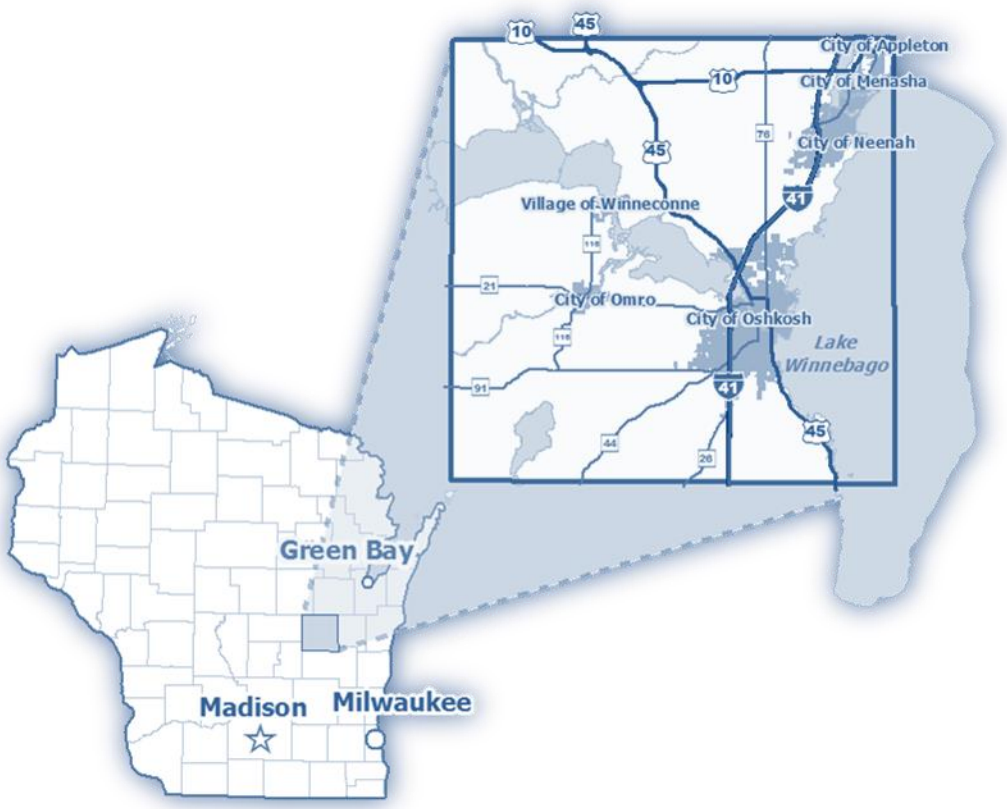
Winnebago County Land Information Plan

2022-2024



**Wisconsin Land Information Program
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EXECUTIVE SUMMARY

About this Document. This document is a land information plan for Winnebago County prepared by the land information officer (LIO) and the Winnebago County land information council. 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 2020, Winnebago County was awarded $41,000 in WLIP grants and retained a total of $295,960 in local register of deeds document recording fees for land information.

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 Winnebago 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 Winnebago 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 rights attributable to landowners.

Mission of the Land Information Office. In the next three years, Winnebago County's Land Information Office strives to be recognized for its exceptional web mapping site, gains in governmental efficiencies by broadening the utilization of GIS, parcel mapping accuracy, and responsiveness to meeting the land records needs of residents and businesses.

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

Winnebago County Land Information Projects: 2022-2024	
Project #1	**Indexing of unrecorded survey documents searchable and viewable online**
Project #2	**Public Land Survey System Monument Maintenance**
Project #3	**LiDAR Data Acquisition**
Project #4	**Field data collection with mobile GPS/GIS technology**
Project #5	**Streamline Community Partner Data Exchange**
Project #6	**Next Generation 911 Data and Workflow Preparation**
Project #7	**Georeferencing Historic Photos and Maps**
Project #8	**Ongoing Costs Not Associated with a Specific Project**

The remainder of this document provides more details on Winnebago 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

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
- 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)

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)

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 2016-2021 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 Winnebago County is meeting these benchmarks appears in the Foundational

Elements section of this plan document.

County Land Information System History and Context

Winnebago County began using GIS technology in the early 1980s, demonstrating success with projects such as the modernization of tax parcel mapping. Seeing a critical need for a modern land records system, the county created the Land Records Council (LRC) in 1989. The LRC was later expanded to include representatives from each of the county's 21 municipalities, with Winnebago County as the lead agency. One year after its formation, the LRC presented a project plan to modernize the county's land records, using geographic information system technology. This project became known by the acronym "WINGS".

As the project team for WINGS, the LRC has fostered constant, open communication that has created a spirit of cooperation and commitment. This environment has facilitated consensus on technical project issues such as database design, hardware and software, and data conversion and maintenance.

A comprehensive, countywide needs assessment laid the foundation for the WINGS project implementation plan. The team, working with UGC Consulting, interviewed various user groups to understand how they would be impacted by the new technology. The study identified specific requirements users would have for the new system, the database features and map accuracies they required as well as the applications they expected from the GIS. It also defined 31 data elements that both public and private entities would need to build a common base map. From this study, they developed an implementation plan, including a cost analysis, to deliver the GIS capabilities each community needed to handle existing operations and future growth.

The Winnebago County Board fully supported the plan and approved a $2.6 million dollar bond issue to cover its share of the project costs. The LRC then began the task of identifying the technical and management issues of implementing WINGS.

The implementation plan called for installing a core system over a three-year period with completion by the fourth quarter of 1993. This phased approach has enabled the team to parallel system implementation with the conversion of the paper records to a digital format. It has also ensured that the data each user group needs has been available before hardware and software have been purchased. In addition it has helped the team effectively manage system development and provide individual user training as each phase has been completed.

The WINGS project demonstrates how local government agencies have shared resources to make their vision of a common landbase a reality, on schedule and within budget. WINGS also gives them the connectivity to bridge the "islands of information" that have existed in public agencies throughout the county. Through cooperation, the communities of Winnebago County are able to provide better service while saving taxpayer dollars.

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 2022-2024 plan, completed at the end of 2021, is the third post-Act 20 required update.

County Land Information Plan Timeline

- DOA release of finalized instructions by March 31, 2021.
- April–September 2021: Counties work on land info plans.
- Draft plans due to DOA by September 30, 2021 (but sooner is advised).
- Final plans with county land info council approval due by December 31st, 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 DOA requires county land information councils to approve final plans.

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

Winnebago County Land Information Council and Plan Workgroup

Name	Title	Affiliation	Email	Phone
+ Jerry Bougie	Director of Planning, Zoning & GIS, Land Information Officer	Winnebago County Planning, Zoning & GIS Dept.	jbougie@co.winnebago.wi.us	920-232-3340
+ Natalie Strohmeyer	Register of Deeds	Winnebago County Register of Deeds	ROD@co.winnebago.wi.us	920-232-3390
+ Mary Krueger	County Treasurer	Winnebago County Treasurer's Office	treasurer@co.winnebago.wi.us	920-232-3420
+ Liz Nichols	Real Property Lister	Winnebago County Real Property Lister's Office	lnichols@co.winnebago.wi.us	920-232-3346
+ Robert Keller	County Board Member	Winnebago County Board	Robert.Keller@co.winnebago.wi.us	920-379-0717
+ Paul Schmidt	Realtor	Coldwell Banker	pschmidt@coldwellhomes.com	920-651-4104
+ Eric Rasmussen	Director of Emergency Management	Winnebago County Emergency Management	ERasmussen@co.winnebago.wi.us	920-236-7463
+ Jim Smith	Registered Land Surveyor	Martenson & Eisele, Inc.	jims@martenson-eisele.com	920-685-6240
+ Mike Zuege	GIS Coordinator/Public Member	East Central Wisconsin Regional Planning Commission	mzuege@ecwrpc.org	920-886-6815
Diane Culver	GIS Specialist II	Winnebago County GIS	dculver@co.winnebago.wi.us	920-232-3335
Dave Levine	GIS Specialist	Winnebago County GIS	dlevine@co.winnebago.wi.us	920-232-3334
Andy Maracini	GIS Specialist	Winnebago County LWCD	amaracini@co.winnebago.wi.us	920-232-1956
Adam Dorn	GIS Administrator	Winnebago County GIS	adorn@co.winnebago.wi.us	920-232-3336

+ 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

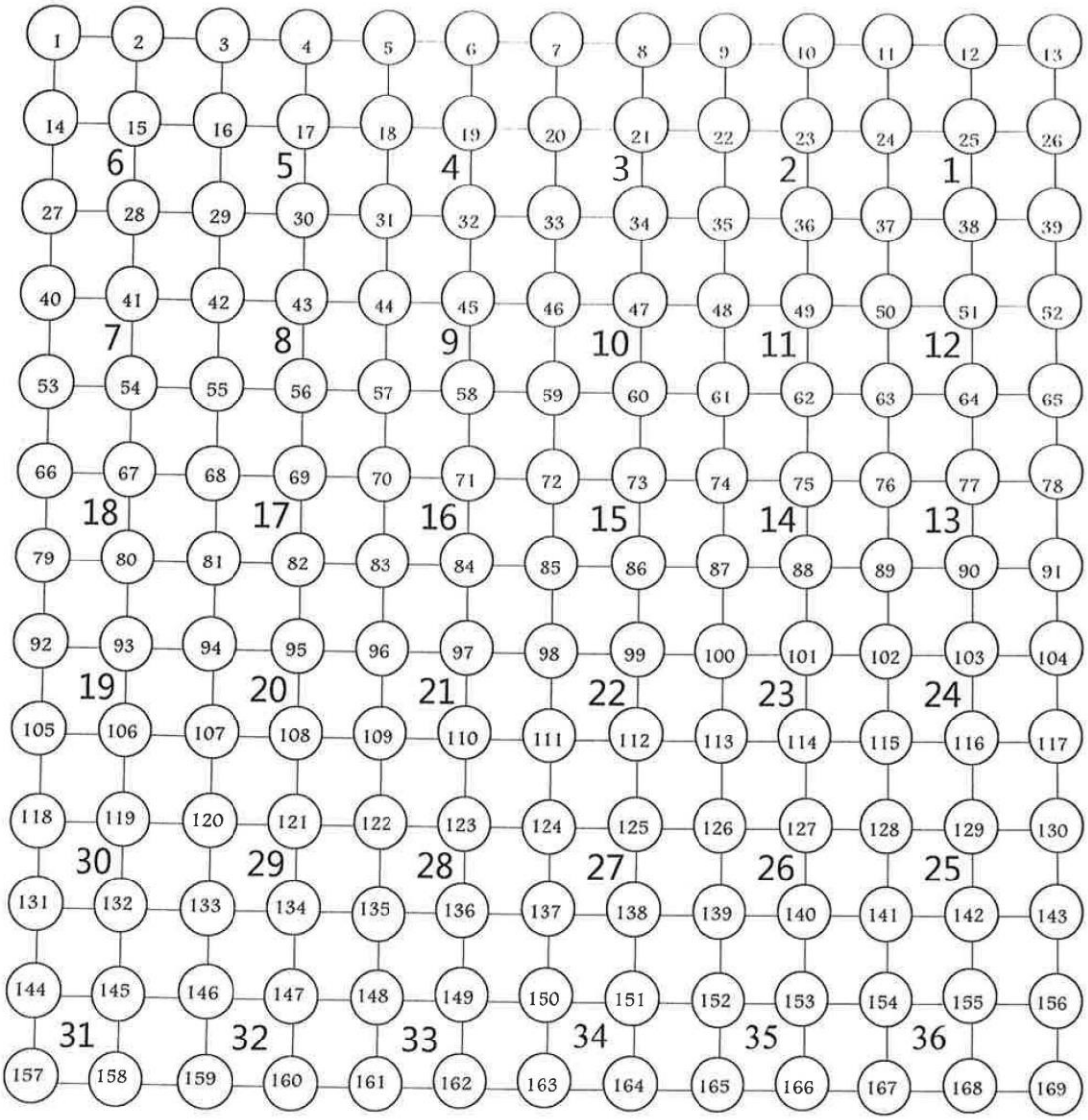
Layer Status

PLSS Layer Status

	Status/Comments
Number of PLSS corners (selection, ¼, meander) **set in original government survey** that can be remonumented in your county	• 2,055
Number of PLSS corners capable of being remonumented in your county that **have been remonumented**	• 2,055
Number 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	• 2,041
Number of survey grade PLSS corner coordinates integrated into county digital parcel layer	• 2,066
Number of non-survey grade PLSS corner coordinates integrated into county digital parcel layer	• 21
Tie sheets available online?	• Yes. • URL= https://wcgis3.co.winnebago.wi.us/gpsviewer
Percentage of remonumented PLSS corners that have **tie sheets available online** (whether or not they have corresponding coordinate values)	• 99.9% (2 missing tie sheets)
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	• 99.9% (all are saved as attachments in the database)
PLSS corners believed to be remonumented 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	• 32 original corners are currently inaccessible or under water
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)?	• Winnebago County Government Land Corner Index • (index numbering shown on next page)
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	• Calumet – 6 Outagamie – 34 • Waupaca – 16 Waushara – 33 • Green Lake – 13 Fond du Lac – 41 **Total - 139**
Number of PLSS corners remonumented along each county boundary	• 139
Number of remonumented PLSS corners along each county boundary with survey grade coordinates	• 139
In what ways does your county collaborate with or plan to collaborate with neighboring counties for PLSS updates on shared county borders?	• All PLSS data is available publically via the County's GPS viewer website. Larger datasets are shared upon request.

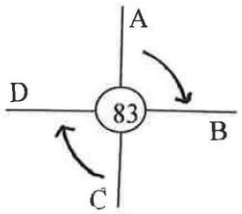
WINNEBAGO COUNTY
GOVERNMENT LAND CORNER INDEX

Town 19 North
Range 16 East
4th Principle Meridian

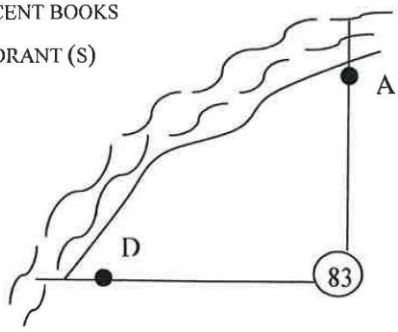


- CERTIFICATES FILED IN THIS BOOK

- CERTIFICATES FILED IN ADJACENT BOOKS AS INDICATED BY SOLID QUADRANT (S)



MEANDER CORNERS WILL BE IDENTIFIED ALPHABETICALLY CLOCKWISE AROUND THE ESTABLISHED SECTION CORNER



Custodian

- Winnebago County GIS Department

Maintenance

- Physical monuments are replaced by registered land surveyors as needed and available through the Winnebago County Planning and Zoning Department. Records such as new tie sheets submitted by surveyors are scanned and made available on the County's GPS viewer. Original hard copies are housed in the Planning and Zoning Department.

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
  - **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
- 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.

Other Geodetic Control and Control Networks

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

Layer Status

Winnebago County does not maintain other geodetic control or control networks.

Parcel Mapping

Parcel Geometries

Layer Status

- **Progress toward completion/maintenance phase:** County-wide parcel layer is 100% complete. In Winnebago County, 100% of the county's parcels are available in a commonly-used digital GIS format.
- **Projection and coordinate system:** The current maintenance projection is NAD 1983 HARN WISCRS Winnebago County Feet.
  Integration of tax data with parcel polygons: The County does not have a parcel polygon model that directly integrates tax/assessment data as parcel attributes. Winnebago County runs scheduled tasks that extract, transform and joins the assessment data to the parcel polygons. Assessment data comes from Winnebago County, as well as the cities of Appleton, Neenah, Menasha and Oshkosh. The City of Oshkosh also provides parcel geometry with is integrated into the county-wide parcel layer.
- **Online Parcel Viewer Software/App and Vendor name:** Custom In-house developed and hosted Esri Web AppBuilder for ArcGIS – https://wcgis3.co.winnebago.wi.us/parcelviewer
- **Unique URL path for each parcel record:** Yes
  - Sample URL for tax parcel 022030604: https://wcgis3.co.winnebago.wi.us/parcelviewer/?find=022030604
  - Accessible information includes ownership, physical address, mailing address, short legal description, assessment classes and values, taxing districts, tax and payment history, parcel lineage and links to scanned tax bills.

- This link is expected to be stable.
- The unique URL launches an application with data shown for the selected parcel, but can't directly be used to export the parcel specific data. Winnebago County provides other options for obtaining tabular and geographic land records data.

Custodian

The parcels for all 15 Towns, the Cities of Omro, Menasha and Neenah, as well as the Villages of Winneconne and Fox Crossing are maintained by the Winnebago County GIS Department. The Cities of Oshkosh and Appleton parcels are maintained by each respective municipality by GIS professionals as well.

Maintenance

- **Update Frequency/Cycle:** Parcel polygons are updated for county maintained tax records on a daily basis to reflect the "active" parcels in the County's Land Records System. Parcel polygons for the Cities of Neenah and Menasha are updated as assessment updates become available from designated personnel. Parcels datasets from the Cities of Oshkosh and Appleton are incorporated into the county-wide parcel dataset on an as-needed basis.

Standards

- **Data Dictionary:** A data dictionary is available for all attributes associates with the county-wide parcel dataset in human-readable form, with thorough definitions for each element/attribute name, and explanations of any county specific notations, particularly for parcel attributes listed by s.59.72(2)(a).

Assessment/Tax Roll Data

Layer Status

- **Progress toward completion/maintenance phase:** NA (This is not applicable, since assessment/tax roll data is not a GIS data layer and is updated throughout the year.)
- **Tax Roll Software/App and Vendor name:** Ascent Land Records Suite – from contractor/vendor Transcendent Technologies
- **Municipal Notes:** Tax listing/tax roll information for the Cities of Appleton, Menasha, Neenah and Oshkosh are prepared by each respective municipality and submitted independently of Winnebago County to the DOR.

Custodian

- Real Property Lister

Maintenance

- **Maintenance of the Searchable Format standard:** To maintain the Searchable Format standard, the county pays an annual maintenance fee for a program that exports data from the tax listing software to the searchable format. The exported data is then joined to the parcel geometries and subjected to additional automated and manual validation and clean-up processes before being submitted to the Wisconsin Department of Administration.
- **Searchable Format Workflow:** If the searchable format would remain static from year to year, the program from our tax listing software coupled with implemented changes in how Winnebago County enters data, minimal human labor would be required to meet the annual parcel/tax roll submission requirements. Note: Significant labor would be required on an annual basis to reformat data imported from the Cities of Menasha, Neenah and Oshkosh to exactly match the searchable format. The maintenance of this data and how it is entered and provided by those cities are outside of the county's control.

Standards

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

Non-Assessment/Tax Information Tied to Parcels

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

Layer Status

- Polygon feature which represents the easements within all recorded subdivision plats and certified survey maps (CSM) in unincorporated areas. Incorporated municipalities maintain their own.

Custodian

- Winnebago County GIS

Maintenance

- Maintained on an as-needed basis when new easements are recorded.

Standards

- Winnebago County "WINGS" project.

ROD Real Estate Document Indexing and Imaging

Layer Status

- **Grantor/Grantee Index:** Currently, Grantor and Grantee information is indexed (on computer) for documents dating back to the mid 1940's. Additional information such as legal description & document date are also indexed. Indexing of older documents is in progress by Register of Deeds staff with back-up option of "Condor" indexing etc. as budget allows.
- **Tract Index:** Recorded documents (Conveyances, Mortgages, Satisfactions, Lis Pendens, Assignments, Certified Survey Maps, Plats, etc.) are indexed by legal description and PIN (though PIN#'s were not required to appear on documents submitted for recording prior to January 1, 2019). The legal description is indexed as PLSS (i.e. Section, Town, Range, Quarter-Quarter unless property is located within a Subdivision Plat, Condominium Plat, Certified Survey Map, or Transportation Plat, in which case it is indexed by Plat/Map name or number followed by Lot/Block, Unit #, Lot #. The City/Township/Municipality is also indexed as part of the legal description. Legal descriptions are indexed on computer back to about 1940.
- **Imaging:** Documents recorded with the Register of Deeds are digitally imaged (back to 1848). Additionally, Tract Books and Indices such as Grantor/Grantee, Corporations and Partnerships are fully imaged. If document is not fully indexed (pre-1945), image is still searchable via tract index and can be viewed by document number or volume/page.
- **ROD Software/App and Vendor Name:** Laredo/Tapestry – from contractor/vendor Fidlar Technologies.

Custodian

- County Register of Deeds

Maintenance

- The general rule is that the grantor-grantee (or party) index, tract index, and image are all available no later than the next working day after being recorded. There are occasional exceptions due to equipment failures.

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

- **Most recent acquisition year:** 2014
- **Accuracy:** Root mean square difference (RMSD) in the z direction of ≤0.06 meters
- **Post spacing:** Aggregate nominal pulse spacing (NPS) of ≤0.70 meters
- **Contractor's standard, etc.:** Data shall meet or exceed USGS Base Lidar Specifications V1.2 to satisfy specifications of 3-Dimensional Elevation Program (3DEP).
- **Next planned acquisition year:** There is not a specific update schedule for LiDAR data. The

county will look to acquire an updated LiDAR dataset when the benefits of an updated surface outweigh the costs.
QL2 LiDAR was acquired by the USGS in the area around the City of Oshkosh in 2018 as part of the 3 rivers project. USGS is the custodian of this data.

- **QL1/QL2 acquisition plans:** To be determined

Custodian

- Winnebago County GIS

Maintenance

- There is little maintenance with LiDAR data. The data and its derivative products are made available in a variety of formats.

Standards

- Quality Level 2 (QL2) project specifications based on the U.S. Geological Survey National Geospatial Program Base Lidar Specification, Version 1.2. The data was developed based on a horizontal projection/datum of NAD83 (2011), Wisconsin Coordinate Reference System (WISCRS) Calumet, Fond du Lac, Outagamie and Winnebago Counties, US survey feet and vertical datum of NAVD88 (GEOID12B), US survey feet.

LiDAR Derivatives

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

Layer Status

- The following products were produced and delivered with the 2014 LiDAR project:
  - Raw LiDAR point cloud data swaths in LAS 1.4 format
  - Classified LiDAR point cloud data, tiled, in LAS 1.4 format
  - Hydro-flattened breaklines in Esri shapefile format
  - 5-foot hydro-flattened bare earth raster DEMs, tiled, in ERDAS .IMG format
  - 5-foot intensity images, tiled, in GeoTIFF format
  - 2-foot contours, tiled, in Esri file geodatabase format

Custodian

- Winnebago County GIS

Maintenance

- There is little maintenance with LiDAR derivatives. The data and its derivative products are made available in a variety of formats.

Standards

- Project specifications are based on the U.S. Geological Survey National Geospatial Program Base Lidar Specification, Version 1.2.

Other Types of Elevation Data

Layer Status

- Digital topographic contours that include 10 foot index and 2 foot intermediate contours based on DTM created in 1991.

Custodian

- Winnebago County GIS

Maintenance

- This dataset is made available in a variety of formats, but is not actively maintained.

Standards

- Aerometric Engineering, Inc. was contracted to triangulate and compile the topographic contours within Winnebago County for the WINGS Project.

Orthoimagery

Orthoimagery

Layer Status

- **Most recent acquisition year:** 2020
- **Resolution:** 6″ pixel resolution
- **Contractor's standard:** Spring acquisition leaf-off
- **Next planned acquisition year:** 2025

Custodian

- Winnebago County GIS

Maintenance

- No maintenance activities planned.

Standards

- The 6-inch pixel orthoimagery was produced to meet or exceed a horizontal accuracy of 1.4 foot RMSE according to ASPRS Positional Accuracy Standards for Digital Geospatial Data.

Historic Orthoimagery

Layer Status

- 2015: 6" pixel resolution; color; Ortho-rectified, compiled at 1:1200 scale
- 2009: 1′ pixel resolution; color; Ortho-rectified, compiled at 1:2400 scale
- 2005: 1′ pixel resolution; color; Ortho-rectified, compiled at 1:2400 scale
- 2003: 1′ pixel resolution; color; Ortho-rectified, compiled at 1:2400 scale
- 2000: 1′ pixel resolution; color; Ortho-rectified, compiled at 1:2400 scale
- 1997: 1′ pixel resolution; black and white; Ortho-rectified, compiled at 1:2400 scale

Custodian

- Winnebago County GIS

Maintenance

- No maintenance activities planned.

Standards

- ASPRS Positional Accuracy Standards for Digital Geospatial Data

Other Types of Imagery

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

Layer Status

- 2020 natural color 4-band (RBG-IR) imagery at 8 bits.
- 2015 natural color 4-band (RGB-IR) imagery at 8 bits.
- 1991 Scanned aerial photo (9″x9″) hardcopy prints; color; 150 DPI.
- 1981 Scanned aerial photo (9″x9″) hardcopy prints; black and white; 150 DPI.
- 1978 Scanned aerial photo (9″x9″) hardcopy prints; black and white; 150 DPI.
- 1977 Scanned aerial photo (9″x9″) hardcopy prints; black and white; 150 DPI.
- 1976 Scanned aerial photo (9″x9″) hardcopy prints; black and white; 150 DPI.
- 1975 Scanned aerial photo (9″x9″) hardcopy prints; black and white; 150 DPI.
- 1971 Scanned aerial photo (9″x9″) hardcopy prints; black and white; 150 DPI.
- 1957 Scanned aerial photo (9″x9″) hardcopy prints; black and white; 150 DPI.
- 1950 Scanned aerial photo (9″x9″) hardcopy prints; black and white; 150 DPI.
- 1941 Scanned aerial photo (9″x9″) hardcopy prints; black and white; 150 DPI.

Custodian

- Winnebago County GIS

Maintenance

- The objective is to scan and geo-reference at least one set of historic imagery per year for all contact prints within our imagery library.

Standards

- None

Address Points and Street Centerlines

Address Point Data

Layer Status

- Address points for Winnebago County are complete.
- Address points are linked to the related tax parcel ID number and a related street centerline segment.
- All address points are shared with the E911 Dispatch Center, Planning & Zoning Department, Real Property Lister Office, Treasurer Office, Highway Department, County Health Department, Land & Water Conservation Department, all Municipal offices that use land records information related to address points, and the Winnebago County Parcel Profiler on the web.
- Address points are provided to the U.S. Census Bureau.

Custodian

- Winnebago County GIS

Maintenance

- Winnebago County GIS maintains site address points daily.

Standards

- Address Point Data Standard & Winnebago County Uniform Addressing Code.
- All address points are in compliance with the U.S.P.S. standard.
- The ESRI Local Government Address Model was used but modified for our own business needs when compiling our address point data.

Building Footprints

Layer Status

- Building footprints for Winnebago County are complete within Towns that are within County Zoning jurisdiction and were generated using copies of the foundation site maps and permits provided by the Winnebago County Zoning Office to the Winnebago County GIS staff. Building footprints are also complete for Towns that are not in County Zoning jurisdiction. These building footprints were heads-up digitized off the 1991, 1997, 2000, 2003, 2005, 2009 and 2015 orthoimagery.

Custodian

- Winnebago County GIS

Maintenance

- On a weekly basis the Winnebago County Zoning Office provide the copies of the foundation plan and permit to the Winnebago County GIS staff for updating the building footprint data within County Zoning Jurisdiction. The cities of Menasha, Neenah, Omro, Oshkosh, and villages of Fox Crossing, and Winneconne maintain their own building footprints.

Standards

- None

Other Types of Address Information

e.g., Address Ranges

Layer Status

- Current site addresses are attributed on street centerlines for all of Winnebago County and some outlying areas in surrounding counties that have shared assistance agreements with the Winnebago County 911 Dispatch Center. The address range layer is complete for Winnebago County.
- The 911 street centerline file contain attribute for jurisdiction.
- Linked to the normalized street name table.
- Assigned the local name and then linked to the street name alias table for alternate names and designations that the 911 Center uses.

- The 911 street centerline file contains attributes for address ranges formatted as Left/Right, Low/High.

Custodian

- Winnebago County GIS

Maintenance

- Completed daily by the Winnebago County GIS

Standards

- Address ranges compiled to meet the Winnebago County Uniform Addressing Code.

Street Centerlines

Layer Status

- Winnebago County Street Centerline layer is 100% complete - maintenance phase

Custodian

- Winnebago County GIS

Maintenance

- As needed. Street centerlines are added using new subdivisions and road plans.

Standards

- Winnebago County "WINGS" project

Rights of Way

Layer Status

- Winnebago County Right-of-way layer is 100% complete - maintenance phase
- **How maintained:** Road right of way is mapped in a separate layer from parcels. Parcels in the road right of way are also mapped in the parcel layer, with the exception of the City of Oshkosh.

Custodian

- Winnebago County GIS Department/City of Oshkosh

Maintenance

- As needed

Standards

- Winnebago County "WINGS" project

Trails

e.g., Recreational Trails, Snowmobile Trails

Layer Status

- Recreational trails are complete for Winnebago County.
- Winnebago County doesn't maintain layer for the current snowmobile trails.

Custodian

- Winnebago County GIS

Maintenance

- Recreational trails are compiled from the most recent orthoimagery.
- Naming of the recreational trails is in coordination with the Winnebago County Parks Department.

Standards

- None

Land Use

Current Land Use

Layer Status

- The current or existing land use was completed in 2010.

Custodian

- East Central Wisconsin Regional Planning Commission.

Maintenance

- East Central Wisconsin Regional Planning Commission.

Standards

- East Central Wisconsin Regional Planning Commission.

Future Land Use

Layer Status

- Future land use was completed for the entire County as part of the Multi-Jurisdictional Comprehensive Plan for Winnebago County: 2016-2035

Custodian

- Winnebago County GIS

Maintenance

- The Winnebago County Board may consider an update to the county comprehensive plan in early 2025. The current comprehensive plan has a planning horizon to 2035.

Standards

- s. 66.1001, Wis. Stats. Comprehensive planning.
- Future land use mapping for the county is a patchwork of maps from comprehensive plans adopted by municipalities and the county.

Zoning

County General Zoning

Layer Status

- The County does maintain a GIS representation of county general zoning boundaries for all Towns within the County Zoning jurisdiction.

Custodian

- Winnebago County GIS

Maintenance

- Maintained on a monthly basis after Planning and Zoning Committee and County Board approval.

Standards

- Winnebago County Zoning Ordinance.

Shoreland Zoning

Layer Status

- The County does maintain a GIS representation of county shoreland zoning boundaries.
- Winnebago County Shoreland Zoning layer is 100% complete – maintenance phase
- Winnebago County does not maintain a shoreland zoning layer inside incorporated municipalities which maintain their own shoreland zoning.

Custodian

- Winnebago County GIS Department

Maintenance

- As needed

Standards

- Winnebago County "WINGS" project

Farmland Preservation Zoning

Layer Status

- The County does maintain a GIS representation of county farmland preservation zoning boundaries.
- **Year of certification:** 2021

Custodian

- Winnebago County GIS Department

Maintenance

- Farmland Preservation boundaries are static for duration of certification period

Standards

- DATCP standards for certification

Floodplain Zoning

Layer Status

- The County does maintain a GIS representation of floodplain zoning boundaries.
- The county's floodplain zoning GIS data is the same as/identical to the FEMA map.
- **Letters of Maps Change**. Letters of Map Amendments (LOMA's) process is done to remove all or a portion of tax parcels and structures out of the floodplain.

Custodian

- Federal Emergency Management Agency (FEMA)
- Winnebago County GIS Planning/Zoning/GIS

Maintenance

- Federal Emergency Management Agency (FEMA)
- Winnebago County GIS Planning/Zoning/GIS

Standards

- Federal Emergency Management Agency (FEMA) floodplain standards.

Airport Protection

Layer Status

- The County does maintain a GIS representation of airport protection zoning boundaries.
- Winnebago County Airport Protection layers are 100% complete – maintenance phase
- **Airport protection zoning map depicts:**
  - Height limitation restrictions
  - General zoning overlay for airport protection

Custodian

- Winnebago County GIS Department

Maintenance

- Height limitation areas are static, however, the airport zoning overlay districts are maintained as needed.

Standards

- Winnebago County "WINGS" project

Municipal Zoning Information Maintained by the County

e.g., Town, City and Village, Shoreland, Floodplain, Airport Protection, Extra-Territorial, Temporary Zoning for Annexed Territory, and/or Zoning Pursuant to a Cooperative Plan

Layer Status

- Eleven towns: Black Wolf, Clayton, Nepeuskun, Oshkosh, Poygan, Rushford, Utica, Vinland, Winchester, Winneconne and Wolf River have Winnebago County perform zoning map creation and maintenance to support each of their Town Zoning Ordinances.
- One village: Village of Winneconne has Winnebago County perform zoning map creation and maintenance to support each of their Village Zoning Ordinance.

- One city: City of Omro has Winnebago County perform zoning map creation and maintenance to support each of their City Zoning Ordinance.

Custodian

- Winnebago County GIS

Maintenance

- Monthly as approved by City/Town/Village Zoning Committees, Winnebago County Planning and Zoning Committee and Winnebago County Board.

Standards

- City, Town and Village Zoning Ordinances for all municipalities listed.

Administrative Boundaries

Civil Division Boundaries

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

Layer Status

- Winnebago County Minor Civil Division layer is 100% complete - maintenance phase

Custodian

- Winnebago County GIS Department

Maintenance

- As needed

Standards

- Winnebago County "WINGS" project

School Districts

Layer Status

- **Progress toward completion/maintenance phase:** Maintenance phase
- **Relation to parcels:** School district boundaries were derived from tax parcel records.
  - **Attributes linked to parcels:** School district info is maintained through county tax records and is included as name and code attributes in the parcel layer.

Custodian

- Winnebago County GIS Department

Maintenance

- As needed

Standards

- Winnebago County "WINGS" project

Election Boundaries

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

Layer Status

- Winnebago County Voting Ward layer is 100% complete - maintenance phase. It includes attributes detailing voting district (i.e. Congressional, State Senate, State Assembly, Supervisory, and Aldermanic) and polling place information.

Custodian

- Winnebago County GIS Department

Maintenance

- As needed

Standards

- Designed to meet the standards required to participate in the WISE-Decade CBAS semi-annual update.

Utility Districts

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

Layer Status

- Winnebago County maintains a sanitary and drainage district boundaries based on the documents files in the Register of Deeds office.

Custodian

- Winnebago County GIS Department

Maintenance

- As needed

Standards

- Winnebago County "WINGS" project

Emergency Service Boundary – Law/Fire/EMS

Layer Status

- **Law Enforcement:** Winnebago County has Police District layers for the operation of the PremierOne CAD/Mobile system.
- **Fire:** Winnebago County has Fire District layers for the operation of the PremierOne CAD/Mobile system.
- **EMS:** Winnebago County EMS District layer is the same as the Fire District layers for the operation of the PremierOne CAD/Mobile system. The systems uses additional tables to define the EMS district from the Fire districts.
- **Towing/Heavy Towing:** Winnebago County has Towing Heavy Towing District layers for the operation of the PremierOne CAD/Mobile system.
- **Emergency Facility Locations:** Winnebago County also has emergency facility locations included in a layer used for the County's Natural Hazard Mitigation Plan.

Custodian

- Winnebago County GIS Department
- Winnebago County Emergency Management

Maintenance

- As needed

Standards

- PremierOne CAD/Mobile system requirements and Winnebago County "WINGS" project

Public Safety Answering Points (PSAP) Boundary

Layer Status

- In progress – Boundary completed, attribute schema will updated to Wisconsin GIS NG9-1-1 Data Standard
- **PSAP Boundary:** The PSAP boundary is not coincident with the county boundary. In addition to all of Winnebago County our PSAP includes all of the City of Menasha.

Custodian

- Winnebago County GIS Department

Maintenance

- As needed

Standards

- Wisconsin GIS NG9-1-1 Data Standard (PSAP Boundary)

Provisioning Boundary

Layer Status

- In progress – Boundary completed, attribute schema will updated to Wisconsin GIS NG9-1-1 Data Standard

Custodian

- Winnebago County GIS Department

Maintenance

- As needed

Standards

- Wisconsin GIS NG9-1-1 Data Standard (Provisioning Boundary)

Other Public Safety

e.g., Healthcare Facilities

Layer Status

- Critical Facilities: Winnebago County also has emergency facility locations included in a layer used for the County's Natural Hazard Mitigation Plan.

Custodian

- Winnebago County GIS Department

- Winnebago County Emergency Management

Maintenance

- As needed

Standards

- Winnebago County "WINGS" project

Lake Districts

Layer Status

- Winnebago County does not have a Lake Districts layer.

Native American Lands

Layer Status

- Winnebago County does not have a Native American Lands Districts layer.

Other Administrative Districts

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

Layer Status

- Winnebago County does have a Parks layer.

Custodian

- Winnebago County GIS Department

Maintenance

- As needed

Standards

- Winnebago County "WINGS" project

Other Layers

Hydrography Maintained by County or Value-Added

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

Layer Status

- Complete county-wide line feature that represents the navigable stream locations adjusted to orthos.

Custodian

- Winnebago County GIS

Maintenance

- Maintained as warranted through WI Department of Natural Resources (WIDNR) navigability determination letters.

Standards

- Winnebago County "WINGS" project
- USGS Elevation-Derived Hydrography Specifications

Cell Phone Towers

Layer Status

- All towers registered with the Federal Communications Commission (FCC) and permitted are complete within Winnebago County.

Custodian

- Winnebago County GIS

Maintenance

- Updated on an annual basis.

Standards

- FCC Antenna Structure Registration and Winnebago County Zoning General Code

Bridges and Culverts

Layer Status

- Highway bridge and culvert layer are 100% complete - maintenance phase

Custodian

- Winnebago County Highway Department

Maintenance

- As needed

Standards

- None

Other/Miscellaneous

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

Layer Status

- Winnebago County railroad layer is 100% complete - maintenance phase

Custodian

- Winnebago County GIS

Maintenance

- Railroads are kept up-to-date through the use of recorded documents (Certified Survey Maps, Subdivision Plats and Railroad Right-of-way Descriptions).

Standards

- None

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:

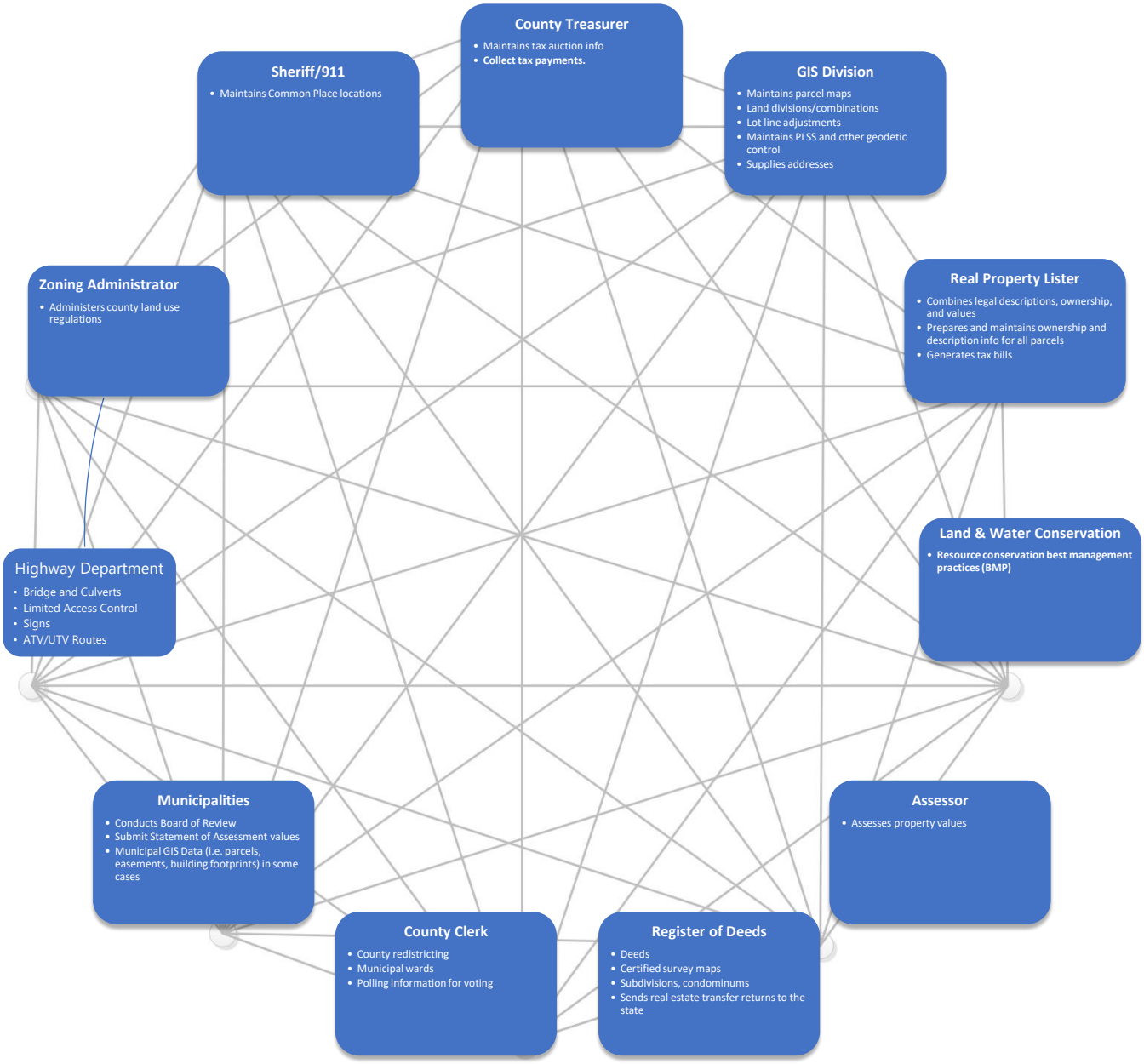
> The design, development, and implementation of a land information system that contains and integrates, at a minimum, property and ownership records with boundary information, including a parcel identifier referenced to the U.S. public land survey; tax and assessment information; soil surveys, if available; 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 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

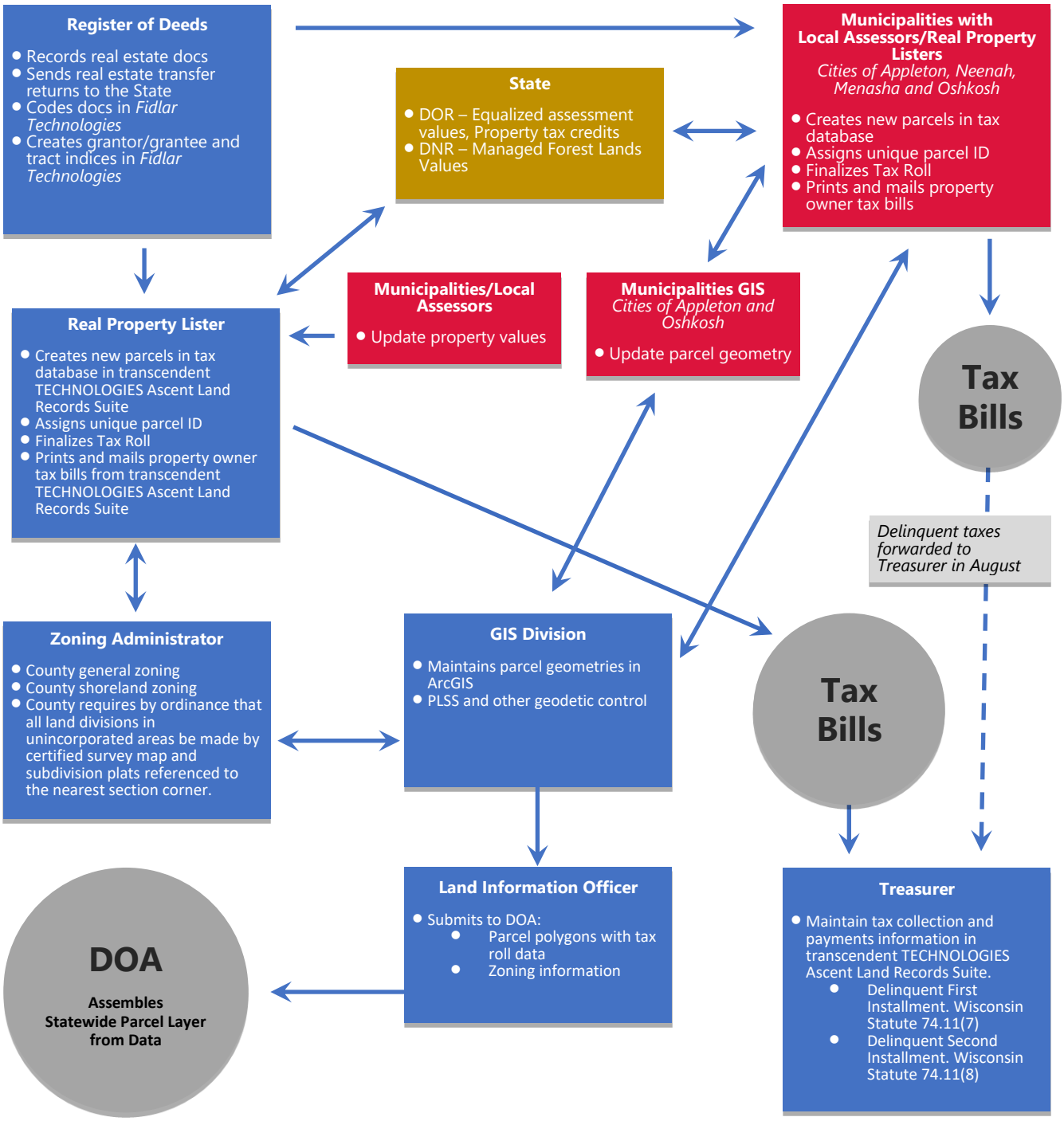
Diagram of Winnebago County Land Information System

This section features a diagram that documents the county's land information system and/or the various inter-organizational workflows it encompasses.



County Parcel Data Workflow Diagram

This diagram documents the county's parcel mapping and tax roll process from the Register of Deeds Department to the final export to DOR. The diagram shows the parcel workflow from recorded documents to parcel creation along with data maintenance.



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

- Land information systems are integrated into the general county Information Systems (IS) environment. Servers are created in the county's virtualized server environment and integrated in enterprise maintenance, back-up and disaster recovery plans/systems. All servers are in a climate controlled environment and served with backup power.
- Endpoints are selected based on the need of the end user. Endpoints range from thin clients for nongraphic data entry to high-end workstations for those with graphic intensive workflows. Mobility continues to be a driving factor with laptops and increasingly tablets and smart devices being deployed. All devices are networked, with the option of disconnected editing when needed.
- Peripherals include large format plotters and a large format scanner in addition to the more routine office print and scan devices.

Software

- Winnebago County utilizes various software's to maintain its GIS and Land Information Systems:
- County currently uses ArcGIS Pro: Yes, but not for all functions
- County plans to upgrade to ArcGIS Pro: To be determined. Our current database configuration is not supported in ArcGIS Pro.
- Mapping – Esri's ArcGIS Desktop and ArcGIS Pro, with extensions, are used for nearly all desktop GIS needs. Licenses are pooled to maximize investment and the availability of GIS software to county staff.
- Land Information – Transcendent Ascent suite
- Register of Deeds – Fidlar Technologies
- The core GIS datasets are maintained in an Esri enterprise geodatabase using Microsoft SQL Server. This provides a robust, multi-user environment to store, update and serve data to all county users. The database design of these GIS features uses the Local Government Information Model and includes the necessary primary keys to ensure integration with related tabular data. National and State standards and vendor supplied best practices are considered whenever databases are designed.

Website Development/Hosting

- ArcGIS Enterprise is currently used to publish data for Internet distribution. The published services are consumed by internal and ArcGIS On-line applications. Web AppBuilder for ArcGIS along with industry solution templates are the basis for Winnebago County's mapping web applications. Because the services are publically available, authoritative data is available for inclusion in applications that are not created or hosted by Winnebago County.

Metadata and Data Dictionary Practices

Metadata Creation

- **Metadata creation and maintenance process:** Metadata is included as a deliverable whenever new data is acquired. Metadata is created for all core features at the feature dataset level. The metadata is periodically reviewed and updated as needed. The metadata is supplemented with data schema diagrams and data dictionaries

Metadata Software

- **Metadata software:** Esri's ArcCatalog has been the software used to develop and maintain geospatial metadata.
    - 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:** Field description (attributes) are manually populated if created for a GIS layer.

Metadata Policy

- **Metadata Policy:** No requirements.

Municipal Data Integration Process

- At present, the County does not have any formal data sharing agreements. However, municipal data is periodically integrated into the county land information system on an annual basis or earlier utilizing ETL processes that integrate tax data from city systems to county systems to create countywide layers.
- The County has worked with a number of municipalities to allow read-only or read/write direct connections to enterprise geodatabases.
- The County published REST end points are available for municipal use to display county hosted data within their own intra-net or internet applications.
- Municipal data is also provided to Winnebago County to update key datasets.

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://www.co.winnebago.wi.us/planning-and-zoning/gis	https://www.co.winnebago.wi.us/planning-and-zoning/gis/data-download	https://ascent.co.winnebago.wi.us/LandRecords/PropertyListing/RealEstateTaxParcel#/Search	https://tapestry.fidlar.com/Tapestry2/

Single Landing Page/Portal for All Land Records Data

URL
https://www.co.winnebago.wi.us/planning-and-zoning/gis

Web Services/REST End Points

URL
https://wcgis3.co.winnebago.wi.us/wings/rest/services

Municipal Website Information

Municipal Website	Municipal Website URL
City of Oshkosh GIS/Online Maps	https://www.ci.oshkosh.wi.us/GISOnlineMaps/Default.aspx
City of Neenah Interactive Maps	https://www.ci.neenah.wi.us/departments/gis/interactive-maps/
Village of Fox Crossing GIS Maps	https://foxcrossingwi.maps.arcgis.com/home/index.html
City of Appleton GIS	https://gis.appleton.org/

Data Sharing

Data Availability to Public

Data Sharing Policy

Most land records are accessible to the public through free on-line applications. This information is provided free to the public and offers them the ability to print maps along with property information. If an individual needs a hard copy they can contact the County with their request and will be charged a minimal fee to cover the cost of reproduction.

Statutory fees are changed when accessing documents recorded in the Register of Deeds.

Access to the data is also available through publically accessible services or free data download.

Open Records Compliance

- Winnebago County has always had a practice of complying with Wisconsin's Open Records law by providing hardcopies at a minimal charge and offers access to data online for free.

Data Sharing Restrictions and Government-to-Government Data Sharing

Data Sharing Restrictions

- None. Per Corporation Counsel, all information available on the County website or produced by the County GIS staff is public information; therefore no privacy policies are required.

Government-to-Government Data Sharing

- Currently, the County does not have any formal or informal data sharing agreements with government to government. Winnebago County would not restrict the sharing of any land record information/data sharing generated from the efforts to integrate and cooperate on mutual projects.

Training and Education

- The last few years have seen major shifts in expectations, and these have had a huge impact on county government. Many county governments are looking for ways not only to meet these expectations but also to create new products and services that reach our citizens timely and efficiently.
- In order to fulfill this expectation, a GIS staff development and training budget item has been established. This budget enhances staff skills and knowledge to support current/future GIS projects and initiatives. Despite the amazing technology that permeates our profession, knowledgeable staff remain the key. No computer has ever created a map all by itself.
- GIS technical staff meetings are held on a bi-annual basis to address issues and requests that have been identified by WINGS participants.
- GIS Team Meetings are also take place monthly for staff to share resources and lessons learned.

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.

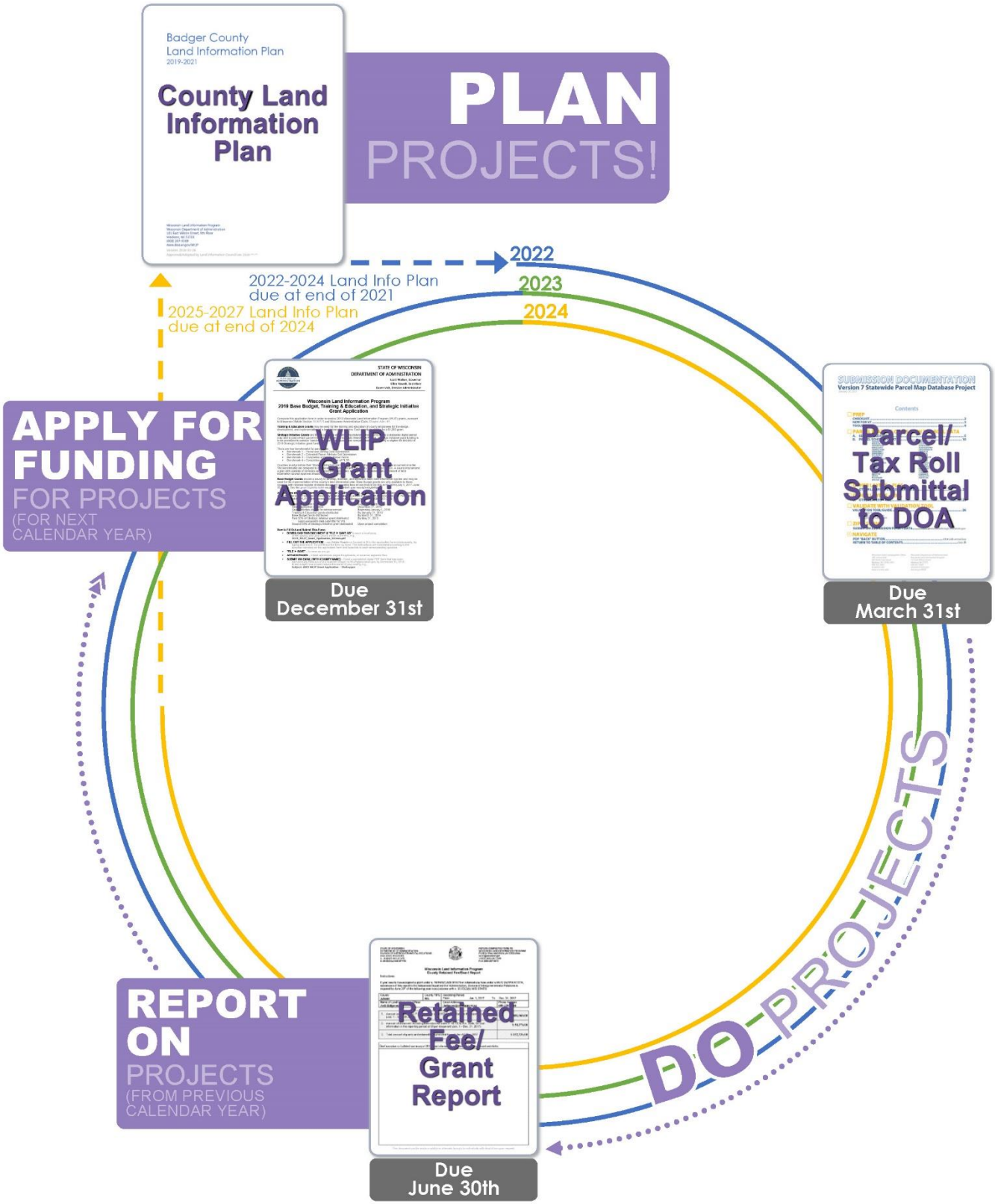


Figure 1. The WLIP Land Information Plan/Grant Project Cycle

Project #1: Indexing of unrecorded survey documents searchable and viewable online

Project Description/Goal

- To expand the use and accessibility of survey document imaging make them available to the public via the Internet.
- **Land Info Spending Category:** Other Parcel Work

Business Drivers

- County business data lacks detailed location information, making it less useful
- Surveyor need to unrecorded survey documents
- The current document management system cannot cost effectively be configured to directly make survey documents accessible on the internet.

Objectives/Measure of Success

- Survey documents 100% accessible

Project Timeframes

Timeline – Project #1 Title		
Milestone	**Duration**	**Date**
Phase 1 – Development of Document Extraction Process	4 months	March-June, 2022
Phase 1 – Indexing and Storage	3 months	June-Aug 2022
Build Interface and/or app	4 months	Sept – Dec, 2022

Responsible Parties

- GIS staff (50%), Information Systems Staff (50%)

Estimated Budget Information

- See table at the end of this chapter.

Project #2: Public Land Survey System Monument Maintenance

Project Description/Goal

- Maintain all public land survey system monuments and ties in Winnebago County. The purpose of the project is to inspect every monument in the county at least once every 12 years.
- **Land Info Spending Category:** PLSS

Business Drivers

- Winnebago County has spent considerable resources to re-monument the entire county.
- Maintenance is needed to protect this investment.
- If a single monument is lost, it is less expense to relocate one monument than it would be if there was a significant deterioration of the network.
- Surveyors and other professionals rely on the monuments.
- Monuments are the basis for all land descriptions
- Many GIS layers are referenced to the PLSS network

Objectives/Measure of Success

- 100% of monuments are placed and stable.
- Every monument has at least 4 ties.

Project Timeframes

Timeline – #2: Public Land Survey System Monument Maintenance		
Milestone	**Duration**	**Date (Each Year)**
Phase I – Monument inspection and reporting	6 months	Jan-June
Phase II – Monument Repair	6 months	July-Dec

Responsible Parties

- Contractors 90% and GIS staff 10%

Estimated Budget Information

- See table at the end of this chapter.

Project #3: LiDAR Data Acquisition

Project Description/Goal

- Acquire new LiDAR elevation data for Winnebago County. The purpose of this project is to collect new elevation data to support county operations and future updated floodplain maps.
- **Land Info Spending Category:** LiDAR

Business Drivers

- Current accurate elevation data is an important part of manage drainage and flooding concerns.
- Elevation data meeting the current standards are required for update floodplain maps.
- Changes to elevations require periodic updates.

Objectives/Measure of Success

- Delivery of LiDAR meeting all project specifications.

Project Timeframes

Timeline – #3: LiDAR Data Acquisition

Milestone	Duration	Date
Phase I – flight	–	March-April 2022
Final Deliverable	–	Dec 2023

Responsible Parties

- Contractors 90% and GIS staff 10%

Estimated Budget Information

- See table at the end of this chapter.

Project #4: Field data collection with mobile GPS/GIS technology

Project Description/Goal

- County staff would collect data in field with mobile GPS/GIS technology to support on-going programs and County records
- **Land Info Spending Category:** Web Host / Hardware

Business Drivers

- Reduced costs and more efficient technologies for collecting, maintaining, and sharing records.

Objectives/Measure of Success

- Accurate, easily-shared records with cost-effective technology

Project Timeframes

Timeline – #4: Field data collection with mobile GPS/GIS technology

Milestone	Duration	Date
Project #5 start	–	Jan 2023
Set-up / training	3 months	
Data collection testing and manage records	6 months	
Project complete	–	Oct 2023

Responsible Parties

- GIS staff 90% and Contractors 10%

Estimated Budget Information

- See table at the end of this chapter.

Project #5: Streamline Community Partner Data Exchange

Project Description/Goal

- Improve GIS technology integration between partner organizations to increase the efficiency to updating and exchanging data.
- These solutions would support work with other units of government (state, counties, municipalities, and utility districts) their contractors.
- This will include improved data distribution as well as collaborative editing environments.
- **Land Info Spending Category:** Website Development/Hosting Services

Business Drivers

- Inpoved software platforms and tools will provide more streamline collaborative editing tools.
- Website will provide access to additional data as well as "Open Data"

Objectives/Measure of Success

- Create new GIS site offering new tools and additional data
- Improved access to community partners.

Project Timeframes

Timeline – #5: Streamline Community Partner Data Exchange

Milestone	Duration	Date
Project #5 start	–	April 2022
Set-up / training	6 months	
Setups and coordination with each organization	15 months	
Project complete	–	Dec 2023

Responsible Parties

- GIS staff 90% and Contractors 10%

Estimated Budget Information

- See table at the end of this chapter.

Project #6: Next Generation 911 Data and Workflow Preparation

Project Description/Goal

- Prepare public safety GIS data for future integration into the Wisconsin Next Generation 911.
- Land Info Spending Category: Address Points, Street Centerlines, Website Development/Hosting Services, Software.

Business Drivers

- Compliance with forthcoming state mandates.

Objectives/Measure of Success

- Compliance with forthcoming state mandates.
- GIS data supports future Next Generation 911 system.

Project Timeframes

Timeline – #6: Next Generation 911 Data and Workflow Preparation

Milestone	Duration	Date
Project #6 start	–	Jan 2022
Standards Review and Data Evaluation	6 months	
Data Preparation and Refinement	20 months	
Workflow Development and Data Review	10 months	
Project complete	–	Dec 2024

Responsible Parties

- GIS/Sheriff's Department staff 60% and Contractors 40%

Estimated Budget Information

- See table at the end of this chapter.

Project #7: Georeferencing Historic Photos and Maps

Project Description/Goal

- Improved the quality and accessibility of our historic aerial photo imagery.
- Imagine of historic aerial photo contact prints or negatives in high resolution.
- Georeference or orthorectify high resolution images.
- **Land Info Spending Category**: Orthoimagery

Business Drivers

- Update the format of these historic documents before the quality of the source documents degrades.
- Transform the formats of these photos so they can put in an online GIS viewer.

Objectives/Measure of Success

- County, municipal, state staff and the public can easily access and compare historic photos in an online GIS viewer.

Project Timeframes

Timeline – #7: Georeferencing Historic Photos and Maps

Milestone	Duration	Date
Project #7 start	–	March 2022
Contract for imaging and processing of historic photo.	10 months	
Georeferenceing of photos	24 months	
Project complete	–	Dec 2024

Responsible Parties

- GIS staff 50% and Contractors 50%

Estimated Budget Information

- See table at the end of this chapter.

Project #8: Ongoing Costs Not Associated with a Specific Project

Project Description/Goal

- Maintain on-line mapping capabilities. This includes server software support, hosting fees, internal charges directly related to the maintenance of on-line mapping applications and external agreements for minor tweaks to the application.
- Enhance the budget of the GIS Office by funding hardware acquisition for those responsible for maintaining land information, GIS software support, and training of GIS staff.
- Land Info Spending Category: Software, Hardware, Website Development/Hosting Services, Training and Education, Other

Business Drivers

- Public demand for access to public information
- County staff have the tools and training necessary to be efficient

Objectives/Measure of Success

- GIS mapping sites are available to the public and integrated with related systems.
- Staff are appropriately trained and current in their field.
- Software/Hardware is supported and upgraded to current versions.
- Staff have the hardware and software to be effective.

Project Timeframes

- Not applicable

Responsible Parties

- Not applicable

Estimated Budget Information

- See table at the end of this chapter.

Completed Projects

- Indexing of documents to geography in GIS – Current documents accessible include tie sheets, section summaries, floodplain LOMAs, plats of survey (1940-2000), and survey books and notes.
- Public Land Survey System Monument Maintenance – Southeast part of Winnebago County
- 2020 Orthophotography Acquisition
- Redesign and update County GIS website

Estimated Budget Information (All Projects)

Estimated Budget Information

Project Title	Item	Unit Cost/Cost	Land Info Plan Citations Page # or section ref.	Project Total
1) Indexing of unrecorded survey documents searchable and viewable online	Online Data Storage	$4,000		**$4,000**
2) Public Land Survey System Monument Maintenance	Contractor	$40,000 @ 3 years		**$130,000**
3) LiDAR Data Acquisition	Contractor	$137,000		**$137,000**
4) Field data collection with mobile GPS/GIS technology	GPS unit	$15,000		**$15,000**
5) Streamline Community Partner Data Exchange	Software/Contractor	$20,000		**$20,000**
6) Next Generation 911 Data and Workflow Preparation	Software/Contractor	$50,000		**$50,000**
7) Georeferencing Historic Photos and Maps	Contractor	$20,000		**$20,000**
8) Ongoing Costs Not Associated with a Specific Project	Technology maintenance expenditures	$420,000		-
	Hardware/Software upgrades and future operational activities	$70,000		-
				$490,000
			GRAND TOTAL	**866,000**

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