

Professional Land Surveyors of Ohio

2009 ANNUAL CONFERENCE

OGRIP GIS Activities and Initiatives ***Ohio Geographically Referenced Information Program***

Stuart Davis, Administrator
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Infrastructure Service Delivery
Ohio Office of Information Technology
Department of Administrative Services

Jeff Smith, Framework Data Manager
Ohio Office of Information Technology
GIS Support Center



STATE OF OHIO

OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM COUNCIL



OGRIP is the coordinating body for GIS activity for the State of Ohio.

OGRIP strives to

- ***Encourage the creation of digital geographic data of value to multiple users,***
- ***Foster the ability to easily determine what geographic data exists and***
- ***Enhance service delivery to the GIS user community to access and use this data.***

STATE OF OHIO

OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM COUNCIL

Codified into law in January 2009, the OGRIP Council is tasked with

- **Creating a Statewide Real Property Inventory**
and
- **Developing a Real Property Management Plan**

To that end OGRIP will work with State and County officials to develop a complete account of state owned property



OGRIP COUNCIL REPRESENTATION



CAAO

CEAO



Academia

CCAO



OARC
OHIO ASSOCIATION OF REGIONAL COUNCILS



Utilities



Department of
Development

ODOD

Municipal
League (2)



ODOT

OEPA



ODNR

ODAS



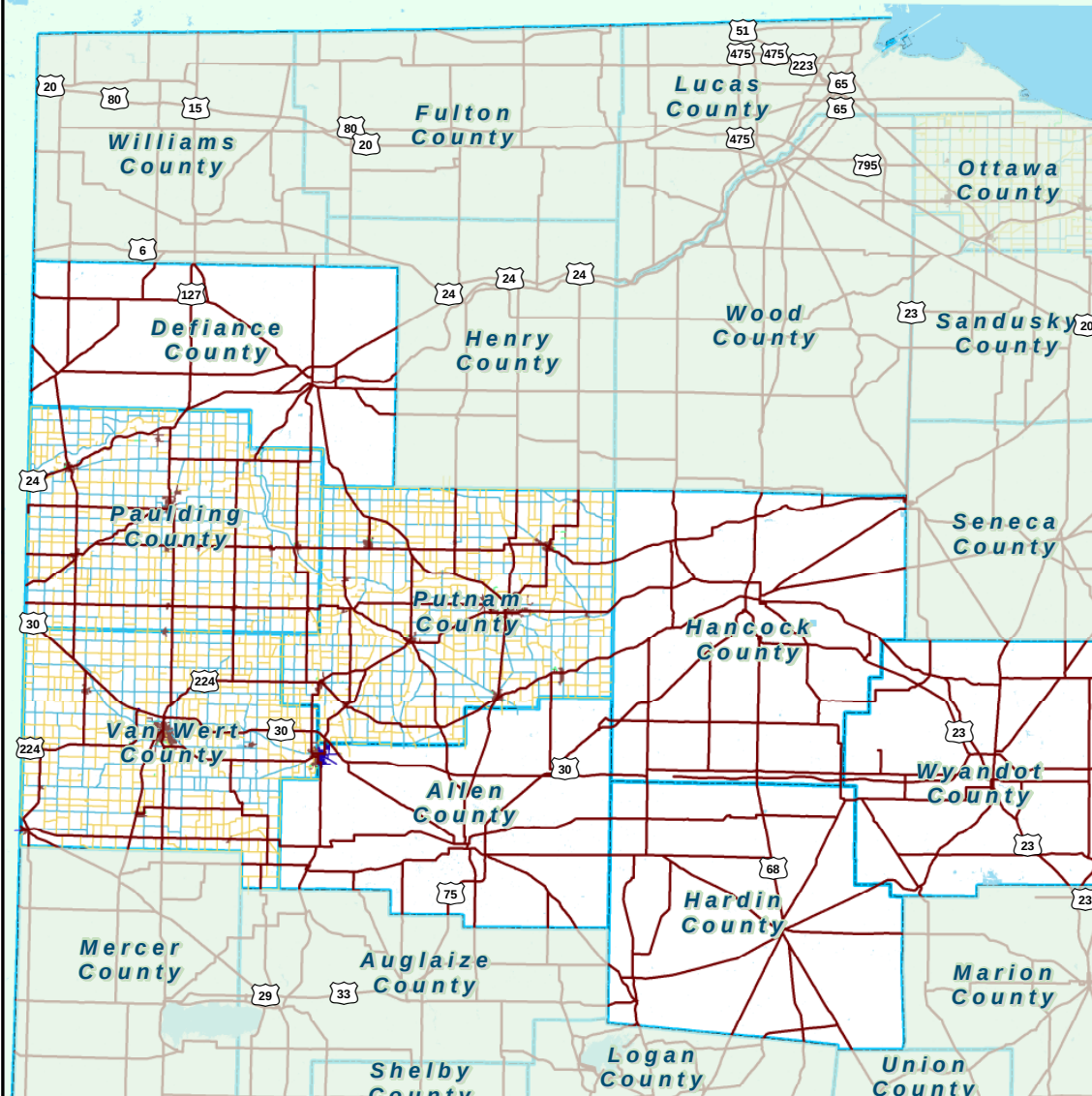
TOS

AGO



OGRIP

Local Government Interaction



- Strong working relationship
- Points of contact in every county
- Profile development
- Serve as facilitator and integrator role

Ohio County GIS Profiles

County	Name	Title	Department	Phone	Email	Status	Ortho	Date	Centerline	Parcels
Adams	David Gfford	County Auditor	Adams County Auditor	937-544-2364	adamscoaud@dragonbbs.com					
Aller	Mike Howbert	Tax Map Surveyor		419-228-3700 x8746	mhowbert@allencountyohio.com	Implementing	Yes	Apr 2006	Operating	Yes
Ashland	Jeffrey Beebe	IT Manager		419-282-4256	jeff@ashlandcounty.org	Contemplating	No		Operating	
Ashtabula	LeRoy McNally	Chief Deputy Engineer	Ashtabula County Engineer's office	440-576-3710	lmcnally@ashtabulacountyengineer.org	Operating	Yes	Apr 2006	Implementing	Yes
Athens	Archie Stanley	Athens County Engineer	Athens County Engineer	740-593-5514	astanley@athenscountygovernment.com	Operating	Yes	Apr 2002	Operating	Yes
Auglaize	Joseph Colin	GIS Coordinator	Auglaize County Auditor	419-738-7736	jcolin@auglaizeccounty.org	Operating	Yes	Apr 2003	Operating	Yes
Belmont	Don Pickenpaugh	GIS Director	Belmont County Engineer	740-526-9306	conp@belmontcountygis.com	Operating	Yes	Mar 2006	Implementing	Yes
Brown	Mitchell Hastings	GIS Coordinator	Brown County Engineer's Office	937-378-6456 x106	mhastings@browncountyengineer.org	Operating	Yes	Apr 2008	Operating	Yes
Butler	Douglas Kotnik	GIS Director	Information Services	513-785-6376	kotnikdp@butlercountyohio.org	Operating	Yes	Apr 2005	Implementing	Yes
Carroll	Randy Hull	Asst. Engineer	Carroll County Engineer's Office	330-627-3661	rhull5@verizon.net	Operating	Yes	Apr 2005	None	Yes
Champaign	Stephen McCall		Champaign County Engineer	937-653-4846	mccall@co.champaign.oh.us	Operating	Yes	Apr 2007	Operating	Yes
Clark	Aimee Belanger-Haes	GIS Director	Clark County Auditor	937-521-1887 x	gis@clarkcountyohio.gov	Operating	Yes	Apr 2007	Operating	Yes
Clermont	Kelly Perry	GIS Coordinator	Office of Technology, Communications and Security	513-732-7305	kperry@co.clermont.oh.us	Operating	Yes	Apr 2006	Operating	Yes
Clinton	Joe Merritt	GIS Manager	Clinton County Engineer	937-362-0035	merrittjoe@hotmail.com	Operating	Yes	Apr 2006	Operating	Yes
Columbiana	Melissa Dawson	GIS Coordinator		330-424-1455 x299	mdawson@columbianacountyengineer.org	No GIS	Yes	Apr 1989	Contemplating	Yes
Coshocton	Fred Wachtel	County Engineer	Coshocton County Engineer	740-622-2135	fredwachtel@coshoctoncounty.net	Operating	Yes	Jul 2006	Operating	Yes
Crawford	Kyle Hartman	GIS Director	Crawford County Auditor	419-562-7941 x1081	kyleh@crawford-co.org	Operating	Yes	Apr 2006	Operating	Yes
Cuyahoga	Kevin Kelley	Geospatial Information Officer	Cuyahoga County	216-348-3848	kkelley@cuyahogacounty.us	Operating	Yes	Jun 2006	Operating	Yes
Darke	Janice Anderson	Auditor	Darke County Auditor	937-547-7310	carkeauditor@wesnet.com	Operating				
Defiance	Warren Schlatter	Chief Deputy	Defiance County Engineer	419-782-4751	cce@defiance-county.com	Operating	Yes	Apr 2006	Operating	Yes
Delaware	Shoreh Elhami	GIS Director	DALIS Project	740-833-2070	selhami@co.delaware.oh.us	Operating	Yes	Apr 2008	Operating	Yes
Erie	Mark Wroblewski	GIS Coordinator	Erie County Auditors Office	419-627-7746	MWroblewski@erie-county-ohio.net	Operating	Yes	Apr 2007	Operating	Yes
Fairfield	Dave Burgei	GIS Manager	Fairfield County Auditor	740-687-7122	cburgei@co.fairfield.oh.us	Operating	Yes	Mar 2006	Operating	Yes
Fayette	Scott David Cormany	GIS Coordinator	Fayette Soil and Water Conservation District	740-636-0275 x47	scott.cormany@fayette-co-oh.com	Implementing	Yes	Jun 2006	Operating	Yes
Franklin	Vance Cerasini	Deputy Auditor - GIS	Franklin County Auditor	614-462-7247	vcerasini@franklincount.ohio.gov	Operating	Yes	Apr 2007	Operating	Yes

<http://www.oit.ohio.gov/sdd/ESS/Ogrip/countyprofiles.aspx>



Currency -

- If its worth building, its worth maintaining
 - Currency Is Imperative

Accuracy -

- Data collected must support all levels of government - Accuracy Is Crucial

Interoperability -

- Datasets built on common spatial framework

Collaborative

- Program for data acquisition, development and sharing must a coordinated collaborative effort

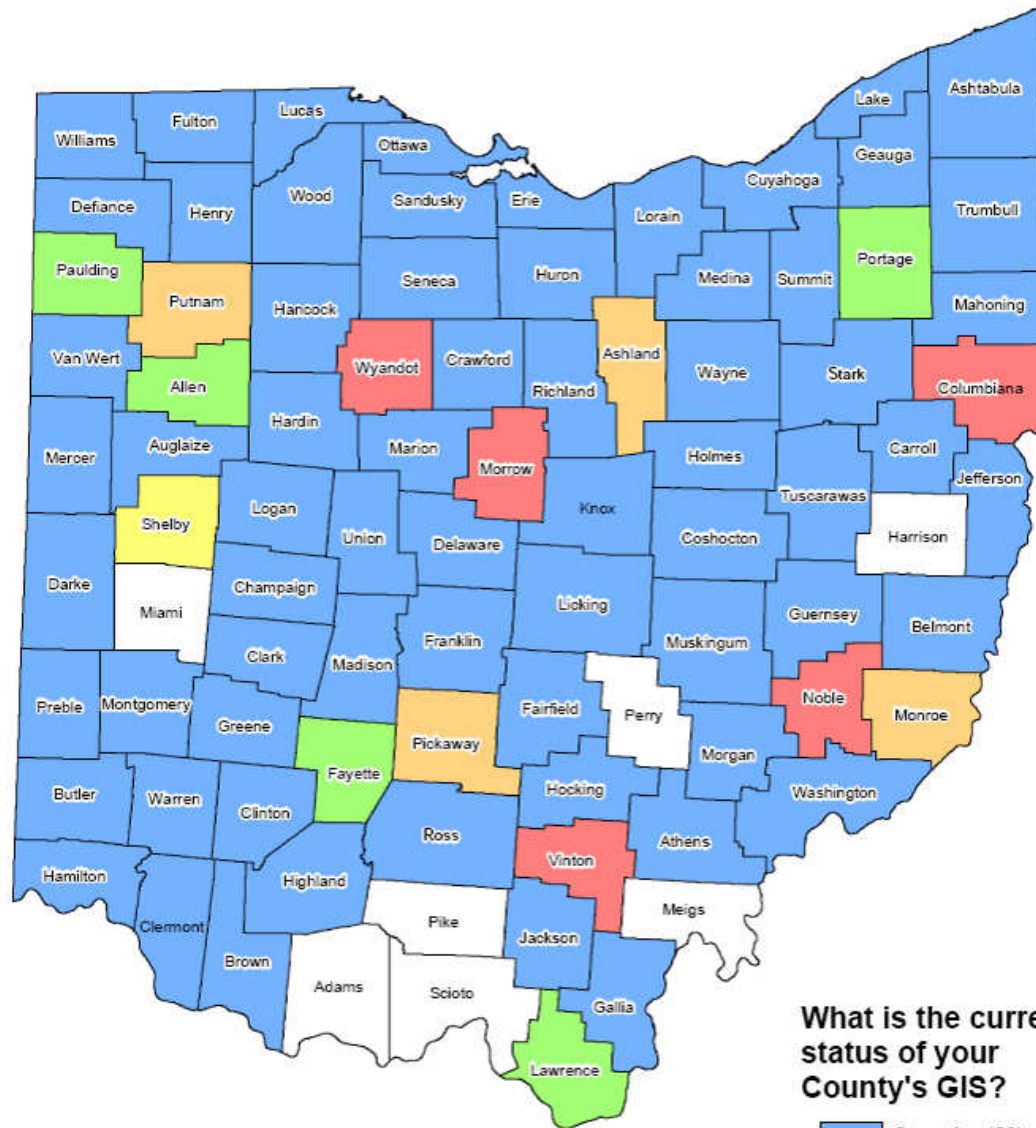
Vertical Integration -

- Only way to prepare for Ohio's future

OGRIP PROGRAM GOAL

**Collect
it once - use it a
bunch and
maintain it**

GIS County Profiles



OGRIP PROGRAM GOAL

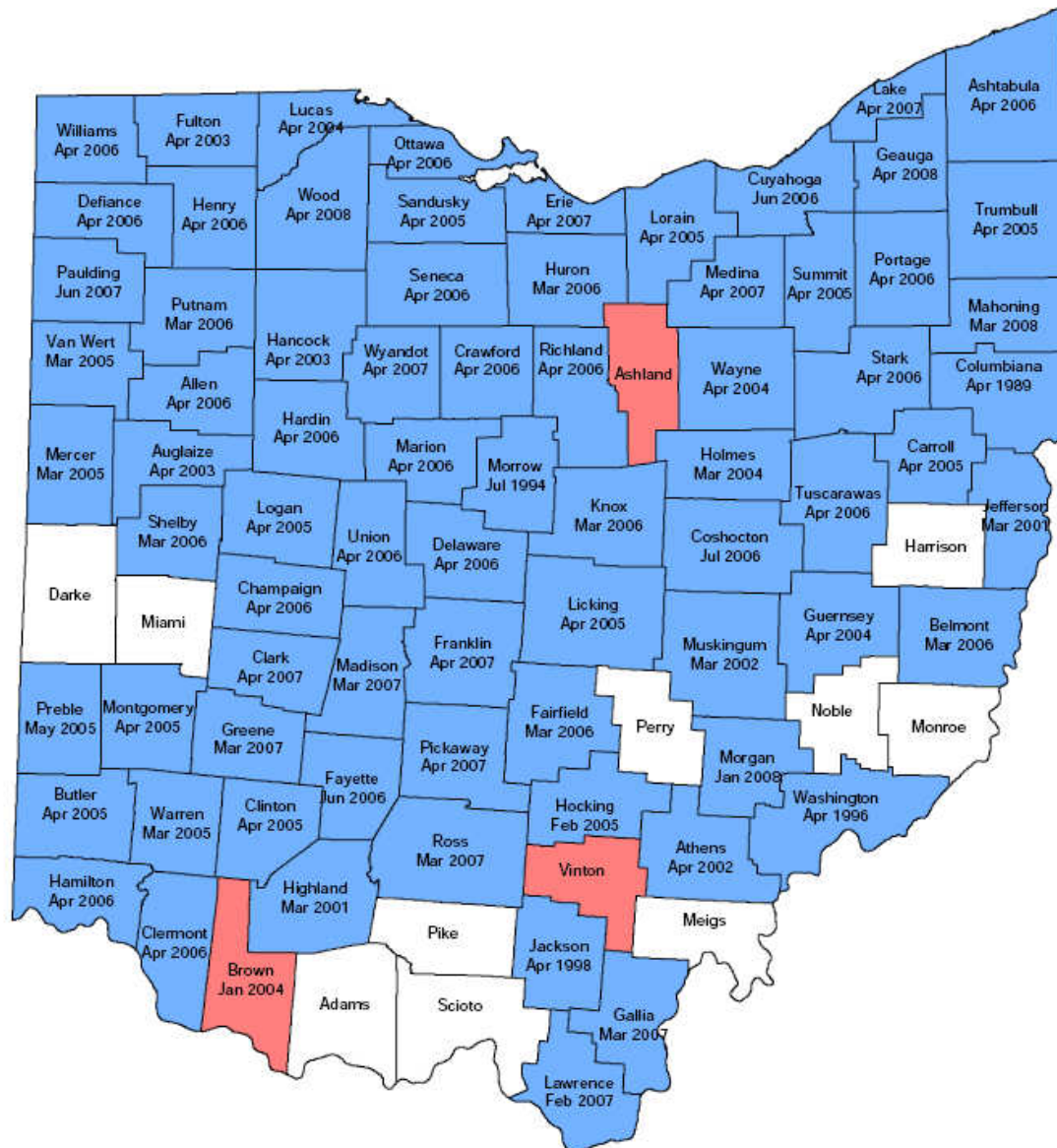
**Collect
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maintain it**

Prepared by
OIT/Infrastructure Services Division
Enterprise Shared Services
OGRIP/GIS Support Center
August 2008

- Operating (66)
- Implementing (5)
- Planning (1)
- Contemplating (4)
- No GIS (5)
- No Response (7)



GIS County Profiles



OGRIP PROGRAM GOAL

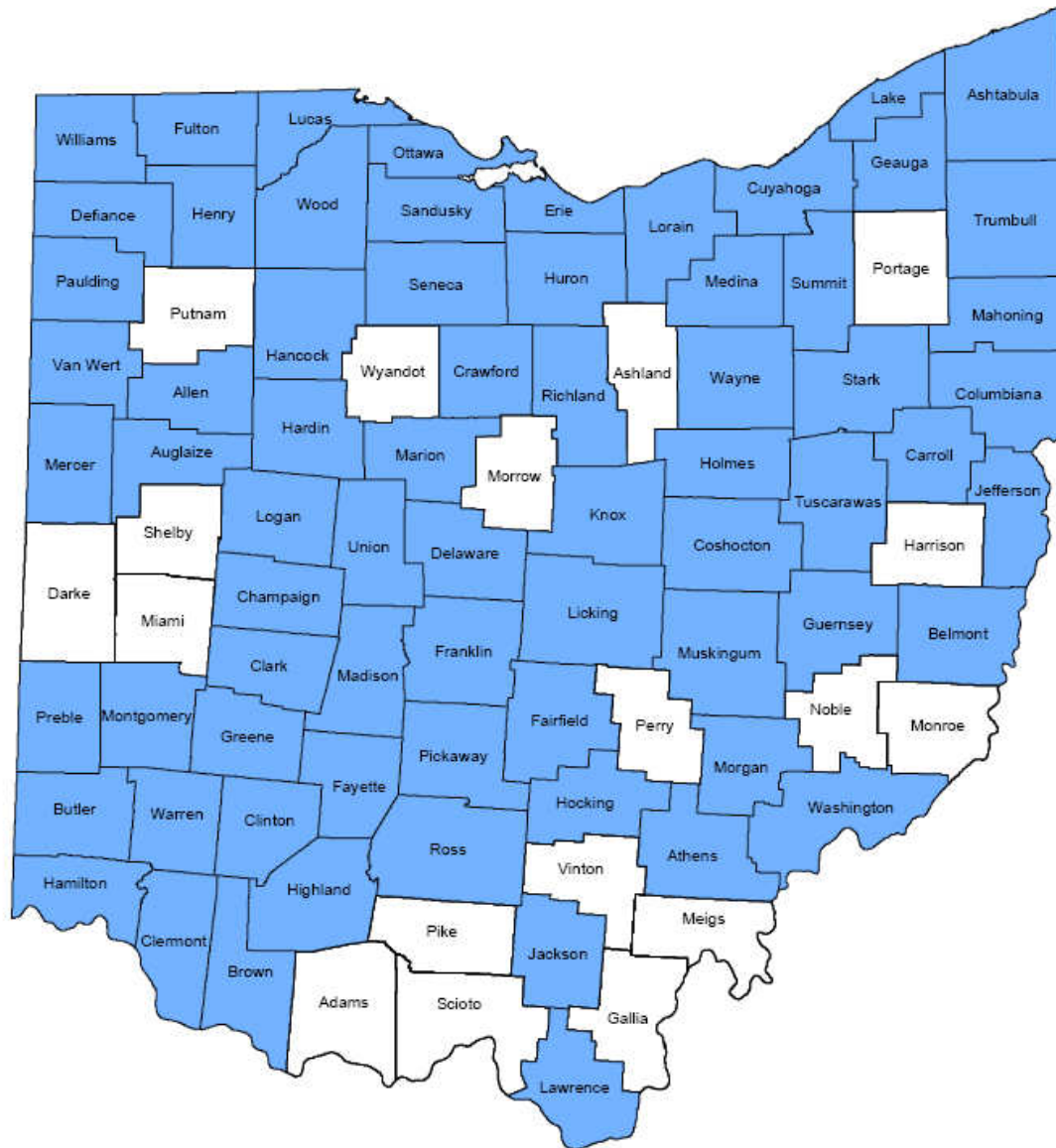
Collect
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Counties Using Imagery
(Date of most recent imagery)



GIS County Profiles



OGRIP PROGRAM GOAL

**Collect
it once - use it a
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Are parcel boundaries
associated with property
or cadastral data?

Blue Yes
White No/No Response



OGRIP Forum

FAMEWORK DATA TASKFORCES

**Geodetic Control/Survey
Monumentation**
Federal Base Network
(FBN)

Imagery
Ohio Statewide Imagery
Program (OSIP)

Transportation
Location Based Response
System (LBRS)

Hydrography
National Hydro Dataset
(NHD)

Cadastral/Parcels
Developing strategy

Cultural Boundaries
School District Boundaries

Metadata
NSDI/CAP



The World According to Stu

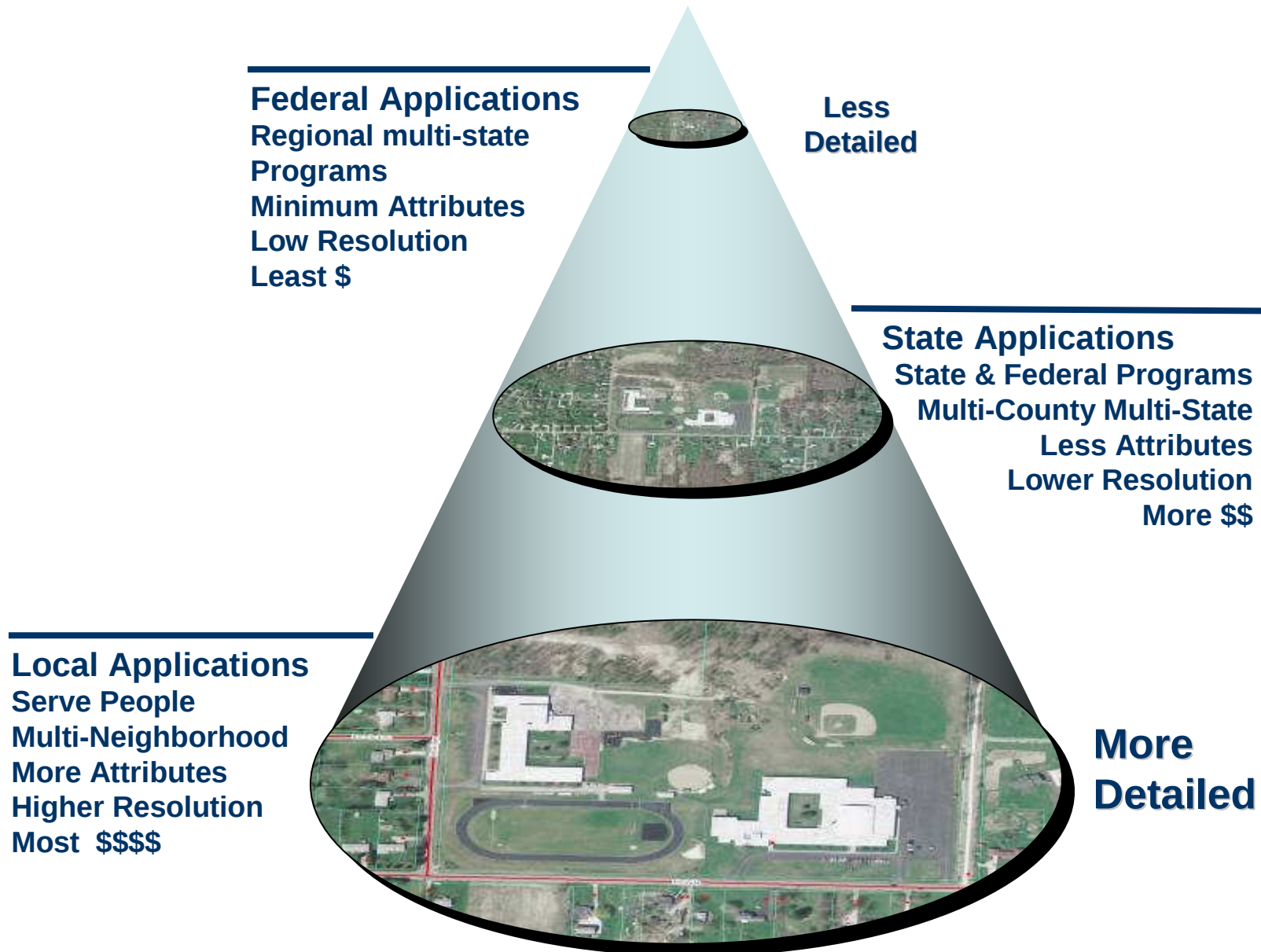
Vertical Integration

The ability to create or develop “anything” that meets a common need and supports multiple levels of government.

Levels of government are united through a hierarchy sharing a common interest in the data.

Each member of the hierarchy may produce a different product, and the products combine to satisfy a common need or objective.

VERTICAL INTEGRATION



PROBLEMS IDENTIFIED



1994 USGS Image & Various 1998-2001 Centerline Data Sources

RESOLUTION

Current Accurate Interoperable Collaborative

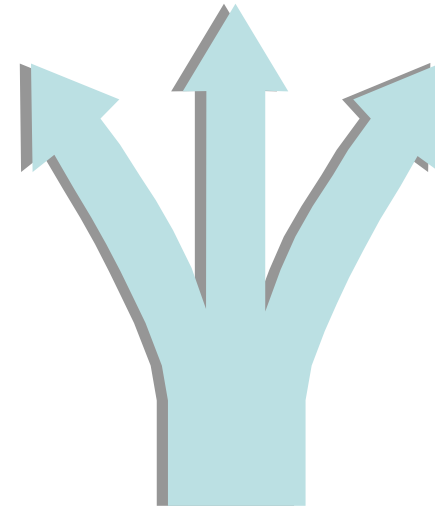


2007 OSIP Image & 2008 Local Government LBRS Data Source

Benefits of Vertical Integration

- more effective use of dollars
- develop applications faster
- improve customer satisfaction
- provide better decision-making
- utilize data produced by others
- extend analysis beyond jurisdictions
- resolve problems created by conflicting data
- redirect resources associated with duplication
- reduce dissemination costs by direct access
- provide a foundation for others to build upon

External GIS Sharing



Internal Data Use

Vertical Integration Issues and Challenges

- Time and Money
 - Funding - Leveraging State, Local and Federal Dollars for Ohio
 - Framework for interaction and partnerships – MOAs, MOUs
- Communication and cooperation across Jurisdictional Boundaries
- Creation of an Ohio Enterprise-wide Perspective - Viewing issues regionally
- Lack of consistent standards, multiple formats, different methods of development
- Maintenance skill sets
- Data access and distribution – Ownership and Privacy Issues, Where and how do we store it...restrictions on data, etc.
- Equitable means of supporting local government participation
- Implementing and Maintaining a Comprehensive GIS Program for Ohio

OGRIP INITIATIVES

Location Based Response System

LBRS

Ohio Statewide Imagery Program

OSIP

Proposed OSIP II

Ohio Coordinated Cadastral Program

Proposed OCCP



LOCATION BASED RESPONSE SYSTEM



Program Sponsor

Ohio Department of Transportation

Program Administrators

Department of Administrative Services

Ohio Office of Information Technology

Ohio Geographically Referenced Information Program

GIS Support Center

Location Based Response System

- The LBRS establishes partnerships between State and County for centerline and address development.
- Collaborative efforts of State and Local government LBRS is producing highly accurate field verified data that is both current interoperable.
- LBRS is an Ohio asset maintained by local resources as part of a coordinated long-term effort by OGRIP to reduce redundant data collection activities and foster Vertical Integration.

Location Based Response System

Positionally accurate statewide road centerline data

- +/- 1 M Horizontal
- Verified Address ranges

Site specific addresses

- Higher confidence/increase reliability for geocoding
- Known accuracy & limits of data and use

One set of geography –

- Multiple attributes for different uses at all levels of government
- Locally maintained – collaboratively funded

LBRS

Memorandum of Agreement

Expression of Interest

An expression of interest from county officials is made to OGRIP. Once this is received, OGRIP reviews the County GIS Profiles to determine the status of countywide GIS efforts and known history of GIS activity.

Meet with County Representatives

These meetings provide local government officials the opportunity to gain information about processes, set realistic expectations and discusses the level of commitment and effort associated with the LBRS. It provides the initial foundation for partnering with the state.

Determine Support Structure and Organizational Infrastructure

This structure must support the process for policy and decision-making as well as maintenance and updates of the LBRS. It must also have a mechanism for funding the development and sustainability of the county's LBRS sub-system.

Location Based Response System

ODOT's ROLE

- Program Sponsor
- Data Verification
- Data Integration

COUNTY'S ROLE

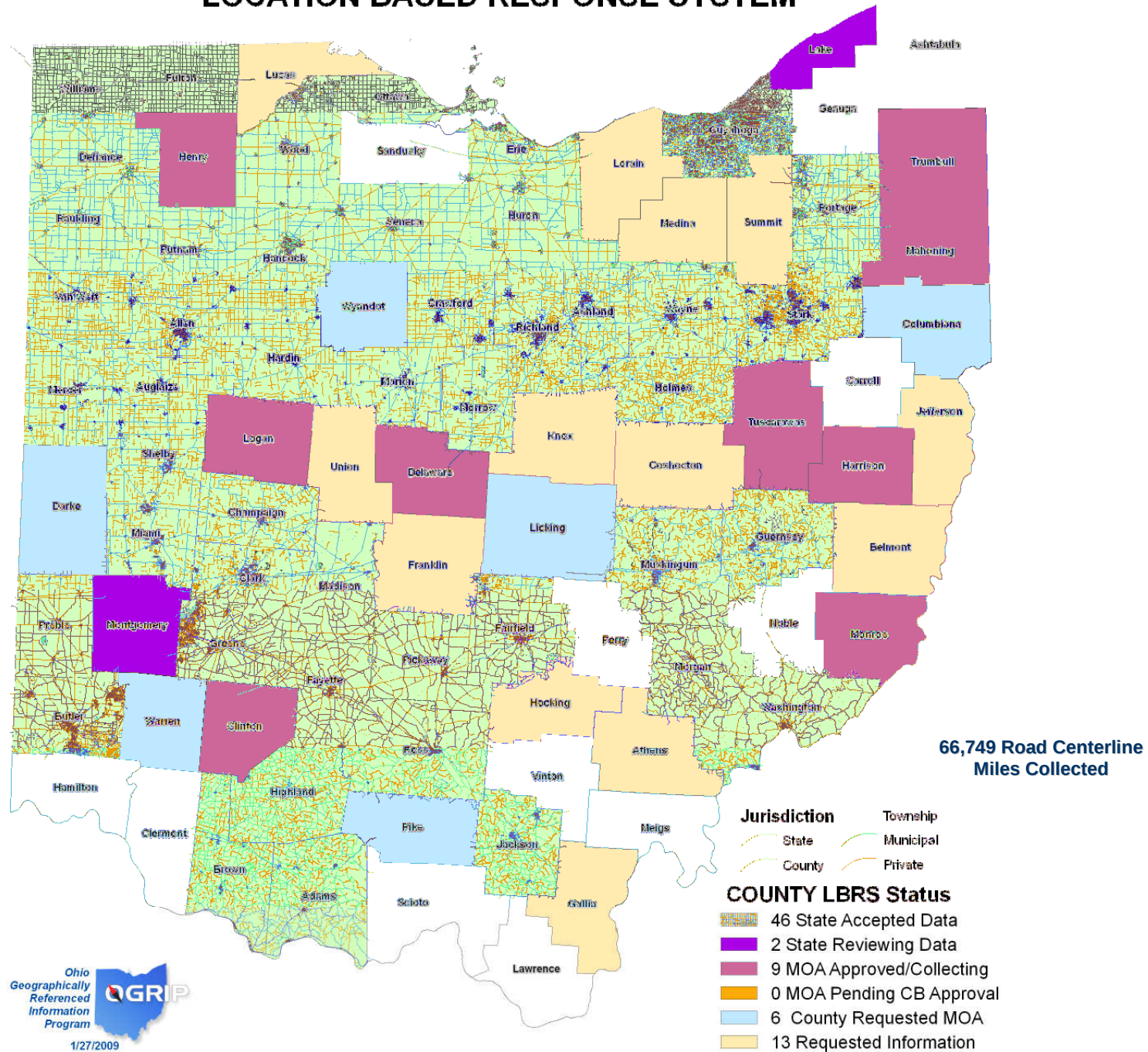
- Data Development
- Quality Control
- Data Maintenance

OGRIP's ROLE

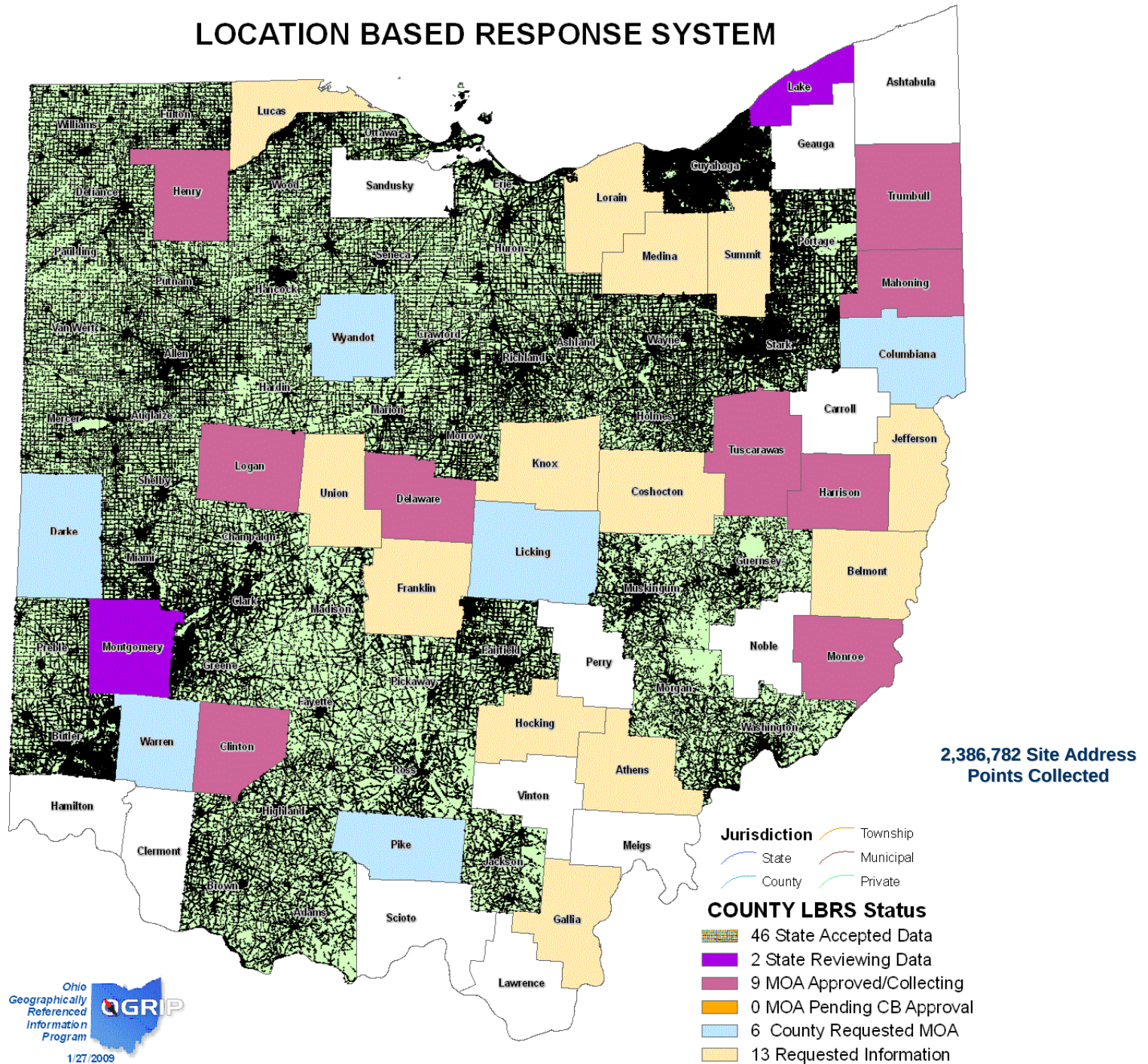
- Program Administration
- Data Dissemination



LOCATION BASED RESPONSE SYSTEM



LOCATION BASED RESPONSE SYSTEM



Ohio Statewide Imagery Program



Program Sponsors

Ohio Department of Transportation
Ohio Environmental Protection Agency
Ohio Department of Natural Resources
National Geospatial Intelligence Agency
Natural Resource Conservation Service
United States Geological Survey
Ohio Water Development Authority

Program Administrators

DAS/OIT/OGRIP/GISSC

Ohio's Imagery Task Force

The Ohio Imagery Task Force developed an Imagery Strategy that looked at a variety of solutions

- Satellite Imagery Solutions
- Digital Camera Solutions
- Traditional Digital Imagery Solutions
- Spec Flight Solutions
- Existing Imagery and requirements
 - Local Government
 - State Government
- Developed a Plan for an Ohio Statewide Imagery Program



Ohio Statewide Imagery Program

- Accurate imagery and elevation data serves as the backbone for the development of additional data sets that are currently maintained and accessed by government decision makers and the public.
- The elevation data provides detailed information for environmental and water resource planning, line-of-sight analysis and 3D modeling and project planning.
- The high resolution imagery rectified to an accurate elevation model provides referential data necessary to support and verify the development of other framework data layers

Ohio Statewide Imagery Program

OSIP is a partnership between State, Local and Federal government agencies to develop high-resolution imagery and elevation data for the State of Ohio.

Data obtained through OSIP replaces the circa 1994-98 USGS 1M black and white digital ortho quarter quad (DOQQ) imagery and the USGS 30M Digital Elevation Model (DEM)

Standard OSIP Products Include

- 1FT Color Orthophotography
- 2.5FT Bare-earth Digital Elevation Model (DEM), and
- 2M LiDAR postings

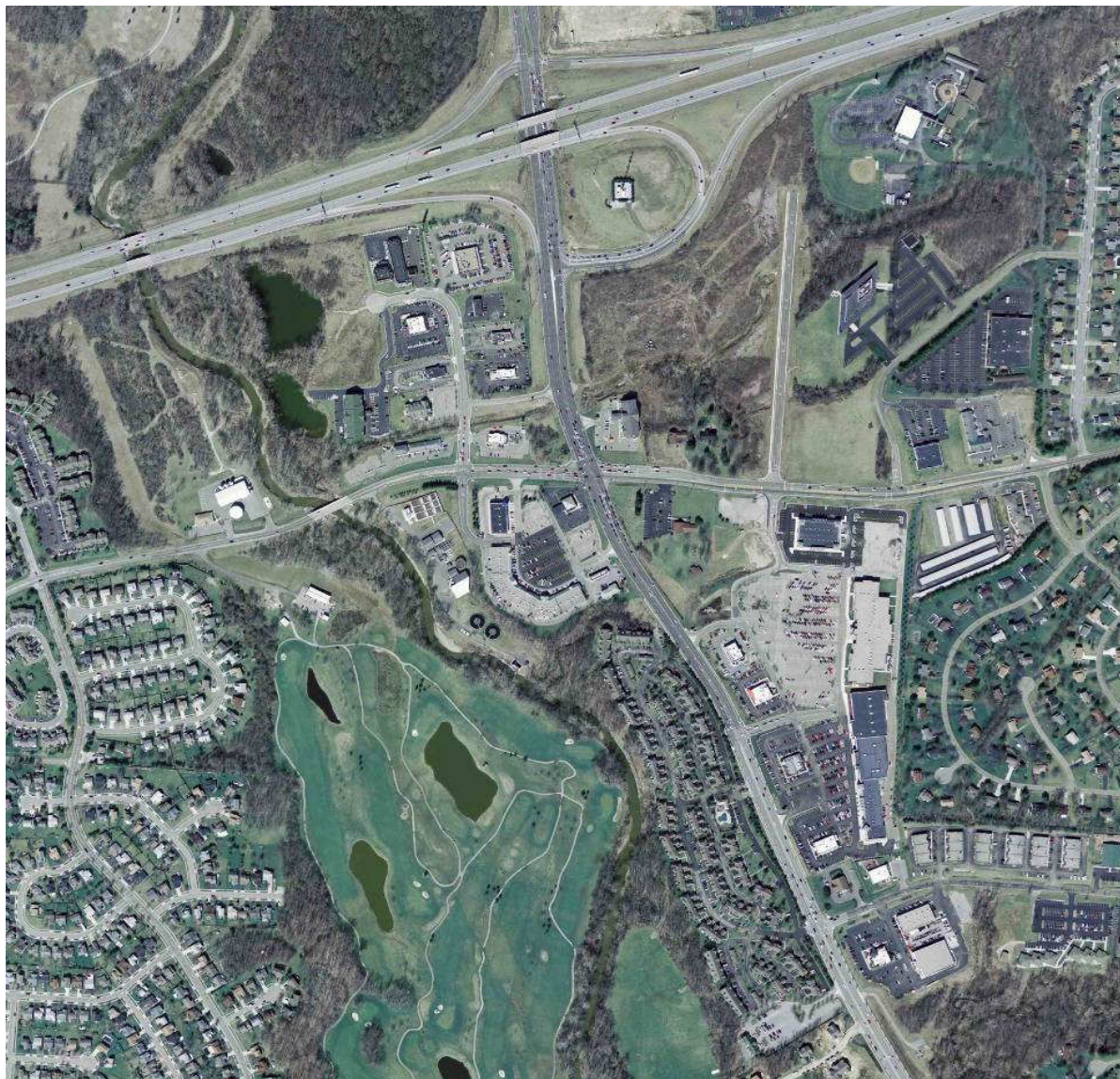
Optional OSIP products include

- 6IN Color Orthophotography,
- 5FT or 2FT contours, and
- 1M Color Infrared Orthophotography.



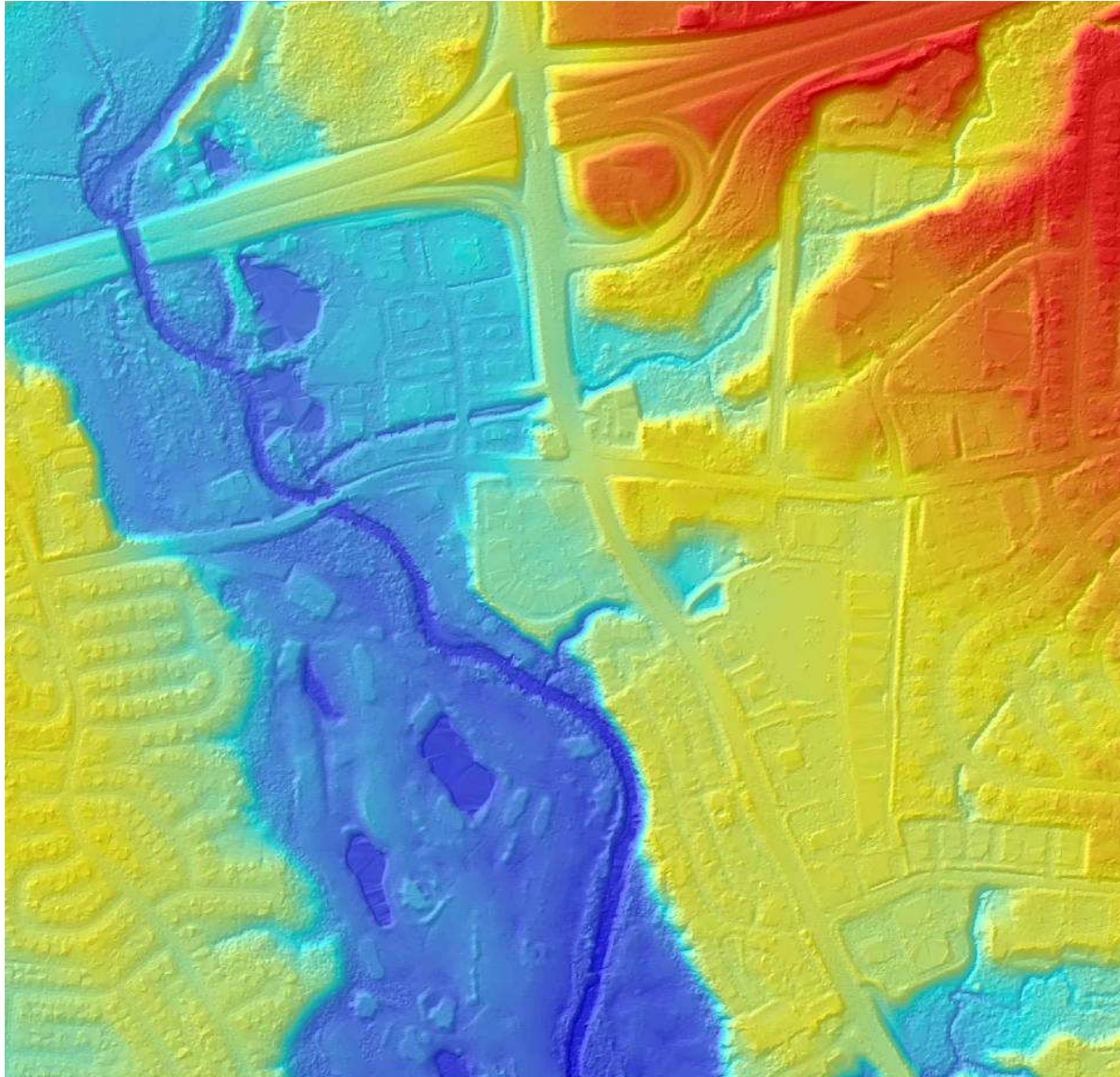
OSIP - Digital Orthophoto

Licking County, Ohio/Interstate 70/ SR 256 East of Columbus, Ohio



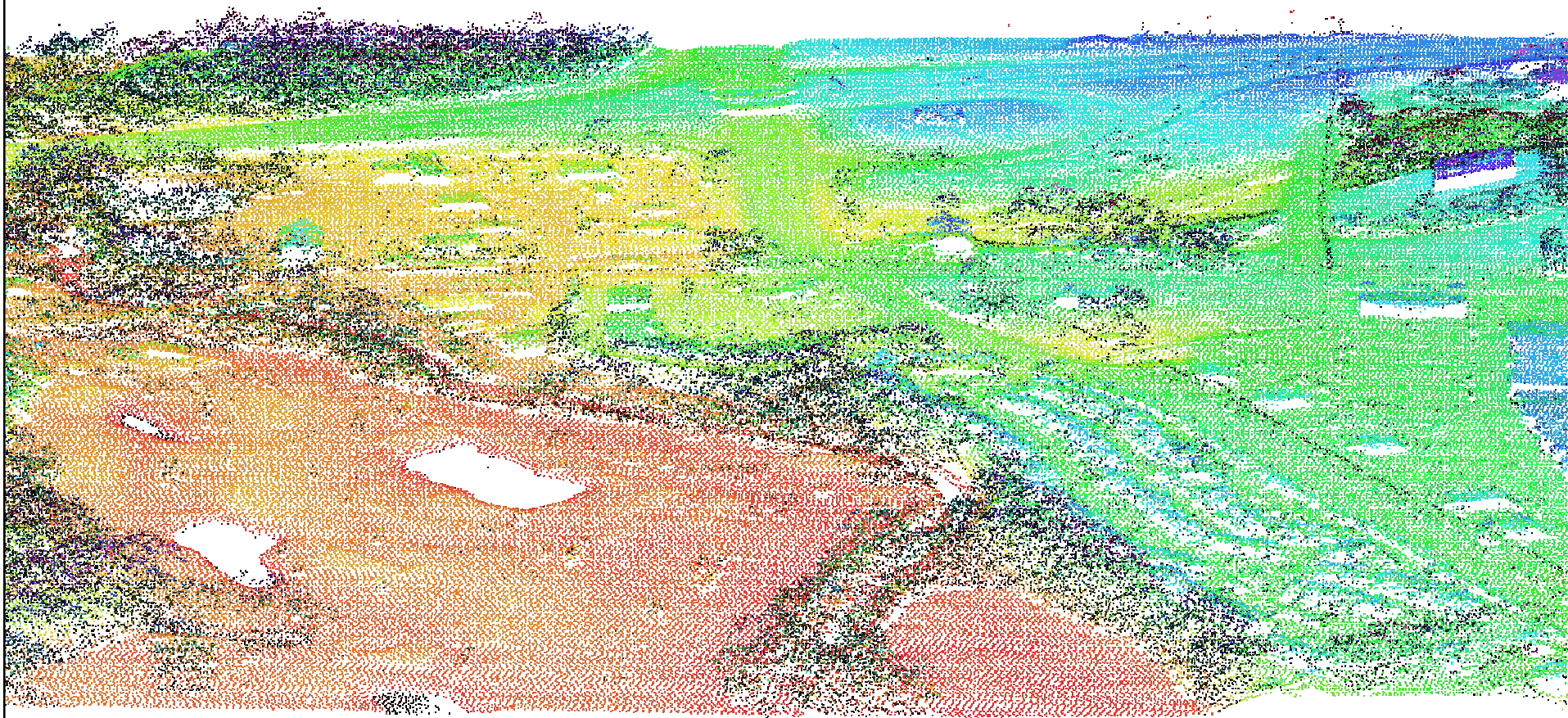
OSIP – Digital Elevation Model

Licking County, Ohio/Interstate 70/ SR 256 East of Columbus, Ohio



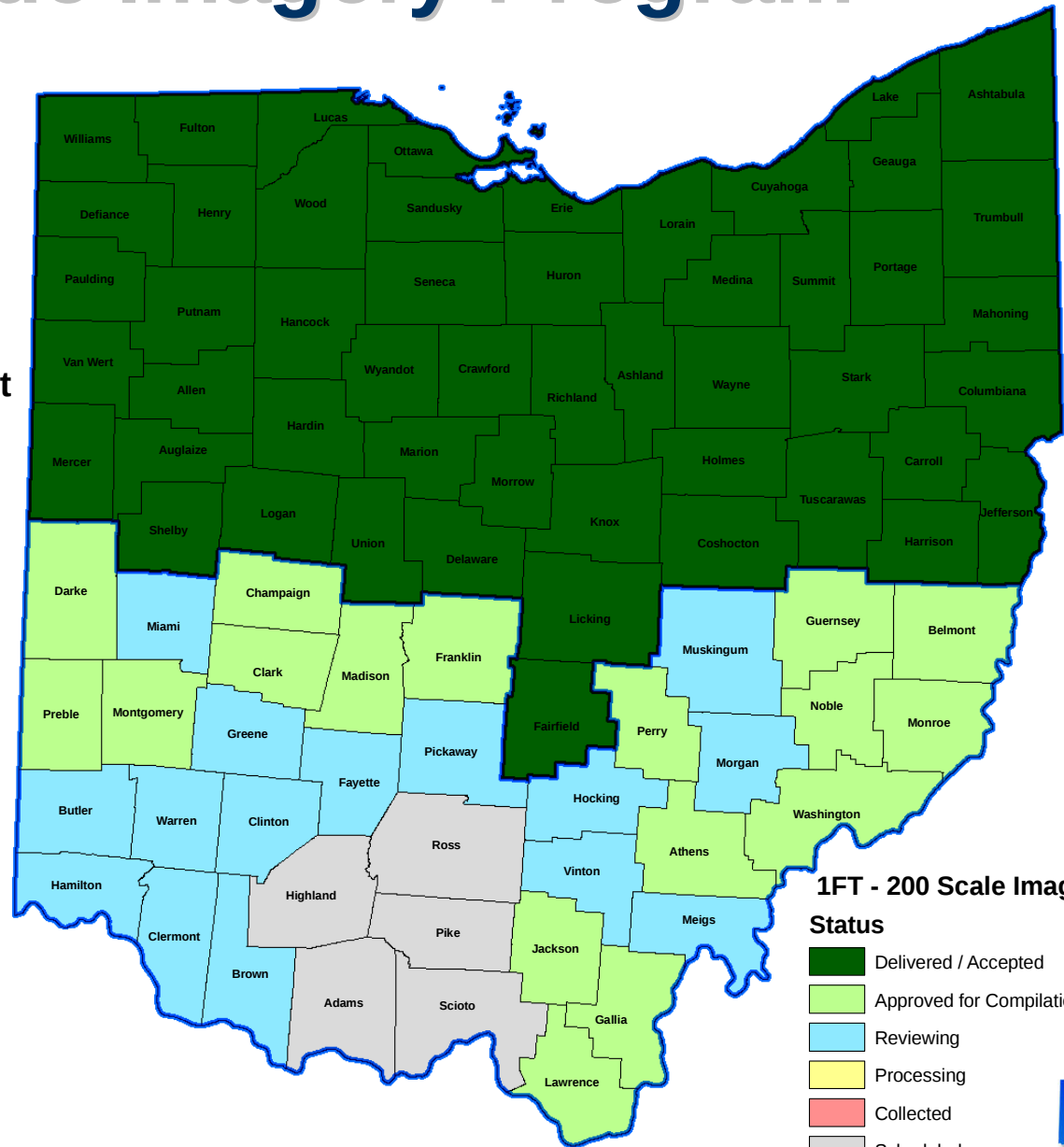
OSIP - LiDAR Survey Points

Licking County, Ohio/Interstate 70/ SR 256 East of Columbus, Ohio



Ohio Statewide Imagery Program

1FT Color Orthophotography
 2.5FT Digital Elevation Model
 ~2M LiDAR Posting 1st and Last
 6IN Color Orthophotography



1FT - 200 Scale Imagery

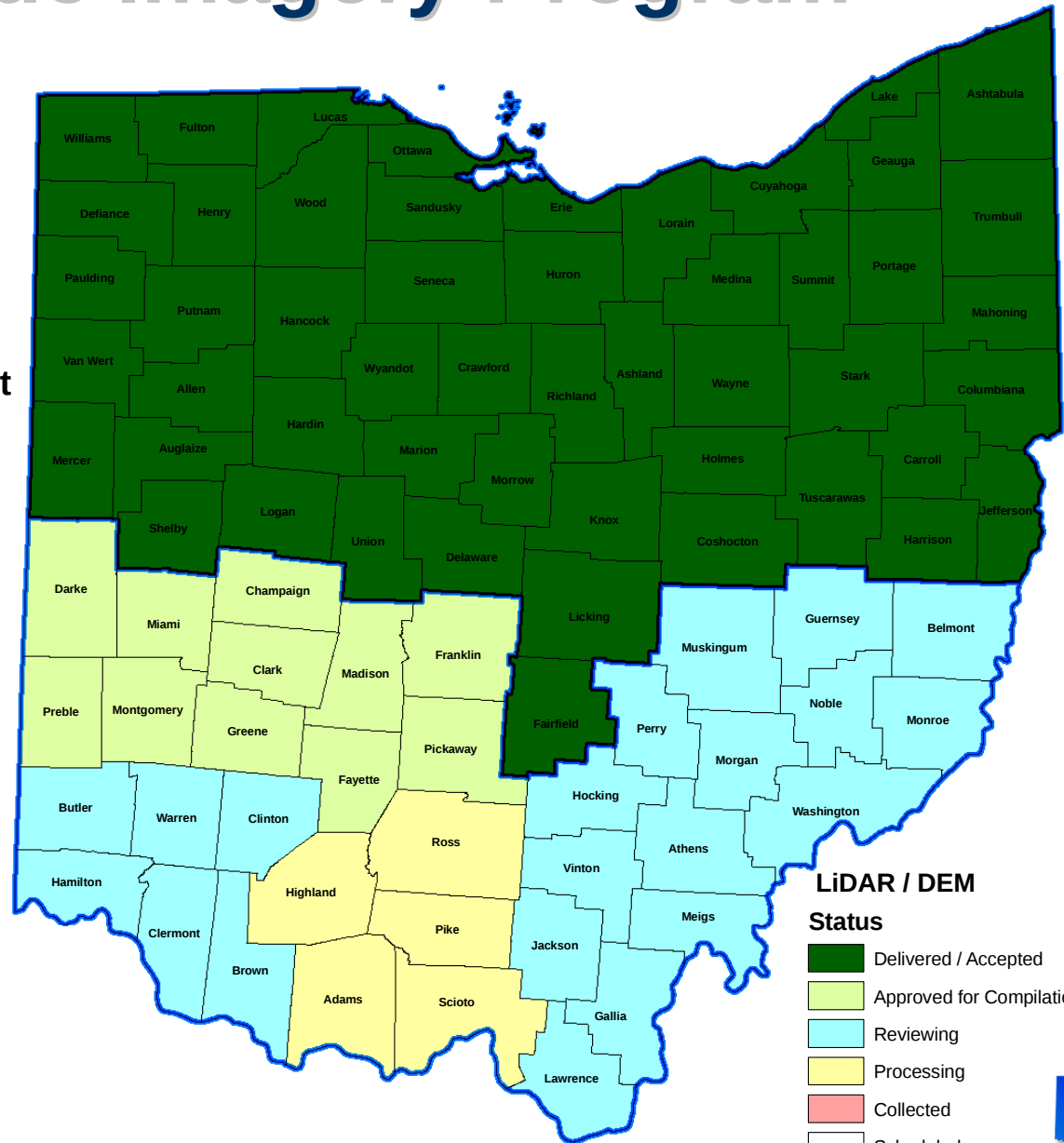
Status

- Delivered / Accepted
- Approved for Compilation
- Reviewing
- Processing
- Collected
- Scheduled



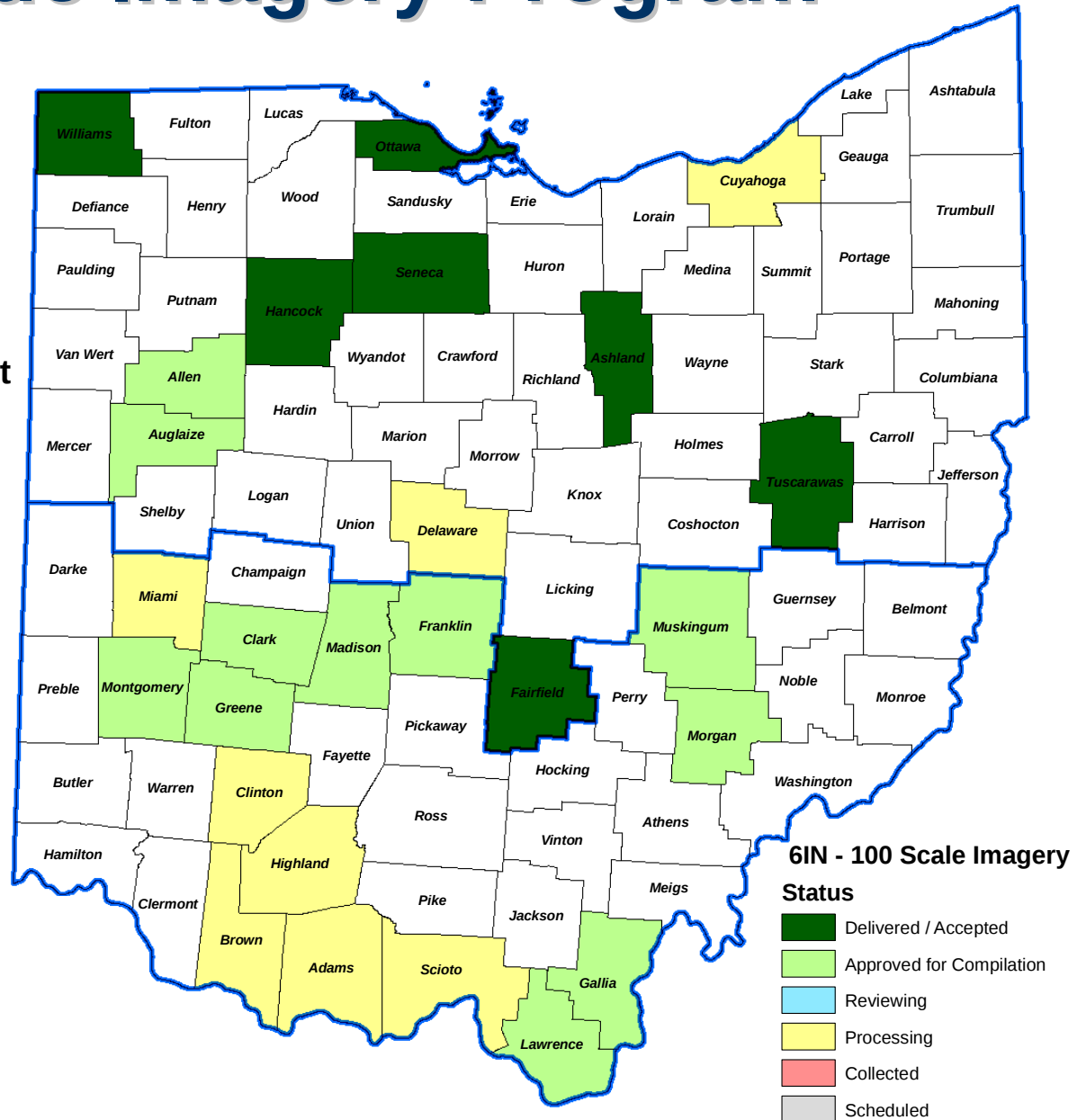
Ohio Statewide Imagery Program

1FT Color Orthophotography
2.5FT Digital Elevation Model
~2M LiDAR Posting 1st and Last
6IN Color Orthophotography



Ohio Statewide Imagery Program

1FT Color Orthophotography
 2.5FT Digital Elevation Model
 ~2M LiDAR Posting 1st and Last
 6IN Color Orthophotography



OSIP II

- The economy of scale realized by the statewide program provides significant value to state and local agencies, private vendors, and the citizens of Ohio
- As an ongoing program OSIP will enable Counties to leverage the state's program to acquire higher resolution imagery
- OSIP II will provide data that can be used to detect and track changes and develop additional data layers

Ohio Coordinated Cadastral Program

Proposed



Program Sponsor

TBD

Program Administrators

Department of Administrative Services

Ohio Office of Information Technology

Ohio Geographically Referenced Information Program Council

GIS Support Center

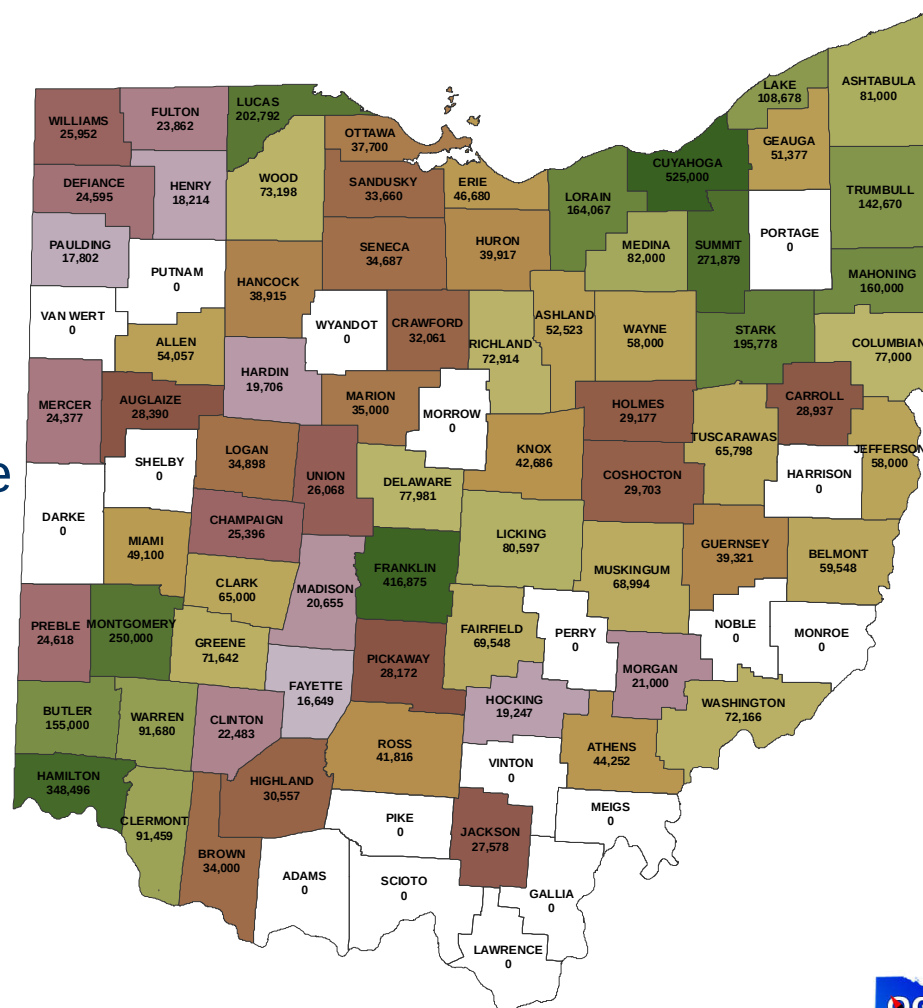
Parcels

A parcel is a fundamental cadastral unit; a piece of land which can be owned, sold or developed.

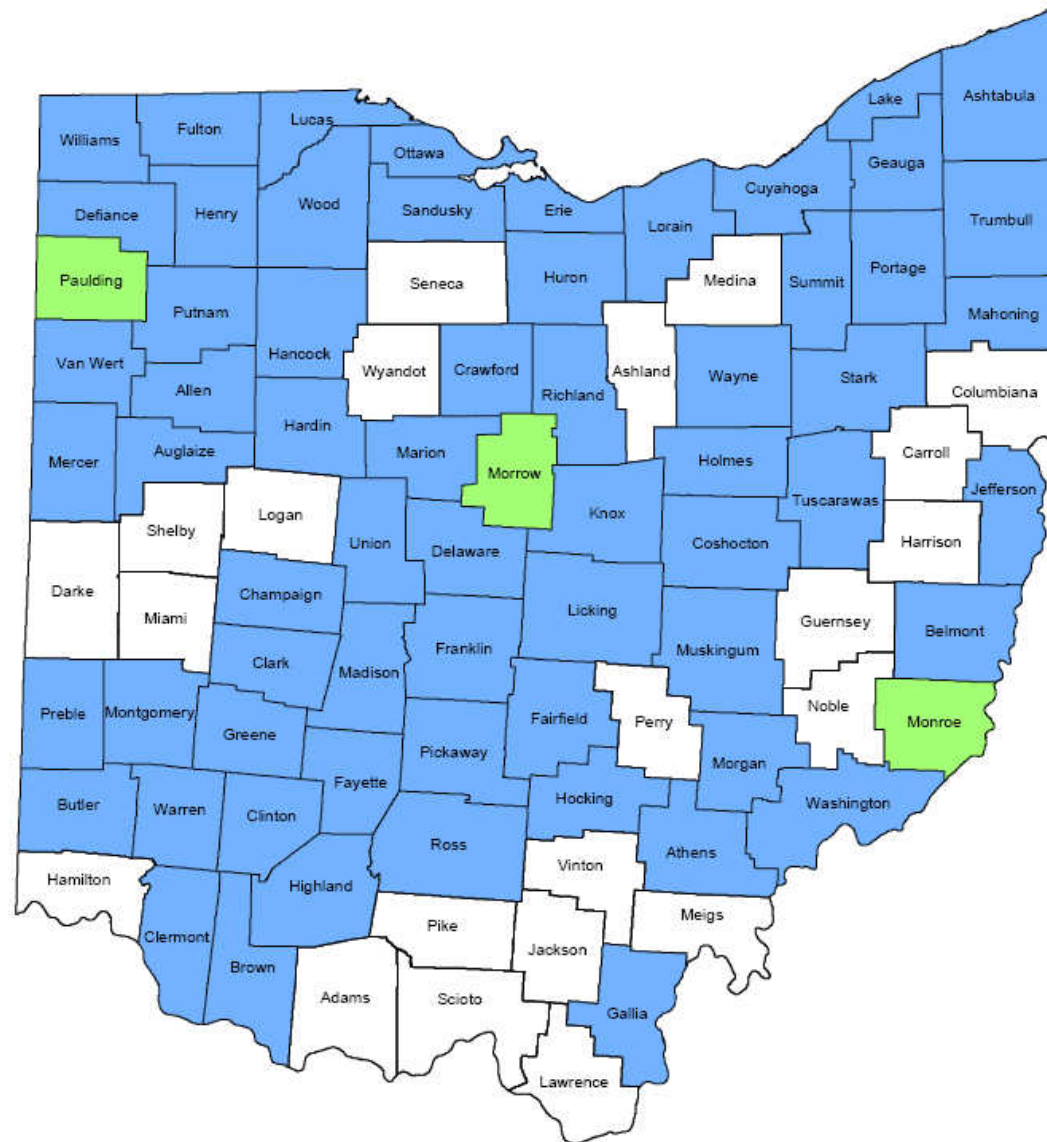
Parcel data is maintained by local government and used for real estate assessment and appraisal.

As reported in Ohio GIS County Profile Survey:

- > 6 million parcels covering Ohio
- Nearly 5.5 million are reported in digital format (definition of digital varies from county to county)



GIS County Profiles



Prepared by
OIT/Infrastructure Services Division
Enterprise Shared Services
OGRIP/GIS Support Center
August 2008

**In what form is your
County's CAMA data?**

- Digital
- Paper Only
- No Response



Ohio Coordinated Cadastral Program

As a foundational building block parcels support a wide range of business processes at all levels of government.

Zip code doesn't get us close enough

Geocoding doesn't provide relationships to other data

New pressures for Location Determination and Analysis

- Sex offenders
- Foreign Animal Disease
- Public Safety
- Emergency management, Mitigation, damage determination, etc.

Cultural boundaries – derived from Parcel Boundaries

- Jurisdictional boundaries
- School district boundaries
- Tax districts, etc.



Ohio Coordinated Cadastral Program

To establish a seamless statewide parcel coverage maintained and supported by local government.

Include common data elements:

- County FIPS Code
- Parcel Identifier (Unique ID per County)
- Owner Name
- School District Name / Tax District Code
- Jurisdiction name
- Site Address
- Deeded Acreage / Lot Number / Legal Description
- Land Classification Code
- Latest Date of Transfer
- Valuation – Assessed / Appraised (Land & improvements)
- Current Agricultural Use Value Determination
- Building Size (Square Footage)



GIS County Profiles

Map of Ohio showing GIS County Profiles. The map is color-coded: Blue indicates 'Yes' (GIS data associated with property or cadastral data), and White indicates 'No/No Response'.

Legend:

- Blue: Yes
- White: No/No Response

Counties with 'Yes' (Blue): Williams, Fulton, Lucas, Ottawa, Lake, Ashtabula, Defiance, Henry, Wood, Sandusky, Erie, Lorain, Cuyahoga, Geauga, Trumbull, Paulding, Putnam, Seneca, Huron, Medina, Summit, Portage, Mahoning, Van Wert, Hancock, Wyandot, Crawford, Richland, Ashland, Wayne, Stark, Columbiana, Allen, Hardin, Marion, Morrow, Knox, Holmes, Carroll, Jefferson, Mercer, Auglaize, Logan, Union, Delaware, Coshocton, Tuscarawas, Harrison, Belmont, Darke, Shelby, Champaign, Clark, Madison, Franklin, Licking, Muskingum, Guernsey, Noble, Monroe, Preble, Montgomery, Greene, Fayette, Pickaway, Fairfield, Perry, Morgan, Washington, Butler, Warren, Clinton, Hocking, Ross, Vinton, Athens, Meigs, Hamilton, Clermont, Brown, Adams, Scioto, Jackson, Gallia, Lawrence.

Counties with 'No/No Response' (White): Putnam, Wyandot, Morrow, Harrison, Noble, Monroe, Adams, Scioto, Gallia, Lawrence.

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Are parcel boundaries associated with property or cadastral data?

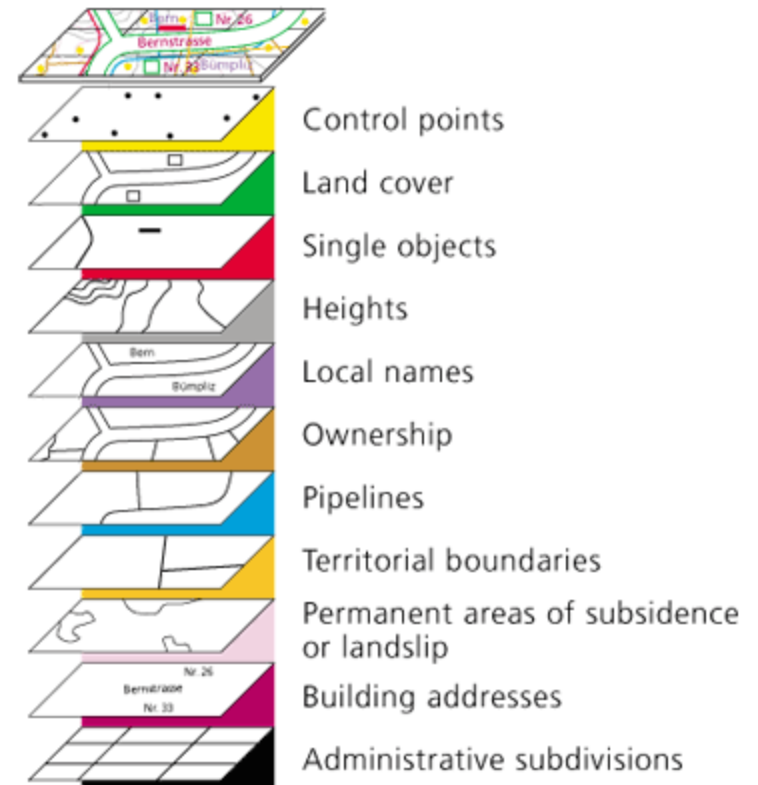
OGRIP



OCCP

Would Support

- State Real Property Inventory
- State Real Property Management Plan
- Emergency Response and Recovery
- Economic Development



OCCP

Most cadastral data is public data that is carefully gathered, maintained and kept up-to-date by local government entities.

Cadastral data to support a parcel program is available in the form of:

Land Surveys

Appraisal Information

Deeds of Record

Utility maps

Local building plans

Zoning plans

Mineral surveys, etc

OCCP

Most cadastral data is public data that is carefully gathered, maintained and kept up-to-date by local government entities.

Cadastral data serve a wide range of activities at all levels of government:

Land-use Planning,	Public Administration,
Floodplain Administration,	Traffic Engineering,
Environmental Protection,	Agriculture,
Fire and Rescue Services,	Marketing,
Construction Projects,	Tourism, etc.

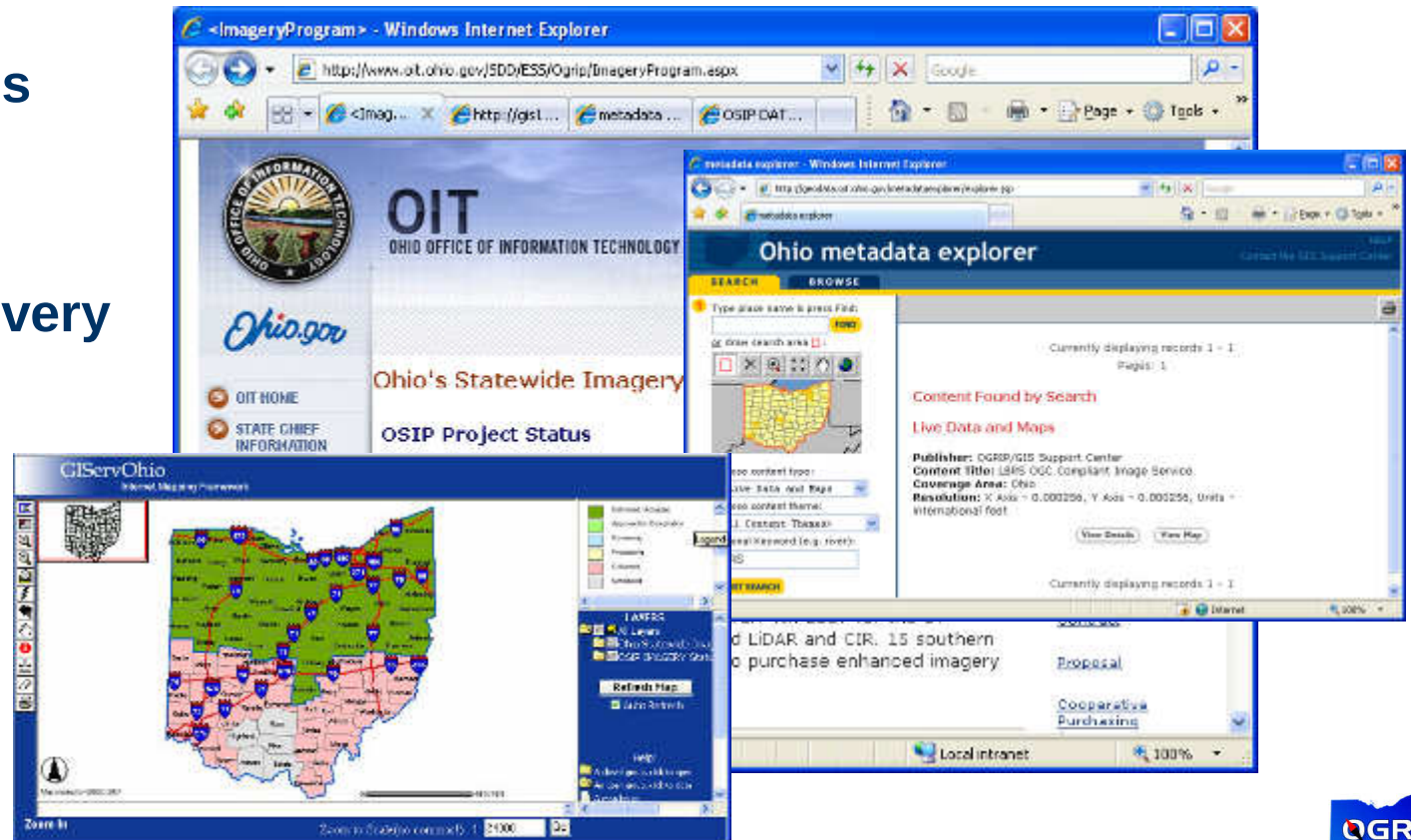
Distribution of Data

GIServOhio Spatial Data Portal provides distribution and connectivity for approximately 15 Terabytes of Ortho Imagery and Elevation data

Data Downloads

Metadata discovery

Map Services



State of Ohio

OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM



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