

**GREEN LAKE COUNTY  
LAND INFORMATION PLAN  
2016-2017-2018**

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# CONTENTS

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- CONTENTS .....1**
- EXECUTIVE SUMMARY .....2**
- 1 INTRODUCTION .....3**
- 2 FOUNDATIONAL ELEMENTS.....5**
  - PLSS.....5
  - Parcel Mapping (Benchmark 3) .....7
  - LiDAR and Other Elevation Data .....8
  - Orthoimagery .....10
  - Address Points and Street Centerlines .....10
  - Land Use .....10
  - Zoning.....11
  - Administrative Boundaries .....11
- 3 LAND INFORMATION SYSTEM.....13**
- 4 CURRENT & FUTURE PROJECTS.....16**
  - Project #1: Digital Parcel Mapping .....16
  - Project #2: PLSS Remonumentation (Benchmark 4) .....17
  - Project #3: Other Parcel Work (Benchmarks 1 & 2).....18
  - Project #4: LiDAR .....18
  - Project #5: Orthoimagery .....19
  - Project #6: Address Points and Street Centerlines .....19
  - Project #7: Software/Hardware/Website .....20
  - Project #8: Training and Education .....21
  - Project Estimated Budget Information (per annum for the next 3 years) .....22

# EXECUTIVE SUMMARY

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**About this Document.** This document is a land information plan for Green Lake County prepared by the Land Information Office and reviewed and approved by the Land Information Council. By Wisconsin statute, “a countywide plan for land records modernization” is required for participation in the Wisconsin Land Information Program (WLIP). The purpose of this document is:

- 1) to meet WLIP funding eligibility requirements necessary for receiving grants and retaining fees for land information
- 2) to plan for county land records modernization in order to improve the efficiency of government and provide improved government services to businesses and county residents
- 3) to identify through land records modernization cost reductions realized by eliminating duplicate record keeping and implementing efficient processing of land records

**WLIP Background.** The WLIP, administered by the Wisconsin Department of Administration, is funded by document recording fees collected by register of deeds at the county-level. In state fiscal year 2015 (July 1, 2014 through June 30, 2015) Green Lake County retained \$28,088 in local register of deeds document recording fees and received a \$71,912 WLIP Base Budget Grant since retained fees were less than \$100,000 plus a Training and Education grant of \$1,000. Beginning in 2016, WLIP Strategic Initiative grants are projected to increase the county land information funding by \$50,000 per year (to be prioritized for the purposes of parcel dataset improvement). This totals \$151,000 annually for land information.

The ROD (Register of Deeds) recording fee is \$30. \$15 is retained as ROD designated, \$8 is retained designated for land information (only the \$8 is used to calculate the Base Budget Grant), and \$7 goes to the state land information fund (part of which is granted back to counties).

This plan lays out how funds from grants and retained fees will be prioritized. However, as county budgets are determined on an annual basis with county board approval, this plan provides estimated figures that are subject to change and are designed to serve planning purposes only.

**Land Information in Green Lake County.** Land information is central to county operations, as many essential services rely on accurate and up-to-date geospatial data and land records. A countywide land information system supports economic development, emergency planning and response, and a host of other citizen services. The Green Lake County land information system integrates and enables efficient access to information that describes the physical characteristics of land, as well as the property boundaries and some regulatory limitation attributable to landowners.

**Land Information Council Three-Year Mission Statement.** Green Lake County desires continued development of a land records system that benefits a wide range of users. As data is incorporated into the land records system it shall be monitored regularly to increase the efficiency of land records maintenance and management through the improvement of land records accuracy and completeness.

**Projects Summary.** To realize this mission, in the next three years, the county land information office will focus on the following projects:

- 1. Digital Parcel Mapping
- 2. PLSS Remonumentation
- 3. Other Parcel Work
- 4. LiDAR (2025)
- 5. Orthoimagery (2020)
- 6. Address Points & Street Centerlines
- 7. Software/Hardware/Website
- 8. Training and Education

The remainder of this document provides more details on Green Lake County and the WLIP, summarizes current and future land information projects, and reviews the county’s status in completion and maintenance of the WLIP map data layers known as Foundational Elements.

# 1 INTRODUCTION

In 1989, a public funding mechanism was created whereby a portion of county register of deeds document recording fees collected from real estate transactions would be devoted to land information through a new program called the Wisconsin Land Information Program (WLIP). The purpose of the land information plan is to meet WLIP requirements and aid in county planning for land records modernization.

## The WLIP and the Land Information Plan Requirement

In order to participate in the WLIP, counties must meet certain requirements:

- Update the county's land information plan at least every three years
- Meet with the county Land Information Council to review expenditures, policies, and priorities of the land information office at least once per year
- Report on expenditure activities each year
- Submit detailed applications for WLIP grants
- Complete the annual WLIP survey
- Subscribe to DOA's land information listserv
- Meet a June 30, 2017 deadline to post certain types of parcel information online

Any grants received and fees retained for land information through the WLIP must be spent consistent with the county land information plan.

## Act 20 and the Statewide Parcel Map Initiative

A major development for the WLIP occurred in 2013 through the state budget bill, known as Act 20. It directed the Department of Administration (DOA) to create a statewide digital parcel map in coordination with counties.

Act 20 also provided more revenue for WLIP grants, specifically for the improvement of local parcel datasets. The WLIP is dedicated to helping counties meet the goals of Act 20 and has proposed that funding be made available to counties in the form of Strategic Initiative grants to be prioritized for the purposes of parcel dataset improvement. For Strategic Initiative grant eligibility, counties will be required to apply WLIP funding toward achieving certain statewide objectives, specified in the form of "benchmarks." Benchmarks for parcel data—standards or achievement levels on data quality or completeness—are determined through a participatory planning process and will be detailed in future WLIP grant applications.

County land information plans were initially updated every five years. However, as a result of Act 20, counties must update and submit their plans to DOA for approval every three years. Thus, the minimum planning horizon for these documents is three years. The plan may incorporate a planning horizon that is longer if the needs and priorities of the participants warrant.

## County Land Information System History and Context

The Land Information Office (Register of Deeds) and Land Information Committee were established in 1990 by Resolution 30-1990. The Land Use Planning & Zoning Dept. became the Land Information Office by Res. 17-2005 to coincide with the Land Information Officer. The Land Information "Committee" was replaced by the Land Information "Council" by Res. 28-2010.

## LAND INFORMATION

Any physical, legal, economic or environmental information or characteristics concerning land, water, groundwater, subsurface resources or air in this state.

'Land information' includes information relating to topography, soil, soil erosion, geology, minerals, vegetation, land cover, wildlife, associated natural resources, land ownership, land use, land use controls and restrictions, jurisdictional boundaries, tax assessment, land value, land survey records and references, geodetic control networks, aerial photographs, maps, planimetric data, remote sensing data, historic and prehistoric sites and economic projections.

– *Wis. Stats. section 16.967(1)(b)*

Plan dates:  
 1992-1997 Res. 21-1992  
 1998-2004 Res. 06-1999  
 2005-2010 Res. 16-2006  
 2011-2015  
 2016-2018  
 2019-2021

## Plan Participants and Contact Information

Another requirement for participation in the WLIP is the county Land Information Council, established by legislation in 2010. The council is tasked with reviewing the priorities, needs, policies, and expenditures of a land information office and advising the county on matters affecting that office.

According to s. 59.72(3m), Wis. Stats., the county Land Information Council is to include:

- Register of Deeds
- Treasurer
- Real Property Lister or designee
- Member of the county board
- Representative of the land information office
- A realtor or member of the Realtors Association employed within the county
- A public safety or emergency communications representative employed within the county
- County surveyor or a registered professional land surveyor employed within the county
- Other members of the board or public that the board designates

The Land Information Council must have a role in the development of the county land information plan, and while s. 59.72 Wis. Stats. does not require any entity approve the plan, DOA requires county Land Information Councils to approve final plans. A record documenting county Land Information Council approval should be included in the final submission of the plan to DOA. County Board approval of plans is encouraged but not required.

A county may amend a plan with updates or revisions as appropriate. If amended, a digital copy of the amended plan and record of Land Information Council approval should be sent to the WLIP.

This plan was prepared by the county Land Information Office and reviewed and approved by the Land Information Council as listed below.

County Land Information Council				
Name	Title	Dept	Email	Phone
Jack Meyers, Chair	County Board Chair		jmeyers@co.green-lake.wi.us	920-294-4031
Sarah Guenther, Vice-Chair	Register of Deeds	Register of Deeds	sguenther@co.green-lake.wi.us	920-294-4024
Marge Bostelmann, Secretary	County Clerk	County Clerk	mbostelmann@co.green-lake.wi.us	920-294-4007
Betsy Amend	Treasurer/ Real Property Lister	Treasurer	bamend@co.green-lake.wi.us	920-294-4019
Henry Conti	Realtor	Private sector		
Paul Gunderson	County Conservationist	Land Conservation	pgunderson@co.green-lake.wi.us	920-294-4055
Laura Polcyn	Communications	Sheriff	lpolcyn@co.green-lake.wi.us	920-294-4134
Al Shute	Land Information Office/ County Surveyor	Land Use Planning & Zoning	ashute@co.green-lake.wi.us	920-294-4175
Gerald Stanuch, LIO (Land Information Officer)	Land Information Office/ GIS Specialist	Land Use Planning & Zoning	gstanuch@co.green-lake.wi.us	920-294-4174

# 2 FOUNDATIONAL ELEMENTS

Counties must have a land information plan that addresses development of specific datasets or map layer groupings historically referred to as the WLIP Foundational Elements. Foundational Elements incorporate nationally-recognized “Framework Data” elements, the major map data themes that serve as the backbone required by users to conduct most mapping and geospatial analysis.

## FOUNDATIONAL ELEMENTS

- PLSS
- Parcel Mapping
- LiDAR and Other Elevation Data
- Orthoimagery
- Address Points and Street Centerlines
- Land Use
- Zoning
- Administrative Boundaries
- Other Layers

In the past, Foundational Elements were selected by the former Wisconsin Land Information Board under the guiding idea that program success is dependent upon a focus for program activities. Thus, the *Uniform Instructions* place priority on certain elements, which must be addressed in order for a county land information plan to be approved. Beyond the county’s use for planning purposes, Foundational Element information is of value to state agencies and the WLIP to understand progress in completion and maintenance of these key map data layers.

## PLSS

### Public Land Survey System Monuments

#### Layer Status

- For the PLSS Foundational Element, the table below documents Layer Status

PLSS Layer Status													
Name	Status/Comments												
Total number of PLSS corners (section, quarter, meander, center) in original government survey	1,721												
Number and percent of PLSS corners that have been remonumented	1,281/1,721=74%												
Number and percent of remonumented PLSS corners with survey grade coordinates (see below for definition)	1,281/1,281=100%												
Number and percentage of survey grade PLSS corners integrated into county digital parcel layer	1,154/1,281=90%												
Number and percentage of non-survey grade PLSS corners integrated into county digital parcel layer	1,721-1,281=440      440/440=100%												
Percentage of PLSS corners that have digital tie sheets (whether or not they have corresponding coordinate values)	1,507 total tie sheets, 371 corners without a tie sheet 1,507+371=1,878 total corners 1,878-1,721=157 corners not numbered 1,721-371=1,350 1,350/1,721=78%												
Digital tie sheets available online? Yes or No	Yes												
Approximate number of PLSS corners believed to physically exist based on filed tie-sheets or surveys, but do not have coordinate values	0												
Approximate number of PLSS corners believed to be lost or obliterated	440												
Total number of PLSS corners along each bordering county	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Columbia</td><td style="text-align: right;">27</td></tr> <tr><td>Dodge</td><td style="text-align: right;">13</td></tr> <tr><td>Fond du Lac</td><td style="text-align: right;">37</td></tr> <tr><td>Marquette</td><td style="text-align: right;">58</td></tr> <tr><td>Waushara</td><td style="text-align: right;">31</td></tr> <tr><td>Winnebago</td><td style="text-align: right;">13</td></tr> </table>	Columbia	27	Dodge	13	Fond du Lac	37	Marquette	58	Waushara	31	Winnebago	13
Columbia	27												
Dodge	13												
Fond du Lac	37												
Marquette	58												
Waushara	31												
Winnebago	13												

Number and percent of PLSS corners remonumented along each county boundary	Columbia	26/27=96%
	Dodge	13/13=100%
	Fond du Lac	32/37=86%
	Marquette	42/58=72%
	Waushara	26/31=84%
	Winnebago	07/13=54%
Number and percent of remonumented PLSS corners along each county boundary with survey grade coordinates	Columbia	26/27=96%
	Dodge	13/13=100%
	Fond du Lac	32/37=86%
	Marquette	42/58=72%
	Waushara	26/31=84%
	Winnebago	07/13=54%
Does your county collaborate with or plan to collaborate with neighboring counties for PLSS updates on shared county borders?	Yes	

### Custodian

- County Surveyor

### Maintenance

- As needed
- The National Geodetic Survey (NGS) is replacing NAD 83 and NAVD 88 with new datums in 2022. <http://www.geodesy.noaa.gov/datums/newdatums/index.shtml>

### Standards

- Statutory Standards for PLSS Corner Remonumentation
  - s. 59.74, Wis. Stats. Perpetuation of section corners, landmarks.
  - s. 60.84, Wis. Stats. Monuments.
  - ch. A-E 7.08, Wis. Admin. Code, U.S. public land survey monument record.
  - ch. A-E 7.06, Wis. Admin. Code, Measurements.
  - s. 236.15, Wis. Stats. Surveying requirements.
- Wisconsin County Surveyor’s Association **survey grade** standard:
  - Coordinates collected under the direction of a Professional Land Surveyor, in a coordinate system allowed by s. 236.18(2), and obtained by means, methods and equipment capable of repeatable 2 centimeter or better precision.

## HARN (High Accuracy Reference Network)

### Layer Status

- 100% complete

### Custodian

- County Surveyor

### Maintenance

- As needed

### Standards

- NGS Height Mod data sheets are referenced to NAD 83 (2007) ellipsoid and NAVD 88 GEOID 09 orthometric. The county uses it’s own GPS observation data based on NAD 83 (1991) HARN ellipsoid and NAVD 88 GEOID 03 orthometric.

## Land Survey Document Indexing and Imaging

### Status

- 100% complete
- Certified Survey Map, Certificate of Survey, and tie sheet imaging with PLSS-based indexing

### Custodian

- County Surveyor

### Maintenance

- As needed

## Standards

- s. 59.45 Wis. Stats. County surveyor; duties, deputies, fees.

## Parcel Mapping (Benchmark 3)

### Parcel Geometries

#### Layer Status

- 100% complete (meets Benchmark 3 as related to Strategic Initiative grants)
- 100% of the county's parcels are available in ESRI File Geodatabase or Shapefile GIS format. The parcels are exported from an ArcSDE geodatabase.
- The projection is WISCRS (Wisconsin Coordinate Reference System), the coordinate system is NAD 83 (1991) HARN, and the units are US Survey Feet
- The county parcel polygon model directly integrates tax/assessment data as parcel attributes
- The county implements basic methods of the Esri Parcel Fabric Data Model and ESRI's Local Government Information Model

#### Custodian

- County GIS Specialist

#### Maintenance

- Updates are synced with Real Property Listing

#### Standards and Documentation

- The county Data Dictionary is in the form of a detailed Data Model graphic poster

### Assessment/Tax Roll Data

#### Layer Status

- 100% complete
- The name of the software vendor the county utilizes is GCS Software, Onalaska
- The database begins with the year 2000

#### Custodian

- County Treasurer/RPL

#### Maintenance

- Dependent on number and complexity of recorded documents

#### Standards

- s. 73.03(2a), Wis. Stats. Department of Revenue (DOR) – Powers and duties defined. Department of Revenue Property Assessment Manual – Chapter 5 and DOR format standard requested by DOR for assessment/tax roll data
- s. 59.72(2)(a), Wis. Stats. Presence of all nine “Act 20” attributes
- s. 59.72(2)(a), Wis. Stats. Crosswalk of attributes

Act 20 Attributes Required by s. 59.72(2)(a)	Field Name(s) in County Land Info System	Notes on Data or Exceptions to DOR Standard
Assessed value of land	LandValue	
Assessed value of improvements	ImprovementValue	
Total assessed value	TotalValue	
Class of property, as specified in s. 70.32 (2)(a)	Class, Code, Description	
Estimated fair market value	FairMarketValue	
Total property tax	AmountTotal	
Any zoning information maintained by the county	Zoning	Zoning information is not required in DOR schema
Any property address information maintained by the county	PreDir, Street, Type, PostDir	
Any acreage information maintained by the county	AcresTAX, AcresGIS	



## Non-Assessment/Tax Information Tied to Parcels: Permits

### Layer Status

- Completion in planning phase

### Custodian

- Land Use Planning & Zoning Office

### Maintenance

- NA

### Standards

- Code of Green Lake County Part III Land Use Legislation

## ROD Real Estate Document Indexing and Imaging

### Status

- Grantor/Grantee Index
  - complete back to 1990
- Tract Index
  - complete back to 1990
  - tract indexing is PLSS-based and not parcel PIN-based
  - the county's tract indexing encompasses deed, land contract, mortgage, certified survey map, plat, etc. documents
- Imaging
  - complete back to 1935
  - indexed only by document#/volume-page between 1990 and 1935

### Custodian

- Register of Deeds

### Maintenance

- daily

### Standards

- s. 59.43, Wis. Stats. Register of deeds; duties, fees, deputies.
- ch. 706, Wis. Stats. Conveyances of real property; Recording; Titles.

## LiDAR and Other Elevation Data

### LiDAR

#### Layer Status

- 100% complete
- Acquired LiDAR in 2009
- 3 foot post spacing

#### Custodian

- GIS Specialist

#### Maintenance

- Review needs at 10 year intervals. The 5 year ortho projects are produced using the LiDAR data. Changes in elevation over time, such as construction, highway projects, grading, and mining may affect the accuracy of the ortho.

#### Standards

- FEMA compliant

## LiDAR Derived ESRI Terrain Dataset

#### Layer Status

- 100% complete
- Terrain references bare earth mass points and hydro hard breaklines in a geodatabase

#### Custodian

- GIS Specialist

### **Maintenance**

- See LiDAR

### **Standards**

- See LiDAR

## **LiDAR Derived DEM digital elevation model**

### **Layer Status**

- The terrain is converted to 2 meter (6 foot) raster DEMs as needed for the extent needed

### **Custodian**

- GIS Specialist

### **Maintenance**

- See LiDAR

### **Standards**

- See LiDAR

## **LiDAR Derived 2 foot Contours**

### **Layer Status**

- 100% complete

### **Custodian**

- GIS Specialist

### **Maintenance**

- See LiDAR

### **Standards**

- See LiDAR

## **LiDAR Derived Watersheds**

### **Layer Status**

- Completion in planning phase

### **Custodian**

- GIS Specialist

### **Maintenance**

- See LiDAR

### **Standards**

- See LiDAR

## **LiDAR Derived Bridges and Culverts**

### **Layer Status**

- 100% complete

### **Custodian**

- GIS Specialist

### **Maintenance**

- Bridge and culvert locations are added as needed to support hydro modeling. LiDAR shows roads in high relief. When modeling water flow this creates “digital dams” that artificially impound the water. In reality there are usually bridges or culverts that allow water to flow through road berms and other barriers. To rectify this, it is necessary to create a layer of ‘culverts’ so that water can flow unimpeded.

### **Standards**

- Software documentation for hydro analysis tools, specifically watershed delineation

## Orthoimagery

### Orthoimagery

#### Layer Status

- The county contracts for butt matched TIF uncompressed tiled images on an update cycle of 5 years
  - 1992 NAPP 1 meter b&w (National Aerial Photography Program) reprojected by Ayres, Madison, to County Coord.
  - 2000 Ayres, Madison, 12 inch b&w using 2000 DTM
  - 2005 ImageAmerica, Missouri, 6 inch b&w using 2000 DTM
  - 2011 Kucera, Ohio, 6 inch color using 2009 LiDAR
  - 2015 Kucera, Ohio, 4 inch color using 2009 LiDAR
- The county did not participate in WROC (Wisconsin Regional Ortho Consortium) 2015
- The next year of planned flight is 2020

#### Custodian

- GIS Specialist

#### Maintenance

- Update and archive is every 5 years. Accuracy during ortho production is dependent on the LiDAR data.

#### Standards

- Specifications determined by professional vendors

## Address Points and Street Centerlines

### Address Point Data

#### Layer Status

- 100% complete

#### Custodian

- GIS Specialist

#### Maintenance

- Updated quarterly

#### Standards

- Code of Green Lake County Chapt. 217 Road Names and Building Numbers

### Street Centerlines with Address Ranges

#### Layer Status

- 100% complete

#### Custodian

- GIS Specialist

#### Maintenance

- Updated quarterly

#### Standards

- Code of Green Lake County Chapter 217 Road Names and Building Numbers

## Land Use

### Current Land Use

#### Layer Status

- 100% complete

#### Custodian

- GIS Specialist

#### Maintenance

- In conjunction with any comprehensive plan updates

#### Standards

- Code of Green Lake County Part III Land Use Legislation

## Future Land Use

### Layer Status

- 100% complete

### Custodian

- GIS Specialist

### Maintenance

- In conjunction with any comprehensive plan updates

### Standards

- Code of Green Lake County Part III Land Use Legislation
- s. 66.1001, Wis. Stats. Comprehensive planning.

Future land use maps are typically created through a community's comprehensive planning process. Future land use mapping for a county may be a patchwork of maps from comprehensive plans adopted by municipalities and the county.

## Zoning

### County General Zoning

#### Layer Status

- 100% complete

#### Custodian

- GIS Specialist

#### Maintenance

- Land Use Planning & Zoning Office has edit privileges

#### Standards

- Code of Green Lake County Part III Land Use Legislation

### County Special Purpose Zoning: Shoreland, Farmland Preservation, Floodplain

#### Layer Status

- 100% complete

#### Custodian

- GIS Specialist

#### Maintenance

- In conjunction with FPP updates and FEMA updates

#### Standards

- Code of Green Lake County Part III Land Use Legislation

## Administrative Boundaries

### Civil Division Boundaries

#### Layer Status

- 100% complete

#### Custodian

- GIS Specialist

#### Maintenance

- Annexations are recorded with the Register of Deeds

#### Standards

- Accuracy dependent on parcel mapping

### School Districts

#### Layer Status

- 100% complete

- Parcels are dissolved based on the tax roll school district attribute. They are not based on any legal written description of the school district boundaries, nor is any such description known to exist. It is unknown how the school district attribute was originally assigned on the tax roll.
- School district name is the only attribute

**Custodian**

- GIS Specialist

**Maintenance**

- School district boundaries have never changed since modern assessment records

**Standards**

- Accuracy dependent on parcel mapping

**Election Boundaries: Supervisor Districts & Wards**

**Layer Status**

- 100% complete

**Custodian**

- GIS Specialist

**Maintenance**

- Updated with Census

**Standards**

- Accuracy dependent on parcel mapping

**Public Safety: EMS, Fire, & Law Districts**

**Layer Status**

- 100% complete

**Custodian**

- GIS Specialist

**Maintenance**

- Updated with changes to service agreements. The county has one call center and one hospital.

**Standards**

- Accuracy dependent on parcel mapping

**Lake and Sanitary Districts**

**Layer Status**

- 100% complete

**Custodian**

- GIS Specialist

**Maintenance**

- Changes are recorded with the Register of Deeds

**Standards**

- Accuracy dependent on parcel mapping

**Drainage Districts**

**Layer Status**

- 100% complete

**Custodian**

- County Conservationist

**Maintenance**

- Changes forwarded by Land Conservation Dept. to GIS Specialist

**Standards**

- Accuracy dependent on parcel mapping

# 3 LAND INFORMATION SYSTEM

The WLIP seeks to enable land information systems that are both modernized and integrated. Integration entails the coordination of land records to ensure that land information can be shared, distributed, and used within and between government at all levels, the private sector, and citizens.

## LAND INFORMATION SYSTEM

An orderly method of organizing and managing land information and land records

– Wis. Stats. section 16.967(1)(c)

One integration requirement is listed under s. 16.967(7)(a)(1), Wis. Stats., which states that counties may apply for grants for:

The design, development, and implementation of a land information system that *contains and integrates*, at a minimum, property and ownership records with boundary information, including a parcel identifier referenced to the U.S. public land survey; tax and assessment information; soil surveys, if available; wetlands identified by the department of natural resources; a modern geodetic reference system; current zoning restrictions; and restrictive covenants.

This chapter describes the design of the county land information system, with focus on how data related to land features and data describing regulatory limitations affecting land, are integrated and made publicly available.

## Current Land Information System

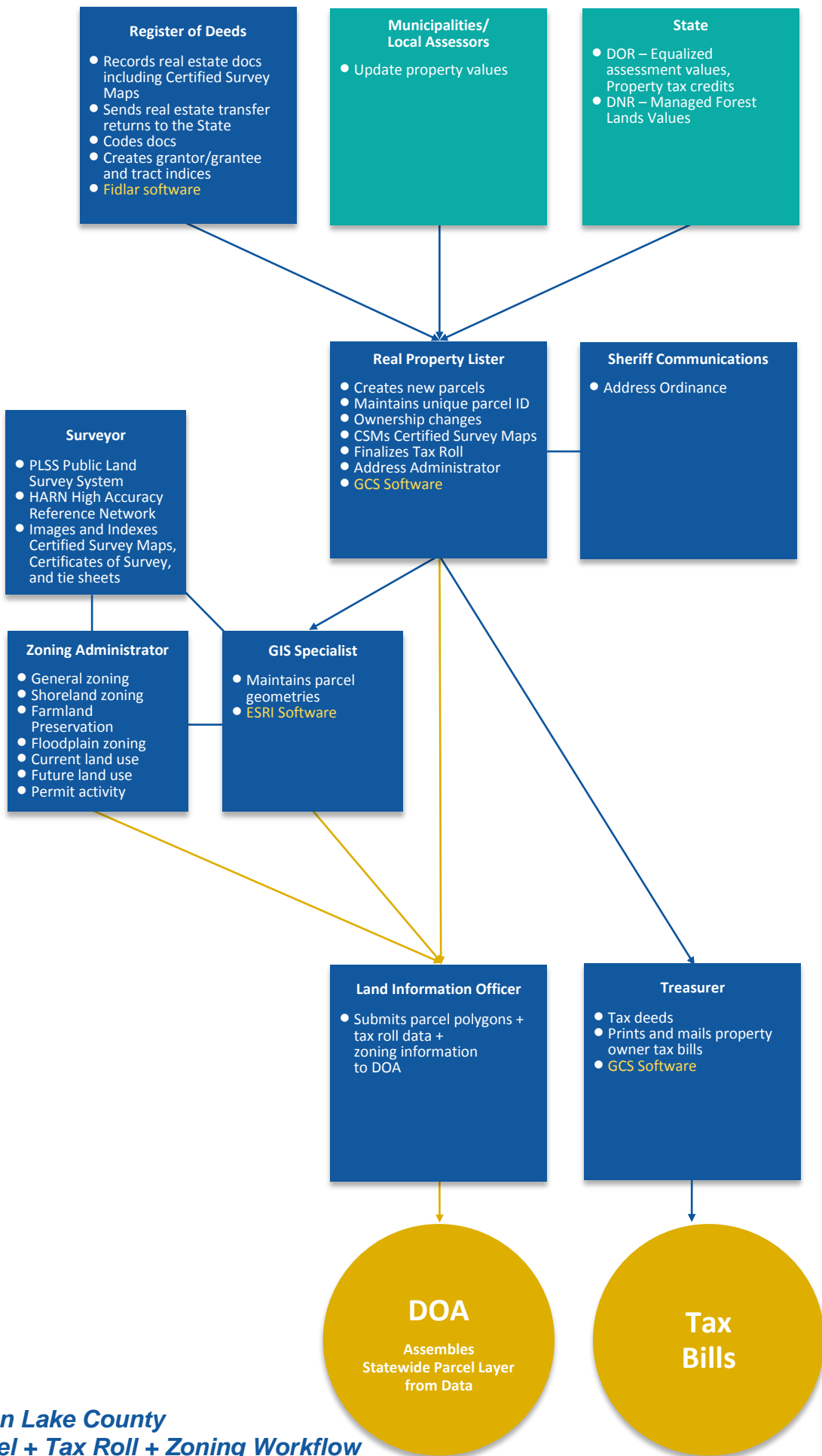
### County Parcel Data Workflow Diagram

This required section features a diagram that documents the county’s parcel mapping and tax roll process. The diagram can be general and simple. Complex diagrams are welcome, but the purpose of the parcel workflow is for WLIP staff and other readers to better understand the various aspects of parcel data creation and maintenance, which greatly vary from county to county.

The workflow diagram for parcel data should depict:

- Major components of parcel data, especially those referenced by s. 59.72(2)(a), including:
  - 1) parcel polygons, 2) tax roll data, and 3) zoning information
- Integration of parcel polygons with other data/attributes, if applicable
- Departments/offices/staff involved with the creation and maintenance of parcel data

See diagram below.



**Green Lake County  
Parcel + Tax Roll + Zoning Workflow**

## Technology Architecture and Database Design

This section refers to the hardware, software, and systems that the county uses to develop and operate computer systems and communication networks for the transmission of land information data.

### Metadata and Data Dictionary Practices

The county Data Dictionary is in the form of a detailed Data Model graphic poster created and maintained in Microsoft Visio software. The software used to develop and provide access to individual data layer geospatial metadata is ESRI's ArcCatalog. The software generates metadata consistent with the FGDC Content Standard for Digital Geospatial Metadata.

### Municipal Data Integration Process

The county GIS maintains parcel, address point, street centerline, and other base mapping for the municipalities. This mapping is generally distributed to the municipalities, rather than the county obtaining data from the municipalities.

### Public Access and Website Information

Type of Website	Software or App	3 <sup>rd</sup> Party or Contractor	URL	Update Frequency/Cycle
GIS webmapping site	ArcGIS Viewer for Flex	ESRI ArcGIS Server	<a href="http://gis.co.green-lake.wi.us/">http://gis.co.green-lake.wi.us/</a>	Quarterly
ROD land records search tools	Tapestry and Laredo (Integrated with GIS site – consideration only)	Fidlar	<a href="http://www.co.green-lake.wi.us/departments.html?Department=18&amp;Page=7">http://www.co.green-lake.wi.us/departments.html?Department=18&amp;Page=7</a>	Daily
RPL or tax parcel site	Integrated with GIS site	GCS Software-Customer Views		Real Time
Zoning information	Integrated with GIS site	County Land Use Planning and Zoning Dept.		Real Time
CSM certified survey maps, COS certificates of survey, PLSS & HARN tie sheets	ASP.NET Dynamic Data	County Surveyor	<a href="http://gis.co.green-lake.wi.us/gisweb/GIS_Viewer/asp/SurveySearch.htm">http://gis.co.green-lake.wi.us/gisweb/GIS_Viewer/asp/SurveySearch.htm</a>	Quarterly

## Data Sharing

### Data Availability to Public

Green Lake County will provide a no-fee means of accessing land information through its internet “GIS Viewer”. Public terminals for land information access are available in the Government Center. Public internet access is also available at most public libraries. Data in its original format is available on media with a fee to the requester for the actual cost to reproduce the data.

### Data Sharing Restrictions

Green Lake County imposes no restrictions on the use or distribution of public land information.

### Government-to-Government Data Sharing

Parcel, address, road, five year ortho updates, and LiDAR are available to municipalities within the county upon request.

### Training and Education

All county web applications display county contact phone numbers and emails for individual help using county public access web sites or interpreting the data on the websites.



# 4 CURRENT & FUTURE PROJECTS

This chapter lists the current and future land information projects the county is currently undertaking or intends to pursue over its planning horizon. A project is defined as a temporary effort that is carefully planned to achieve a particular outcome. Projects can be thought of as the means to achieving the county’s mission for its land information system.

For each project, identify:

- Project Description/Goal
- Business Drivers
- Objectives/Measure of Success
- Project Timeframes
- Responsible Parties
- Estimated Budget Information

Note that projects may focus on one single Foundational Element, or they may touch upon several Foundational Elements. Plans can be amended in the future should other significant projects arise.

## Project #1: Digital Parcel Mapping

### Project Description/Goal

The GIS Specialist will integrate PLSS data into the existing parcel map. This will improve the accuracy of parcel boundary lines. City and Village block corner surveys will be contracted to meet the accuracy requirements of individual municipalities. Block corner surveys will also be integrated into the existing parcel map.

Impacts Foundational Elements: Parcel Mapping.

### Business Drivers

- The public expects accurate boundary lines to display on the county map website
- Not only land owners, but realtors, assessors, appraisers, title companies, banks, and other public and private agencies make use of accurate parcel boundaries
- Parts of the county would benefit from assessor’s plats
- City & Village parcel mapping would benefit from block corner surveys
- Large areas of WisDNR marsh are currently mapped at a lower accuracy
- It would be ideal to have all areas of the county mapped to the same level of accuracy
- Not all road right-of-ways are mapped yet

### Objectives/Measure of Success & Project Timeframes

Milestone	Duration	Date
75% of PLSS integrated into parcel mapping	1 year	Jan. 1 - Dec. 31, 2016
80% of PLSS integrated into parcel mapping	1 year	Jan. 1 - Dec. 31, 2017
85% of PLSS integrated into parcel mapping	1 year	Jan. 1 - Dec. 31, 2018

### Responsible Parties

GIS Specialist (100%)

Contractor (100%)

### Estimated Budget Information

See table below.

## Project #2: PLSS Remonumentation (Benchmark 4)

### Project Description/Goal

#### Planned approach

- Perpetuating the county's PLSS through reestablishing and remonumenting PLSS corners, and establishing survey-grade coordinates for PLSS corners will be work that is contracted out. Center of section is the lowest priority. Integrating corners into the parcel fabric will be done in-house by the GIS Specialist under Project #1.

#### Current status

- Current status of PLSS data in the county may be seen under the PLSS Foundational Element section. Any corners not survey-grade are considered approximate. Approximate corners may be taken from WisDNR 1:24K Landnet with accuracies of 40ft. Corners are only designated into two classes, so the sub-meter are included in the approximate class.

Accuracy classes include survey-grade, sub-meter, and approximate.

- **Survey-grade** – Coordinates collected under the direction of a professional land surveyor, in a coordinate system allowed by s. 236.18(2), and obtained by means, methods and equipment capable of repeatable 2 centimeter or better precision
- **Sub-meter** – Accuracies of 1 meter or better
- **Approximate** – Accuracies of within 5 meters or to coordinates derived from public records and other relevant information

#### Goals

- Goals for the grant project period, including the number of corners to be reestablished and remonumented and/or the number to have new coordinates established, and the accuracy class for these new coordinates, may be seen in the milestone table below and under the PLSS Foundational Element section. Integrating corners into the parcel fabric will be done in-house by the GIS Specialist under Project #1.

#### Missing corner notes

- Some corners, including those which fall within large tracts of WisDNR marsh areas, may be inundated or in other areas where setting a monument at the PLSS corner location is not practical. Those corners will be further assessed during field work. Survey-grade coordinates will be assigned to those locations but possibly not monumented.

#### County boundary collaboration

- Efforts will be made to collaborate with neighboring counties as is the practice with current projects.

Impacts Foundational Elements: PLSS, Parcel Mapping.

### Business Drivers

- A project for PLSS is a requirement for Strategic Initiative grant eligibility.
- Land surveyors tie all boundary surveys to PLSS corners
- Saves surveyors and thus land owners time and money when surveying property
- Improves the accuracy of parcel mapping
- Enables preserving valuable historic data that would otherwise be lost
- Helps preserve the value of land
- Helps reduce boundary disputes and associated costs

### Objectives/Measure of Success & Project Timeframes

The objective is to meet Benchmark 4 (Completion and Integration of PLSS) by 2020. Preliminary work may be necessary to efficiently implement the new 2016 strategic initiative grant.

Milestone	Duration	Date
Preliminary winter planning	Fourth quarter	Oct. 1 - Dec. 31, 2015
75% of PLSS remonumented	1 year	Jan. 1 - Dec. 31, 2016
80% of PLSS remonumented	1 year	Jan. 1 - Dec. 31, 2017
85% of PLSS remonumented	1 year	Jan. 1 - Dec. 31, 2018

## Responsible Parties

Contractor (100%)

## Estimated Budget Information

See table below.

### Project #3: Other Parcel Work (Benchmarks 1 & 2)

#### Project Description/Goal

- a. Continue back-archiving/digitizing of Register of Deeds' documents. Documents are currently scanned and indexed back to 1990. The first goal is to get back to 1986 to support 30 year title searches. Limiting indexing may be justified prior to 1975. The first documents begin around 1850.
- b. The in-house GIS Specialist will write queries against the tax roll database and zoning layer attributes to meet the searchable format for Benchmark 1 of the Strategic Initiative Grant
- c. The in-house GIS Specialist will write queries against the tax roll database to meet the searchable format for Benchmark 2 of the Strategic Initiative Grant

Impacts Foundational Elements: Parcel Mapping.

#### Business Drivers

- A project to achieve Searchable Format for Benchmarks 1 & 2 is a requirement for Strategic Initiative grant eligibility.
- Saves time and money for anyone needing access to real estate documents to be able to get that access online. Reduces the need for trips to the courthouse, and frees up time of county employees for other projects.
- Tax roll data in a standard format benefits all.

#### Objectives/Measure of Success & Project Timeframes

The objective is to meet the searchable format for Benchmarks 1 & 2 (Parcel and Zoning Data Submission, Extended Parcel Attribute Set Submission) by Mar. 31, 2016.

Milestone	Duration	Date
Back-scanned to 1989	1 year	Jan. 1 - Dec. 31, 2016
Back-scanned to 1988	1 year	Jan. 1 - Dec. 31, 2017
Back-scanned to 1987	1 year	Jan. 1 - Dec. 31, 2018
Format tax roll & zoning	First quarter	Jan. 1 - Mar. 31, 2016

## Responsible Parties

Contractor (100%)

GIS Specialist (100%)

## Estimated Budget Information

See table below.

### Project #4: LiDAR

#### Project Description/Goal

Collect new LiDAR every 10 years. New LiDAR will be used for 5 year orthoimagery updates.

Impacts Foundational Elements: LiDAR, Orthoimagery.

## Business Drivers

- Stormwater and floodplain applications
- FEMA compliant mapping
- EVAAL (Erosion Vulnerability Assessment for Agricultural Lands)
- NRCS Hydro Tools (Watershed Delineation)
- Accurate LiDAR is needed for 5 year ortho updates
- Regular data collection needed for temporal analysis such as change detection of land and land features
- Used in Ortho production

## Objectives/Measure of Success & Project Timeframes

Milestone	Duration	Date
Collect spring LiDAR and process through the summer. QC and finalize by the fall.	1 year	Jan. 1 - Dec. 31, 2025

## Responsible Parties

Contractor (100%)

## Estimated Budget Information

See table below.

## Project #5: Orthoimagery

### Project Description/Goal

Collect new orthoimagery every 5 years.

Impacts Foundational Elements: Orthoimagery, LiDAR.

### Business Drivers

- High resolution aerial imagery is used in planning, conservation, real estate activities, recreation, emergency management, and navigation
- Older images are archived as a historical record
- Regular data collection needed for temporal analysis such as change detection of land and land features
- Used to verify changes in LiDAR

## Objectives/Measure of Success & Project Timeframes

Milestone	Duration	Date
Collect spring orthos and process through the summer. QC and finalize by the fall.	1 year	Jan. 1 - Dec. 31, 2020

## Responsible Parties

Contractor (100%)

## Estimated Budget Information

See table below.

## Project #6: Address Points and Street Centerlines

## Project Description/Goal

Run annual validation queries between the GIS address database, the RPL's database, and Sheriff's Communication database (MSAG) to ensure they match. Ideally, they will also match the USPS database.

Impacts Foundational Elements: Address Points and Street Centerlines.

## Business Drivers

- Emergency management, deliveries, GPS navigation, and computerized routing all rely on accurate address data

## Objectives/Measure of Success & Project Timeframes

Milestone	Duration	Date
Validate query results	First quarter	Jan. 1 - Mar. 31, 2016
Validate query results	First quarter	Jan. 1 - Mar. 31, 2017
Validate query results	First quarter	Jan. 1 - Mar. 31, 2018

## Responsible Parties

GIS Specialist (100%)

## Estimated Budget Information

See table below.

## Project #7: Software/Hardware/Website

## Project Description/Goal

Annual software maintenance currently in the Information Technology budget is listed here for future consideration. Purchase a new GIS Server every 5 years. In-house work to develop and maintain website on existing server and replacement servers over time.

Impacts Foundational Elements: Not associated with a specific element.

## Business Drivers

- Integrates ROD, GIS, RPL, and Survey data access in a highly utilized public website
- Avoids an interruption in land information data flow to the website and other applications
- It is more efficient after a period of time to build a new server, rather than attempt to upgrade individual server components
- The old server is repurposed

## Objectives/Measure of Success & Project Timeframes

Milestone	Duration	Date
Purchase new GIS Server	1 year	Jan. 1 - Dec. 31, 2020
Website maintenance	1 year	Jan. 1 - Dec. 31, 2016
Website maintenance	1 year	Jan. 1 - Dec. 31, 2017
Website maintenance	1 year	Jan. 1 - Dec. 31, 2018

## Responsible Parties

Vendor (100%)

GIS Specialist (100%)

## Estimated Budget Information

See table below.

## Project #8: Training and Education

### Project Description/Goal

Continue education of Land Information Council members in program and technology changes. Professional development opportunities include conference presentations and workshops such as but not limited to:

WLIA (Wisconsin Land Information Association)  
EWUG (ESRI Wisconsin User Group)  
WCSA (Wisconsin County Surveyors Association)  
WSLS (Wisconsin Society of Land Surveyors)  
WCTA (Wisconsin County Treasurers Association)  
WRPLA (Wisconsin Real Property Listers Association)  
WRDA (Wisconsin Register of Deeds Association)

Impacts Foundational Elements: Not associated with a specific element.

### Business Drivers

- Continually changing technology
- Continually changing administrative programs

### Objectives/Measure of Success & Project Timeframes

Milestone	Duration	Date
activity report	1 year	Jan. 1 - Dec. 31, 2016
activity report	1 year	Jan. 1 - Dec. 31, 2017
activity report	1 year	Jan. 1 - Dec. 31, 2018

### Responsible Parties

Educators (50%), LIC members (50%)

### Estimated Budget Information

See table below.

## Project Estimated Budget Information (per annum for the next 3 years)

Project	Item	Unit Cost	Cost	Total Project Cost
<b>1. Digital Parcel Mapping</b>	a. In-house GIS Specialist position integrate PLSS into parcel map ( Strategic Initiative Grant)	6% of 88,000	5,000	-
	b. In-house GIS Specialist position parcel map maintenance (Retained Fees)	17% of 88,000	15,000	-
	c. Contracted City and Village block corner surveys (Base Budget Grant)	\$130 per corner	10,000	-
				<b>30,000</b>
<b>2. PLSS Remonumentation</b>	a. Contracted PLSS (Strategic Initiative Grant)	\$1,240 per corner	40,000	-
	b. Contracted PLSS (Base Budget Grant)	\$1,240 per corner	55,000	-
				<b>95,000</b>
<b>3. Other Parcel Work</b>	a. Contracted ROD archiving/digitizing (Base Budget Grant)	10,000	10,000	-
	b. In-house GIS Specialist position format tax roll and zoning data ( Strategic Initiative Grant )	3% of 88,000	2,500	-
	c. In-house GIS Specialist position format extended tax roll ( Strategic Initiative Grant )	3% of 88,000	2,500	-
				<b>15,000</b>
<b>4. LiDAR</b>	a. Contracted LiDAR (2025)	349 mi <sup>2</sup> *\$287 /mi <sup>2</sup> =\$100,000 <small>see note 1</small>	0	-
				<b>0</b>
<b>5. Orthoimagery</b>	a. Contracted Orthoimagery (2020 Base Budget Grant)	380 mi <sup>2</sup> *\$132 /mi <sup>2</sup> = \$50,000 <small>see note 1</small>	35,000	-
	b. Contracted Orthoimagery (2020 designated non-metallic mining fees)		15,000	-
				<b>0</b>
<b>6. Address Points and Street Centerlines</b>	a. In-house GIS Specialist position address maintenance (Retained Fees)	6% of 88,000	5,000	-
				<b>5,000</b>
<b>7. Software/Hardware/Website</b>	a. annual software maintenance		0	-
	1. Register of Deeds Fidler \$11,840	11,840	0	-
	2. Treasurer GCS \$10,760	10,760	0	-
	3. GIS Esri \$5,500	5,500 <small>see note 2</small>	0	-
	4. Land Cons./Surveyor/GIS/Hwy AutoCAD \$4,000	4,000	0	-
	b. Contracted GIS server hardware purchase (2020)	5,000	0	-
c. In-house GIS Specialist position website development and maintenance (Retained Fees)	6% of 88,000	5,000	-	
				<b>5,000</b>
<b>8. Training and Education</b>	a. Annual conference attendance	1,000	1,000	-
				<b>1,000</b>
<b>GRAND TOTAL</b>				<b>151,000</b>

Note. These estimates are provided for planning purposes only. Budget is subject to change.

note 1 The estimate shown is based on an independent contract outside the Wisconsin Regional Orthophotography Consortium (WROC). For comparison, WROC 2015 per square mile cost estimates were \$225 for 6 inch resolution and \$850 for 3 inch. Ortho is calculated at 380 square miles of land & water total, LiDAR at 349 square miles of land, not including 31 square miles of water. Values are according to the US Census. Ortho and LiDAR projects include a small buffer around the county, which does not need to be included.

note 2 Land Conservation participates in the USDA (US Department of Agriculture) ESRI software enterprise license at no cost.