Final Report

Version 9 Statewide Parcel Map Database Project

July 26, 2023 | *Appendix A Updated: June 25, 2024

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OVERVIEW

The **Version 9 Statewide Parcel Map Database Project** (V9 Project) was a joint effort between the Wisconsin Department of Administration (DOA) Division of Intergovernmental Relations and the Wisconsin State Cartographer's Office (SCO). This document describes the V9 Project, which ran from January 2023 to June 2023 as part of the Statewide Parcel Map Initiative established by Act 20 of 2013.

Project Objectives Achieved

- Create an updated statewide parcel database and map layer by integrating county-level datasets.
- Provide for download of parcel database and display map layer online.
- Continue implementation of standard for parcel data known as the "Searchable Format," which is tied to Wisconsin Land Information Program grant funding for local governments.
- Assess and communicate county progress in achieving the Searchable Format.

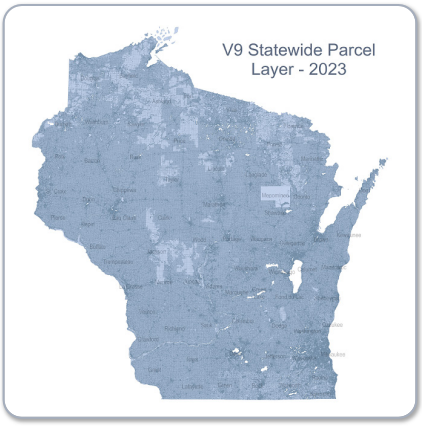
The V9 Project successfully aggregated all known digital parcel datasets within the state, resulting in a statewide GIS parcel layer of **3.54 million parcels**. The statewide data was standardized to meet the Searchable Format and made publicly available online by June 30, 2023. The V9 Project represents another successful step in the Statewide Parcel Map Initiative, an effort important for improving the quality of Wisconsin's real estate information, economic development, emergency planning and response, and other necessary citizen services.

PROJECT BACKGROUND

The V9 Project was another phase in the incremental approach of the Parcel Initiative—improving the statewide parcel map with each annual iteration. The V9 Project builds upon the experience of the LinkWISCONSIN and V1-V8 Projects. V9 was the eighth round of implementing standards for data submissions—the Searchable Format—which the legislature directed the Department of Administration to create in coordination with counties as part of Act 20 of 2013. In the Searchable Format, county data submittal is ready for immediate aggregation into the statewide parcel layer. Counties are to achieve the Searchable Format for parcel and tax roll data each year by March 31st.

TECHNICAL APPROACH

The technical approach taken by SCO staff involved several steps, including preparation and ingest, local-level processing, aggregation, state-level processing, and quality assurance/quality control. To support counties in achieving the Searchable Format, SCO developed a tool called the Validation Tool that counties are required to run in order to validate their data against the schema, as well as a suite of other geoprocessing tools. Once the statewide layer was created, data was distributed in several formats via a



custom website and a web-based mapping application. The web app allows someone without GIS software to view and search the statewide parcel map.

BENCHMARK PROGRESS ASSESSMENT

The final V9 layer represents progress over previous years. Two counties have yet to complete their digital parcel mapping—Buffalo, and Burnett—notable progress, as that figure is down from 12 counties in 2014. Assessment and analysis of county data was conducted, with attention to what must be done for a county to meet the Searchable Format. The majority of counties came close to meeting the Searchable Format in their V9 data submissions. Very few met the Searchable Format exactly, with only a small number of counties submitting data that did not require additional processing to meet all Searchable Format requirements. The majority of counties either required follow-up to obtain missing data or had processing steps performed on their behalf to get the data into the Searchable Format.

In addition to parcels, several other GIS data layers were collected as part of a collaboration with the UW-Madison Robinson Map Library. For V9, **385** new county data layers were cataloged, archived, and made available through the data portal GeoData@Wisconsin.

RECOMMENDATIONS

Recommendations to improve and achieve better efficiency, accuracy, and final products include reviewing and updating the data submission Validation Tool, revisiting the design of the Validation Tool output known as the Validation Summary Page, making small and custom changes to the new web application as needed and based on user feedback, and encouraging integration of PLSS coordinates into the parcel fabric by way of the WLIP Strategic Initiative grant application. These recommendations are designed to be minimally disruptive for counties, yet ultimately lead to a statewide parcel layer that continues to improve with each annual iteration.

1 PROJECT BACKGROUND

1.1 Background

The **Version 9 Statewide Parcel Map Database Project** (V9 Project) was a joint effort between the Wisconsin Department of Administration (DOA) Division of Intergovernmental Relations and the State Cartographer's Office (SCO) that ran between January 1, 2023 and December 31, 2023.

Wisconsin Act 20 of 2013 created statutory directives through s. 59.72 and s. 16.967 for the state and local governments to coordinate on the development of a statewide digital parcel map, which is referred to as the Statewide Parcel Map Initiative, or Parcel Initiative. One of the statutory requirements was for DOA to determine a "**Searchable Format**" for parcel data and for all county data to be posted online in this standard. V9 is the eighth round of requesting that counties submit local data in the Searchable Format.

The V9 Project followed successful collaboration between DOA and SCO on similar efforts. In the past, DOA and SCO have partnered on a project to create statewide parcel and address point layers for the LinkWISCONSIN Address Point and Parcel Mapping Project (2013-2014), the Version 1 (V1) Project (2015), the Version 2 (V2) Project (2016), the Version 3 (V3) Project (2017), the Version 4 (V4) Project (2018), the Version 5 (V5) Project (2019), the Version 6 (V6) Project (2020), the Version 7 (V7) Project (2021), and the Version 8 (V8) Project (2022).[1]

The V9 Project continued the approach of improving with each annual iteration through a process that allows for much involvement and collaboration with data contributors, who are primarily county land information offices, and data users—a wide array of persons from state agencies, private companies, and other entities and individuals.

1.1.1 V9 Project Goals

As part of the implementation planning for the statewide digital parcel map, the goals of the V9 Project were established in a memorandum of understanding (MOU) between DOA and SCO.

- **Meet statutory objectives and track progress.** The statewide parcel layer is built in an iterative fashion. V9 will continue to track the progress made with investments to local governments, specifically on benchmarks for parcel dataset development. A goal is to design an appropriate monitoring and evaluation framework to evaluate progress on the four benchmarks for parcel data:
  - Benchmark 1 – Parcel and Zoning Data Submission
  - Benchmark 2 – Extended Parcel Attribute Set Submission
  - Benchmark 3 – Completion of County Parcel Fabric
  - Benchmark 4 – Completion and Integration of PLSS
- **Incremental and continuous improvement.** Improvement of the statewide parcel layer itself, as well as the workflow and methods for each step in the aggregation process, with each new version of the layer. Exploration of areas for improvement should be based on research. As with the database, the hosting and display should keep pace with current technology and be continually improved to meet users' needs. Intake and aggregation process should be replicable and become more efficient with time, facilitating other improvements and/or opportunities for value-added products.
- 

Outreach and technical assistance to counties. This may take the form of further development of existing technical tools or the creation of new tools for counties and municipalities to use. It could also involve virtual or site visits and direct assistance.
- **Lean government principles and efficiency.** The V9 Project should seek to create and realize efficiencies in general, eliminate waste, and integrate or collaborate with other state GIS services where possible. An objective for this project is to move toward a more efficient, automated process for data aggregation where the locus of standardization labor is on the data contributors rather than the aggregator. Such a process would require fewer state resources be dedicated to the aggregation process and thereby reduce state costs for sustaining the statewide digital parcel map.
- **Responsiveness to public needs and economic development goals.** Evaluate parcel layer user suggestions and implement improvements where feasible.

[1] See V8 Final Report (2022 July); V7 Final Report (2021 December); V6 Final Report (2020 October); V5 Final Report (2019 September); V4 Final Report (2018 November); V3 Final Report (2017 November); V2 Final Report (2016 November); V1 Interim Report (2016 June); V1 Final Report (2015 November); and Final Report: LinkWISCONSIN Address Point and Parcel Mapping Project (2014 September).

1.1.2 Project Timeline and Milestones

V9 Statewide Parcel Map Database Project Milestones	
Date	**Version 9 Project Milestone**
November 30, 2022	V9 call for data ready
January 1, 2023	V9 Project formal expenditure period start
January 2, 2023	Begin county data preparation assistance/outreach
March 31, 2023	V9 data submissions due
June 10, 2023	Draft V9 database for purposes of QA/QC
June 23, 2023	V9 web app updates complete
June 30, 2023	V9 parcel map available online
July 31, 2023	V9 final report with final V9 workflow documentation
September 29, 2023	Final E5 PLSS database
October 14, 2023	E5 PLSS final report, documentation, and publication ready
October 31, 2023	Draft V10 data Validation Tool ready
November 15, 2023	V10 data Validation Tool finalized
November 30, 2023	V10 call for data ready
December 31, 2023	County outreach for V10 conducted
December 31, 2023	E5 PLSS final end-user feedback appendix ready

1.1.3 Project Team

V9 Statewide Parcel Map Database Project Team	
Howard Veregin, Project Co-Lead	Wisconsin State Cartographer's Office
Peter Herreid, Project Co-Lead	Wisconsin Department of Administration
Ana Wells	Wisconsin State Cartographer's Office
David Vogel	Wisconsin State Cartographer's Office
Thomas Kazmierczak	Wisconsin State Cartographer's Office
Hayden Elza	Wisconsin State Cartographer's Office
Param Bhandare	Wisconsin State Cartographer's Office (student)
Branton Kunz	Wisconsin State Cartographer's Office (student)
Drew Ten Bensel	Wisconsin State Cartographer's Office (student)
Rachel Ren	Wisconsin State Cartographer's Office (student)
Davita Veselenak	Wisconsin Department of Administration

1.1.4 Outreach

V9 Conference Presentations and Outreach To-Date	
74th Wisconsin Society of Land Surveyors (WSLS) Annual Institute January 2023	Wisconsin County Surveyors Association (WCSA) Annual Membership Meeting Presentation
Wisconsin Land Information Association (WLIA) Annual Conference February 2023	Land Information Officers Network Annual Meeting, DOA and SCO updates; SCO In-Person Help Desk Hours
Wisconsin Land Information Council (WLIC) February 2023	WLIP program updates
V9 County Assistance/Outreach Sessions March 2023; Virtual	Individualized assistance offered and provided as requested
Wisconsin Land Information Association (WLIA) Spring Regional Meeting May 2023	WLIP updates at Land Information Officer Network meeting;

1.2 Documentation and Communication of Standards

The Submission Documentation set forth the required data submission standards for the V9 Project. There are four benchmarks listed by the WLIP Strategic Initiative grant application:

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

Together, Benchmark 1 and 2 make up the Searchable Format. The Searchable Format is detailed in the Submission Documentation.

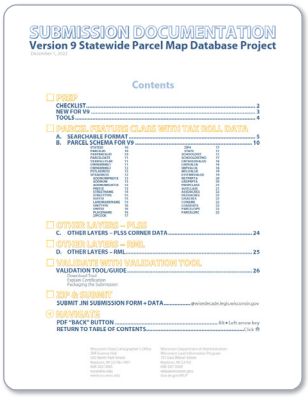

SUBMISSION DOCUMENTATION
Version 9 Statewide Parcel Map Database Project
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Figure 1. V9 Submission Documentation

1.2.1 New for V9

All attribute names, definitions, domains, and other schema requirements remained the same as last year. A few minor changes and updates are summarized on this page.

- **Validation Tool Updated.** Our project partners at the State Cartographer's Office have redesigned the Validation Tool.

  The basic operation of the tool remains the same. As with previous years, counties will need to run the tool in Test Mode first, to identify errors and schema deviations in order to rectify them.

  The redesigned tool features:

  - **A redesigned interface**
  - **Integrated Explain Certification entry** - Explanations for legitimate schema deviations, known as "*Explain Certification*" information, is no longer uploaded as an external text (.txt) file.

    Instead, you enter the information directly into the tool interface in an *Explain Certification* window, the last time you run the tool in Final Mode.
  - **Automated final geodatabase creation** - In Final Mode, the final geodatabases are automatically created and populated, and put into a folder directory on your computer that you have chosen in the tool. The files created are:

    COUNTYNAME.ini (submission form)
    COUNTYNAME_**PARCELS**.gdb
    COUNTYNAME_**OTHER**.gdb

  All counties need to do is zip the directory containing these three auto-generated files and submit!

- **ESTFMKVALUE – No requirement to null ESTFMKVALUE for Ag/Undeveloped/Agricultural Forest & AUXCLASS Parcels.** While most properties are assessed at full market value, some classes of property—specifically 4, 5, and 5M—are not. In keeping with a precedent that was start during V6 in 2020, for V9, ESTFMKVALUE (Estimated Fair Market Value) values will continue to be nulled out for parcels that are wholly or partially PROPCLASS 4, 5, or 5M; enrolled in the MFL/CFL programs (AUXCLASS W1-W9); and tax exempt (AUXCLASS X1-X4). However, **counties are *not* required to null ESTFMKVALUE for Ag/Undeveloped/Agricultural Forest & AUXCLASS parcels for V9, but it is optional for counties to do so**. This processing step will be performed by the DOA/SCO technical team on behalf of counties who wish to submit with these values populated. See ESTFMKVALUE for further information.

- **Submit PLSS Data.** If the county has the PLSS attributes listed in Appendix C in a digital tabular format, including a **PLSS corner ID attribute**, they should be submitted. The unique corner ID could be alphanumeric or numeric. If for some reason corner ID will be different from what was submitted last year, please contact SCO before submitting.

- **Submit Other Layers.** For V9, DOA is continuing to combine the V9 data request with Jaime Martindale of the UW-Madison Robinson Map Library (RML). Therefore, we are requesting a few other layers, listed in Appendix D.

- **Zoning Data Submission Requirements.** For V9, counties only need to submit three layers of county-maintained zoning data: 1) General, 2) Shoreland, and 3) Airport Protection. These may be submitted AS IS, except for a DESCRIPTION/LINK field requirement.

- **Searchable Format.** Counties will need to meet the Searchable Format in order to execute their 2023 WLIP Strategic Initiative Grant and receive the payment. In some cases in which a county does not meet the Searchable Format requirements with their V9 submission or fails to rectify errors from prior years' Observation Reports, the county may need to re-submit data.

- **Clarified Documentation.** The V9 documentation has been revised. Discard any old documentation and links. Replace with this updated Submission Documentation and V9 links. An optional activity is to take contemporaneous notes on your data prep, grooming, and submittal process. Notes can be submitted to DOA in any format. To avoid flags in the Validation Tool and ensure that data submissions meet the Searchable Format requirements called for by State Statute 59.72(2), counties will need to carefully read the entirety of this Submission Documentation and the Validation Tool Guide before preparing data submissions.

1.3 Call for Data

The official V9 data request was sent to each county land information officer on **December 1, 2022** via email, and appears as Figure 2. It included a link to the Submission Documentation, which serves as a manual detailing the requirements of the Searchable Format.

Dear LIO,

On behalf of the Department of Administration, I am writing to request a subset of your GIS data. The data acquired through this request will be used to develop a statewide parcel layer for the next version of the Statewide Parcel Map Database Project, Version 9.

All counties must submit parcel/tax roll data in the Searchable Format standard no sooner than December 31, 2022 and no later than March 31, 2023. To be accepted, submissions will need to meet the specifications for the Searchable Format and be free from any unexplained errors. A successful data submittal adhering to the Searchable Format is necessary in order to receive payment on your county's 2023 Strategic Initiative Grant.

PREP

The V9 checklist in the Submission Documentation summarizes the data request. The digital PDF checklist contains hyperlinks to attribute definitions and links to the full schema. Although there are no changes to the schema, a page titled New for V9 summarizes what's new.

PARCEL FEATURE CLASS WITH TAX ROLL DATA

You will want to read the Submission Documentation in full, in order to understand the details of the V9 request. In addition, the V9 webpage contains all the necessary submission information and links to several tools to help you format your data.

OTHER LAYERS – PLSS & RML

Again for V9, all counties must **also submit PLSS corner data** (per Appendix C) and **additional GIS layers for RML** (Appendix D), which are being requested in order to aid in analysis of the statewide layer and as part of a collaborative effort with the UW-Madison Robinson Map Library.

VALIDATE WITH VALIDATION TOOL

The updated, redesigned tool you must run before you submit your data, the Validation Tool, can check your data for deviations from the schema and is also required to create the mandatory Submission Form.

ZIP & SUBMIT

After prepping your data and running the tool to create your Submission Form, submit your data to LTSB GeoData Collector, formerly known as the WISE-Decade platform. Log in using your credentials from the Legislative Technology Services Bureau.

Please note that the collection of municipal wards, municipal boundaries, and county supervisory districts will occur January 4th–18th. This collection is also conducted through the LTSB platform.

Please submit your V9 parcel/tax roll data package by **March 31, 2023**.

FEEDBACK AND HELP

For some of the questions you might have, personalized assistance may be available by contacting us. For technical questions, you can email the State Cartographer's Office at help@sco.wisc.edu or call 608-262-3065. Feel free to contact me with general questions as well.

We realize that a substantial amount of work goes into this annual data submittal. WLIP Strategic Initiative grants were designed to aid in this task. Like the numerous end users who have shared positive feedback as reported in the V8 Final Report, we sincerely appreciate your efforts to help make another update of the statewide parcel layer a success.

Thank you,

Peter Herreid
608-267-3369
Grant Administrator
Wisconsin Land Information Program

Figure 2. V9 Call for Data

1.4 V9 Assistance/Outreach

1.4.1 V9 Assistance/Outreach

For V9, an outreach element was included with the project to highlight the importance of county data preparation assistance and outreach. The table of V9 Conference Presentations lists outreach events that occurred via public presentations on the project.

All counties were encouraged to ask for assistance, if they so chose, in the call for data. Individualized assistance with data preparation was provided virtually as requested. LIOs may send questions to SCO via the SCO Help Desk at help@sco.wisc.edu.

SCO also offered in-person help desk hours at the State Cartographer's Office booth during the 2023 WLIA Annual Conference. Members of the parcel team were available on February 23-24. LIOs were encouraged to come by with any questions about the Validation Tool, the V9 Submission Documentation, or the parcel submission process in general. One LIO stopped by to introduce himself and inquired about the parcel schema address elements and their relationship to the NENA address elements being used for the NextGen911 project (for which there is an explanation of the "Standards for Parcel Site Addresses" topic in the V4_Final_Report).

With regard to project communications to the public, DOA publicized the statewide parcel layer in a LinkedIn post in March of 2023.

Figure 3. DOA LinkedIn post from March of 2023

2 TECHNICAL APPROACH

This chapter describes the strategy or a high-level version of the approach employed by the technical team in processing and aggregating local-level data for inclusion in the final deliverable and statewide parcel map.

2.1 Tool Development

2.1.1 Updated Validation Tool

A redesigned Validation Tool was rolled out with the V9 call for data in December of 2022. It is a tool built by the State Cartographer's Office that counties were required to use before submitting data. The Validation Tool checked data for deviations from the schema, and was also required to create the mandatory Submission Form.

Data submitters could run the tool in test mode to flag potential errors in the data. The tool was run again in final mode in order to create the ".ini" Submission Form, a required part of the submission package.

For more details or to download the tool, see the Validation Tool Guide.

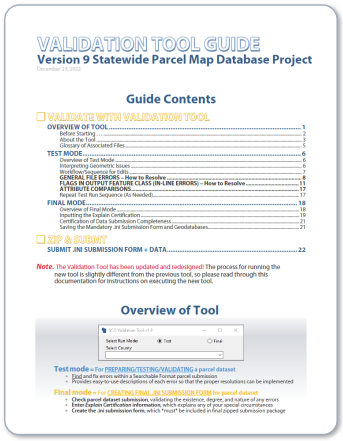


Figure 4. Validation Tool Guide

Validation Summary Page

The Validation Tool displays validation test results in a browser-displayed page called the "Validation Summary Page." The Validation Summary Page is a html file with a summary of Validation results that allows the user to visualize the potential errors observed in the dataset. This file opens automatically in a user's web browser upon completion of running the Validation Tool.

The Validation Summary Page provides a general overview of the condition of the dataset. It summarizes error status for "GENERAL FILE ERRORS" and for "FLAGS IN OUTPUT FEATURE CLASS (IN-LINE ERRORS)." The parcel data is ready for submission upon completion of an error-free Validation Tool test mode run and a corresponding Validation Summary Page file that says no errors have been found.

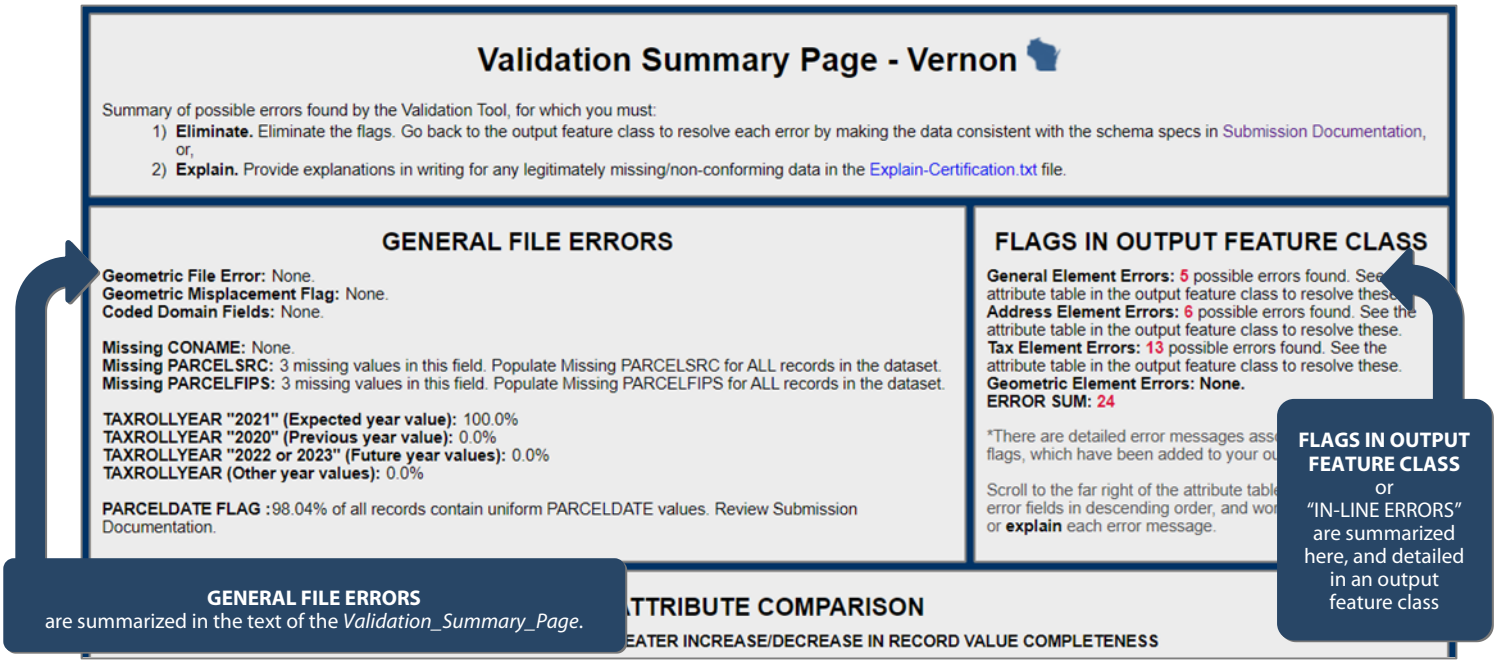


Figure 5. Validation Summary Page (example). This displays in full "GENERAL FILE ERRORS" and summarizes error status for "FLAGS IN OUTPUT FEATURE CLASS."

2.1.2 Geoprocessing Tool Development

To support counties in achieving efficient and accurate adherence to the standards in the Submission Documentation, the SCO developed a suite of publicly available geoprocessing tools using the ArcGIS ArcPy Module, Python 2.7, and open source libraries. In total, seven tools were created, and made publicly available through the data submission webpage.

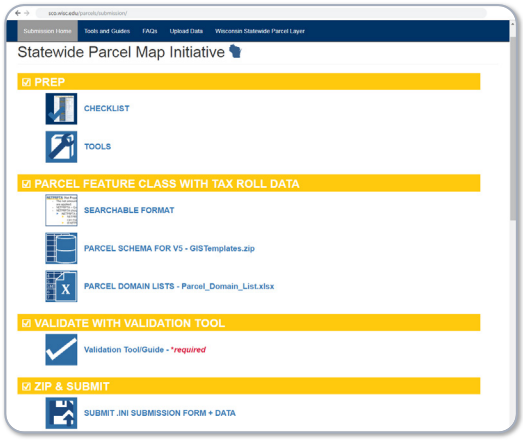


Figure 6. V9 Data Submission Webpage with Links to Schema and Tools

The tools were supported under ArcGIS version 10.3 through version 10.8. Each of these tools were designed to enable efficient solutions to the most common and time-consuming problems related to preparing parcel and tax roll data to be submitted in the statewide schema. Accompanying the tools were user guides that documented how to prepare the data, run the tool, and troubleshoot if necessary.

- **Address Parsing Tool.** Allows the user to parse site addresses from one long string into sub-address elements. Data submitters might use this tool if SITEADRESS data is not available as fully parsed address elements as required by the Searchable Format.
- **DOR XML Parse Tool.** Allows the user to translate Department of Revenue Tax Roll XML into a GIS table. For tax roll data in XML format that is to be used for parcel submission.
- **Data Standardize Tool.** Allows the user to standardize file geodatabase feature class data via the creation of a lookup table through a two-tool sequence. The first tool is used to create a summary table of a field. This table is edited and subsequently used as input to the secondary tool. The output of the second tool includes all original field domains as well as newly standardized domains in a new field.
- **Condo Stack Tool.** Allows user to model condominiums by stacking condo parcel geometries by owner. A data submitter might use this tool to model condo parcel geometries to match tax roll records with a 1:1 relationship.
- **Class of Property Dissolve Toolset.** Allows the user to format class of property data to statewide schema definitions. This suite of tools may be helpful if a submitter wishes to reformat their class of property information so as to meet the requirements of the schema definitions of PROPCLASS and AUXCLASS. This tool also handles various common formats that class of property exists as and may be helpful if the submitters data exists in one of these formats.
- **Null Fields And Set To Uppercase Tool.** Allows the user to format all attributes within a feature class to <Null> and UPPERCASE. This tool may be helpful to a submitter if they wish to format their blank fields or fields annotated with a specific string to a true SQL <Null> or if they wish to set all fields to UPPERCASE alpha characters.
- **Field Mapping Workflow Documentation.** Allows a user to map parcel or zoning attributes to the statewide schema. This is not a tool but rather a guide that may be useful to a submitter if they have PARCEL or ZONING data formatted to the schema specifications, but the fields do not have the appropriate FIELD NAME, ALIAS NAME, DATA TYPE, or PRECISION.
- **Summary Table Guide.** Not a tool but a guide for GIS software summary tables, to examine data in preparation for submitting Searchable Format data. This guide is of particular use for cleaning, validating, and standardizing data.

The following table displays the number of downloads for each of the respective tools:

Tool Download Stats

	# of Downloads V1 & V2 (2015-16)	# of Downloads V3 (2017)	# of Downloads V4 (2018)	# of Downloads V5 (2019)	# of Downloads V6 (2020)	# of Downloads V7 (2021)	# of Downloads V8 (2022)	# of Downloads V9 (2023)
Validation Tool	Not applicable	108	118	84	117	112	95	116
Address Parsing Tool	Not available	48	46	36	27	37	34	22
DOR XML Parse Tool	Not available	24	36	17	34	24	31	19
Data Standardize Tool	Not available	28	27	22	40	39	29	20
Condo Stack Tool	Not available	21	19	9	16	15	19	15
Class of Property Dissolve Toolset	Not available	20	19	13	20	22	17	16
Null Fields and Set to UPPERCASE Tool	Not available	51	59	52	34	57	50	42
Field Mapping Workflow Documentation	Not available	36	34	21	19	18	17	20
Summary Table Guide	Not available	13	11	11	22	13	9	11

Note. Source of data is Google Analytics. Numbers represent unique downloads. Validation Tool began with V3 in 2016.

2.1.3 Preparation and Ingest

In the data request, land information officers were asked to submit data to the Legislative Technology Services Bureau (LTSB) of the Wisconsin State Legislature, through their WISE-Decade platform. WISE-Decade is LTSB's suite of mapping tools designed to assist counties and municipalities with legislative and legal requirements as required by state statute. Some file uploads were also accommodated using UW-Madison's enterprise Box.com account through an alternative upload widget.

The ingest phase began after the call for data. An automated email notification was sent to the project team any time a data submission to the WISE-Decade platform occurred. Once notified, the technical team would download the data via FTP login through Windows Explorer. After download, the data underwent a brief inspection, was documented as submitted, and then classified within the project's file directory. Depending on the amount of data submitted at any given time, the new data would either be assessed immediately or be queued for assessment according to the date the data was received. Also, upon receipt of data, the county data directory was backed-up locally, while additional data backups were routinely made to an external drive throughout the development phases.

Robinson Map Library and Other GIS Data

For other, non-parcel GIS layers, the Robinson Map Library (RML) also performed an intake assessment of submitted GIS datasets. For V9, **385 other layers feature classes were added to GeoData@Wisconsin**—comprised of rights-of-way; roads/streets/centerlines; hydrography; address points; buildings/building footprints; land use and parks/open space; trails; and other recreation data. RML staff and students write thorough and complete metadata for all of the data layers, archive them, and make them available for download on GeoData@Wisconsin.

2.1.4 Intake Assessment

Once data was copied to local directories, the required .ini Submission Form was automatically ingested into the technical team's master intake spreadsheet. This .ini file played an important role in cataloging the data submitted. Information obtained from the .ini file included feature class names, condo modeling format, submitter name and email address, generic error counts, completeness relative to V8 data, and a section that allowed contributors to explain unsolvable errors, missing data, and other known issues present within the data submitted.

Next, the team recorded general notes related to attribute quality and completeness, geometric location, and other issues observed. The focus of this assessment was to determine if data met the submission requirements and establish what processing steps would need to be performed to get the data into the Searchable Format for aggregation, as the majority of counties did not submit data that exactly matched the Searchable Format.

To document the internal team intake workflow, a summary-level workflow documentation was created and is updated on a regular basis.

Showstop, Re-Approach, and Resubmit Requests

If, upon internal team discussion, it was determined that data was missing or incomplete, the county was re-approached and asked to resubmit corrected data or provide justification for the missing data. Several counties had to be re-approached to obtain data missing from initial submission, to get clarification on peculiar data observations, and for the correction of erroneous data. In total, approximately 22 emails were sent to resolve issues related to the fitness of data submissions. In a few cases, multiple follow-up emails were required to an individual county before their data submission could be deemed complete and proceed past the initial assessment phase.

V9 Versus Previous Re-Submits and Clarifications

	V3 (2017)	V4 (2018)	V5 (2019)	V6 (2020)	V7 (2021)	V8 (2022)	V9 (2023)
# of counties that had to be re-approached	29 counties (40%)	38 counties (53%)	19 counties (26%)	26 counties (36%)	27 counties (38%)	15 counties (21%)	**11** counties (15%)
# of emails sent to resolve issues	83 emails	60 emails	24 emails	34 emails	39 emails	19 emails	**22** emails

For V9, any intake issues that required county follow-up were sent to DOA via email so that a follow-up email could be sent to the county, under a "showstopper" umbrella for either for missing data, questions to counties, or clarifications on the data submission.

After it was determined that the data submitted could be efficiently manipulated and processed, detailed processing steps were written and recorded in a Microsoft OneNote notebook. These steps provided the team with the information needed to massage the data into the final format and prepare it for the aggregation phase.

2.1.5 Geometric Gap Analysis

To identify gaps in the statewide parcel coverage where digital parcels do not exist, a manual inspection was performed on every dataset. It is the responsibility of the county to integrate all available parcel datasets into their parcel data submission, even if the municipal jurisdiction (city, village) is the data steward for the parcel dataset.

The geometric incompleteness of the V9 statewide parcel layer and the **2 counties yet to complete county-wide digital parcel mapping** are summarized in the table below.

V9 Gaps Summary

County	Number of Munis with Gaps	Municipalities with Gaps in Parcel Coverage
Buffalo	5	Part of: Alma (C), Buffalo (C), Fountain City (C), Milton (T), Nelson (T), plus several small gaps in various townships
Burnett	3	Part of: Swiss (T), Union (T), West Marshland (T), plus few small gaps in Grantsburg (T) and Anderson (T)

For V9, there was no missing geometric data in the form of gaps where parcel data is maintained by a municipality but not aggregated to county-level parcels. However, some tax roll data that is maintained by municipalities independent of counties presented some challenges.

2.2 Independent Data Stewards

V9 Tax Roll Gaps Summary / Independent Municipalities

County	Municipalities with Independent Tax Roll Data and/or Independent Parcel Geometries
Ashland	City of Ashland
Dane	City of Madison
Dodge	City of Watertown
Douglas	City of Superior (performs export for Douglas County)
Eau Claire	City of Eau Claire
Fond du Lac	City of Fond du Lac
Langlade	City of Antigo
Manitowoc	City of Manitowoc (Transcendent Technologies), City of Two Rivers (Patriot Properties, Inc.)
Milwaukee	City of Milwaukee, City of Wauwatosa, and all other municipalities
Outagamie	City of Appleton
Racine	City of Racine
Rock	City of Beloit, City of Janesville
Rusk	City of Ladysmith
Washington	City of West Bend
Waukesha	City of New Berlin, City of Waukesha, City of Brookfield
Winnebago	City of Oshkosh, City of Neenah, City of Menasha

Note. * This list is not exhaustive. Other municipalities that maintain parcel and/or tax roll data independently of the county may exist.

- The fact that a county is listed here does not necessarily indicate that the county submission was incomplete—rather, it shows that extra effort was required by either the county and/or the project team to acquire and/or format the municipal data.
- DOA seeks information on additional independent municipalities. Please send information to WLIP@wisconsin.gov.
- **Locating Property Information and Tax Assessment Data in Wisconsin** - Reference page 4 of the V9 Attribute Schema documentation for hyperlinks that you can use to locate data.

2.2.1 Aggregation

The process of aggregating individual county datasets began upon the completion of all required processing tasks for each county. After verifying these tasks were complete and ensuring that data was in the Searchable Format, the finalized feature class for each individual county was identified and the full path was documented to allow the technical team to run a batch processing tool for aggregation.

Next, a new statewide working database was created that contained a merged feature class consisting of all 72 individual county parcel datasets.

Statewide logic

Statewide logic is tweaked each year, with adjustments and minor function modifications consistent with the schema.

State-level processing was performed on the resulting feature class. This processing included steps such as casting select fields from string to double, construction of the STATEID attribute for all records, creation of LATITUDE/LONGITUDE fields (populated with values for the inside centroid of each parcel polygon), and general data cleaning tasks (e.g., removal of leading/trailing spaces, converting empty strings to <Null>, setting all attributes to UPPERCASE).

2.2.2 Quality Assurance/Quality Control

Beginning with the V2 call for data in the year 2016, data submitted has been required to meet certain documented standards, which make up the Searchable Format. These attribute field standards, attribute domain standards, and geometric representation standards were assessed as part of the QA/QC phase, as documented in the internal project assessment notes. Maintaining high quality datasets from one version to the next is of paramount importance to the Parcel Initiative. A variety of QA/QC methods were used throughout the project, including manually focused techniques, as well as more automated techniques that allowed for visualization across the entire state.

Manual cleanup techniques and tasks were performed across many of the datasets submitted. These included: address element standardization, address number cleanup, miscellaneous street name element parsing, excess field removal, et cetera. Often, the tasks were completed during the processing phase, prior to aggregation into the statewide feature class.

The automated QA/QC techniques were most often performed after the statewide feature class had been aggregated. With 3.5 million parcels, it is not feasible to manually inspect every record. For this reason, summary tables and a variety of maps were created during this process.

Summary tables were created as a byproduct of the state-level processing and provided a discrete set of domains that existed for a particular attribute field. These tables are particularly valuable for fields such as PREFIX, STREETTYPE, SUFFIX, and PROPCLASS, which have specific attribute domain standards. These tables, used in conjunction with the Data Standardize Tool, allowed for corrections to be made efficiently and accurately. Maps were produced, typically using a choropleth scheme, allowing the visualization of spatial trends within individual municipalities, counties, and statewide. These trends could be hard to observe from the tabular data alone. Maps provided another valuable tool for discovering errors and issues that existed in the data and allowed for corrections to be made.

2.2.3 Final Deliverables

Geometric Coverage

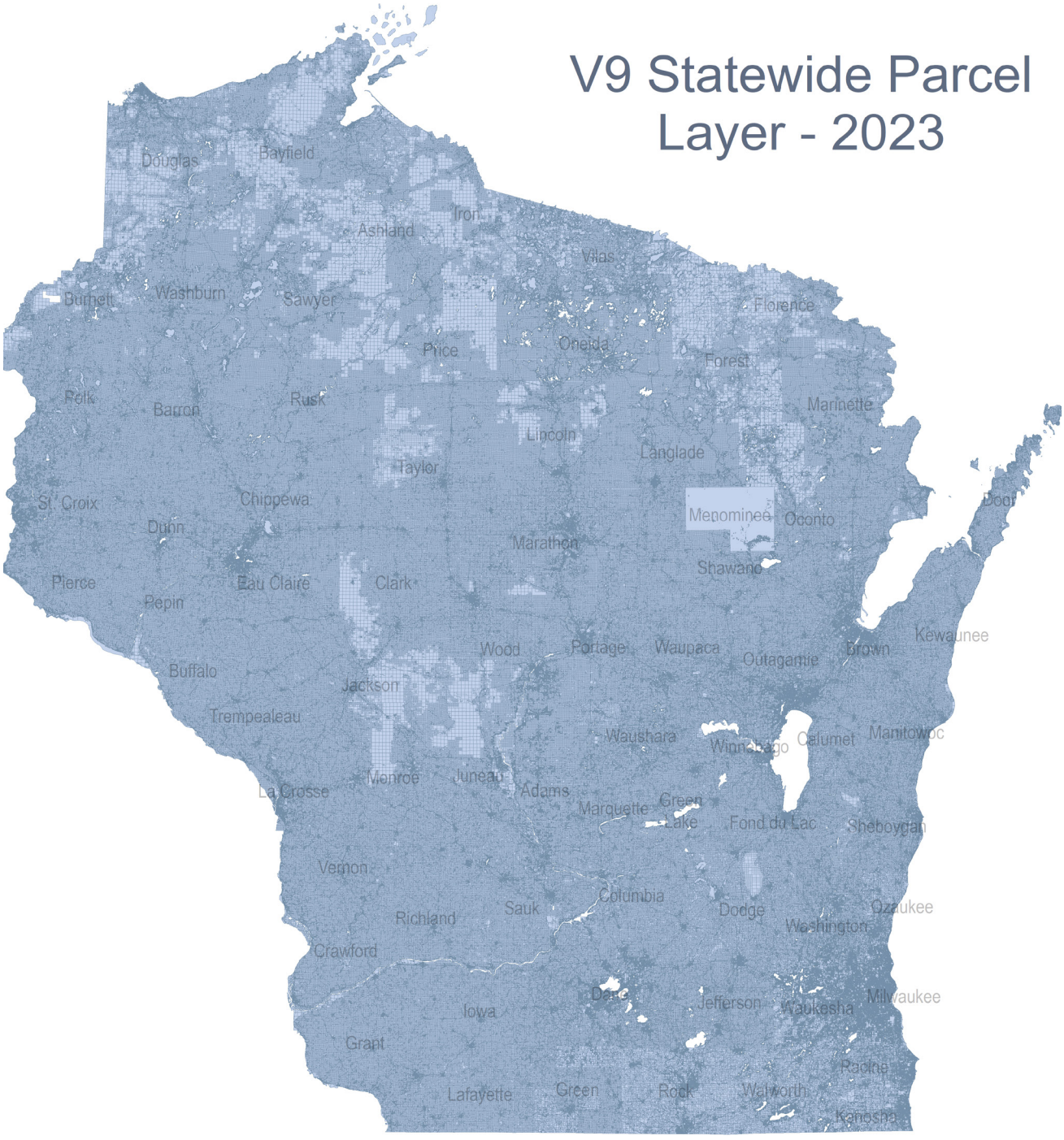
Continued progress is being made in completing the digitization of parcels across the Wisconsin landscape, as indicated by the statistics below.

V9 Spatial Coverage Versus Previous Years

	V1	V2	V3	V4	V5	V6	V7	V8	V9	Additional Coverage in V9	Percent Additional Coverage in V9
Number of features	3,434,149	3,466,359	3,486,200	3,491,037	3,504,785	3,507,127	3,520,942	3,529,979	3,540,285	**10,306 features**	**0.29%**
Coverage (in sq. miles)	53,656	55,280	56,060	56,193	56,403	56,410	56,389	56,426	56,452	**26 square miles**	**0.04%**

Note. The coverage in square miles calculation does not represent a true 1:1 comparison between the actual area of the state in square miles and total parcel coverage in square miles. In instances where condo parcels are stacked, the square mileage value is inflated. Differences from year-to-year may be present due to varying ways in which non-parcel features and other unparcelled areas are geometrically represented or omitted.

The final parcel layer totaled 3.54 million parcels and is shown in Map 1 on the following page.



Map 1. Version 9 Statewide Parcel Layer Completed in June 2023

2.2.4 Note on Zoning

Although five publicly available Wisconsin county-administered zoning layers were aggregated as part of the Statewide Parcel Map Initiative for V3 and V2 (in 2017 and 2016), zoning data was **not aggregated** at the statewide level for V4-V9 in 2018-2023.

For information regarding the statewide zoning layers from 2016-2017, please see the Parcel Project Zoning Change Log and page 5 of the V3_Wisconsin_Statewide_Parcels_Schema_Documentation.

Three zoning types were collected for V9—county **general zoning**, **shoreland**, and **airport protection**.

The Searchable Format for zoning data entails inclusion of **DESCRIPTION**/**LINK** information with the submission, in order to provide the user with definitions of the zoning classes.

Individual county datasets are publicly available through UW-Madison Robinson Map Library's geospatial data portal, GeoData@Wisconsin. All zoning types are bundled as a single feature class and are indexed on page 22 of the V9_Wisconsin_Statewide_Parcels_Schema_Documentation.

For the most current county zoning data, consult the individual county's land records websites.

Units of local government can also exercise zoning in Wisconsin, in which case end users might consult municipal/town web mapping sites for municipal-level zoning GIS data. It is generally best to **contact the authoritative jurisdiction** for the most complete zoning data.

2.3 Data Distribution

2.3.1 Database Download Webpage

The data was distributed via two primary means: a website with download links and a web-based mapping application. The V9 database was formally released to the general public on June 30, 2023, through the DOA land information email listserv and the data page at www.sco.wisc.edu/parcels/data.

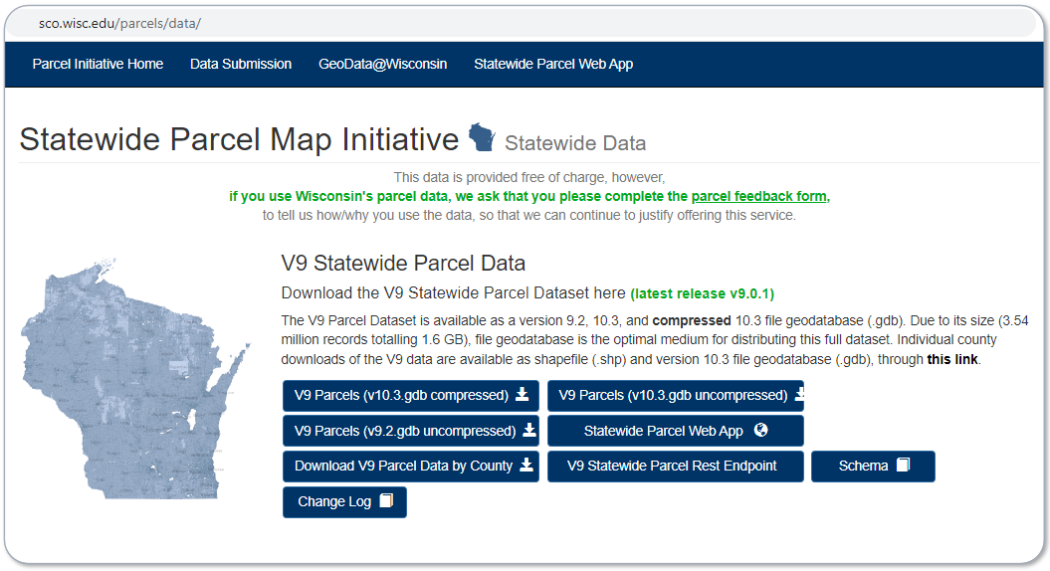


Figure 7. V9 Data Page

The custom webpage for data distribution was built and hosted by SCO, with the aim of flexibility. The site supports desktop, mobile, and tablet devices.

2.3.2 Web Application

The Wisconsin Statewide Parcel Map web application underwent a significant overhaul for its 2023 release, making use of *ArcGIS Experience Builder Developer Edition*. This update introduced current JavaScript libraries, integrated the new ArcGIS Online-hosted V9 Parcel layer, reduced custom coding, and expanded fuzzy search capabilities.

The redesign focused on improving and modernizing the user interface, with attribute search tips integrated directly into the query boxes, and a simplified basemap toggler for easier map layer control. Additionally, the implementation of fuzzy search capabilities allows for enhanced attribute search functionality and improved accuracy.

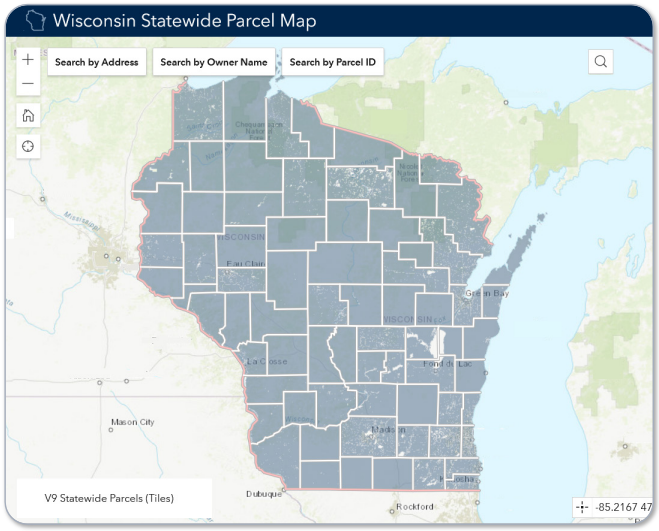


Figure 8. V9 Web App

ArcGIS Experience Builder offered several built-in functionalities straight out of the box, but some additional customization was required:

- Custom widgets were developed, allowing for parcel fill transparency adjustment at the street zoom levels, simplified basemap toggling, and Google Analytics integration
- A custom CSS file allowed us to modify the aesthetic of the application. This integrated the search tips directly into the query boxes and hid some features from the application interface.

Overall, the comprehensive redesign of the Wisconsin Statewide Parcel Map application includes significant technological updates and continues to integrate user feedback to enhance the application. By leveraging modern technologies and prioritizing user-centric design, the application is now well-equipped to effectively meet the diverse needs of its users, while continuing to serve as an indispensable tool for parcel data exploration.

Improvements to the V9 Web App

- **New Feature Service.** In previous years, the feature service for the statewide parcel layer was hosted by the Legislative Technology Services Bureau. The V9 app featured a new ArcGIS Online-hosted V9 Parcel layer. The V9 parcel layer was published to ArcGIS Online using ArcGIS Pro as a feature service. A hosted view, *Wisconsin Statewide Parcels*, was then created and published. This view is used in the Statewide Parcel application and is available for public use. It allows for zero downtime minor version updates during a parcel release year, if an update to the layer is required. Moreover, it facilitates future major version updates and releases without interrupting the parcel application and end users consuming the hosted view. One major difference between the new hosting mechanism and the previous LTSB mechanism is the physical location of the server hosting the layer. When LTSB hosted the feature service, the physical server was located on-site. In contrast, the new process relies entirely on the ArcGIS Online cloud service.

Figure 9. V9 User Feedback Form

- **Inclusion of the V9 parcel data feature layers.** At the time of the release of the V9 statewide layer, only the V9 feature layer was included in the app at maps.sco.wisc.edu/parcels. However, users can still download a historic copy of the V1-V8 data at sco.wisc.edu/parcels/data and from GeoData@Wisconsin.

- **Updates to supporting text/links and user feedback form.** All of the supporting text and links associated with the parcel application including, the Wisconsin Statewide Parcel Map app splash screen, *About* section, *Search Tips*, and data download links were updated. Updates were also made to the user feedback form (shown in Figure 9) and land information county contacts page, which directs users to Wisconsin's county-maintained land information websites.

- **Standardized site address field for searching.** By way of a feature service, the V9 parcel application includes a field called "**STAND_SITEADD**," which facilitates a simplified, more streamlined search of parcels by site address.
  - In the file geodatabase for the statewide layer, the site address field—SITEADRESS—appears "as is," with the physical street address of the parcel appearing exactly as it is provided by the county.
  - As a result of the differences in formatting for site address data at the county level, an end-user might need to perform multiple iterations of a search in order to find one desired address.
  - Particularly for the PREFIX and STREETTYPE fields, variations in spelling and abbreviations can be found in the SITEADRESS field.
  - The standardized site address field, STAND_SITEADD, is created by:
    ❶ **Concatenating the elements that make up SITEADRESS**, which counties are to submit as individual address elements:

ADDNUMPREFIX	ADDNUM	ADDNUMSUFFIX	PREFIX	STREETNAME	STREETTYPE	SUFFIX	UNITTYPE	UNITID

    ❷ **Further refining the PREFIX field**, so that it is standardized to a select number of domains:

CTH	STH	USH	INTERSTATE
N CTH	N STH	N USH	
E CTH	E STH	E USH	
S CTH	S STH	S USH	
W CTH	W STH	W USH	

- **Improvements to End User Schema Documentation.** The V9 end user schema (V9_Wisconsin_Statewide_Parcels_Schema_Documentation) was also updated. The documentation contains several notes for end users including links to some of Wisconsin's assessment/tax data resources, *Locating Property Information and Tax Assessment Data in Wisconsin*.

2.3.3 Data Access and Download Statistics

Across the various formats that are offered, the statewide parcel database has received large numbers of downloads and access via web mapping services.**V8 received over 17,000 thousand downloads and over 10 million hits on web services** in the year following the V8 release date. Download and web app statistics for all years appear on the following page.

Statewide Parcel Layer Download and Access Statistics

		Downloads	Hits on Services or App Views/Requests
V1	**V1 Parcels**		
	V1 Parcels (during V1 year)	3,625 Total	unknown
V2	**V2 Parcels**		
	V1 Parcels (during V2 year)	131	451,374
	V2 Parcels (during V2 year; all formats)	859	1,341,401
	V2 Individual County Parcels, all 72 counties combined (all formats)	3,248	NA
		4,238 Total	1,792,775 Total
V3	**V3 Parcels**		
	V3 Parcels (during year after release; all formats)	868	unknown
	V3 Individual County Parcels, all 72 counties combined (all formats)	2,203	unknown
		3,071 Total	
V4	**V4 Parcels**		
	V4 Parcels (during year after release; all formats)	1,142	4,453,517
	V4 Individual County Parcels, all 72 counties combined (all formats)	4,204	NA
		5,346 Total	4,453,517 Total
V5	**V5 Parcels**		
	V5 Parcels (during year after release; all formats)	1,715	10,090,958
	V5 Individual County Parcels, all 72 counties combined (all formats)	5,637	NA
		7,352 Total	10,090,958 Total
V6	**V6 Parcels**		
	V6 Parcels (during year after release; all formats)	1,755	unknown
	V6 Individual County Parcels, all 72 counties combined (all formats)	6,771	NA
		8,526 Total	
V7	**V7 Parcels**		
	V7 Parcels (during year after release; all formats)	2,461	11,424,840
	V7 Individual County Parcels, all 72 counties combined (all formats)	8,805	NA
		11,266 Total	11,424,840 Total
V8	**V8 Parcels**		
	V7 Parcels (during year after release; all formats; June 21, 2022-June 20, 2023)	4,980	10,039,237*
	V7 Individual County Parcels, all 72 counties combined (all formats)	12,619	NA
		17,599 Total	10,039,237 Total

Note.

- Data that is not available is denoted with "unknown." The source for download data is Google Analytic events, as well as Box access statistics. Numbers are approximate. The source for hits figures is LTSB up through V8. Figures for hits are approximate.
- V6 hits figures for Hits on Services or App Views/Requests were unavailable due to an LTSB server migration that occurred during V6.
- "**Hits**" numbers are subject to variation in definition. Here, hits may be "transactions." For ArcGIS server, a transaction is defined as any time the server or services is hit or pinged. Therefore, the number of hits is not an indicator of the number of unique users. A transaction is counted each time that a user makes a request to the service and data is returned.
  - For example, each of these actions within the parcel web app would be counted as a transaction:
    a) searching the web app on owner name, parcel ID or site address;
    b) panning the map to an uncashed area when viewing the map at neighborhood level (large scale); and
    c) clicking on the map to procure the parcel attribute information of an area.
- * V8 hits figure is partial. LTSB reconfigured their servers in October 2022 and no statistics prior to that are available.

Statewide Parcel Layer Web Mapping Application Statistics

	Sessions	Users	Pageviews
V1 App (July 31, 2015 – Oct 16, 2016)	Data not available	Data not available	Data not available
V2 App (Oct 17, 2016 – September 6, 2017)	9,788	4,271	16,402
V3 App (Sep 7, 2017 – July 30, 2018)	31,013	15,602	56,423
V4 App (July 31, 2018 – June 30, 2019)	75,815	42,258	117,338
V5 App (June 30, 2019 – June 30, 2020)	121,326	65,239	164,188
V6 App (June 30, 2020 –June 2021)	156,517	78,837	196,033
V7 App (June 30, 2021 – June 20, 2022)	142,430	72,405	170,670
V8 App (June 21, 2022 – June 20, 2023)	168,417	87,401	200,902

Note.

- The first date in the date range represents the public release date for the web app.
- Data source is SCO's implementation of Google Analytics.

Zoning Data Download Stats

Zoning Download Statistics

		Downloads	Hits on Services or App Views/Requests
V1	**V1 Zoning**		
	NA – No statewide zoning data was produced as part of V1	NA	NA
V2	**V2 Zoning (Aggregated for V2)**		
	Wisconsin_Zoning_2016 - All 5 zoning layers in one database	128-174	NA
	Airport	19-36	3,524
	Farmland	39-56	3,837
	Floodplain	26-44	4,448
	General	61-80	8,138
	Shoreland	27- 47	4,469
		300-437 Total	24,416 Total
V3	**V3 Zoning (Aggregated for V3)**		
	Wisconsin_Zoning_2017 - All 5 zoning layers in one database	127	unknown
	Airport	17	unknown
	Farmland	37	unknown
	Floodplain	27	unknown
	General	65	unknown
	Shoreland	28	unknown
		301 Total	
V4	**V4 Zoning**		
	SCO Data Page – All Zoning (all zoning types combined; from January 2017–Dec 2018)	113-194	NA
	GeoData@Wisconsin -"**2018**" year data (GeoData stats not available)	NA	NA
	GeoData@Wisconsin - Any year zoning data (GeoData stats; January 2017–Dec 2018)	89	NA
		202-283 Total	
V5	**V5 Zoning**		
	SCO Data Page - Zoning (all zoning types combined; from January 2019–Dec 2019)	196	NA
	GeoData@Wisconsin - "**2019**" year data (GeoData stats not available,except Q4 [20])	20	NA
	GeoData@Wisconsin - Any year zoning data (2019 sans September 2019)	227	NA
		443 Total	
V6	**V6 Zoning**		
	SCO Data Page - Zoning (all zoning types combined; from January 2020–Dec 2020)	302	NA
	GeoData@Wisconsin - "**2020**" year zoning data (from January 2020–Dec 2020)	91	NA
	GeoData@Wisconsin - Any year zoning data (from January 2020–Dec 2020)	456	NA
		849 Total	
V7	**V7 Zoning**		
	SCO Data Page - Zoning (all zoning types combined; from January 2021–June 2022)	237	NA
	GeoData@Wisconsin - "**2021**" year zoning data (from January 2021–June 2022)	310	NA
	GeoData@Wisconsin - Any year zoning data (from January 2021–June 22)	1,371	NA
		1,918 Total	
V8	**V8 Zoning**		
	SCO Data Page - Zoning (all zoning types combined; from January 2022–June 2023)	560	NA
	GeoData@Wisconsin - "**2022**" year zoning data (from January 2022–June 2023)	159	NA
	GeoData@Wisconsin - Any year zoning data (from January 2022–June 2023)	887	NA
		1,606 Total	

Note.

- V2 zoning figures appear as a range (e.g., 128-174) due to differences in Google Analytics versus Box access statistics.
- "All zoning" means any and all zoning types—aggregated statewide layers (produced for V2/V3), individual county layers, and statewide layers produced by DATCP for farmland preservation zoning.
- Statewide GIS data for farmland and floodplain zoning may be available either from GeoData@Wisconsin and/or the following:
  - **Zoning – Farmland:** See Wisconsin DATCP for statewide farmland zoning data
  - **Zoning – Floodplain:** See FEMA for statewide floodplain zoning data

3 BENCHMARK PROGRESS ASSESSMENT

3.1 Benchmark 1-4 Progress Assessment

In the years 2016-2021, the notes from the Statewide Parcel Map Database Project intake process and assessment were formerly communicated to counties through documents called the Observation Reports. The reports were individualized for each county, and contained observations related to the data submitted, with focus on how local data compared to the statewide schema.

The V7 Observation Reports showed precisely how local data compared to the benchmarks for parcel data laid out in the WLIP grant application and the Submission Documentation, evaluating how close counties came to the Searchable Format for submission of parcel data.

Project staff documented what must be done yet to achieve the Searchable Format and thus meet Benchmarks 1 and 2. The intention was that the action items from the Observation Report be used as a checklist to help develop and groom the county's data to meet the Searchable Format in the future, and, where applicable, to call attention to reoccurring errors for those counties who submitted data with the same deficiencies or errors that had been pointed out to them in the past as issues to remedy.

Observation Reports were omitted from V8-V9. After several years of creating and sharing the Observation Reports with counties, the incremental gains achieved going through the exercise again for V8 and thereafter were projected to be marginal at best. Given that it required a significant amount of staff time to complete the Observation Reports, it was decided that staff time could be more productively directed to other areas of the Project, such as improving the Validation Tool.

3.1.1 OWNERNME1 – Redaction of Owner Names

For the owner name attribute, some counties redacted owner names. Partial owner name redaction was conducted by 10 counties for V9, although some counties redacted only a very small number of records. An additional county—Kenosha—withheld all owner names, consistent with a local county board resolution.

Over time, this represents an improvement compared to the V1 database, in which 22 counties did not permit owner name display in the V1 statewide layer.

V9 Owner Name Redaction

County	Scope	Percent Redacted
Kenosha	**Entire county dataset**	**100.00**
Barron	Partial	0.61
Brown	Partial	0.14
Columbia	Partial	0.31
Dane	Partial	10.10
Jackson	Partial	0.73
Manitowoc	Partial	0.19
Sauk	Partial	0.17
Sheboygan	Partial	0.20
Vilas	Partial	0.35

3.1.2 Benchmark 1 & 2 Progress Assessment

Benchmarks 1-4 were initially defined in detail within the V1 Interim Report:

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

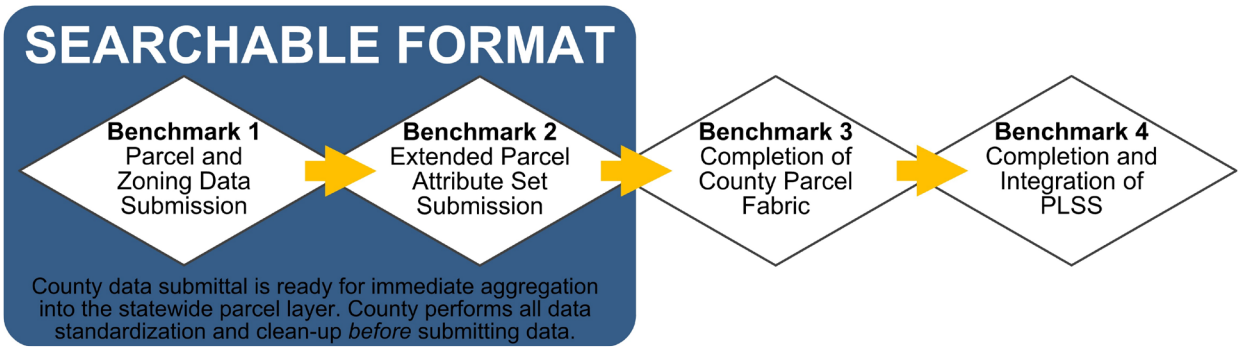


Figure 10. Searchable Format with Benchmarks

Benchmark 1 and 2 are explored below for the purpose of assessing progress from year to year. For both of these benchmarks, progress between the successive projects can be captured in comparing the individual V2 Observation Reports, V3 Observation Reports, V4 Observation Reports, V5 Observation Reports, V6 Observation Reports, and V7 Observation Reports.

Benchmark 1 & 2 – Parcel/Zoning Data Submission & Extended Parcel Attribute Set Submission

Benchmark 1 and 2 were satisfied by submitting parcel, tax roll, and relevant zoning information using the required standards detailed in the Submission Documentation. Because Benchmark 1 and 2 are closely related and go hand-in-hand, they are often discussed together. The main distinction is that for Benchmark 2, counties must submit parsed address components with their parcel data.

For parcel and tax roll data submitted for V1, V2, and V3, there were two submission format options—the "Export Format" and the "Searchable Format." For V4 and beyond, the Searchable Format was the only submission option.

The Searchable Format is a format that directly meets the data model requirements of the final statewide parcel layer. This format is not expected to change in the foreseeable future and is intended that only essential modifications be made for future iterations of the statewide parcel database. The Searchable Format is the format that all counties will be expected to use for future versions of the project.

The "Export Format" was a format for data exchange. Data received in this format—from 2016-2017—was processed by the parcel aggregation team to meet the data model requirements of the final statewide parcel layer. This format was acceptable for counties to use for submitting parcel and tax roll data for the V1, V2, and V3 projects, but the Export Format was phased out for the V4 Project, when it was no longer accepted. The Export format is not compatible with the desirable asynchronous update model and is a major obstacle to achieving the objective of automation and efficiency in statewide parcel aggregation. It was originally devised to accommodate variations in local data and allow counties time to gradually adjust to the submission requirements of the Searchable Format.

Parcel Data Evaluated Against Benchmark 1 & 2

Assessing progress in county achievement of the Searchable Format—equivalent to attaining Benchmark1 and 2—can be performed by referencing the V2, V3, V4, V5, V6, and V7 Observation Reports. The Observation Reports track all substantial manipulation that needed to be performed on each county parcel data submission, on a per attribute basis. The table in the V7 Report on page 21 summarizes the progress between V2 and V7. Assessing progress in county achievement of the Searchable Format took a different shape with V8 and V9, residing in team discussions, internal team notes (e.g., OneNote notes), and evaluation against county grant applications.

The majority of counties came close to meeting the Searchable Format in their initial V9 parcel data submissions. Given the complexity and size of the local data, not all counties submit "perfect" Searchable Format submissions on their first attempt. Few counties met the standard for parcel data exactly with their initial data submission.

- Met Searchable Format for V9 parcel data submission on initial data submission: ~**13** counties (18%) Bayfield, Barron, Chippewa, Dunn, Eau Claire, Green, Juneau, Kenosha, Pepin, Polk, Portage, and Taylor.

3.1.3 Benchmark 3 and Benchmark 4 Progress Assessment

Data for Benchmark 3, Completion of County Parcel Fabric—collected via the 2023 WLIP grant application (at the end of calendar year 2022)—is summarized below, as well as data for Benchmark 4, Completion and Integration of PLSS. These are the two counties who have yet to complete county-wide digital parcel mapping and **39 of 72 counties have PLSS remonumentation work remaining**.

Benchmark 3 Progress		
As of 2022	Counties with Incomplete Parcel Fabric	Estimated Year of Parcel Fabric Completion
	Buffalo	2027
	Burnett	2024
	Crawford	2023

Benchmark 4 Progress		
As of 2022	Counties with Incomplete PLSS (Self-Reported; 39 of 72 counties)	Estimated Year of PLSS Network Completion
	Ashland	2035
	Bayfield	2039
	Buffalo	2029
	Burnett	2026
	Chippewa	2025
	Clark	2030
	Columbia	2028
	Crawford	2023
	Dane	2026
	Douglas	2030
	Dunn	2030
	EauClaire	2028
	Florence	2035
	Forest	2040
	Grant	2059
	Green	2037
	GreenLake	2025
	Iowa	2023
	Iron	2030
	Jackson	2030
	Lafayette	2030
	Langlade	2028
	Marathon	2025
	Marinette	2050
	Marquette	2030
	Monroe	2024
	Oconto	2031
	Oneida	2030
	Portage	2024
	Price	2030
	Richland	2024
	Rock	2024
	Rusk	2030
	Sauk	2030
	Sawyer	2035
	Taylor	2024
	Vilas	2025
	Waupaca	2024
	Waushara	2030

3.3 E5 PLSS Sub-Project

As part of V5-V9, a full statewide Public Land Survey System (PLSS) layer, Edition 1, Edition 2, Edition 3, Edition 4, and Edition 5 were created and will be reported on separately.

E5 statewide PLSS data can be downloaded from www.sco.wisc.edu/parcels/data.

For background information on PLSS in Wisconsin, see the State Cartographer's Office webpage on Land Surveying and PLSS Topics.

4 RECOMMENDATIONS

The collaborative exercise of DOA and SCO producing final reporting on each year's parcel aggregation project, complete with recommendations, is a requirement of the project MOU. The recommendations contained within each year's final report and documentation of lessons learned are essential elements of the WLIP's regular program planning activities and serve as tools to help to evaluate the project and lay out a course for the future.

The methodology for composing the recommendations in the final project report for each year's parcel database were described in detail on page 24 of the V6 Final Report. Recommendations below cover several areas, such as technology, tools, data request details, project workflow, and sustainability. Importantly, they take into account state-level needs at the same time as those of other end users and the local governments who produce the data that makes up the statewide parcel layer.

Recommendations for V10 and Beyond

1. Validation Tool: Strengthen Validation Tool checks

- A redesigned Validation Tool was rolled out with the V9 call for data in December of 2022.
- Regular updates and audits of the Validation Tool functions and checks allow for providing consistent and accurate alerts to data submitters during the validation process. Updates and modifications are made to the Validation Tool on an annual basis in the interest of providing quality feedback for the data preparation process.
- As with previous years, a goal is to make edits to the revamped V10 Validation Tool to accommodate issues with the most common flags or those noted on the submission form. Tool logic can be refined, so that counties do not need to explain as much for common flags.
- Another aspect of annual tool edits are updates for changes in technology and software.
    - If needed, make Validation Tool Python compatible for all common versions of Python (e.g., 2.7 and 3.0) in use.
- For V10, edit validation checks and flags, including but not limited to:
    - **PARCELID.** Flag records with null PARCELID values that do not appear to be "new" tax parcels (i.e., with future TAXROLLYEAR values), especially non-parcel features with null PARCELID.
    - **PARCELDATE.** PARCELDATE calls for the actual modification date of the parcel geometry. The current version of the workflow documentation considers a suspiciously large number of records with a uniform date to be >97%. Alter the workflow documentation and flag to make it 51%.
    - **UNITTYPE & UNITID**. If UNITTYPE field contains a value of "UNIT" or "APARTMENT," check if UNITID contains a value. If not, flag and direct user to ensure all expected fields are populated.

▶ Action Item: Make changes to tool, for draft V10 tool due on October 31st, to be finalized by November 15th.

2. Validation Tool: Audit V9 Tool

- To improve for V10, review the outcomes and results of the V9 Validation Tool as a "lessons learned" exercise prior to the V10 call for data draft tool deliverable due on October 31st.
- For example, how did the new mandatory sections, Explain-Certification, and other new components work out?
    - ▶ Evaluate tool outcomes, such as the "**Explain-Certification.txt Must-Haves**":
        - NOTICE OF NEW STREET NAMES
        - NOTICE OF NEW NON-PARCEL FEATURE PARCELIDs
        - NOTICE OF MISSING DATA/OMISSIONS
        - ERROR SUM ERRORS THAT ARE UNRESOLVABLE
        - EXPLAIN-CERTIFICATION "OTHER" SECTION

▶ Action Item: Review Validation Tool outcomes relating to tool user interface and structure and, if needed, implement Validation Tool changes as appropriate.

3. Redesign of Validation Tool output Validation Summary Page

- The "Validation Summary Page" is the HTML webpage that pops up with a summary of tool results when county data submitters run the validation tool.
- Although updates occur each year, a more thoroughly revamped version of the Validation Summary Page can be considered for V11.
- Consideration should be given to what Observation Report-style feedback can be dynamically included within the page and what additional information would be valuable (e.g., pre-rendered queries for isolating records, stem-and-leaf chart to display significant increase/decrease in attribute field values, et cetera).

▶ Action Item: Research new Java Script libraries for creating the page and determine what is or is not feasible.

▶ Action Item: Account for changes to be planned by the end of February and their implementation in the V10 milestone timeline as a preparatory measure for the draft V11 tool deliverable.

4. Web app: Formal assessment of user feedback and update of application

- The current web application is a 2023 update to an app that was built in 2016 and used through 2022. The V2-V8 app design reflected both functional and cosmetic updates implemented via Web AppBuilder for ArcGIS, with added value through custom coding.
- Development of the new V9 web app utilized Esri ArcGIS Experience Builder.
- With future modifications, there is the potential to explore additional features.
- Examine user feedback for new web application to determine what is or is not working.
- Identify desired features noted by end users and explore feasibility of including these within the web app.
  - Action Item: Discuss developing a formal response template and FAQ list for quick response.
  - Action Item: Make small app edits, such as *Search Tips* text box changes, as needed when they arise throughout the year.
  - Action Item: Include V10 app update project planning in V10 MOU milestones, establishing a timeline for custom app edits and a draft V10 app. Include time for testing prior to release of app.
  - Action Item: Review V9 hosting options and costs, including credit usage, to plan for V10 hosting.

5. Make no changes to parcel schema for V10

- Changes to the parcel schema, other than potentially reducing requirements for data submittal (e.g., deleting attributes or making them optional), would be disruptive to data submitters. This disruption would likely not be worth the small, incremental benefits that any changes would garner.
- An external change may be needed before a drastically different approach to statewide parcel aggregation is viable. For example, county-wide assessment, a legislative change, DOR is able to provide a statewide database of tax roll data in its XML standard, or all local governments achieve DMA's Wisconsin NG9-1-1 GIS Data Standard & Best Practices. These or other developments at the state or federal level would warrant a deep reexamination of the parcel schema and data aggregation process, as would any leaps in technology.
  - Action Item: Stay abreast of other state and national standards and their enforcement and levels of compliance at the local level, as data is available.
  - Action Item: Strive to maintain consistency with other enforced standards, while also taking into account local conditions and the diversity in local government land information systems that may stand in the way of a statewide "multi-purpose" standard for any one relevant GIS data layer (other than parcels that have geometry with tax roll attributes called for by statute 59.72(2)(a)).

6. Communicate to counties again that they do not need to null out ESTFMKVALUE

- The V8 and V9 schema definition for ESTFMKVALUE (Estimated Fair Market Value) states that ESTFMKVALUE should not be populated for parcels that contain PROPCLASS 4, 5, or 5M or have an AUXCLASS designation.
- The New for V9 page indicated:
  - **ESTFMKVALUE – No requirement to null ESTFMKVALUE for Ag/Undeveloped/Agricultural Forest & AUXCLASS Parcels.** While most properties are assessed at full market value, some classes of property—specifically 4, 5, and 5M—are not. In keeping with a precedent that was start during V6 in 2020, for V9, ESTFMKVALUE (Estimated Fair Market Value) values will continue to be nulled out for parcels that are wholly or partially PROPCLASS 4, 5, or 5M; enrolled in the MFL/CFL programs (AUXCLASS W1-W9); and tax exempt (AUXCLASS X1-X4). However, **counties are *not* required to null ESTFMKVALUE for Ag/Undeveloped/ Agricultural Forest & AUXCLASS parcels for V9, but it is optional for counties to do so**. This processing step will be performed by the DOA/SCO technical team on behalf of counties who wish to submit with these values populated.
  - Action Item: In V10 call for data, remind counties that they can leave ESTFMKVALUE populated for parcels that contain PROPCLASS 4,5, or 5M or have an AUXCLASS designation, but it is also okay if they null out these values according to the V9 schema definition.
  - Action Item: DOA author a draft of "New for V10" page, making sure the directive is either in New for V10 page and/or in the attribute definition itself (thus altering the text of the schema definition).

7. Edits to Submission Documentation that are non-substantive

- **Typos.** For V10 Submission Documentation, consider edits to
  - **OWNERNME1** description: "If not feasible to parse owners into separate fields, more than one owner may be included in this field." -> "If it is not feasible to parse owners into separate fields, more than one owner may be included in this field.
  - **ASSDACRES** description: "Parcels less than <1 acre may = <Null> (or in some cases may appear as legitimate values of "0")" -> "Parcels smaller than 1 acre may = <Null> (or in some cases may appear as legitimate values of "0")"
  - **Other GIS Data Layers**: "Parks/OpenSpace (e.g., county forests)" -> "Parks/Open Space"
  - Action Item: Weigh and edit V10 Submission Documentation if edits are needed, making note in a V10 schema tweak log for edits to schema definitions in all places they appear, such as file geodatabase metadata and end user schema documentation.
  - Action Item: For V10 Submission Documentation, budget extra time to add a digit to make V9 read as "V10," with an additional text character digit.
  - Action Item: Budget time for V10 Validation Tool documentation edits, as tool guide file is in Adobe Illustrator or InDesign, so Validation Tool Guide has sufficient time if it needs to be reconstructed or heavily revised.

8. Parcel assessment workflow improvements

- Workflow documentation has several benefits, including that it helps document the workflow process with an eye toward replicability of the project, provides information to be considered in planning efforts for future iterations of the statewide database, including helping to identify efficiencies and improvements to be gained and steps that might move the Parcel Initiative closer to the Four A's (Authoritative Automated Asynchronous Aggregation), and helps DOA understand the technical process better, such as what is QA/QC'ed and what is not.
- As such, the workflow documentation should be a living document that is scrutinized, refined, and added to throughout the development of each statewide parcel database.
  - ▶ **Action Item:** Update workflow documentation for V10.

9. DOA re-inventory county links to the statewide parcel map

- According to s. 59.72(2), a county shall post parcel data in the Searchable Format on the internet. Instead of each county posting parcel data directly on the internet, counties provide parcel data in the Searchable Format (or close to this standard) to DOA, which contracts with SCO to aggregate all 72 county parcel datasets into the statewide digital parcel map database. This statewide database is made publicly available at the SCO data download webpage, www.sco.wisc.edu/parcels/data, which is also linked from GeoData@Wisconsin, a site curated by the UW-Madison Robinson Map Library.
- In 2022, county land information officers were asked to link to the statewide parcel map webpage if their county website did not already do so. Counties had discretion where to place the weblink and with what accompanying text, so as not to disrupt the structure of county websites.
- All counties voluntarily complied.
  - ▶ **Action Item:** DOA reinventory/check county website links to statewide parcel map and request link from any counties without a link.

10. Consider Parcel Initiative during 2024 update of county land information plan instructions

- County land information plans are required to be updated every three years based on instructions created by DOA, according to s. 59.72(3)(b).
- This represents an opportunity to gather additional information from counties or to add planning requirements where relevant and necessary.
  - ▶ **Action Item:** When DOA is updating land information plan instructions, keep in mind any useful objectives for gathering information or planning related to the Parcel Initiative.
  - ▶ **Action Item:** Encourage SCO and SAGIC, among others, to review the draft land information plan instructions.

11. Encourage counties to integrate PLSS points

- Parcel Benchmark 4, Completion and Integration of PLSS, requires counties to complete their PLSS and integrate PLSS coordinates into a digital parcel layer. According to PLSS status tables in county land information plans finalized at the end of 2021, about 14 counties have a significant backlog of PLSS points to be integrated.
- In 2022 a definition for "integration" was created with feedback from county land information offices. This definition is to be included in the 2023 WLIP grant application and is defined as such:

> ***Integration*** *means the optimization of the geospatial accuracy of the digital parcel layer which improves the accuracy of where parcel boundary lines are represented on the digital parcel map. In cases where the result would be a materially significant improvement to the geospatial accuracy of the digital parcel layer, parcels have been tied to and, if necessary, adjusted geometrically to the inputted PLSS coordinates. This definition does not imply a restriction on a county's options for integration, whether it is snapping parcel boundary lines to PLSS corner coordinates one corner at a time, entirely redrawing parcel boundaries one survey township at a time, or another chosen approach. (For example, "rubber sheeting" is not required.)*

  - ▶ **Action Item:** During the 2024 update of land information plan instructions, highlight the definition of "integration" and consider any additional relevant plan instructions related to integration.
  - ▶ **Action Item:** Require counties to update their PLSS status tables as a first step and distinct item due in the land information plan update process during 2024.
  - ▶ **Action Item:** Based on PLSS integration information received during the first half of 2024, follow up with counties that have significant backlog to inquire why.
  - ▶ **Action Item:** Consider modifying 2025 Strategic Initiative grant application so that Benchmark 4 prioritizes integration if there is a significant backlog of survey grade PLSS corner coordinates to integrate.
  - ▶ **Action Item:** Gather feedback from stakeholders on any proposed change to Benchmark 4 in a 2025 WLIP grant application.

12. Act on recommendations from 2023 Local Land Regulations and Comprehensive Plan Inventory Report

- A forthcoming 2023 report will update the 2011 Wisconsin Local Land use Regulations and Comprehensive Planning Status Report.
- To create the report, the following inventory was collected in a Table of Results spreadsheet:
    - Last known date of comprehensive plan adoption
    - Whether a general zoning ordinance has been adopted
    - Whether a subdivision ordinance has been adopted
    - Link to the local government's ordinances webpage, if available
- The comprehensive plan includes various types of land information, including current and future land use maps, which should guide the implementation of land regulations.
- Zoning regulates how land can be used.
- Subdivision ordinances govern how and if a parcel may be split into multiple parcels.
- According to s. 66.1001, zoning and subdivision ordinances must be consistent with a comprehensive plan.
- The unpublished draft version of this report found that 39% of local governments do not have a website or do not appear to post a complete listing of ordinances.
- The draft report also found that most local comprehensive plans are out of date.

▶ **Action Item:** Publicize the results of the report to various local government groups, such as the Wisconsin Towns Association, League of Municipalities, Wisconsin Counties Association, and Wisconsin Clerks Association.

▶ **Action Item:** Make the Table of Results a living document that is updated regularly, based on corrections and comp plan update notifications received from local governments.

▶ **Action Item:** Reach out to the 477 local governments that exercise zoning or subdivision regulations and do not have a current comprehensive plan adopted.

▶ **Action Item:** Encourage local governments (counties and municipalities) to post ordinances online in searchable format and preferably an interactive map display for zoning classifications and the comprehensive plan's future land use map.

▶ **Action Item:** Inform counties that hosting municipal ordinances on the county website is a WLIP grant-eligible activity. Pierce County hosts town ordinance webpages and could serve as a model.

13. DOA seek to attend county land information council meetings in any county with a new LIO

- In 2014-2015, the WLIP grant administrator attended land information council meetings in all 72 counties. The goal was to build relations with land information officers and council members, while also educating them about the importance of the Parcel Initiative.
- Full county participation in statewide parcel map projects is critical, because DOA needs all counties to share their parcel data according to exacting standards. Even though the GIS data is digital and transmitted online, personal connections matter for project success.
- County visits also presumably help with land information officer retention. Sometimes land information officers feel siloed in a county or not fully supported. Encouragement and connecting people with resources can go a ways in making them feel valued in their positions.
- A state employee simply showing up to a county meeting demonstrates care for what happens at the county.
- Coming informed by the county's land information plan, recent grant applications, and expenditure reports signals that someone is paying attention to the county.
- Written communications can reinforce a welcoming message. With significant LIO turnover in recent years, an idea is to offer individual one-on-one meetings with those who are interested to discuss the Project data preparation tools, possible workflows and data preparation tips. This will allow discussion to be tailored to individual county needs and questions and can be achieved by way of a "welcome email" from the WLIP grant administrator.

▶ **Action Item:** Attend land information council meetings in counties with new LIOs, where the DOA grant administrator has not visited the county since the LIO came into office.

14. Determine if directions are needed in Submission Documentation regarding Act 12 of 2023

- Wisconsin Act 12 of 2023 exempts personal property from taxation.
- Some properties previously taxed as personal property could be taxed as real property.
- These changes are to be complemented for property tax assessments as of January 1, 2024, so, if any, they would have effects on V11.

▶ **Action Item:** Watch for or seek clarification on changes to real property tax listing, determining if V11 Submission Documentation should be expanded to address Act 12 of 2023 when appropriate.

Appendix
A. V9 User Feedback

ABOUT USER FEEDBACK

This V9 Final Report appendix is a compilation of comments provided by users of the **V9** Wisconsin statewide parcel layer, received via email and by way of the V9 online user feedback form. This data has been cleaned. Questions and comments dealing with technical subject matter have been omitted. Some comments have been omitted due to lack of content, or combined, in the case of multiple comments from the same user.

To view user feedback from previous years, see the Parcel_User_Feedback document, which is a compilation of feedback from V1 through V9 (from the V9 Final Report, V8 Final Report, V7 Final Report, V6 Final Report, V5 Final Report, V4 Final Report, and, for V1-V3, the V3 Final Report).

Legend

Green text indicates Organization/Affiliation
User responses are broken down into the following sub-groups:

STATE GOVERNMENT
FEDERAL GOVERNMENT
LOCAL GOVERNMENT
PRIVATE SECTOR
NON-PROFIT ORGANIZATIONS
EDUCATIONAL INSTITUTIONS
PRIVATE CITIZENS

Total number of V9 responses that appear below: **301**
Date of last and final update: **June 25, 2024**

STATE GOVERNMENT USERS

- Wisconsin Department of Agriculture, Trade, & Consumer Protection
  USES • I use this to locate produce farms or owners of farms I find in order to mail them a survey to confirm their status under the Produce Safety Rule.
  BENEFITS • We have added many addressees to returned mail, or confirmed ownership of non contiguous farms, helping us to avoid confusion or redundancies.

- [Anonymous]
  USES • Research parcel numbers.
  BENEFITS • Definitive database of parcel number assignments.

- Wisconsin Dept of Agriculture, Trade, & Consumer Protection, Bureau of Plant Industy, Stop the Spread Spongy Moth Program
  USES • We utilize this layer in the DATCP Spongy Moth Program. We set approximately 10,000 traps across western WI and some of them need to be walked in as a road does not transect the appropriate area. We utilize this layer when door knocking and asking permission to go on someone's land. Without it we would be going in blind, so this has been a huge asset to us.
  BENEFITS • Allows us to have landowner information when asking for permission to trap on their land. Also allows us to know which parcels to avoid when landowners deny us permission and ask us not to trap there in the future.

- Wisconsin Department of Natural Resources
  USES • Check/verify addresses and occupants at addresses when mailing documents.
  BENEFITS • Allows us to use one website for finding reliable information for the entire state rather than having to find a specific county's website to find the same information. Saves a lot of time.

- Wisconsin Department of Revenue - Income, Sales, and Excise Tax Compliance Bureau
  USES • Determine properties owned by specific entity and/or owner of a specific property.
  BENEFITS • Confirm ownership of properties and mailing addresses.

- Wisconsin Department of Veterans Affairs - Bureau of Fiscal Services
  USES • Looking up parcel numbers for assets within our agency.
  BENEFITS • Helps maintain accurate records within our accounting systems.

- Wisconsin Department of Natural Resources - Environmental Analysis
  USES • I use this data daily to assist in permit compliance reviews for DNR. The data is essential to efficient job completion.
  BENEFITS • Quick establishment of landownership and property boundary for compliance reviews.

- Wisconsin Department of Natural Resources
  USES • I use it to find the owner of properties for public records requests.

- Wisconsin Department of Natural Resources
  USES • Making ArcGIS maps for DNR Forestry work.
  BENEFITS • Helpful in accurate mapping.

- [Anonymous]
  USES • Titling and surrendering a title for a manufactured home.

FEDERAL GOVERNMENT USERS

- National Park Service
  USES • Summarizing landscape disturbances by ownership type.

- U.S. Department of Agriculture - Natural Resources Conservation Service (USDA)
  USES • We use the REST service in our conservation planning software, ArcMap, ArcPro and in the Field Maps app.
  BENEFITS • Having an easily accessible layer in various platforms helps immensely.

- Centers for Disease Contorl - Agency for Toxic Substances and Disease Registry (ATSDR) - Contractor
  USES • For a current project: planning to use parcel boundaries for one parcel to display the location of a Superfund National Priority List site in a series of maps.

- United States Postal Service
  USES • I am the Postmaster for the Glen Flora Post Office in Glen Flora, WI. This program is extremely handy in identifying address that may not be in our system as there is no mailbox.
  BENEFITS • It assists with identifying new customers that have not yet set up a mailbox for a future homesite. Many times I can contact with them so they get that important mail.
  Sometimes people mail parcels to their cabins, which are very popular around our area. This program assists in identifying them as well.

- Department of the Interior U.S. Fish and Wildlife Service - Partners for Fish and Wildlife Program
  USES • Habitat restoration and sustainable land management with private landowners.
  BENEFITS • Allows us to quickly and accurately map property boundaries.

LOCAL GOVERNMENT USERS

- Northwest WI Regional Planning Commission - Planning Dept.
  USES • Multiple planning projects (Land Use, Hazard Mitigation, Land & Water Resource Management, Farmland Preservation, Lake Management, etc.).
  BENEFITS • By creating effective means of visual communication with member communities, tribal entities, and other stakeholders, within our planning region.

- West Central Wisconsin Regional Planning Commission
  USES • Thank you for notifying us of the recent update and please accept our sincerest gratitude for having access to this vital resource for our planning efforts in West Central Wisconsin. We rely on this information for nearly every aspect of planning we conduct for the 241 units of government we serve from comprehensive plans, outdoor recreation plans, housing plans, water quality planning, pre-disaster hazard mitigation planning, economic development planning, transportation planning and more. We also rely on this information for the array of grant applications we complete regularly for communities seeking, local, State and Federal grant opportunities.

- Ozaukee County
  USES • Mostly provide link for public use and occasionally research parcels in other counties.

- City of Madison
  USES • Checking ownership of parcels of interest.
  BENEFITS • Yes, it saves time to have the parcel data in one place in an interactive map format.

- Town of Flambeau - Price County
  USES • Analyses on property taxes via various dimensions (i.e., total deeded acres, exempt parcels, taxes by road, etc.). To be used for town board and constituent education and, possibly, decisions on levies or special assessments.

- Southeastern Wisconsin Regional Planning Commission (SEWRPC) - Environmental Division
  USES • The parcel data is used to identify at-risk structures located within the FEMA regulatory floodplain for structure flood damage analyses to support Hazard Mitigation Plans.
  BENEFITS • The parcel layer provides a lot of data that are used in our structure flood damage analyses. Having this information in the layer attribute table saves time because we no longer have to look up parcel and assessment data on county tax assessor websites for each individual parcel.

- City of Milwaukee Forestry Department
  USES • Property ownership identification, when our own and county GIS service is down or offline.

- East Central Wisconsin Regional Planning Commission
  USES • Economic development infill study.
  BENEFITS • It provides valuable credible data for the study.

PRIVATE SECTOR USERS

- Arch Solar
  USES • Verifying home ownership, address and county.
  BENEFITS • Use it daily.

- [Anonymous]
  USES • To locate and map project boundaries, to verify ownership.

- [Anonymous]
  USES • Finding the parcel borders of properties using addresses as well as latitude and longitude.

- [Anonymous]
  USES • I work for a landscaping company making maps for the people on the ground of the properties and said properties boundaries. Hard to do without knowing them first.
  BENEFITS • It makes my job a hell of a lot easier and gives crucial information on what areas are and are not part of a job.

- County Materials Corp
  USES • We use the data for internal map data for our land ownership and neighbor information.
  BENEFITS • This is important base map data for all of our GIS maps for our locations.

- ABEI Energy
  USES • Confirm parcel boundaries and legal property areas.

- MSA Professional Services, Inc.
  USES • To inform scientists and engineers as they work on projects, write reports, and create figures
  To use in construction documents plans in ESRI apps and AutoCAD apps.
  BENEFITS • Quick easy free access to parcels leads to a prepared and informed workforce on any AEC project. Our staff is better prepared to do site visits, create and oversee construction plans, and complete desktop reviews because our GIS team can find and use parcel data quickly.

- Wisconsin River Bank
  USES • Collateral purposes—finding parcels and determining ownership/size.
  BENEFITS • It helps greatly to have a single platofrm to find parcels/owners as not each county parcel database/map is the same and that can make it difficult to search.

- Spectrum (Charter Communications)
  USES • I work at Spectrum and I am mapping out the fiber RDOF (Rural Digital Opportunity Fund) build, this tool is priceless to me.
  BENEFITS • I use this daily for fiber mapping RDOF. Priceless.

- [Anonymous]
  USES • Ownership, acreage, adjacent address points, PLSS data, county specific information.

- Westwood Professional Services - Environmental
  USES • Basemap parcel lines for environmental (WDNR) projects and transportation (WisDOT/County) projects. Ownership reference for transportation project notifications.
  BENEFITS • It provides seamless mapping for projects that span multiple counties, and eliminates the need to contact multiple counties to obtain the data and maintain multiple data sets.

- Stantec - Fitchburg Office
  USES • Mapping and creating figures for environmental consulting applications.
  BENEFITS • Able to locate and map land tracts for project proposals, able to use spatial landowner info where relevant for permitting.

- Arch Solar
  USES • Determining authority-having-jurisdictions for residential and commercial solar projects. Confirming county and "place name" (municipal AHJ) for residential solar project permit applications.

- [Anonymous]
  USES • Lawn business to identify parcel borders.
  BENEFITS • We can accurately determine the size of a lot.

- Global Minerals Engineering LLC
  USES • Checking surface ownership.
  BENEFITS • Surface ownership, land use, and boundary accuracy.

- [Anonymous]
  USES • Determine legal owner of parcel and correct legal names. Verify mailing address for owner.

- [Anonymous]
  USES • While registering vehicles it is nice to know what city/village/town the customer is in if they are not sure.

- [Anonymous]
  USES • Applications include figuring out land ownership and property borders for DNR CAFO (Concentrated Animal Feeding Operations) permits on our GIS program.
  BENEFITS • We will benefit and save time by being able to download these layers for map creation.

- PSI Geotechnical/Environmental
  USES • Parcel information for stormwater DSPS (Department of Safety and Professional Services) forms, map overlays, environmental site assessments.
  • Stormwater forms, environmental studies.
  BENEFITS • Needed parcel information and locations for above.
  • It helps to get the information we need for our forms and reports.

- Info-Pro Lender Services
  USES • We search parcels for lenders to check if property taxes are paid throughout WI. We use these files to verify address/owner information.
  BENEFITS • We have used these files in the past.

- Weber Well Drilling, Inc.
  USES • Locating parcels within the state.
  BENEFITS • Very useful for looking up customers' parcels, when I am not sure which county the parcel is in (or when the customer's county does not have a good mapping system of its own). We can then look at the prospective jobsite and it's location, and are also then able to research nearby wells, in order to provide quotes.

- [Anonymous]
  USES • Find parcel numbers and stats for a parcel of land.

- Geographic Techniques LLC
  USES • Parcel/owner identification for various land conservancy mapping projects we are involved with.
  • Land owner identification for various drone mapping projects. This is important for drone flight planning purposes, including the notification of adjacent land owners about the project.
  BENEFITS • Valuable map layer reference for a variety of GIS/mapping projects without time and expense of trying to find and gather the information from a variety of other sources (assuming their availability). Thank you!

- Midwest Solar Power
  USES • We use the WI statewide parcel layer to quickly and easily identify the jurisdiction (for determining permitting AHJ) and county (for zoning) for parcels based on their addresses. The statewide parcel layer makes this process easy compared to looking for each individual county's GIS systems, most of which are rather lacking in accessibility and functionality.
  BENEFITS • It is a lot easier for us to drop the address into this statewide parcel tool than it is to try to find an individual county's GIS tool, which are often either non-functioning or unintuitive to use.

- Adams Auction & Real Estate
  USES • Real estate.

- Rustic Waters Group
  USES • As a realtor, I use it to look up parcel data in one place before showing properties.
  BENEFITS • Saves time and having to check multiple sites with different data formats.

- [Anonymous]
  USES • Match parcel ID with address.

- Power System Engineering - Utility System Planning & Studies
  USES • When looking at proposed projects, land ownership is needed to submit environmental reviews
  BENEFITS • Using the parcel data we don't have to ask the utility to obtain this data, or rely on word of mouth or incorrect information about ownership.

- Kemo's Drone Service
  USES • This is a fantastic service for me to lookup property boundaries for customers!
  BENEFITS • Connecting addresses with property lines, as many land owners are unaware of where exactly their lines are.

- Wagner Excavating Inc.
  USES • Surveying and site development.
  BENEFITS • Able to quickly research property details and generate preliminary drawings.

- White Water Associates
  USES • White Water Associates is hired by lake associations or districts to conduct shoreland survey. Protocol available in the WDNR website. And do to so, we need the parcel ID and maps.
  BENEFITS • We could not do the shoreland survey without the Wisconsin's parcel layer.

- Halberg Engineering LLC
  USES • To confirm municipality for a given building address for use in my building design and analysis, mostly commercial buildings but also some residential (private) projects such as dwellings or accessory use buildings.
  BENEFITS • Sometimes information I get about a property location is spotty or questionable and people don't know for certain which county a project is in. Rather than select one of the 72 GIS county sites and possibly have to jump, the statewide parcel site allows me to consistently go to one place (assuming it is IN WISCONSIN! :-))

- Kenosha County Land Venture LLC
  USES • Look up parcel numbers.

- Axefoot Forestry Consultants, LLC
  USES • I use this data to obtain accurate parcel data for forestry practices due on Managed Forest Land throughout the state. I also use this data to create timber sale maps and other maps for landowners and loggers.
  BENEFITS • I would not be able to complete my database as easy without this one stop shop. Going through individual counties would be an absolute pain in my ---.

- [Anonymous]
  USES • Land ownership related to renewable energy development.
  BENEFITS • Learn who owns land near infrastructure of interest.

- Swanson Sweet LLP Attorneys At Law
  USES • We are attempting to locate real estate owned by an individual who has titled each parcel in the name of different trusts throughout the State of Wisconsin. I have been able to work with the northern counties in Wisconsin to pull tax roll records to locate the parcels by mailing address instead of physical address due to the way the owner is titling the various parcels, but believe there are significantly more parcels yet to be found throughout the state.
  BENEFITS • Thank you—this is incredibly helpful information and documentation for our ongoing investigation!

- KS Energy Services - Main Office
  USES • Utility subcontractor that uses layer to help identify worksite locations that will receive a 811 locate request.

BENEFITS • If data on publicly available mapping programs is not accurate or if lot line data needs to be further analyzed, this mapping service is incredibly useful to have.

- Property Advisor Group LTD
  USES • Search propeties and zoning for commercial real estate uses.

- Deerwood Bank
  USES • GIS mapping service—needed parcel information for geocoding HMDA (Home Mortgage Disclosure Act) data.

- [Anonymous]
  USES • Forestry.

- [Anonymous]
  USES • Company GIS for construction aggregate site mapping.
  BENEFITS • It adds value to our GIS maps for planning and site monitoring.

- MSA Professional Services, Inc.
  USES • Planning. Engineering. Utility. Growth. Research.
  BENEFITS • Our client are more informed and our work with them is made easier due to the fact that we have access to statewide current parcel data.

- Wangard Partners, Inc.
  USES • Planning.
  BENEFITS • Allows for simple land development exercises prior to paying for full survey.

- EcoNorth LLC
  USES • Planning and implementation of ecological restoration work including invasive species control and forest improvement.
  BENEFITS • We sometimes work on projects that span multiple counties. Not having to go to individual county mapping websites is more convenient.

- Madison Gas and Electric (MG&E)
  USES • I have used this to determine ownership of parcels, espcially in counties where that infomation is difficult to obtain.
  BENEFITS • We can determine parcel ownership and parcel shapes in areas where we need that information for planning purposes. Some counties do not have this information readily available.

- Northwind Solar
  USES • I am a project manager for a solar installation company and I regularly use the website for finding information needed for permits
  BENEFITS • Makes getting necessary info quick and simple.

- Commercial Appraisal Services
  USES • Real estate appraising.
  BENEFITS • Comprehensive view of Wisconsin properties.

- BTU Management Inc
  USES • Verify correct owner names and mailing addresses on clients.
  BENEFITS • When it works as it is designed. It confirms spelling, information, etc. for clients.

- Swyft Cities Inc.
  USES • Looking to demonstrate spatially how property value increases with the addition of transit.
  BENEFITS • If we can demonstrate spatially how property value increases with the addition of transit it will help us sell our product.

- Reirmlb LLC
  USES • Real estate research.
  BENEFITS • Gives me data that is useful and informative.

- [Anonymous]
  USES • Locating new construction.

- Interlake Group LLC
  USES • Agricultural field inspection.
  BENEFITS • Allows our team to perform field planning based on parcel maps.

- AECOM (Rail)
  USES • We are conducting a passenger rail impact study for a proposed passenger rail line that is envisioned to serve Dane and Rock Counties.
  BENEFITS • It is extremely helpful to have a "one stop shop" for parcel data that uses standardized data fields and methodologies. It saved us from having to collect data from 4 different parcel data-administering jurisdictions within the study area, which saves us (and the public entities who maintain the data) a great deal of time and effort.

- Pieper Electric Branch 61
  USES • I use the parcel look up when I need to know the information for filling out permits.
  BENEFITS • I used the information from this website to fill out a permit application.

- Frontier Title
  USES • I do inspections for a title company and sometimes the addresses don't exist yet so this helps me to find them without the address.

- Rural Mutual Insurance
  USES • Rural Mutual Insurance Agent. Using for land information to quote insurance for clients.
  BENEFITS • Rural Mutual Insurance Agent to view parcel information for quoting insurance for WI customers.

- Law Office of Rollie R. Hanson, S.C.
  USES • As a law office that deals with estate planning & probate, among other fields, we mostly use the site to obtain pertinent information for completing Electronic Real Estate Transfer Returns. Oftentimes, as well, we utilize the state site when real estate cannot be found on the county level websites (for owner information and parcel ID information mostly).
  BENEFITS • Obtaining necessary information to complete Electronic Real Estate Transfer Returns. Obtaining property information when it cannot be found or is not included in the county level websites. Obtaining a comprehensive list of properties by owners who may own properties in multiple counties. As a checks & balance to confirm ownership, etc.

- G. Klemm Roofing, Co.
  USES • Property boundaries of deer camp.

- Redevelopment Resources
  USES • Master planning and market analysis of sites or areas of communities.
  BENEFITS • We are a private community impact consulting firm. It is easier to work in WI than IL because of this service. It benefits both us and our clients by allowing us to do our work quickly and easily.

- [Anonymous]
  USES • Using it for fiber engineering projects within the state to provide internet to underserved or unserved communities.
  BENEFITS • This parcel data has allowed our organization to create turn key engineering designs with the data to help serve Wisconsin residents.

- Midwest Solar Power
  USES • We use it to quickly determine municipality/county/Authority Having Jurisdiction (AHJ) for zoning and permitting before using a county-specific GIS, since sometime county level GIS are not great (and sometimes not functioning at all).
  BENEFITS • It helps us more quickly figure out the municipality and county of an address.

- [Anonymous]
  USES • Network tower installation feasibility report.
  BENEFITS • Creating feasible solutions for network tower installation and infrastructure.

- MartinRiley
  USES • As an architectural and engineering firm, we use this data to prepare concept plans for upcoming developments.

- EcoNorth LLC
  USES • Mapping rough boundaries for ecological restoration work.
  BENEFITS • Accurate boundaries and parcel data.

- Marks Home and Yard
  USES • We get work orders for bank owned properties and sometimes they tell us we have to work on a structure that is not a part of the property and we have to prove that. If that makes sense.
  BENEFITS • A company wanted us to board some openings on a building, but they are not apart of the property and we had to prove that.

- Besse Forest Products Group
  USES • Help create forest management plans with detailed parcel lines.
  BENEFITS • Maps that are created are much more accurate than using other outdated methods.

NON-PROFIT USERS

- Gathering Waters
  USES • Gathering Waters, with whom I have the privilege to work, uses the statewide parcel layer to delineate the boundaries of all lands either owned or under easement with the state's dozens of conservation land trusts. The statewide layer is the literal foundation upon which this project is built and as such is literally invaluable. Gathering Waters' work in turn is used by nonprofits and local governments in every corner of the state. None of this would be feasible - or perhaps even possible - absent the statewide parcel layer.
  BENEFITS • Our organization could not create the comprehensive databases that we have (nor maintain them once built) without the statewide parcel layer. We are incalculably grateful for the effort that goes into producing the layer, and to the initiative for their dedication in both building and making it publicly avaialable.

- [Anonymous]
  USES • Working with towns to identify locations for natural flood management projects (restoration) and land ownership is needed.
  BENEFITS • It was impossible to find some county's needed parcel boundaries—the GIS accessibility is so variable from county to county so a singular thematic data location is so helpful.

- Gathering Waters; Northwoods Land Trust; Ozaukee Washington Land Trust; UW-Green Bay
  USES • 1. Gathering Waters: Conduct various analyses, create maps, and produce web apps, e.g., prioritization of parcels for potential protection. Also, use the parcel map as a reference base for capturing land trust holdings across the state.
  2. Several land trusts: similar uses as Gathering Waters.
  3. Bay of Green Bay National Estuarine Research Reserve (proposed). The parcel map is very valuable as a consistent source of parcel information across the 5 counties where lands are being considered for inclusion in the new NERR.
  BENEFITS • It makes analyses possible that would not be practical without it. And even where the the value of specific use cases would justify pulling this data together from individual counties, the statewide layer saves much time and effort.

- Stratford Sign Company, LLC
  USES • Municipality locations for Diggers Hotline. We need parcel information for tickets.

- Ice Age Trail Alliance
  USES • I use the statewide parcel layer to check/verify property ownership along or near the Ice Age Trail. In addition to updating our land ownership records, I've also used it to update mailing addresses and assist our staff with potential planning or acquisition efforts (only from willing sellers).
  BENEFITS • Using the statewide parcel layer enables us to pull in one parcel layer for all of the counties that the IAT traverses instead of 30 individual county layers. This makes our work easier and much more efficient, especially when verifying addresses and property owners annually, along with other planning efforts.

- Lakeshore Trout Unlimited
  USES • We, at Lakeshore Trout Unlimited, use the information to determine land ownership or public land delineation for properties adjacent to trout streams within our chapter's operational purview.

- Springs Stewardship Institute
  USES • We study springs and spring ecosystems and we are trying to determine land management and ownership of multiple springs across the state of Wisconsin.
  Thanks for providing this!
  BENEFITS • We can now accurately classify springs based on public versus private ownership.

- Driftless Area Land Conservancy
  USES • As a non-profit land trust, this information is fundamentally important to our work. It helps us use GIS to find landowners, map their properties and apply for grants.
  BENEFITS • Mapping associated with land conservation including land acquisition and procurement of grant funding.

- Brothertown Indian Nation - Wild Rice Restoration Project
  USES • I would like to quickly determine land ownership for parcels on water bodies to get permission for environmental restoration efforts in these waters.
  BENEFITS • An image of "a product of the version 9 statewide parcel map" was sent to us by the DNR. This allowed us to contact the property owners to ask for permission in environmental restoration efforts. Without consent

from parcel owners, action cannot be taken, and grant funds cannot be allocated to projects. In the near future, we will be submitting proposals for grants which require land control for projects to be accepted. Getting into contact with the parcel owners is a potential benefit we could have from Wisconsin's statewide parcel viewer.

- Round Lake Property Owners Association
  USES • Lake district exploration and planning.

- The Prairie Enthusiasts, Inc.
  USES • Comparing with our tax obligations to ensure our records are complete.
  BENEFITS • Being able to see the parcels on a map has helped fill in gaps in our own records.

EDUCATIONAL INSTITUTION USERS

- Riverview Lutheran School
  USES • School district verification for the Wisconsin Parental Choice Program.
  BENEFITS • This is my go-to site for verifying in which school district an address is located. It is one of the few allowed by the state that I can access all year long.

- [Anonymous]
  USES • We need to verify school district.
  BENEFITS • We can confirm student qualifies.

- Wisconsin Lutheran School
  USES • Used for School Choice address verification.

- Randolph Christian School
  USES • Identifying school districts for students enrolled in the Wisconsin Choice and SNSP (Special Needs Scholarship Program).
  BENEFITS • It has been very helpful in allowing us to identify school districts, as required by DPI, for newly enrolled students.

- Academy of Excellence
  USES • Mainly to see what school district does the address belong to.
  BENEFITS • We are able to print maps to include them on the student files confirming their school district and that they live in Wisconsin.

- Central Wisconsin Christian School
  USES • Address verification.
  BENEFITS • This has been a very accurate and efficient tool for us to verify the school district that our students reside. We have also used this for our bus routes to verify school districts.

- [Anonymous]
  USES • Elementary educational discussion of land ownership.
  BENEFITS • Teachers can share the map with students to discuss land ownership in authentic ways.

- Randolph Christian School
  USES • Use to determine school district for families applying for School Choice Program. We need to prove what district they're in on our papework.
  BENEFITS • Helps us fill out our School Choice paperwork.

- [Anonymous]
  USES • Looking up addresses to verify which school district they are in.
  BENEFITS • Easy access to see which school district addresses fall under.

- [Anonymous]
  USES • School choice audit.

- Immanuel Lutheran School
  USES • Verifying addresses are within a specific school district.
  BENEFITS • Your site is one of the easiest to use and has been approved as a source for me to use from the Department of Public Instruction.

- Cambria-Friesland School District
  USES • Referendum planning.
  BENEFITS • Allows us to easily determine parcels within our boundary.

- St Vincent Pallotti Catholic School
  USES • Address verification for Choice application.
  BENEFITS • We need it for the Wisconsin Parental Choice Program.

- Mondovi High School
  USES • School project.

- Queen of the Apostles School, Tomah, WI
  USES • We use the statewide parcel map to look up school districts for our school families.
  BENEFITS • It helps us to know what school district a family's address is located in.

- Valley Christian School
  USES • Proof of school district.
  BENEFITS • Participate in the DPI (Department of Public Instruction) School Choice program.

- [Anonymous]
  USES • For making a Road scholar test.

- [Anonymous]
  USES • School district verification.

- [Anonymous]
  USES • I plan to use one of the south counties' parcel data in hydrologic modeling that would result in field/parcel level conservation practices reducing the excess nutrients that end up in rivers.
  BENEFITS • I came to kow about this data through a colleague of mine who is a Ph.D. student at UW Madison. She uses this data heavily.

- University of Wisconsin-Madison
  USES • To make an educational map about property crime...
  BENEFITS • Use it in a lot of different maps and projects.

PRIVATE CITIZEN USERS

- Private Citizen
  USES • Location of property lines on lands that I lease/rent or have permit to hunt in order to avoid conflicts with other property owners.
  BENEFITS • Able to settle dispute with adjacent land owner where the property line act was located.

- Private Citizen
  USES • Local information.

- Private Citizen
  USES • I use this for finding property boundaries and publicly accessible land for recreation.
  BENEFITS • It's been very convenient for navigating county land in the woods and marking property boundaries so I don't accidentally go on to my neighbors land.

- Private Citizen
  USES • Hobby cartography. Fun to map at home.

- Private Citizen
  USES • I use the data to keep abreast of tax information.
  BENEFITS • I obtain reasonably current data.

- Private Citizen
  USES • I'm an avid metal detectorist who travels the state detecting public and private property. I use the parcel viewer to find the contact information for property owners to obtain permission to detect. Also, to avoid trespassing on private land abutting public property.
  BENEFITS • It prevents me from trespassing on private property of which I have not yet received permission to detect on.

- Private Citizen
  USES • Obtaining parcel ID info for county and DNR permitting applications.

- Private Citizen
  USES • Plot views.

- Private Citizen
  USES • I primarily use this mapping service to find out who owns green space in my city.
  BENEFITS • I now know or can find out who owns green space in my city.

- Private Citizen
  USES • Used to check extent of my property. Get info to obtain permission to hunt.
  BENEFITS • I had a question. I was able to find the answer. Better than many uses of our tax dollars.

- Private Citizen
  USES • Looking up potential property to buy.
  BENEFITS • I've looked up stuff. Stuff has been found.

- Private Citizen
  USES • Checking to see if my recent land survey is entered into the record.

- Private Citizen
  USES • To view parcel sizes and land use.
  BENEFITS • The map helps us to know and understand the landscape around us.

- Private Citizen
  USES • Looking for property line for landscape purposes.

- Private Citizen
  USES • Look up my parcel numbers.

- Private Citizen
  USES • I use this to see the approximate property lines to homes for sale.

- Private Citizen
  USES • I use the parcel data weekly in conjunction with other public GIS data (LiDAR, RETR, wetlands, WROC, NAIP). I started using the statewide V6 database after my county (Iron) stopped allowing direct (REST API or ftp/http download) access to parcel data.
  I have used the parcel data for local planning when I served on my town's plan commission, for emergency planning and reference purposes as part of my role on my town's volunteer fire department, and as an indispensable part of work that I do with Northwoods Land Trust. I also use the data to make personal maps, research land ownership and usage, and in general as an essential resource for being an informed citizen.
  BENEFITS • It is a single source for land subdivision and ownership information. A huge benefit.
  The data has informed our local emergency planning. It allows me to make hiking maps for my Garmin GPS unit to obtain permission from owners and avoid unintentional trespass. It benefits me generally by helping me be better informed.

- Private Citizen
  USES • Check out land, private and public boundaries.
  BENEFITS • Yes, very helpful, saves time.

- Private Citizen
  USES • Personal use.

- Private Citizen
  USES • For parcel and building identification.
  BENEFITS • Ease of search for parcel information.

- Private Citizen
  USES • For information.

- Private Citizen
  USES • Finding the owner/mailing address of rental properties neighboring my house. Learning about unique properties. Learning about general property boundaries.
  BENEFITS • I was able to contact the owner of the neighboring property to discuss a shared fence.

- Private Citizen
  USES • Find property line for landscaping purposes.

- Private Citizen
  USES • Finding the parcel of land that my family has had for decades and knew almost nothing about.

- Private Citizen
  USES • I wanted to see where my residence ends compared to a neighbor's parcel. There is an ongoing dispute over some trees.
  BENEFITS • I have a better idea of where the property line ends, at least.

- Private Citizen
  USES • Lot line locator.

- Private Citizen
  USES • Property ownership and assessment identification for use in property development and realty.

- Private Citizen
  USES • Finding property lines.

- Private Citizen
  USES • Personal.

- Private Citizen
  USES • Personal use.
  BENEFITS • It allows us to know if we have already recieved permission to be on someone's property.

- Private Citizen
  USES • I am looking for land to buy.

- Private Citizen
  USES • To avoid trespassing on land that doesn't have "no trespassing" signs posted.

- Private Citizen
  USES • Researching our land (trust).

- Private Citizen
  USES • To look at acreage by owner for investment purposes.
  BENEFITS • This tells me who owns what, and where, to help me determine who to contact in regard to purchases.

- Private Citizen
  USES • High school reunion. Classmate search and address verification. Wisconsin high school reunion, class of 1983.

- Private Citizen
  USES • Check my property line.

- Private Citizen
  USES • Looking to purchase land.

- Private Citizen
  USES • Used it to confirm parcel ID numbers for land we are selling. It was VERY helpful—easy to access, we could see underlying terrain shadings and make sure it was the correct parcels.
  BENEFITS • Easily able to confirm that the parcels ID were correct in the legal document for selling.

- Private Citizen
  USES • Find who owns a specific bit of land to see if it's public for fishing.

- Private Citizen
  USES • Used to see who else lives on my street.

- Private Citizen
  USES • Verify parcel ID to list property for sale on MLS (Multiple Listing Service).
  BENEFITS • Quick access to verify parcel ID to list property for sale in MLS.

- Private Citizen
  USES • Investigate property ownership, boundaries, tax info.
  BENEFITS • Valuable information.

- Private Citizen
  USES • Need to develop history of assessed property values on a specific parcel.

- Private Citizen
  USES • Ownership information to investigate hunting options.

- Private Citizen
  USES • Looking for vacant land and owners to inquire about possible sale.
  BENEFITS • Necessary info is readily available.

- Private Citizen
  USES • Used to find personal land markings.

- Private Citizen
  USES • Review our lots.

- Private Citizen
  USES • To know where my property line is...

- Private Citizen
  USES • Researching for hunting properties.
  BENEFITS • Farmers let us hunt geese.

- Private Citizen
  USES • Research.

- Private Citizen
  USES • Locate property lines.
  BENEFITS • New homeowner trying to locate property lines.

- Private Citizen
  USES • I am scouting hunting areas, and I want to know who owns land adjacent to trails that I find when I drive around.
  BENEFITS • I am finding the information I need.

- Private Citizen
  USES • Assist in determining where a town road crosses specific properties between two counties and survey townships.

- Private Citizen
  USES • Looking up information regarding our family farm. My brother may be selling so the rest of us may choose to purchase. Therfore wanted to see legal boundaries, etc.

- Private Citizen
  USES • Miscellaneous.

- Private Citizen
  USES • Have property for sale.

- Private Citizen
  USES • Filling out WI Form LC-100.
  BENEFITS • Lottery tax credit.

- Private Citizen
  USES • This is very useful and we use it for visually planning of forest cropland we may have harvested, as a way to locate and contact neighbors we wouldn't have contact info on otherwise and to get approximate land features /borders for hunting, fishing and land access. We also use it to see the fairness of property taxes vs land size etc...

- Private Citizen
  USES • See who owns property.

- Private Citizen
  USES • Property owner identity.

- Private Citizen
  USES • Research.

- Private Citizen
  USES • Home planning.
  BENEFITS • Provided PIN number and parcel layout.

- Private Citizen
  USES • Watch my lots.

- Private Citizen
  USES • I like to look for boundary lines for various parcels and the ownership information.
  BENEFITS • It is a quick, affordable way to scout for public land access and borders to prevent unintended trespassing and disputes.

- Private Citizen
  USES • Purchases.

- Private Citizen
  USES • Forest crop land.

- Private Citizen
  USES • Property line.

- Private Citizen
  USES • Search various parcels on different lakes.

- Private Citizen
  USES • Boundaries.

- Private Citizen
  USES • Create map of hunting land.
  BENEFITS • These files are important to provide to citizens in order for them to enjoy the beauty of the natural landscape. Maps created with these files are visually pleasing and informative, and can inspire people to learn about the area around them.

- Private Citizen
  USES • Search for hunting land.
  BENEFITS • Might purchase hunting land in the future.

- Private Citizen
  USES • We are planning to sell our home and buy another. I use your layer to confirm lot lines, investigate neighboring land owners (to see if we can buy the land surrounding a home that we're interested in, get a sense of the value of a property, and so forth).
  BENEFITS • By being able to do all those things listed above. There's an ancillary benefit, as well. I am a cartophile.

- Private Citizen
  USES • Checking boundaries of neighboring land.

- Private Citizen
  USES • Locating parcel corners and property lines.

- Private Citizen
  USES • Identify ownership to find public land.
  BENEFITS • Find public land for the purposes of wildlife viewing/photography.

- Private Citizen
  USES • To check out who owns hunting properties for deer hunting.

- Private Citizen
  USES • Understanding the land ownership and structure around our own property.
  BENEFITS • Clarity of records.

- Private Citizen
  USES • Look at my land parcels.

- Private Citizen
  USES • We use this tool to figure out where a particular parcel is, what shape and size, as well as gleaning information on the ownership or shape and size of the parcels around our properties.
  BENEFITS • We benefit a great deal from this useful tool. We don't have to guess or go through a lengthy process to gain information on the shape, size, and location of the parcels we own or plan to buy.

- Private Citizen
  USES • Personal.

- Private Citizen
  USES • To find: an address, an owner's name, shape/location of property.
  BENEFITS • Have found the above information before.

- Private Citizen
  USES • Locating open areas for hunting and owners names. Recent moved to area and learning names of residents.

- Private Citizen
  USES • Buying land, checking property lines.

- Private Citizen
  USES • For personal use.

- Private Citizen
  USES • May purchase land.

- Private Citizen
  USES • Parcel bounderies.

- Private Citizen
  USES • Trying to find the parcel of interest and the next door person so I can request easement and buy the land.
  BENEFITS • This is very useful for people looking to move to your state from another, like me.

- Private Citizen
  USES • Researching property purchase.
  BENEFITS • Better understand what I may purchase.

- Private Citizen
  USES • Information for buying.

- Private Citizen
  USES • See the landowners around me.

- Private Citizen
  USES • Gauging differences in property tax across different neighborhoods/cities/counties.

- Private Citizen
  USES • I am searching for land to build a home. I have found that MLS listings often do not illustrate property bounds, but do list parcel numbers, which I hope to view here.

- Private Citizen
  USES • Find owners of neighboring land.

- Private Citizen
  USES • My own property.

- Private Citizen
  USES • W521 city line, Dorchester.

- Private Citizen
  USES • Finding an address for the purpose of sending a funeral memorial thank you card.

- Private Citizen
  USES • Using to get a better idea of property lines and neighboring properties.
  BENEFITS • Easy way to locate acreage and an idea of property lines and neighboring properties.

- Private Citizen
  USES • Interest in buying.

- Private Citizen
  USES • Hunting.

- Private Citizen
  USES • Looking for family owned land.

- Private Citizen
  USES • Gaining permission from landowners when tracking game.

- Private Citizen
  USES • Locate owner of hunting land.

- Private Citizen
  USES • To see what parcel of land I keep getting offers to purchase for.

- Private Citizen
  USES • Looking for farmland maps from the 1800's for ancestry research.

- Private Citizen
  USES • To locate the propety.
  BENEFITS • I am not with an organization, I am out of town and there was no other way I could think of to see where the property was. My wife and I are in Arizona, running there to go through the tax clerk office was not a practical option.

- Private Citizen
  USES • Check accuracy of information on property owned. Check adjacent properties ownership changes.
  BENEFITS • Good one stop source for land ownership information.

- Private Citizen
  USES • Identify federal, state, DNR, county public and private forest land from each other, for recreational purposes.
  BENEFITS • Federal, state, DNR and county forest lands all have different rules, especially for camping.

- Private Citizen
  USES • To locate my parcels and my friends parcels.
  BENEFITS • Gives me an idea of who my neighbors are.

- Private Citizen
  USES • Prospective buyer of property.

- Private Citizen
  USES • Looking at a parcel I own while traveling abroad to obtain information for the DNR.
  BENEFITS • When traveling abroad there are few parcel maps of Wisconsin that allow access to info when the computer sees a foreign browser trying to access information, yours is one of the few.

- Private Citizen
  USES • To investigate property that I may be interested in purchasing.
  BENEFITS • This is an amazing site. I hope you continue to provide access. Thanks!

- Private Citizen
  USES • Parcel info.

- Private Citizen
  USES • To see where my land boundaries are and neighbors boundaries.
  BENEFITS • Purchased land in the state of Wisconsin.

- Private Citizen
  USES • Trying to figure out lot line for our property.

- Private Citizen
  USES • To see personal property lines.

- Private Citizen
  USES • To find available parcel information on land that's for sale.

- Private Citizen
  USES • Locate parcel for possible purchase.
  BENEFITS • Freedom of information.

- Private Citizen
  USES • Need parcel info for fencing.

- Private Citizen
  USES • Initial identification of nearby private property, for volunteer trailwork projects.
  BENEFITS • Maintaining good relations with neighboring landowners.

- Private Citizen
  USES • Look for government land boundaries for disbursed camping and hiking.
  BENEFITS • To ensure I am on government land and not private property.

- Private Citizen
  USES • Look up my parcel.

- Private Citizen
  USES • Rough estimate of property lines.
  BENEFITS • Gives us a general idea of what we are working with for landscaping constraints.

- Private Citizen
  USES • In the home buying process, so I double check the address against parcel data.
  BENEFITS • Very helpful to see assessed values, taxes, and parcel borders.

- Private Citizen
  USES • Attempted to determine ownership of possibly hazardous trees so I can plan whether to let them fall or take preventive measures.

- Private Citizen
  USES • Using for genealogy class where I'm investigating the history of a house in Wisconsin.
  BENEFITS • This is a great service to have available for folks that are out of state and can't get to the government offices for this data. Thank you!

- Private Citizen
  USES • Plan for forester visit.
  Contact owners of surrounding parcels to discuss contacting me if deciding to sell.

- Private Citizen
  USES • I needed to look up the municipality for the church in which I am getting married. Is it officially Wausau or one of the northern municipalities? Bingo! Map for the win! This is amazing! (Admittedly a map person who used to use ArcGIS once upon a time)
  BENEFITS • I'm wondering if I can use this as a resource at my workplace for assisting people in determining where they actually live. I know that sounds wild, but there are a lot of folks out there who aren't entirely sure, what with towns and villages. Not sure if I can state explicitly where I work, but it's for the state.

- Private Citizen
  USES • I am an agricultural economist planning on using the Wisconsin statewide parcel layer to study how weather shocks affect the agricultural real estate market.
  BENEFITS • Parcel-level data on ownership changes over time help me trace out the effects I'm interested in studying in granular detail.

- Private Citizen
  USES • I wanted to see how my property was parceled.
  BENEFITS • I want to see which parcels I would want to sell and which I want to keep.

- Private Citizen
  USES • I am semi-retired. Just learning how to use maps and have interest in agricultural land.

- Private Citizen
  USES • Looking for land purchased by deceased relative.

- Private Citizen
  USES • I was trying to see lot dimensions for my property but they are not included.

- Private Citizen
  USES • Find where a parcel for which I received an unsolicited offer to purchase.

- Private Citizen
  USES • Parcel boundary information; parcel ownership information; parcel address; parcel tax information; very useful resource.
  BENEFITS • This is a very useful resource for the information that it provides. Very efficient compared with other means of researching this information.

- Private Citizen
  USES • Parcel boundaries; parcel tax info; parcel owner contact info; very useful.
  BENEFITS • This is a very efficient way to research the information provided by this resource.

- Private Citizen
  USES • Finding property to buy.

- Private Citizen
  BENEFITS • Transparency.

- Private Citizen
  USES • To verify my home parcel boundaries.
  BENEFITS • This service saves me having a surveyor come out to mark the property boundary.

- Private Citizen
  USES • My parcel information.

- Private Citizen
  USES • Land ownership identification.
  BENEFITS • It is easier using a combined parcel map for quick searches than trying to find an individual county's GIS viewer.

- Private Citizen
  USES • To know where private land is so I don't trespass.
  BENEFITS • It's valuable to know where public and private land is.

- Private Citizen
  USES • There is not any great free, public option to find publicly accessible land.
  BENEFITS • I can find public land nearby to forage/fish.

- Private Citizen
  USES • Create maps and data for client with projects across the state.
  BENEFITS • Easy to use relatively up-to-date parcels for multiple projects. Especially handy when a county does not offer a download or a server connection (tho most do offer at least one of the options).

- Private Citizen
  USES • Just looking up property information—real estate investor.

- Private Citizen
  USES • Seeing about where my lot lines are.
  BENEFITS • This is awesome.

- Private Citizen
  USES • Real estate review.

- Private Citizen
  USES • Check owners of property.

- Private Citizen
  USES • Need my parcel ID number to complete a POWTS (private onsite wastewater treatment systems) Maintenance Agreement.

- Private Citizen
  USES • Personal use. Looking up the property lines for my new home.

- Private Citizen
  USES • Trying to see where our plot lines are.

- Private Citizen
  USES • Looking for measurements.

- Private Citizen
  USES • To view public information and description of a property address.

- Private Citizen
  USES • Verification of land/residence ownership while searching for rentals from websites/apps (Facebook, Furnished Finder, Craigslist, etc.).

- Private Citizen
  USES • Person property.

- Private Citizen
  USES • Gaining a general understanding of family and surrounding land ownership.
  BENEFITS • This resource helped me understand land boundaries and total acreage for our family's land.

- Private Citizen
  USES • Getting permission to hunt on private land.
  BENEFITS • Able to legally hunt on land.

- Private Citizen
  USES • Finding out myself's lot sizes, my neighbors lot sizes, nearby lots, and potiential lots to buy in the future.
  BENEFITS • I've already looked up a few parcels and it came in very handy :) appreciate it.

- Private Citizen
  USES • Trying to find parcel information.

- Private Citizen
  USES • Research parcel information for possibly purchase.

- Private Citizen
  USES • Information.

- Private Citizen
  USES • To define my property in order to put it up for sale.

- Private Citizen
  USES • Planning layout of crops and buildings for a friend's farm.

- Private Citizen
  USES • Curious to see who owns certain parcels and what areas are owned by the state.

- Private Citizen
  USES • To better see my lot ones.

- Private Citizen
  USES • Personal knowledge.

- Private Citizen
  USES • Looking to buy a house and want to see what past taxes paid have been.

- Private Citizen
  USES • I'm trying to locate me property lines to see about getting a fence built.

- Private Citizen
  USES • Checking ownership, and informing of property changes when everyone else seems to be sneaking and malicious.
  BENEFITS • Finding out what is wrong with the maps so people don't think they can trespass.

- Private Citizen
  USES • Lot lines, property assessments, inspections, and owner information.

- Private Citizen
  USES • Learn parcel ownership.

- Private Citizen
  USES • Looking at my land.

- Private Citizen
  USES • I want to find a landowner to buy land from.
  BENEFITS • I've been able to find owners for plots many orders of magnitude faster than looking the plots up by hand. This service is absolutely needed for normal people that can't spend all day looking up the owner of a single parcel.

- Private Citizen
  USES • Mushroom hunting on public land, hiking.

- Private Citizen
  USES • To understand family estate situation.
  BENEFITS • I was able to identify the real estate my parents kept in their name to pass on to the siblings that left the farm vs the real estate of the farm corporation that was acquired by the siblings who stayed to work on the farm.

- Private Citizen
  USES • I would like to study the boundary line of my properties.

- Private Citizen
  USES • Find who owns the house to see if they will sell it.

- Private Citizen
  USES • Fencing, building, utilities, etc.
  BENEFITS • Not calling in. Figuring out and learning on my own.

- Private Citizen
  USES • Used for general land and real estate valuations and assessment informational purposes.
  BENEFITS • Helps me to know who my neighbors are and who owns properties surrounding my neighborhood.