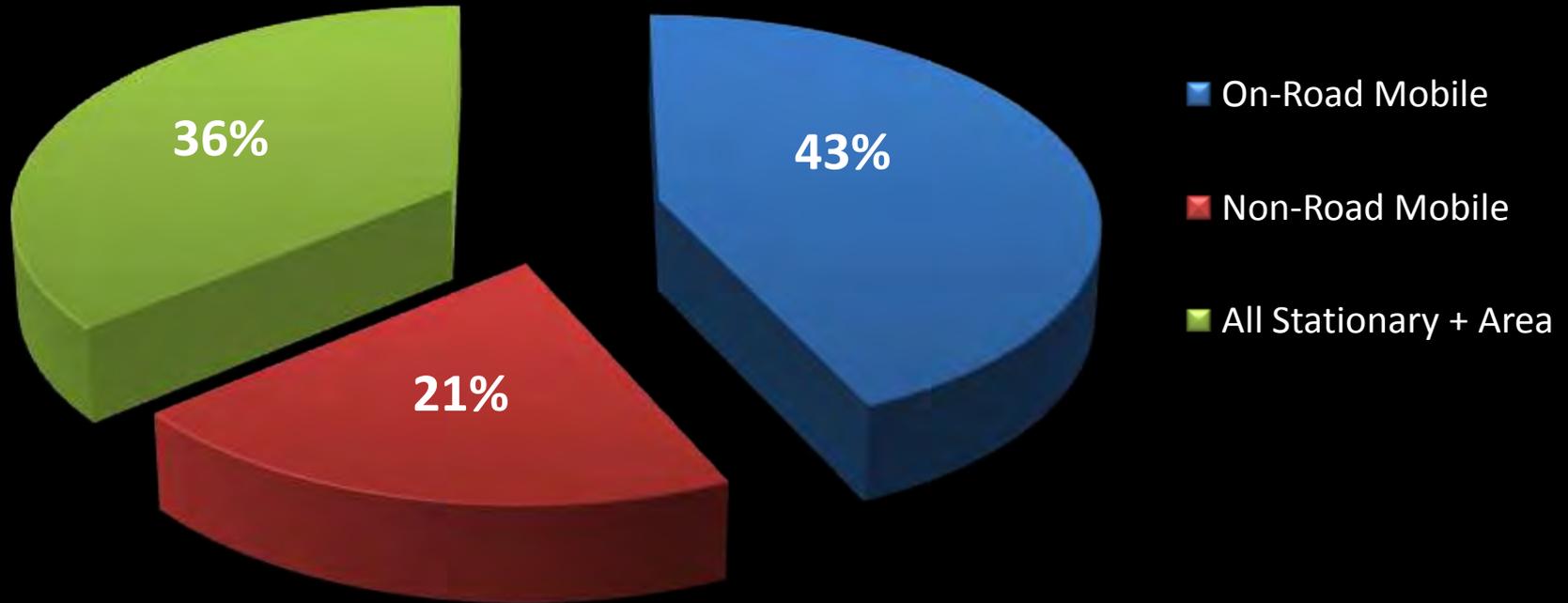
- Industrial sites employ low-NO_x boilers
- TVA investments in air pollution control devices and retiring older coal-fired plants

Vehicles & Transportation Fuels mobile sources (on-road and off-road)

- Improved fleet and fuel economy
- Changes in Vehicle Miles Traveled (VMT)
- *EPA SmartWay* Transportation Partnership

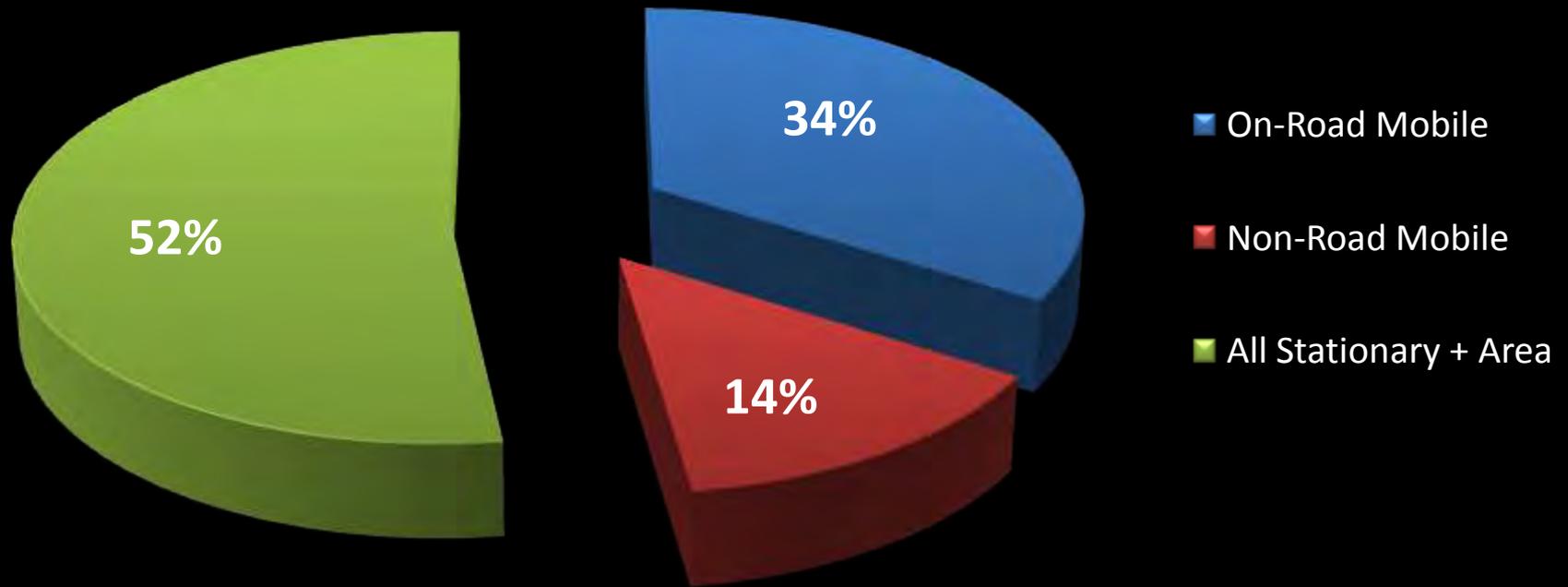
Achieving greater energy efficiency

Total NOx Emissions - Power of 10 Counties



NOx + VOC + sunny, hot, stagnant weather forms ground level ozone

Total VOC Emissions - Power of 10 Counties



NOx + VOC + sunny, hot, stagnant weather forms ground level ozone



Priority Considerations

Public awareness and education

Cleaner fuels and vehicles

Invest in mass transit options and
increased public transportation usage

Continue reducing emissions from power
generation and industrial sites

Achieve greater energy efficiency



Questions

For more information contact:

Bob Martineau, Commissioner

Tennessee Department of Environment and Conservation

401 Church Street

L&C Annex, 1st Floor

Nashville, TN 37243

615-532-0106

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Bert Mathews

**President of The Mathews Company,
Chair of Nashville Area Chamber of
Commerce, and CRT Director**

Partnership 2020 Strategic Drivers

Drivers of prosperity

Economic Diversity

Cluster Development
and Enhancement

Corporate Relocation

Business Retention & Expansion

Tourism Support

High Growth Entrepreneurship &
Small Business Development

International Business

Innovation / R & D Capacity

Talent Development

Attract and Retain
High-Skilled Talent

Alignment of
Talent Supply & Demand

Workforce Development

Business Community
Engagement

Community Support

Place / Livability

Downtown Business Development

Sustainability / Environment

Asset Development

Public Services

Regionalism

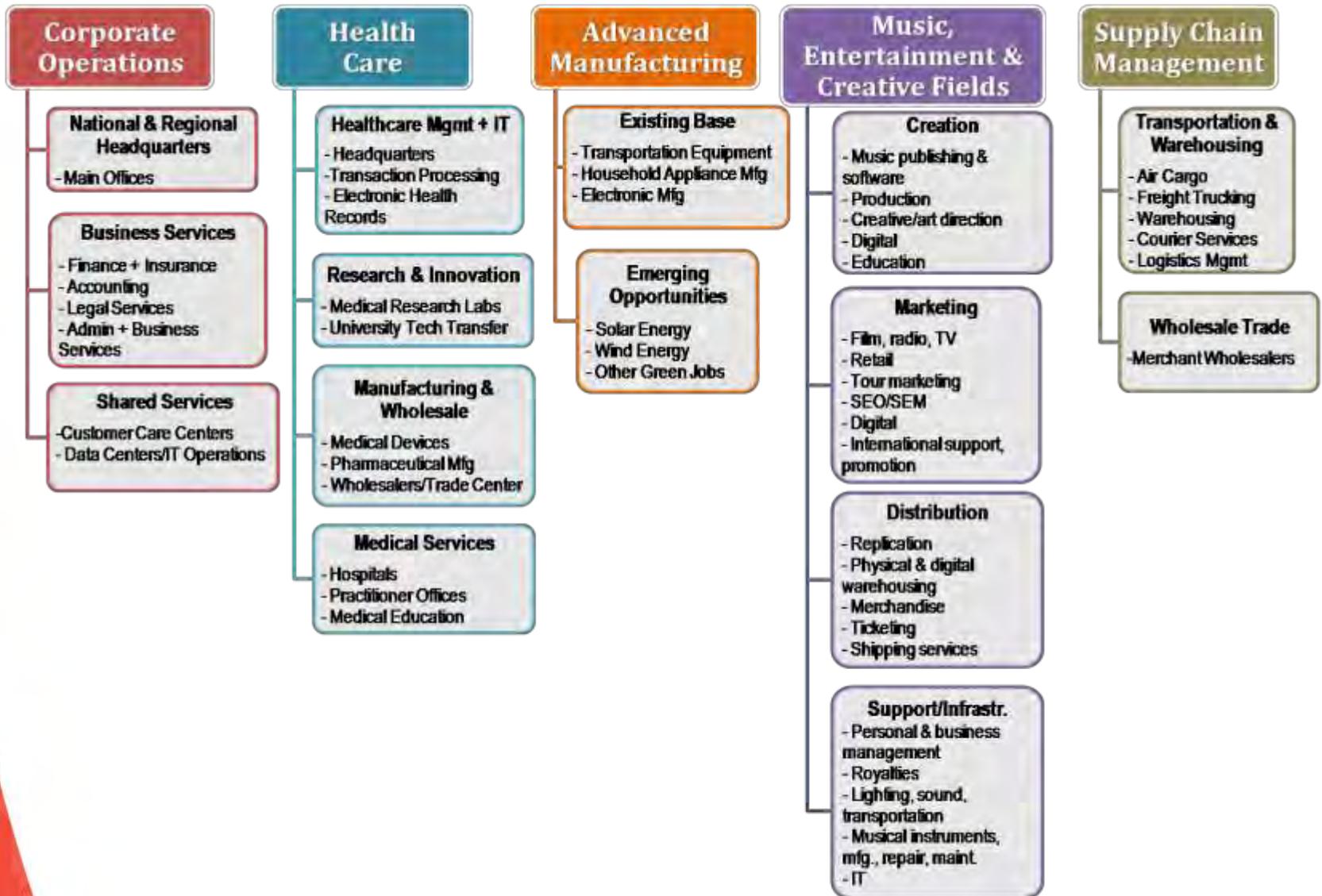
Legislative Business Agenda / Advocacy

Mobility / Transit

Land-Use and Infrastructure

Economic Development Collaboration

Target Cluster Overview



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Susan Whitaker

**Commissioner of Tennessee
Department of Tourist
Development**

ECD will also partner with other state agencies to support additional key clusters

State Agency

Tennessee Department of Agriculture



Tennessee Film, Entertainment, and Music Commission



Tennessee Department of Tourist Development



Assets



WHAT IS SUSTAINABLE TOURISM?



- Sustaining the **environment**, **culture** and **heritage** of a region while at the same time sustaining the **economic growth** through tourism.



Cades Cove - Great Smoky Mountains

WHY SHOULD WE CARE?



Economic Benefits

- Townies
- Tourists
- Business Recruitment
- It's all inter-related!



***Tourism is an Economic Engine
\$14.4 Billion Industry in TN***