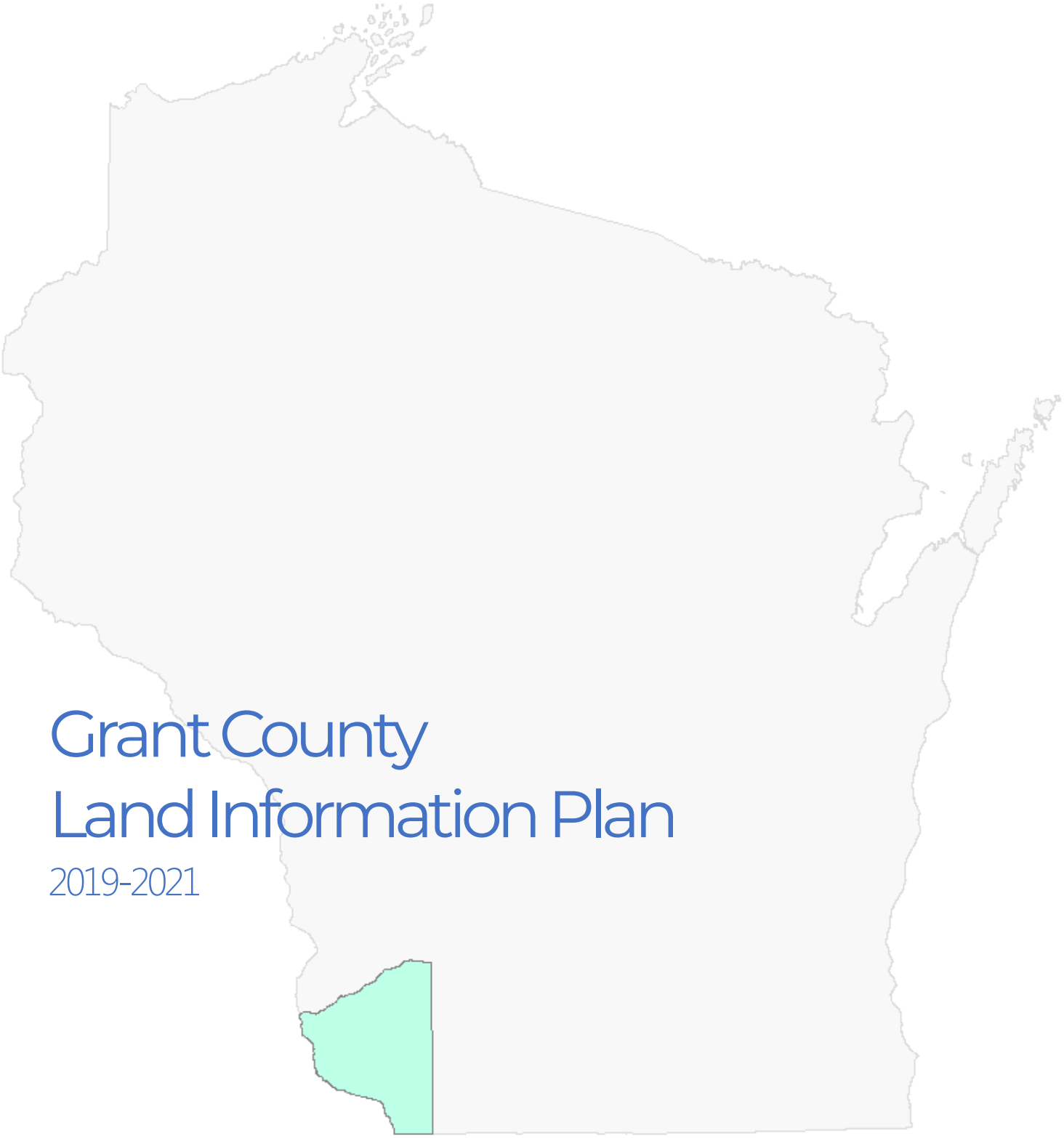


Grant County
Land Information Plan
2019-2021

Version: 2018-12-0329
Approved/Adopted by Land Information Council on: 2018-11-29

CONTENTS

EXECUTIVE SUMMARY

About this Document

This document is a land information plan for Grant County prepared by the Land Information Officer and the Grant County Land Information Council (LIC). Under state statute 59.72(3)(b), a "**countywide plan for land records modernization**" is required for participation in the Wisconsin Land Information Program (WLIP). The purpose of this document is twofold: 1) to meet WLIP funding eligibility requirements necessary for receiving grants and retaining fees for land information, and 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.

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 2017, Grant County was awarded $88,816 in WLIP grants and retained a total of $62,864 in local register of deeds document recording fees for land information. As GIS/LIS grows from collection and design systems used by a few county employees into myriad decision support systems and services, so too will the departmental, employee, and citizen use. This growth will be supported by the projects contained within this plan. In addition to broad-level guidance, 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 Grant 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 (LIS) supports economic development, emergency planning and response, and a host of other citizen services. Grant County's LIS has been and will continue to integrate and enable efficient access to information that describes the physical characteristics of land, property boundaries, and rights attributable to landowners. Integration of county-owned and/or maintained assets has already commenced and will continue to expand, as more assets are brought into our LIS for asset management, capital improvement, and planning operations.

Mission of the Land Information Office

The Land Information Office of Grant County will work diligently to ensure that the value of land information is understood and used appropriately. By expanding the use of Geographic Information Systems (GIS) throughout County operations, the Land Information Office of Grant County will provide proven, innovative, and cost-effective technology solutions to County departments so they can transform their operations to best serve the citizens of Grant County with GIS. Our mission will focus on the following strategies:

- Build and maintain a skilled and experienced work unit with a high level of expertise in GIS, Real Property, Technology, as well as Capital Asset Management and Planning;
- Create collaborations between departments and outside agencies to develop datasets with integrity by leveraging the expertise of each participating unit's members or staff;
- Guide County departments and other in the efficient and appropriate use of Land Information tools and data including electronic and hard copy documents, employee knowledge, and GIS; and

- Build support for Land Information activities and expand the utilization of GIS by developing new or promoting existing examples wherein Land Information sponsored projects or GIS technology is a clear benefit to the county and its citizenry.

Land Information Office Projects

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

Grant County Land Information Projects: 2019-2021	
Project #1	**Maintain Searchable Format**
Project #2	**PLSS Remonumentation**
Project #3	**ESRI Software**
Project #4	**Improvement to & Expansion of Enterprise GIS**
Project #5	**Refinement of Tax Parcel Geometries/Migration to Parcel Fabric and Local Government Information Model**
Project #6	**Scanning/Indexing Expansion**
Project #7	**Update Orthoimagery**
Project #8	**Update LiDAR & Expanded Point Classification**
Project #9	**County Staff/Elected Official Education & Training**

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

1 INTRODUCTION

Grant County Land Information History

In 1990 the Grant County Board of Supervisors approved Resolution #7/90 thereby establishing the Grant County Land Information Office (LIO) in response to state legislation creating a program to modernize of local government land records and land information systems. The enabling legislation established the Wisconsin Land Information Program (WLIP) with oversight by the Wisconsin Land Information Board (WLIB), a funding mechanism, and local government participation via Wisconsin county governments. Statutory changes in 2005 dissolved the WLIB and moved management of the WLIP to Wisconsin Department of Administration, Division of Intergovernmental Relations (DOA-DIR). In 2015, additional statutory changes placed the State Geographic Information Officer (GIO) under WLIP and established an advisory group called the Wisconsin Land Information Council (WLIC).

The LIO is responsible for the improvement of the countywide land information system dedicated to serving the needs of county departments, communities, and citizens in Grant County. This effort involves the sharing of and improving access to modern (digital) data, pooling resources, and developing or building an adequate level of technology to support those needs relating to land information.

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 59.72(1)(a)

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
- Coordinate the sharing of parcel/tax roll data with the Department of Administration in a searchable format determined by DOA under s. 59.72(2)(a)

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 made funding available to counties in the form of Strategic Initiative grants to be prioritized for the purposes of parcel/tax roll dataset improvement.

For Strategic Initiative grant eligibility, counties are 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—were determined through a participatory planning process. Current benchmarks are detailed in the WLIP grant application, as will be future benchmarks.

WLIP Benchmarks (For 2016-2018 Grant Years)

- Benchmark 1 & 2 – Parcel and Zoning Data Submission/Extended Parcel Attribute Set Submission
- Benchmark 3 – Completion of County Parcel Fabric
- Benchmark 4 – Completion and Integration of PLSS

More information on how Grant County is meeting these benchmarks appears in the Foundational Elements section of this plan document.

County Land Information System History and Context

With the approval of Resolution #7/90, Grant County pledged to modernize land records and public access thereto by granting authority to the Office of Land Information. Encompassing and area of 1,180 miles, Grant County is the 10th largest county by land area in the state according to the Wisconsin Department of Natural Resources (Wi_DNR_Data. *Wisconsin County Boundaries (24K)*. Feature Layer. Madison, WI: Wisconsin Department of Natural Resources, Bureau of Technology Services, July 5, 2017.) and, combined with its wildly divergent areas of population density and development, has relied heavily on grants awarded through the WLIP to make progress in our modernization efforts.

In Late 2016, the County Cartographer retired from their position held since 1989. This led to the rehiring of the position under the title of GIS Specialist. By reclassifying the position, the LIC acknowledged the need for developing a geographic information system within the County. Since that time, the LIO has restructured many of the tools and resources used to distribute and make accessible land information as well as reconfigured inter-departmental workflows capitalizing on enterprise GIS capabilities and web application development. In order to continue to meet WLIP goals, the LIO and LIC recognize further improvements in communication and coordination between County departments are necessary and will work to broaden not only the depth of GIS, but the scope in which GIS or GIS-derived solutions are applied. Also recognized is the wide range of departmental and municipal use and manipulation of GIS information, the LIO develops the fundamental information used by those and outside entities. Legislative mandates originating in state or county governments may influence the actions of the LIO due to the inherently cross jurisdictional nature of the office.

County Land Information Plan Process

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. The 2019-2021 plan, completed at the end of 2018, is the second post-Act 20 required update.

The 2019-2021 plan has been developed through the coordinated work of all represented departments. With each foundational element and project having an office of origin, the process of updating this plan began with each department reviewing the foundational element(s) and project(s) originating therein. After the initial update for each element/project was complete, the LIC reviewed the updates and new project recommendations, provided insight, sought further clarification, and ultimately approved, by majority vote, all changes contained within this document. During the review process all members of the LIC were encouraged to think critically about elements and projects originating in offices other than their own. By reviewing those projects within the context of another user, recommendations of change, inter-departmental workflows, and new uses for the data were reviewed. This approach resulted in the

identification and elimination of redundant operations as well as gains in efficiency, overall communication, and a more complete understanding of county operations by all members of the LIC.

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 DOA requires county land information councils to approve final plans.

This plan was prepared by the county LIO, the Grant County Land Information Council, and others as listed below.

Grant County Land Information Council and Plan Workgroup

Name	Title	Affiliation	Email	Phone
+ **Marilyn Pierce**	Register of Deeds,	Grant County Register of Deeds	mpierce@co.grant.wi.gov	608-723-2727
+ **Linda Gebhard**	County Clerk	Grant County Office of the County Clerk	lgebhard@co.grant.wi.gov	608-723-2675
+ **Carrie Eastlick**	County Treasurer	Grant County Treasurer's Office	ceastlick@co.grant.wi.gov	608-723-2604
+ **Tammy Hampton**	Real Property Specialist	Grant County Office of the County Clerk	thampton@co.grant.wi.gov	608-723-2666
+ **Robert Keeney**	County Board Chair	Grant County Board of Supervisors	rkeeney@co.grant.wi.gov	608-723-2771
+ **Chris Colney**	GIS Specialist; Land Information Officer	Grant County Office of the County Clerk	ccolney@co.grant.wi.gov	608-723-2666
+ **Jon Miles**	Realtor	Century 21	jonmiles21@aol.com	608-988-7400
+ **Lynda Schweikert**	Department Head	Grant County Conservation, Sanitation, and Zoning Dept.	lynda.schweikert@wi.nacdnet.net	608-723-6377 ext. 4
+ **Jay Adams**	County Surveyor	County Surveyor	jadams@teamenginc.com	608-485-2662
+ **Chris Johll**	Communications Supervisor	Grant County Sheriff's Office	cjohhl@co.grant.wi.gov	608-723-7442
+ **Dave Lambert** **Travis Kramer** (alternate)	Highway Commissioner Highway Engineer	Grant County Highway Department	dlambert@co.grant.wi.gov tkramer@co.grant.wi.gov	608-723-2595
+ **Shane Drinkwater**	Department Head	Grant County Information/Technology Dept.	sdrinkwater@co.grant.wi.gov	608-723-1668

+ Land Information Council Members designated by the plus symbol

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 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, this plan places 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

PLSS Layer Status	Status/Comments
Number of PLSS corners (selection, ¼, meander) **set in original government survey** that can be remonumented in your county	±4,300
Number and percent of PLSS corners capable of being remonumented in your county that **have been remonumented**	• 3,500 (80%)
Number and percent of remonumented PLSS corners with survey grade coordinates (see below for definition) **SURVEY GRADE** – coordinates collected under the direction of a Professional Land Surveyor, in a coordinate system allowed by 236.18(2), and obtained by means, methods and equipment capable of repeatable 2 centimeter or better precision **SUB-METER** – point precision of 1 meter or better **APPROXIMATE** – point precision within 5 meters or coordinates derived from public records or other relevant information	• Survey Grade Corners: ±1,100 (25%) • Sub-Meter **or** Approximate: ±3,500 (80%)
Number and percent of survey grade PLSS corners integrated into county digital parcel layer	• ±900 (21%)
Number and percent of non-survey grade PLSS corners integrated into county digital parcel layer	• ±2,900 (74%)
Tie sheets available online?	YES, http://grantcountylandrecords.com/publicinfo/Plats,%20Surveys,%20Tie%20Sheets/Tie_Sheets/
Percentage of remonumented PLSS corners that have **tie sheets available online** (whether or not they have corresponding coordinate values)	• 100%
Percentage of remonumented PLSS corners that have tie sheets available online (whether or not they have corresponding coordinate values) **and a corresponding URL path/hyperlink value** in the PLSS geodatabase	• 100%
PLSS corners believed to be remonumented based on filed tie-sheets or surveys, but do not have coordinate values	• ±2,700
Approximate number of PLSS corners believed to be lost or obliterated	• **
Which system(s) for **corner point identification/numbering** does the county employ (e.g., the Romportl point numbering system known as Wisconsin Corner Point Identification System, the BLM Point ID Standard, or other corner point ID system)?	• Wisconsin Corner Point Identification System and a unique County standard whereby corner number 1 is the northeast corner of Section 1 and corners are subsequently numbered throughout a township in a serpentine pattern. Ex. The northwest corner of Section 6 is number 13, the west quarter corner of Section 6 is number 14, the east quarter corner of Section 6 is number 15 and so on until the southwest corner of Section 31 is reached at corner number 133.
Does the county contain any **non-PLSS areas** (e.g., river frontage long lots, French land claims, private claims, farm lots, French long lots, etc.) or any special situations regarding PLSS data for tribal lands?	• No
Total number of PLSS corners along each bordering county	• Lafayette: 45 Iowa: 54 Jo Daviess, IL: 21
Number and percent of PLSS corners remonumented along each county boundary	• Lafayette: 14 (81%) Iowa: 23 (81%) • Jo Daviess, IL: 20 (95%)
Number and percent of remonumented PLSS corners along each county boundary with survey grade coordinates	• Lafayette: 14 (81%) • Iowa: 23 (81%) • Jo Daviess, IL: 20 (95%)
In what ways does your county collaborate with or plan to collaborate with neighboring counties for PLSS updates on shared county borders?	• Grant County independently reviews corners that border neighboring counties. Results of those reviews will be shared with neighboring counties.

Custodian

- County Surveyor
- Land Information Office/GIS Specialist

Maintenance

- PLSS data will be update as private surveys are received and as County remonumentation efforts progress

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 requirement.
- SURVEY GRADE standard from Wisconsin County Surveyor's Association:
  - **SURVEY GRADE** – coordinates collected under the direction of a Professional Land Surveyor, in a coordinate system allowed by 236.18(2), and obtained by means, methods and equipment capable of repeatable 2 centimeter or better precision

Other Geodetic Control and Control Networks

e.g., HARN, Height Mod., etc.

Layer Status

- Not administered by County

Parcel Mapping

Parcel Geometries

Layer Status

- **Progress toward completion/maintenance phase:** County-wide parcel layer is In Grant County, 100% of the county's mapped parcels are available in a commonly-used digital GIS format. Inclusion of heretofore unmapped parcels continues to occur.

- **Projection and coordinate system:** Grant County uses the Grant County Coordinate System, a Wisconsin Coordinate Reference System (WISCRS) referenced to NAD 83 (2011). The Projection is Transverse Mercator.

- **Integration of tax data with parcel polygons:**

- The county does have a parcel polygon model that directly integrates tax/assessment data as parcel attributes. Over 97% of Grant County's 48,900 parcels have geometric representation. The remaining 3% of unmapped parcels are largely exempt parcels (publically owned, church, cemetery, etc.). Progress continues to be made towards mapping 100% of Grant County parcels.

- **Esri Parcel Fabric/LGIM Data Model:**
  Currently, parcel geometry is participating in a relationship class with tax data following the Statewide Parcel Map Initiative V4 Schema. This allows parcel geometry and owner information to be immediately accessible via the Grant County online parcel viewing application. Grant County plans to implement ESRI's Local Government Information Model (LGIM), as townships are remonumented.

- **Online Parcel Viewer Software/App and Vendor name:**
  Esri Web AppBuilder for ArcGIS- Customized and maintained by the Grant County Land Information Office
- **Unique URL path for each parcel record:** Yes, please see table below

Parcel Mapping/Online Availability			
	Parcel Explorer	**Tax Portal**	**Note**
URL	https://gis.co.grant.wi.gov/Parcel_Explorer/?query=Parcels_3610%2CWEBPIN%2C{PARCELNUMBER}	http://www.grantcountylandrecords.com/GCSWebPortal/Search.aspx?parcelnumber={PARCELNUMBER}	**{PARCELNUMBER}** formatting removes all hyphens from
Tax Assessment Data Available?	Yes, linked to Tax Portal	Yes	
Tax Bill Viewable?	Yes, 2015 through 2017	Yes, 2011 through 2017	
Assessor Information Available?	Yes	No	For municipalities using MarketDrive® Software
Zoning Information Available?	Yes	No	Dedicated layer within Parcel Explorer
Permit Records Available?	No	Yes	Parcel Explorer integration in development
Is URL Stable?	Yes	Yes	Future changes may occur

Custodian

- Land Information Office
- Real Property Lister/GIS Specialist

Maintenance

- **Update Frequency/Cycle**. New and split parcel polygons are drafted in a feature class independent of our countywide parcel geometry as needed. After drafting and review, new/split parcels are incorporated into our countywide parcel geometry and served to our Web App as a feature layer as they are incorporated. Parcel geometry is available for download in our publically available geodatabase. This geodatabase is updated throughout the calendar year. Update frequency is dictated by Tax Lister workflow.

Standards

- **Data Dictionary**: Complete
- The Data Dictionary, which is defined in the metadata, follows the standards of the Statewide Parcel Map Schema.

Assessment/Tax Roll Data

Layer Status

- **Progress toward completion/maintenance phase:** NA
- **Tax Roll Software/App and Vendor name:** Olympus/Land Nav; GCS Software
- **Municipal Notes:** NA

Custodian

- Real Property Lister/County Treasurer

Maintenance

- **Maintenance of the Searchable Format standard:** Tax data has been brought into compliance with the Searchable Format standard through intensive cleaning by the Land Information Office. All employees responsible for the creation/editing of data are now trained in these standards.
- **Searchable Format Workflow:** The county maintains parcel/tax roll data in the Searchable Format or close enough to the Searchable Format that little to no human labor is required for the annual submission of parcel/tax roll data to DOA.

Standards

- Wisconsin Department of Revenue Property Assessment Manual and attendant DOR standards
- DOR XML format standard requested by DOR for assessment/tax roll data
- 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
- Grant County Data Entry Standards

Non-Assessment/Tax Information Tied to Parcels

e.g., Permits, Easements, Non-Metallic Mining, Brownfields, Restrictive Covenants

Layer Status

- Septic Permit information is tied to parcel information via Parcel ID Number however the permit data are not integrated into the Grant County GIS. Permit documents are currently being scanned and indexed by Conservation, Sanitation, and Zoning Department staff. Once complete, integration into GIS will commence. New permits (septic, building, and other), pumping records, and other permits/records will be standardized and incorporated into the Grant County GIS.

Custodian

- Conservation, Sanitation, Zoning Department

Maintenance

- Ongoing; records are added or amended as needed.

Standards

- NA

ROD Real Estate Document Indexing and Imaging

Layer Status

- **Grantor/Grantee Index:** Grantor/Grantee index is in book form from 1837 to 1989; computerized in GCS system from that point going forward. However, all images from land records books have been scanned and incorporated into the GCS system; therefore, all documents can be accessed by Document Number or Vol/Page in GCS. Additional attributes to be indexed includes adding names, dates and other information identification information to the index.

- **Tract Index:** Tract books cover 1837 to April 2013, and scanned images of these books are available at http://grant.colortract.com . The Computerized tract is available in the GCS system and is going updated daily; a working backward project is in force, and is currently working on records from 2006.

- **Imaging:** Re-scanning of original plats, maps, and right-of-ways commenced in late 2018. Due to the improvement in scanning technology and the County's focus on improved access, functionality, and the importance of creating and maintaining an archive-quality (≥300dpi) digital library, Grant County determined the need to re-scan and index these documents to be a priority. Twice every week, new documents are scanned, indexed, and attributed.

- **ROD Software/App and Vendor Name:** GCS Web Portal: GCS Software for indexing; Kofile for imaging.

Custodian

- Register of Deeds

Maintenance

- Ongoing

Standards

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

LiDAR and Other Elevation Data

LiDAR

Layer Status

- **Most recent acquisition year:** 2011
- **Accuracy:** From the 2011 Ground Control Survey Report delivered with the LiDAR data collected by Ayres Associates:

> *A comparison of ground survey versus lidar model values indicates a vertical root mean square error (RMSEz) of 0.425 feet. This is within the FEMA specified vertical accuracy tolerance of 0.6. This RMSEz, which equates to a tested 0.834 feet vertical accuracy at 95% confidence level*

- **Post spacing:** 1 meter
- **Contractor's standard, etc.:** The data was collected and produced to meet FEMA Guidelines and Specifications for Flood Hazard Mapping Partners
- **Next planned acquisition year:** Before 2023 (this is the current sunset on the 3DEP funding) (subject to availability of state/federal grant funding): New dataset will be meet USGS Lidar Base Specifications at Quality Level 2 or higher, which includes higher point density and increased vertical accuracy. The County is interested in obtaining additional point classifications, along with other possible derivatives for use more in-depth analysis leading to more informed decision making. Ideally, this collection will include breaklines and/or polygons for Hydro features, Bridges, Culverts, Structures, etc.

Custodian

- Land Information Office

Maintenance

- No editing of existing datasets planned

Standards

- This dataset meets or exceeds FEMA/FGDC NSSDA vertical accuracy of 0.6 RMSEz which equates to a 95% confidence level

LiDAR Derivatives

e.g., Bare-Earth Digital Terrain Model (DTM), Bare-Earth Elevation Contours, Bare-Earth Digital Elevation Model (DEM), Digital Surface Model (DSM), etc.

Layer Status

LiDAR Derivatives in Grant County's GIS

- Point Cloud
- Bare-Earth Digital Terrain Model
- Bare-Earth 2-foot Contours
- Digital Elevation Model
- Digital Surface Model

Custodian

- Land Information Office

Maintenance

- No editing of existing datasets planned
- Acquire new, higher-density LiDAR dataset with additional point classifications before 2023; subject to availability of state/federal grant funding

Standards

- Standards • This dataset meets or excedes FEMA/FGDC NSSDA vertical accuracy of 0.6 RMSEz which equates to a 95% confidence level.

Orthoimagery

Orthoimagery

Layer Status

- **Most recent acquisition year:** 2015
- **Resolution:** 12-inch pixel
- **Contractor's standard:** The orthoimagery meets the standards of the Wisconsin Regional Orthoimagery Consortium (WROC). The WROC standards for 12-inch pixel orthos are produced to meet ASPRS standards for 1"=200' scale mapping. The horizontal accuracy equates to 4.8 feet at 95% confidence level
- **Next planned acquisition year:** 2020
- **WROC participation in 2020:** Statement of Intent submitted for participation

Custodian

- Land Information Office

Maintenance

- Every five years

Standards

- National Standards for Spatial Data & Accuracy (NSSDA)
- American Society for Photogrammetry & Remote Sensing (ASPRS)

Historic Orthoimagery

Layer Status

- Available years: 1995, 2000, 2010, 2015

Custodian

- Land Information Office

Maintenance

- Historic Orthoimagery archived only

Standards

- Variable; dependent upon collection year

Other Types of Imagery

e.g., Oblique Imagery, Satellite Imagery, Infra-red, etc.

Layer Status

- Orthoimagery collect in 2015 includes four-band infrared

Custodian

- Land Information Office

Maintenance

- Historic imagery archived only

Standards

- Variable; dependent upon collection year

Address Points and Street Centerlines

Address Point Data

Layer Status

- Countywide point data locating 18,682 individual address points have been created but not integrated into county's GIS
- Dataset also identifies the location of 58,795 primary and secondary structures

Custodian

- Sheriff's Office
- Real Property Lister/GIS Specialist

Maintenance

- Ongoing; will include increased locational accuracy, address point to structure location polyline geometry incorporated into road network for better emergency management operations

Standards

- NENA Standards compliant

Building Footprints

Layer Status

- Currently unavailable but will be developed when new LiDAR data is acquired

Custodian

- NA

Maintenance

- NA

Standards

- In Development

Other Types of Address Information

e.g., Address Ranges

Layer Status

- Complete

Custodian

- Sheriff's Office and contracted service within GEO-COMM

Maintenance

- Ongoing

Standards

- NENA Standards compliant
- MSAG Valid where applicable

Street Centerlines

Layer Status

- Complete; in maintenance phase

Custodian

- Sheriff's Office and third-party contractor

Maintenance

- Ongoing

Standards

- NENA Standards compliant
- MSAG Valid where applicable

Rights of Way

Layer Status

- In Development

Custodian

- Real Property Lister's Office

Maintenance

- Real Property Lister's Office

Standards

- NENA Standards compliant

Trails

e.g., Recreational Trails

Layer Status

- Grant County Land Information is working with UW-Extension and their enthusiast groups to develop a county trails and recreational areas data set

Custodian

- User groups will maintain geometry
- County may provide server space, web access, and addition resources

Maintenance

- TBD

Standards

- TBD

Land Use

Current Land Use

Layer Status

- Shoreland zoning layer complete
- Floodplain zoning available through the Wisconsin DNR

Custodian

- Conservation, Sanitation, and Zoning Department/Wisconsin DNR

Maintenance

- As Floodplain zoning is amended

Standards

- s. 59.69, 59.971, 59.99, 87.30 7 114.26 Wis. Stats. Zoning
- s. 61.35 & 62.23, 59.691, & 87.30, Wis. Stats

Future Land Use

Layer Status

- Existing/proposed land use data for 21 Townships is available however, the origin, accuracy, and ownership of this data is unknown; Grant County does not maintain this data

Custodian

- NA

Maintenance

- NA

Standards

- s. 66.1001, Wis. Stats. Comprehensive planning
- 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

- Grant County does maintain a GIS representation of county general zoning boundaries; the extent of this data extends only to those municipalities that have adopted county zoning standards.

Custodian

- Conservation, Sanitation, and Zoning Department

Maintenance

- Conservation, Sanitation, and Zoning Department utilizing Web Applications developed by the Land Information Office

Standards

- S. 59.69 & 87.30, Wis. Stats. Zoning

Shoreland Zoning

Layer Status

- Grant County does maintain a GIS representation of Shoreland zoning boundaries.
- The layer is 100% complete for the unincorporated areas of the county.

Custodian

- Conservation, Sanitation, and Zoning Department

Maintenance

- Conservation, Sanitation, and Zoning Department utilizing Web Applications developed by the Land Information Office, as needed.

Standards

- County Shoreland and Floodplain Protection Ordinance
- s. 59.69, 59.971, 59.99, 87.30 7 114.26 Wis. Stats. Zoning
- s. 61.35 & 62.23, 59.691, & 87.30, Wis. Stats

Farmland Preservation Zoning

Layer Status

- Grant County does maintain a GIS representation of farmland preservation zoning boundaries
- GIS dataset is updated to reflect changes in districts since certification
- **Year of certification:** 2011

Custodian

- Wisconsin Department of Agriculture, Trade, and Consumer Protection
- Conservation, Sanitation, and Zoning Department

Maintenance

- Conservation, Sanitation, and Zoning Department utilizing Web Applications developed by the Land Information Office to update zoning/farmland preservation participation as needed

Standards

- DATCP
- S. 66.110, Wis. Stats. Comprehensive Planning

Floodplain Zoning

Layer Status

- Floodplain zoning is administered by the county but it is currently not in GIS format

Airport Protection

Layer Status

- Not administered by County

Municipal Zoning Information Maintained by the County

- Grant County does not maintain this information

Administrative Boundaries

Civil Division Boundaries

e.g., Towns, City, Villages, etc.

Layer Status

- Complete

Custodian

- Land Information Office
- GIS Specialist

Maintenance

- As needed

Standards

- NA

School Districts

Layer Status

- **Progress toward completion/maintenance phase:** Complete, per State of Wisconsin Department of Public Instruction (DPI) instructions. Additional maintenance will be performed as non-conformities arise
- **Relation to parcels:** Parcels are assigned to school districts via tax records using GCS
  - **Attributes linked to parcels:**
    - SDCODE: School District Code assigned by DPI
    - TSDCODE: Technical School District Code assigned by DPI

Custodian

- Land Information Office
- Real Property Lister/GIS Specialist

Maintenance

- As needed

Standards

- NA

Election Boundaries

e.g., Voting Districts, Precincts, Wards, Polling Places, etc.

Layer Status

- In development. Current ward and district layers are complete with plans to add polling place point data with attribute information including location, operational hours, contact information, and other information paramount to a well-educated electorate.

Custodian

- County Clerk
- GIS Specialist

Maintenance

- Attribute verification before each election, other maintenance as needed.

Standards

- NA

Utility Districts

e.g., Water, Sanitary, Electric, etc.

Layer Status

- Grant County does not collect nor maintain this data however, it is available through the Public Service Commission

Custodian

- Public Service Commission

Public Safety

e.g., Fire/Police Districts, Emergency Service Districts, 911 Call Center Service Areas, Public Safety Answering Points, Healthcare Facilities

Layer Status

The following layers are 100% complete for the county:

- Emergency Service Network
- Emergency Service Agencies
- Public Safety Answering Point
- Fire Emergency Service Zones
- Law Emergency Service Zones
- Medical Emergency Service Zones

The following layers are in development for the county:

- Healthcare and Assisted Living Facilities
- Schools
- Shelters

Custodian

- Land Information Office/Sheriff's Office
- GIS Specialist
- Third-party contractor

Maintenance

- Updated as new facilities are added or facility information changes

Standards

- NA

Lake Districts

Layer Status

Grant County does not have lake districts

Native American Lands

Layer Status

- Grant County does not have Native American Lands. Burial sites, mounds, and other lands of historic/cultural importance are exempt from state and local tax and have been notated with exemption information in the tax database

Custodian

- Register of Deeds/Real Property Lister/GIS

Maintenance

- Ongoing/As needed

Standards

- NA

Other Administrative Districts

e.g., County Forest Land, Parks/Open Space, etc.

- Grant County does not collect nor maintain this information.

Other Layers

Hydrography Maintained by County or Value-Added

e.g., Hydrography maintained separately from DNR or value-added, such as adjusted to orthos

Layer Status

- Complete

Custodian

- Land Information Office

Maintenance

- Static Data

Standards

- None

Cell Phone Towers

Layer Status

- Complete

Custodian

- Grant County Sheriff's Office /Third-party contractor

Maintenance

- Ongoing/As needed

Standards

- NA

Bridges and Culverts

Layer Status

- In development using GPS field collection, Survey123, and will utilize future LiDAR data

Custodian

- Grant County GIS/Highway Department

Maintenance

- Ongoing/As needed

Standards

- NA

Other

e.g., Pipelines, Railroads, Non-Metallic Mining, Sinkholes, Manure Storage Facilities, etc.

Layer Status

Grant County currently has (*in italic font*), is in development of (***), or would like to develop the following layers:

- *Non-Metallic Mining*
- *Historic Mine Activity sites*
- *Private Drives and Driveways****
- Highway signs and sign posts***
- Septic Sites
- Water well sites
- Recreational Facilities
- Certified Survey Maps, Plat of Survey, Transportation Project Plats, and other platted lands

Custodian

- *Non-Metallic Mining:* Conservation, Sanitation, and Zoning Department/Third-party contractor
- *Historic Mine Activity sites*: GIS Specialist/Third-party contractor
- *Private Drives and Driveways****: GIS Specialist/Sheriff Department
- Highway signs and sign posts***: GIS Specialist/Highway Department
- Septic Sites: GIS Specialist/Conservation, Sanitation, and Zoning Department
- Water well sites: Wisconsin DNR
- Recreational Facilities: GIS Specialist/UW-Extension/Local User groups
- Certified Survey Maps, Plat of Survey, Transportation Project Plats, and other platted lands: GIS Specialist/Real Property Lister/Register of Deeds

Maintenance

- *Non-Metallic Mining: Yearly*
- *Historic Mine Activity sites*: Static Data, no maintenance
- *Private Drives and Driveways****: Ongoing
- Highway signs and sign posts***: Ongoing
- Septic Sites: Ongoing
- Water well sites: Ongoing
- Recreational Facilities: Ongoing
- Certified Survey Maps, Plat of Survey, Transportation Project Plats, and other platted lands: Ongoing

Standards

- *Non-Metallic Mining data meets s. 295.13(1), Wis. Stats. And NR 135.32, Admin. Code*
- All other datasets will have standards, if warranted, defined by the department requesting the development of the data layer.

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.

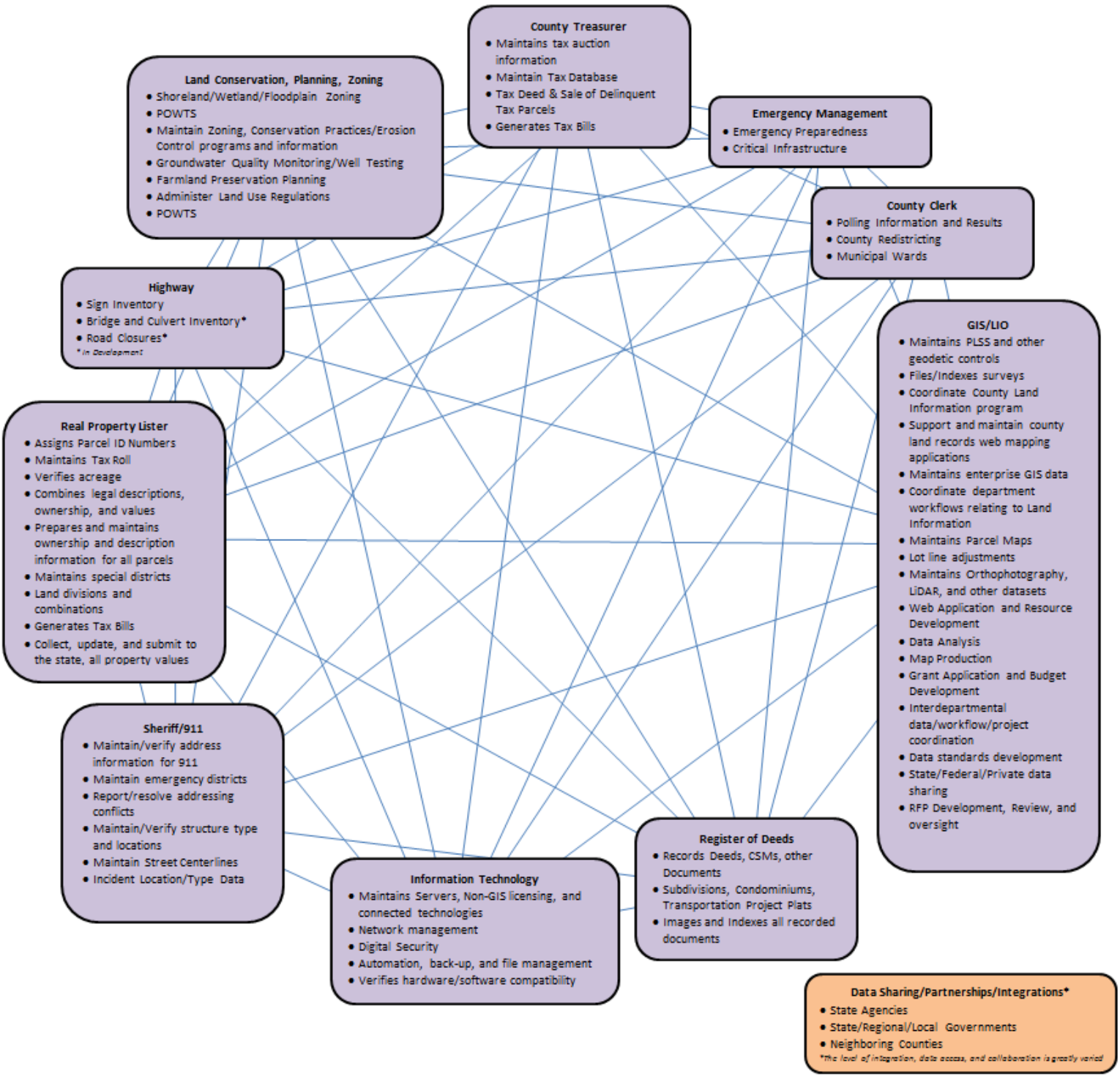
One integration requirement is listed under s. 16.967(7)(a)(1), Wis. Stats., which states that counties may apply for grants for:

- 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.

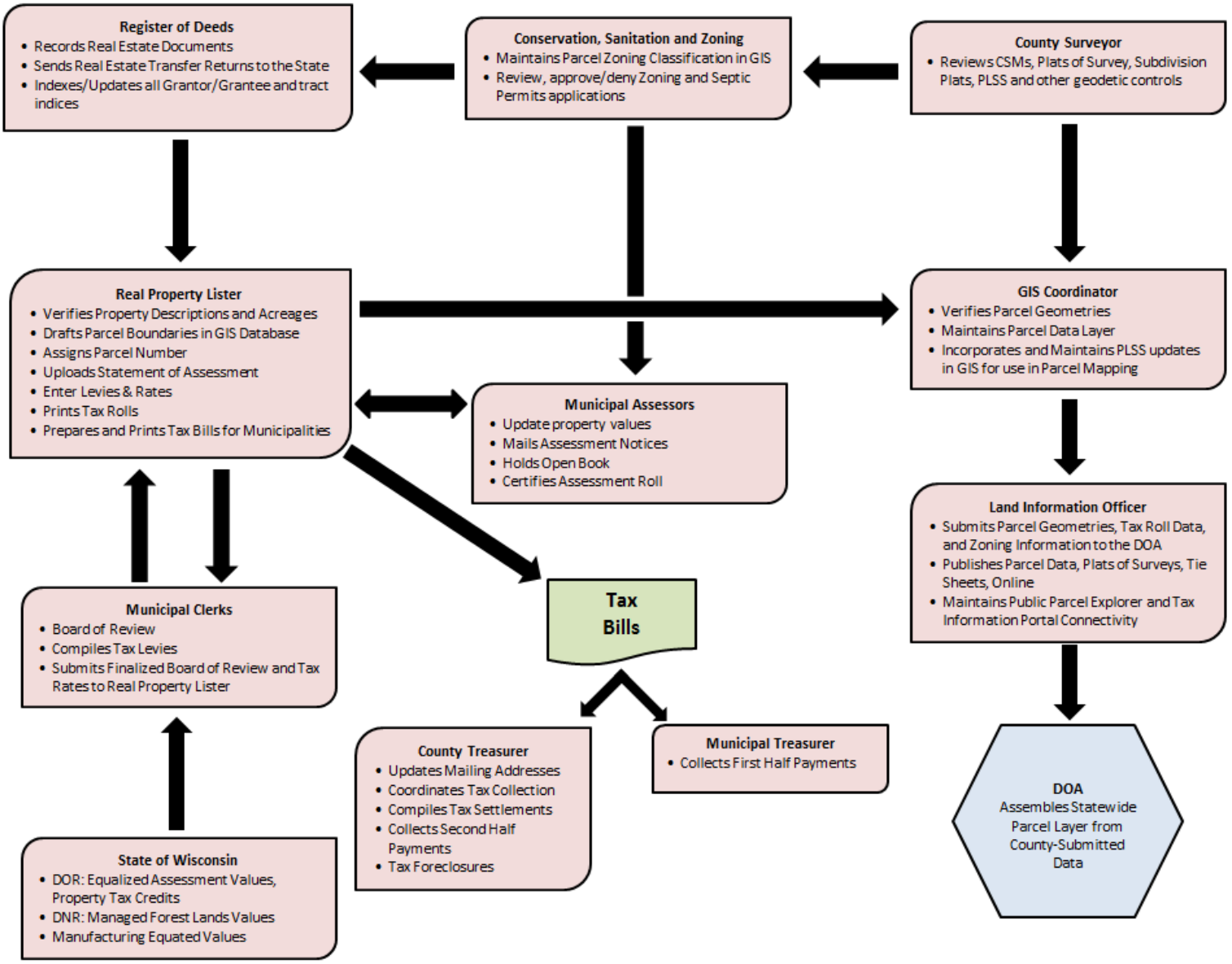
This chapter describes the design of the Grant County Land Information System, with focus on how data related to land features and data describing land rights are integrated and made publicly available.

Current Land Information System

Diagram of Grant County Land Information System



County Parcel Data Workflow Diagram



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.

Hardware

- **Current Hardware:**
  - Desktop workstations
  - Windows Server 2012R2 with 362 GB of disk and 32 GB of ram application server/webserver
  - Windows Server 2012R2/MS SQL 2012 with 1TB of disk and 32 GB of RAM
- **Planned Hardware:**
  - 1 x Windows Server 2012R2/MS SQL 2012 with 1TB of disk and 32 GB of RAM
  - 2 x Linux Cent OS 7 64Bit Arc GIS Servers
  - 2 x Linux Cent OS 7 64 Bit ArcGIS Web Adaptors; one for each ISP
  - 1 x Network Load Balancer

Software

- **Mapping Programs:** ArcMap 10.6 Desktop Advanced, ArcMap Professional,
  - **Program Extensions:** Spatial Analyst, 3D Analyst
- **Tax Listing Programs:** GCS Suite including LandNav, Property Assessment & Taxation, Document Indexing, Treasurer's Collection, Treasurer's Settlement, General Cash Receipting, and Permit Tracking

Website Development/Hosting

- ArcGIS Server and WebApp Developer for online mapping environments
- ArcGIS Online
- GCS WebPortal
- County-Hosted Public Data FTP

Metadata and Data Dictionary Practices

Metadata Creation

- **Metadata creation and maintenance process:** Grant County is working to develop a program-wide data dictionary for all layers and data. Most GIS data does not have metadata. Grant County will work towards developing a workflow in which metadata is created for all new data layers as they are developed.

Metadata Software

- **Metadata software:** ArcCatalog
  - The software does generate metadata consistent with the FGDC Content Standard for Digital Geospatial Metadata, and ISO geographic metadata standard 19115.
- **Metadata fields manually populated:** On an as needed basis

Metadata Policy

- **Metadata Policy:** Grant County does not have a metadata policy.

Municipal Data Integration Process

- Currently, no municipalities create or maintain their own GIS data with the exception of the City of Platteville. Their datasets are not well documented and, as such, are not incorporated into the County's GIS. Each municipality is responsible for the assessment of properties within their jurisdiction and facilitating Open Book and Board of Review activities but the County's Real Property Lister is responsible for preparing, distributing, and maintaining the assessment and tax roll data as well as submitting the Statement of Assessment to the State of Wisconsin's Department of Revenue. 17 municipalities have the County administer zoning on their behalf. However, the other 35 municipalities in the County do not. There has been little interest in furthering the utilization of GIS for the management of land information at the municipal level.

Public Access and Website Information

Public Access and Website Information (URLs)

Public Access and Website Information			
GIS Webmapping Application(s) Link - URL	GIS Download Link - URL	Real Property Lister Link - URL	Register of Deeds Link - URL
https://gis.co.grant.wi.gov/Parcel_Explorer/	http://www.grantcountylandrecords.com/publicinfo/	http://www.grantcountylandrecords.com	http://www.grantcountylandrecords.com

Municipal Website Information	
Municipal Website	Municipal Website URL
City of Platteville Public GIS Viewer	http://platteville.maps.arcgis.com/home/index.html

Data Sharing

Data Availability to Public

Data Sharing Policy

Grant County provides most digital data to the public via the open data download page. Certain datasets have sensitive information fields removed as a matter of public safety. Other datasets contain location information that could pose risk to public safety and, as a result, the spatial data is not available. For datasets not available on the open data download page, interested parties may contact the Land Information Office to request the data. Any Land Information Record that was acquired in whole or in part by Wisconsin Land Information Program grant dollars is provided to the requester free of charge with exceptions to any printing, postage, storage, or other related expense. Portions of datasets, processed datasets, or other special requests are subject to charges as outlined in the Grant County Land Information Fee Schedule which is available on the open data download page. All users of Grant County's web mapping applications must indicate their agreement with the disclaimer prior to the use of the application.

Open Records Compliance

Grant County Land Information strives to satisfy open records requests in a timely manner to the fullest extent possible.

Data Sharing Restrictions and Government-to-Government Data Sharing

Data Sharing Restrictions

Grant County limits third-party use of its data. Prior written consent of the Grant County Land Information Council is required for commercial use, reproduction, or distribution of GIS data. Restriction information is available online and is described in each data's service information page.

Government-to-Government Data Sharing

Grant County participates in government-to-government data sharing. Data requests from the State or other government agencies are fulfilled as soon as possible. This non-commercial, non-private data sharing is free of charge.

Training and Education

Grant County Land Information believes in the continued improvement of its programs is possible due to the continuing education of its members. Attendance at trainings, seminars, and conferences is encouraged and occurs regularly throughout the year. Members have attended trainings and events that include the Wisconsin Counties Association annual conference, the Wisconsin Society Land Surveyors (WSLS) annual conference and Wisconsin County Surveyor Association (WCSA) meetings, Wisconsin Real Property Lister's Association (WRPLA) annual and regional conferences, Wisconsin Register of Deeds Association (WRDA) annual and regional conferences, and the Governor's Conference on Emergency Management and Homeland Security, as well as the Wisconsin Emergency Management Association (WEMA) and Regional meetings. Attendance at special training and events such as those offered by the State Cartographer's Office is also encouraged.

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 aim. Projects can be thought of as the *means* to achieving the county's mission for its land information system.

Project #1 Maintain Searchable Format (Benchmarks 1 & 2)

Project Description/Goal

How Searchable Format Will Be Maintained

Grant County Land Information Council authorized the purchase of the export module available through GCS in the spring of 2017. This data is then analyzed by manual methods and through the use of tools developed by the SCO for non-conforming data entries. These entries are then edited within the GCS environment to ensure subsequent data exports meet the Searchable Format schema.

Business Drivers

- The Project Plan to Maintain Searchable Format for Benchmarks 1 & 2 is a requirement for those counties who utilize Strategic Initiative funds for parcel/tax roll formatting to prepare the data submission to DOA.
- To increase data interoperability and improve data sharing efficiency within and external to Grant County and its Land Information Program

Objectives/Measure of Success

- The objective is to continue to meet the Searchable Format for Benchmarks 1 & 2 (Parcel and Zoning Data Submission, Extended Parcel Attribute Set Submission).
- A reduction in manual editing of subsequent datasets

Project Timeframes

Timeline – Project Plan to Maintain Searchable Format

Milestone	Duration	Date
Project start	–	January 1, 2019
	1 month	January 1-30, 2019
Export, Edit, and Verify data	1 month	February 1-28, 2019
Project completion	–	March 1, 2019

Responsible Parties

- GIS Specialist
- Real Property Lister

Estimated Budget Information

- See table at the end of this chapter

Project #2 PLSS Remonumentation (Benchmark 4)

Project Description/Goal

Planned Approach

Grant County, at one point, began the remonumentation and collection of survey-grade coordinates for all PLSS corners within its boundaries. Unfortunately, documentation of these activities is scarce and that which does exist offers very little technical information regarding the remonumentation process. Currently, tie sheets with coordinates are not earmarked and no digital records with adequate information has been found. These gaps in the remonumentation record have called into question the existing information. With the appointment of the current county surveyor in 2016, the decision was made to standardize all remonumentation activities to the surveyor's specifications. As a result of the new surveyor's input and the questionable data that exists for past remonumentation activities, the Grant County Land Information Program refocused its attention to the completion of PLSS remonumentation in a single, standardized format. Currently, remonumentation is being carried out on a township-by-township approach. This allows the surveyor to not only work in a systematic method while researching and surveying, but it allows for parcel mapping to occur in a quasi-concurrent fashion. Grant County will rebuild its parcel data in the parcel fabric following the completion of each township. While remonumentation is planned at a rate of 1 township per year, Grant County Land Information Council would like to see the surveyor complete additional corners should funding be available.

Land Info Spending Category: PLSS (also affects Parcel Mapping and Other Layers)

Current Status

- **Tally of the total number of corners:** 266 of an approximately 4,200 corners have been remonumented since January 2017.
- **Remonumentation status:** See PLSS Layer Status table in Chapter 2.
- **Coordinate status (accuracy class) if known:** All section corners included in the remonumentation work of Grant County's Surveyor have survey-grade coordinates.

Goals

- **Number of corners to be remonumented and/or rediscovered:** A minimum 133 section corners per year until 100% complete
- **Number to have new coordinates established:** All remonumented corners will have new coordinates established or, at a minimum, existing coordinates verified.
- **Accuracy class for these new coordinates:** All remonumented corner coordinates will be survey-grade
- **Way in which these points will be integrated into the parcel fabric:** Control points will be manually entered into the parcel fabric with full attribution.

Missing Corner Notes

- **Documentation for any missing corner data:** Grant County has the goal of 100% PLSS remonumentation with accurate, survey-grade coordinates.

County Boundary Collaboration

- Grant County is in support of collaborating with neighboring counties in and out of the State of Wisconsin should interest be sufficient.

Business Drivers

- The Project Plan for PLSS is a requirement for those counties who utilize Strategic Initiative funds for work related to PLSS completion and integration.
- Complete remonumentation of PLSS will benefit any public or private land surveying work.

- Land Information; Real Property; Treasurer; Conservation, Sanitation, and Zoning; Emergency Management; and the Sheriff's Office will benefit greatly at this time and, in the future, additional county departments and partner agencies as they integrate/utilize land information services.
- GIS boundary data of parcels, municipalities, and PLSS lacks locational accuracy.

Objectives/Measure of Success

- The objective is to meet Benchmark 4 (Completion and Integration of PLSS) by 2050 date.
- 100% monumented PLSS corners with GPS coordinates
- Tie Sheets drawn and mapped for 100% of PLSS Corners
- Tie Sheets in a searchable/navigable data layer with hyperlinks for download/reference capabilities

Project Timeframes

Timeline – Project Plan for PLSS

Milestone	Duration	Date
Project start	–	January 2017
Surveyor Remonumentation	33 years	January 2017- December 2050
Digital Integration	33 years	January 2017- December 2050
Project complete	–	December 1, 2050

Responsible Parties

- Grant County Surveyor
- Land Information Officer
- GIS Specialist

Estimated Budget Information

- See table at the end of this chapter

Project #3: ESRI Software

Project Description/Goal

- ESRI software is used as the geospatial backbone of the Grant County Land Information Program and allows public access to web-based mapping and other land information resources. Continued use of this software requires yearly maintenance fees to be paid
- **Land Info Spending Category:** Digital Parcel Mapping, PLSS, Other Parcel Work, LiDAR, Orthoimagery, Address Points, Street Centerlines, Software, Training and Education

Business Drivers

- Increased demand for data access and ease of use by public users, private companies, and other county departments
- Insure departments against loss of institutional knowledge when staff change-over occurs as well as reducing department-based 'data silos' through the medium of digital mapping as a means to increase efficiency and cut down on repetitive datasets/data entry

Objectives/Measure of Success

- County departments utilizing GIS data to increase/improve their operational model and/or increase/improve the services provided

Project Timeframes

- Maintenance fees will be paid on a yearly basis

Responsible Parties

- Land Information Office

Estimated Budget Information

- See table at the end of this chapter

Project #4: Improvement to & Expansion of Enterprise GIS

Project Description/Goal

- Migrate the existing Enterprise GIS from a SQLServer/Microsoft based environment to a Linux based model with greater security, higher availability, increased speed, and redundancy
- Incorporate mobile technology to expand data collection/maintenance capabilities and streamline departmental record keeping and asset management workflows
- Build task or activity focused mapping applications that are tailored for a specific user group. Focusing GIS applications in a single task or activity focused allows for higher customization for the end user's needs based on a narrowly defined criteria
- **Land Info Spending Category:** Website Development/Hosting Services; Software; Hardware

Business Drivers

- By moving to a Linux based architecture, licensing costs can be reduced while increasing the functionality and diversity of the county's GIS operations and solutions
- Increased capacity to gather data in the field
- Higher availability and increased operational stability

Objectives/Measure of Success

- Seamless transition to Linux based server environment with more data storage capacity and processing power
- Capitalize on the availability of mobile GIS/GPS technology to access, collect, and maintain specialty datasets on a department-by-department level.

Project Timeframes

- Ongoing

Responsible Parties

- Grant County Information Technology Department
- Land Information Office
- Grant County Sheriff's Office
- GIS Specialist

Estimated Budget Information

- See table at the end of this chapter

Project #5: Refinement of Tax Parcel Geometries/Migration to Parcel Fabric and Local Government Information Model

Project Description/Goal

- Continue establishment of a parcel layer that contains geometry for all recorded parcels within the county and, as the PLSS remonumentation data is updated, remap all parcels in a true parcel fabric
- Build new datasets using the Local Government Information Model (LGIM) and develop a data dictionary for all pertinent datasets utilized by county departments
- **Land Info Spending Category:** Parcel Mapping, PLSS, Other Parcel Work

Business Drivers

- A complete parcel fabric provides information to all land information related activities
- The ESRI Parcel Fabric Data Model will increase efficiencies in parcel data maintenance and store archival parcel information enabling temporal-spatial analysis to be available for project planning
- Improved accuracy of parcel maps provides a more accurate representation of property ownership
- Using the LGIM provides a comprehensive data model with increased abilities in data sharing, editing, and modeling

Objectives/Measure of Success

- Mapping, to the highest accuracy possible, all current parcels on the tax roll
- Decreasing parcel maintenance time
- Preservation of historic data
- More complete datasets with standardized attributes and complete relationship classes

Project Timeframes

- 2015-2020

Responsible Parties

- Land Information Office
- GIS Specialist
- Any Grant County Departments integrating into county GIS

Estimated Budget Information

- See table at the end of this chapter

Project #6: Scanning/Indexing Expansion

Project Description/Goal

- Scan, integrate, complete attribution, and make digital copies of all documents recorded in the Register of Deeds Office available online
- As time is available, ROD staff has been back-indexing tract index and is currently back to 2006
- As time is available, ROD staff has been adding Document Type, Date, and Time information to Index for documents recorded prior to 1989. Future project is to add grantor/grantee information to Index for documents recorded prior to 1989.
  Land Info Spending Category: Other Parcel Work

Business Drivers

- Mapping missing parcels, title searches, and other property information inquiries requires referencing historic records that are cumbersome and time consuming when not available digitally

Objectives/Measure of Success

- Have all document images attributed with information regarding document type, grantor/grantee information, volume/page AND document number, as well as any pertinent notes
- Archive quality images of all recorded plats and surveys available digitally

Project Timeframes

- Back Indexing missing document attribute information: Ongoing

Responsible Parties

- Land Information Office
- GIS Specialist
- Register of Deeds
- Information Technology Department

Estimated Budget Information

- See table at the end of this chapter

Project #7: Update Orthoimagery

Project Description/Goal

- Obtain 6-inch pixel imagery that meets American Society for Photogrammetry and Remote Sensing Accuracy Standards (ASPRS) for Class 1, large scale maps at 1" = 100'
- **Land Info Spending Category:** Orthoimagery

Business Drivers

- Realtors, appraisers, attorneys, other professionals, emergency service providers, the general public, and local officials reference imagery on a daily basis to locate assets and make decisions

Objectives/Measure of Success

- Acquire updated Orthoimagery
- Public access to new Orthoimagery datasets

Project Timeframes

- Pending available project funds, Grant County will participate in WROC 2020

Responsible Parties

- Land Information Office
- GIS Specialist
- Information Technology Department

Estimated Budget Information

- See table at the end of this chapter

Project #8: Update LiDAR & Expanded Point Classifications

Project Description/Goal

- Obtain a higher-density LiDAR dataset with buildings, bridge and culvert, and breaklines defined
- **Land Info Spending Category:** LiDAR

Business Drivers

- Emergency management, conservation, construction, project planning, recreation, and other applications rely on LiDAR data; an improved dataset will only benefit these activities and others

Objectives/Measure of Success

- County department and public access to updated LiDAR data products
- County and Local project completion at a lower anticipated cost and/or ahead of schedule due to the availability of LiDAR data
- Hazard mitigation decisions being informed by geomorphic change realized through LiDAR data analysis

Project Timeframes

- 2020

Responsible Parties

- Land Information Office
- GIS Specialist

Estimated Budget Information

- See table at the end of this chapter

Project #9: County Staff/Elected Official Education & Training

Project Description/Goal

- By tailoring educational sessions and creating specialized training for individual departments, offices, committees, or user-groups within the county's organizational structure, utilization of GIS/Land Information technology can be implemented as a means of increasing efficiency across the board
- **Land Info Spending Category:** Training and Education

Business Drivers

- All GIS users past, present, and future
- Responsible use of tax-payer funding
- Expectations of efficiency and efficacy exist internal and external to county staff/leadership

Objectives/Measure of Success

- Wider variety of GIS applications incorporated throughout county department workflows
- Increased efficiency in maintaining county data
- More effective information distribution with improved accessibility internally and externally

Project Timeframes

- Ongoing

Responsible Parties

- Land Information Officer
- GIS Specialist

Estimated Budget Information

- See table at the end of this chapter

Completed Projects

Project Description/Goal

- Master Street Address Guide
- Property Address Points
- Geolocation of Driveways
- Shoreland Zoning Layer
- Location of Structures in the Floodplain

Estimated Budget Information

Project Title	Item	Unit Cost/Cost	Land Info Plan Citations Page # or section ref.	Project Total
1) Maintain Searchable Format	Task Automation/Updates/ Development	Variable per year per task	Page 29	3 Years = $20,000
	GCS Software Maintenance	$2,770		3 Years= $8,310
2) PLSS Remonumentation	Remonumentation work, supplies, and equipment	>$35,000/year	Page 30	3 Years= Not less than $105,000
3) ESRI Software	Current Licensing Maintenance/Renewal	$9,000/year	Page 31	3 Years= $27,000
4) Improvement to/Expansion of Enterprise GIS	System installation, networking, support, etc.	Variable per year per task	Page 32	Year 1= $15,000 Years 2 & 3= $5,000
	Data Integration, interoperability, user/data management	Variable per year per department		Year 1= $15,000 Years 2 & 3= $5,000
5) Refinement of Tax Parcel Geometries/Migration to Parcel Fabric and Local Government Information Model	Parcel Mapping/Data Management	Included in regular staff duties	Page 33	
6) Scanning/Indexing Expansion	Document Scanning (Contracted Service)	$9,000/1,500 Documents Imaged	Page 33	1 Year= $9,000
	Image indexing in ROD/Land Information Office	$3/Image X 1,500		1 Year= $4,500
	Network Storage	1Tb SSD		
7) Update Orthoimagery	6-inch resolution imagery WROC Contract	Not to Exceed (NTE) $80mi^2 X 1,180 mi^2	Page 34	1 Year= NTE $89,680
8) Update LiDAR & Expanded Point Classifications	LiDAR Base Product	NTE $279,000	Page 34	$279,000
	Additional Point Classification	Variable		$75,000
9) County Staff/Elected Official Education & Training	Internal and External Training events and materials	$3,000	Page 34	3 Years=$9,000
			GRAND TOTAL	**$666,490**

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