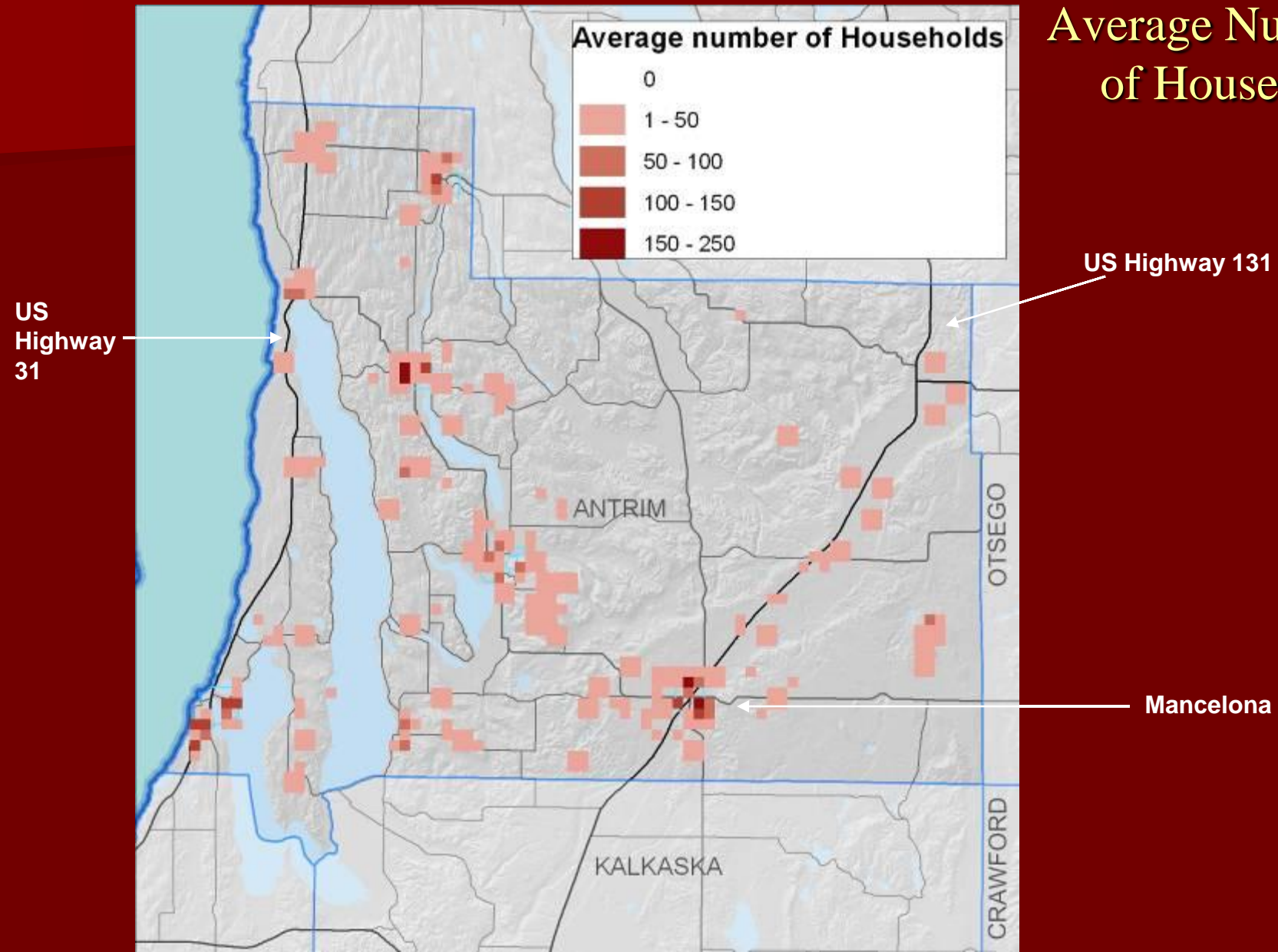


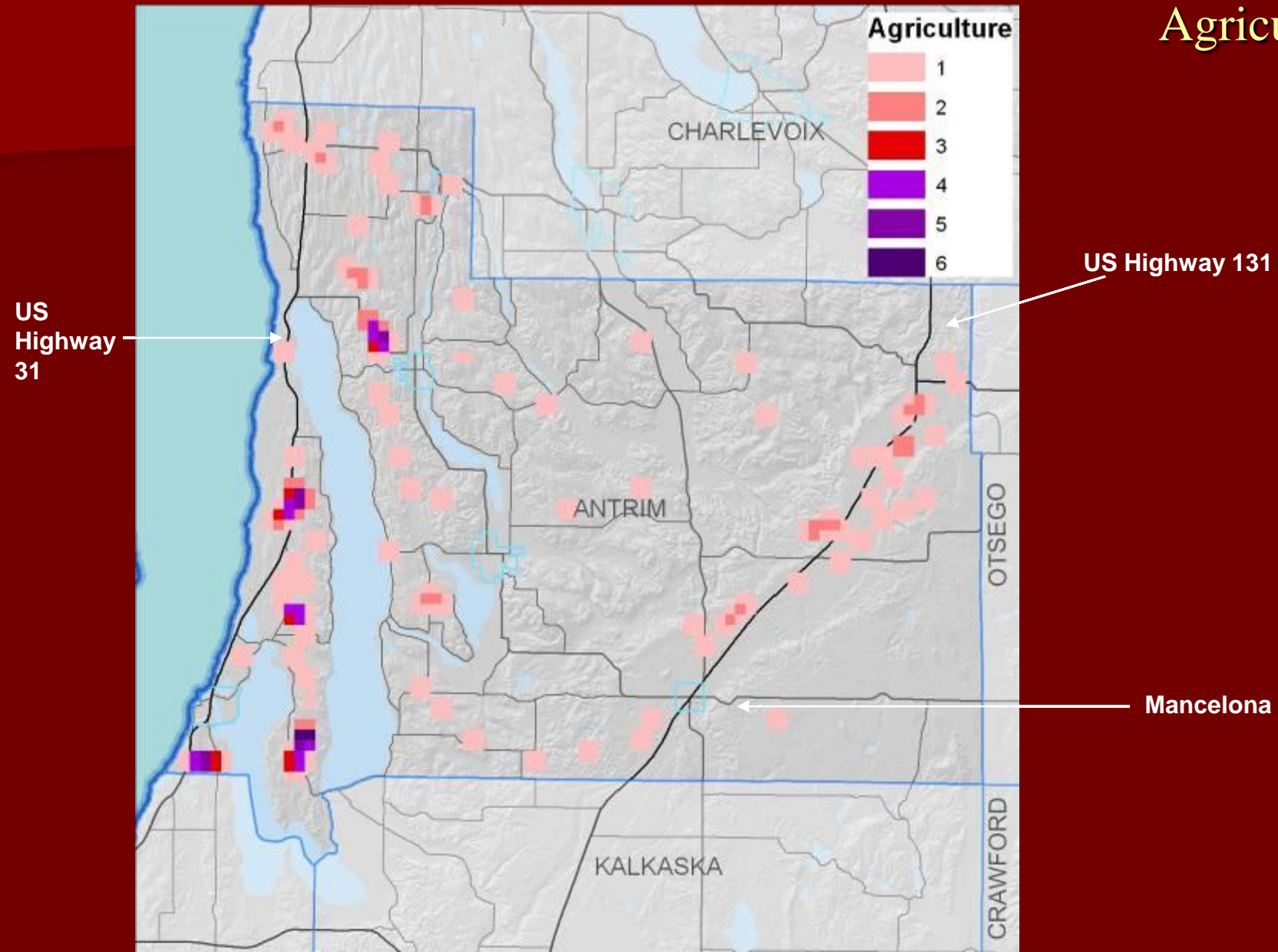
Workshop Results

Average Number of Households



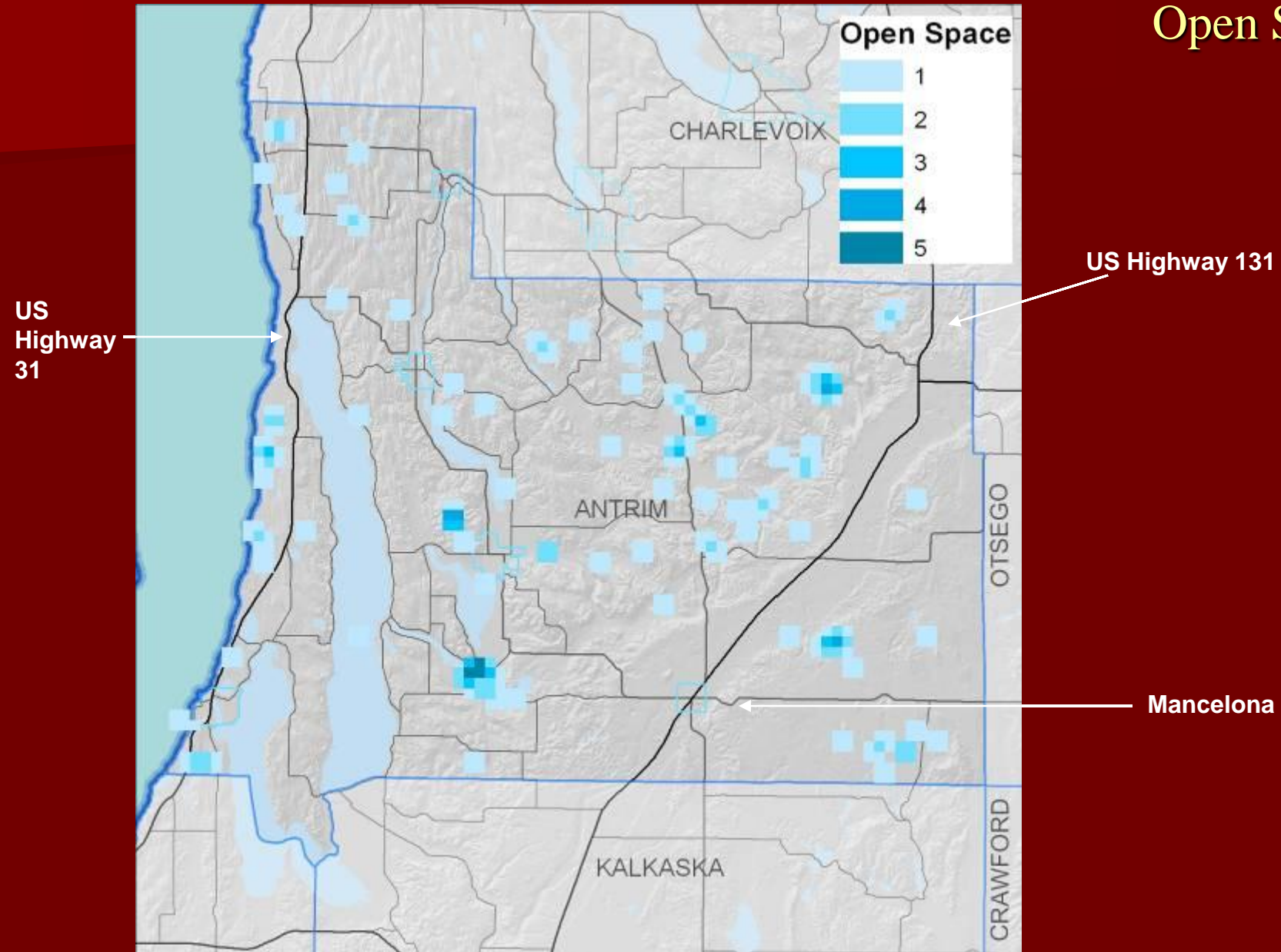
Workshop Results

Agriculture



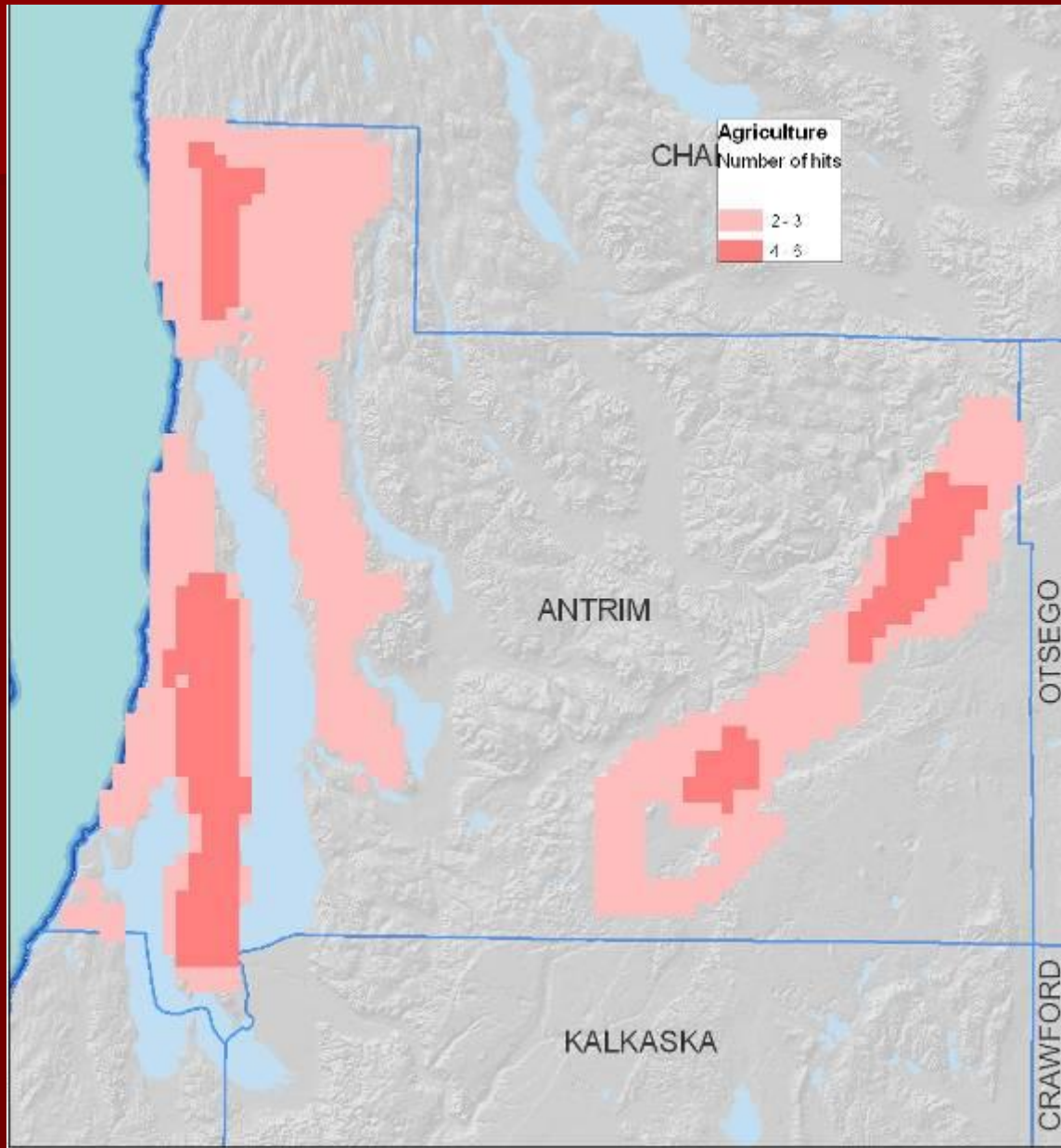
Workshop Results

Open Space



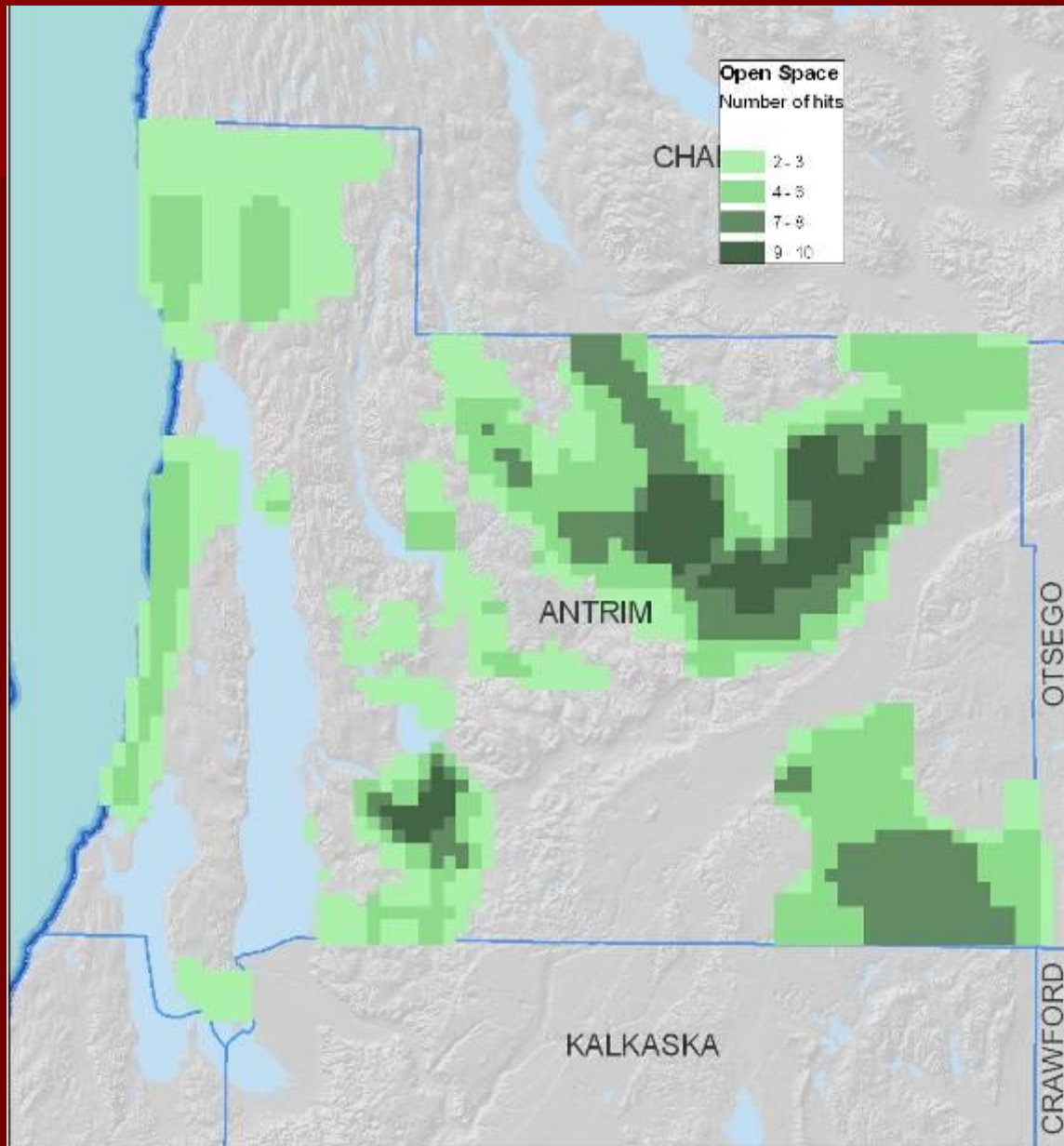
Workshop Results

Agricultural Conservation Areas



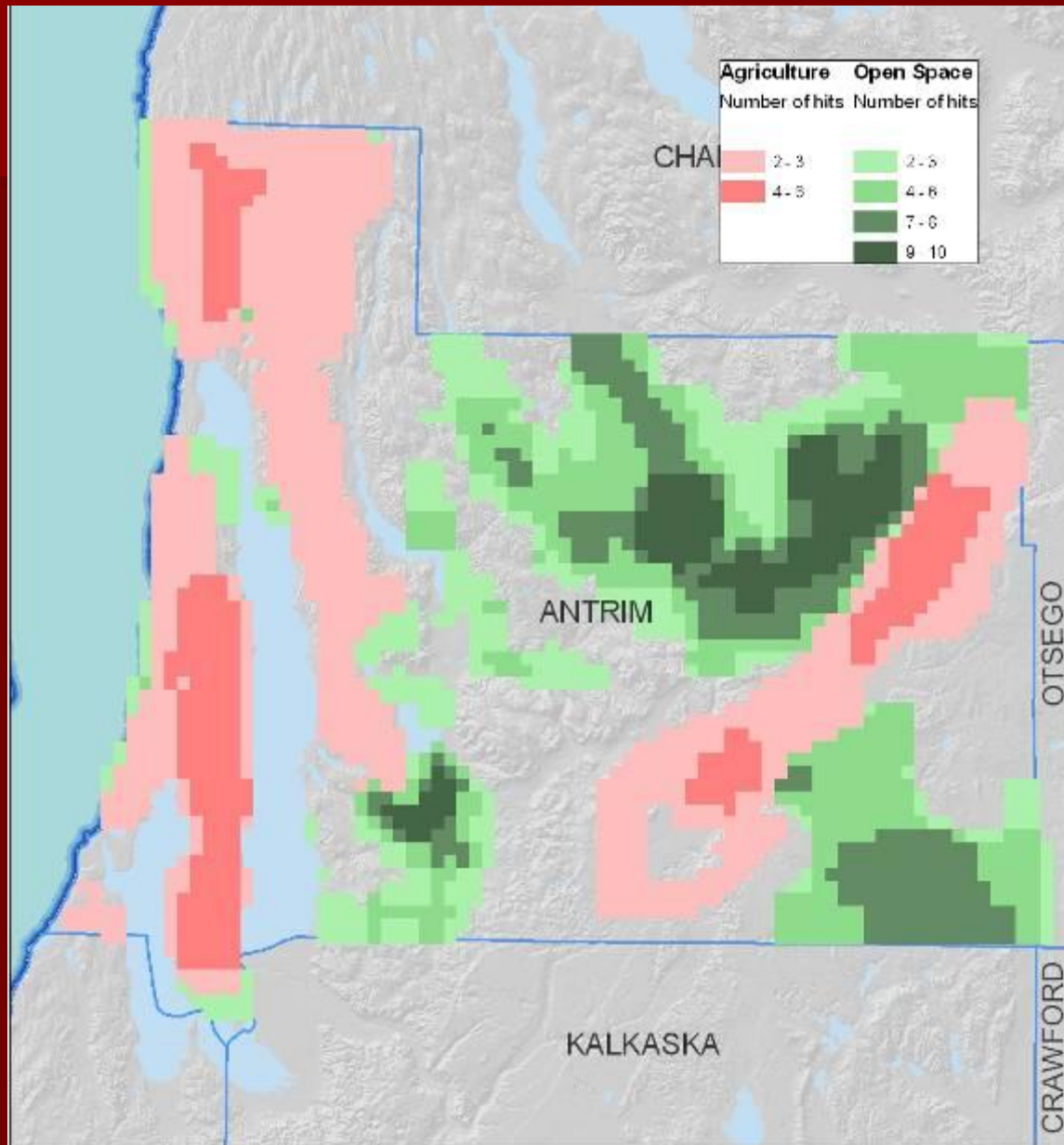
Workshop Results

Open Space Conservation Areas



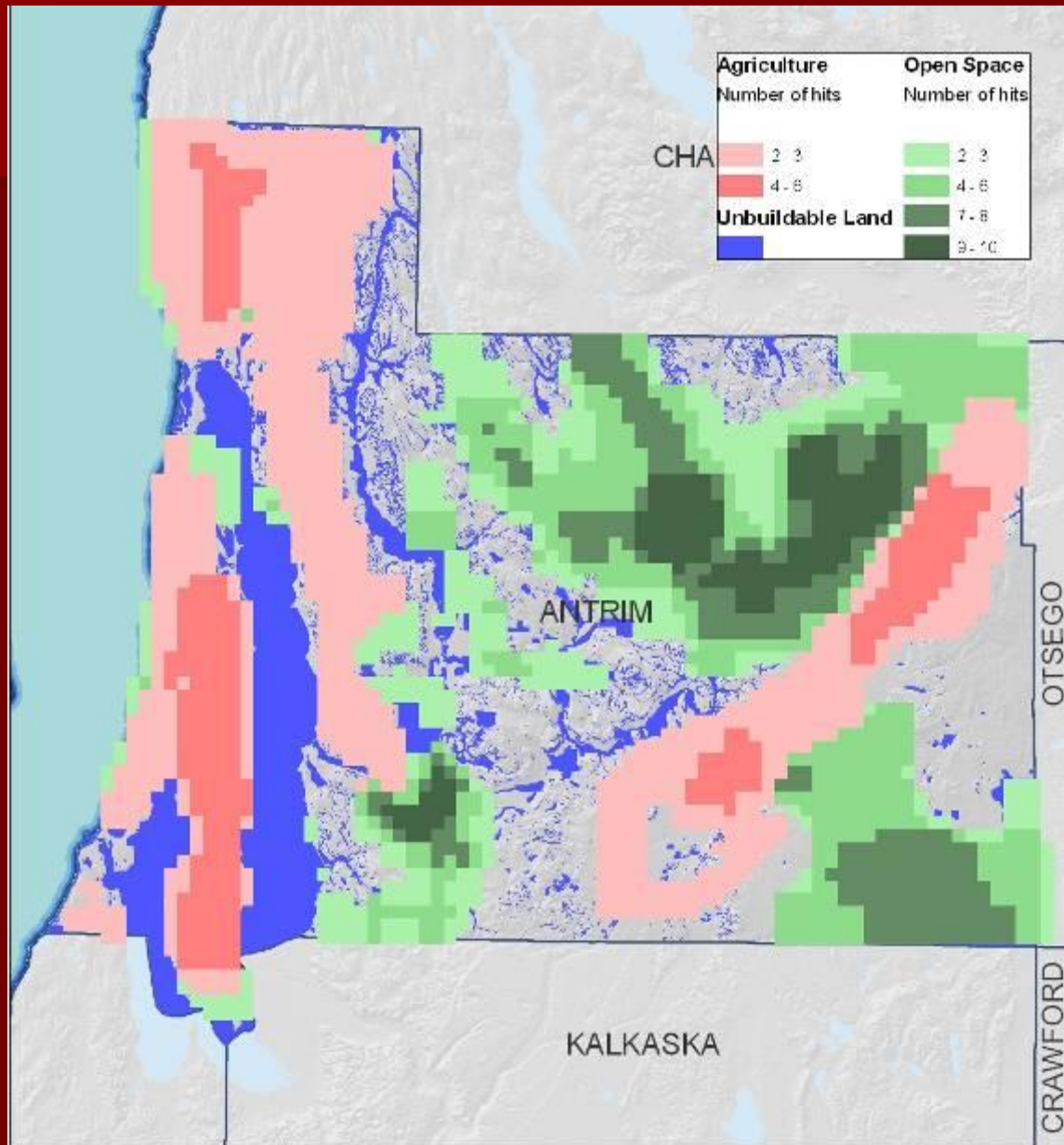
Workshop Results

Agriculture + Open Space Areas



Workshop Results

Agricultural+
Open Space
Areas &
Constrained Land

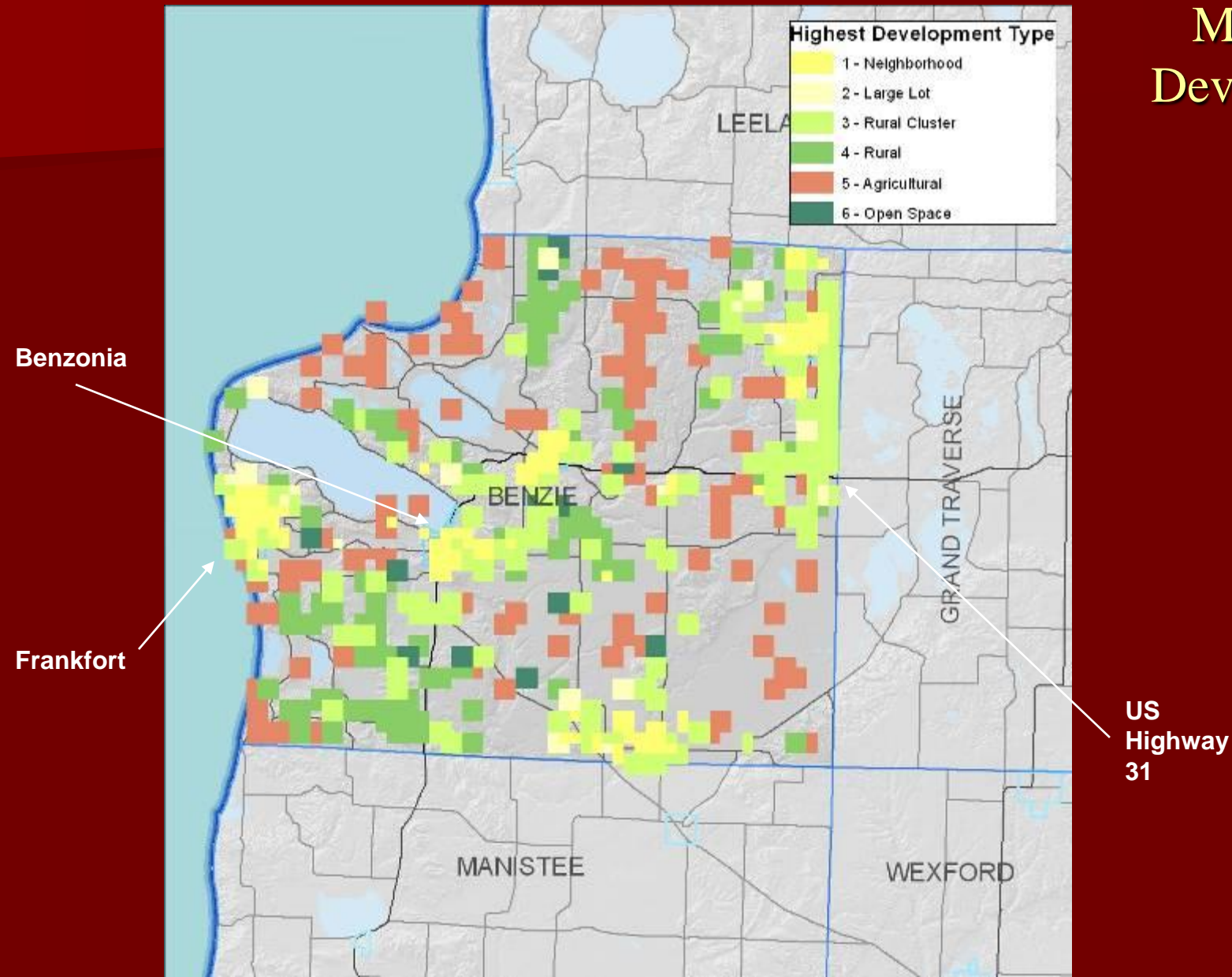


Workshop Results

Benzie County

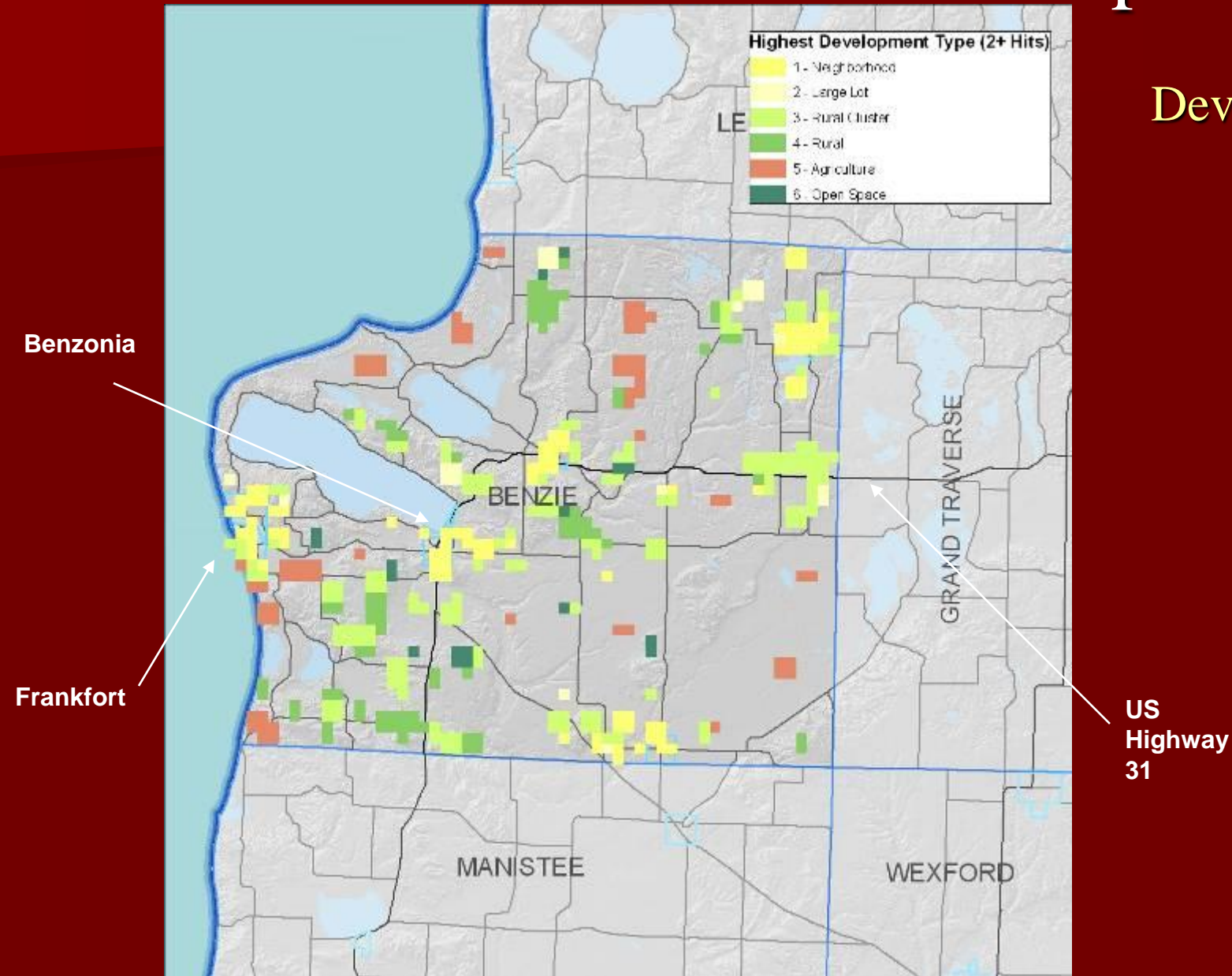
Workshop Results

Majority of
Development
Type



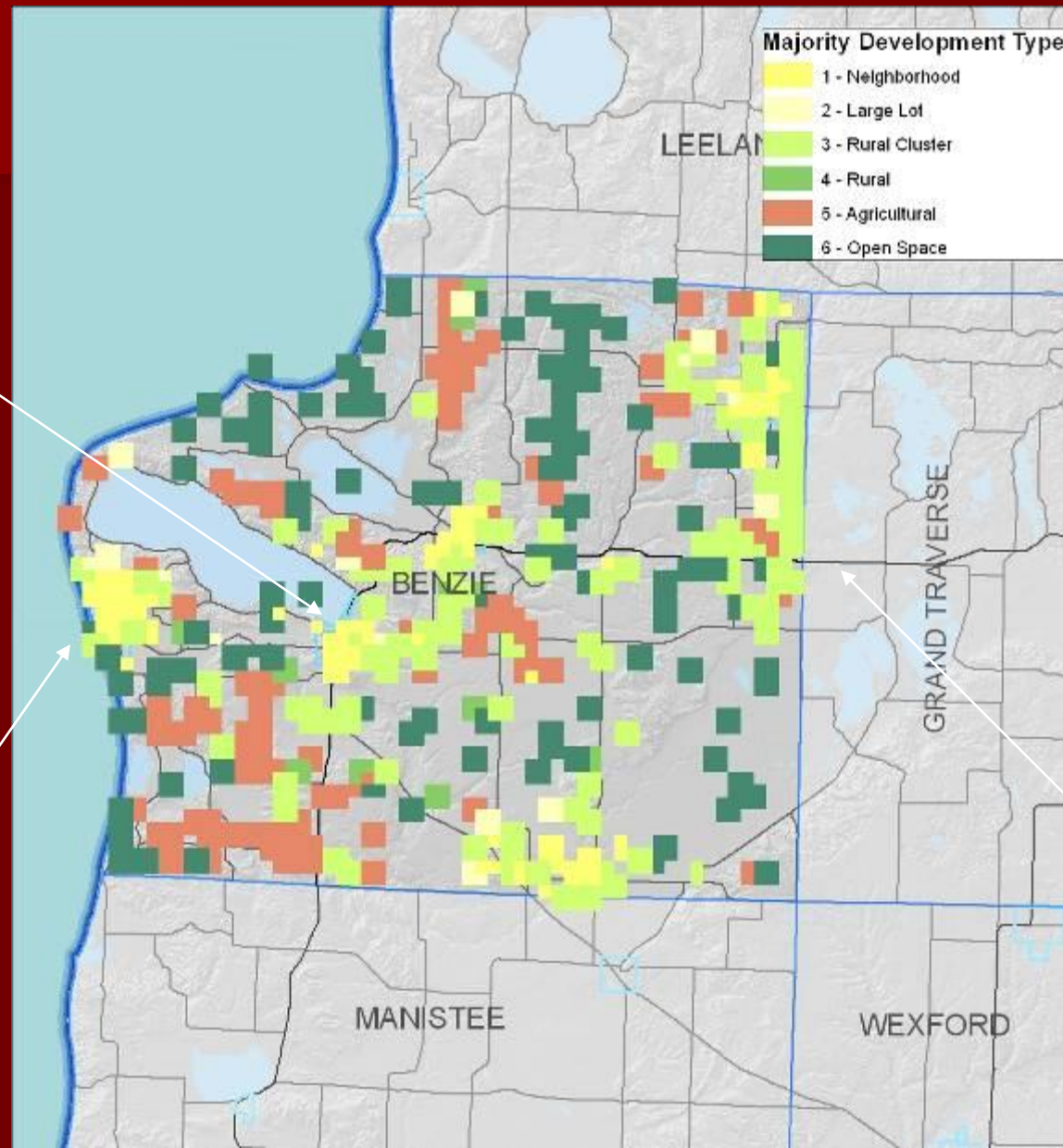
Workshop Results

Highest
Development
at least
2 Hits



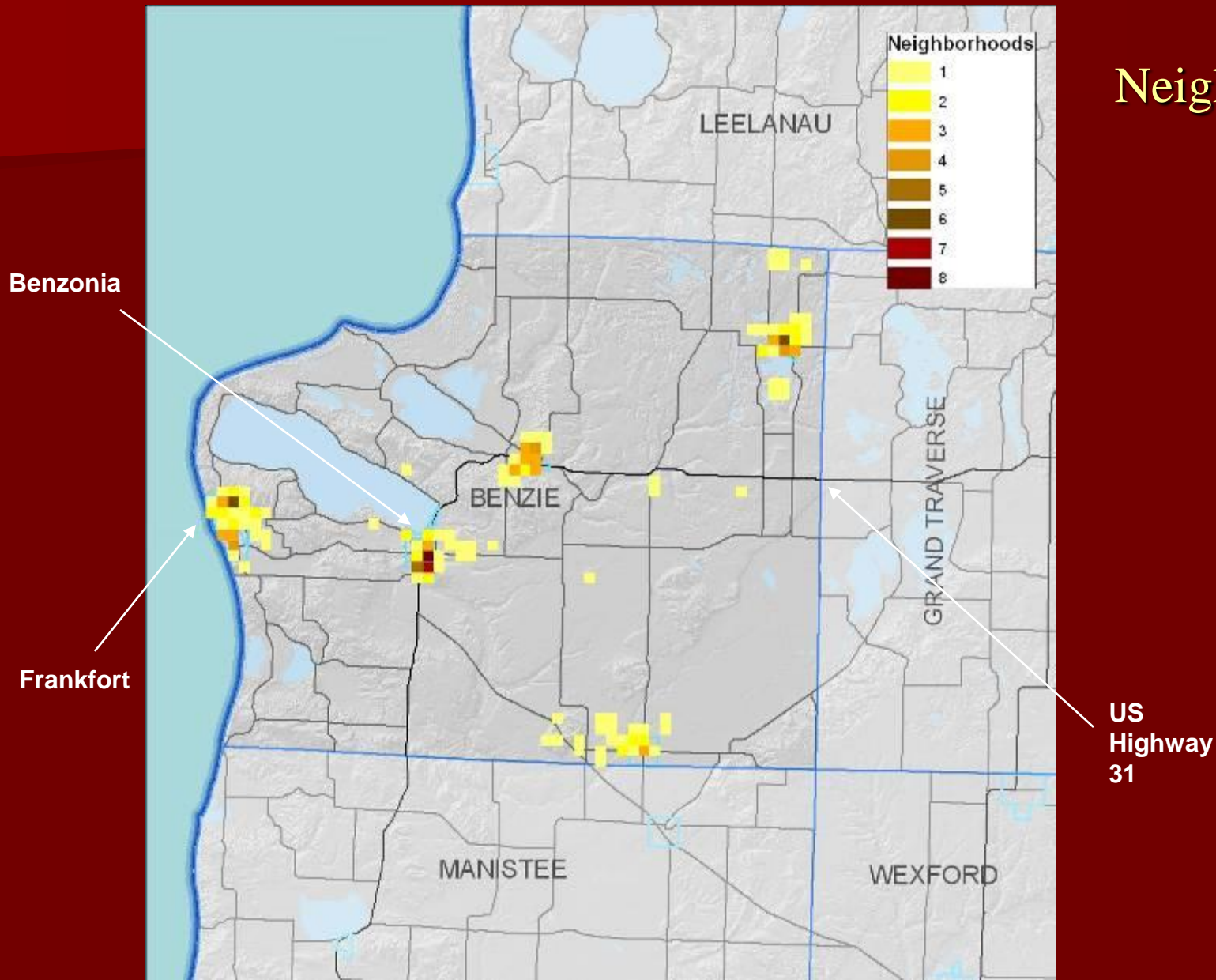
Workshop Results

Highest
Development
Type



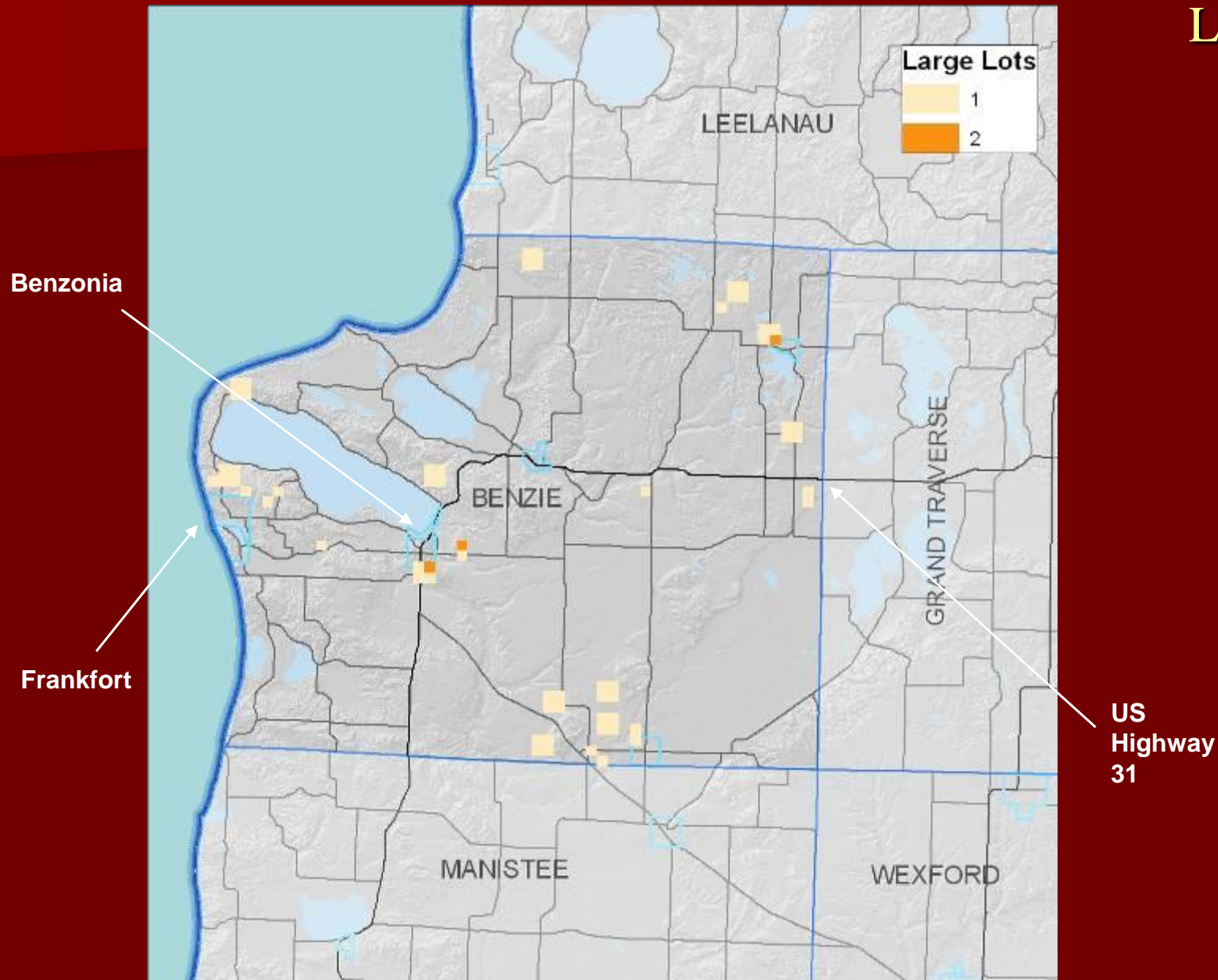
Workshop Results

Compact Neighborhood



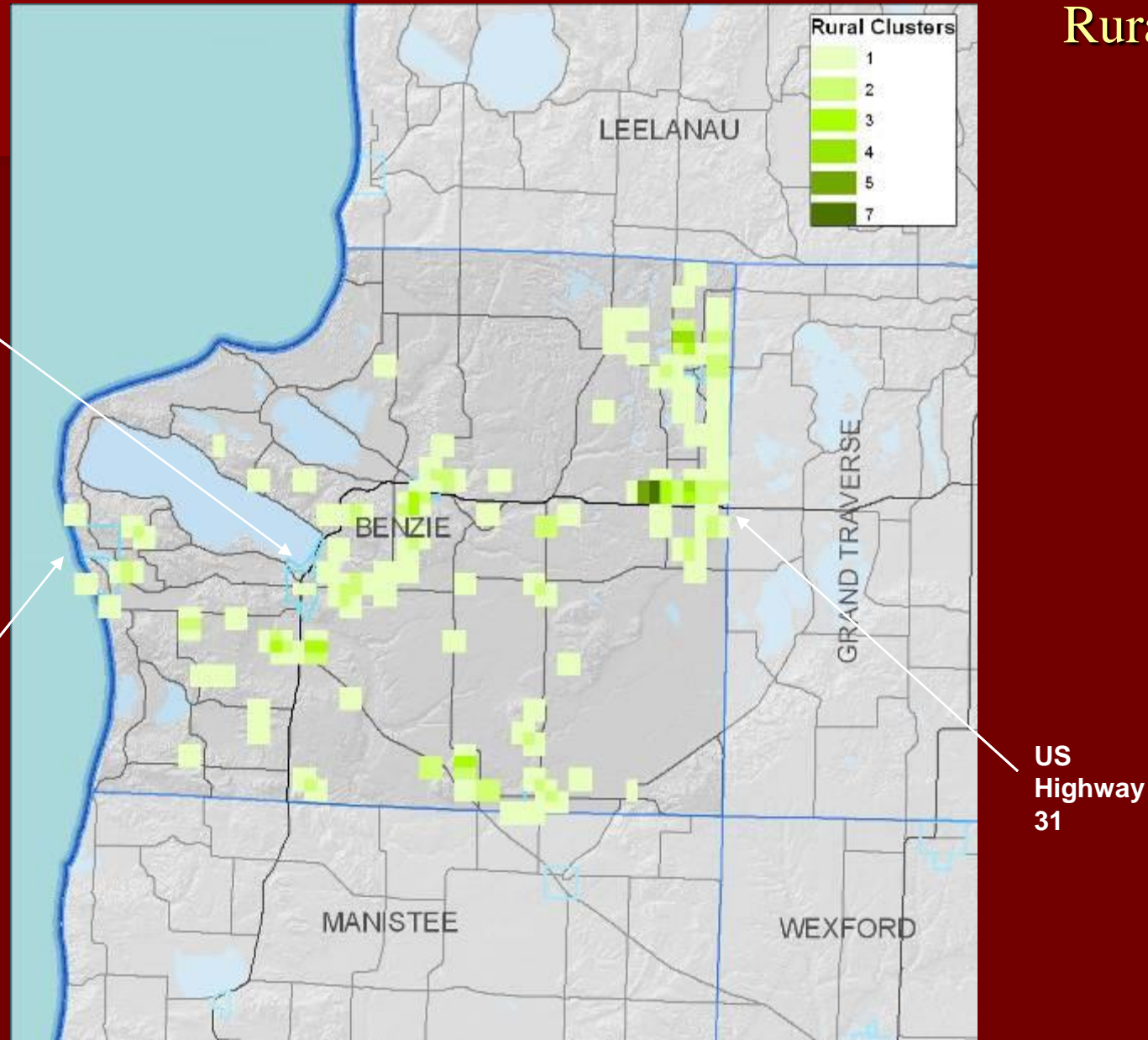
Workshop Results

Large Lots



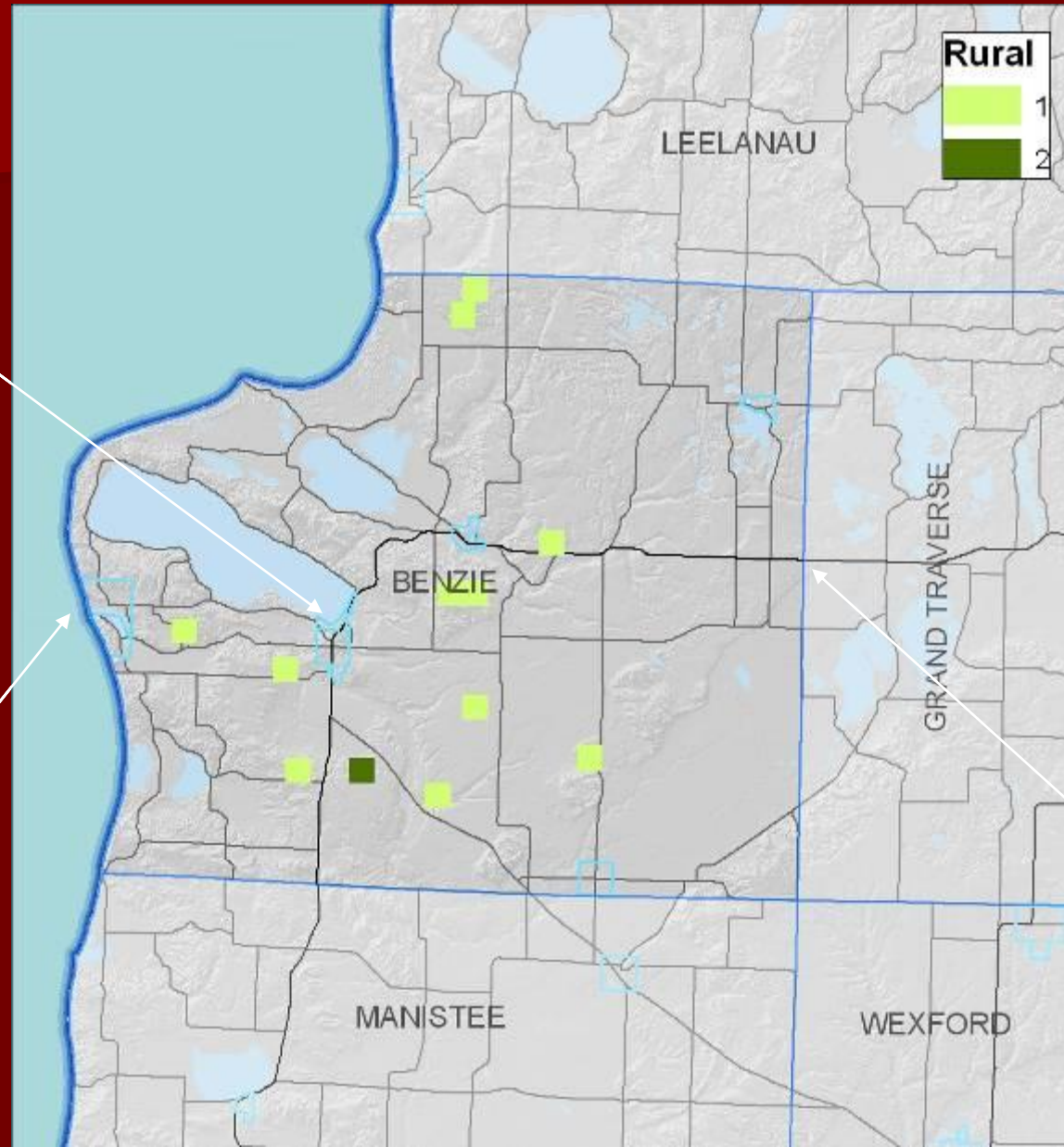
Workshop Results

Rural Cluster



Workshop Results

Rural Housing



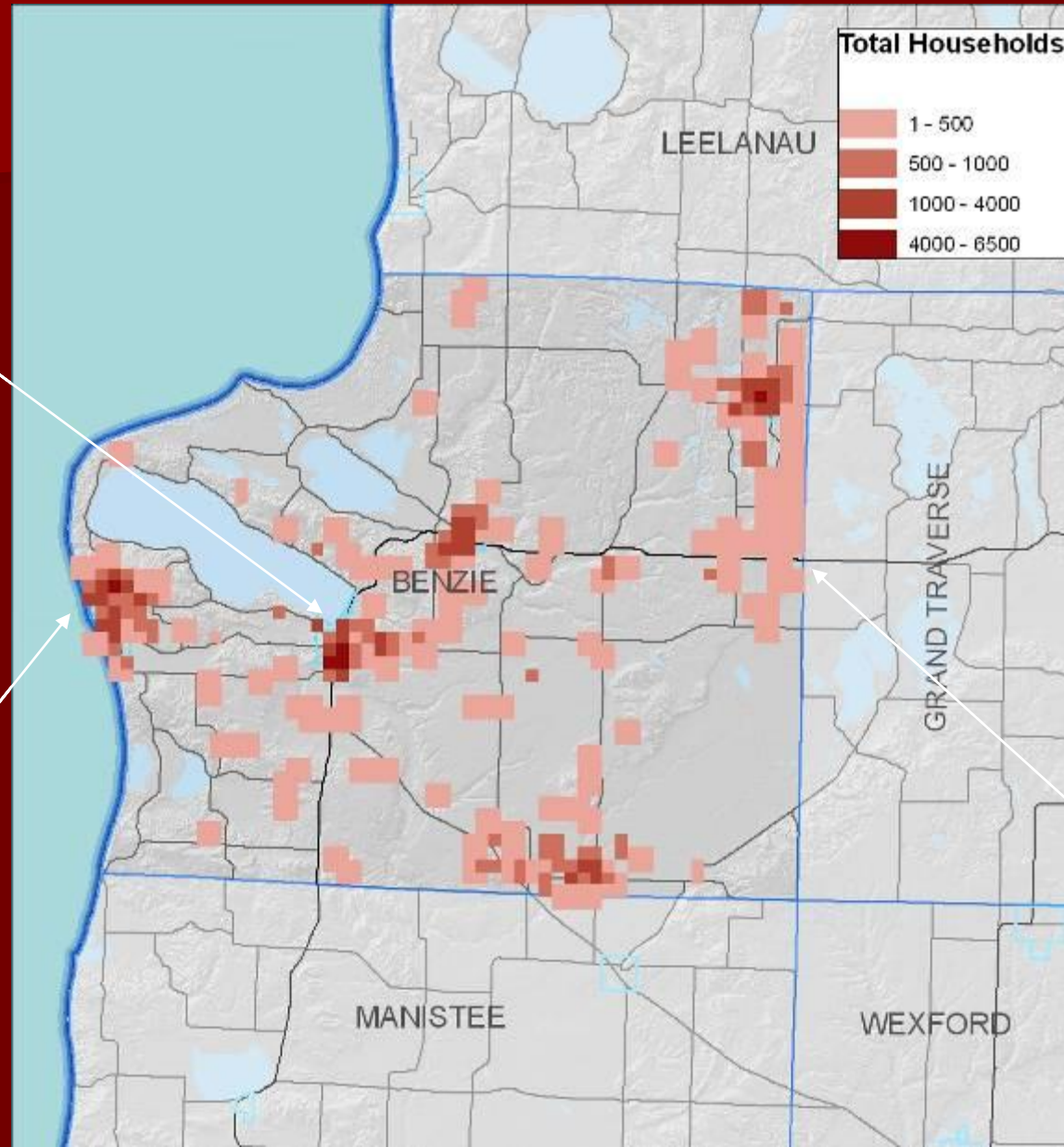
Benzonia

Frankfort

US
Highway
31

Workshop Results

Total Households



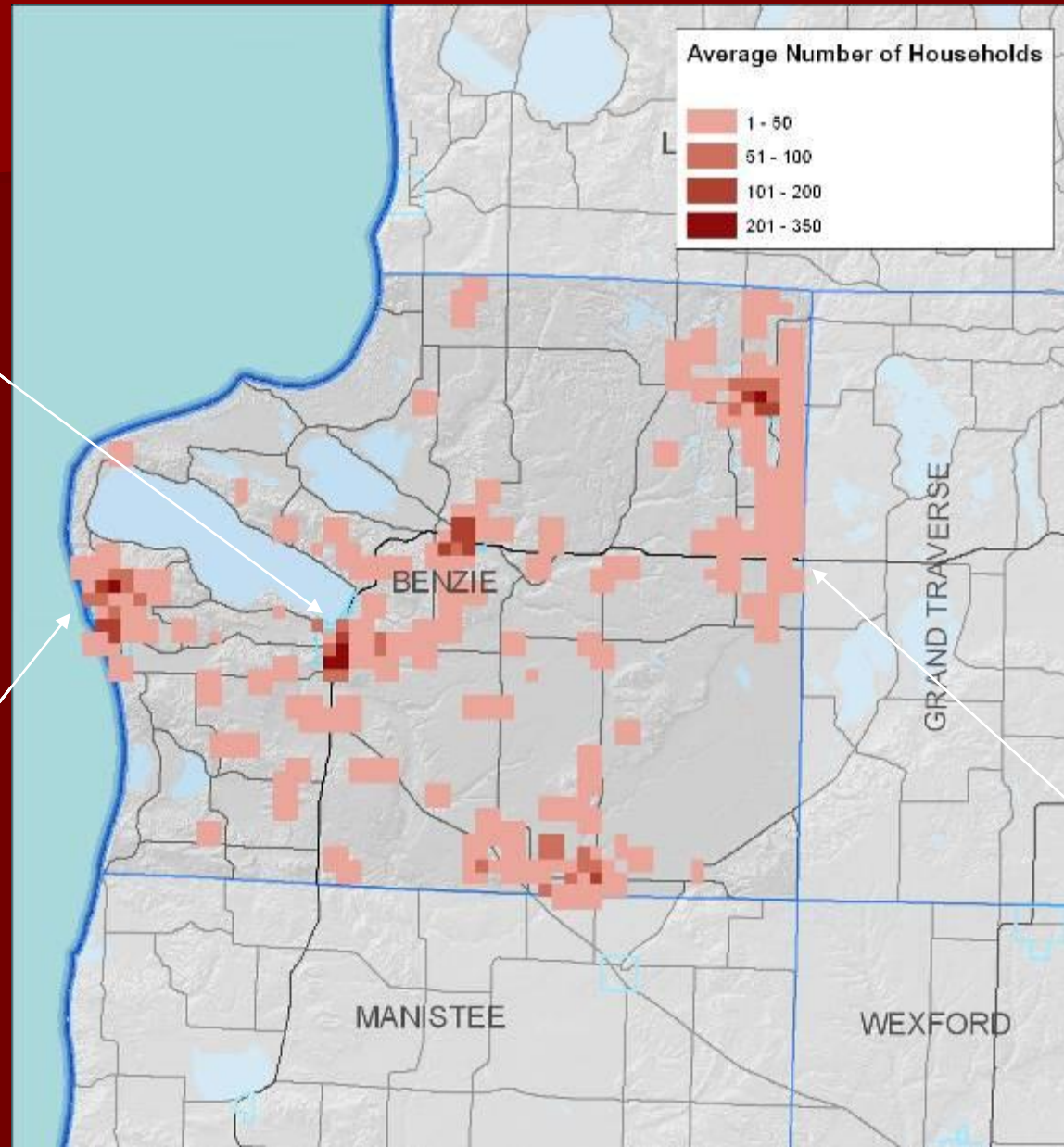
Benzonia

Frankfort

US
Highway
31

Workshop Results

Average Number
of Households



Benzonia

Frankfort

BENZIE

GRAND TRAVERSE

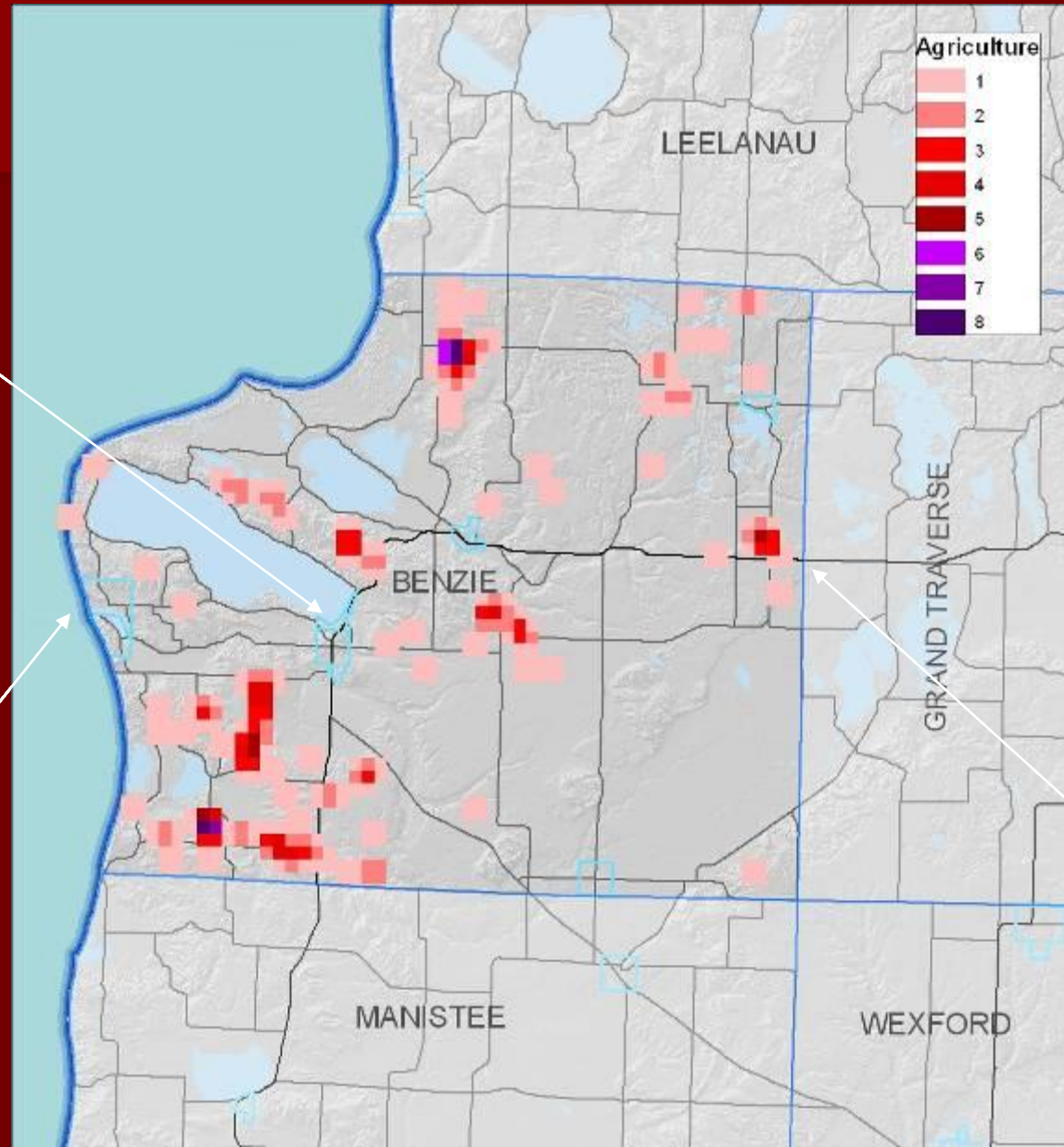
US
Highway
31

MANISTEE

WEXFORD

Workshop Results

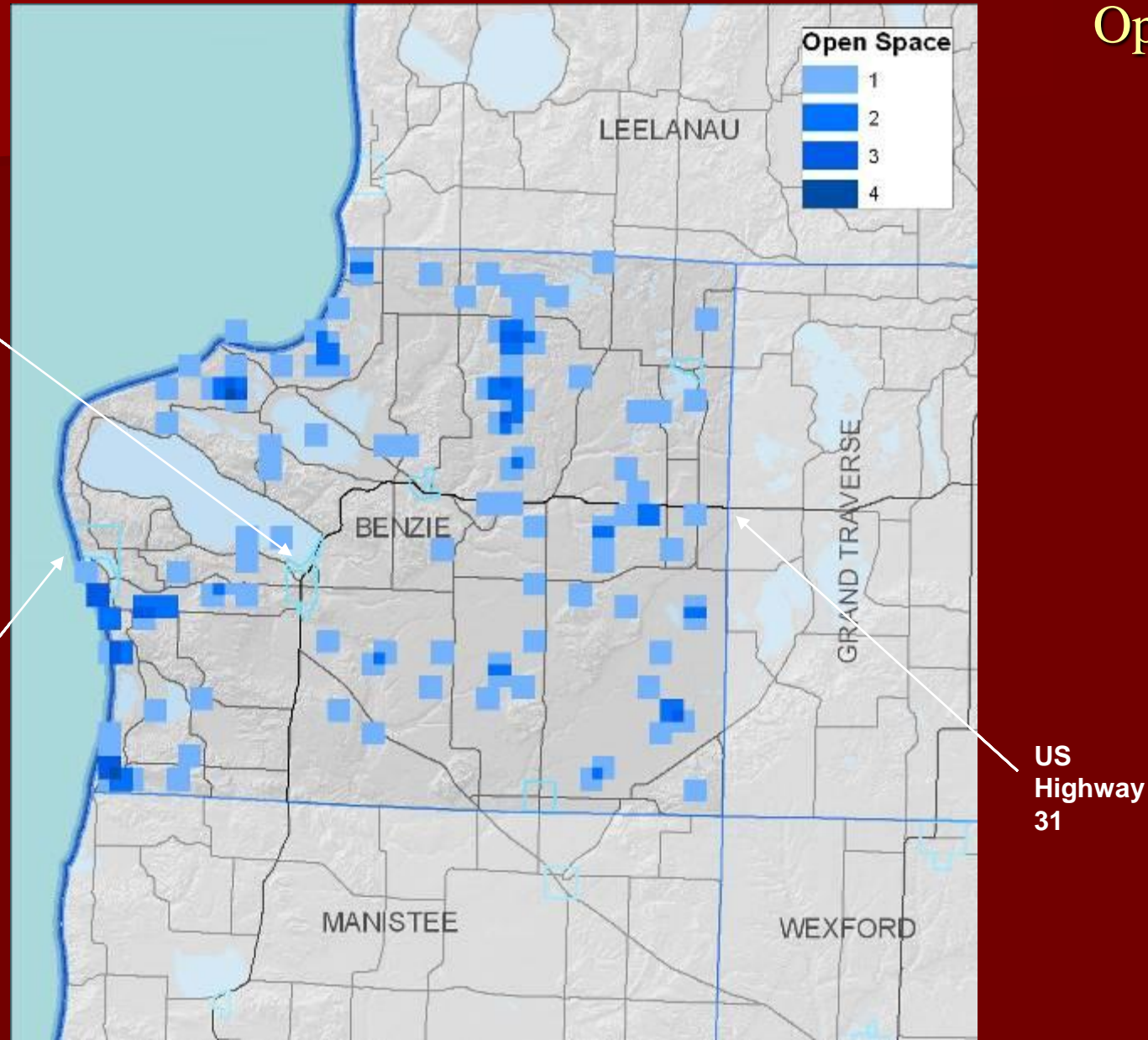
Agriculture



US
Highway
31

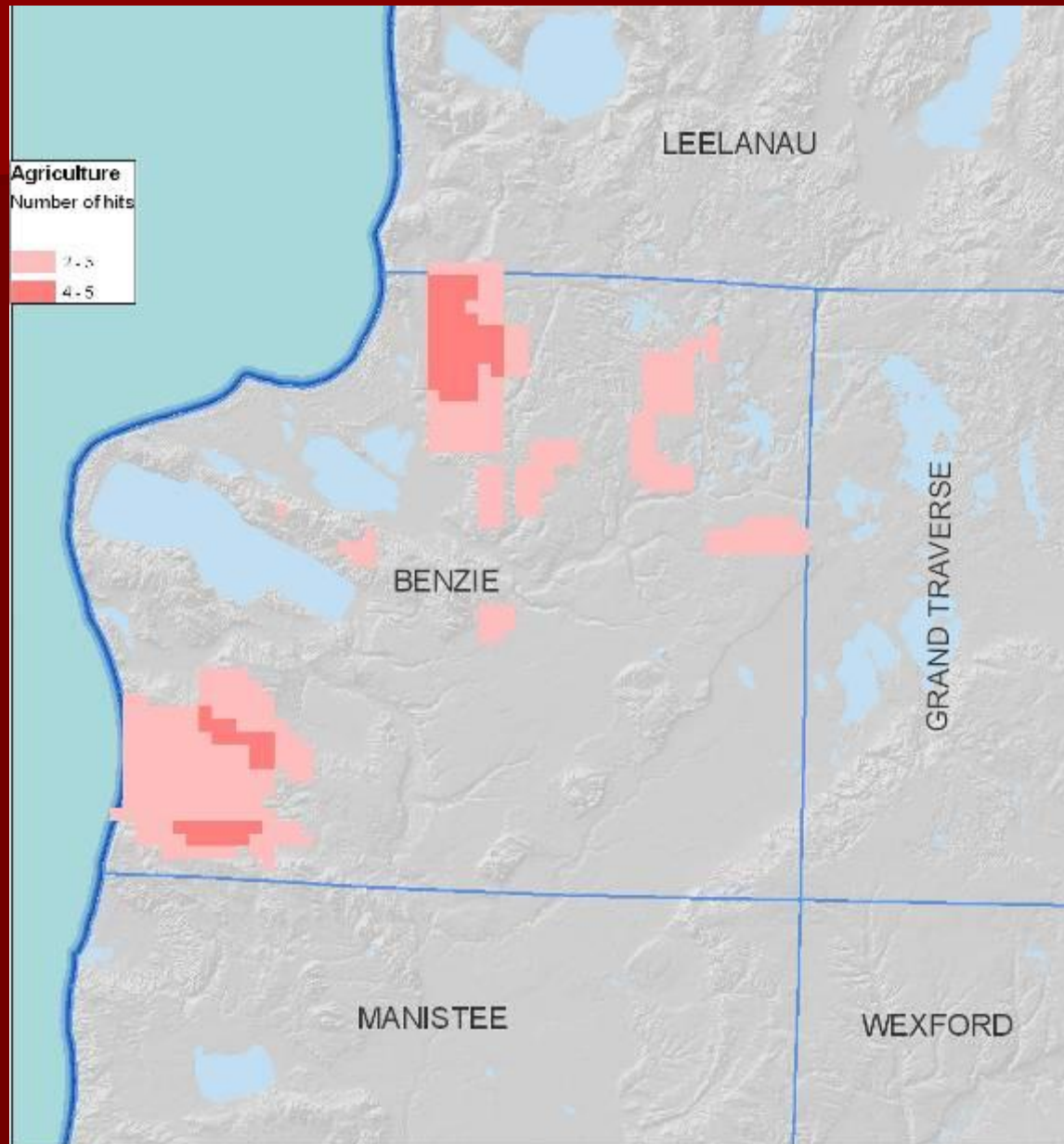
Workshop Results

Open Space



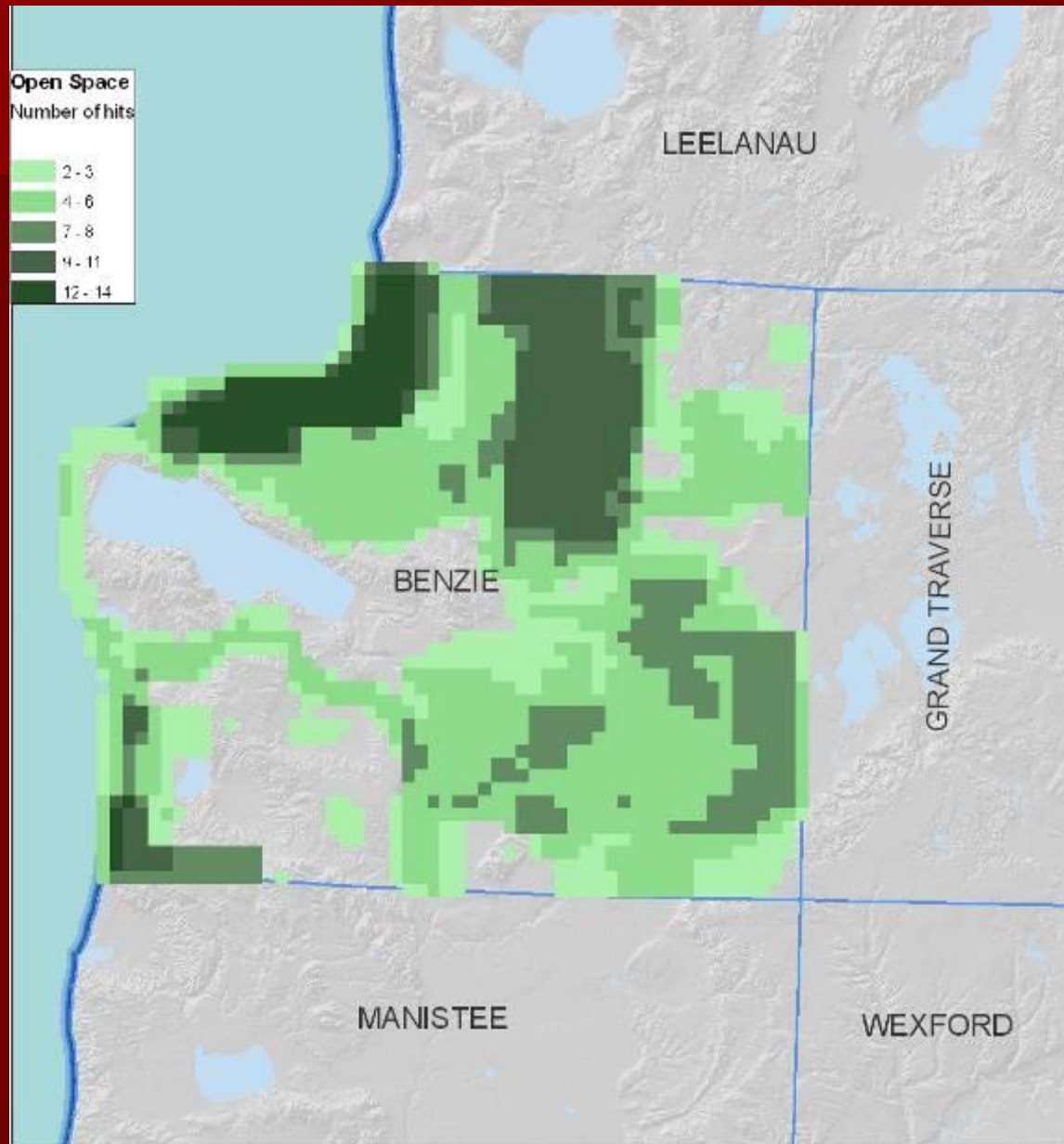
Workshop Results

Agricultural Conservation Areas



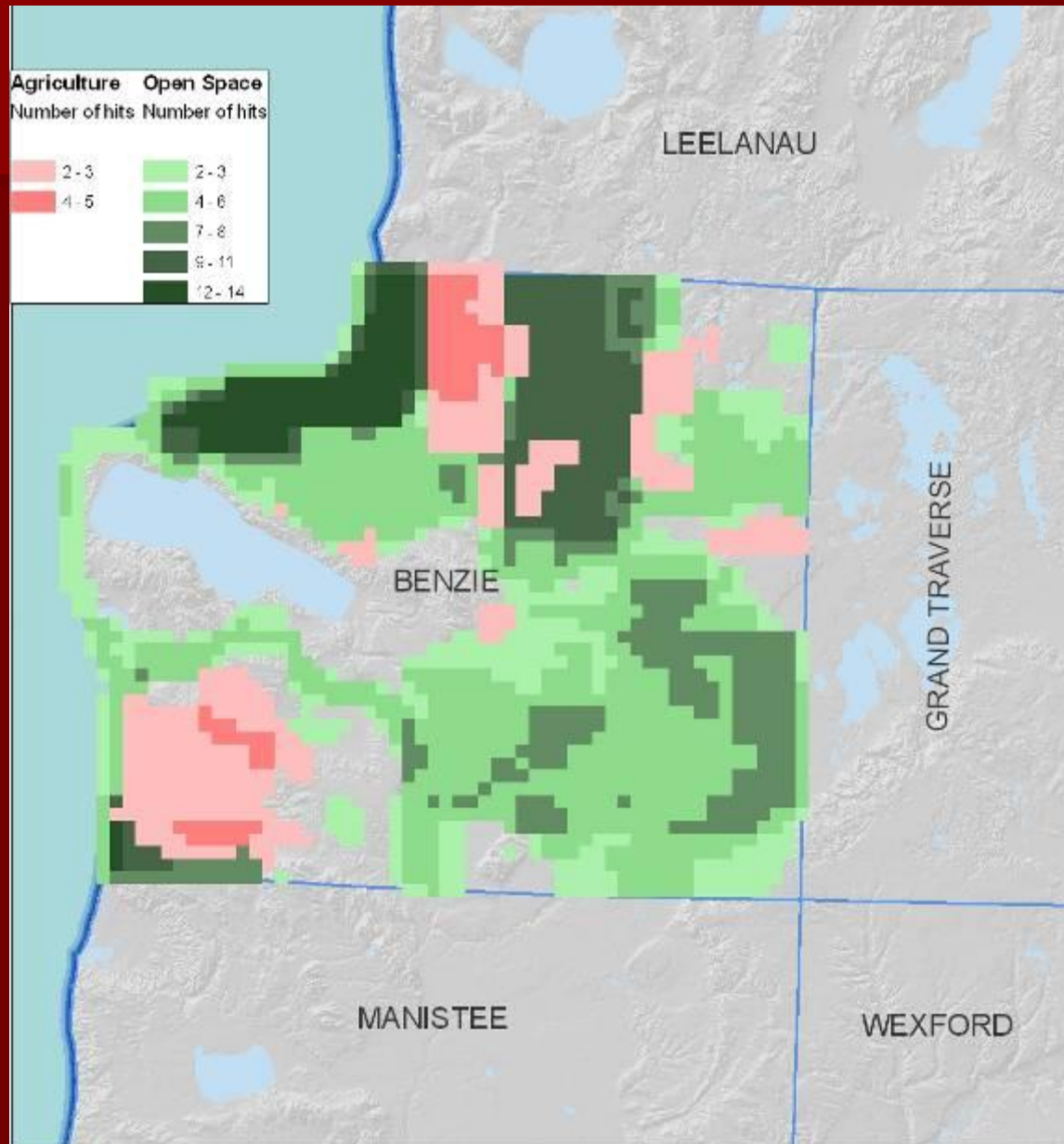
Workshop Results

Open Space Conservation Areas



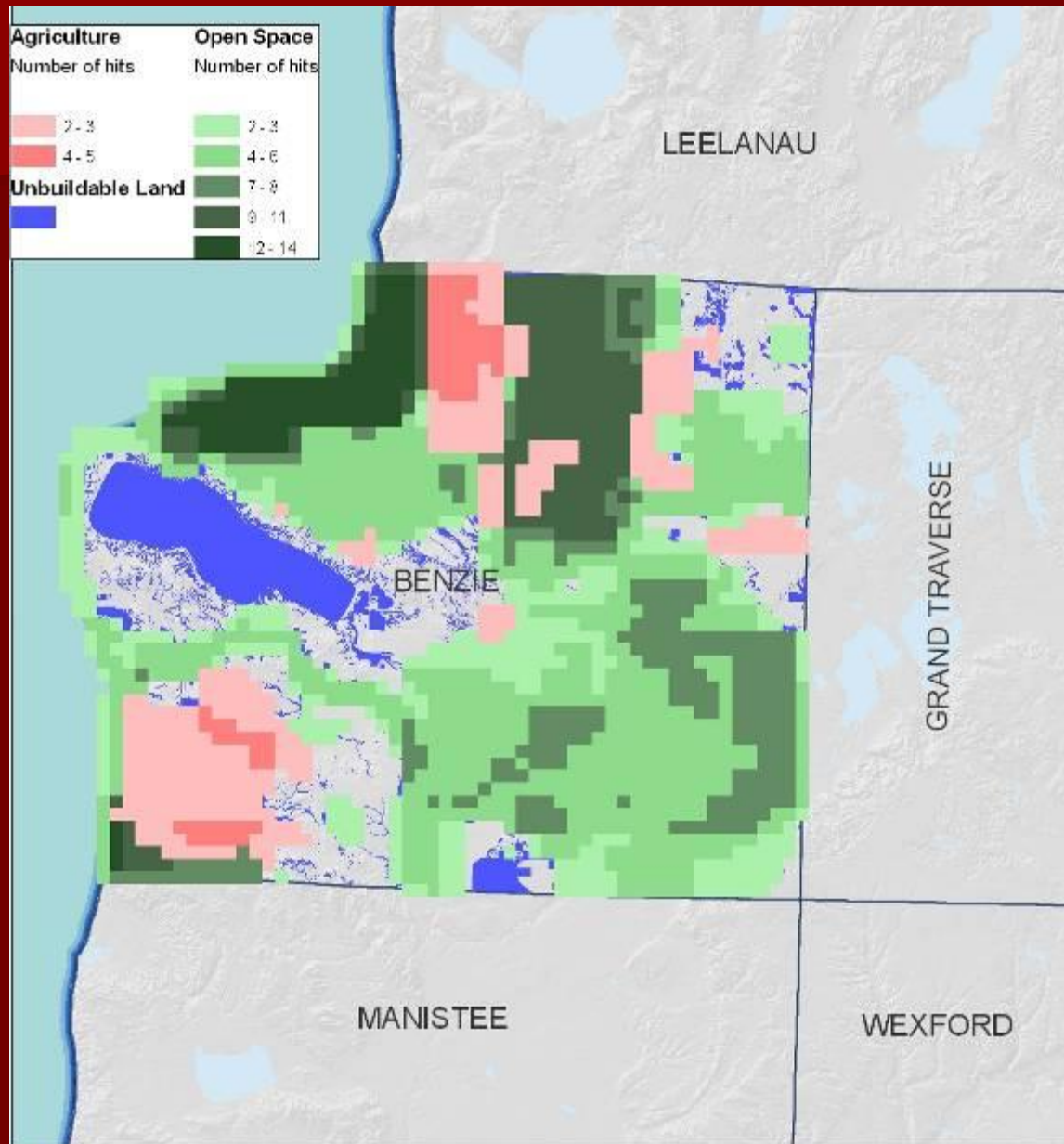
Workshop Results

Agriculture + Open Space Areas



Workshop Results

Agricultural+ Open Space Areas & Constrained Land

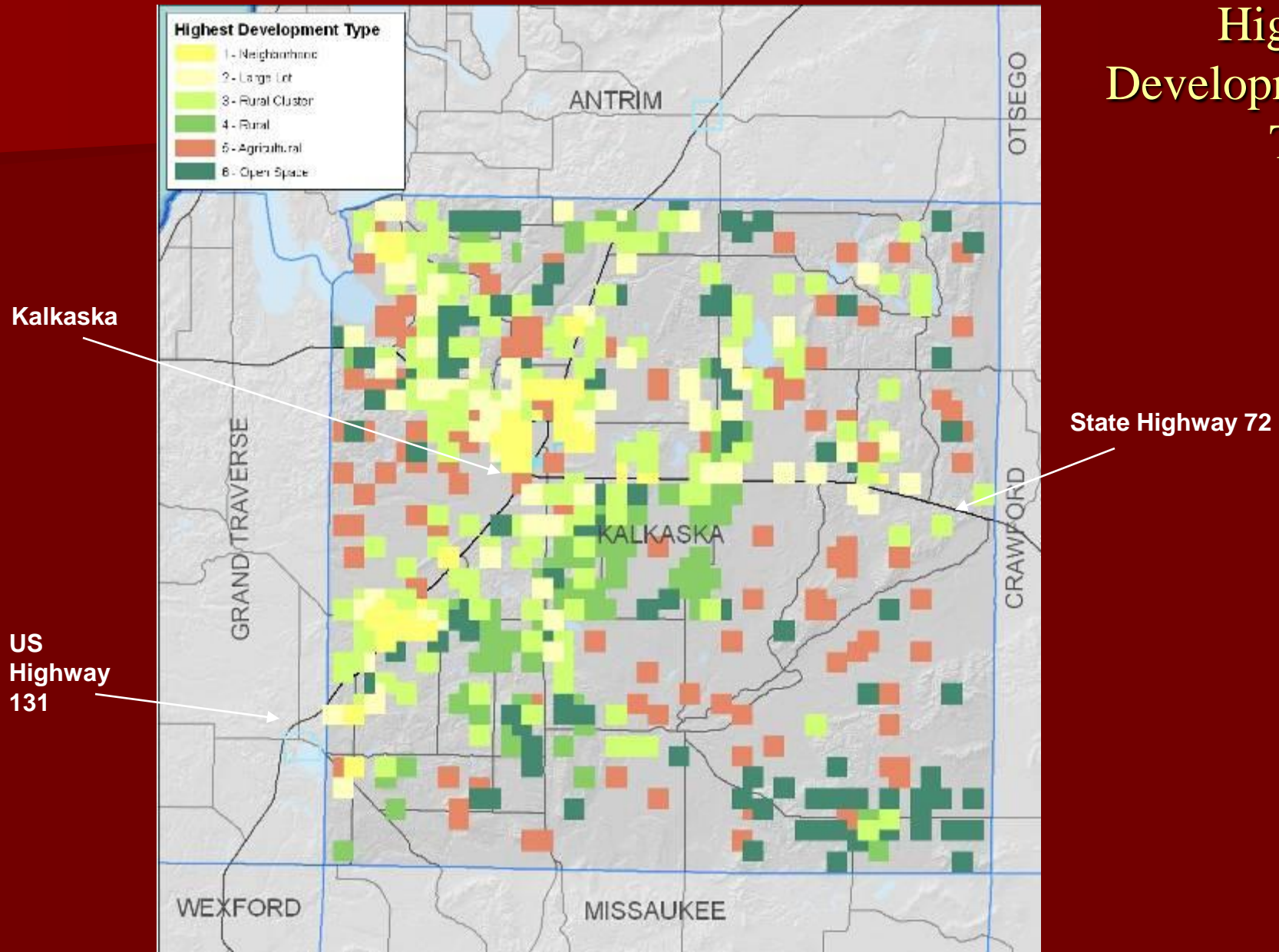


Workshop Results

Kalkaska County

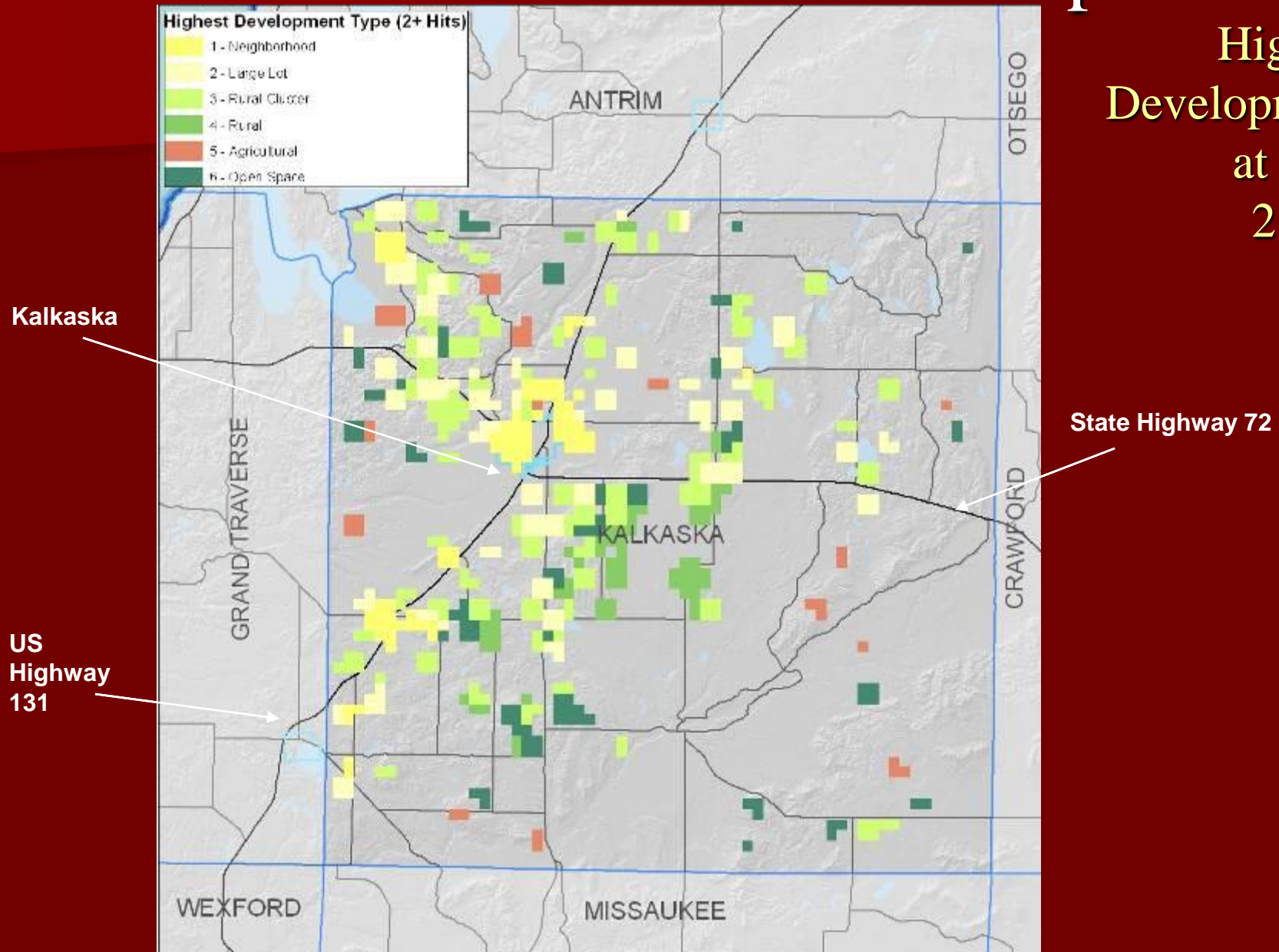
Workshop Results

Highest
Development
Type



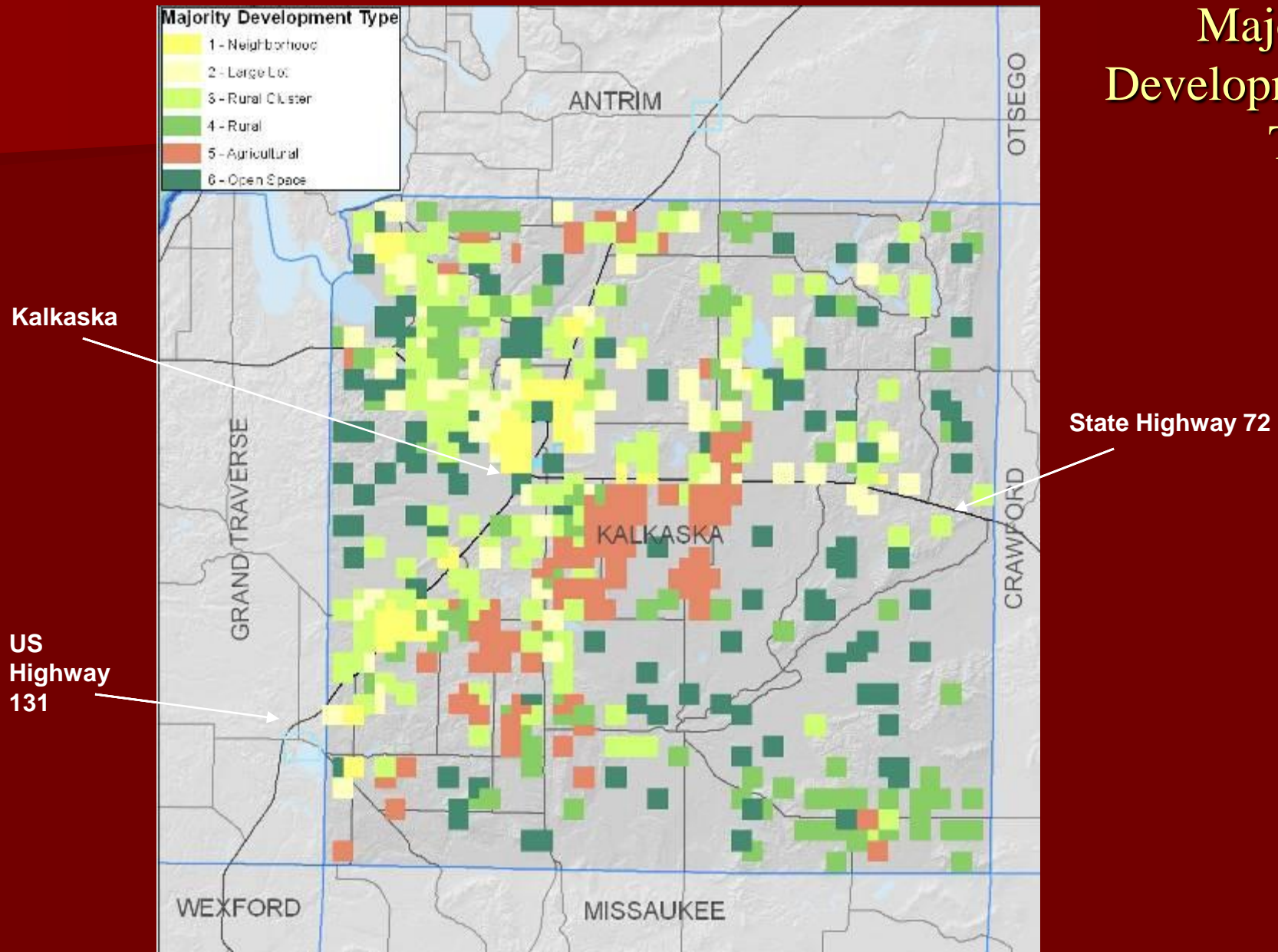
Workshop Results

Highest
Development
at least
2 Hits



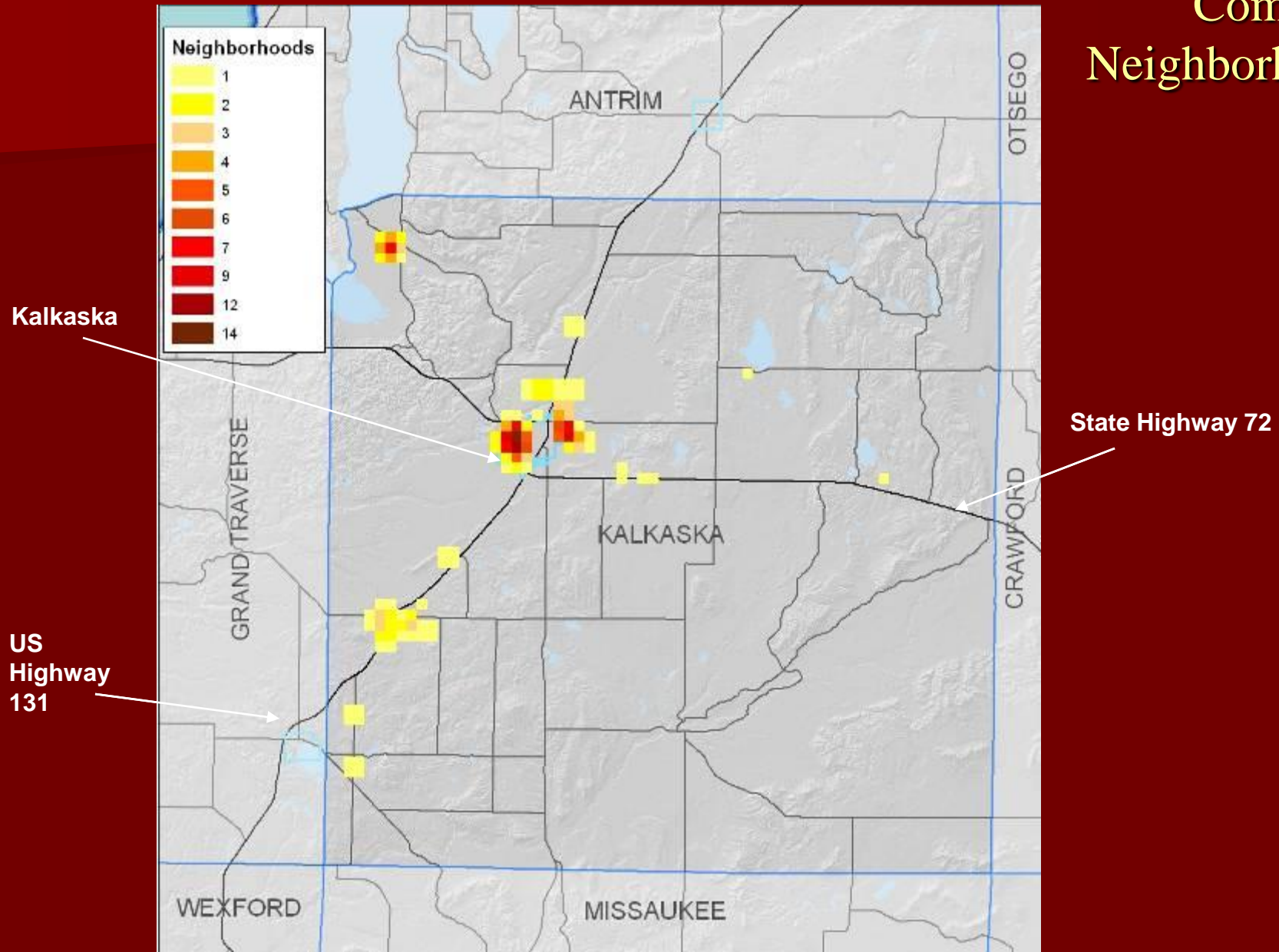
Workshop Results

Majority Development Type



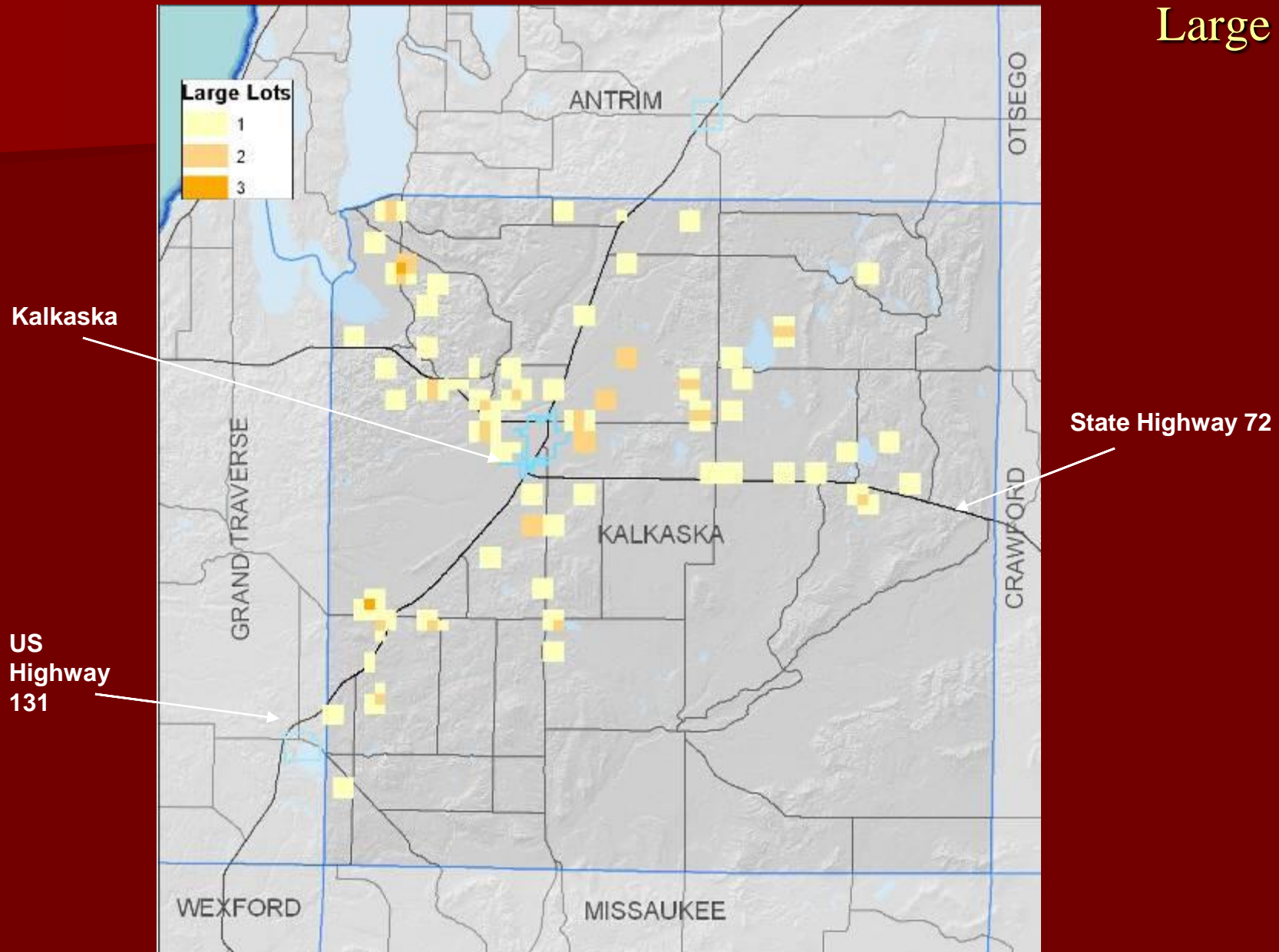
Workshop Results

Compact
Neighborhood



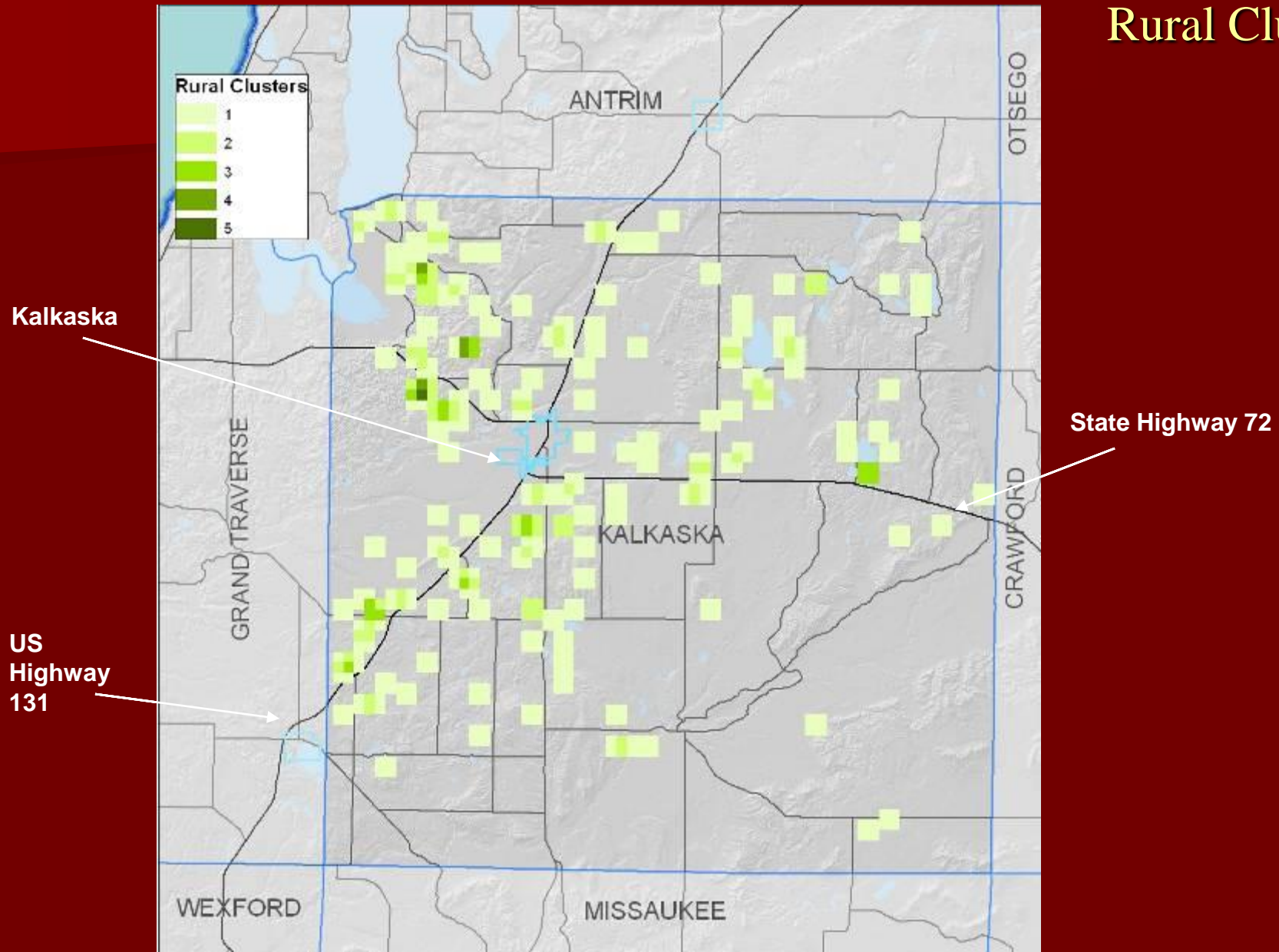
Workshop Results

Large Lots



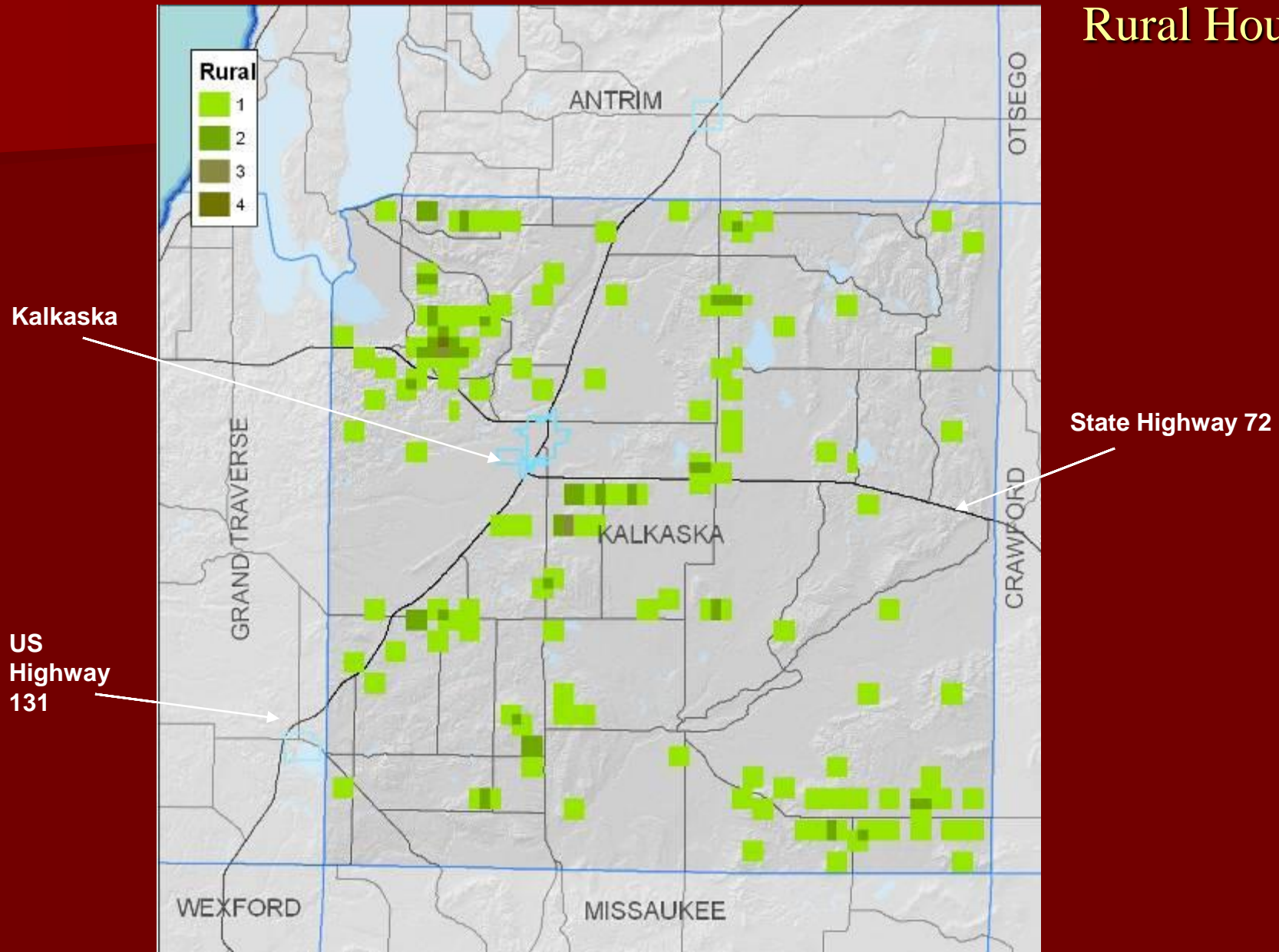
Workshop Results

Rural Cluster



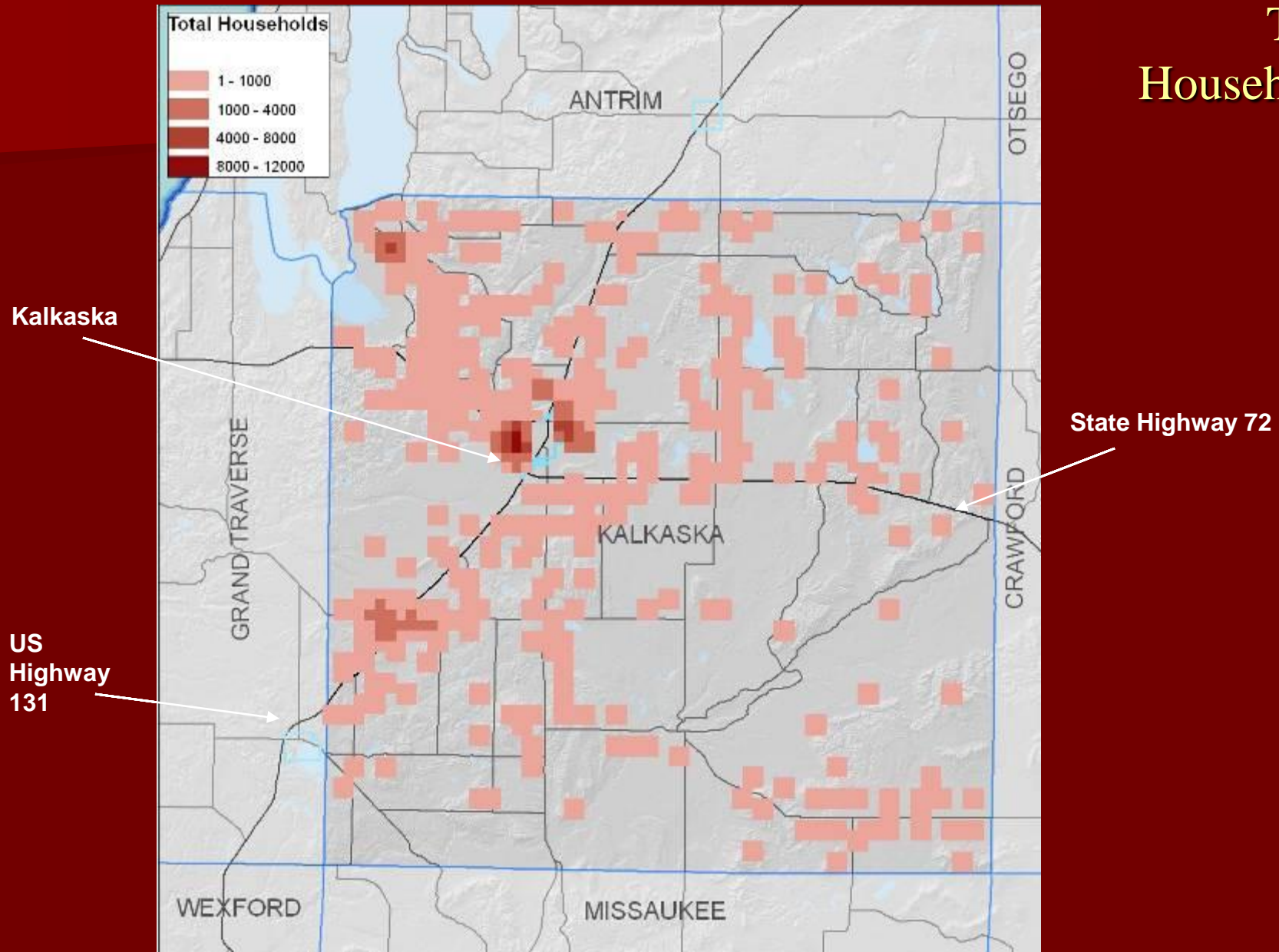
Workshop Results

Rural Housing



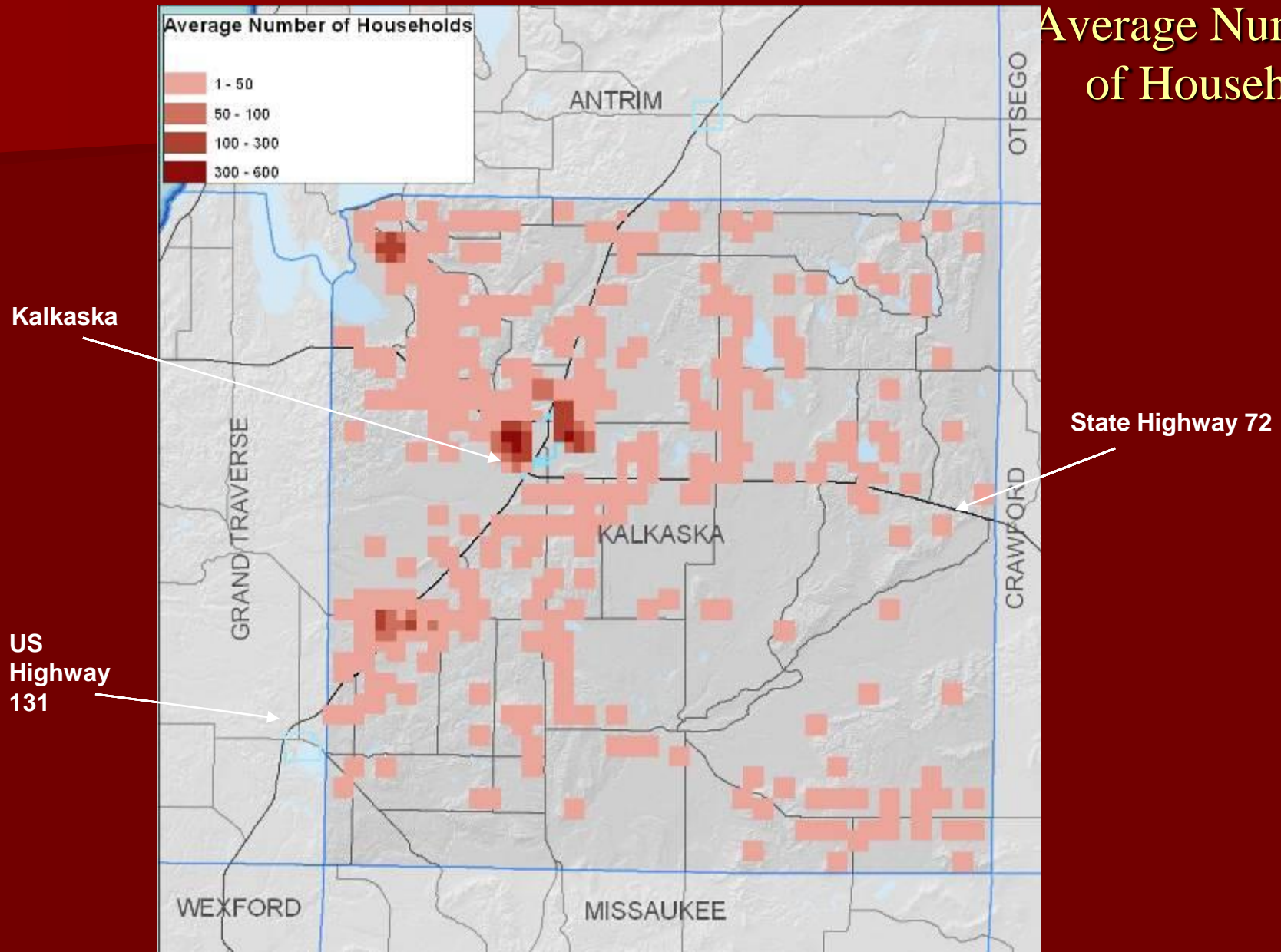
Workshop Results

Total
Households



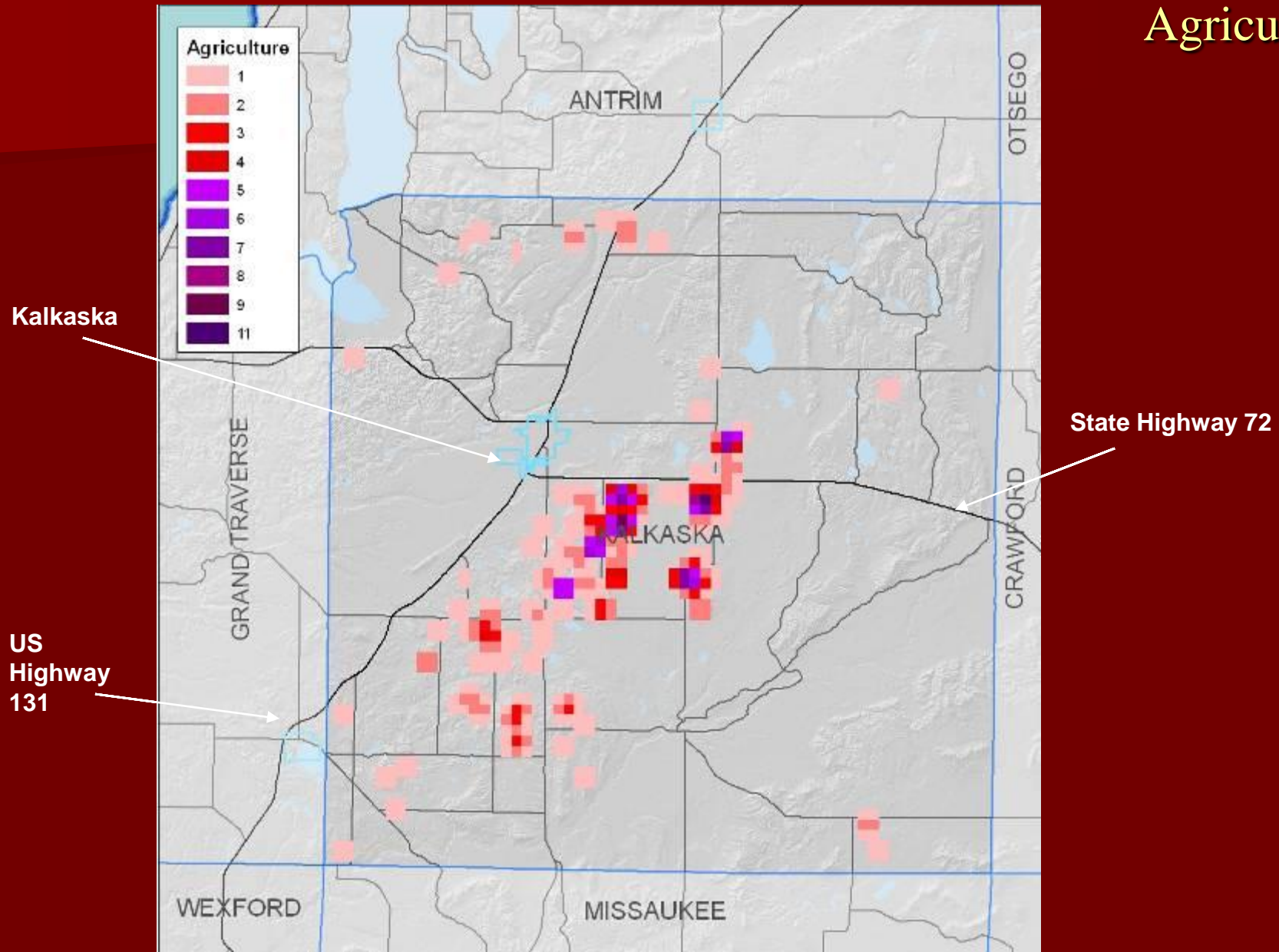
Workshop Results

Average Number of Households



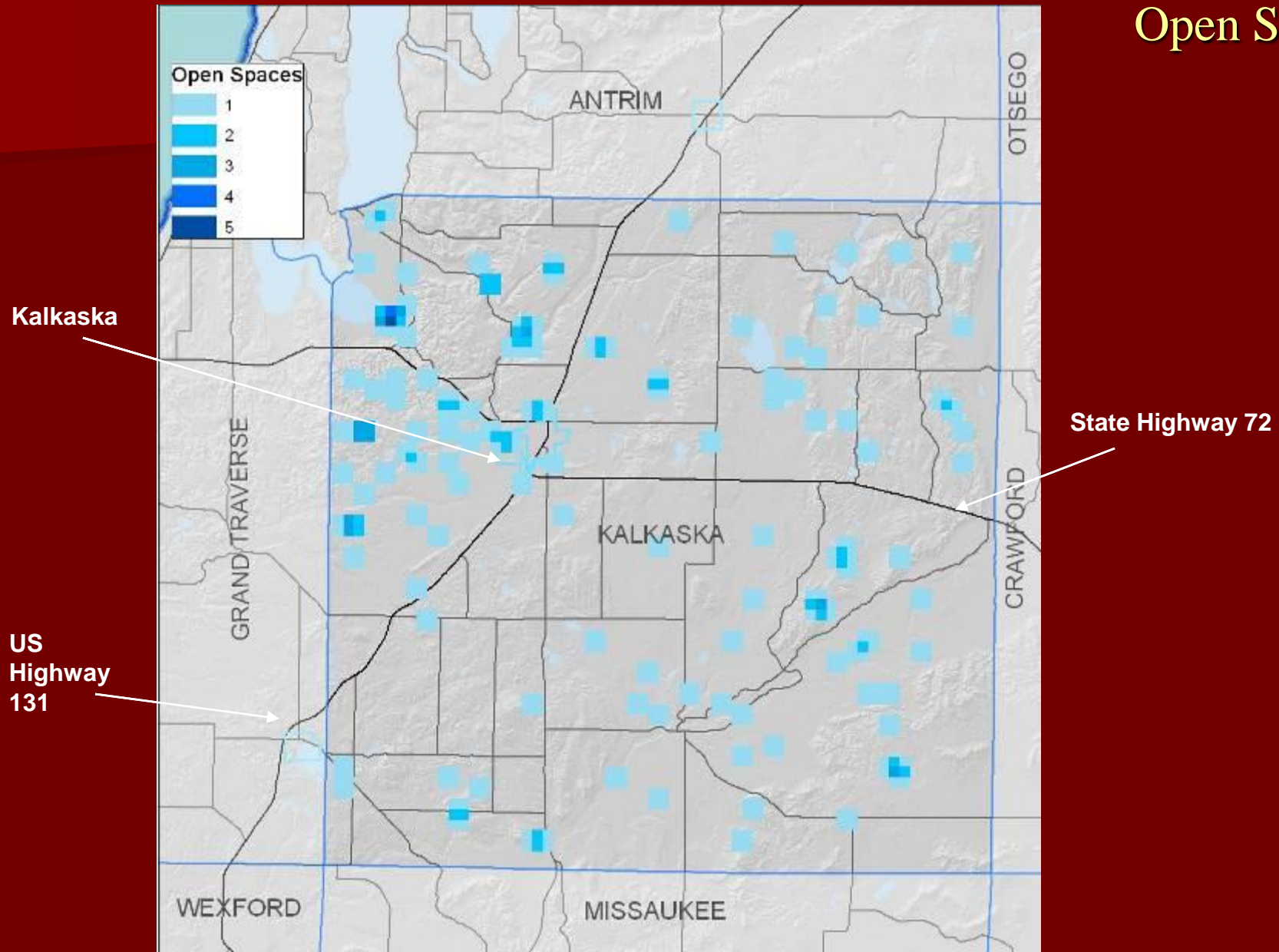
Workshop Results

Agriculture



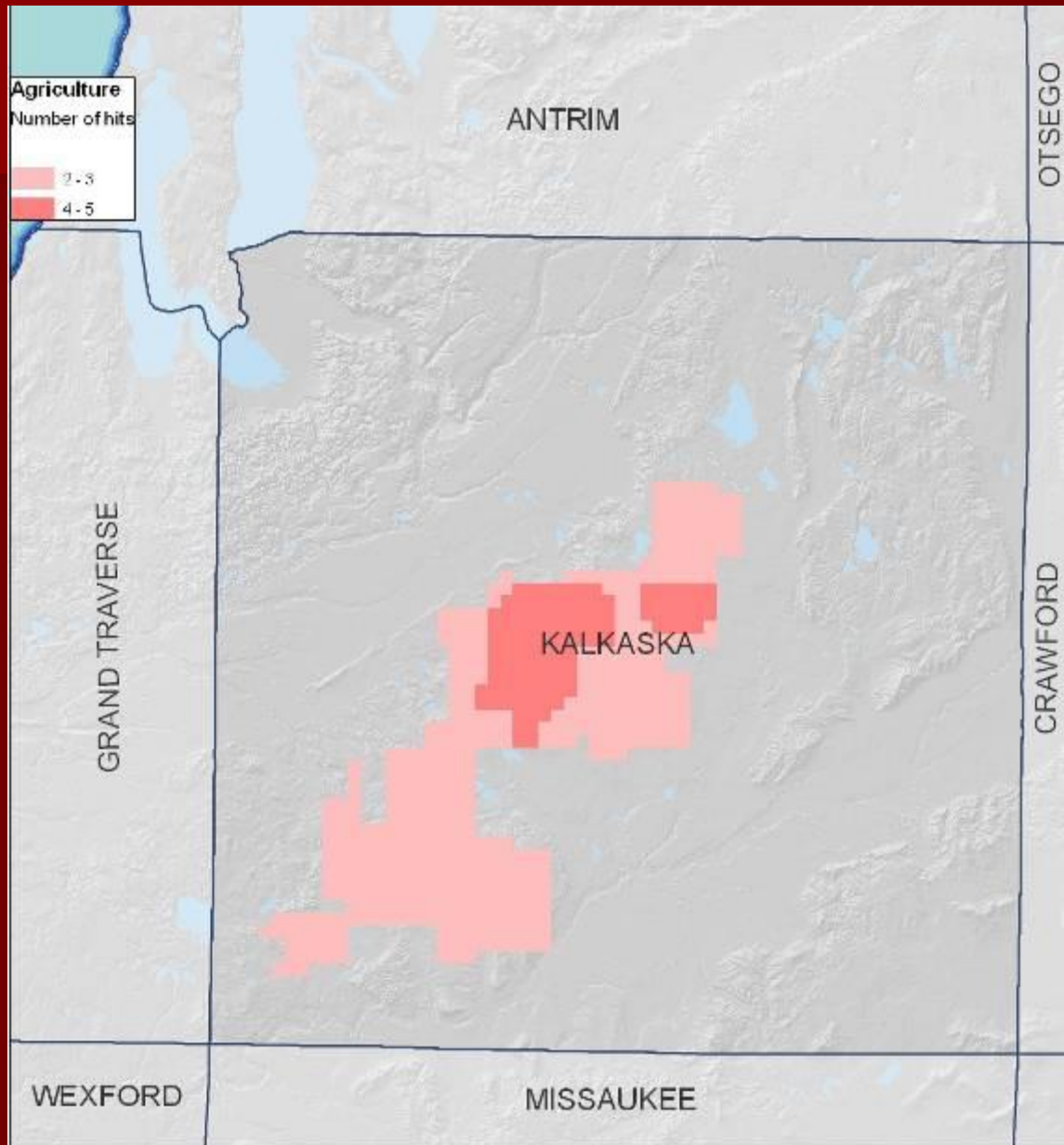
Workshop Results

Open Space



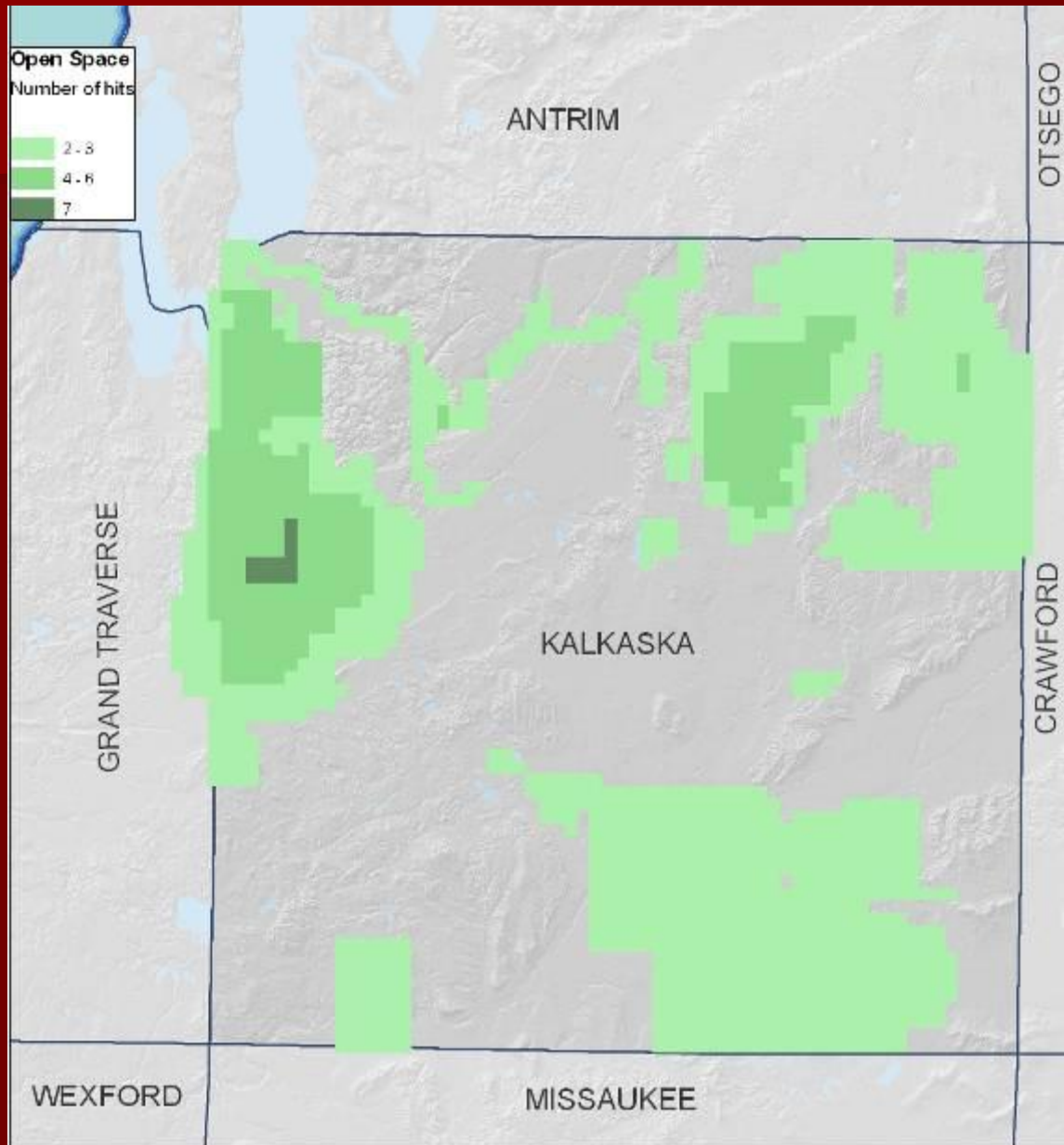
Workshop Results

Agricultural Conservation Areas



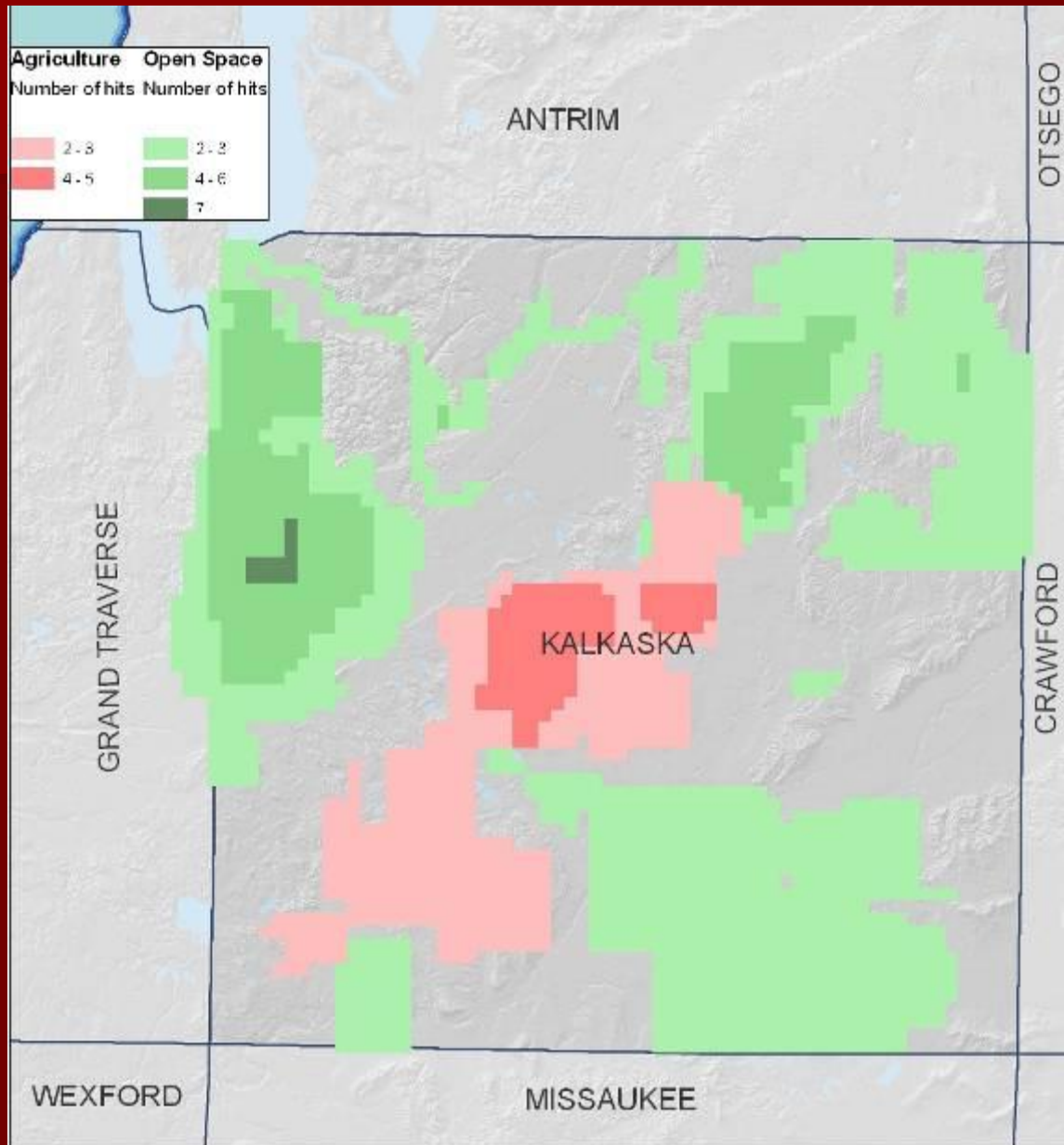
Workshop Results

Open Space Conservation Areas



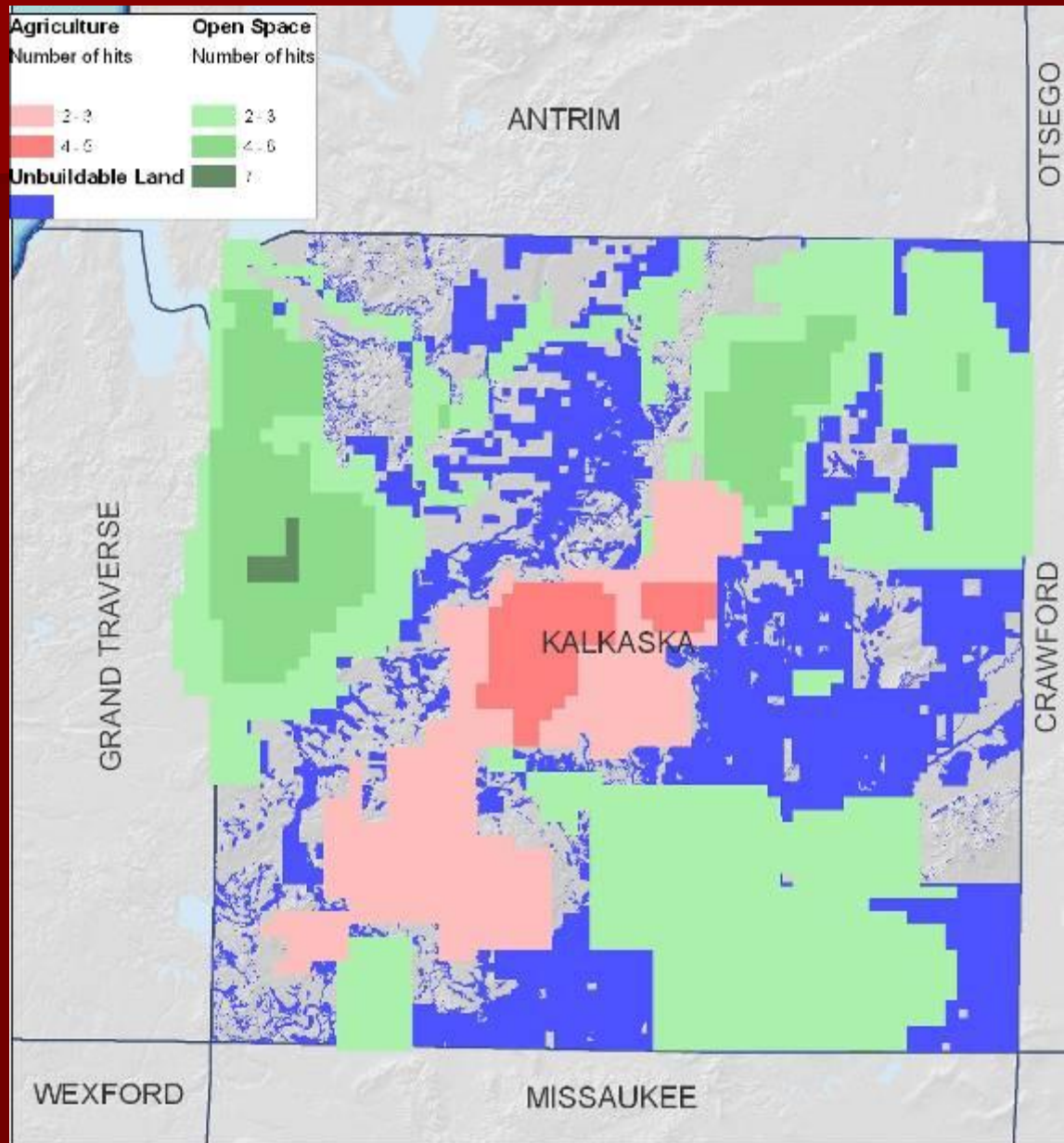
Workshop Results

Agriculture + Open Space Areas



Workshop Results

Agricultural+
Open Space
Areas &
Constrained
Land

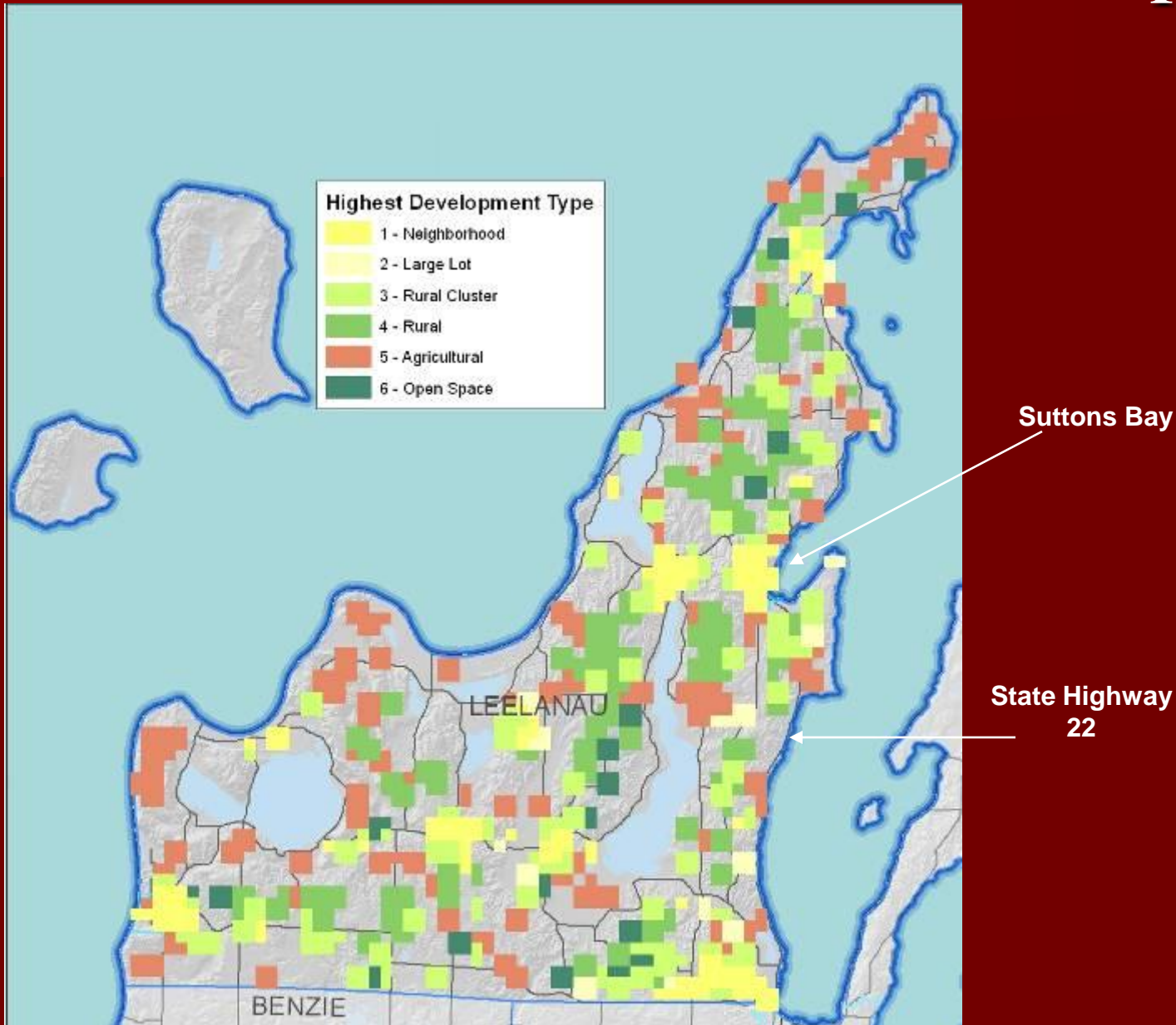


Workshop Results

Leelanau County

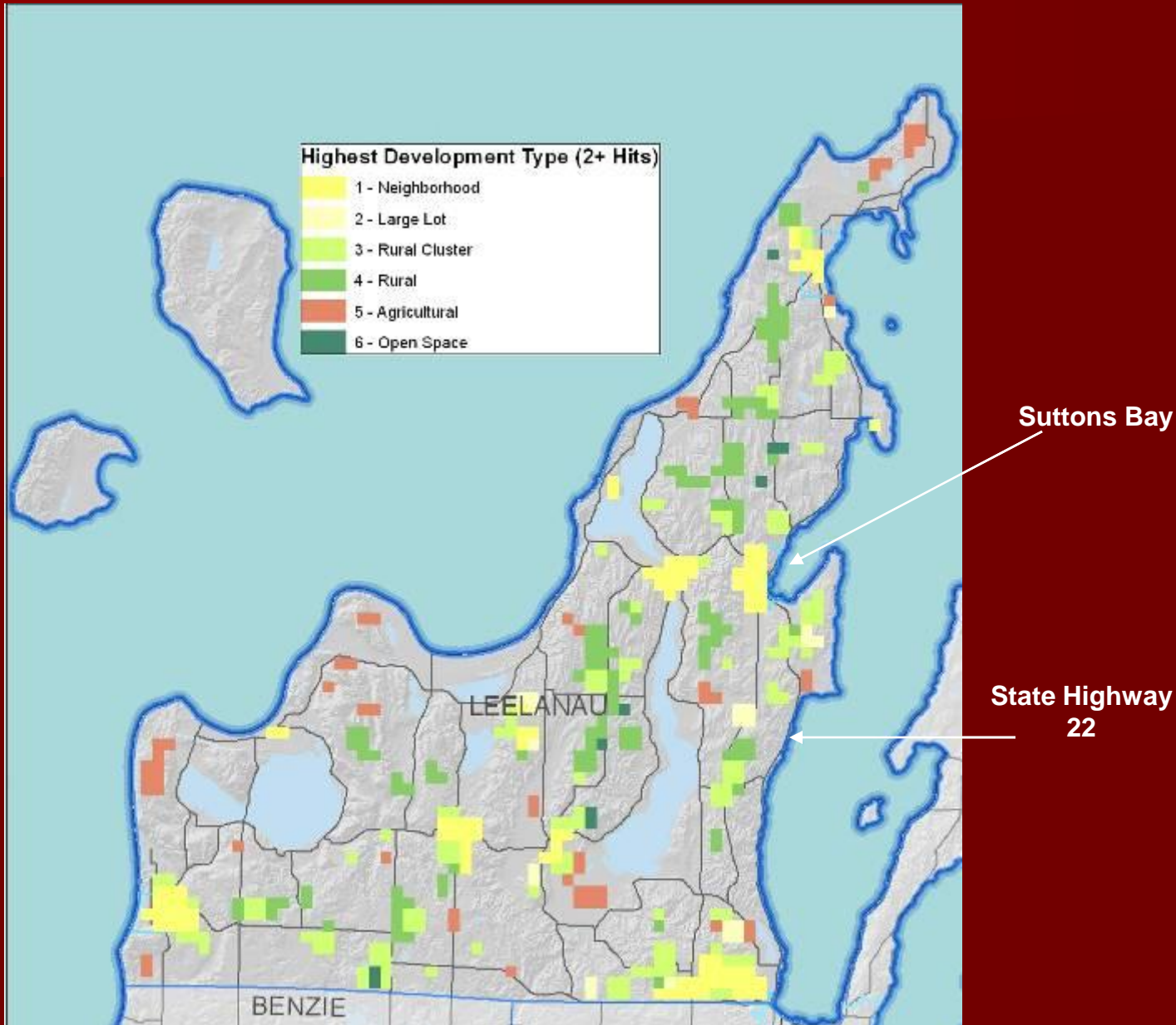
Workshop Results

Highest
Development
Type



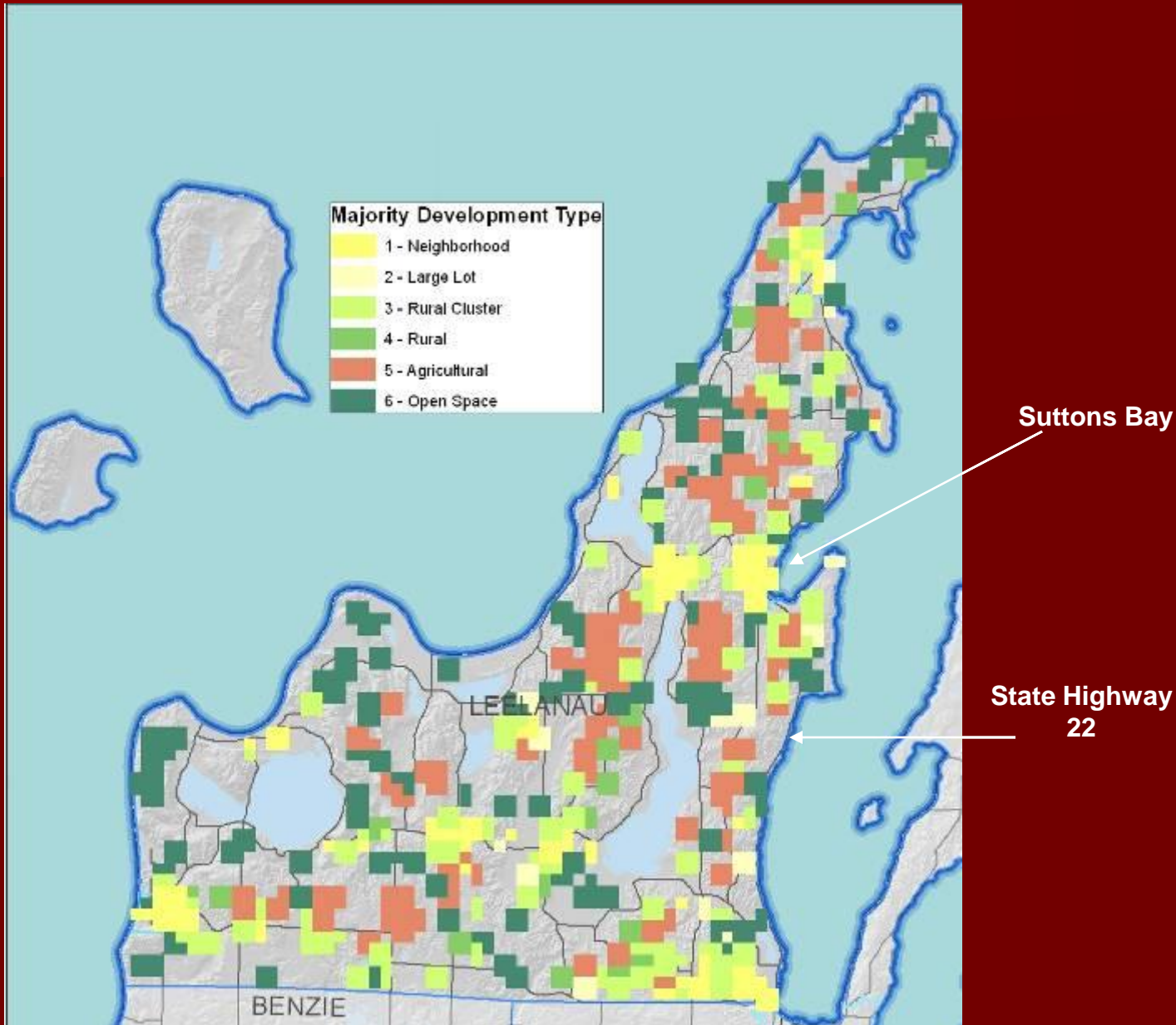
Workshop Results

Highest
Development
at least
2 Hits



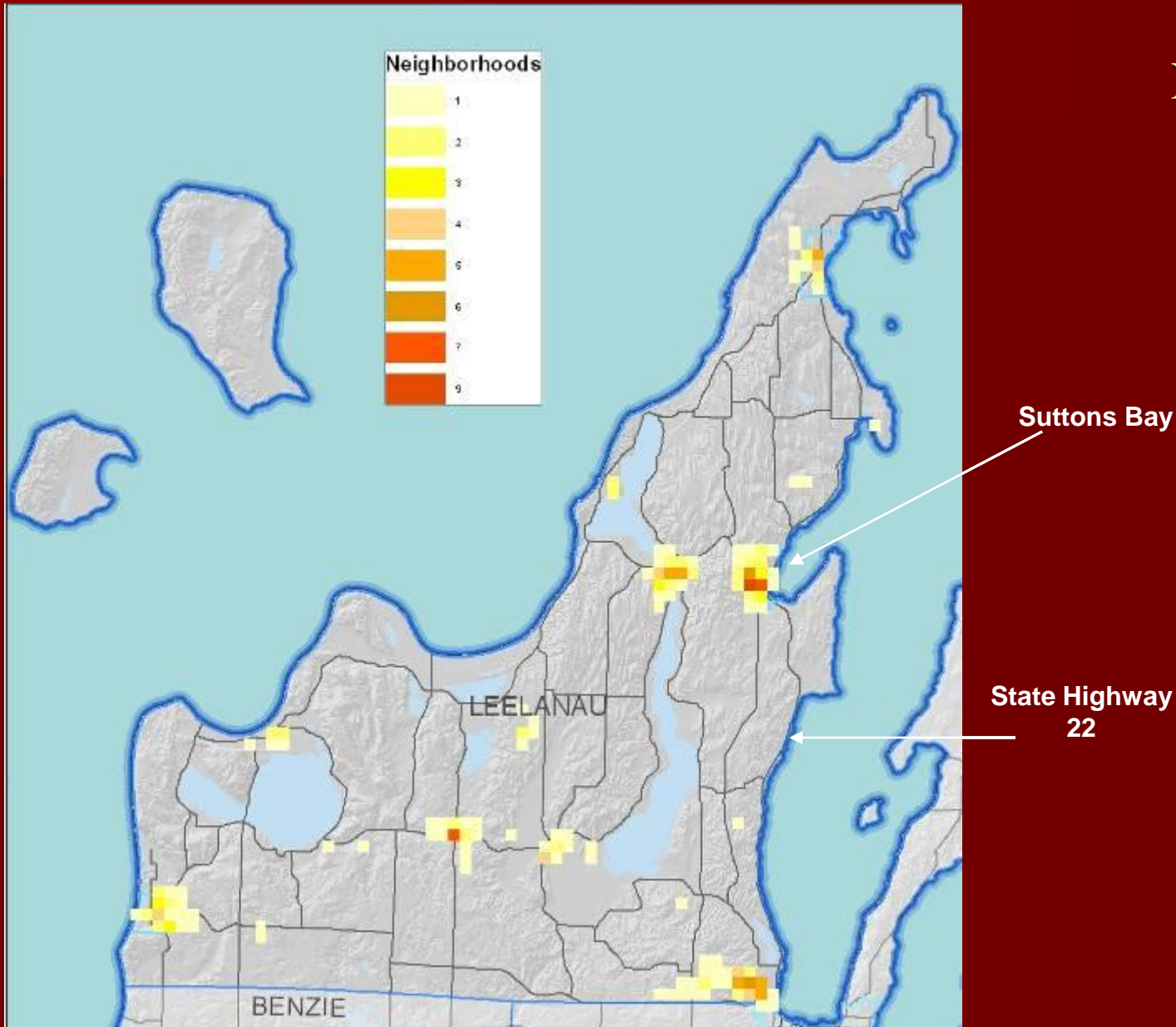
Workshop Results

Majority Development



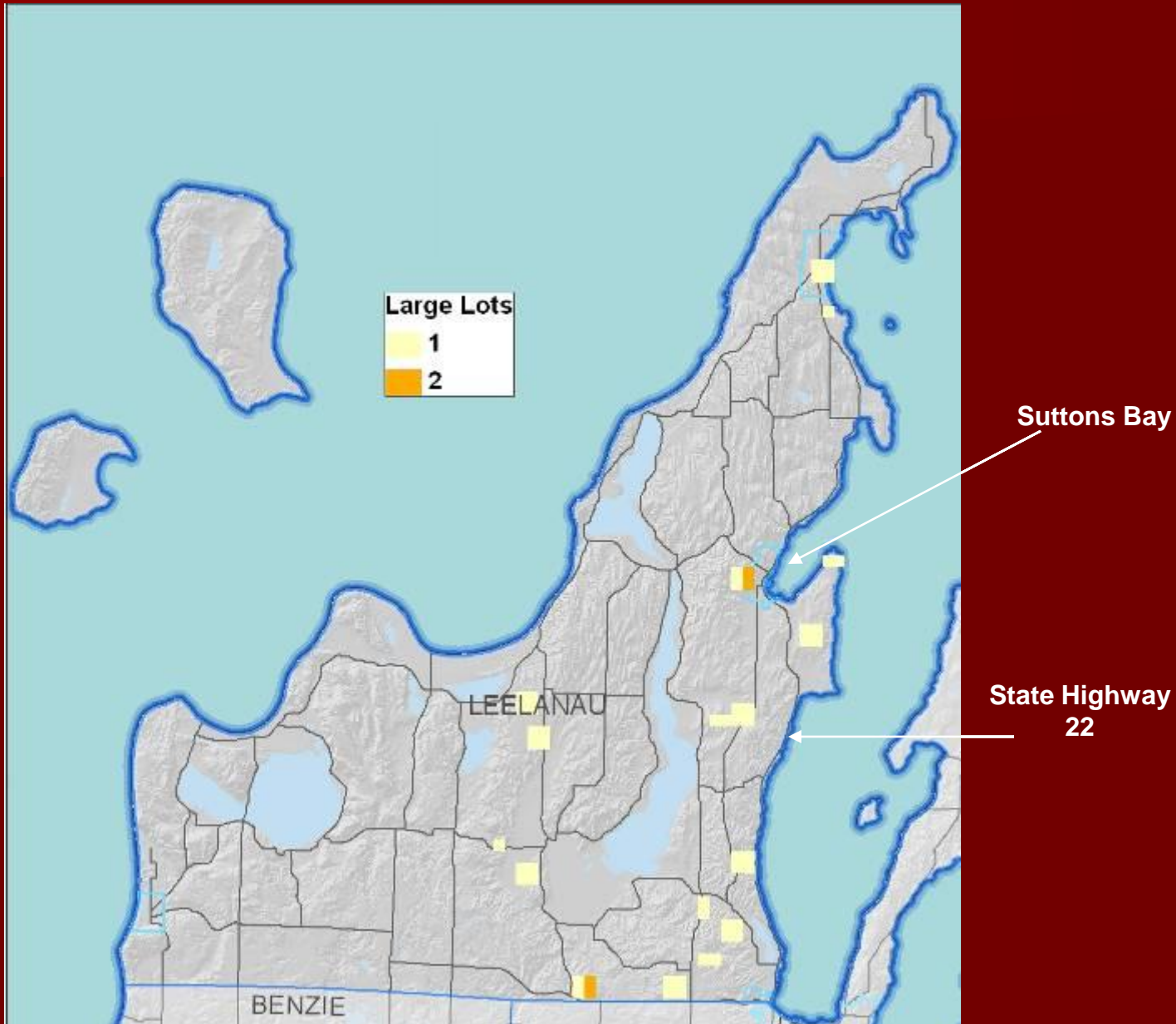
Workshop Results

Compact Neighborhood



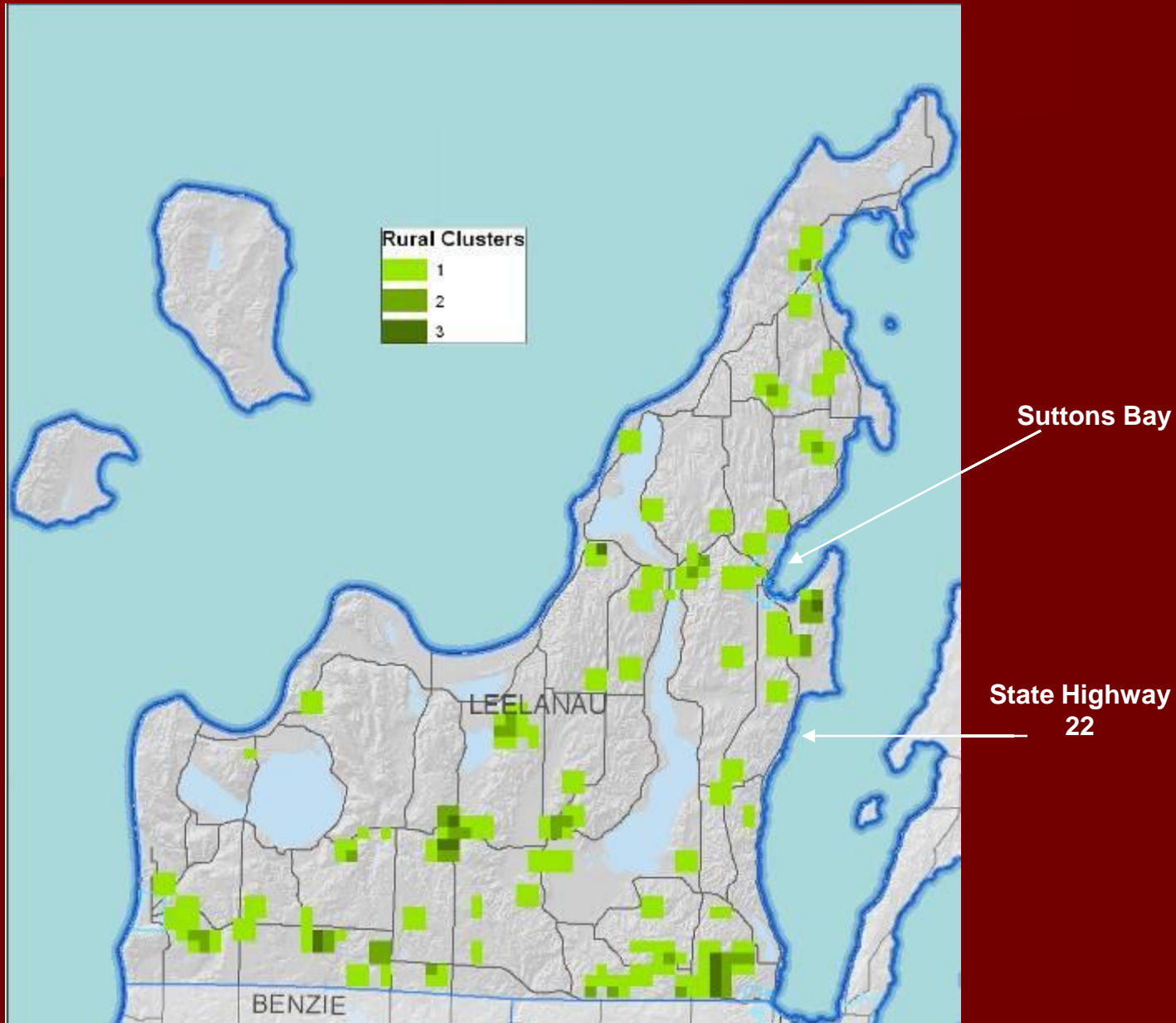
Workshop Results

Large
Lots



Workshop Results

Rural Cluster



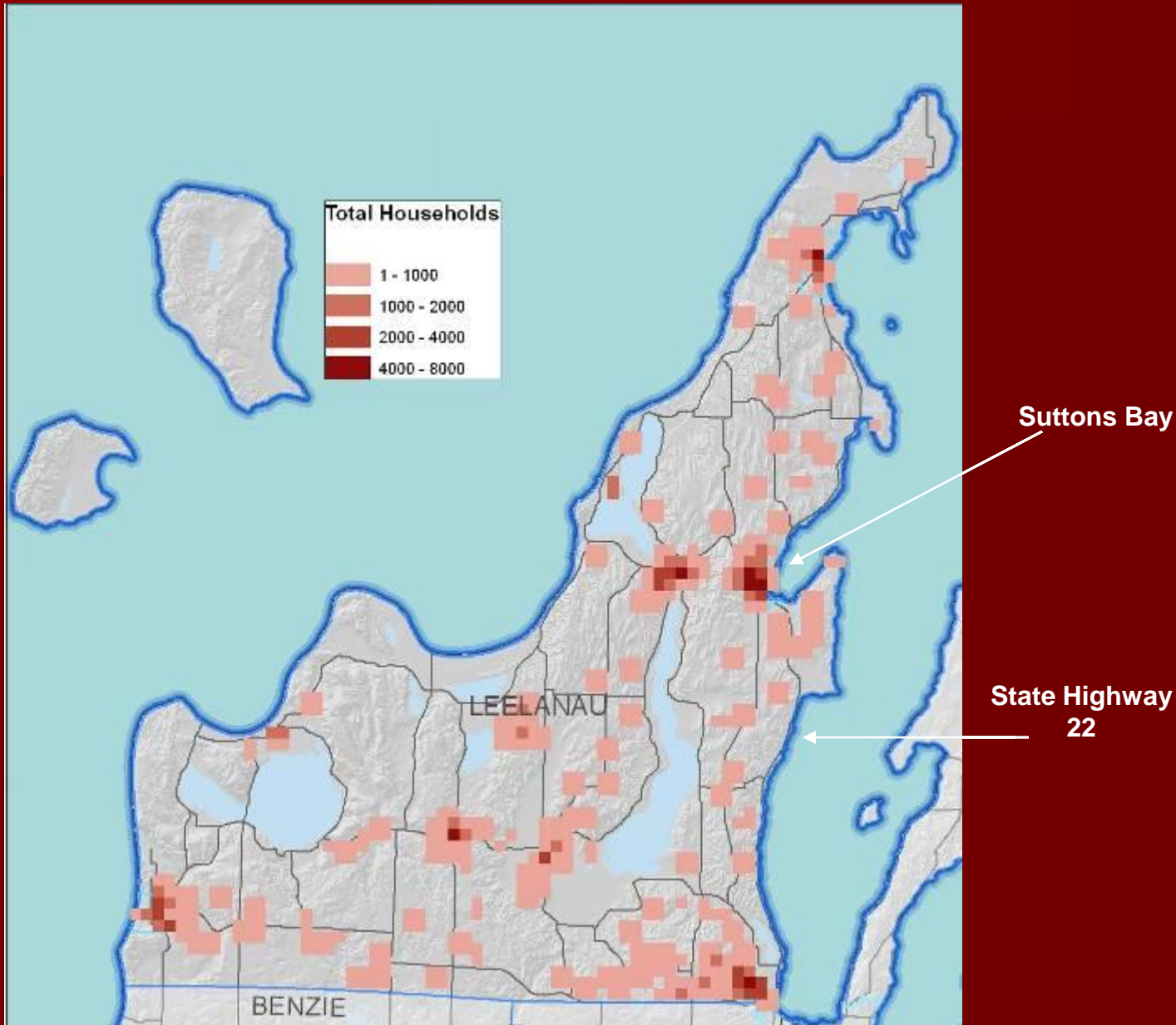
Workshop Results

Rural Housing



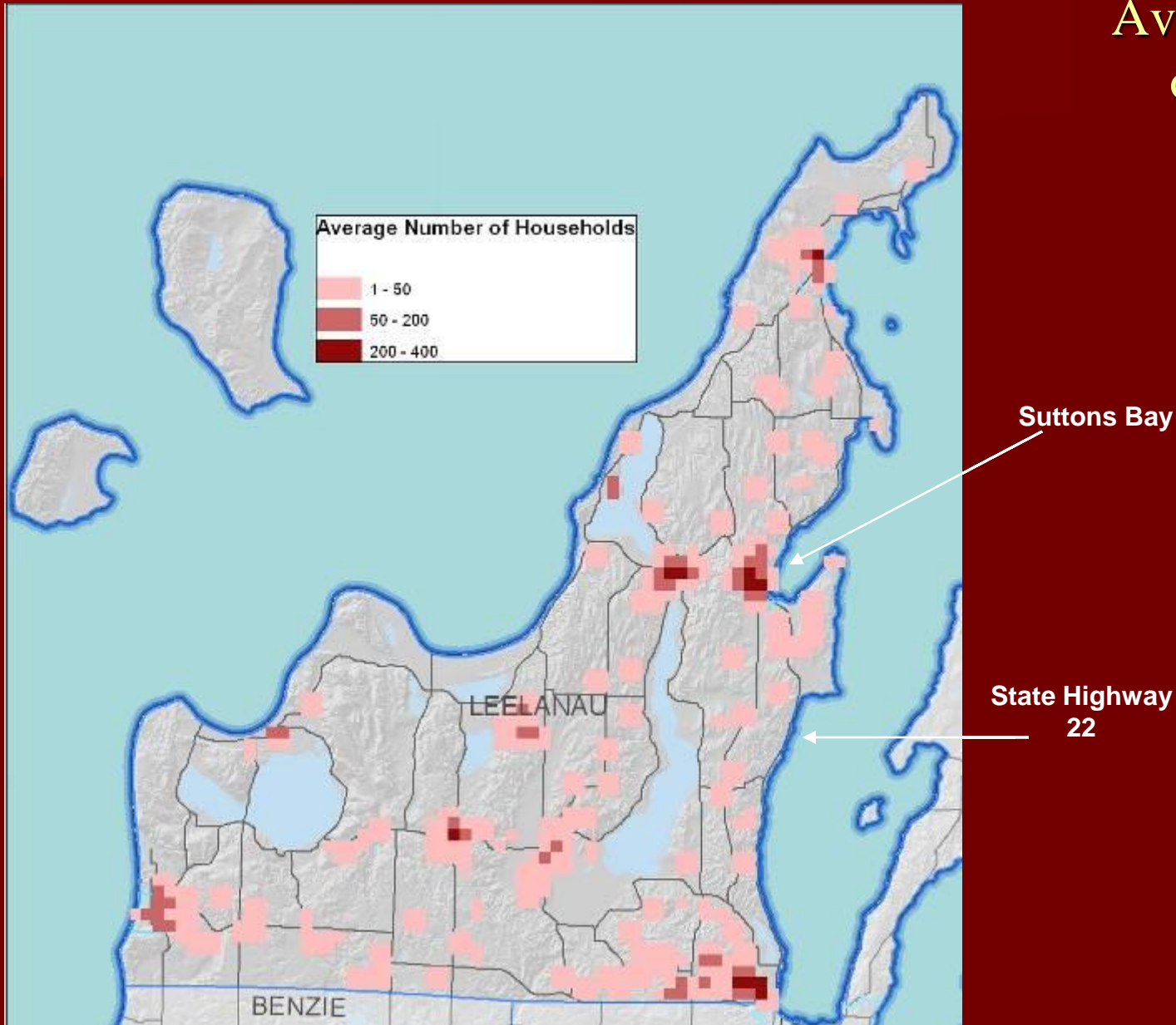
Workshop Results

Total
Households



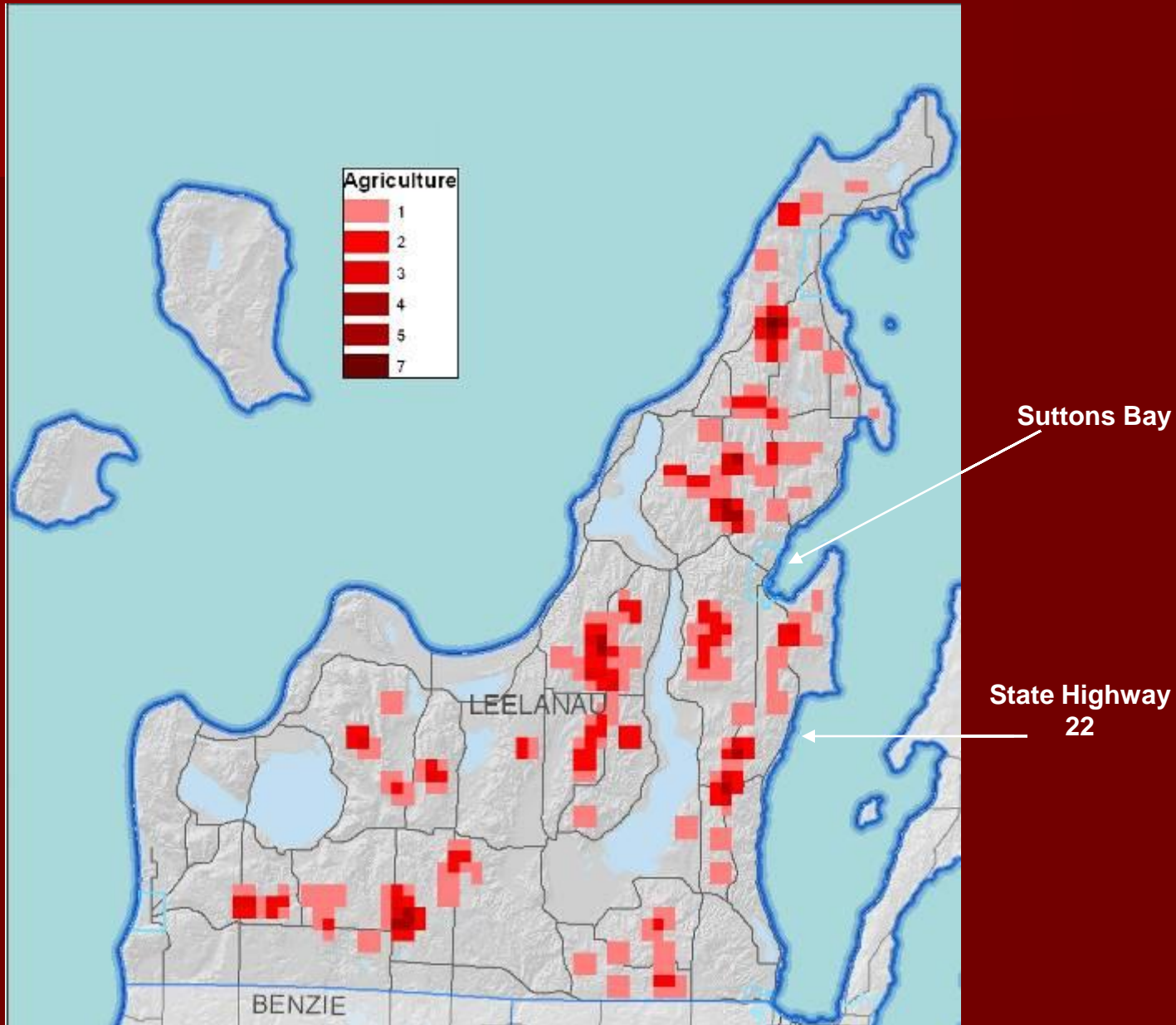
Workshop Results

Average Number
of Households



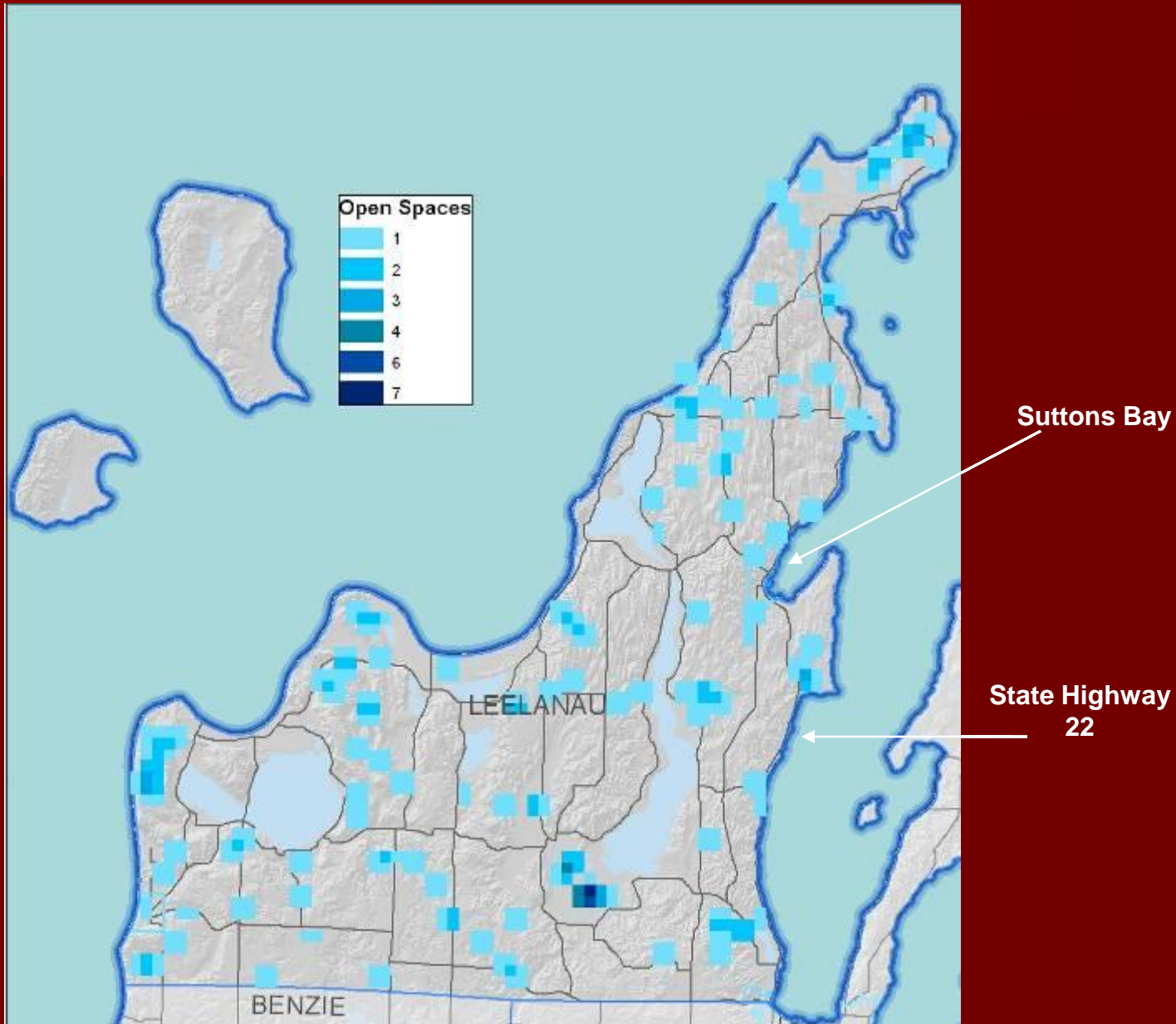
Workshop Results

Agriculture



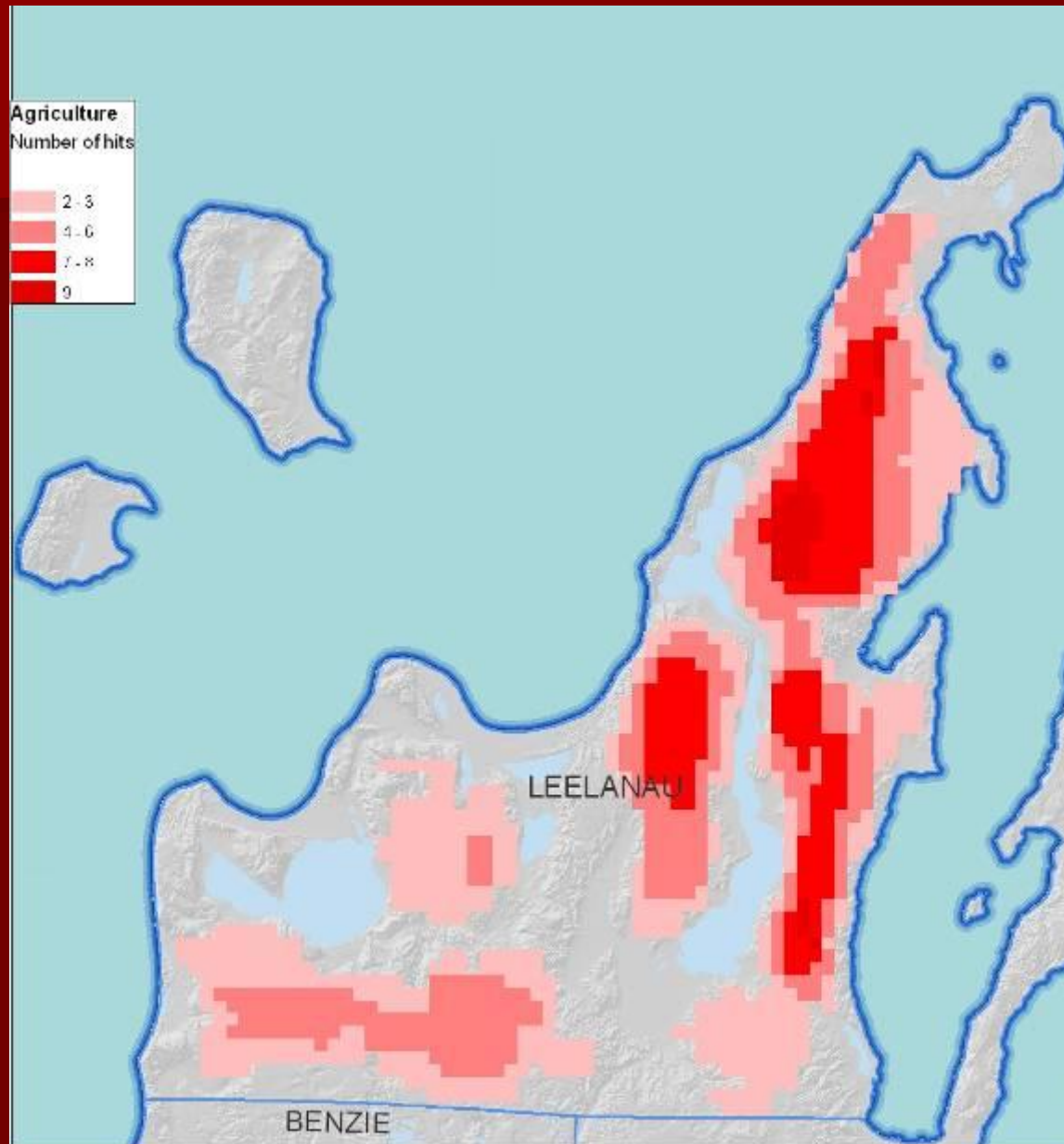
Workshop Results

Open Space



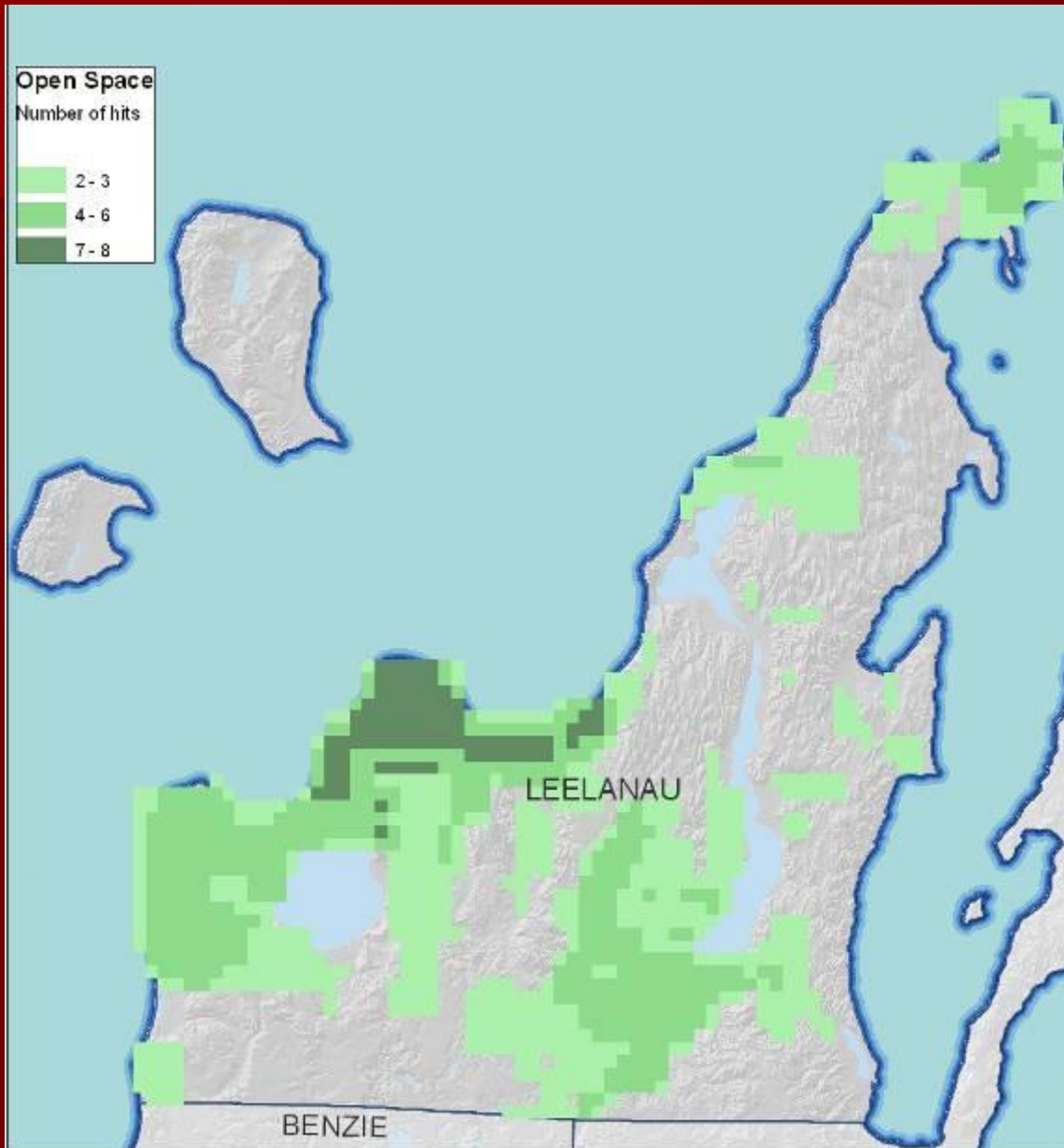
Workshop Results

Agricultural Conservation Areas



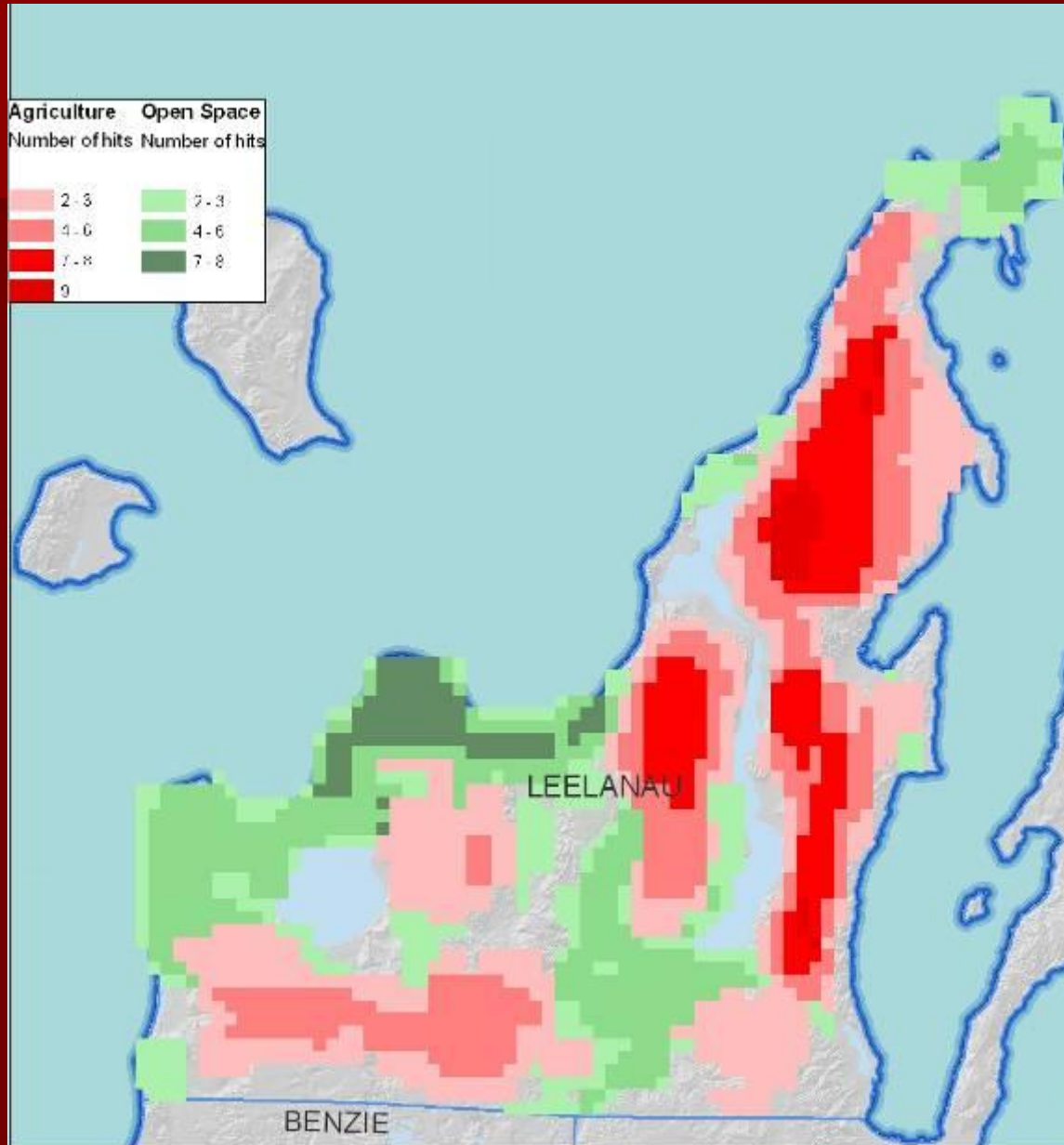
Workshop Results

Open Space Conservation Areas



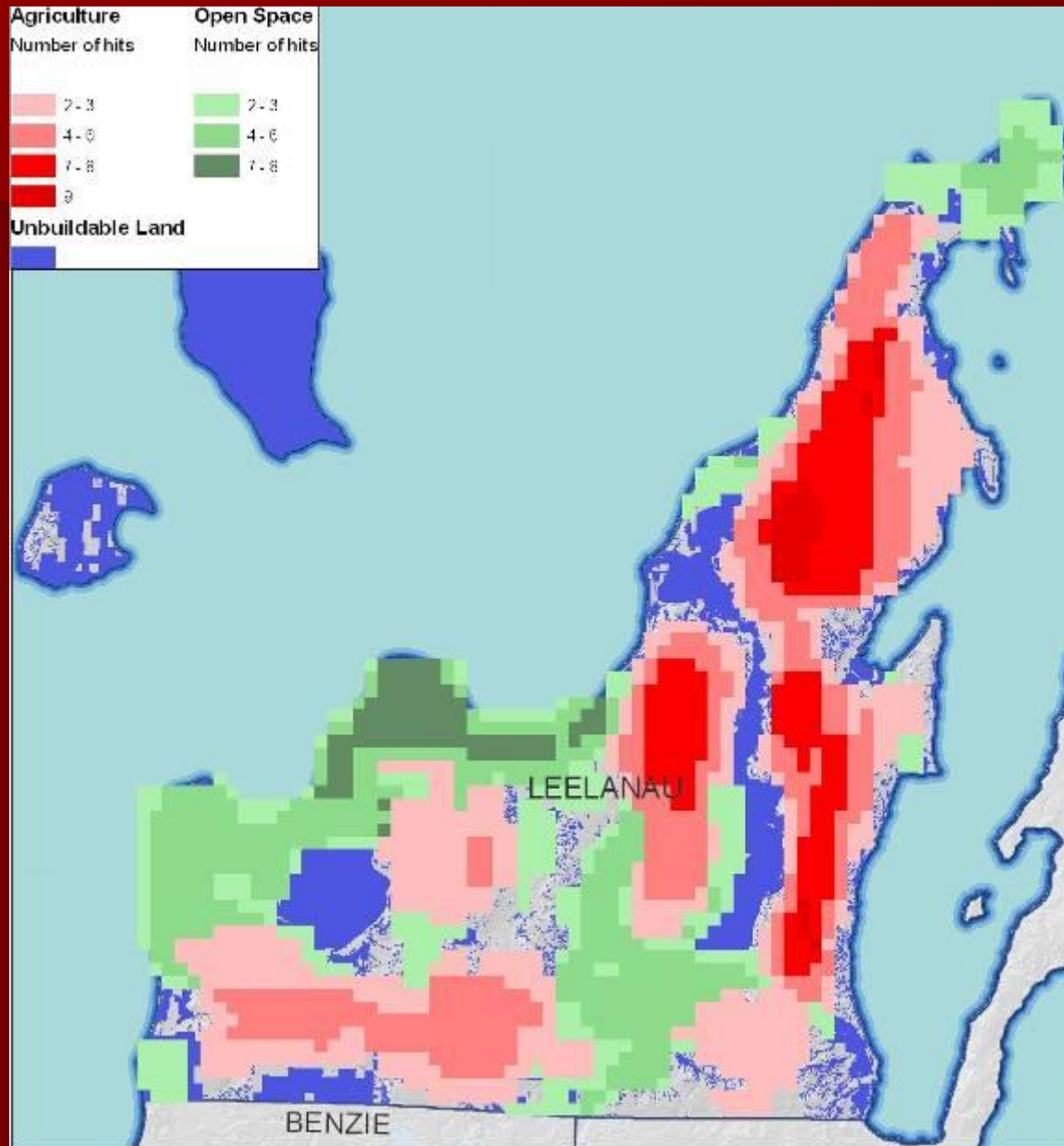
Workshop Results

Agriculture +
Open Space
Areas



Workshop Results

Agricultural+
Open Space
Areas &
Constrained
Land

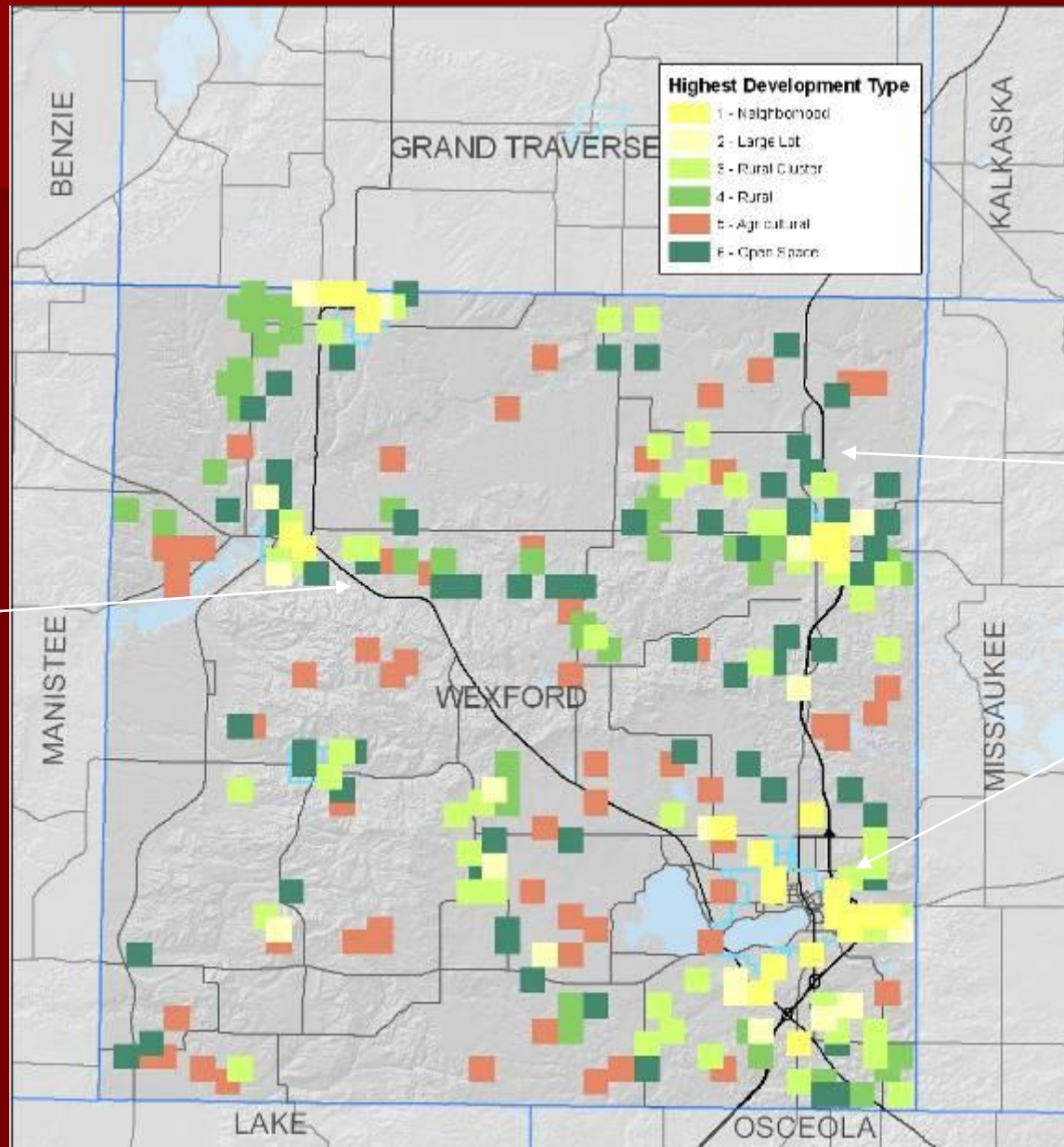


Workshop Results

Wexford County

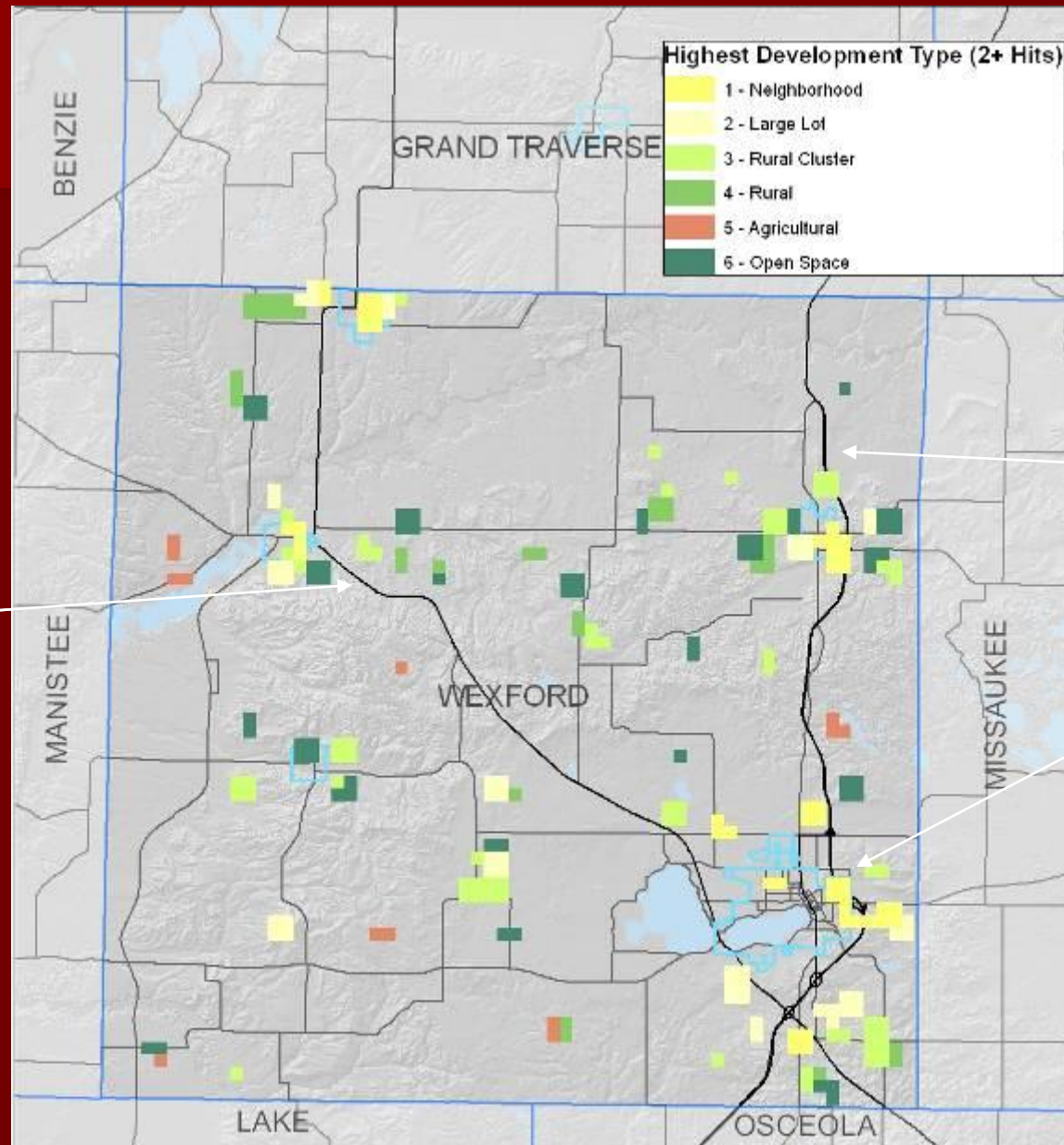
Workshop Results

Highest Development Type



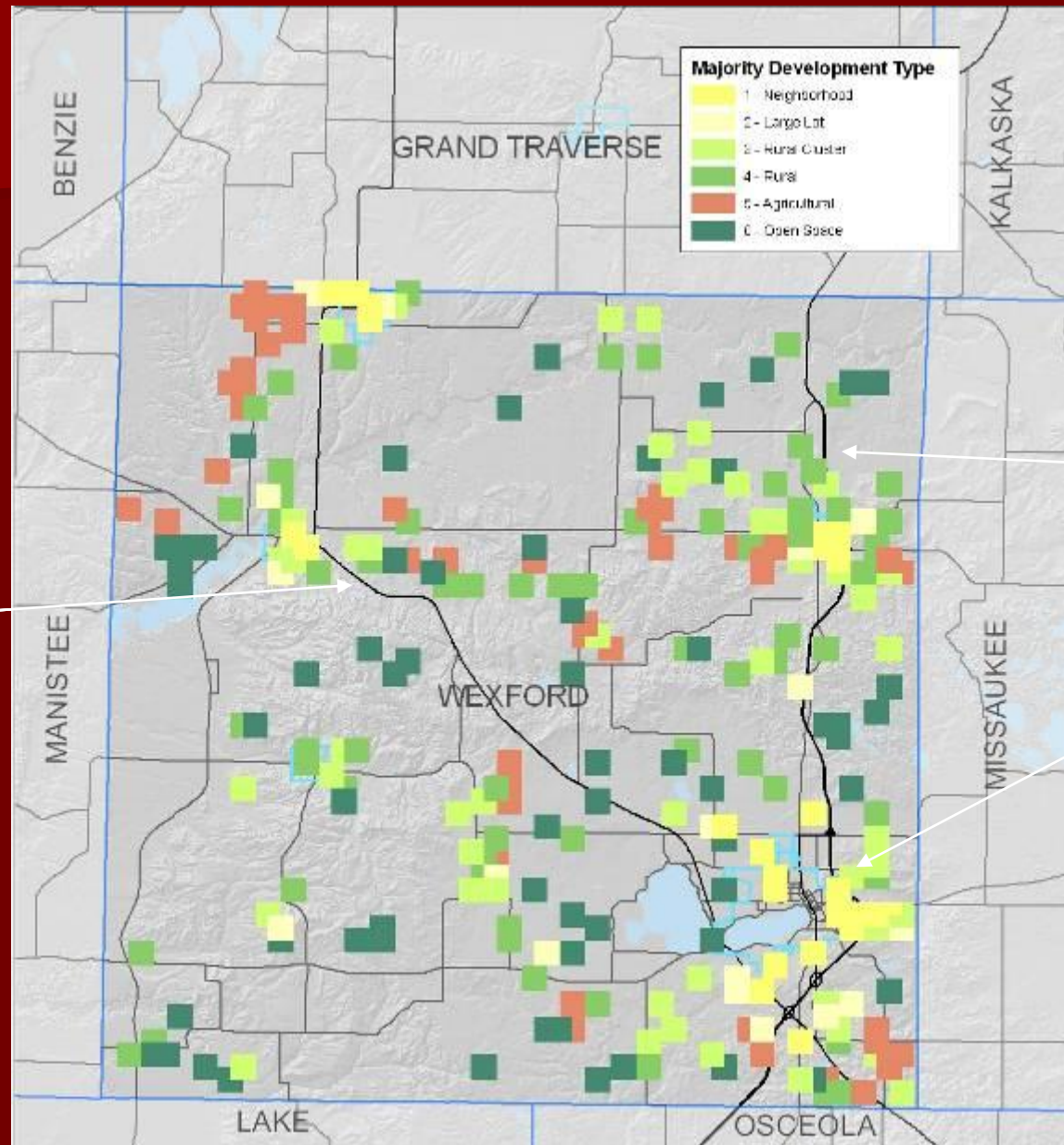
Workshop Results

Highest
Development
at least
2 Hits



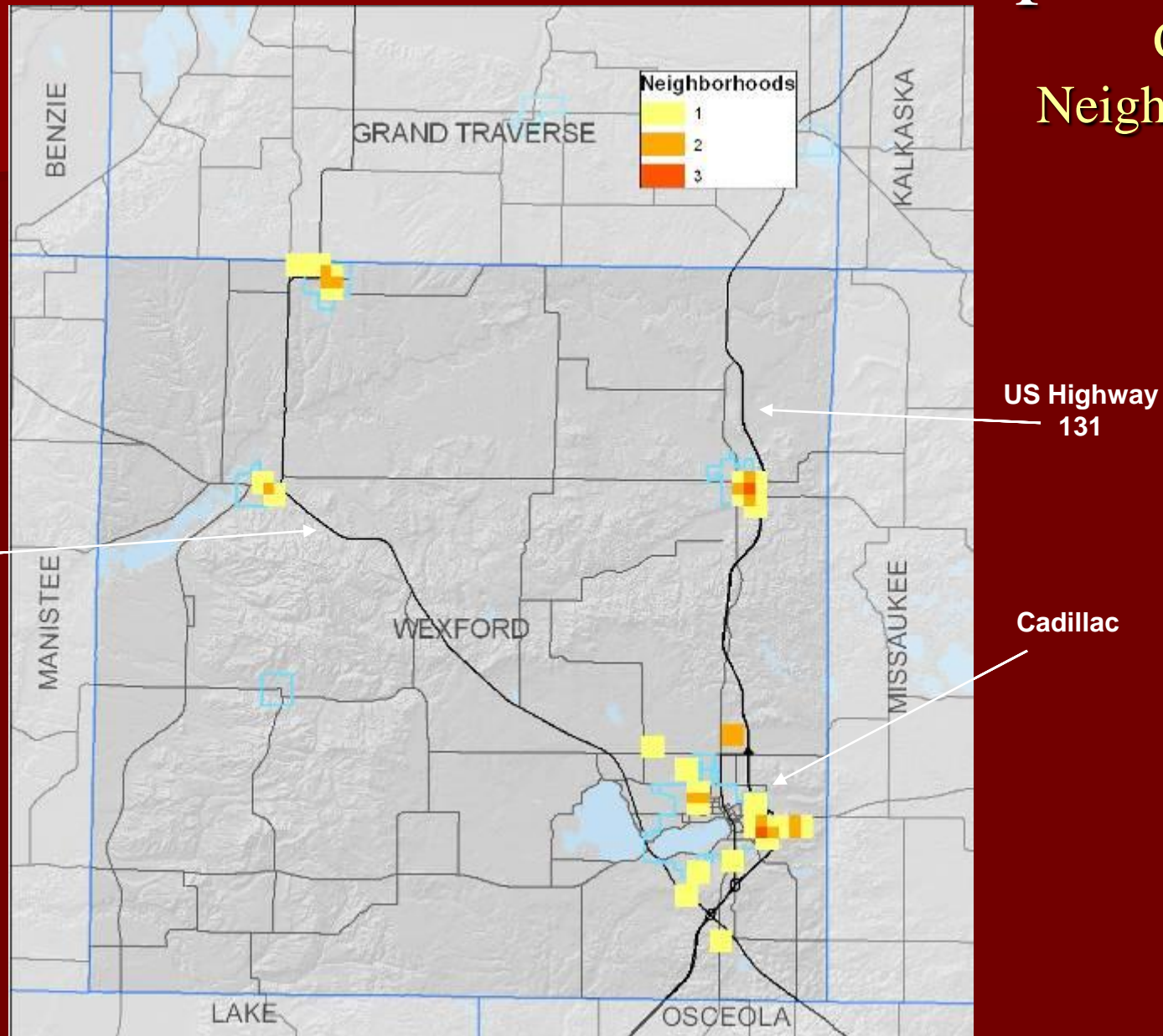
Workshop Results

Majority Development Type



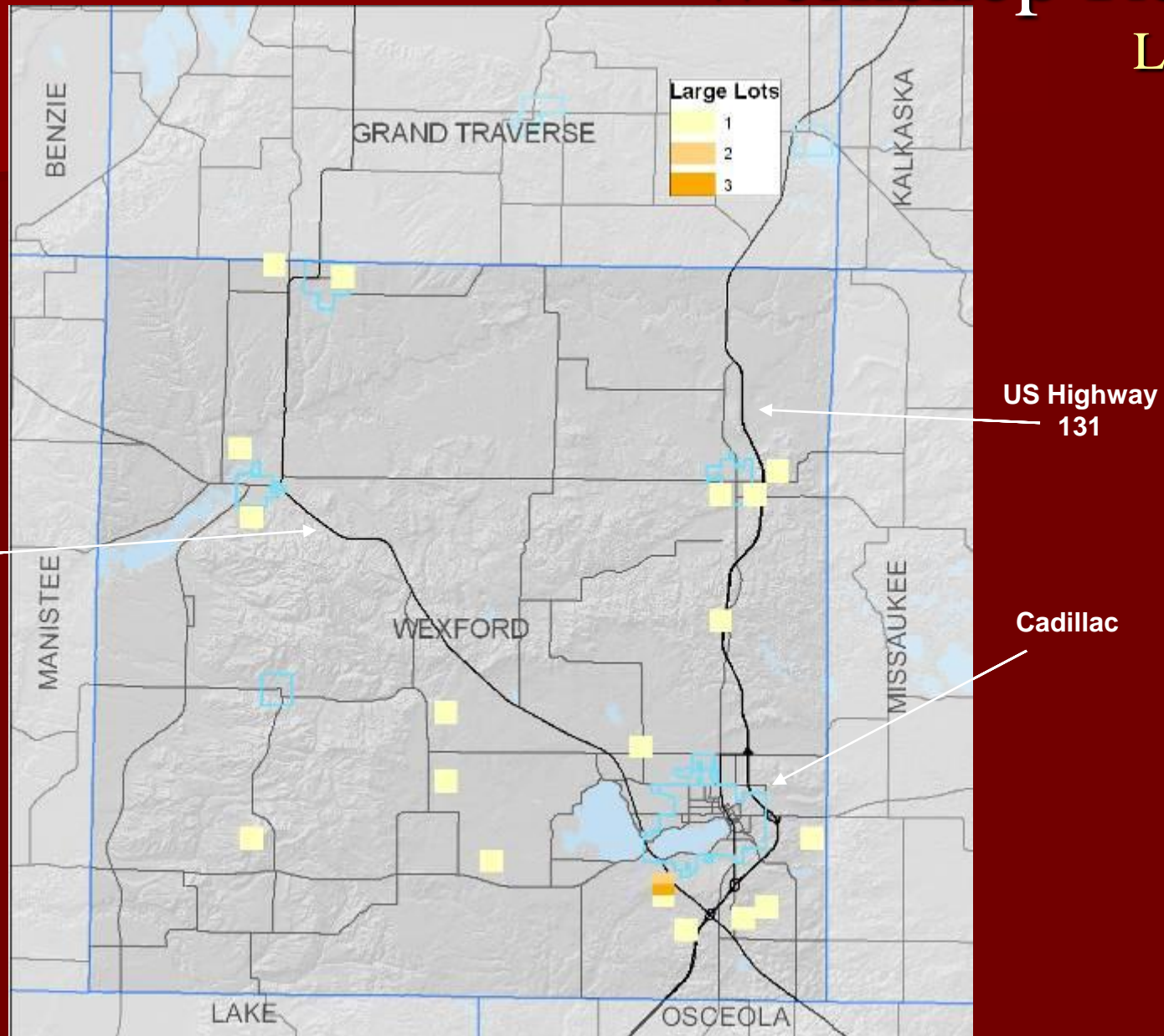
Workshop Results

Compact Neighborhood



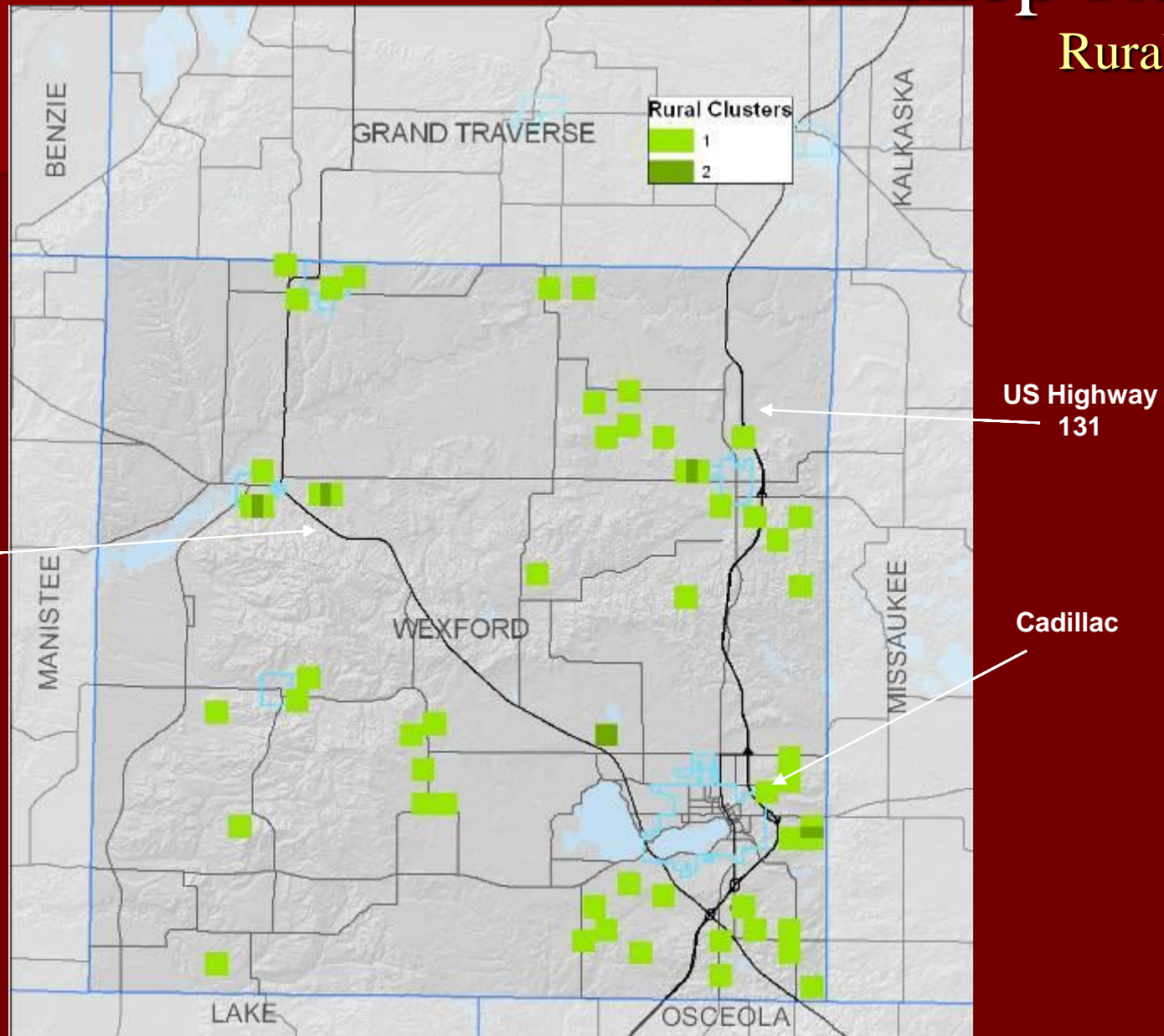
Workshop Results

Large Lot



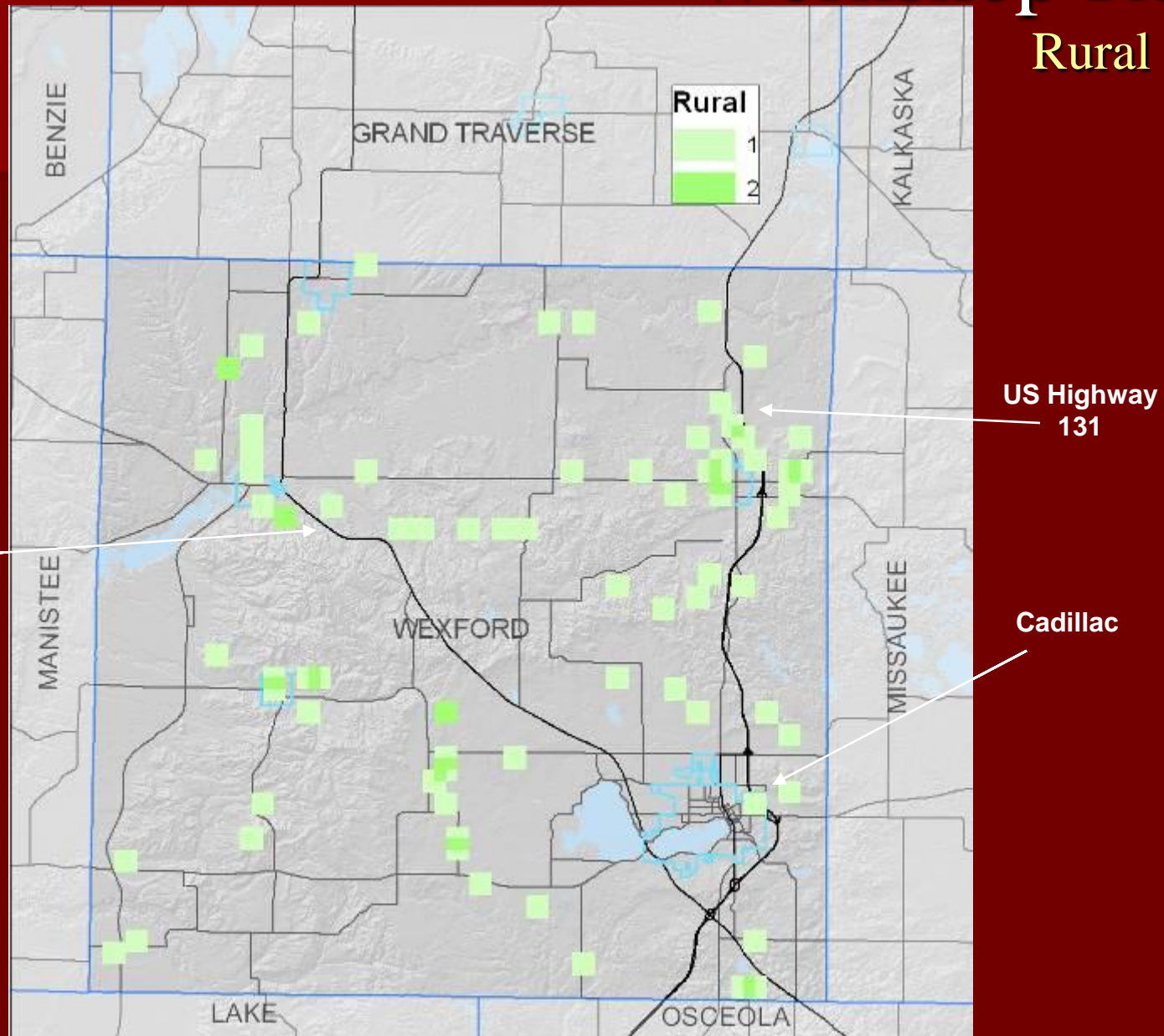
Workshop Results

Rural Cluster



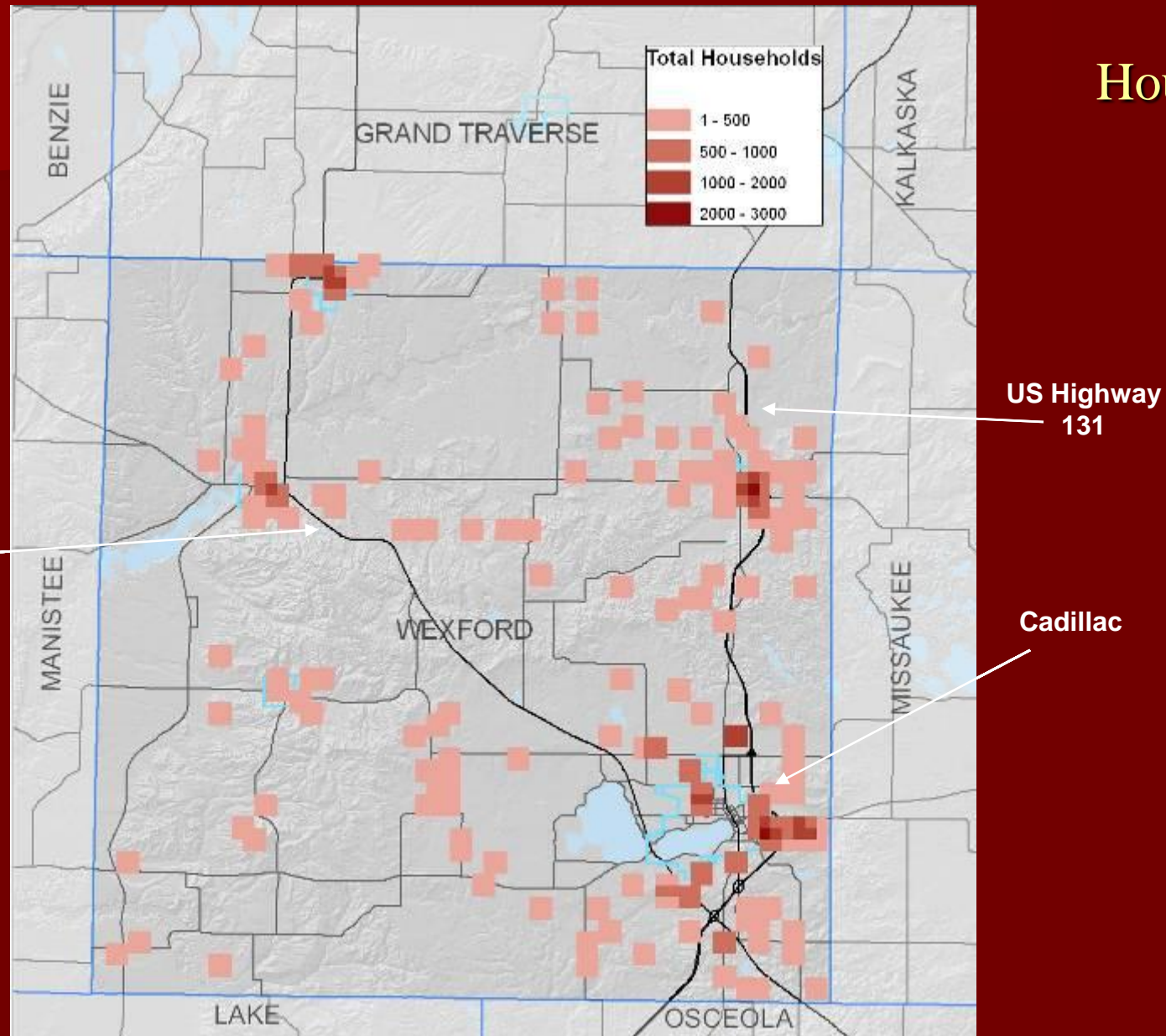
Workshop Results

Rural Housing



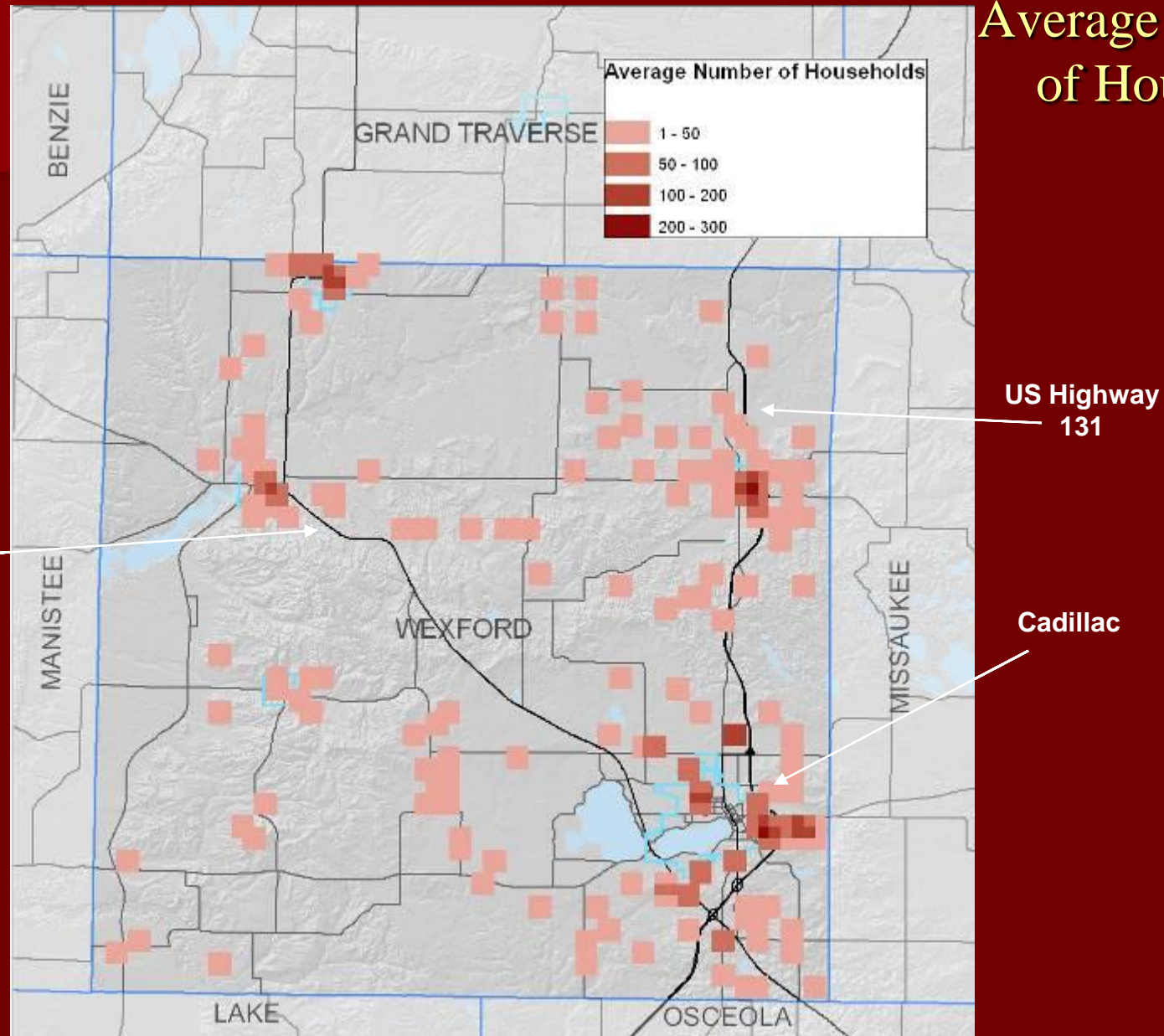
Workshop Results

Total
Households



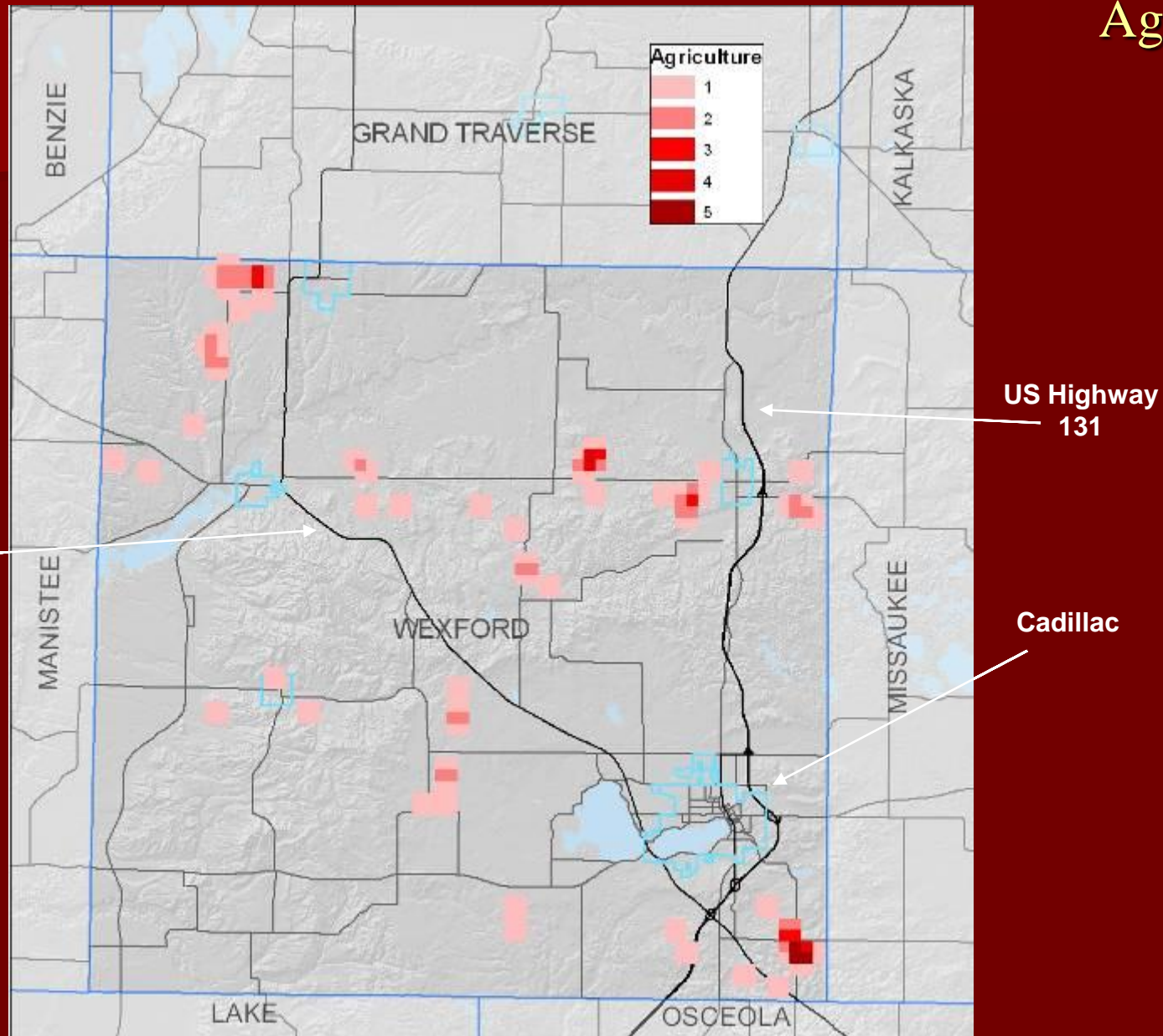
Workshop Results

Average Number of Households



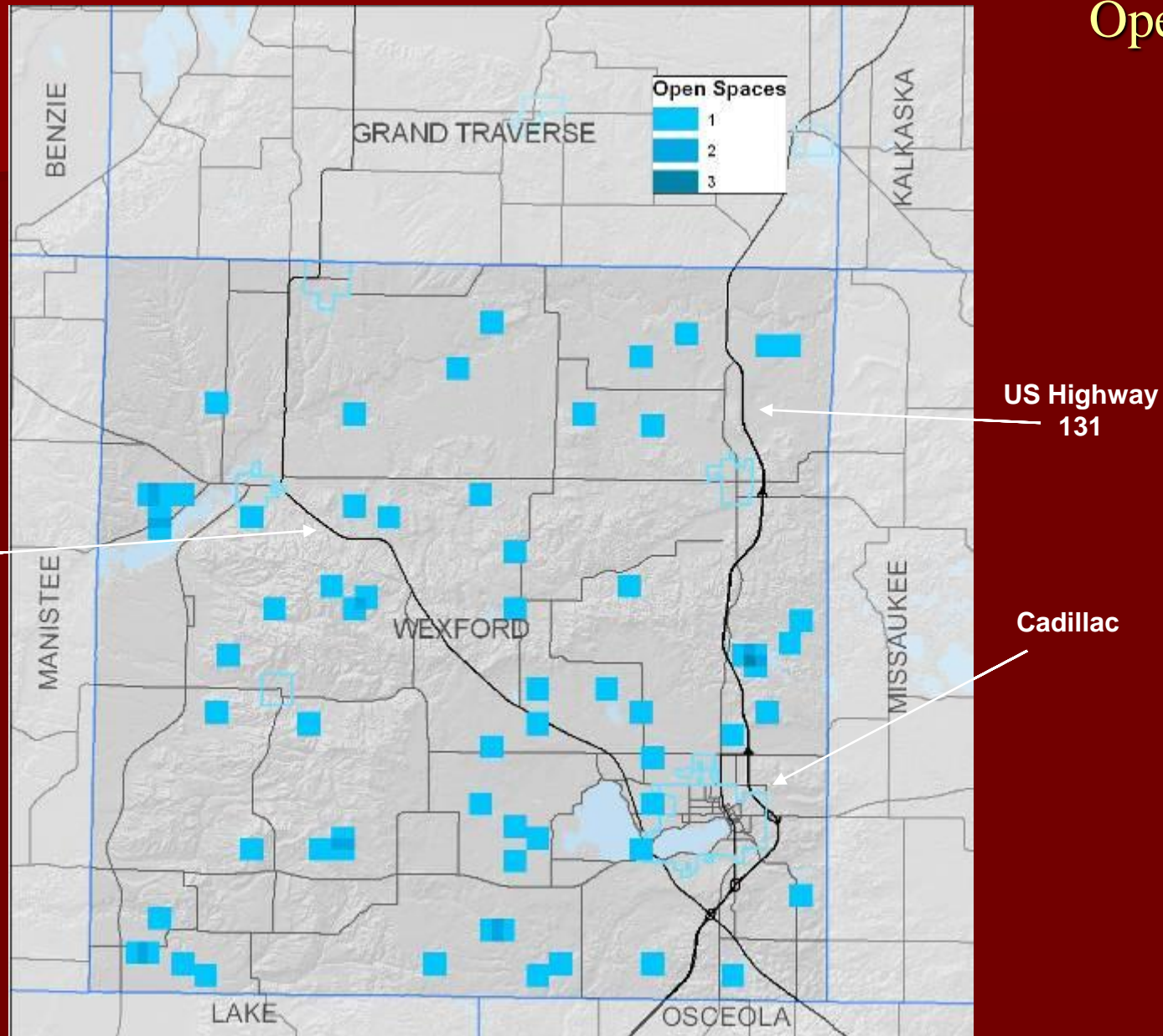
Workshop Results

Agriculture



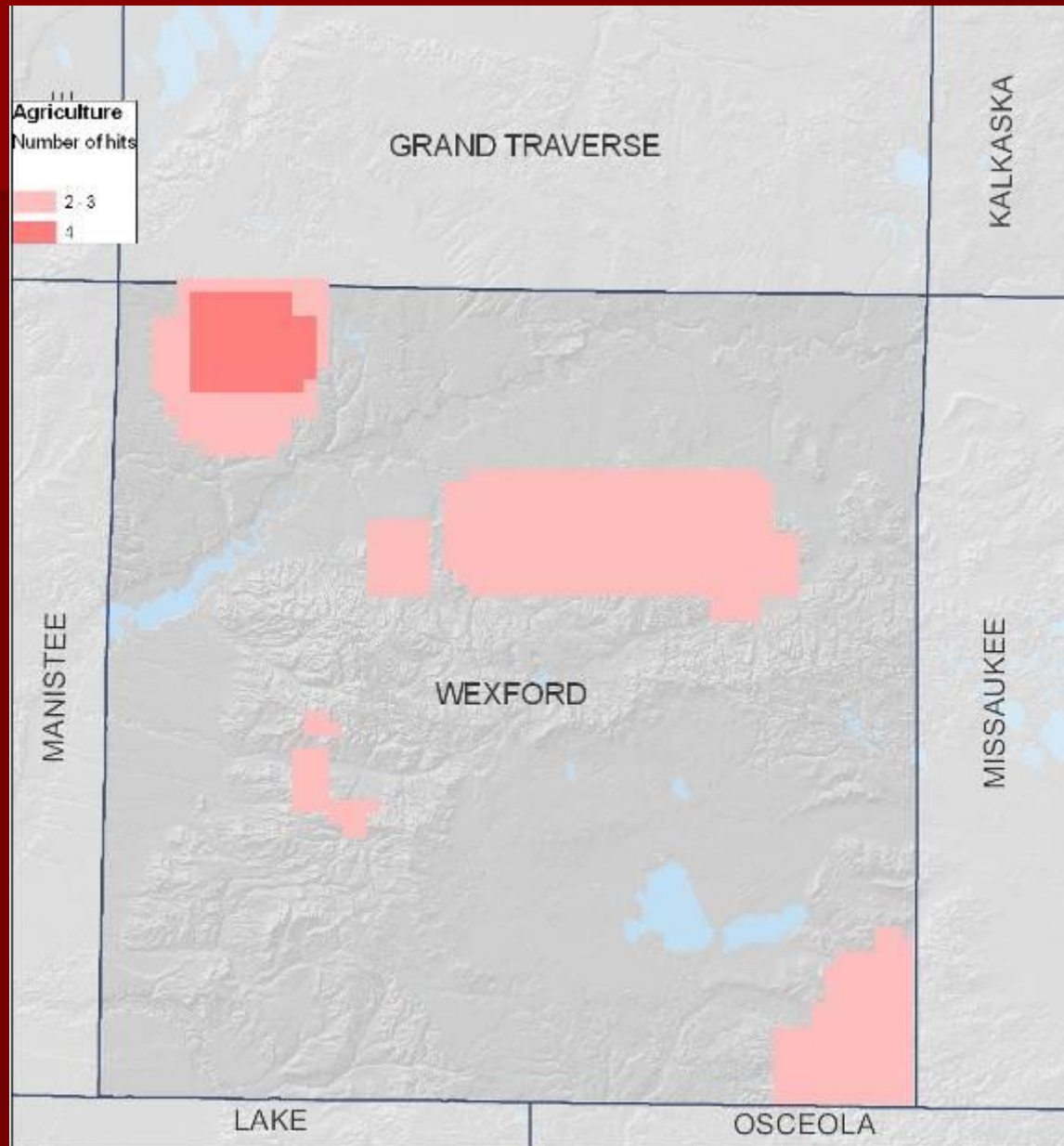
Workshop Results

Open Space



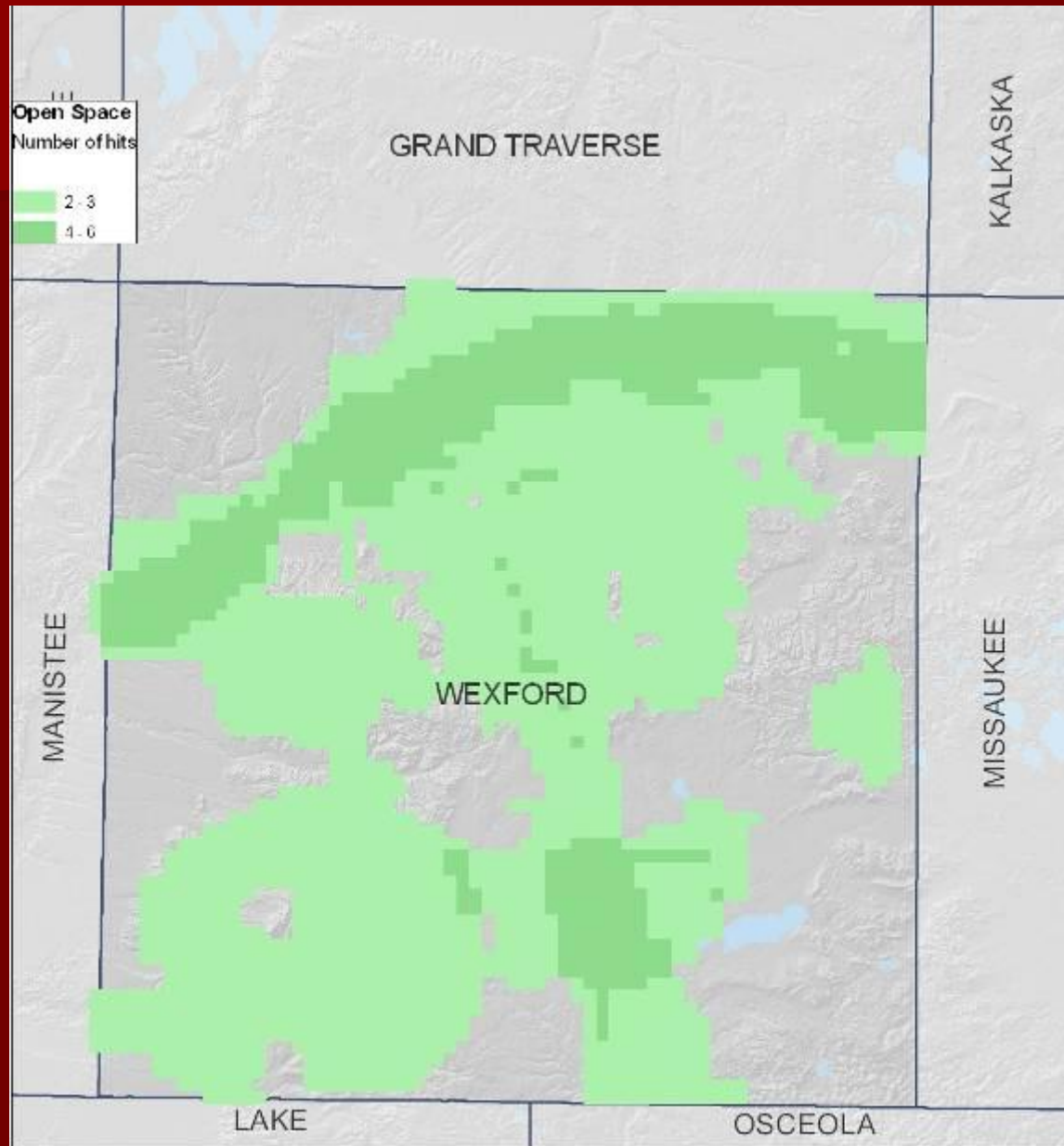
Workshop Results

Agricultural Conservation Areas



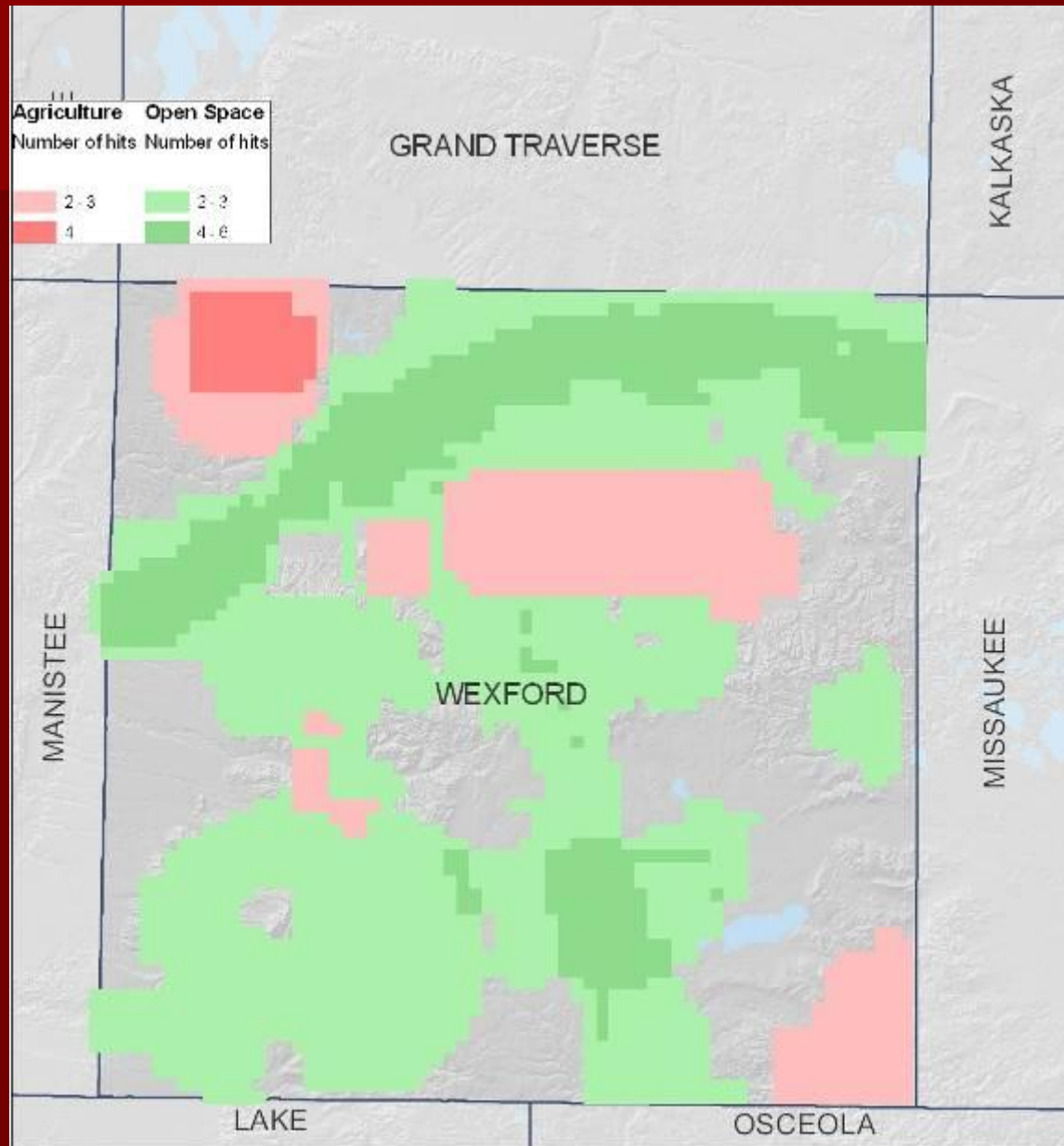
Workshop Results

Open Space Conservation Areas



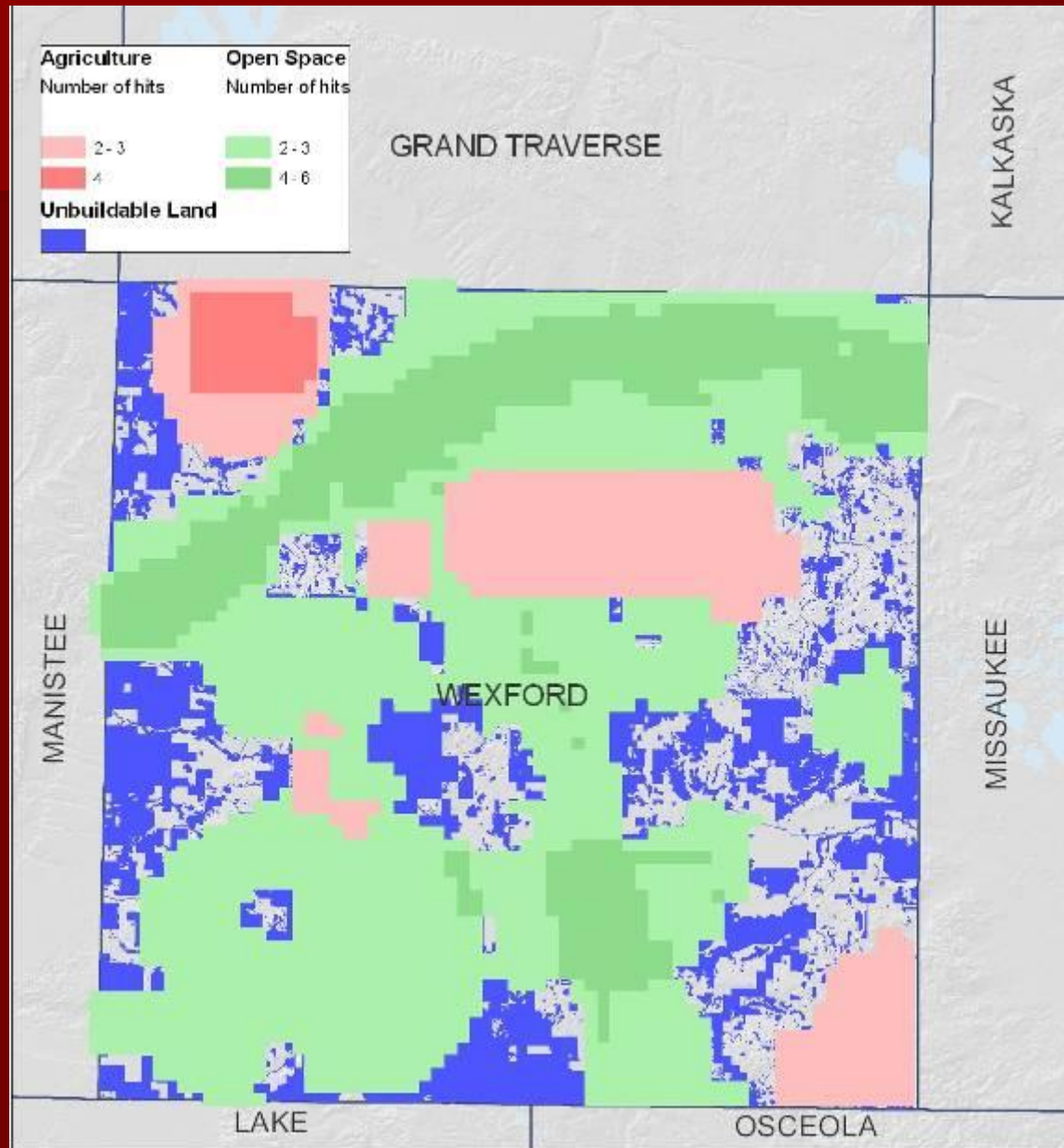
Workshop Results

Agriculture + Open Space Areas



Workshop Results

Agricultural+
Open Space
Areas &
Constrained
Land



Potential Indicators

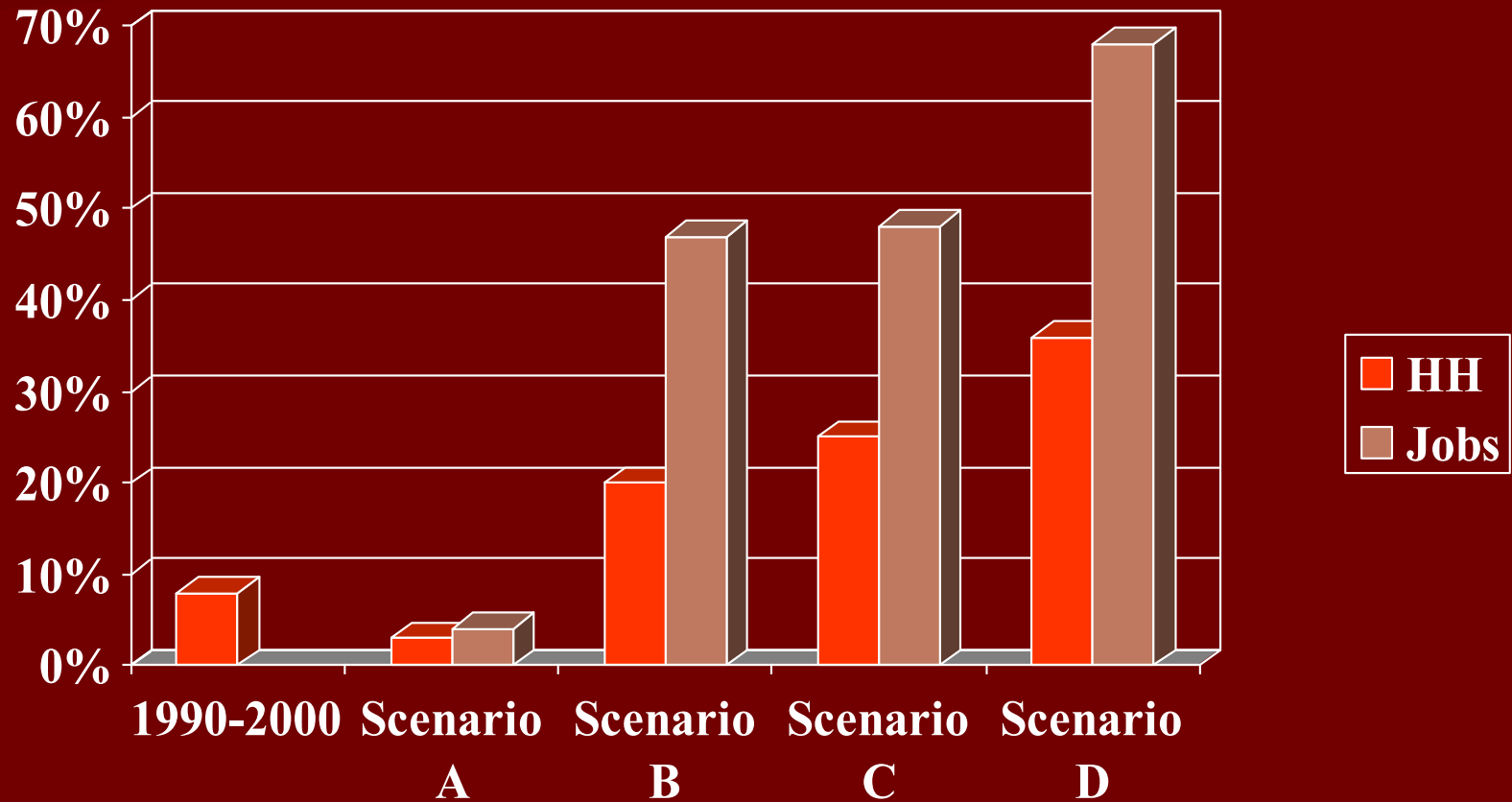
List of Indicators by Topic

- Creating Complete Communities
- Transportation
- Environmental Sustainability
- Carbon Footprint
- Social Equity
- Economy

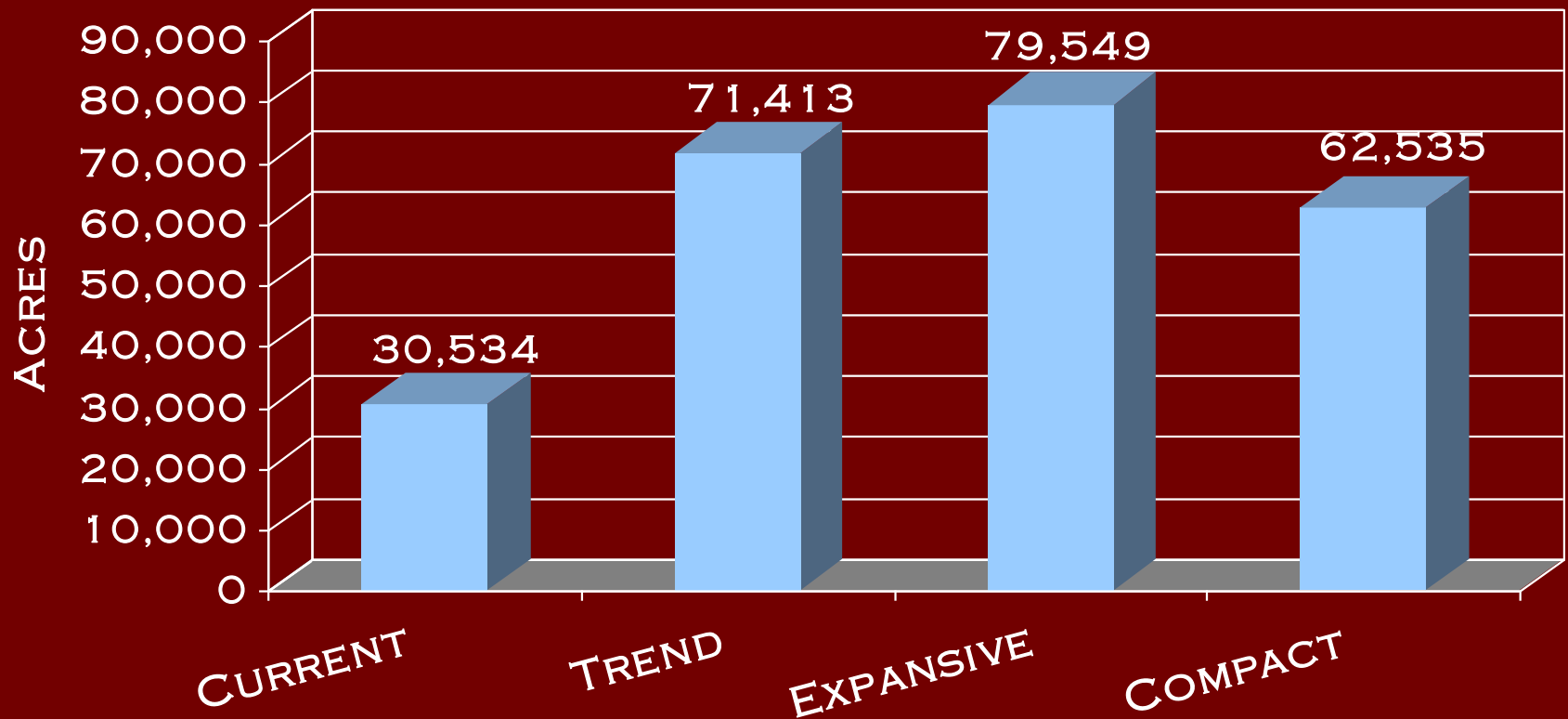
Complete Communities

- Jobs housing balance -measured by individual community and by sub region
- Amount of new development located within proximity of transit
- Regional Density
- Conserved land
- Households
- Jobs
- Jobs by Development Type
- Housing by Development Type
- Index of urban amenities (connectivity + job density + population density)

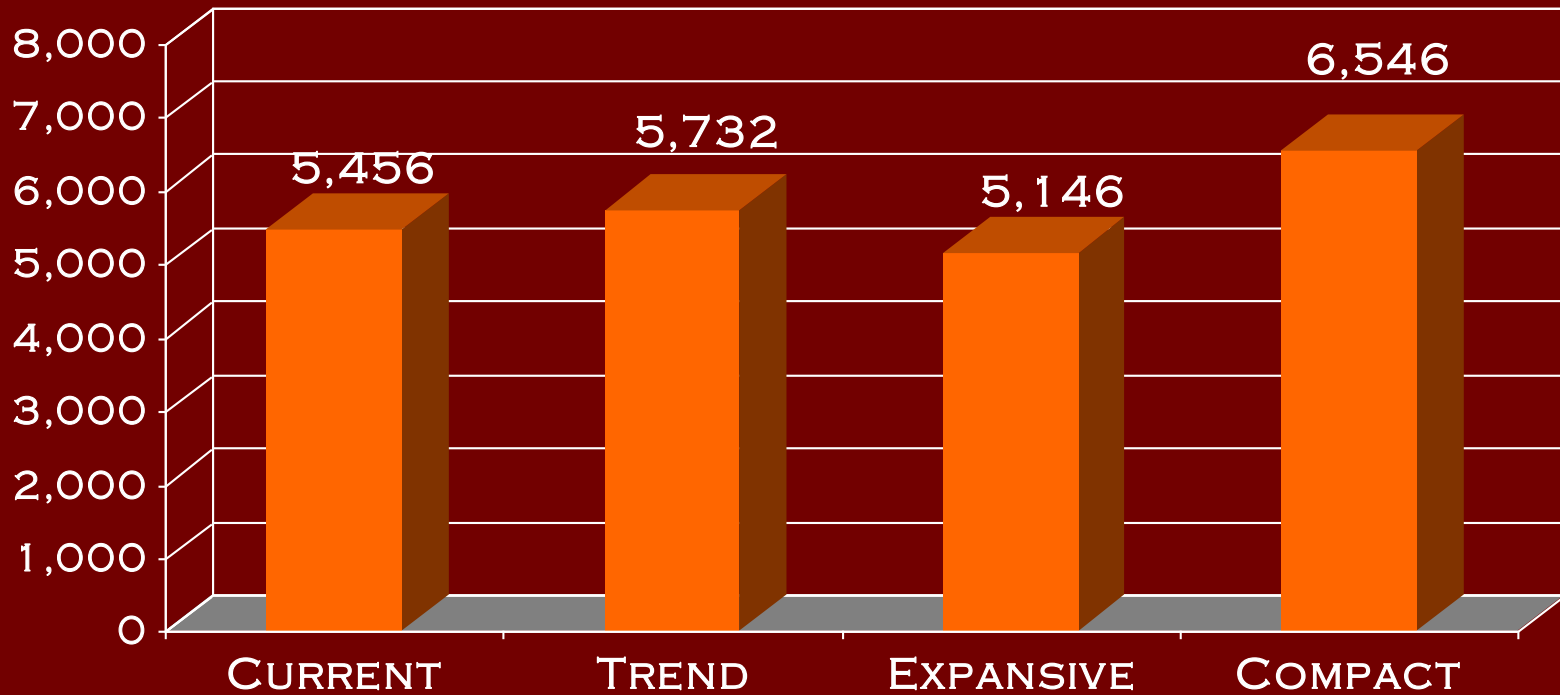
Percent of New Jobs and Households accommodated through Infill or Redevelopment



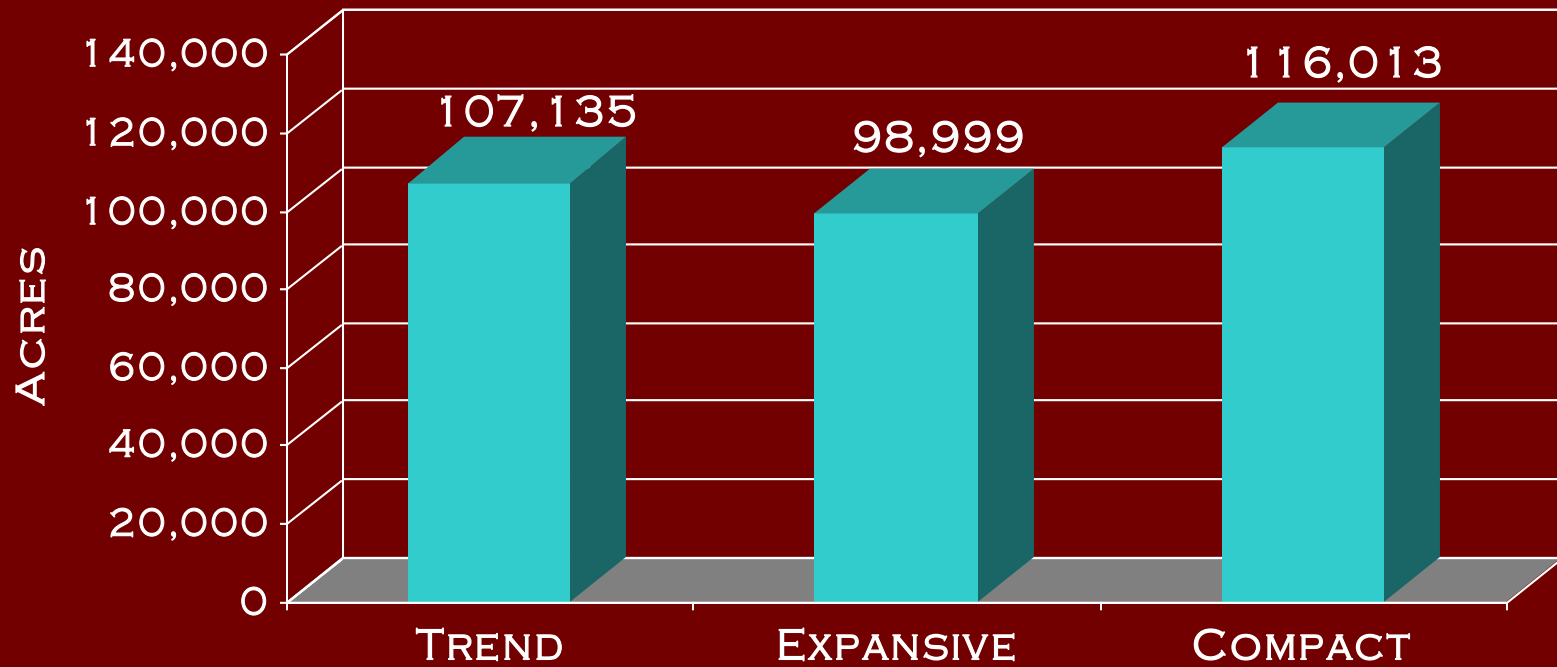
2030 Total Urbanized Acres



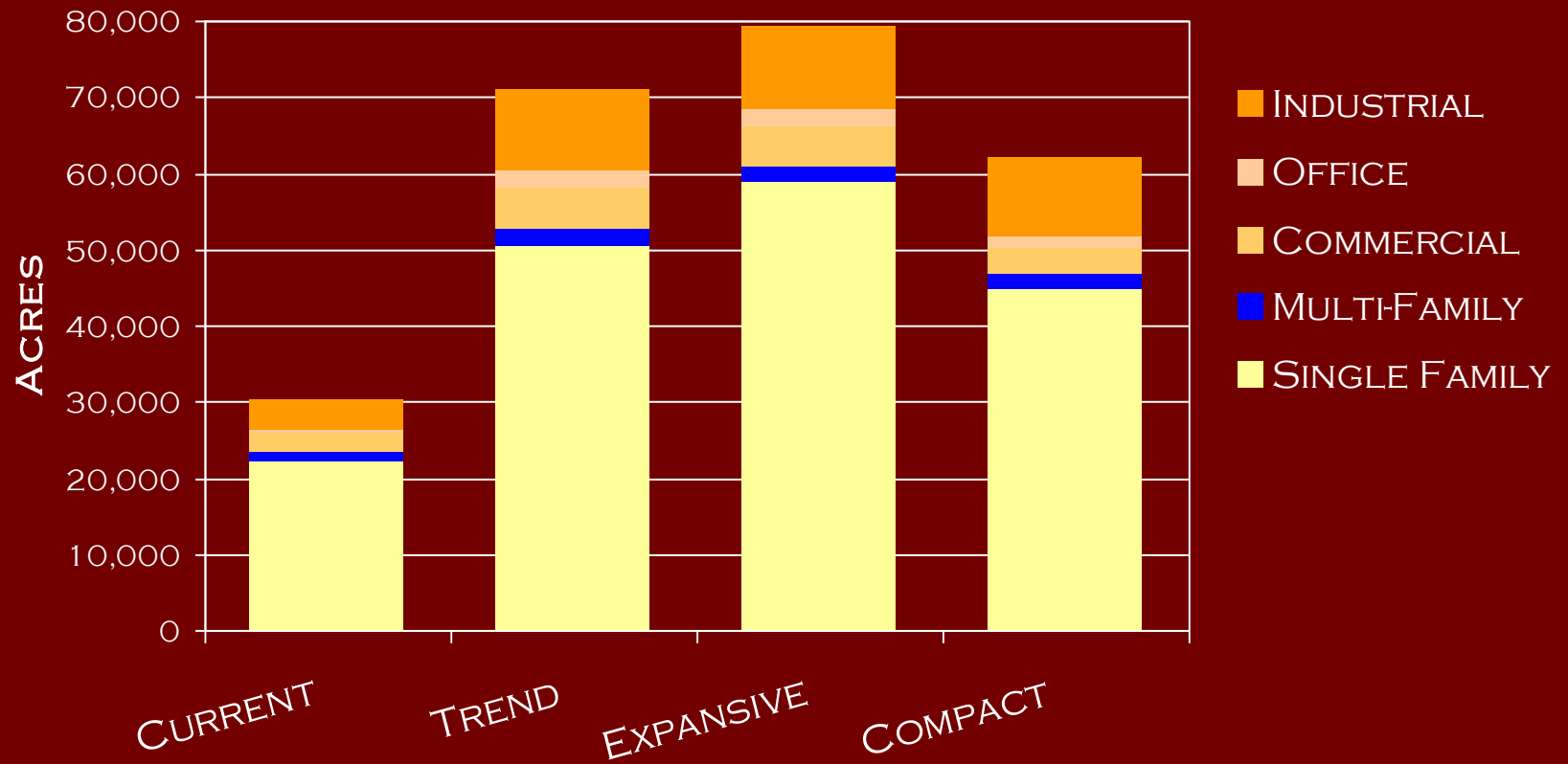
Total Regional Density (Persons/Sq Mile)



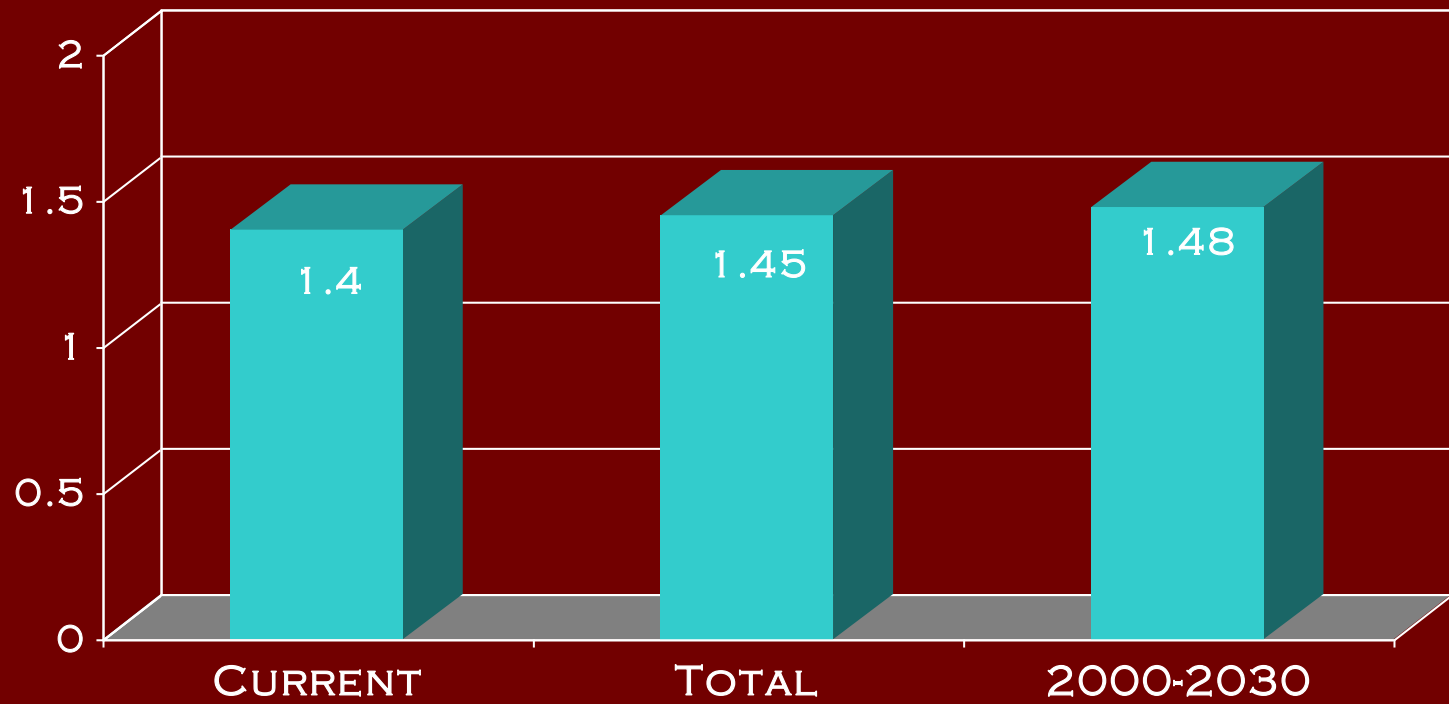
Total Land Conserved



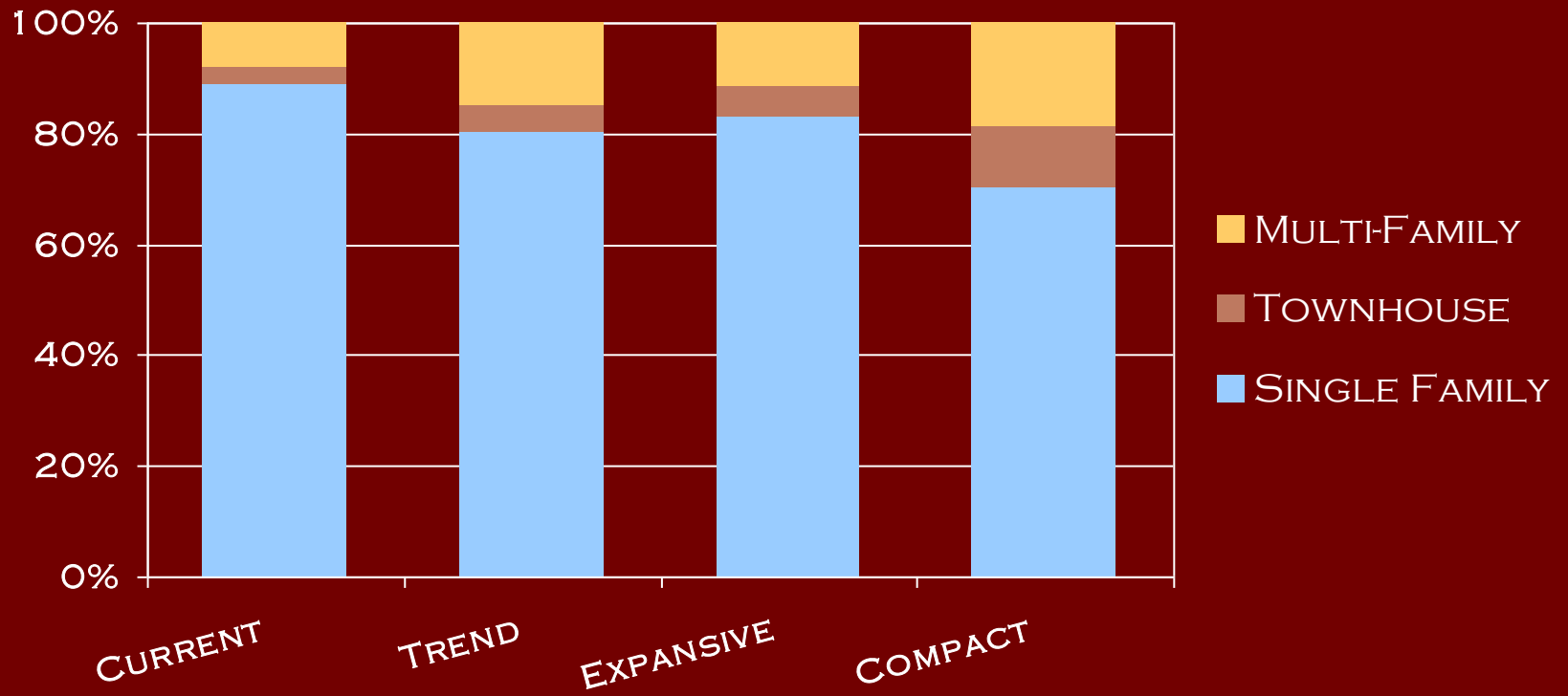
Total Land Use by Development Type



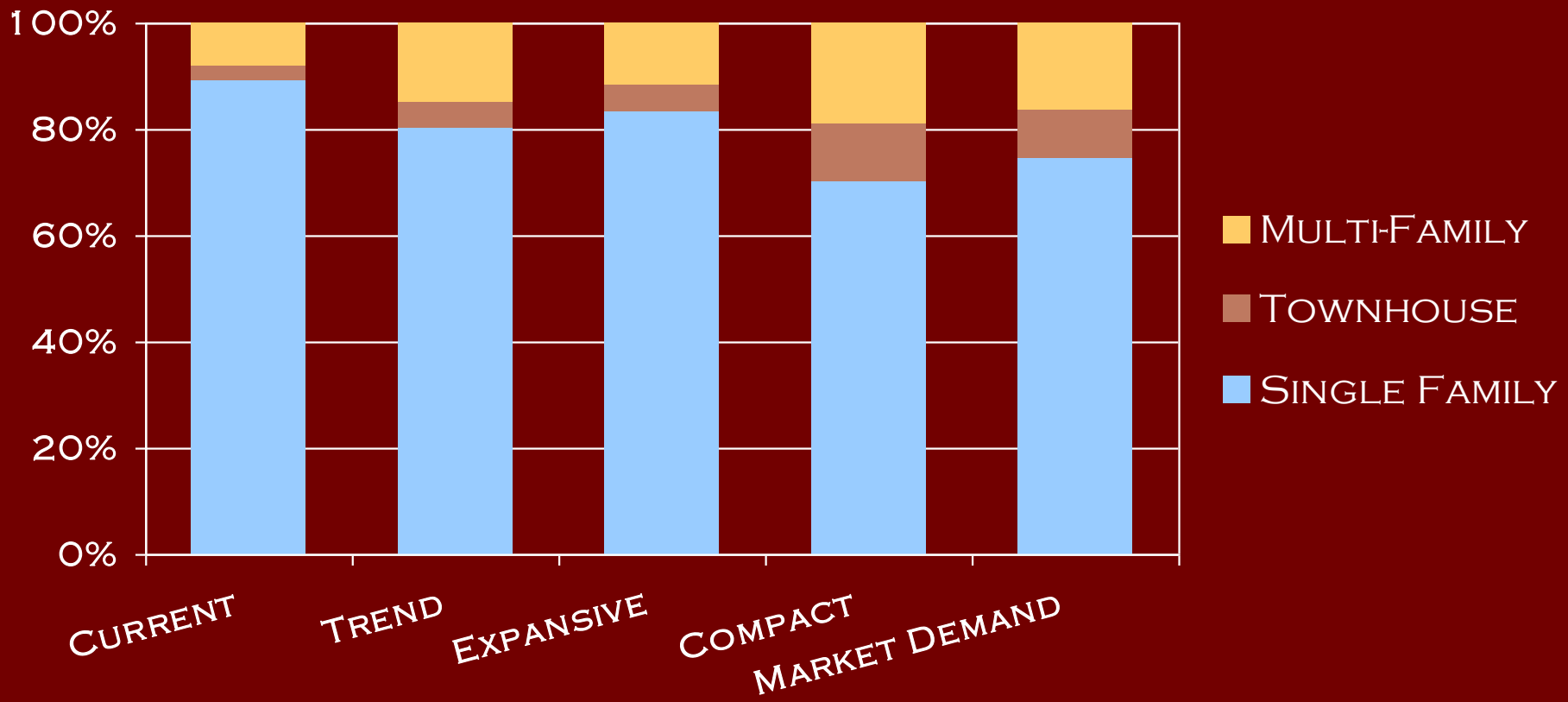
Jobs-Housing Balance



Total Number of Households by Housing Type



Total Number of Households by Housing Type

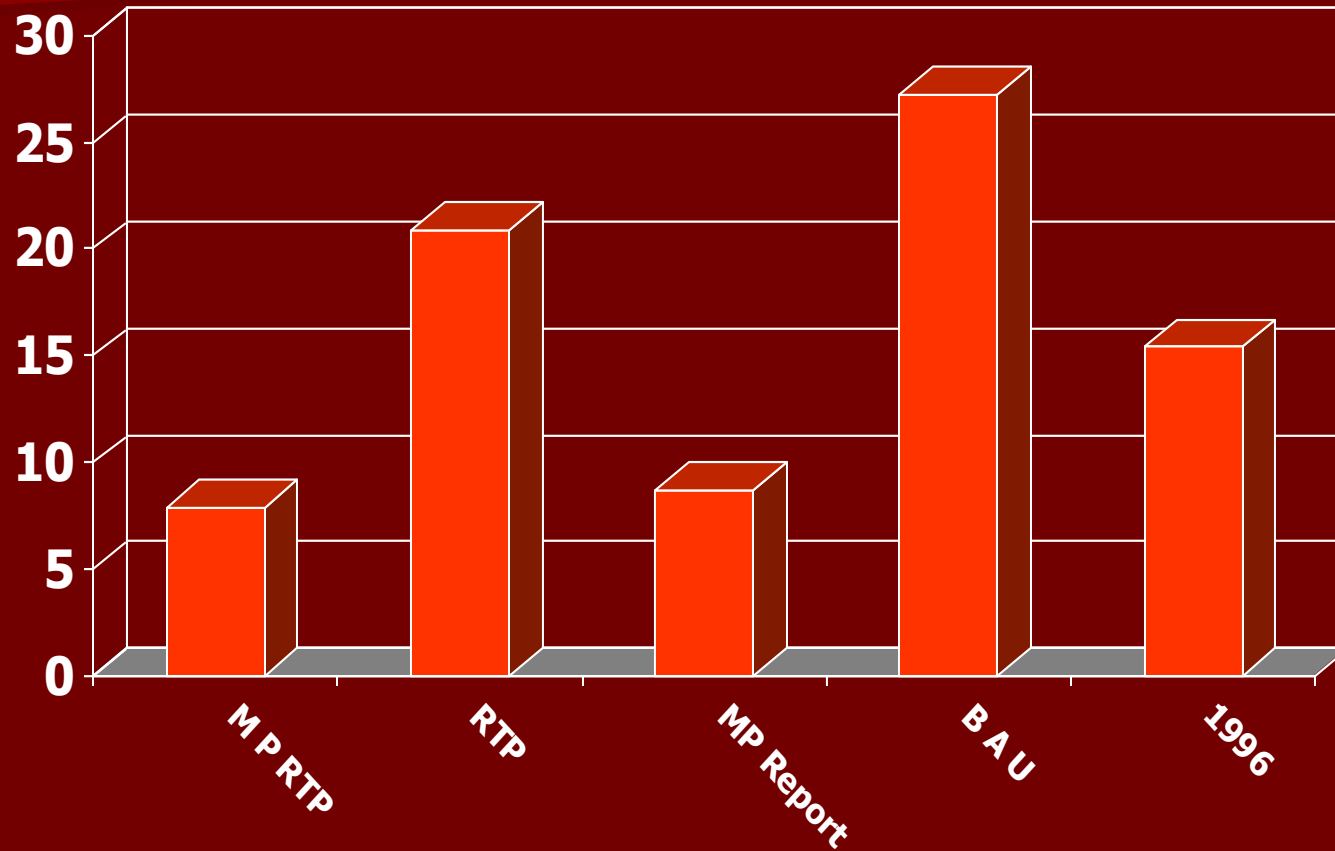


Transportation

- Walkability and travel behavior (4D's)
- Amount of development in areas that can already be served by transit and roadways
- Vehicle Miles Traveled per capita
- Average Trip time
- Vehicle Minutes Traveled per capita, by mode
- Vehicle Hours under Congestion or Vehicle Hours of Delay (VHC or VHD) regionwide ("Hours spent in congestion").
- Miles of Congested Arterial (% of system total miles)
- Percent trips by all modes and working at home
- Connectivity index (street and path connectivity and intersections)
- Total time traveled per capita, by travel mode
- Average speed by travel mode
- Air pollution caused by transportation sources
- Consumption of fuel
- Total cost of transportation improvements and maintenance (public and private costs, not financially constrained)

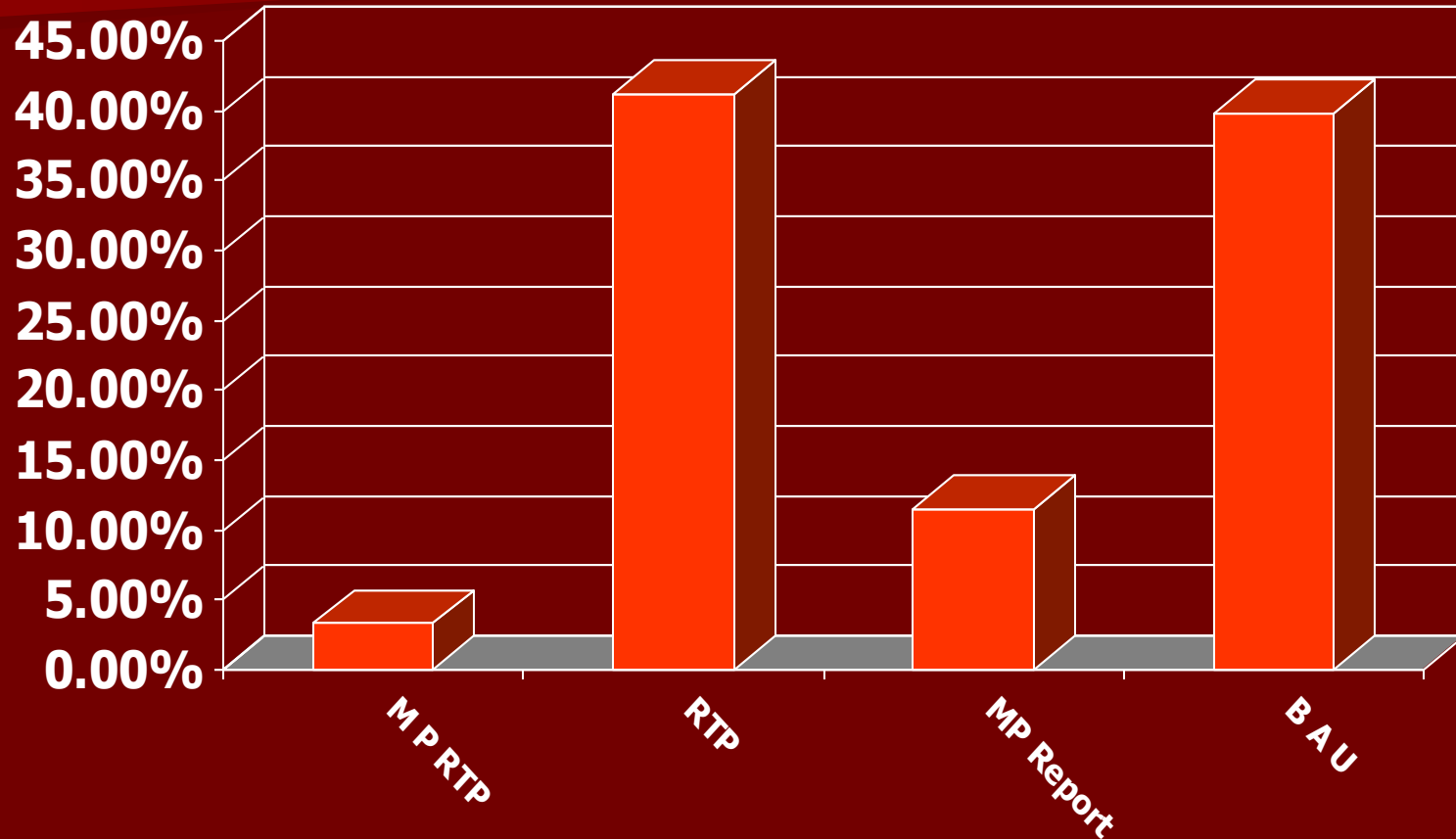
Congestion Delay

Minutes per Day



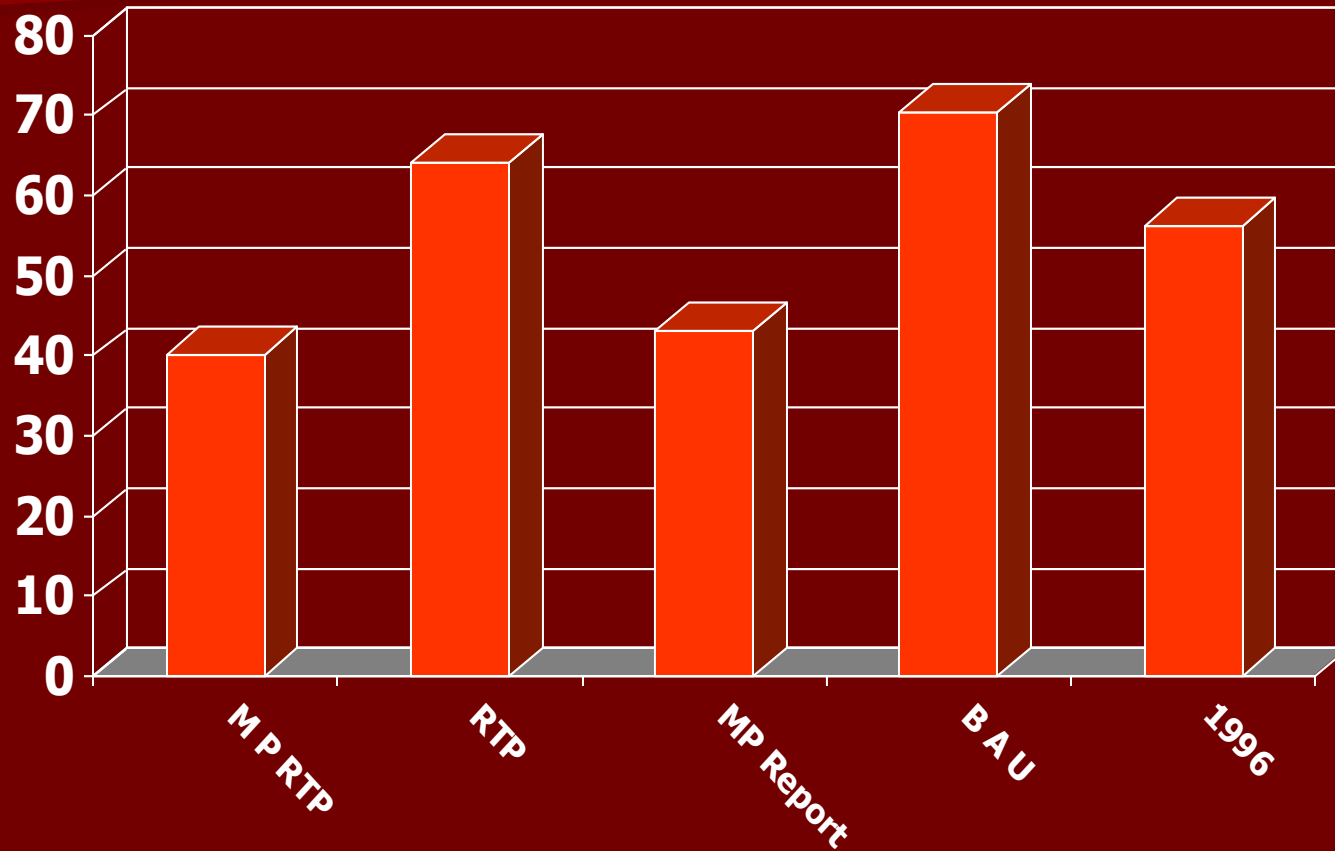
Change in VMT

1996-2030



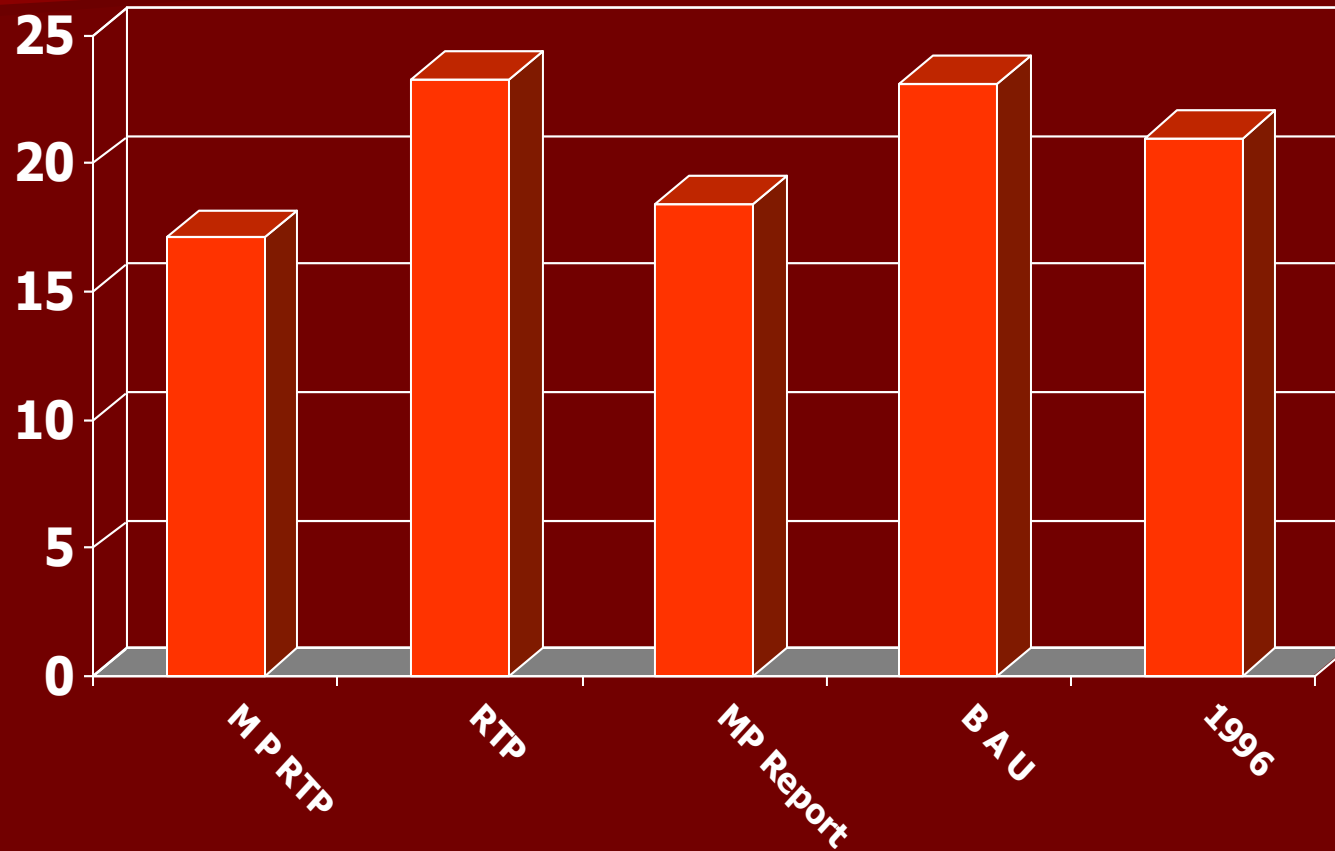
Time Spent in Auto

Minutes per Day

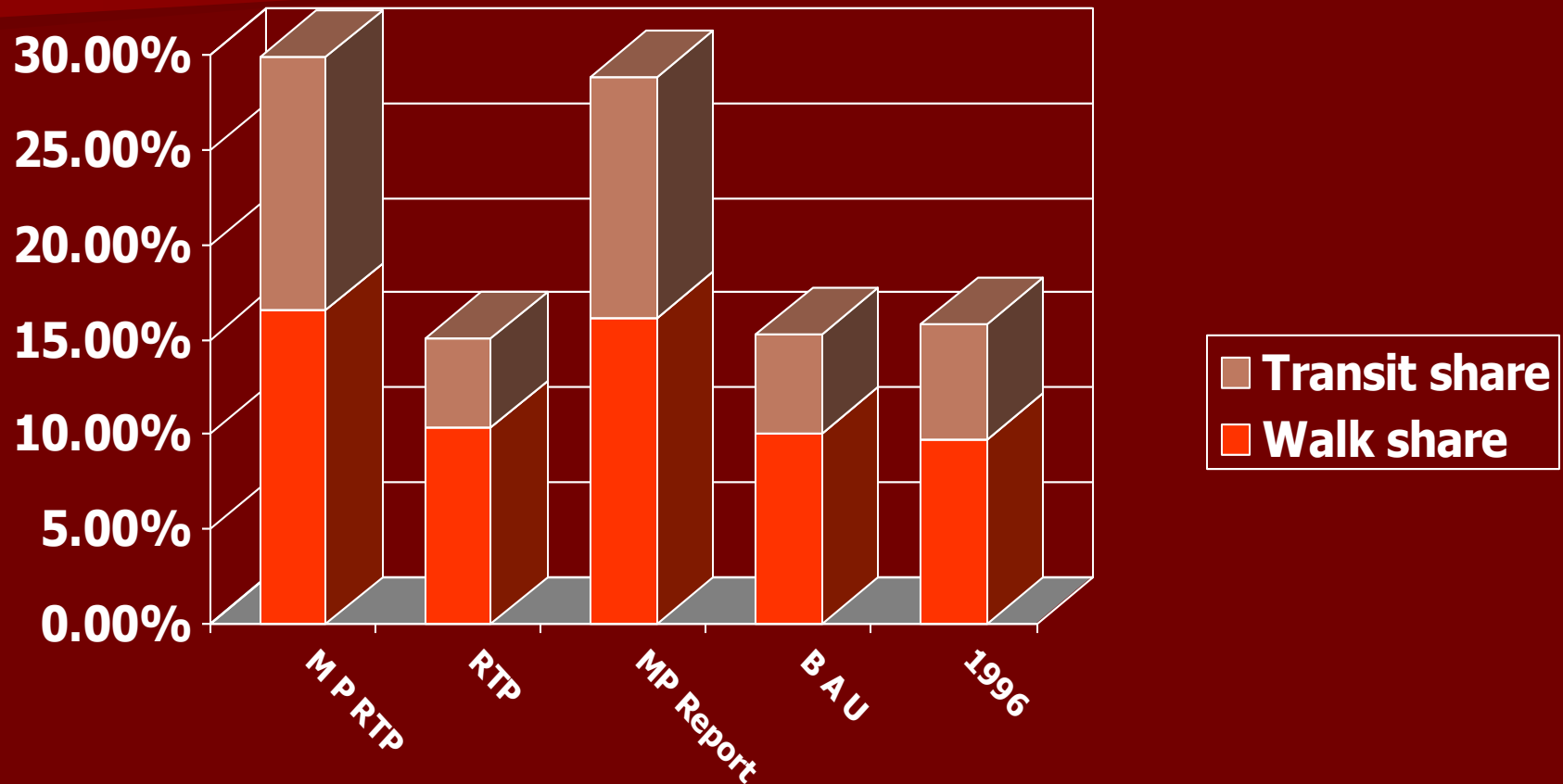


VMT Per Capita

Millions of Miles per Day



Non-Auto Mode Share

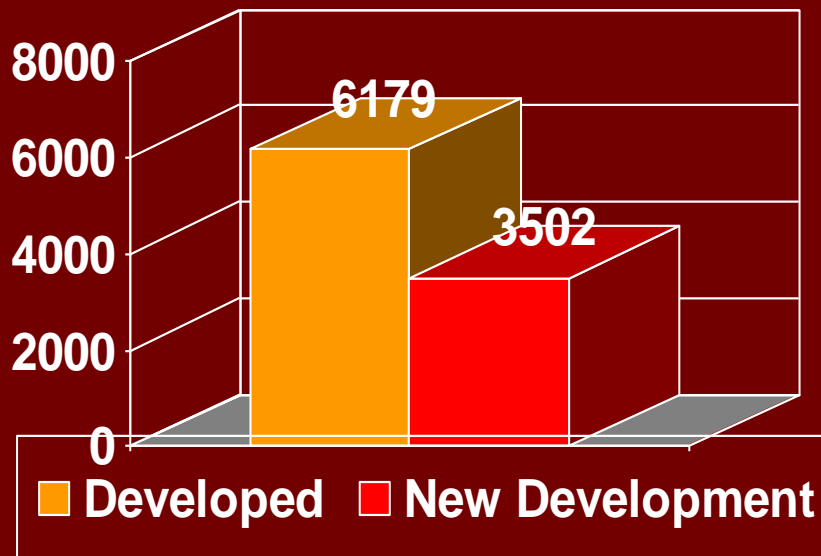


Environmental Sustainability

- Amount of acreage of wetlands that become developed
- Air quality measures - total mobile emissions
- Per capita water use - calculated from characteristic development types used to create the scenario
- Number of new well and septic systems installed
- Change in amount of impervious surface, measured in acres or percentage
- Measure of non point source pollution and effect on water quality
- Open space per capita - Acres of parks per 1000 people
- Connectivity of open space
- Access of population to open space – number of people with access, varying by time, to different classes of open space
- Acres of endangered species habitat preserved.
- Amount of impervious cover
- Amount of agricultural land consumed by development
- Amount of tree coverage
- Sewer effluent

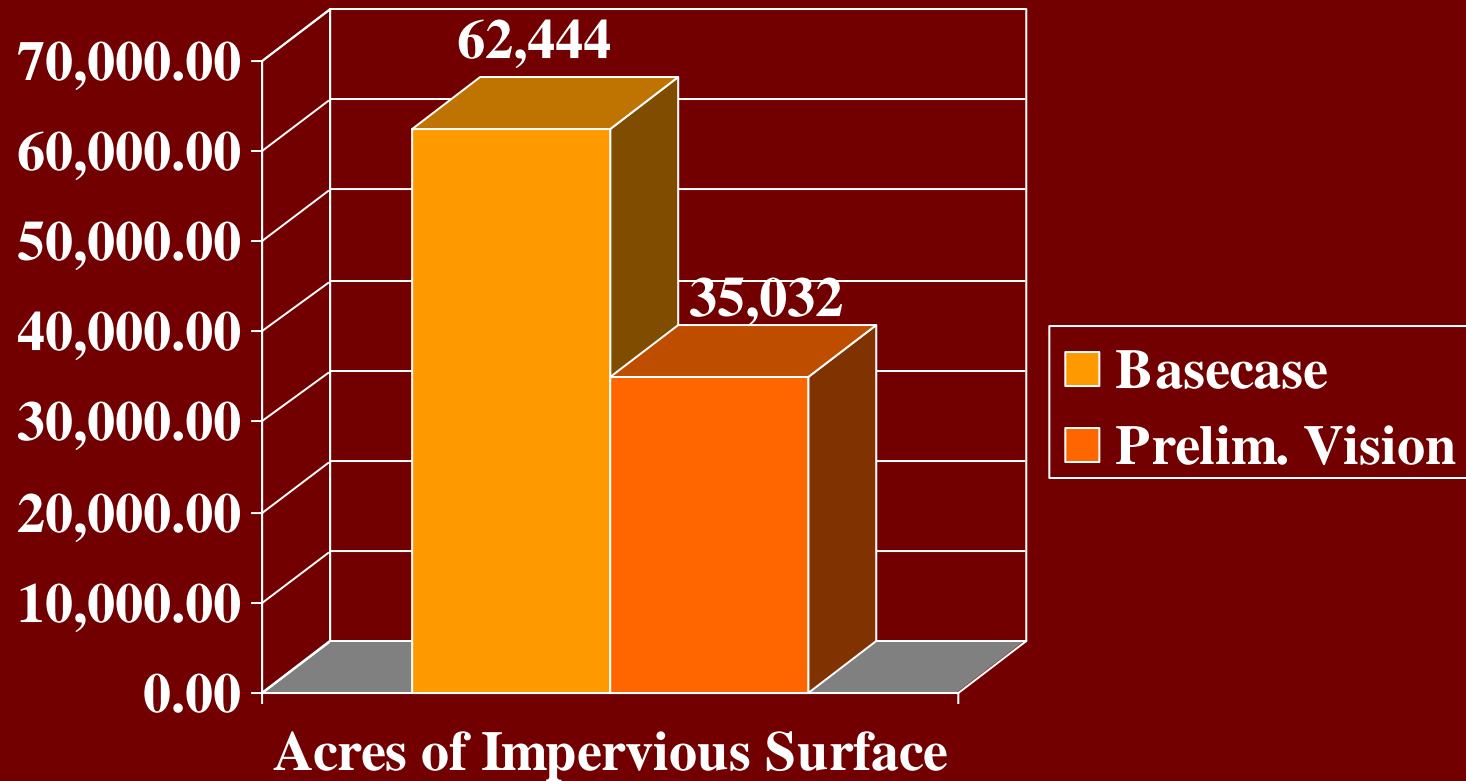
EN2 Environmentally Sensitive Lands

Acres of
Environmentally
Sensitive Lands

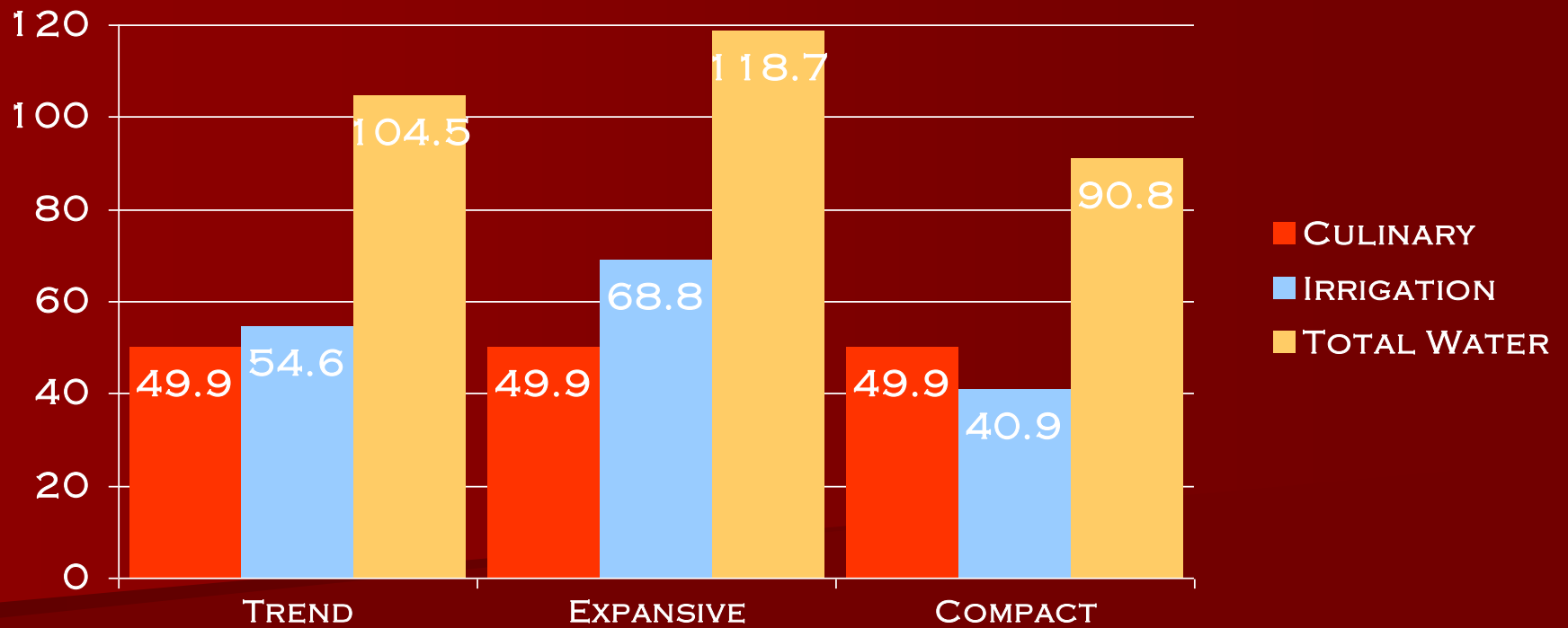


- Developed lands include total environmentally constrained lands.
- New development includes only the percentage estimated to be developed.

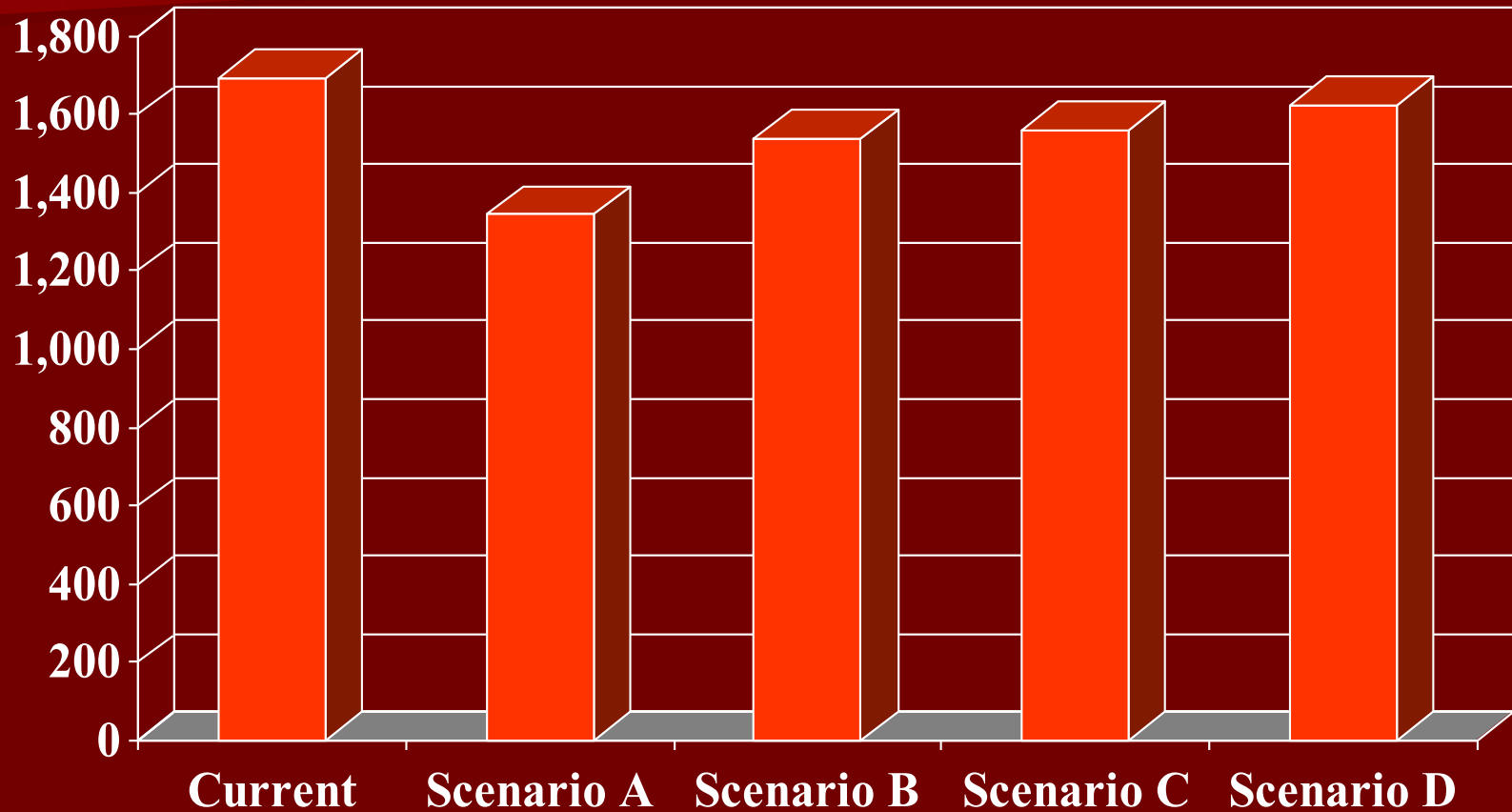
How many additional acres of Impervious Surface?



Water Usage



Remaining Agricultural and Range Land

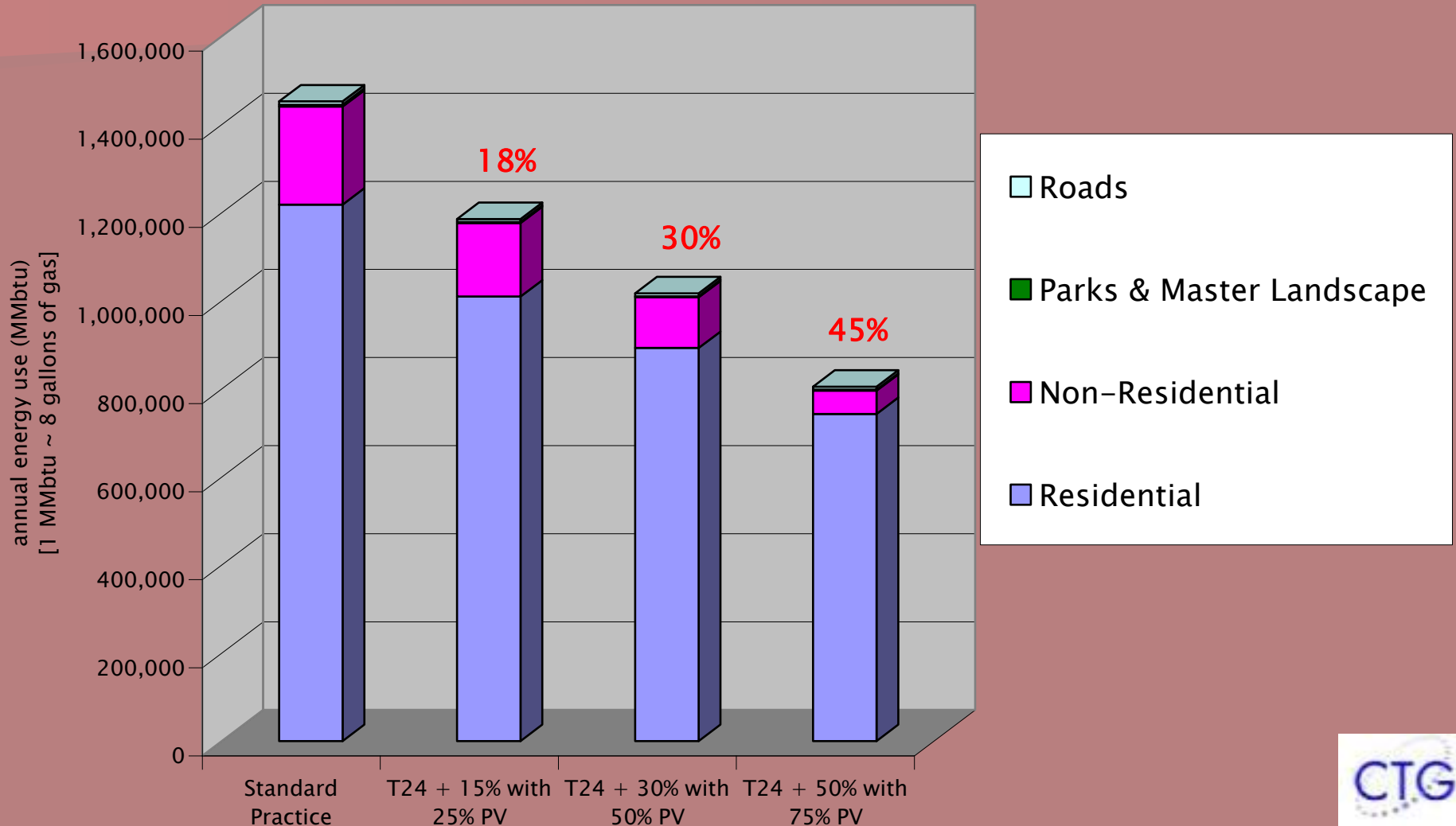


Carbon Footprint

- Transportation Energy
- Building Sector Energy
- Pollutants and carbon emission
- District Energy Production
- Water Capture and reuse
- Wastewater reuse
- Aggregate water consumption
- Aggregate heat island
- Greenhouse gas emissions

Energy Consumption

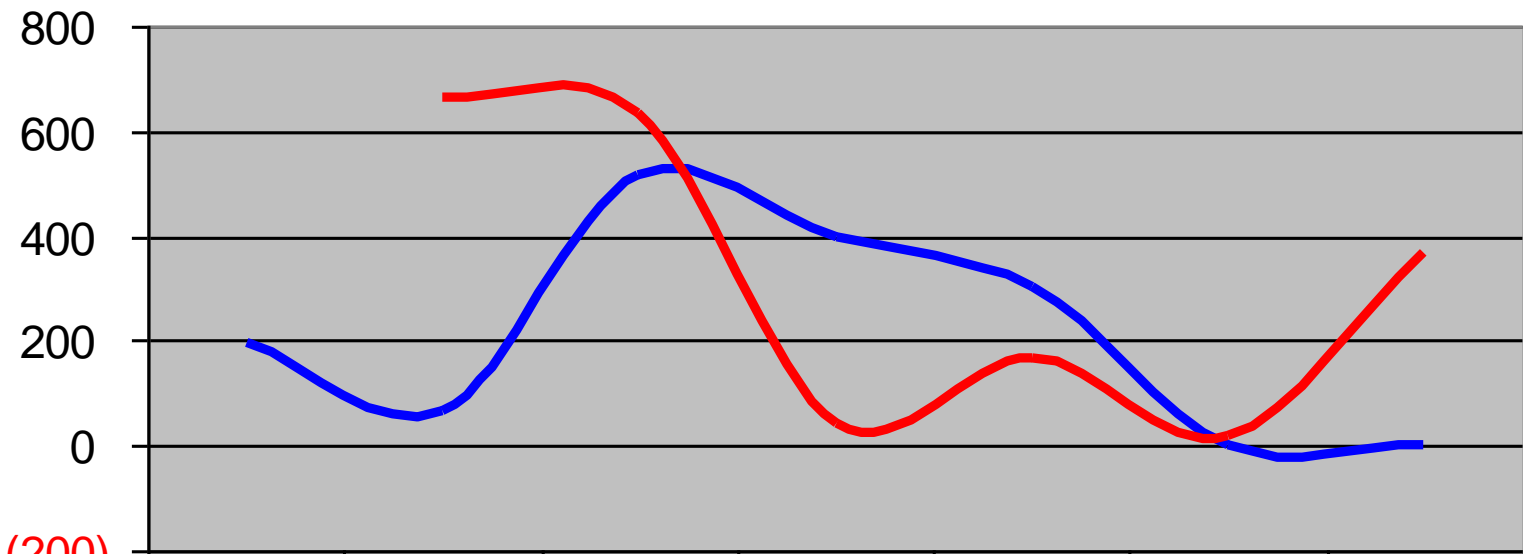
Energy Savings Breakdown by Sector for the Ranch Plan



Social Equity

- Share of people living in concentrated low-income areas
- Displacement of existing housing resulting from redevelopment, especially displacement of low-income housing
- Accessibility to regional jobs from neighborhoods earning below 80% of the regional median income
- Location of employment relative to existing moderate-income neighborhoods
- Accessibility to green space of low-income neighborhoods.

Housing Supply vs. Demand (Chicago Region)



	Below Market	Apt	Condo	Townho use	SFR Small	SFR Med	SFR Large
Demand	196	64	515	395	303	0	0
Supply		664	636	43	169	18	371

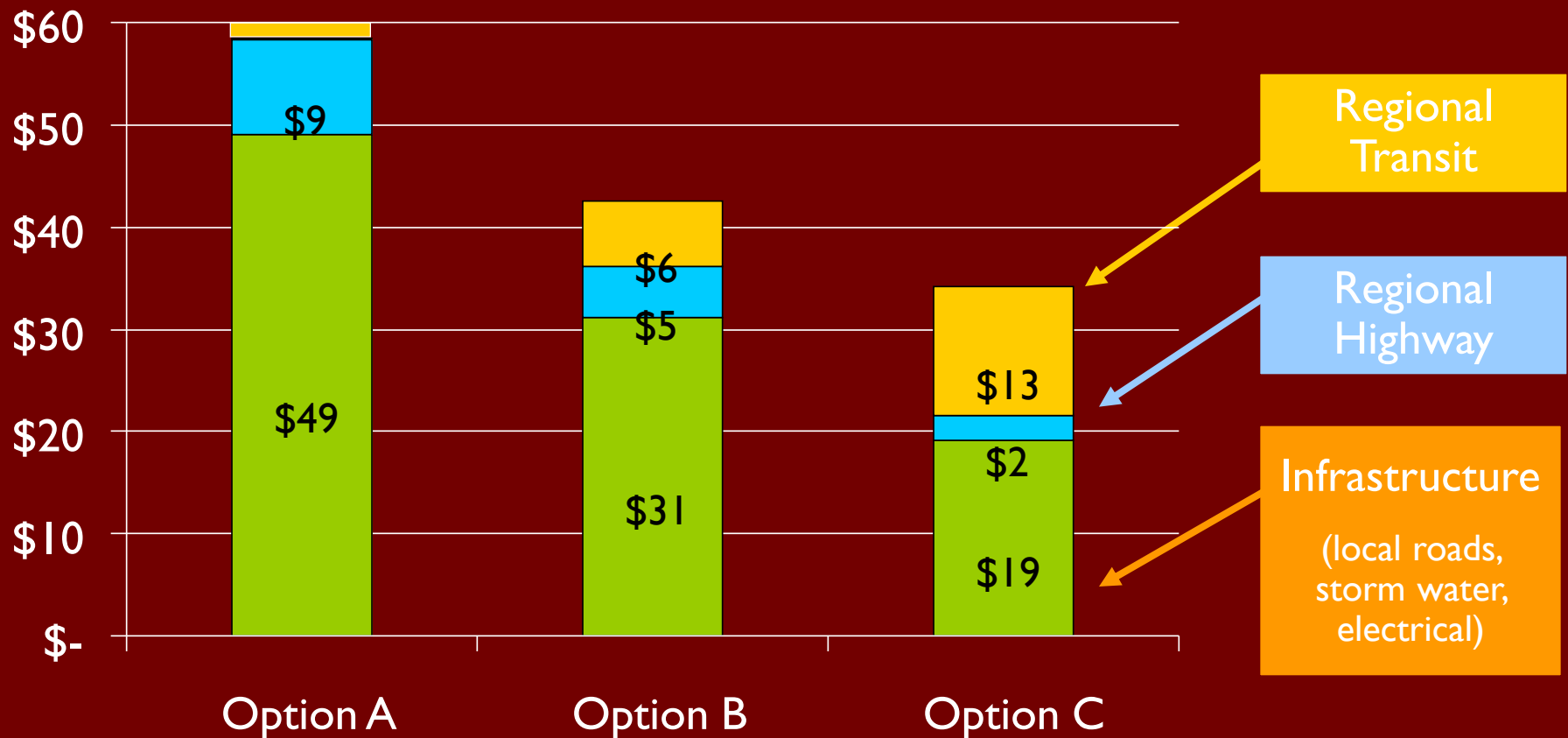
— Demand — Supply

Economy

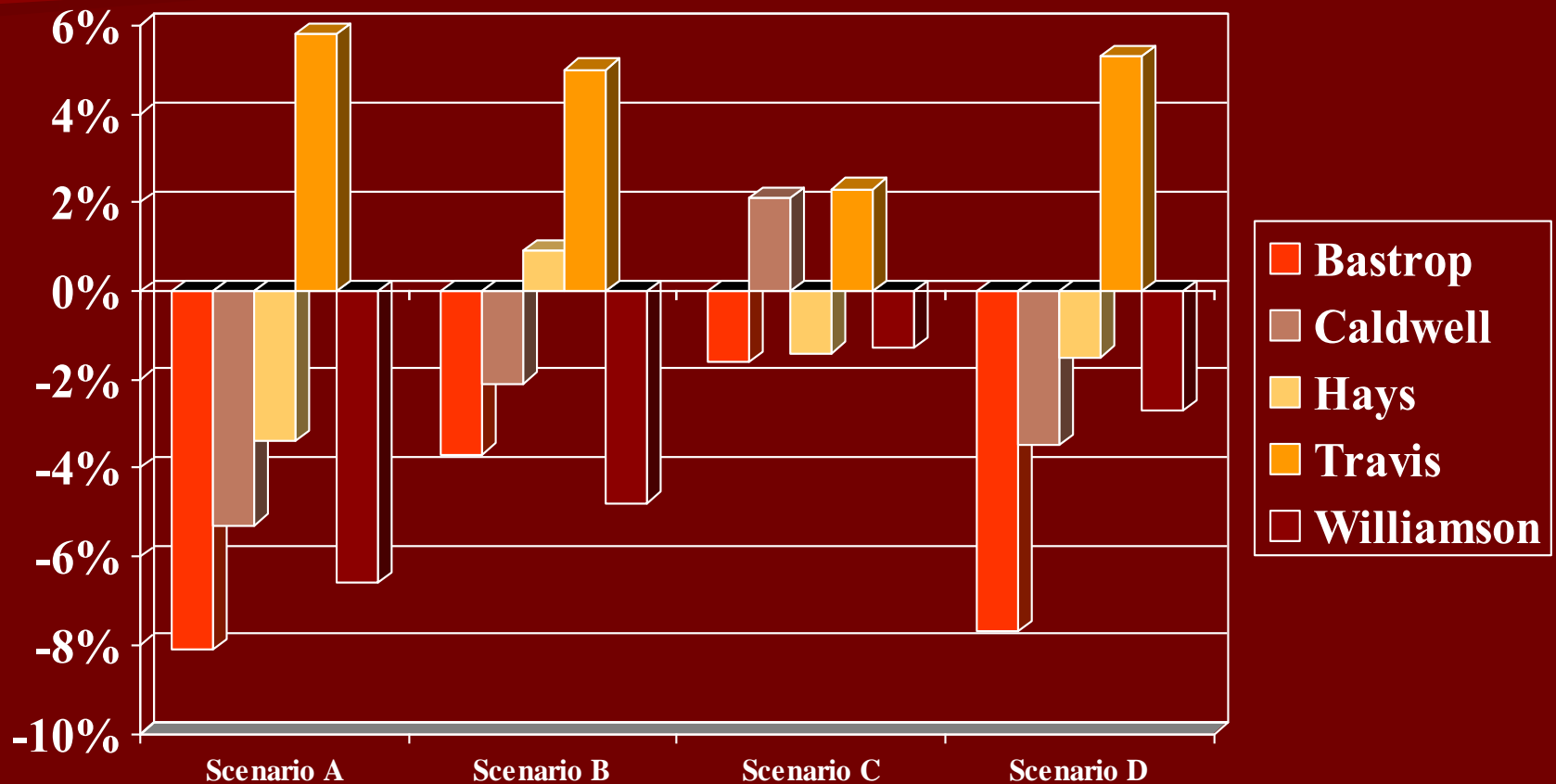
- Market Analysis (development module)
- Infrastructure Costs (Sewer, Water, Stormdrain)
- Diversity of employment, measured by percentage of new jobs per sector
- Percent of new homes affordable to buyers earning median income
- Ratio of owner occupied to rental units
- Discrepancy between housing supply and demand by housing type
- Ratio of jobs to rental units and affordable units by community
- The variety of housing styles and sizes by community
- Housing and job density of land urbanized

Infrastructure Costs (Louisiana Speaks)

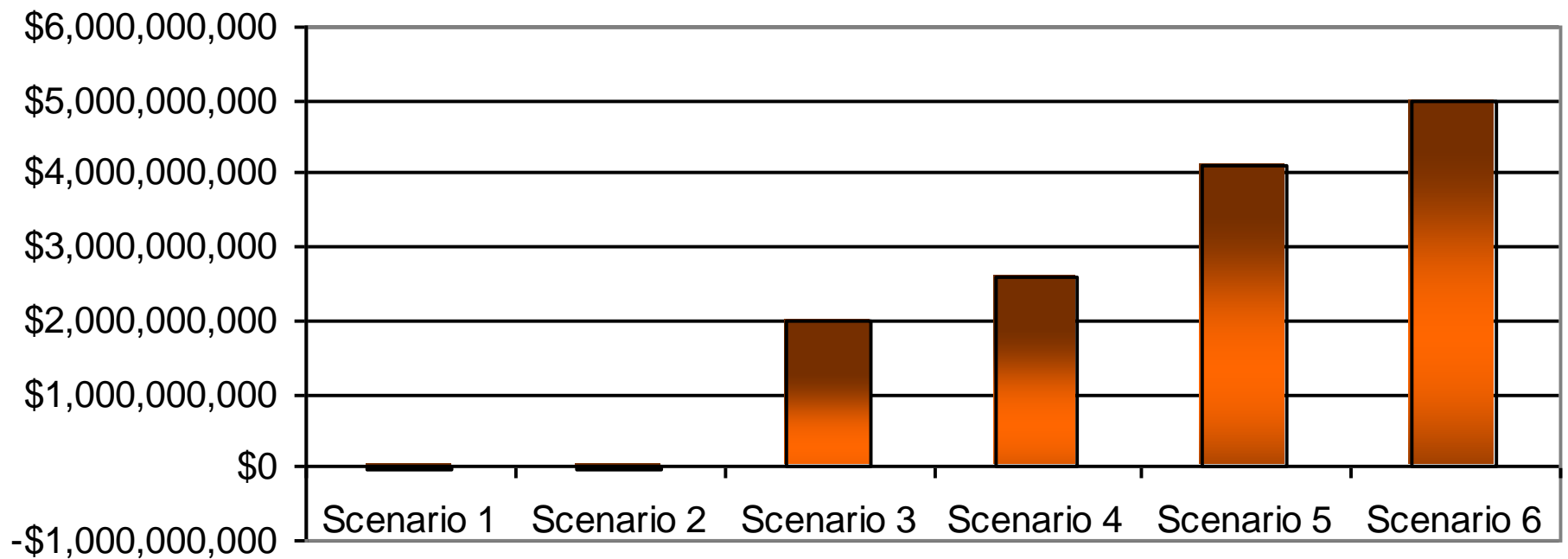
Total Infrastructure Cost (2005-2050)



Property Tax/Tax Burden Ratio



Net Present Value at 8% Discount Rate



Development Program for Regional Scenarios

REMI Forecast - Households

	2005	2035	Increment
Antrim			
Benzie			
Grand Traverse	32,809	48,526	15,717
Kalkaska			
Leelanau	9,099	11,836	2,737
Wexford			

REMI Forecast - Employment

	2005	2035	Increment
Antrim	11,374	12,547	1,173
Benzie	8,611	10,117	1,506
Grand Traverse	65,301	79,791	14,490
Kalkaska	5,722	6,086	364
Leelanau	10,200	11,091	891
Wexford	19,244	20,793	1,549

Grand Vision

Draft Scenario Concepts

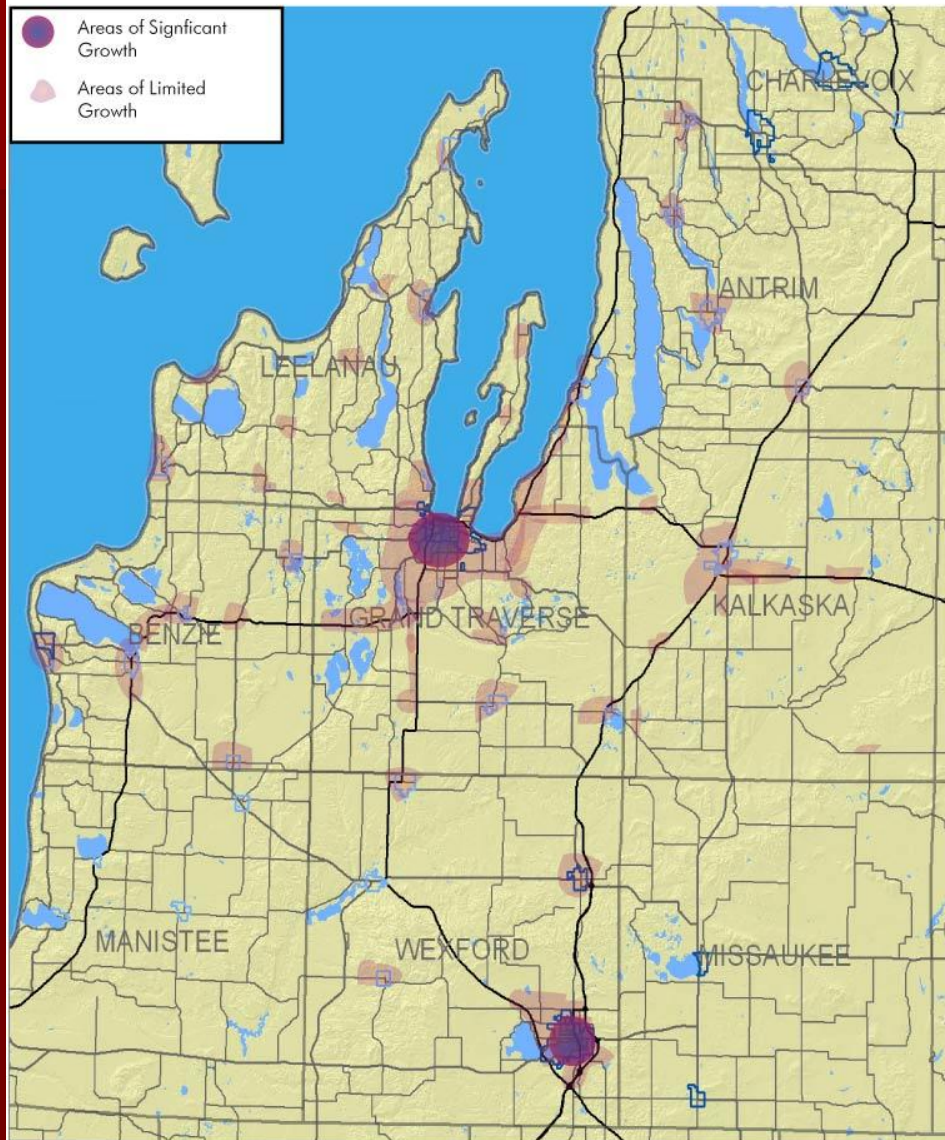
Draft scenarios

July 22, 2008

- **Base Case** – trend development patterns
- **Workshop Average** – development is spread out across existing cities and villages
- **City Dependent** – most development in Traverse City and Cadillac (including a ring of suburban development) with limited development in existing villages
- **Green Scenario** (compact city development) – development maximizes sustainability; low land consumption through open space preservation, compact development and rural clustering
- **Non-Auto Focused** – development is pedestrian and bicycle-friendly and supplemented by development along transit corridors. It also benefits from carpools, work-at-home and other non-auto strategies.
- **Village Focused**

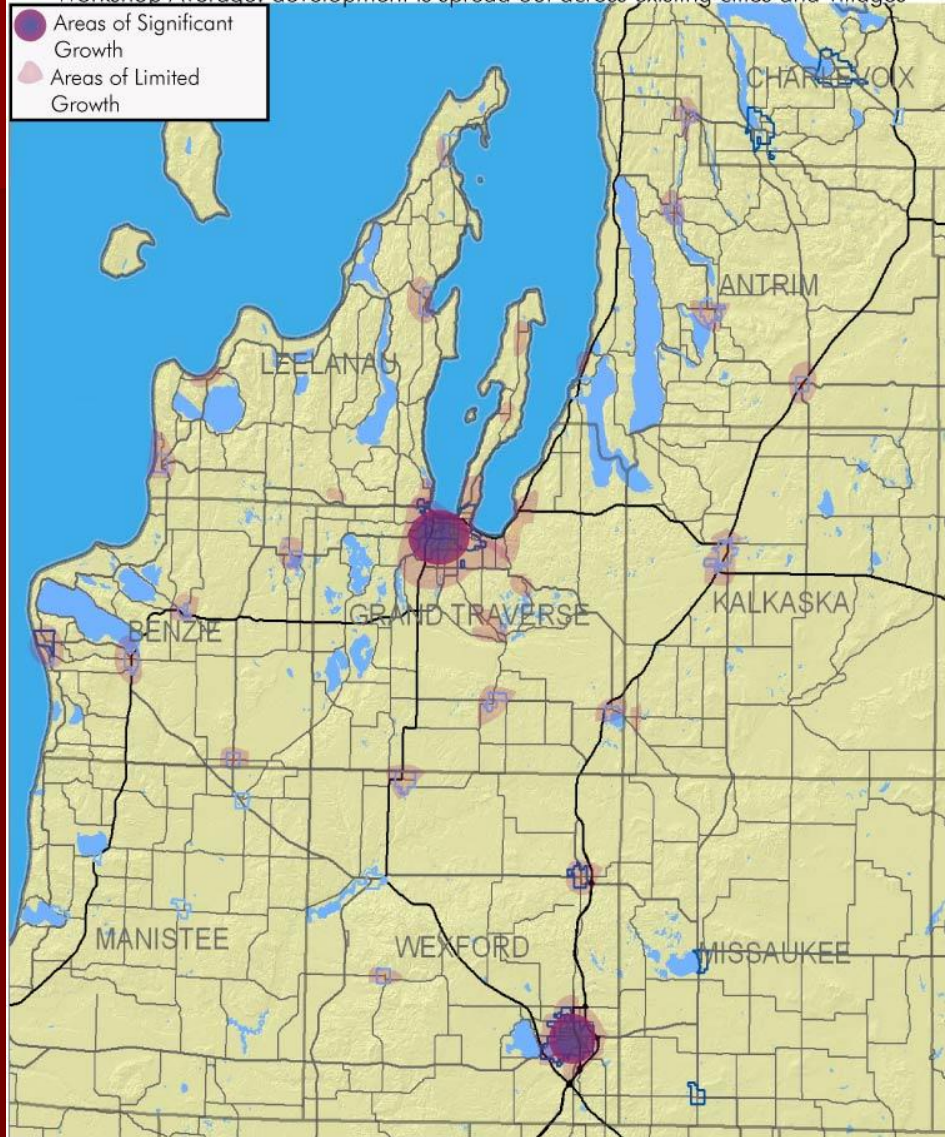
Grand Vision Draft Scenario Concept

Base Case: trend development patterns



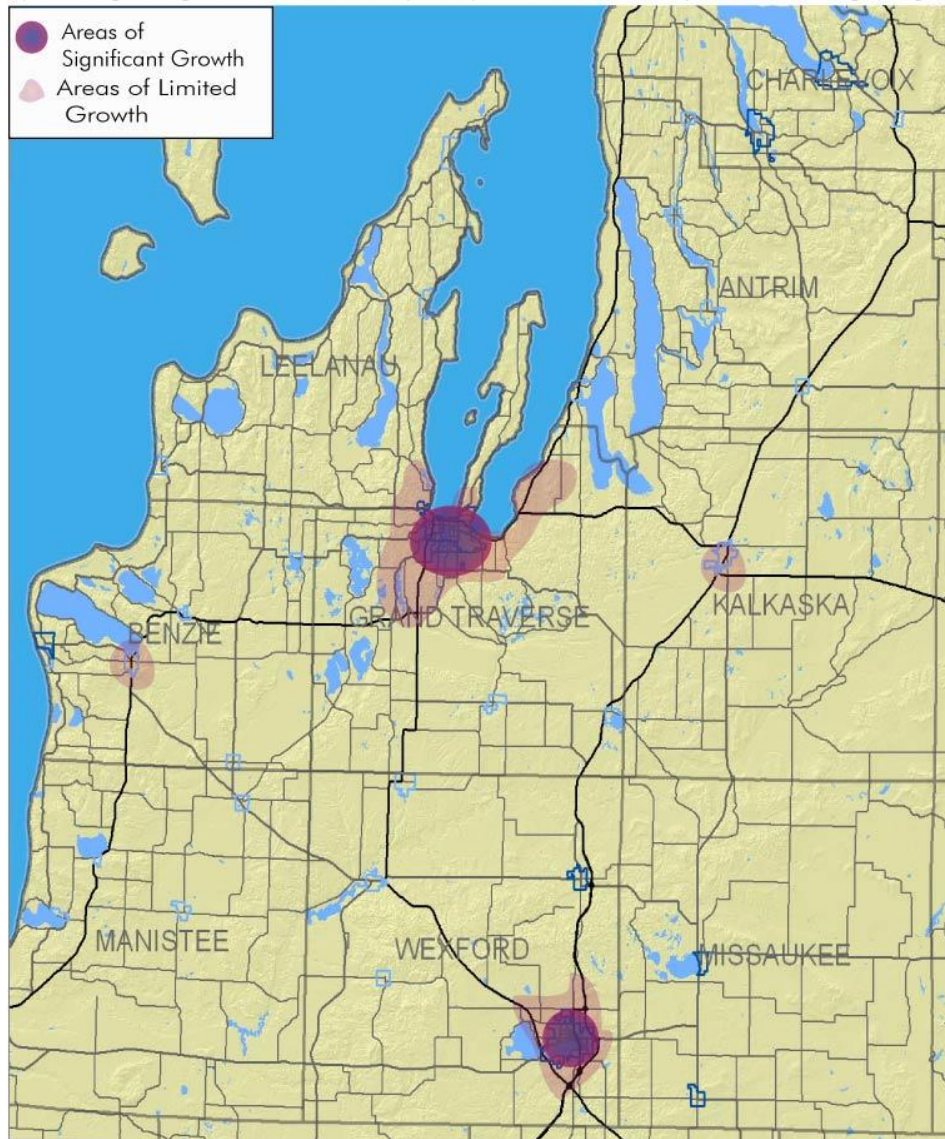
Grand Vision Draft Scenario Concept

Workshop Average: development is spread out across existing cities and villages



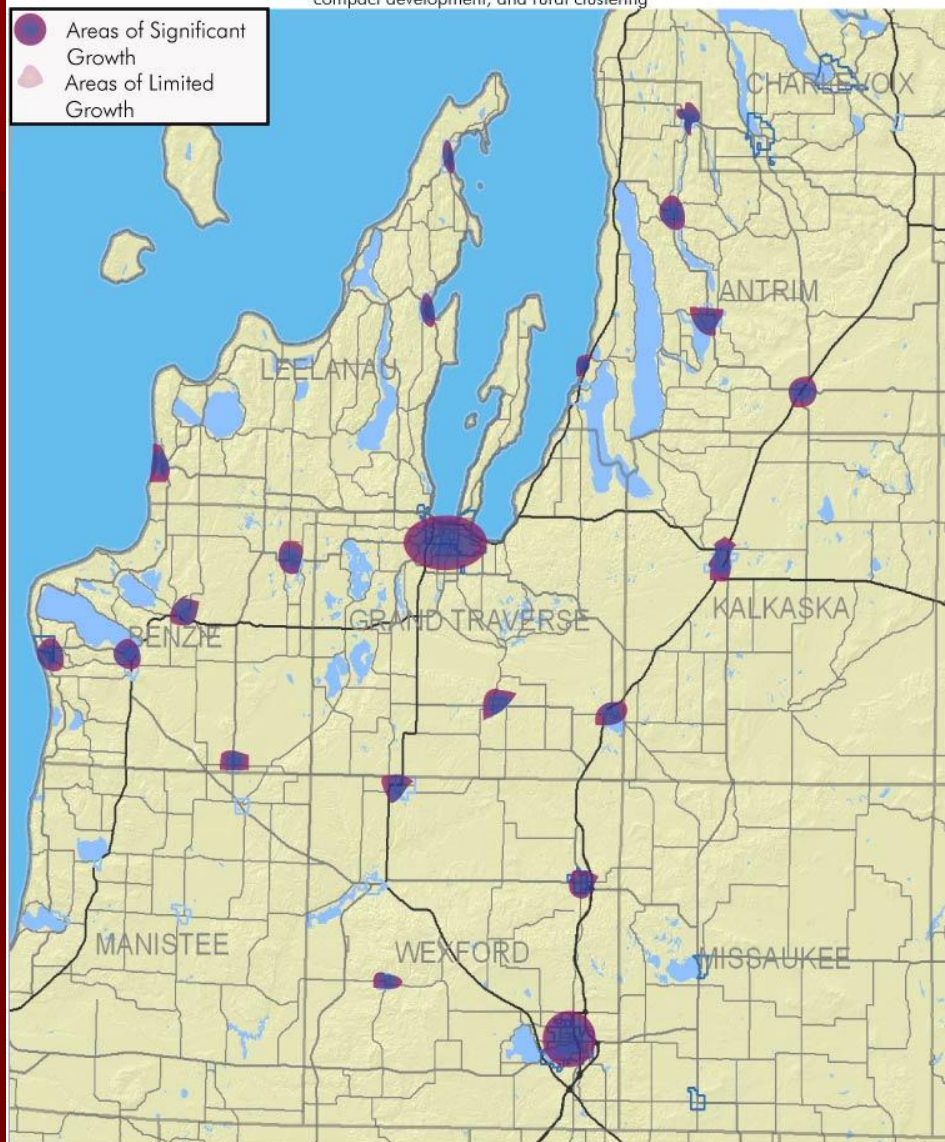
Grand Vision Draft Scenario Concept

City Dependent: Most development in Traverse City and Cadillac
(including a ring of suburban development) with limited development in existing villages



Grand Vision Draft Scenario Concept

Green Scenario (compact city development): development maximizes sustainability; low land consumption through open space preservation, compact development, and rural clustering



Grand Vision Draft Scenario Concept

Pedestrian-Oriented: development is pedestrian and bicycle-friendly and supplemented by development along transit corridors (mainly pedestrian and bike)

