Interim Report

Version 1 Statewide Parcel Map Database Project

June 30, 2015

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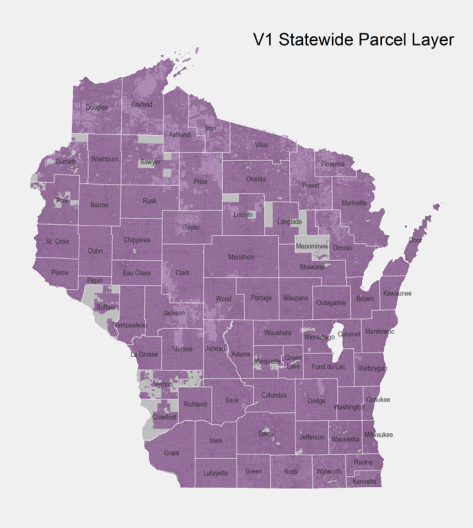
OVERVIEW

The Version 1 Statewide Parcel Map Database Project (V1 Project) is a collaboration between the State Cartographer's Office and the Wisconsin Land Information Program (WLIP). This report describes the V1 Project, part of the Statewide Parcel Map Initiative established by Act 20 of 2013.



Primary Project Objectives

- Establish a statewide parcel GIS map layer by integrating county-level datasets
- Recommend a searchable format for parcel attributes for V2 and beyond
- Make recommendations on WLIP Strategic Initiative grants for parcel mapping activities in the form of "benchmarks" for parcel dataset development

The V1 Project successfully aggregated all known digital parcel datasets within the state. The resulting statewide GIS parcel layer totaling 3.34 million parcels will be publically available online by July 31, 2015, with the final V1 Project report to be completed by the end of 2015.

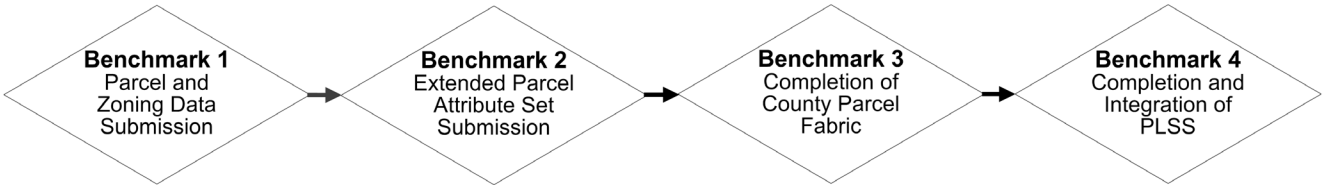
V1 Lessons Learned

For the V1 Project, county parcel datasets were requested and submitted as-is, without any formatting specifications. A historical lack of standardization of local parcel data has resulted in a wide variety of parcel and tax roll attribute formatting among Wisconsin's 72 counties, a significant challenge for the aggregation of parcel data into a statewide layer. The V1 Project also revealed that the completeness of submitted attribute data was in some cases lacking. Based on the V1 Project experience and the requirements of state statute 59.72(2)(a), this report recommends standards for future parcel dataset delivery.

Recommended Benchmarks

The project team recommends that submitting data to the V2 Project in 2016 should allow counties to meet the statutory requirement to post parcel information online by June 30, 2017. They may do so with data in either a **searchable format** standard—which is ready for immediate aggregation into the statewide parcel layer—or a more flexible **export format**, which the V2 technical team will convert to the searchable format on behalf of counties. The export format is an alternative that will accommodate several data submission options, including GIS data, text files, and an option to provide tax roll data in the Department of Revenue's XML format.

Whether submitting in the searchable or export format, four benchmarks for county parcel datasets are recommended:



The following page depicts the recommended benchmarks in more detail, as well as the minimum data submission differences between V1, V2, and V3.

A statewide GIS layer is only as good as the datasets from which it is built. This report recommends **WLIP Strategic Initiative grant funds** should be available to assist counties to meet the benchmarks, which would also further the end of achieving wider statewide objectives for the Parcel Initiative.

BENCHMARKS OVERVIEW

V1
2015

Parcel and Zoning Data Submission

- ✓ No standards
- ✓ Submit county-wide digital parcel data with "Act 20" attributes as-is
- ✓ Submit parcel geometries
- ✓ Submit county-maintained zoning data

V2
2016

	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
EXPORT FORMAT	★☆☆☆☆ ✓ Submit county-wide digital parcel data with complete "Act 20" attributes ✓ Submit parcel geometries ✓ Submit identifying information for condo geometries ✓ Submit county-maintained zoning data ✓ Fill out and provide the Submission Form crosswalk ✓ All attribute data submitted in one single table	★★☆☆☆ ✓ Submit county-wide digital parcel data with extended parcel attribute set ✓ Submit parsed address components with optional technical assistance available	✓ Complete digitization of parcels for all missing areas within the county ✓ Submit plan detailing current parcel status and future goals, timeline, and budget	✓ Reach satisfactory completion of PLSS network ✓ General expectation is "survey-grade" (2 cm or better) ✓ Lower-quality grades are "sub-meter" and "approximate" ✓ Submit plan including current PLSS status, goals, timeline, budget, documentation of missing corners, and documentation of efforts to collaborate with neighboring counties ✓ Submit copy of current PLSS dataset following PLSSFinder standard
SEARCHABLE FORMAT	★★★☆☆ ✓ Submit county-wide digital parcel data with complete "Act 20" attributes in the searchable format, with standardized field names and standardized domains	★★★★★ ✓ Submit county-wide digital parcel data with extended parcel attribute set in the searchable format, with standardized field names and standardized domains		

V3
2017

	Benchmark 1 Parcel and Zoning Data Submission	Benchmark 2 Extended Parcel Attribute Set	Benchmark 3 Completion of County Parcel Fabric	Benchmark 4 Completion and Integration of PLSS
SEARCHABLE FORMAT	✓ Submit county-wide digital parcel data with complete "Act 20" attributes in the searchable format, with standardized field names and standardized domains	✓ Submit county-wide digital parcel data with extended parcel attribute set in the searchable format, with standardized field names and standardized domains	✓ The same or similar to 2016 Benchmark 3	✓ The same or similar to 2016 Benchmark 4

PART I: RECOMMENDED BENCHMARKS

1 Benchmark 1. Parcel and Zoning Data Submission

1.1 Background

State statute 59.72(2)(a) directs the Department of Administration (DOA) to define a "searchable format" for posting specific county parcel data. The searchable format is a data standard to facilitate public access, viewing, and searching of parcel data in a consistent manner statewide.

Appendix A of this report contains details on the searchable format standard. The searchable format includes a standard attribute schema (i.e., a list of all required attributes, along with attribute names and data formats), a parcel geometry standard, and a set of data inclusion rules. This standard was developed by State Cartographer's Office in collaboration with DOA. The searchable format is the format of the final statewide dataset to be loaded into an online software interface, thus, data submitted in the searchable format is ready for immediate aggregation into statewide parcel layer.

Because GIS data and software vary from county to county, the searchable format may be a barrier for some counties to post parcel information online. This report recommends that counties be able to meet their statutory obligation to post parcel information online in the searchable format by submitting parcel data to DOA via an "export format" detailed in Appendix B. The export format is similar to the searchable format, but provides more flexibility in data formats. The need for an export format is specified in an MOU between DOA and the SCO related to the Version 1 Statewide Parcel Map Database Project.[1]

In short, when submitting data to DOA, Wisconsin counties should be provided with the option of conforming to one of two format standards—searchable or export (outlined in Appendix A and B of this document). Submitting data in either of these formats will satisfy the statutory requirements defined in Wisconsin statute 59.72(2)(a). Each county should have discretion in deciding which format to use. However, all data that is stewarded by the county should be submitted in *one* of the formats, not a combination of the two.

The export format provides an option for counties to submit XML data that is compliant with the Department of Revenue (DOR) tax roll XML standard. This means that the same XML tax roll dataset that counties submit to the DOR can also be submitted to DOA. The goal of this option is to provide additional flexibility to counties, to allow them to leverage investments already made in developing an XML dataset, and to help advance the DOR's goals for all counties to begin using the XML format for tax roll data.

Note that this XML option has three caveats:

(a) The current (June 2015) version of the DOR XML standard does not include a "fair market value" attribute, but this attribute is required per state statute 59.72(2)(a). Therefore, data submitted to DOA in XML format will need to include the fair market value attribute.
(b) The XML format does not accommodate parcel geometry. While counties may use the XML format for attributes, an additional submission of parcel geometries to DOA is required.
(c) The XML format does not require parsing of address elements, which is recommended as a requirement for both the searchable and export format for Benchmark 2.

Appendix A and B cover all required attributes except for zoning data. Zoning data has a separate format, specified in Appendix C. County-maintained zoning data is a statutory requirement; although it has a different format from parcel data, zoning data is required, not optional.

[1] http://www.doa.state.wi.us/Documents/DIR/Land_Information/Parcel_Initiative/SCO_MOU_Version1_Project_2014-04-02-Copy.pdf

1.2 Submission Process

Figure 1 shows the two options available for data submission.

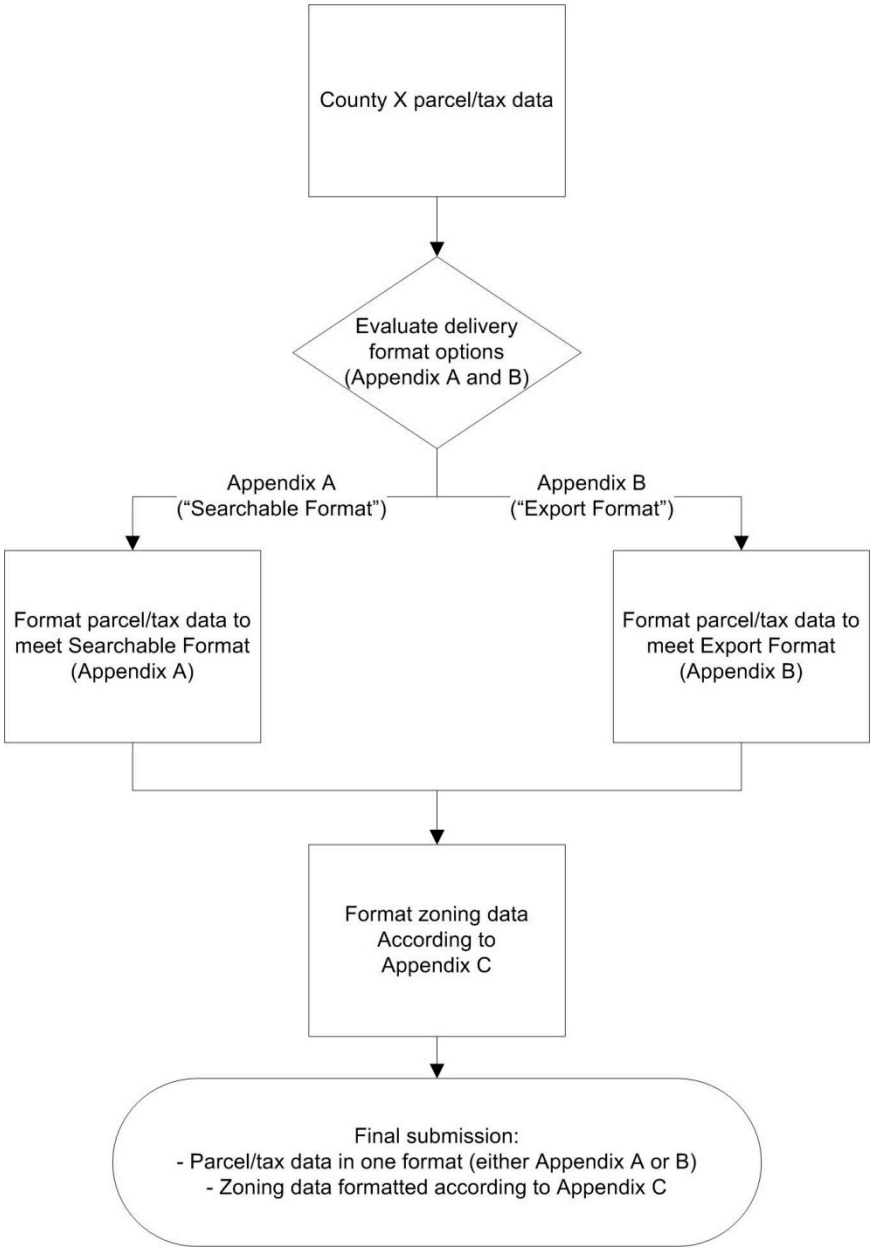


Figure 1. Decision-Flow Diagram for V2 Data Submission

The first option for data submission is the "searchable format"—a format that directly meets the data model requirements of the final statewide parcel layer. Data submitted as this option will be made publicly available as submitted. This format is considered final and will undergo only essential modification in future iterations of the parcel layer, such as the first quarter 1 of 2017.

The second option for data submission is the "export format"—a format for data exchange. Data received in this format will be processed by the parcel aggregation team to meet the data model requirements of the final statewide parcel layer.

The export format specification described in this document is for the first quarter 2016 only; the searchable format is to become the requested format for the V3 call for data and the standard recommended for 2017 Strategic Initiative grant benchmarks. Note that county submission of data in the export format makes progress toward the achievement of the searchable format standard. All counties should strive to attain the searchable format by the end of 2017.

1.3 Benchmark 1 Criteria

1.3.1 Compliance

To satisfy Benchmark 1, counties would need to submit a digital county-wide parcel dataset that conforms to the searchable format described in Appendix A, or to the export format described in Appendix B, as well as any county-maintained zoning data as described in Appendix C.

1.3.2 Zoning Information

Zoning information maintained by the county is a component of the county data submission, although its treatment is slightly different than for other attributes. While zoning data has a separate format, it is required, not optional. However, counties should only submit the zoning data that they maintain in their information system, as is specified in statute s. 59.72(2)(a)(2).

1.3.3 Data Submission Protocol and Date

This dataset should be submitted according to protocols to be published by DOA, and by the final deadline established by DOA. The initial call for data for the V2 statewide parcel layer is anticipated to be between January and March of 2016.

1.3.4 Required Attributes

According to statute (s. 59.72(2)(a)), the following information related to individual land parcels is required: 1. Property tax assessment data as provided to the county by municipalities, including the assessed value of land, the assessed value of improvements, the total assessed value, the class of property, as specified in s.70.32(2)(a), the estimated fair market value, and the total property tax; 2. Any zoning information maintained by the county; 3. Any property address information maintained by the county; 4. Any acreage information maintained by the county. These attributes are flagged as required in Appendix D of this report (in the "Benchmark 1 Requirement" column of Table D-1). In addition to all s. 59.72(2)(a) attributes, the schema requirements for V2 also contain a small number of additional attributes needed to create a functional, searchable online statewide parcel map.

The required attributes for Benchmark 1—the "Act 20" attributes—are listed below. Full details on attribute requirements are located in Appendix D.

(a) Parcel ID
(b) Tax Parcel ID
(c) Tax Roll Year
(d) Full Physical Street Address
(e) Total Assessed Value
(f) Assessed Value of Land
(g) Assessed Value of Improvements
(h) Assessed Forested Value
(i) Estimated Fair Market Value
(j) Net Property Tax
(k) Gross Property Tax
(l) Class of Property
(m) Deeded Acres
(n) GIS Acres

1.3.5 Completeness

Data that resides in the county land information system should be populated in the submitted dataset. An "element occurrence" standard should be adopted to assess attribute completeness. This means that if an element (such as a property address, a total assessed value, total property tax value, etc.) actually occurs for a given parcel, then this element should be included in the submitted dataset. If this element is not included in the submitted dataset, there is an omission and the dataset is incomplete.

This standard means that there may be justifiable omissions from the submitted dataset. Examples might be no address when no structure is present on a property, missing tax data for exempt properties, etc. Data elements must be included only if they actually occur.

One implication of using an element occurrence standard is that it becomes difficult for a third party to quantify completeness. Without detailed analysis, it is impossible to know for certain when omissions are justified and when they truly represent missing data. Since neither the SCO nor DOA has the resources to perform such detailed assessments at this time, we recommend that counties certify, on submission, that parcel dataset attributes are complete based on the element occurrence standard, or provide a rationale and justification for omissions. This may be accomplished through the data submission form, a required part of V2 data submission.

1.3.6 City Gaps in Coverage

In a limited number of cases, there are gaps in county parcel datasets due to the independent management of digital parcel data by cities (i.e., Antigo, Beloit, Eau Claire, and Janesville). This situation applies to a small number of cities where data had to be requested separately from a city for the V1 Project, as documented in the county assessment section of this report.

From the perspective of statewide data integration, it would be desirable if these municipal datasets could be incorporated into the county dataset prior to data submission. However, this process could be problematic in some cases, e.g., due to differing formats, misregistration of boundaries, etc. In cases with this type of gap, we recommend that counties should follow one of two options.

(a) The preferred option is to use Strategic Initiative funds to integrate municipal data into the countywide parcel dataset to simplify the data submission and statewide integration process in the future.
(b) The second option is for counties to pass through a portion of their Strategic Initiative funding to municipalities to allow those municipalities to format and submit their parcel data according to the standards outlined in Benchmark 1. We note that state statutes permit counties to apply for funds "on behalf of any local governmental unit . . . located wholly or partially within the county" (s. 16.967(7)(a), Wis. Stats.).

1.4 Baseline Assessment

This report contains an assessment of each county's data submission for the Version 1 project as a baseline measure (see section 6 of this report and Digital Appendix N). This assessment necessarily lacks some rigor, because counties were not asked to supply data in a specific format for V1. Therefore, the intent of the assessment is primarily to identify possible areas of concern for the future Version 2 Project data submission.

1.5 WLIP Strategic Initiative Funding

It is expected that all or most counties will be able to meet Benchmark 1 in either the searchable or export format by March 31, 2016. If a county cannot meet Benchmark 1 by this date, it is recommended the county should be able to use Strategic Initiative grant funding over the course of 2016 to be able to achieve Benchmark 1 by the first quarter of 2017, when a "Version 3" call for data is anticipated.

Note that even if a county can meet Benchmark 1 via the export format by March 31, 2016, the searchable format is recommended as an ideal goal. Thus, it may be worthwhile for a county to use 2016 Strategic Initiative grant funding to standardize its data into the searchable format, even though the searchable format may not be required for 2016 grants. This assumes that the searchable format will be required for Benchmark 1 for 2017 Strategic Initiative grants.

2 Benchmark 2. Extended Parcel Attribute Set Submission

2.1 Background

State statute 59.72(2)(a) specifies a set of required attributes for parcel data which will allow a statewide parcel map to be completed, but do not address all needs of the parcel user community. This report recommends that an extended set of parcel attributes be encompassed in Benchmark 2.

2.2 Benchmark 2 Criteria

2.2.1 Compliance

To satisfy Benchmark 2, the additional attributes listed in Appendix D in the "Benchmark 2 Requirement" column would be submitted as part of a county's data submission to DOA. All other aspects of the data submission, as described in Benchmark 1, would remain the same for Benchmark 2 (listed in Table D-1 under the "Benchmark 2 Requirement" column), with the addition of parsed address components. Address elements will require parsing for both the searchable and export format for Benchmark 2.

Technical assistance will be available to provide guidance on parsing address components. SCO staff can provide copies of the data parsed for the V1 Project, as well as the tools and scripts utilized to assist counties in meeting Benchmark 2.

The extended attributes (Table D-1) could be submitted following either the searchable format or the export format. The extended attribute submission would be part of the county-wide digital parcel data submission to DOA with the "Act 20" attributes, not a separate submission.

2.2.2 Completeness

Attributes should be populated according to the "element occurrence" standard described above in section 1.3.5. If attributes are missing, unpopulated, or known to be inaccurate in the county land information system, effort should be expended to improve these attributes prior to submission.

2.2.3 Data Submission Protocol and Date

The dataset should be submitted according to protocols to be published by DOA, and by the final deadline established by DOA. The initial Version 2 call for data is anticipated to be between January and March of 2016.

2.2.4 City Gaps in Coverage

In a limited number of cases, there are gaps in county parcel datasets due to the independent management of digital parcel data by cities (i.e., Antigo, Beloit, Eau Claire, and Janesville). This situation applies to a small number of cities where data had to be requested separately from a city for the V1 Project, as documented in the county assessment section of this report.

From the perspective of statewide data integration, it would be desirable if these municipal datasets could be incorporated into the county dataset prior to data submission. However, this process could be problematic in some cases, e.g., due to differing formats, misregistration of boundaries, etc. In cases with this type of gap, we recommend that counties should follow one of two options.

(a) The preferred option is to use Strategic Initiative funds to integrate municipal data into the countywide parcel dataset to simplify the data submission and statewide integration process in the future.
(b) The second option is for counties to pass through a portion of their Strategic Initiative funding to municipalities to allow those municipalities to format and submit their parcel data according to the standards outlined in Benchmark 2. We note that state statutes permit counties to apply for funds "on behalf of any local governmental unit . . . located wholly or partially within the county" (s. 16.967(7)(a), Wis. Stats.).

2.3 Redaction

Any redaction of owner names (or other attributes)—as required by an existing county or municipal policy or rule—should be handled explicitly in the submitted data before it is submitted to DOA. In other words, names that

should not appear online should be physically absent from the submitted dataset. There will be no functionality within the statewide parcel map interface to exclude information based on flags or logical queries.

If owner names can be found on the county's online parcel search tool and parcels are searchable by owner name, owner names must be included in the dataset submitted. If they are not included, the county must include the written policy for excluding them as adopted by the county or municipality.

2.4 Baseline Assessment

This report contains an assessment of each county's data submission for the Version 1 project as a baseline measure. This report includes only attributes specifically listed by Act 20 (discussed in Benchmark 1) and does not address the extended attribute set of Benchmark 2. An assessment will be completed for any subsequent county data submissions (e.g., the Version 2 submission in the first quarter of 2016) to determine status relative to Benchmark 2.

2.5 WLIP Strategic Initiative Funding

If a county cannot meet Benchmark 2 by March 31, 2016, it is recommended the county should be able to use Strategic Initiative grant funding over the course of 2016 to be able to achieve Benchmark 2 by the first quarter of 2017, when a "Version 3" call for data is anticipated.

Note that even if a county can meet Benchmark 2 via the export format by March 31, 2016, the searchable format is recommended as an ideal goal. Thus, it may be worthwhile for a county to use 2016 Strategic Initiative grant funding to standardize its data into the searchable format, even though the searchable format may not be required for 2016 grants. This assumes that the searchable format will be required for Benchmark 2 for 2017 Strategic Initiative grants.

3 Benchmark 3. Completion of County Parcel Fabric

3.1 Background

Some counties have not completed the digitization of all parcel data. Completion of these missing areas is essential for the longer-term goal of complete statewide parcel coverage.

3.2 Benchmark 3 Criteria

3.2.1 Compliance

To satisfy Benchmark 3, a county would need to complete digitization of parcels for all missing areas within the county and include these areas within subsequent data submissions for the statewide parcel map.

3.2.2 Plan for Parcel Completion

To facilitate assessment of progress, counties should submit a brief plan with their WLIP grant application that outlines:

(a) Current status of parcel data in the county, including a tally of the total number of parcels in digital format and an estimate of the number of parcel still to be digitized.
(b) Goals (number of parcels to be added) for current funding period.
(c) Planned approach for completing the parcel fabric.
(d) Estimated budget and timeline to complete the county parcel fabric over time.

To reduce paperwork, the initial parcel plan should be developed as a project within the County Land Information Plan in the second half of 2015.[2]

3.3 Assessment of Progress

Completion of the parcel fabric may take several cycles of funding, especially if there are large areas still to be digitized. To be eligible for a subsequent round of Strategic Initiative funding for parcel fabric work, counties should demonstrate progress toward their goal of completing the fabric. Counties should not lose funding if they are making progress toward their goals, even if the parcel fabric is incomplete; the goal of funding the counties is to allow them to complete this work.

In future years, if Strategic Initiative funding has previously been received by a county to improve the parcel fabric, the county should provide a quantitative assessment of actual achievement relative to goals for previous year(s), including a rationale and explanation in cases where goals were not attained.

3.4 Caveats

While a high-accuracy parcel map is the ultimate goal, we recommend that counties be given flexibility in terms of the methods and strategies used to complete the parcel fabric. We expect that many counties will follow existing workflows in this process.

There may exist within a county certain areas within which parcel data are legitimately missing. These areas might include municipalities that manage their own parcel data, or areas that may not warrant detailed parcel mapping, such as state forests. These areas can be treated as a single large parcel as long as they are designated as such in the submitted dataset.

Some counties have a plan in place to complete PLSS remonumentation before completing the parcel fabric. The recommendation is that counties should have the option of adopting a "PLSS-first" approach, subject to a number of prioritization rules. These rules are spelled out in Benchmark 4 and in the decision-flow diagram that

[2] The *2015 Uniform Instructions for Preparing County Land Information Plans* has more information on county land information projects. See http://www.doa.state.wi.us/Divisions/Intergovernmental-Relations/Land-Information-Program

accompanies these benchmarks (Figure 2). Overall, the ultimate goal is the same for all counties: completion of a full parcel fabric that is tied to an accurate PLSS network. However, different counties may have different ways of getting to this goal.

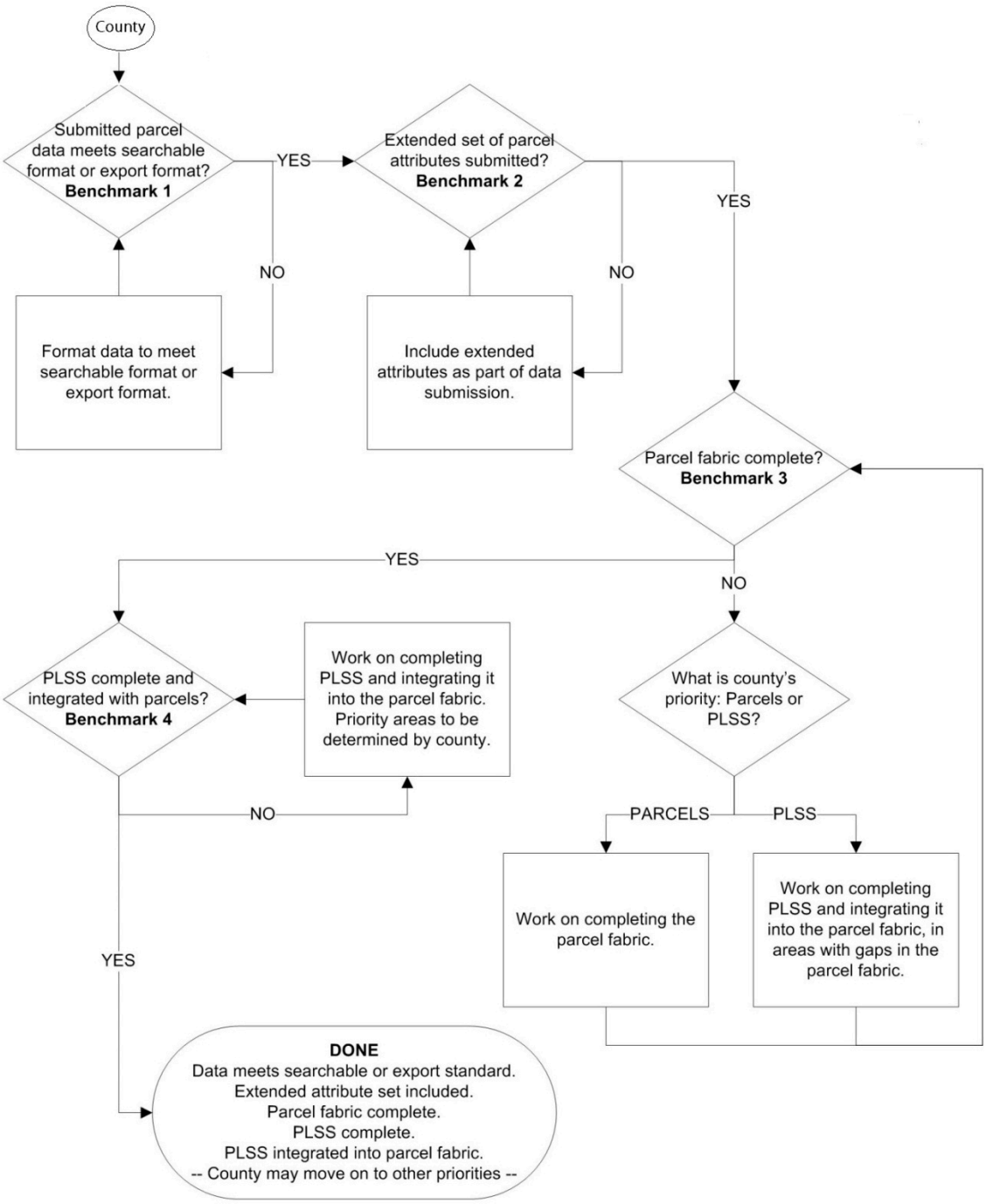


Figure 2. Decision-Flow Diagram for Benchmarks 1-4

3.5 Baseline Assessment

This report contains an assessment of parcels gaps in each county, based on the data submission for the Version 1 project.

4 Benchmark 4. Completion and Integration of PLSS

4.1 Background

PLSS serves as the foundation for the parcel fabric and needs to be accurate to ensure positional accuracy of parcels.

4.2 Benchmark 4 Criteria

4.2.1 Compliance

To satisfy Benchmark 4, a county would need to reach satisfactory completion of its PLSS network, including: rediscovery of PLSS corner monuments and physical remonumentation of corners without existing monuments; establishing accurate coordinates on these corners based on a modern datum; posting tie sheets online for these corners; and integrating all county PLSS corners into the county parcel fabric.

4.2.2 Activities

Progress on the PLSS framework includes the following components:

(a) Rediscovery of PLSS corner monuments and physical remonumentation of corners without existing monuments.
(b) Establishment of survey-grade coordinates in NAD 83 (1991) or more current datum for newly remonumented and rediscovered PLSS corners. Some exceptions to survey-grade coordinates may apply, as discussed below.
(c) Completion and online posting of digital tie sheets for newly remonumented/rediscovered corners.
(d) Integration of all county PLSS corner coordinates into the county's digital parcel map, including adjustment of parcel geometry as soon as this is technically feasible without a reduction in the quality of the parcel coordinates.

If activities (a)–(d) will not be completed for some fraction of the corners in the county, the county should provide a rationale or explanation to account for the missing corner data. Often these will be justifiable exclusions, such as meander corners, corners on public forest land, etc.

4.2.3 Plan for PLSS

Counties should submit a brief plan with their WLIP grant application that outlines:

(a) Planned approach for remonumenting, rediscovering, and establishing survey-grade coordinates for PLSS corners, and integrating corners into the parcel fabric.
(b) Current status of PLSS data in the county including a tally of the total number of corners, their remonumentation status, and their coordinate status (accuracy class) if known. (See section 4.2.4 below for a discussion of accuracy class.)
(c) Goals for the funding period, including the number of corners to be remonumented and/or rediscovered, the number to have new coordinates established, the accuracy class for these new coordinates, and the way in which these points will be integrated into the parcel fabric.
(d) Documentation for any missing corner data as discussed above in section 4.2.2.
(e) Documentation of efforts to collaborate with neighboring counties

To reduce paperwork, the initial PLSS plan should be developed as a project within the County Land Information Plan in the second half of 2015.[3]

4.2.4 Accuracy Class

The general expectation for coordinate accuracy of PLSS corners should be "survey-grade" as defined by the Wisconsin County Surveyors Association (2 cm or better). In a limited number of cases, due to cost, accessibility, or

[3] The *2015 Uniform Instructions for Preparing County Land Information Plans* has more information on county land information projects. See http://www.doa.state.wi.us/Divisions/Intergovernmental-Relations/Land-Information-Program

land ownership, lower-quality coordinates may be substituted. However these lower-grade coordinates should be the exception, rather than the rule, in order to maintain a high quality level in coordinate values and ensure the accuracy of the PLSS network. We also recommend the following:

(a) In addition to "survey-grade," provide for two additional accuracy grades called "sub-meter" and "approximate." Sub-meter refers to accuracies of 1 meter or better, while approximate refers to accuracies of within 5 meters or to coordinates derived from public records and other relevant information.
(b) All PLSS corner coordinate values established using Strategic Initiative funds should be tagged with their appropriate accuracy grade, and this tag should be included in all data submissions required through the terms of WLIP grant applications.
(c) Strategic Initiative funding and evaluation of performance should be based on the overall balance of coordinate accuracy levels for each county, with an eye to balancing the need for an accurate PLSS network with the desire to facilitate statewide parcel mapping.

4.3 Assessment of Progress

Completion of the PLSS framework may take multiple cycles of funding. To be eligible for a subsequent round of Strategic Initiative funding for PLSS work in future years, counties should demonstrate progress toward their goal of completing and integrating the framework. Counties should submit a quantitative assessment of actual achievement relative to their previous plan(s), including a rationale and explanation in cases where goals were not attained. Counties should not lose funding eligibility if they are making progress toward their goals.

4.4 Data Submission

Counties using Strategic Initiative grant funds on PLSS should annually (deadline TBD) submit a digital copy of all county PLSS corner coordinates for inclusion in the SCO's online PLSSFinder, following the SCO's PLSSFinder data submission standards. This submission must include an attribute flag, timestamp, or other mechanism in the data to identify PLSS records that have been added or modified since the last submission, in order to evaluate progress on this benchmark. Any new or updated records must document the accuracy class (as discussed in section 4.2.4).

4.5 County Boundaries

Counties choosing to work on PLSS corners on county boundaries should coordinate with neighboring counties (if possible, recognizing that not all counties have a county surveyor) to adopt the same markers and coordinate values for shared corner points. Counties should document this collaboration or explain why it has not occurred.

4.6 Priority Areas

Counties should have the discretion to choose priority areas for PLSS augmentation as long as the county's parcel fabric is complete (i.e., Benchmark 3 has been satisfied). If Benchmark 3 is still in progress, counties can choose to prioritize PLSS ahead of completing parcels if:

(a) The plan for completing PLSS includes integration of PLSS data into the parcel fabric.
(b) PLSS augmentation activities focus on those parts of the county first that have gaps in the parcel fabric.

The decision-flow diagram (Figure 2 above) helps clarify these decisions.

4.7 Baseline Assessment

There is no baseline assessment of Benchmark 4 at this time, since PLSS data was not requested as part of the V1 Project. However, if counties are applying for Strategic Initiatives grants for PLSS, they should submit a copy of their current PLSS dataset (following the SCO's PLSSFinder data submission standards) to serve as a baseline. Subsequent assessment will occur for any counties submitting data in subsequent versions of the project.

PART II:
THE V1 PROJECT

5 V1 Project Characteristics

5.1 Project Timeline and Milestones

Statewide Parcel Map Database Project Milestones	
Date	**Version 1 Project Milestone**
October 1, 2014	Project start
October 6, 2014	Hosting and display pilot project start
October 23, 2014	V1 Call for data
December 1, 2014	Hosting and display pilot project end
June 30, 2015	V1 Project Interim Report release with recommendations for 2016 WLIP Strategic Initiative grant benchmarks
July 31, 2015	V1 Parcel layer hosted and displayed online
October 1, 2015	2016 WLIP Strategic Initiative grant application released by October 1 (with benchmarks finalized)
December 31, 2015	V1 Final Project Report release with recommendations for 2017 WLIP Strategic Initiative grant benchmarks

Date	**Version 2 Project Milestone**
October 1, 2015	V2 Project start
January 4, 2016	V2 Call for data
September 30, 2016	V2 Parcel layer hosted and displayed online
October 1, 2016	2017 WLIP Strategic Initiative grant application released by October 1 (with benchmarks finalized)
December 31, 2016	Report to Legislature/Final V2 project release

5.2 Project Team

V1 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
Codie See, Project Coordinator	Wisconsin State Cartographer's Office
David Vogel, GIS Specialist	Wisconsin State Cartographer's Office
AJ Wortley	Wisconsin State Cartographer's Office
Brenda Hemstead	Wisconsin State Cartographer's Office
Jim Lacy	Wisconsin State Cartographer's Office
Renee Rollman	Wisconsin State Cartographer's Office
Chris Scheele	Wisconsin State Cartographer's Office
Patrick Donahue	Wisconsin State Cartographer's Office
Samuel Schumacher	Wisconsin State Cartographer's Office
Davita Veselenak	Wisconsin Department of Administration

5.3 Outreach

Conference Presentations To-Date	
WLIA Annual Conference February 2015	Status of Wisconsin's Statewide Parcel Map
Forum to Align County Surveying and Parcel Mapping Efforts in Wisconsin March 2015	A View of Wisconsin's Statewide Parcel Data; WLIP and Act 20 Updates
WLIA Spring Regional Meeting June 2015	County Parcel Data Standards and Benchmarks for the Statewide Parcel Map Initiative

5.4 Call for Data

The original call for data was submitted to each county land information officer on October 23rd 2014 via email, with a second request sent on November 10th, which appears as Figure 3.

Dear Land Information Officer,

This message provides additional details on the request for GIS data for the Version 1 Statewide Parcel Map Database Project, which was sent on October 23, 2014.

As you know, Wisconsin Act 20 created statutory directives for state and local governments to coordinate on the development of a statewide parcel map. The Version 1 Statewide Parcel Map Database Project is an initial step in DOA's planning to enact the Act 20 directives. Should you wish to learn more about the Version 1 Project, please see the Statewide Parcel Map Initiative webpage and the MOU with the State Cartographer's Office.

Deadline extended to December 15
We are extending the deadline for submitting parcel data to December 15, 2014, in order to accommodate those counties who wish to submit 2014 tax roll data with their parcels.

Property tax year 2013 or 2014
For this stage of the Version 1 Project, you may submit either 2013 or 2014 property tax data. Please tell us which year you are including when you submit your data in the description box of the upload page linked below.

Submit zoning information as is
Please submit zoning information "as is." You do not need to alter or integrate your zoning information with parcels for this data request. Part of the project is to determine how to handle zoning information. In that process we will be particularly sensitive to county concerns that zoning not be misrepresented in a statewide parcel map, recognizing that zoning is particular to local ordinances.

How will the data be shared?
The final Version 1 database deliverable will be publicly available by June 30, 2015, but will not include landowner name. However, the raw county parcel datasets from this request may be made immediately available for governmental entities, such as other state agencies, to facilitate government-to-government information sharing.

There will be a disclaimer of liability displayed on the website which hosts the public statewide parcel map, which says the data is provided without warranty, with no guarantees of accuracy, completeness, or currency. Users will be instructed to consult counties for the most current data.

What data?
As specified in the October 23 email, your *most recent data* is requested for the items below. We would like your *entire parcel dataset*, however, we have listed specific parcel attributes that we are requesting at minimum below. We are also asking for additional layers to supplement the parcel information, to serve as reference layers for quality assurance.

DATASETS	ATTRIBUTES
PARCELS – with tax roll data,	**ACT 20 PARCEL ATTRIBUTES – REQUIRED**
included either as an integrated	Assessed value of land
component of the parcel	Assessed value of improvements
database or as a separate file	Total assessed value
	Class of property as specified in s. 70.32(2)(a)
	Class 1 Residential
	Class 2 Commercial
	Class 3 Manufacturing
	Class 4 Agricultural
	Class 5 Undeveloped land
	Class 5m Agricultural forest
	Class 6 Productive forest
	Class 7 Other
	Estimated fair market value
	Total property tax
	Zoning information maintained by the county
	General zoning – as defined by s. 59.64(4)
	Farmland preservation zoning
	Shoreland zoning
	Floodplain zoning
	Airport protection zoning
	Any other types of zoning the county maintains in its land information system
	Property address information maintained by the county
	Site address including full street address where available and municipality
	Acreage information maintained by the county
	OTHER PARCEL ATTRIBUTES – WHERE AVAILABLE
	Pin (parcel identification number) – Unique identifier joining parcels to tax roll
	Revise date – date entire parcel dataset was last revised/updated/edited
	School district codes
	Land owner name
	Land owner mailing address – full street address, municipality, state, zip code
ADDRESS POINTS – Structure points preferred	
STREET CENTERLINES	
RIGHT OF WAYS	
BUILDING FOOTPRINTS	
SCHEMA DEFINITIONS – Your county's schema definitions file for any contributed datasets	
METADATA – Include any standard or non-standard metadata	

How to upload?
Submitting data is simple! Our project partner, the State Cartographer's Office, has created a secure online directory for your files, linked at http://www.sco.wisc.edu/v1-data.html.

Please feel free to contact me if you have any questions or comments.

Sincerely,

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

Figure 3. V1 Call for Data

5.5 Workflow & Technical Approach

This section describes the strategy or high-level approach to the way the technical team processed and aggregated local level data for inclusion in the V1 final deliverable and statewide parcel map.

The general workflow followed four phases of development:

- Preparation and ingest
- Local-level processing
- Aggregation
- State-level processing

Each of these phases resulted in interim GIS databases and involved various sub-processing steps. The team utilized GIS, text and table editing software, and a suite of custom tools for executing the workflow.

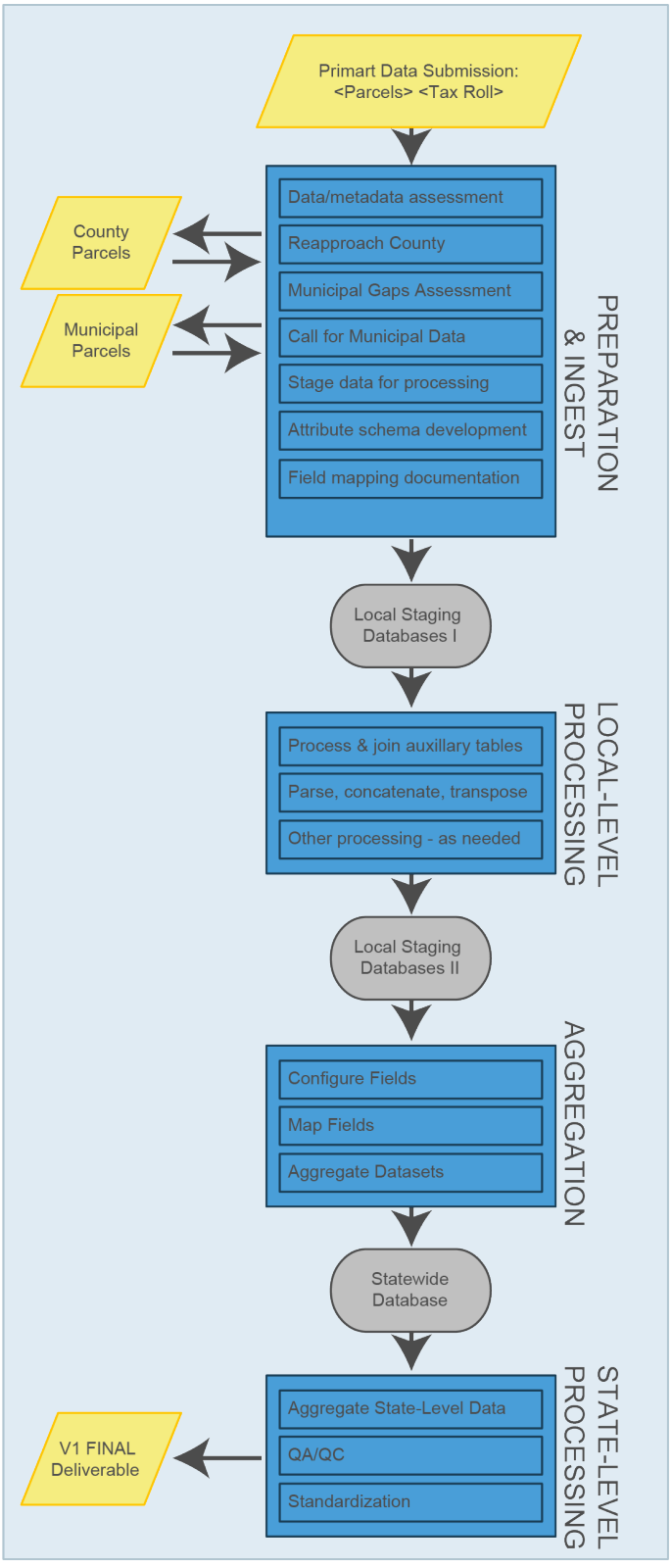


Figure 4. V1 Workflow

5.5.1 Preparation and Ingest

The ingest phase began with the call for data made to Wisconsin counties on October 23rd, 2014 (see section 5.4). Land information officers were asked to submit data through an online widget that accommodated the upload of large GIS and data files directly through a secure web interface. The submission widget was configured using UW-Madison's enterprise Box.com account. File uploads of 15 GB and lower were supported through a UW-Madison enterprise Box.com account.[4]

The county-submitted data totaled 6 GB for the counties and municipalities that submitted through the widget. A small number of counties did not submit through the widget, opting to submit via FTP instead.

Upon receipt of data, the county data directory was downloaded from the secured box site and backed-up locally. Additional data backups were made to an external drive routinely throughout the development phases.

As data came in, the team performed and recorded assessments of the geometric, attribute, and metadata quality of the submitted data against the requirements of the project. Due to the various file formats that tax roll data was submitted in, these assessments were made by team members using various forms of software, including ArcGIS, text editors, Microsoft Excel, Microsoft Word, and LibreOffice Calc, among others. Automatic assessments were made using the ArcPy module when appropriate. Assessment data was recorded in spreadsheet format and used to communicate with the project team.

Post-Ingest Actions

The post-ingest strategy focused on identifying counties to reapproach that were either missing an entire portion of the data (i.e., parcels or tax roll) or where the data received was unusable in its current state. The decision was made *not* to re-approach counties for missing attribute data. Instead, the team would report on this missing attribute data in the county feedback portion of the project and in the project reports. The outcomes of the initial assessment included three main aspects of missing or unusable data:

- Missing components which made submitted data unusable
- Missing geometries—municipal gaps or incomplete parcel fabric
- Various missing tax roll or attributes required by statute, a.k.a. "Act 20" Attributes

Several counties were missing essential components that would have inhibited aggregation with the statewide dataset. In some cases this meant that parcel geometries were missing or corrupt or missing. In other cases this was due to missing documentation such as how to parse a character delimited file containing attribute information.

The team reapproached all counties who were identified as having essential missing data. This included gaps seen in some county-submitted datasets where parcel data is maintained by a municipality but not aggregated to county-level parcels, as is the case with the Cities of Eau Claire, Beloit, Janesville, and Antigo. Parcel data requests were separately made to these cities, which all submitted their parcel datasets.

Gap Analysis

To identify gaps in the statewide parcel coverage where unparcelized areas exist, a "City and Village Gap Analysis" and a "Census Block Analysis" were conducted, each to identify different types of gaps. Both of these analyses are necessary because parcel gaps are sometimes bound by incorporated (city/village) jurisdictions, while in other cases they are more widespread and include unincorporated areas (towns). When visually inspecting a county dataset for gaps in the parcel coverage the gaps can often be obvious and easy to pick out, appearing as distinct gaps in the GIS layer. In other cases, gaps can be hard to detect, as unparcelized areas may appear as blocks similar to that of a PLSS grid. In these cases, polygons exist in the dataset, but the polygons do not represent any real property. These unparcelized areas can be hard to detect as they often appear very similar to that of their rural (correctly parcelized) counterparts.

A "City and Village Gaps Assessment" was performed once all geometric data was received. This assessment calculated the county-submitted parcel density as the number of parcel centroids per square mile within all cities and villages. By using allometric scaling on sample cities and villages across the state known to be 100% parcel mapped, a predicted parcel density was calculated from the GIS calculated areas of all cities and villages. The calculated parcel density was then tested against the predicted parcel density to determine cities and villages that did not appear to be digitally parcel mapped in the county-submitted data.

[4] https://kb.wisc.edu/box/page.php?id=46345

A "Census Block Analysis" was performed on all areas outside of incorporated areas, i.e., towns from county submitted data for V1. The analysis targeted identifying areas left unparcelized in the county-level datasets. Identifying areas that are potentially unparcelized was accomplished by using parcel density calculations against expected population values for the area (as defined by Census block data).

Both the "City and Village Gaps Assessment" and the "Census Block Analysis" used parcel density values against expected density values for a given area to calculate a ratio of observed over expected completeness. Areas with significantly lower ratio values were inferred as gaps. Although using different geometric aggregation units (cities and villages vs Census blocks), both processes leveraged the law of allometric scaling to calibrate the expected density values according to control values.

These analyses presume that parcelization is a direct function of population and that the population growth of a place (town, city, or village) follows an allometric (nonlinear) formula. This means that growth does not follow isometric or proportional change, but instead it follows disproportionate growth where population density of a geographic place increases at a rate that is disproportionate to its geometric size. Thus, both bigger cities and more populous cities are denser.

Schema Finalization

Understanding that it would be ideal to have all attributes finalized before moving to subsequent phases in the project, the team worked to finalize the attribute schema during the first phase of the project. This was also an optimal time to develop the schema, because it allowed the team to assess the condition of data as it was provided and create attribute definitions that would most accurately and consistently model it. The steps that would be taken within the local-level processing phase benefitted in accuracy, reporting, and duplicability by finalizing the schema beforehand.

The V1 parcel schema, with 41 total attributes, appears as Appendix H.

Staging Databases

Once a county-submitted dataset was determined to be satisfactory for the project needs, a staging database was created in Esri file geodatabase (.gdb) format. One staging database was created per contributing jurisdiction, each database including all geometric and attribute data required for subsequent phases. This is also the point at which geographic transformations took place on each dataset, transforming local-level parcel datasets coordinate reference system (CRS) into the CRS of the statewide parcel layer (NAD_1983_HARN_Wisconsin_TM). This was accomplished using the "Project" tool in ArcGIS.[5]

For a majority of contributors, tax roll information was submitted as an auxiliary file that required further processing in order to tie the tax roll information to the proper parcel geometries. During the staging database phase the various forms of external attribute information needed to be processed in order to bring the attribute data into GIS-readable form, as well as to accurately join the tabular data to the parcel geometries. The steps taken to accomplish this varied across contributing datasets. No two contributors required the same procedure. Data processing of this nature requires an experienced GIS professional with various data processing skills, as well as domain knowledge of parcel and tax roll data idiosyncrasies across the state.

Some common complexities in producing staging databases include:

- Accurately processing character delimited text files, with sparse documentation
- Joining tables on PINs with varying format, requiring formulaic alterations of the PIN (i.e., joining a XXX-YYY-ZZ pattern to a XXXYYYZZ pattern)
- Understanding field data that is lacking documentation

Upon completion of the staging databases, datasets were ready for use in the local-level processing phase.

5.5.2 Local-Level Processing

Upon the completion of a staging database, a local-level dataset was prepared for further processing of attributes so as to fit the local data to the statewide attribute schema as best possible. This processing entailed concatenating, parsing, interpreting, listing, and transposing data.

[5] tools.tbx\projections and transformations\project

Parsing and Concatenation

Due to the various configurations of attribute schemas for tax roll and parcel data at local levels, significant parsing and concatenation actions were required to fit local schemas to the statewide attribute schema. In order to achieve and optimize searchability across site addresses in the parcel layer, it is necessary to isolate individual address elements in their own fields. This facilitates the ability to standardize address data and allows for the layer to be most readily utilized as a geocoder base. The address components of the V1 attribute schema were designed with these concepts in mind. In order to achieve this type of parsing functionality, the parsing tool needed to be flexible in handling the various and unique parsing needs of each data contributor.

There are several out-of-the-box commercial parsing options available through cloud services or desktop applications that are effective for general address parsing. These options are often part of smaller components to a geocoding workflow, as parsing address elements is often a necessary step for a geocoder to digest and locate an address. While these services are well-designed, intuitive, and mostly cost effective, the project team identified custom parsing options to be the most appropriate approach for this project. With parsing and address standardization amongst the largest challenges that the project would face, the decision to use custom parsing tools was based on several factors elaborated below.

LinkWISCONSIN Address Parsing. The *LinkWISCONSIN Address Point and Parcel Mapping Project*, funded by the Public Service Commission of Wisconsin with an American Recovery and Reinvestment Act grant, focused largely on maintaining local-quality in preserving address information. The address tool used for parsing in the V1 Project was built from the same base of code used in the *LinkWISCONSIN Project*.

Efficiency. There are roughly 3.34 million parcel records in the V1 final deliverable and it was out of the project scope to validate every record manually. This increases the importance of fully understanding and having control of the logic behind the tool since the team could not personally validate every record.

Preservation of Authoritative Data. Most commercial address parsers utilize auxiliary or underlying data sources to drive logic, validate results, and serve as surrogate for missing data. Pursuing such logic would conflict with the project's concept that data contributors are the authoritative source for their jurisdictions. Making this dataset conform to the likes of third-party datasets would undermine the objective of creating a statewide layer from authoritative data. Avoiding auxiliary datasets would help maintain the data integrity intended by the counties and municipalities.

Platform Continuity. The majority of this project's logic was implemented in the ArcGIS environment, which accommodates Python scripting. Python is a good language to use for writing parsing code due to its support for regular expressions, ease of use, and broad community support. The tool is built upon an open source address parsing library called SwoopSearch. This library is based in Python and interfaces well with ArcGIS through the ArcPy module.

Less Cumbersome Workflow. Commercial and third-party parsers typically require processing of CSV (comma-separated values) or other non-spatial files. These types of files are a bit more cumbersome when working with geospatial data because tables need to be joined back to their geometries after the parse is complete. Keeping all logic within the same GIS environment significantly improved workflow time and reduced the risk of errors.

Flexibility. Commercial software is generally packaged in a way that does not offer a high degree of flexibility in the type of components being parsed. The team wanted to be able to implement the same or similar tools across all native datasets, despite the variation in elements parsed and varying inputs across the datasets.

Local Adaptability. Custom logic is necessary for Wisconsin-specific address styles, such as grid addresses. The more conventional linear address appears in most parts of Wisconsin, with the important exception of the southeastern part of the state where grid addresses are commonly found.

Transposing

In several contributing attribute or tax roll tables it was necessary to transpose and concatenate attribute data from column form to row form. Although this action was required for various data types, it was frequently needed in processing Class of Property data. The tables below illustrate how some class of property data was presented by the contributor, and how it was processed to meet the V1 attribute schema.

Class of Property Data Exists as Acreage Values In Individual Fields								
Parcel ID	G1	G2	G3	G4	G5	G5M	G6	G7
101	**1.3**	0	0	0	0	0	0	**0.9**
102	0	2	1	20	0	0	0.8	0
103	0	0	0.6	0	0	0	0	0
104	0	0	0	0.7	0.8	0	0	0
105	0	0	0	0	0	0.1	0	0

Transposed Property Class	
Parcel ID	Transposed PROPCLASS
101	**G1,G7**
102	G2,G3,G4,G6
103	G3
104	G4,G5
105	G5M

A row containing class of property information was counted if the acreage value was above 0. Then, if the value was counted, the column was attributed in PROPCLASS with the appropriate property class domain, delimited by a comma if a parcel contained more than one class of property. To efficiently handle this custom processing, the V1 technical team developed three ArcPy tools to handle variations of this scenario.

Other Processing

Local-level processing also required various types of data processing aside from that described above, each unique to the contributing jurisdiction. Some examples include:

- Removal of non-parcel polygons where municipal gaps exist
- Alterations to parcel or tax roll PIN so as to attain proper joins
- Alterations to duplicate tax roll records so as to avoid inappropriate duplication of geometries
- Removal of parcel geometries that go beyond that of the contributing jurisdiction's boundaries (where data is provided by a different authority)
- Aggregating multiple tax roll tables into one for joining to county parcel dataset (when provided as multiple files)

Processing Steps Intentionally Avoided

Some datasets offered the ability to create derivative values that would in theory provide attribute data in some cases. These derivative values were calculated from the data provided. Examples include:

- Parsing of address elements from full site address
- Calculating total assessed value from multiple fields under the direction of the county

However, in the spirit of maintaining accuracy and the authoritative integrity of the data submitted, there were several instances where calculations were intentionally avoided. Such instances include:

- Calculating total assessed value from multiple fields without explicit direction from the county
- Calculating gross or net tax from other tax values provided in the tax roll
- Spatially joining data from address points
- Calculating deed acreage within GIS

Field Mapping Documentation

Throughout the preparation and ingest phase, the technical team maintained a document in OneNote containing all of the local to state-level field mappings, for each contributor. These field mappings specify the precise correlation of local-level attribute information (or local-level derivative information) to that of the V1 attribute schema, documentation essential to subsequent phases of the project.

5.6 Aggregation

Upon completion of the local-level processing phase, the second staging database was prepared for aggregation with the rest of the state's parcel data. At this point, all individual attributes were prepared as segregated fields to be field mapped directly to their appropriate statewide schema element. The technical team created a custom ArcPy geoprocessing tool for the purpose of field mapping local-level staging datasets to the V1 attribute schema.

The aggregation tool was fashioned from the Esri *Community Parcels* code base,[6] following a similar workflow.

5.6.1 Aggregation Step 1: Create Datasets

The first step of the aggregation process was to create a new, empty feature class to be used to field map a jurisdiction's data (parcels and attributes) into. This can be accomplished by running the *0-CreateSchema* tool or by copying an existing empty feature class with the statewide attribute schema applied. The feature class created for this step was named according to the jurisdiction name.

5.6.2 Aggregation Step 2: Configure Fields

The second step of the process is to configure the field mappings of the local data to the statewide data attribute schema. This is accomplished through *1-ConfigureV1Fields*, an ArcPy script tool. Figure 5 depicts the tool's interface. Accordion dropdowns allow easy navigation across input of the list of 48 parameters.

The tool allows the user to select a local parcel feature class and achieve field mapping from a list of field names defined from the input dataset. Similar to the Esri *Community Parcels* tool, the output or result of this tool is a text file that defines all of the field mappings, as well as some additional information that is consumed in the next step of the procedure.

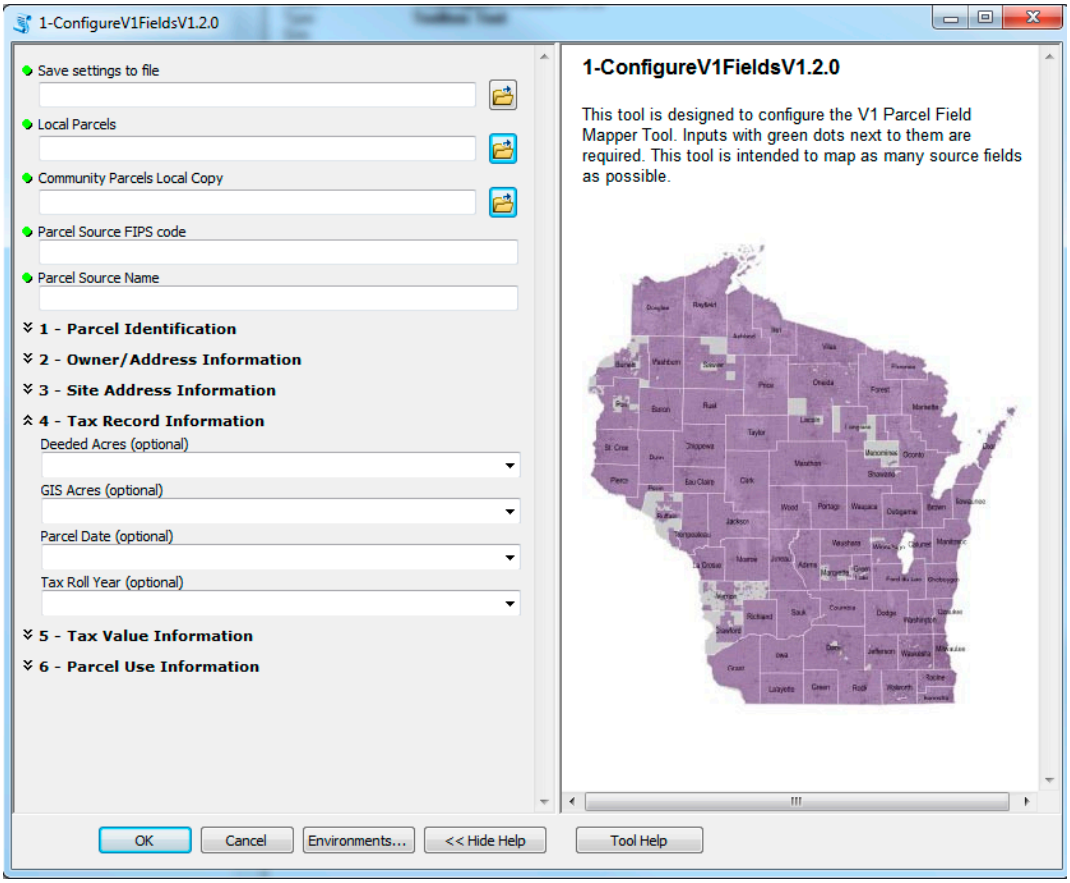


Figure 5. Configure V1 Fields Tool

The field mapping configurations for a given county are now stored in a text file for the use of the subsequent steps in the aggregation procedure but are also stored for future reference. Without storing these values to a text file, this information may be difficult to recall or lost altogether. The field mappings were directly advised by the OneNote documentation that the technical team created in earlier phases of the project.

5.6.3 Aggregation Step 3: Map Fields

A separate tool was used to utilize the field mapping parameters created above and move the parcel and attribute information from the staging (local) dataset into the dataset containing the statewide schema. This tool, the *2-MapV1Fields* tool, takes a single parameter—the text file output from the previous tool. The outcome of running the tool was an individual feature class, as per the jurisdiction being processed, that met the geometric and attribute requirements of the V1 data model. This file was then ready for aggregating with the rest of the state's parcel data.

[6] https://github.com/Esri/community-parcels-python

5.6.4 Aggregation Step 4: Merge

The last step of the aggregation procedure required a simple, out of the box ArcGIS tool called *Merge*. This tool allows the user to combine the geometries and attributes of several datasets at once. This tool was run at the end of the aggregation process, once all datasets were appropriately pushed into the V1 data model. Since all of the attributes of the layers participating in the merge were exactly the same, no additional configuring was required. By querying out information through the PARCELFIPS field, each contributing dataset could be deleted from the statewide layer and replaced with a new layer, following similar geoprocessing to the merge. Through this strategy, the statewide layer can be asynchronously updated whenever a new dataset needs to be replaced. The outcome of the aggregation phase is one, statewide parcel feature class containing 3.43 million parcels.

5.7 State-Level Processing

Upon completion of the aggregation phase, quality assurance and assessment measures were taken to ensure that the data was properly processed and aggregated. This assessment included manual observations as well as custom assessment summaries. The data assessment portion of this report features details on the outcome of these processes.

5.7.1 Standardization of V1 Fields

Also at the state-level phase, certain steps were taken to standardize fields that were appropriate to standardize. Standardization was approached through a custom two-part tool. First, all fields in the statewide layer were summarized, so as to include only unique values per field of interest. For the standardized fields, the resulting summary tables were used to drive the production of domain mapping tables. These tables were consumed by another custom tool that would apply consistent domain values to fields that were determined appropriate to standardize, such as mapping "RD." and "RD" to "ROAD."

To further improve the functionality of the layer and search functions used on it, a standardization tool was created that would summarize the domains that exist in fields determined appropriate for standardization. The standardized V1 fields are depicted in the table at right.

Standardized V1 Fields	
PREFIX	<Address> Prefix
STREETTYPE	Street Type
SUFFIX	<Address> Suffix
SCHOOLDIST	School District
SCHOOLDISTNO	School District Number
IMPROVED	Improved Structure
PROPCLASS	Class of Property
CONAME	County Name
PARCELFIPS	Parcel Source FIPS
PARCELSOURCE	Parcel Source Name

5.8 Final Dataset

The final parcel layer totaled 3.43 million parcels and is shown in Figure 6.

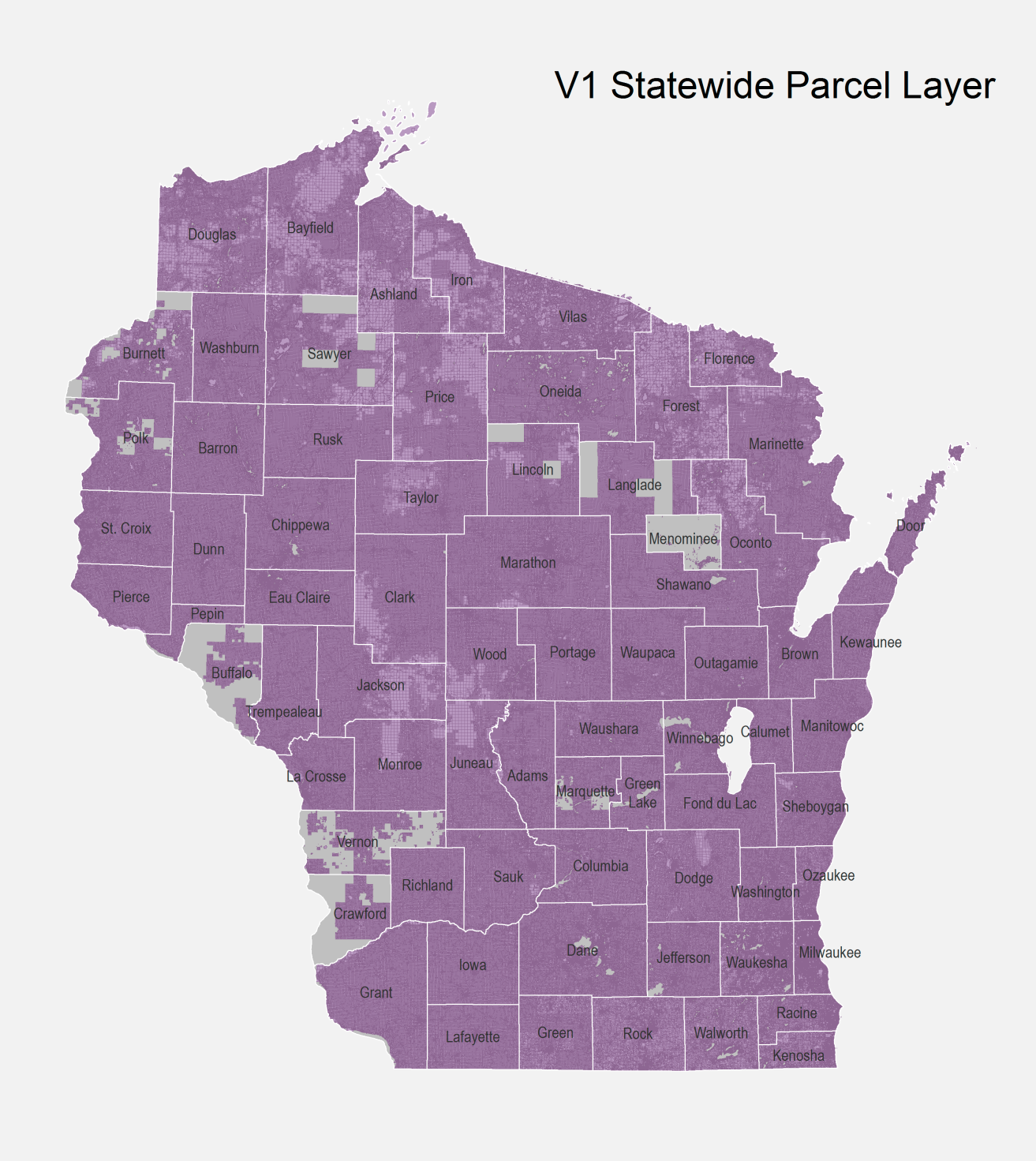


Figure 6. Version 1 Statewide Parcel Completed in June 2015

6 Quantitative Assessment of V1 County Data

6.1 Assessment Process

Throughout the V1 development cycle, assessments were performed over each county dataset to quantify and further describe the condition of the parcel, tax roll, and zoning data submitted. These assessments were designed to describe the completeness of the data against the needs required in aggregating individual datasets with the statewide layer.

The assessment process was broken into four phases of analysis:

- Ingest observations
- Final data tabulation
- Geometric gap analysis
- Creation of county feedback reports

The procedures involved in each of these analyses are described in detail below. The goals of these analyses were to guide each county parcel dataset in identifying areas for improvement in meeting benchmarks, and to formulate recommendations to assist counties in meeting benchmarks.

The following elements were assessed through these processes. Assessment results are presented in Digital Appendix N.

County Data and Observation Metrics
Parcel Fabric Completeness
Municipal Gaps
Urban Gaps
Parcel Data
Parcel ID
Site Address
Total Assessed Value
Assessed Value of Land
Assessed Value of Improvements
Estimated Fair Market Value
Net Property Tax
Gross Property Tax
Class of Property
Deeded Acres
Zoning Data
County General Zoning
Farmland Preservation Zoning
Shoreland Zoning
Floodplain Zoning
Airport Protection Zoning
General Comments

6.2 Ingest Observations

As described in the previous section, as parcel and tax roll data came in, the team performed and recorded assessments of the (geometric, attribute, and metadata) quality of the submitted data against the requirements of the project. For some counties, this primary assessment resulted in the need to call on additional data or other aiding information from local data stewards.

At the point where a county's dataset was determined to meet the needs of the V1 Project, detailed documentation was created regarding how it should be transformed to meet the data model of the statewide layer. These assessments were manually observed using various forms of software and also automatically taken from datasets through use of the ArcPy module. Results of these assessments were recorded in spreadsheet format and used for processing the data within the local-level logic phase.

Upon completion of the statewide layer, the project team also used selections of these assessment notes to drive the county data assessments. The team chose common themes in compiling this assessment so as to comment on items that relate to Benchmarks 1-4 and intend to offer value to achieving improved data submissions for V2. Zoning data was assessed on a separate cycle; after all of the parcel and tax roll data was assessed in a similar form to parcel and tax roll data.

6.3 Final Data Tabulation

In addition to ingest observations, select analyses were performed over the final statewide parcel data to tabulate the population of certain fields of interest on a per county basis. Not all fields within the parcel layer need to be populated for all features; in many cases it is in fact correct for null values to exist within a field. One such example of this is UNITID, which identifies the unit number of the given site address, such as an apartment number. In most cases the site address does not incorporate a UNITID and is correctly populated as null.

The project team identified fields that should always be populated if the given parcel geometry represents real property and created an ArcPy tool that would calculate the percentage of correctly populated values accordingly. This tool utilizes dynamic querying capability, allowing the user to alter the parameters of the tool and identify common elements within a PARCELID that qualify the parcel as something other than real property. It is not uncommon for geometries to exist in parcel datasets that map items such as rights of way, water, parks, or other non-parcelized sections, making it appropriate to exclude these entities in the calculations of completeness.

6.4 Geometric Gap Analysis

The geometric completeness of the parcel datasets is described in Digital Appendix N and the tables below.

County	Total	Cities With Gaps in Parcel Coverage – Called On and Included in V1 Deliverable
Eau Claire	1	Eau Claire*
Langlade	1	Antigo*
Rock	2	Beloit*, Janesville*

County	Total	Cities and Villages With Gaps In Parcel Coverage
Buffalo	6	Alma, Buffalo, Cochrane, Fountain City, Mondovi, Nelson
Clark	4	Abbotsford*, Curtiss, Dorchester*, Unity*
Crawford	9	Bell Center, Eastman, Ferryville, Gays Mills, Lynxville, Mount Sterling, Prairie du Chien, Soldiers Grove, Wauzeka
Marathon	1	Elderon
Marquette	3	Montello, Oxford, Westfield
Polk	1	Clear Lake
Rusk	9	Bruce, Conrath, Glen Flora, Hawkins, Ingram, Ladysmith, Sheldon, Tony, Weyerhaeuser
Vernon	6	Chaseburg, Coon Valley, Genoa, La Farge, Ontario, Stoddard

Note. * Municipality is split by county boundary and gap exists in given county only
In all other cases, gaps may exist and data may be incomplete within the city or village

6.5 County Feedback Reports

A selection of the V1 assessment and observation data was used to create individualized county feedback reports. Some of the feedback addresses items that were not explicitly requested in the V1 call for data. For this reason, feedback was intended to simply highlight potential problems with submitting to the future V2 project.

The main objective of the feedback reports is to share with the authoritative data stewards information on how their data is being used, and recognize the amount of work that goes into creating and maintaining parcel data at the local level. The feedback reports also serve to highlight any potential places local data does not meet the needs of the statewide parcel layer, important to record for future progress in the statewide layer.

6.6 Assessment of Costs for Meeting Benchmarks

After completing the V1 analysis, and alongside other types of data, cost estimates for meeting the benchmarks were derived. These rough cost estimates are inexact and based on limited, available information.

It is assumed that the costs of meeting Benchmark 1 and Benchmark 2 (Parcel and Zoning Data Submission; Extended Parcel Attribute Set Submission) are likely to be minimal or well below $50k per county. There are two similar cases to use as reference points for this estimate. In 2001, counties were awarded an average of $6,021 in WLIP Strategic Initiative grant funding by DOA to index and format their tax and assessment parcel data. In 2015, counties reported the costs of meeting the Department of Revenue's preferred XML format standard averaged $1,095, according to responses to an email survey by WLIP staff (where thirteen of twenty eligible counties responded). Counties can use the DOR's XML format standard for tax roll data to partially meet Benchmarks 1 and 2.

For the estimated nine counties that have not already met Benchmark 3 (Completion of County Parcel Fabric), costs will vary in meeting this benchmark. The estimated cost of mapping parcels is about $12 per parcel, with prices ranging from $8 to $20 per parcel (as gathered from a sample of WLIP Base Budget grant applications), not including the costs of any PLSS work. According the terms of Benchmark 3, a county must estimate the costs of completion in plan for parcel layer completion to be included with a 2016 Strategic Initiative grant application.

Based on the 2013 WLIP Survey that included questions about PLSS remonumentation, it is estimated that about 20 counties have already met Benchmark 4 (Completion and Integration of PLSS). For the remaining 52 counties, discovery of the PLSS corner monument and/or PLSS remonumentation, establishment of survey-grade GPS coordinates, tie sheet documentation, and integration GPS coordinates into parcel mapping likely ranges from about $250 to $2,500 per PLSS corner, as derived from cost estimates provided with WLIP grant applications. The cost variation is due to how easy or difficult it can be to determine the location of a corner. According to the terms of Benchmark 4, a county must estimate costs in a PLSS plan to be included with its 2016 Strategic Initiative grant application.

6.7 Meeting Statutory Requirements

To meet s. 59.72(2)(a), which requires counties to post certain parcel information online in a searchable format by June 30, 2017, the following elements will be publicly available through the V1 layer. They will be available to the extent they were populated by counties in the datasets submitted for the V1 Project and could be identified within the datasets.

Act 20 Attributes Required by s. 59.72(2)(a)	V1 Elements (9)
Assessed value of land	LNDVALUE
Assessed value of improvements	IMPVALUE
Total assessed value	CNTASSDVALUE
Class of property, as specified in s. 70.32 (2)(a)	PROPCLASS 1. Residential 2. Commercial 3. Manufacturing 4. Agricultural 5. Undeveloped 5m. Agricultural forest 6. Productive forest land 7. Other
Estimated fair market value	ESTFMKVALUE
Total property tax	TTLPRPTAX
Any zoning information maintained by the county	ZONINGFIPS JURISDICTION ZONINGCLASS DESCRIPTION / LINK
Any property address information maintained by the county	SITEADRESS
Any acreage information maintained by the county	DEEDACRES GISACRES

APPENDICES

Appendix
A. Searchable Format for V2

The searchable format directly meets the data model requirements of the final statewide parcel layer. When submitting to the searchable format, the parcel and tax roll data provided are prepared for immediate asynchronous aggregation with the statewide parcel layer. This appendix will describe the specifications of the searchable format in three sections—Parcel Geometries, Parcel-Attribute Relationships, and Attributes.

The searchable format follows a *flat model*, meaning that one-to-many, many-to-many, or many-to-one relationships between geometries and attributes cannot exist. This also means that all attribute data exists in the GIS table. Data submissions requiring table joins are prohibited in the searchable format.

1. Parcel Geometries

1.1 File Specifications

1.1.1 A GIS template file has been provided with this document and can be used for submission: \GISTemplates.gdb\SearchableFormatTemplate in Digital Appendix M

1.1.2 Parcel geometries must be submitted as a file geodatabase (.gdb) containing all available digital parcels as a single feature class.

1.1.3 Parcel feature class must follow the naming convention defined here:

- (a) Geodatabase will be named with the county name
- (b) Feature class containing parcel geometries named "PARCELS"
- (c) Spaces will be annotated as underscores "_"
- (d) Punctuation will be omitted
- (e) All alpha characters will be uppercase
- (f) Example 1: LA_CROSSE_PARCELS.gdb\PARCELS
- (g) Example 2: FOND_DU_LAC_PARCELS.gdb\PARCELS
- (h) Example 3: ST_CROIX_PARCELS.gdb\PARCELS

1.1.4 Parcel geometries must be transformed to the following coordinate reference system specifications using the transformation of choice (if applicable). This CRS may be imported from \GISTemplates.gdb\SearchableFormatTemplate in Digital Appendix M

- (a) Datum: NAD_1983_HARN_Wisconsin_TM
- (b) WKID: 3071 Authority: EPSG
- (c) Projection: Transverse Mercator
- (d) False Easting: 520000.0
- (e) False Northing: -4480000.0
- (f) Central Meridian: -90.0
- (g) Scale Factor: 0.9996
- (h) Latitude Of Origin: 0.0
- (i) Linear Unit: Meter (1.0)

1.2 Geometric Specifications

1.2.1 All available digital parcel geometries must be included as one GIS feature class for the county parcel jurisdiction.

1.2.2 File must include all available digital parcels, regardless of tax exemption status.

1.2.3 Only current parcels should be included. Historic parcels should be omitted.

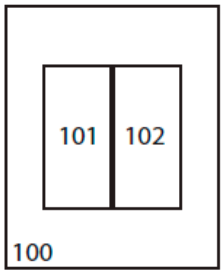
1.2.4 There must be a one-to-one relationship between parcel geometries and records in the attribute table. Each tax parcel geometry must attach to one and only one record; each record must attach to one and only one parcel.

1.2.5 In the case of condos, or other collective real property ownerships, if there is more than one tax record for the same area of land, each record must attach to one and only one parcel geometry. Condos may be presented with the following geometric representations (Figure A-1).

- (a) Type 1 "Discrete"
- (b) Type 2 "Stacked"
- (c) Type 3 "Divided"
- (d) Type 4 "Distributed"

Condo Type #1

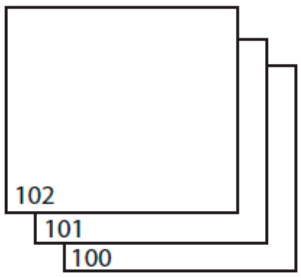
PIN	TAX
101	G1
102	G2



**No record in tax roll for PIN 100

Condo Type #2

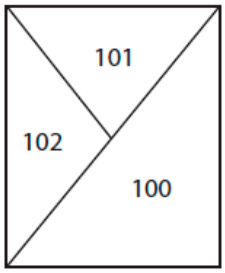
PIN	TAX
100	G1
101	G2
102	G2



**Stacked parcels, 1 per owner

Condo Type #3

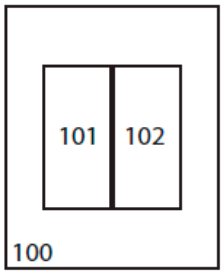
PIN	TAX
100	G1
101	G2
102	G2



**Main parcel divided up into segments. Not representative of individual unit/parcel geometry. (Common legal description)

Condo Type #4

PIN	TAX
101	G1
102	G2



**Follows same model as #1, but PIN 100 contains common taxable elements prorated across 101 & 102

Figure A-1. Condo Model Scenarios

2. Parcel-Attribute Relationships

2.1 There must be a one-to-one relationship between parcel geometries and records in the attribute table. Each parcel must attach to one, and only one, record; each record must attach to one, and only one, parcel.

2.2 Every record in the tax roll should attach to a parcel geometry. If a record exists in the tax roll but not in the parcel geometry, it is a missing parcel geometry. There should be no missing parcel geometries.

2.3 In the case of condos, or other collective real property ownerships, if there is more than one tax record for the same area of land, each record must attach to one and only one parcel geometry. See Figure A-1 and Section 1.2.5 above for geometric condo specifications.

2.4 Multiple parcels should not be used to denote multiple site addresses, multiple owners, multiple classes of property, or any other attribute within the same real property. See Appendix F for specifications on how to table multiple elements.

3. Attributes

3.1 The file geodatabase feature class must include an attribute table adhering to the schema specifications outlined in Appendix F.

3.2 The attribute table must include complete, current tax roll elements for all taxable real property in the county.

3.3 A Parcel ID must be included that uniquely identifies each parcel via the PARCELID field.

3.4 Multiple attribute elements within one real property must be tabled according to specifications described in Appendix F. The existence of multiple attribute elements is outlined in Appendix D.

3.5 Attribute requirements are outlined in Appendix D in the "Benchmark 1 Requirement" column. Items identified in this column are required to satisfy statutory requirements and the searchable format. Attributes that satisfy Benchmark 2 are listed in Appendix D in the "Benchmark 2 Requirement" column.

Appendix
B. Export Format for V2

The export format is designed as a temporary exchange standard that facilitates transformation of parcel and tax roll data into the searchable format. The export format is an exchange standard with a specification that will change over future iterations of the Statewide Parcel Initiative, evolving toward and eventually being replaced by the data model elements of the searchable format. The export format specification described in this document is for the first quarter of 2016 only. This appendix will describe the specifications of the export format.

There is an option of four separate models for submitting in the export format to DOA. Each county will have discretion in deciding which model they choose to follow for submission. The models for the export format describe how the data components—geometries and parcel attributes—are submitted.

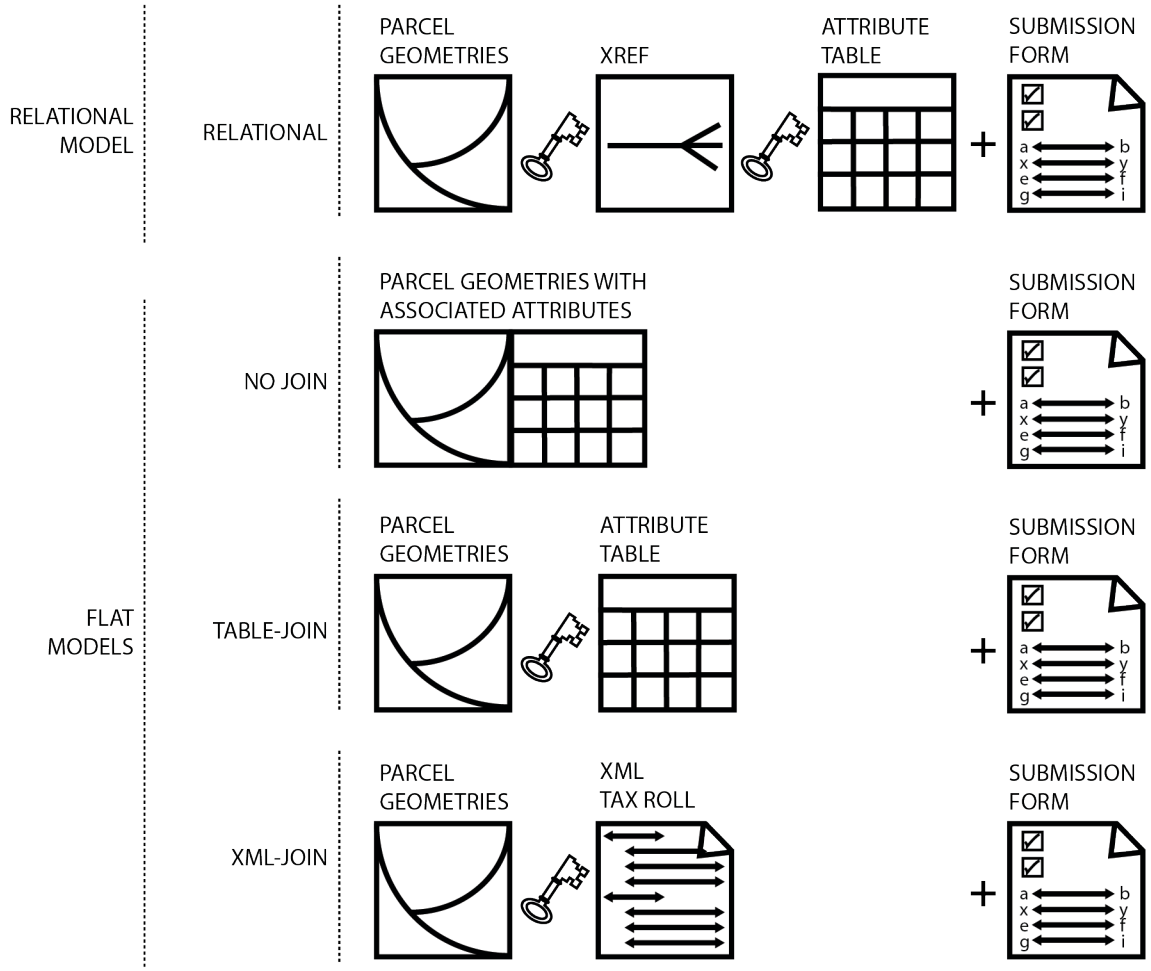


Figure B-1. Models for V2 Data Submission for Those Submitting in Export Format

All data that is stewarded by the county must be submitted following *one* of these models, not a combination of these models. As illustrated in Figure B-1, the export format provides one pathway for submitting as a relational model or three pathways for submitting as a flat model.

Note that submitting data in the export format requires an additional essential component—a **submission form** (Digital Appendix L). The submission form describes the submitted data in a manner similar to a crosswalk, as illustrated in Figure B-2.

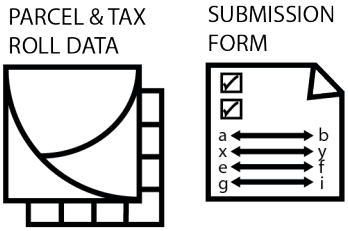


Figure B-3. Components of Data Submission

To further describe the four models of export data submission, this appendix is broken into four sections: General Specifications, GIS File Specifications, Attribute File Specifications, and Geometric Specifications.

1. General Specifications

1.1 Submission Form

1.1.1 A completed submission form is required for successful submission to the export format. The submission form concept is included with this documentation and will contain a form for specifying information about the export. When submitting to the export format, the county should read the first tab of this submission form and complete the tab corresponding to the model type being submitted.

1.2 Attribute Specifications

1.2.1 All tabular information submitted must meet the attribute requirements identified in Appendix D under the "Benchmark 1 Requirement" column. Attributes do not need to be submitted conforming to the Appendix D as long as the appropriate attribute crosswalk is completed within the submission form. The submission form indicates the sub-requirements of each field.

1.2.2 All submitted tabular information is to be existent in one, and only one, common table. Multiple tables are not allowed.

1.2.3 Attribute requirements are outlined in Appendix D under the "Benchmark 1 Requirement" column. Items identified in this column are required to satisfy the statutory requirements. Attributes that satisfy Benchmark 2 are listed in Appendix D in the "Benchmark 2 Requirement" column.

1.3 Join and Relationship Specifications

1.3.1 If the model requires a join or relationship between the attribute data and the parcel geometries, then the join or relationship field pairings must be explicitly stated in the submission form. The following information must be included in the submission form, per the model of choice.

Table B-1. RELATIONAL MODEL Elements

Parameter	Definition
Model Name	The model type submitted (RELATIONAL)
Geometry PIN	The parcel field that relates to the XREF table
XREF Geometry PIN	The XREF table field that relates to the parcel field
XREF Table PIN	The XREF table field that relates to the attribute table
Table PIN	The attribute table field that relates to the XREF table

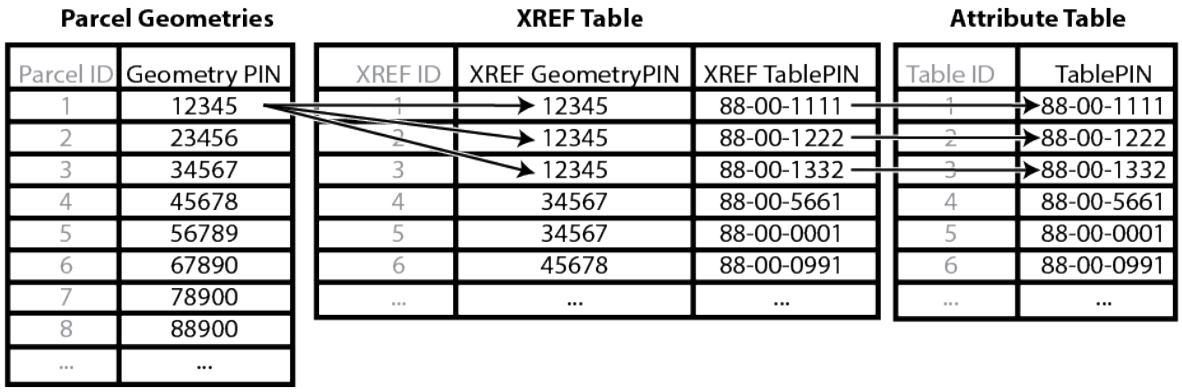


Figure B-4. Explanation of RELATIONAL MODEL Fields

Table B-2. NO JOIN MODEL Elements

Parameter	Definition
Model Name	The model type submitted (NO JOIN)

Table B-3. TABLE-JOIN MODEL Elements

Parameter	Definition
Model Name	The model type submitted (TABLE-JOIN)
Geometry PIN	The parcel field that joins (1:1) to the attribute table
Table PIN	The attribute table field that relates (1:1) to the parcel field

Table B-4. XML-JOIN MODEL Elements

Parameter	Definition
Model Name	The model type submitted (XML-JOIN)
Geometry PIN	The parcel field that joins (1:1) to the DOR XML ID
DOR XML ID	The XML field that joins records (1:1) to parcel field (LocalID1, LocalID2, or ParcelID)* *These fields are documented in the DOR County Rolls XML Schema Documentation located at: https://www.revenue.wi.gov/developers/file-transmission/documentation/CountyRollsSchemaDocumentation.xlsx

2. GIS File Specifications

2.1 File Delivery Format

The GIS file provided for submission for the searchable format may be used for assistance in submission: \GISTemplates.gdb\SearchableFormatTemplate in Digital Appendix M

2.1.1 Parcel geometries must be submitted as a file geodatabase (.gdb) containing all parcels as a single feature class. Shapefiles and CAD files are not accepted.

2.1.2 The parcel geometry feature class must follow this naming convention:

(a) Geodatabase will be named with the county name and "_B" appended to the end.
(b) Feature class containing parcel geometries named "PARCELS"
(c) Spaces must be annotated as underscores "_"
(d) Punctuation must be omitted
(e) All alpha characters must be uppercase
(f) Example 1: LA_CROSSE_PARCELS_B.gdb\PARCELS
(g) Example 2: FOND_DU_LAC_PARCELS_B.gdb\PARCELS
(h) Example 3: ST_CROIX_PARCELS_B.gdb\PARCELS

2.1.3 Parcel geometries must be transformed to the following coordinate reference system specifications using the transformation of choice (if applicable). This CRS may be imported from the GIS file provided for submission for the searchable format: \GISTemplates.gdb\SearchableFormatTemplate in Digital Appendix M

(a) Datum: NAD_1983_HARN_Wisconsin_TM
(b) WKID: 3071 Authority: EPSG
(c) Projection: Transverse Mercator
(d) False Easting: 520000.0
(e) False Northing: -4480000.0
(f) Central Meridian: -90.0
(g) Scale Factor: 0.9996
(h) Latitude Of Origin: 0.0
(i) Linear Unit: Meter (1.0)

3. Attribute File Specifications

3.1.1 Note: If following XML-JOIN model, all parts of this specification presume that Fair Market Value will be included in the DOR XML Schema before data submission in the first quarter of 2016. Fair Market Value is currently missing from the XML schema and is an Act 20 requirement.

3.1.2 Note: Parsed Address components are currently missing from the Department of Revenue's XML schema but are required for those submitting in the export format for Benchmark 2.

3.1.3 Unless following the XML-JOIN or NO JOIN models, tabular data must be submitted as specified here:

3.1.3.1 All attributes for the county's parcel jurisdiction must be included in one table file.

3.1.3.2 Acceptable tabular file types include:

(a) File Geodatabase (.gdb) Table
(b) dBASE (.dbf) Table

3.1.3.3 Attributes do not need to be submitted with field names conforming to Appendix D as long as the attribute crosswalk is completed within the submission form. The submission form indicates the requirements of each field.

3.1.3.4 Attribute and relationship tables must follow this naming convention:

(a) Attributes, if .gdb: LA_CROSSE_PARCELS_B.gdb\ATTR
(b) Attributes, if .dbf: ATTR.dbf
(c) Relationship Table, if .gdb: LA_CROSSE_PARCELS_B.gdb\XREF
(d) Relationship Table, if .dbf: XREF.dbf

4. Geometric Specifications

4.1.1 All digital parcel geometries must be included as one GIS feature class for the county's parcel jurisdiction.

4.1.2 File must include all parcels, regardless of tax exemption status.

4.1.3 Only current parcels will be included. Historic parcels should be omitted.

4.1.4 Unless following the relational model, there must be a one-to-one relationship between parcel geometries and records in the attribute table. Each parcel geometry must attach to one and only one record; each record must attach to one and only one parcel.

4.1.5 In the case of condos, or other collective real property ownerships, if there is more than one tax record for the same area of land, each record must attach to one and only one parcel geometry. Condos maybe presented with the following geometric representations. See Figure A-1 (Appendix A) for further description of condo model scenarios.

(a) Type 1 “Discrete”
(b) Type 2 “Stacked”
(c) Type 3 “Divided”
(d) Type 4 “Distributed”

4.1.6 Condo-Alternative Formats: If condo, or other collective real property ownerships do not follow those modeled in Figure B-1 then see Appendix E.

Appendix C. Zoning Format for V2

In addition to the elements submitted through either the searchable or export formats, submission of zoning information will be required as described in this appendix. Wisconsin Statute 59.72(2)(a)(2) refers to "Any zoning information maintained by the county," which is interpreted by DOA to mean zoning ordinances administered by the county. In most jurisdictions, zoning is a distinct layer from that of tax parcels. In addition, zoning classes and class domains vary by jurisdiction and are commonly incompatible amongst adjacent jurisdictions. For this reason, zoning information will be submitted and aggregated as several separate GIS layers. This appendix is broken into three parts: Layers for Inclusion, Zoning Geometries, and Zoning Attributes.

1. Layers for Inclusion

1.1 Table C-1 lists the 5 zoning types that must be submitted if maintained by the county.

Table C-1. Zoning Types Maintained by Counties

Zoning Category	Zoning Type	Statutory Authority	County Ordinance
General	County General	59.64(4)	Yes
Special Purpose	Farmland Preservation	59.64(4), 61.35, 62.23(7), 60.61, or 60.62	Yes
Special Purpose	Shoreland	59.692, 61.351, or 62.231	Yes
Special Purpose	Floodplain	87.3	Yes
Special Purpose	Airport Protection	114.136	Yes

2. Zoning Geometries

2.1 Each of the five zoning types in Table C-1 must be submitted as separate GIS layers of file geodatabase feature class format. If county zoning types are combined into one common layer, the appropriate features for each layer must be queried out into their respective layers.

2.2 Files must be named with the following syntax and must reside in the .gdb of the parcel format being submitted:

Table C-2. Zoning Types and File Names

Zoning Type	File Name (if submitting parcel export format)
County General	LA_CROSSE_PARCELS_B.gdb\GENERAL
Farmland Preservation	LA_CROSSE_PARCELS_B.gdb\FARMLAND
Shoreland	LA_CROSSE_PARCELS_B.gdb\SHORELAND
Floodplain	LA_CROSSE_PARCELS_B.gdb\FLOODPLAIN
Airport Protection	LA_CROSSE_PARCELS_B.gdb\AIRPORT

2.3 Zoning layers must be transformed to the following coordinate reference system specifications using the transformation of choice (if applicable):

(a) Datum: NAD_1983_HARN_Wisconsin_TM
(b) WKID: 3071 Authority: EPSG
(c) Projection: Transverse MercatorFalse Easting: 520000.0
(d) False Northing: -4480000.0
(e) Central Meridian: -90.0
(f) Scale Factor: 0.9996
(g) Latitude Of Origin: 0.0
(h) Linear Unit: Meter (1.0)

2.4 The nature of geometries within the datasets may vary, the geometries may be bound discretely to parcels or zoning areas may split parcels.

2.5 If zoning information is included within the parcel layer, it still must be included as specified in this appendix as well.

2.6 A GIS template file has been provided with this document and can be used for submission: \GISTemplates.gdb\ZoningFormatTemplate in Digital Appendix M.

3. Zoning Attributes

3.1 The zoning format follows a simple attribute schema, as outlined in Table C-3. Detailed descriptions of these attributes are included in the zoning schema which appears as Appendix G.

Table C-3. Zoning Attribute Schema

Field Name	Definition	Act 20 Requirement s. 59.72(2)(a)
ZONINGFIPS	Indicates the FIPS Code of the contributing jurisdiction of the zoning dataset.	Yes
JURISDICTION	Name of authoritative jurisdiction [Note 1]	Yes
ZONINGCLASS	Class of zoning within the given zoning type	Yes
DESCRIPTION	A description of the meaning of the zoning class [Note 2]	Yes, IF LINK not populated
LINK	A link to metadata or table describing the meaning of the zoning class [Note 2]	Yes, IF DESCRIPTION not populated

Notes for Table C-3

[Note 1] The jurisdiction of each zoning feature must be annotated in the JURISDICTION field. See the zoning schema in Appendix G for jurisdiction syntax.

[Note 2] Either DESCRIPTION or LINK is required for inclusion with each zoning feature to satisfy this format:

(a) DESCRIPTION must include a full (paragraph) description of the respective zoning type. This field is limited to 255 characters maximum.

(b) LINK must be to a valid URL webpage or web document that contains descriptions of the given zoning class or all zoning classes. This may be one document describing all zoning types and their sub categories or a page describing exclusively the feature's Zoning Class.

Appendix
D. Schema Requirements for V2

Included in this table is a list of attributes, titled by field name, that participate in the V2 searchable format attribute schema. This schema is consistent with the schema of the statewide parcel layer.

Benchmarks: Table D-1 provides an overview of benchmark requirements, and other general requirements, per schema element. Each of these elements is addressed in detail in Appendix F (the full Parcel Schema for V2). Items identified through the "Benchmark 1 Requirement" column are those that are required to meet Benchmark 1. "Benchmark 2 Requirement" items are those that are required to meet Benchmark 2. Note that Benchmarks 1 and 2 are applicable to either submission format—the searchable format or the export format.

Standard Domains: Table D-1 also identifies where standard domains are required. **Standardized field names and standardized domains are only required if submitting the searchable format** (Appendix A), but may be used voluntarily for those submitting in the export format (Appendix B) in order to ensure quality in the statewide parcel layer. Field name and domain standardization by counties for Wisconsin parcel and tax roll attributes is a goal, but may not be achievable at the local level for V2.

For those submitting in the searchable format for V2, all fields with a "Yes" in the column labeled "Standardized Domains Required for Searchable Format" in Table D-1 should be standardized based on Digital Appendix J. Fields requiring domain standardization for the searchable format include:

- **PREFIX** – <Address> Prefix
- **STREETTYPE** – Street Type
- **SUFFIX** – <Address> Suffix
- **SCHOOLDIST** – School District
- **SCHOOLDISTNO** – School District Number
- **IMPROVED** – Improved Structure
- **PROPCLASS** – Class of Property
- **CONAME** – County Name
- **PARCELFIPS** – Parcel Source FIPS
- **PARCELSOURCE** – Parcel Source Name

If submitting in the searchable format for V2, it is required that these fields be standardized as documented in Digital Appendix J. If submitting to the export format, it is *not* required that these fields be standardized for submission. Instead, the parcel aggregation team will perform the appropriate standardization on behalf of counties, aided by the submission form counties must submit as part of the export format.

Handling of Multiple Values: For several fields it is possible for more than one field value to exist for a given parcel. In these cases, specific actions should be taken to handle these values properly; these are noted in Table D-1. If multiple values are not expected in a given field it is annotated with an N/A in Table D-1. **Handling of multiple values properly is a requirement of both Benchmark 1 and 2, and both submission formats—searchable and export.** Tabling multiple values is better defined in schema documentation (Appendix F).

Schema Requirements and Data Cleansing: Table D-1, along with the more detailed schema in Appendix F, specifies what belongs in a particular field, and does not address in detail what does *not* belong in that field. In general, however, fields should not contain any extraneous information, such as building descriptors appended to the address. Other extraneous information that may require some data cleansing prior to data submission in the searchable format include:

- Avoid Street Name and Street Prefix included in one field
- Avoid Highway type (Highway, Interstate, County Highway, etc.) and the highway route number or letter included in one field
- Avoid duplicate information attached to the end of the full street address
- Avoid County FIPS attached to PlaceName
- Avoid Alt Street Name attached to Full Address
- Avoid PlaceName abbreviation attached to end of Full Address

Benchmark 2 and Address Parsing. Counties may or may not have address components parsed to achieve Benchmark 1. To achieve Benchmark 2, counties must provide fully parsed site address elements for both the searchable and export format.

Table D-1. V2 Schema Requirements

Field Name	Definition	Benchmark 1 Requirement	Benchmark 2 Requirement	Standardized Domains Required for Searchable Format	Handling of Multiple Values (See also Appendix F)
STATEID	An ID generated by concatenating <JurisdictionFIPS>with<PARCELID>	No	No	No	N/A
PARCELID	Parcel ID	Yes	Yes	No	N/A
TAXPARCELID	Tax Parcel ID	Yes [Note 9]	Yes [Note 9]	No	N/A
PARCELDATE	Parcel Date	No	Yes	No	N/A
TAXROLLYEAR	Tax Roll Year	Yes	Yes	No	N/A
OWNERNME1	Primary Owner Name	No	Yes	No	[Note 5]
OWNERNME2	Secondary Owner Name	No	Yes – If available	No	[Note 5]
PSTLADRESS	Full Mailing Address	No	Yes	No	[Note 6]
SITEADRESS	Full Physical Street Address	Yes [Note 1]	Yes [Note 1]	No	[Note 7]
ADDNUMPREFIX	Address Number Prefix	No [Note 2]	Yes [Note 3]	No	[Note 8]
ADDNUM	Address Number	No [Note 2]	Yes [Note 3]	No	[Note 8]
ADDNUMSUFFIX	Address Number Suffix	No [Note 2]	Yes [Note 3]	No	[Note 8]
PREFIX	Prefix	No [Note 2]	Yes [Note 3]	Yes	[Note 8]
STREETNAME	Street Name	No [Note 2]	Yes [Note 3]	No	[Note 8]
STREETTYPE	Street Type	No [Note 2]	Yes [Note 3]	Yes	[Note 8]
SUFFIX	Suffix	No [Note 2]	Yes [Note 3]	Yes	[Note 8]
LANDMARKNAME	Landmark Name	No [Note 2]	Yes [Note 3]	No	[Note 8]
UNITTYPE	Unit Type	No [Note 2]	Yes [Note 3]	No [Note 10]	[Note 8]
UNITID	Unit ID	No [Note 2]	Yes [Note 3]	No	[Note 8]
PLACENAME	Place Name	No [Note 2]	Yes [Note 3]	No [Note 10]	[Note 8]
ZIPCODE	Zip Code	No [Note 2]	Yes [Note 3]	No	[Note 8]
ZIP4	Zip + 4	No	Yes	No	[Note 8]
STATE	State	No	Yes	No	[Note 8]
SCHOOLDIST	School District	No	Yes	Yes	N/A
SCHOOLDISTNO	School District Number	No	Yes	Yes	N/A
IMPROVED	Improved Structure	No	Yes	Yes	N/A
CNTASSDVALUE	Total Assessed Value	Yes	Yes	No	N/A
LNDVALUE	Assessed Value of Land	Yes	Yes	No	N/A
IMPVALUE	Assessed Value of Improvements	Yes – If applicable	Yes – If applicable	No	N/A
FORESTVALUE	Assessed Forested Value	Yes – If applicable	Yes – If applicable	No	N/A
ESTFMKVALUE	Estimated Fair Market Value	Yes	Yes	No	N/A
NETPRPTA	Net Property Tax	Yes – If GRSPRPTA not provided	Yes – If GRSPRPTA not provided	No	N/A
GRSPRPTA	Gross Property Tax	Yes – If NETPRPTA not provided	Yes – If NETPRPTA not provided	No	N/A
PROPCLASS	Class of Property	Yes	Yes	Yes	[Note 4]
AUXCLASS	Auxiliary Class of Property	No	Yes	No	[Note 4]
DEEDACRES	Deeded Acres	Yes	Yes	No	N/A
GISACRES	GIS Acres	Yes	Yes	No	N/A
CONAME	County Name	No	Yes	Yes	N/A
LOADDATE	Load Date	No	No	No	N/A
PARCELFIPS	Parcel Source FIPS	No	Yes	Yes	N/A
PARCELSRC	Parcel Source Name	No	Yes	Yes	N/A

Notes for Table D-1

[Note 1] Unless no address has been assigned (e.g., no physical structure on parcel). If a site address exists as segmented elements in the county land information system, the county must concatenate address elements before submitting for both the searchable and export formats. The address elements must be concatenated in this order ADDNUMPREFIX, ADDNUM, ADDNUMSUFFIX, PREFIX, STREETNAME, STREETTYPE, SUFFIX, LANDMARKNAME, UNITTYPE, UNITID, PLACENAME, ZIPCODE.

[Note 2] Counties may or may not have address components parsed to achieve Benchmark 1. If county is not able to provide parsed address elements, these elements will be parsed out of the site address field (SITEADRESS) by the V2 project team. Counties submitting to Benchmark 1 through the searchable format must provide fully parsed address elements.

[Note 3] To achieve Benchmark 2, counties must provide fully parsed site address elements for both the searchable and export formats.

[Note 4] Listed if more than one exists and delimited by comma. Class of Property and Auxiliary Class of property are better defined in Appendix F.

[Note 5] 2nd owner goes in OWNERNME2; 3rd owner is omitted.

[Note 6] Tax bill mailing address; all other mailing addresses omitted.

[Note 7] Only include primary address; 2nd address is omitted.

[Note 8] Only include address elements from the primary address; any elements from a 2nd address should be omitted.

[Note 9] TAXPARCELID is the ID that will link to the Tax Roll; provide if this ID is distinct from PARCELID.

[Note 10] While these fields permit standardized domains to be defined in theory, standardization is not being implemented at this time to limit data cleanup costs and complexity.

References

- Appendix F Parcel Schema for V2
- Appendix G Zoning Schema for V2
- Digital Appendix J V2 Parcel Domain List
- Digital Appendix K V2 Zoning Domain List

Appendix
E. Condo-Alternative Formats for V2

If condo, or other collective real property ownerships are not modeled geometrically (not meeting the types in Figure A-1) or relationally (as seen through the relational model), parcel geometries may be submitted as-is. However, these parcel layers must be accompanied by tabular information that will identify where condo geometries exist by PIN and list, by TAX ID which tax records are to be attached to the geometry. An example of this is CNDPIN and CNDTAXPIN.

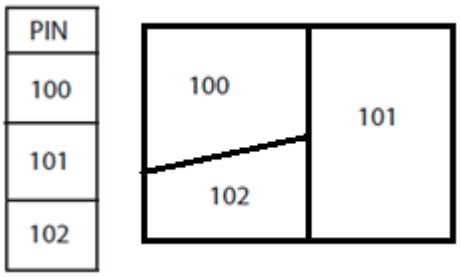


Figure E-1. Example of GIS Geometry to Attribute Table Relationship

Table E-1. CNDPIN and CNDTAXPIN Relationships

CNDPIN	CNDTAXPIN
100	1001
100	1002
100	1003
101	1011
101	1012
102	1021

Table E-2. Options for Providing a Condo Alternative Format

MODEL	CNDPIN	CNDTAXPIN
RELATIONAL	N/A [Note 1]	N/A [Note 1]
NO JOIN	N/A [Note 2]	N/A [Note 2]
TABLE JOIN	CNDPIN 2.1.1)	CNDTAXPIN 2.2.1)
XML JOIN	CNDPIN 2.1.2)	CNDTAXPIN 2.2.2)

Notes for Table E-2

[**Note 1**] It is not necessary for RELATIONAL models to follow a condo alternative as their parcel geometry to multiple tax record relationship should already be modeled.

[**Note 2**] The NO JOIN model is incompatible with the condo-alternative format.

1. Naming Conventions. If these IDs are provided through an additional table, it must adhere to the following naming convention:
   - 1.1 For Condo Table, if .gdb: LA_CROSSE_PARCELS_B.gdb\CONDOS
   - 1.2 For Condo Table, if .dbf: CONDOS.dbf
2. Field Definitions. The table provided should contain two fields, named CNDPIN and CNDTAXPIN
   - 2.1 CNDPIN
     - 2.1.1 Unrestricted text field containing the exact text ID that joins to the Geometry PIN of the parcel geometries being submitted. CNDPIN must contain the same values as what is identified as Geometry PIN in the submission form. Upon relating these tables, the values in the parcel geometry feature class must relate to this table on a one-to-one or one-to-many basis. If following the Table Join model, this field may be added to the ATTR table, eliminating the need for an additional file and the need for CNDTAXPIN.
     - 2.1.2 Unrestricted text field containing the exact text ID that joins to the Geometry PIN of the parcel geometries being submitted. CNDPIN must contain the same values as what is identified as Geometry PIN in the submission form. Upon relating these tables, the values in the parcel geometry feature class must relate to this table on a one-to-one or one-to-many basis.

2.2 CNDTAXPIN

2.2.1 Unrestricted text field containing the exact pin that joins to the attribute table (ATTR) of the data being submitted. This field is applicable if CNDPIN is not integrated with the ATTR table. CNDTAXPIN must contain the same values as what is identified as Table PIN in the submission form. Upon relating these tables, the values in the ATTR table must relate to this table on a one-to-one basis.

2.2.2 Unrestricted text field containing the exact pin that joins to the XML Tax Roll (DOR XML ID: LocalID1, LocalID2, or ParcelID). CNDTAXPIN must contain the same values as what is identified as DOR XML ID in the submission form. Upon relating these tables, the values in the XML Tax Roll must relate to this table on a one-to-one basis.

Appendix
F. Parcel Schema for V2

Legend	
V2 ELEMENTNAME	Denotes database field name
(Element Name)	Full English database field name (Alias).[7]
[CP]	Denotes database field name that is equivalent to Community Parcels element name
[AUX]	Denotes field that is an auxiliary element intended to build value into the parcel layer beyond that of Act 20.
[Act20]	Denotes a field name that fills requirements defined by **Wisconsin s. 59.72(2)(a)**: http://docs.legis.wisconsin.gov/statutes/statutes/59/VII/72
[REQ]	Denotes a field that is not required by **Wisconsin s. 59.72(2)(a)**, but is a requirement to the Statewide Parcel Layer.
[FGDC: <FGDC Element>]	Denotes database field name modeled after the FGDC U.S. Thoroughfare, Landmark, and Postal Address Data Standard. If name is different from FGDC, the FGDC element's name is also listed.
[AUTO]	Denotes that this field is auto populated by the Aggregation tool (current version = V1.2.0)
{TEXT:<#> CHAR}	Denotes the datatype of the file(all are TEXT) and the character length of the field.[8]

STATEID (State ID) *[AUX] [AUTO] {TEXT:100 CHAR}*
This string field contains the contributing jurisdiction's FIPS code appended to the PARCELID (the unique number or identifier assigned to a parcel by the local authority). Calculating the STATEID can be done by the following syntax:

*<**FIPS**>+<**PARCELID**>*

*Where **FIPS** is defined as annotated in **County_CountySub_Domins.xlsx**, which is included with this documentation[9] and where the **PARCELID** is as defined below.*

PARCELID (Parcel ID) *[CP] **[REQ]** {TEXT:100 CHAR}*
Unique number or identifier assigned to a parcel by the local GIS authority. The PARCELID is specific to GIS functionality and serves as the primary key to GIS joins or relationships. This ID may be identical to the Tax Parcel ID or it may have commonalities with the Tax Parcel ID. This ID may also be completely distinct from the Tax Parcel ID.

TAXPARCELID (Tax Parcel ID) *[AUX] {TEXT:100 CHAR}*
Unique number or identifier assigned to a parcel that directly joins to the parcel number shown in the final Tax Roll. This ID is specific to the Tax Roll and serves as primary key in joining parcel geometries to Tax Roll. This ID may be the same as Parcel ID, have commonalities with the Parcel ID, or be completely distinct from the Parcel ID. This Tax Parcel ID should be the same ID as is provided as an ID within the final Tax Roll or as is provided in the XML Tax Roll submitted to the Department of Revenue.
NOTE: The Department of Revenue maintains a jurisdiction-specific Tax Parcel ID schema[10] that may follow the formula used to construct these IDs.

[7] Full list can be found in: Wisconsin_Parcels_Attribute_Schema_Domains.xlsx\GENERAL
[8] Full list can be found in: Wisconsin_Parcels_Attribute_Schema_Domains.xlsx\GENERAL
[9] Definitions derived from: http://www2.census.gov/geo/docs/reference/codes/files/st55_wi_cousub.txt
[10] https://www.revenue.wi.gov/ust/parcels.html

PARCELDATE (Parcel Date) *[AUX] {TEXT:25 CHAR}*
The date that best describes when the parcel geometry was last edited. In lieu of individual parcel date records, the parcel datasets last know geometric editing date can be used. Such geometric edits include the following:

- Parcel creation
- Parcel Division
- Parcel Merge
- Change of parcel vertices
- Spatial adjustment of parcel

Dates must be formatted as follows:
Syntax: ***<MM>/<DD>/<YYYY>***
Example: ***01/20/1984***

TAXROLLYEAR (Tax Roll Year) *[AUX] {TEXT:10 CHAR}*
The year of the Tax Roll from which tax information is procured.
Examples:

- *2015*
- *2016*

OWNERNME1 (Primary Owner Name) *[CP] {TEXT:254CHAR}*
The primary owner name of a parcel.

- In the case of multiple owners, if it is not clear which owner is the primary owner, discretion may be used to place an owner in this field.
- If not feasible to parse owners into separate fields, more than one owner may be included in this field.
- Owner name does not require formatting and may be provided as-is

Note: If redaction of owner name is required, these names should be attributed as **"NOT AVAILABLE"**

OWNERNME2 (Secondary Owner Name) *[CP] {TEXT:254 CHAR}*
The secondary owner name of a parcel (if available)

- If there are more than two total owners exist for the property, discretion may be used to select the first two owners for the purpose of populating OWNERNME1 and OWNERNME2. Remaining owner names will not be included in the dataset.
- In the case of multiple owners, if it is not clear which owner is the secondary owner, discretion may be used to place an owner in this field.
- If not feasible to parse owners into separate fields, more than one owner may be included in this field.
- Owner name does not require formatting and may be provided as-is

Note: If redaction of owner name is required, these names should be attributed as **"NOT AVAILABLE"**

PSTLADRESS (Full Mailing Address) *[CP] {TEXT:200 CHAR}*
The full mailing address associated with the Primary Owner Name of the parcel or the mailing address of the Tax Bill associated with the parcel, whichever is available. This field is comprised of AddNumPrefix*, AddNum, AddNumSuffix*, PrefixDir*, StreetName, StreetType*, SuffixDir*, Building*, UnitType*, UnitID*, **PlaceName, State** and **ZipCode** as a single field. This attribute is complete as provided from native datasets.
*where applicable

SITEADRESS (Full Physical Address) ***[Act20]*** *[CP] {TEXT:200 CHAR}*
The full physical address (or site address) of a parcel comprised of AddNumPrefix*, AddNum, AddNumSuffix*, PrefixDir*, StreetName, StreetType*, SuffixDir*, Building*, UnitType* and UnitID* concatenated together. If full address is available as a full field, it may be included in this field as-is. If a site address is not available as a full field, then a full address is to be constructed from the appropriate individual address components.
*where applicable.

- If there are more than two physical addresses associated with a parcel, such as with an apartment, then a valid primary address is to be used, if available. Such an example of this would be an apartment's on-site office address. Alternatively, discretion may be used to select one "primary" physical address for the parcel.
- Address ranges are not accepted

ADDNUMPREFIX (Address Number Prefix) *[FGDC] {TEXT:50 CHAR}*
Is a rarely used prefix of the address number. In Wisconsin, this field is of particular interest due to grid address examples, such as "**W180N**8085 TOWN HALL ROAD" other examples include ordinal directions as a prefix to the address number, such as "**N**2554 JOHNSON STREET"

Examples:

- *N*
- *S*
- *W180N*
- *S379W*

ADDNUM (Address Number) *[FGDC] {TEXT:50 CHAR}*
The whole number component of a posted building identifier. Address Numbers should always be whole numbers.
Examples:

- *2554*
- *8085*
- *4215*
- *10*

ADDNUMSUFFIX (Address Number Suffix) *[FGDC] {TEXT:50 CHAR}*
Is a rarely used extension of the address number for a posted building identifier, not to be confused with unit divisions within a building (UnitID).
Examples:

- -856
- *-2445A*
- *A*
- *C*
- *½*
- *.5*

Examples in context:

- *798 **A** 26TH STREET*
- *2554-**856** MAIN STREET*
- *678 **½** MORRISON STREET*
- *6895**.5** GORHAM STREET*

PREFIX (Prefix) *[FGDC: Street Name Predirectional] {TEXT:50 CHAR}*
One letter street direction that precedes the street name
Accepted Domains:

- *N – North*
- *S – South*
- *E – East*
- *W – West*
- *NW – North West*
- *SW – South West*
- *NE – North East*
- *SE – South East*
- *SB – South Bound*
- *NB – North Bound*
- *EB – East Bound*
- *WB – West Bound*
- *CTH – County Highway*
- *STH – State Highway*
- *USH – United States Highway*
- *INTERSTATE – Interstate Highway*
- *W CTH – West County Highway*
- *E CTH – East County Highway*
- *S CTH – South County Highway*
- *N CTH – North County Highway*
- *N STH – North State Highway*
- *S STH – South State Highway*
- *E STH – East State Highway*

- *W STH – West State Highway*
- *N USH – North United States Highway*
- *S USH – South United States Highway*
- *E USH – East United States Highway*
- *W USH – West United States Highway*

STREETNAME (Street Name) *[FGDC] {TEXT:50 CHAR}*
The legal street name as assigned by local address authority. StreetName does not include the StreetType of a named street. Additionally, StreetName does not include the suffix direction of a coordinate street. The suffix direction of a coordinate street should be stored in the Suffix

STREETTYPE (Street Type) *[FGDC: Street Name Posttype] {TEXT:50 CHAR}*
Street type of a named street written to full name of type:
Accepted Domains:
***NOTE**: Values that do not translate to any of the following domains listed here will be accepted as-is.*

ACCESS	DRIVE	LANE	SCHOOL
ACRES	END	LOOP	SETTLEMENT
ALLEY	ESTATE	MALL	SHORE
AVENUE	ESTATES	MANOR	SHORES
BAY	EXPRESSWAY	MEADOW	SPRING
BEACH	EXTENSION	MEADOWS	SPRINGS
BEND	FIELDS	MEWS	SPUR
BLUFF	FOREST	NEST	SQUARE
BOULEVARD	FORK	OVERLOOK	STREET
BRANCH	GARDENS	PARK	STRIP
BYPASS	GATE	PARKWAY	SUMMIT
CAUSEWAY	GATEWAY	PASS	TERRACE
CENTER	GLENN	PASSAGE	TOWER
CHASE	GREEN	PATH	TRACE
CIRCLE	GROVE	PATHWAY	TRAIL
CLIFF	HARBOR	PIKE	TRAILS
CLOSE	HAVEN	PLACE	TRAILWAY
COMMON	HEIGHTS	PLAZA	TURN
COMMONS	HIGHWAY	POINT	TURNPIKE
COURSE	HILL	PRAIRIE	VALE
COURT	HILLS	PRIVATE DRIVE	VALLEY
COVE	HOLLOW	RAPIDS	VIEW
CREEK	ISLAND	RESERVE	VISTA
CRESCENT	ISLE	RETREAT	WALK
CREST	JUNCTION	RIDGE	WAY
CROSS	KNOLL	ROAD	WELLS
CROSSING	KNOLLS	ROUND	
CURVE	LAKE	ROW	
DALE	LANDING	RUN	

SUFFIX (Suffix) *[FGDC: Street Name Postdirectional] {TEXT:50 CHAR}*
One letter street direction that follows the street name
Accepted Domains:
***NOTE**: Values that do not translate to any of the following domains listed here will be accepted as-is.*
- *N – North*
- *S – South*
- *E – East*
- *W – West*

- *NW – North West*
- *SW – South West*
- *NE – North East*
- *SE – South East*

Other Accepted Examples:

- *40W*
- *2N*

LANDMARKNAME (Landmark Name) *[FGDC] {TEXT:50 CHAR}*
The common place name of a parcel feature. (Provided as available).

UNITTYPE (Unit Type) *[FGDC: Subaddress Type] {TEXT:50 CHAR}*
Indicates the unit type associated with a parcel feature (i.e., apartment, room, suite, unit, etc.). (Provided as available).
Accepted Domains:
***NOTE**: Values that do not translate to any of the following domains listed here will be accepted as-is.*

- *APARTMENT*
- *SUITE*
- *UNIT*
- *LOT*
- *TRAILOR*
- *ROOM*
- *CONDOMINIUM*
- *BUILDING*
- *SLIP*
- *HANGER*

UNITID (Unit ID) *[FGDC: Subaddress Identifier] {TEXT:50 CHAR}*
UnitID includes the number or letter identification string for a building, apartment, room, suite, unit, room or desk (as well as other examples). Not to be confused with AddNumSuffix, as this is a component to the address number. UnitID delineates a unit within an address (i.e., "123 ½ Apt A" → "½" is the AddNumSuffix, "Apt" is the UnitType and "A" is the UnitID).

PLACENAME (Place Name) *[FGDC: Complete Place Name] {TEXT:100 CHAR}*
The name of an officially designated jurisdiction that the parcel belongs to. standardized to include LSAD descriptors (CITY, TOWN, VILLAGE) when possible.

ZIPCODE (Zip Code) *[FGDC: ZIP Code] {TEXT:50 CHAR}*
The 5 digit zip code associated with a parcel feature

ZIP4 (Zip Code) *[FGDC: ZIP Plus 4] {TEXT:50 CHAR}*
The 4 additional digits appended to the 5 digit zip code of some parcel features

STATE (State) *[FGDC: State Name] {TEXT:50 CHAR}*
Two letter state abbreviation of a parcel feature's site address
Unless parcels are outside of the state of Wisconsin, this value will be:

- WI

SCHOOLDIST (School District) *[AUX] {TEXT:50 CHAR}*
The name of the school district, as defined in the table corresponding to the school year of the data here: http://wise.dpi.wi.gov/edfacts_federal. All values should correspond to values in the "ID 4 LEA ID (State)" field of this table.

SCHOOLDISTNO (School District Number) *[AUX] {TEXT:50 CHAR}*
The school district number, as defined here: http://wise.dpi.wi.gov/edfacts_federal. All values should correspond to values in the "ID 7 LEA Name" field of this table with upper case applied.

IMPROVED (Improved Structure) *[CP] [AUTO] {TEXT:10 CHAR}*

Indicates whether the parcel contains an improved value within the IMPVALUE field.
Accepted Domains:

- ***YES*** - if IMPVALUE is > $0
- ***NO*** - if IMPVALUE is <= $0
- ***<NULL>*** - if IMPVALUE is <NULL>
- ***N/A*** - if IMPVALUE is populated with a non-numeric element

CNTASSDVALUE (Total Assessed Value) ***[Act20]*** *[CP] {TEXT:50 CHAR}*
The total assessed value of the parcel, in US Dollars (assessed value of land + assessed value of improvements).

LNDVALUE (Assessed Value of Land) ***[Act20]*** *[CP] {TEXT:50 CHAR}*
The total value of land, without improvements, in US Dollars (assessed value of land).

IMPVALUE (Assessed Value of Improvements) ***[Act20]*** *[CP] {TEXT:50 CHAR}*
The total value of improvements on the land, in US Dollars (assessed value of improvements).

FORESTVALUE (Assessed Forested Value) ***[Act20]*** *{TEXT:50 CHAR}*
The total value forested land, in US Dollars (assessed value of forested land).

ESTFMKVALUE (Estimated Fair Market Value) ***[Act20]*** *{TEXT:50 CHAR}*
The estimated fair market value, in US Dollars.

NETPRPTA (Net Property Tax) ***[Act20]*** *{TEXT:50 CHAR}*
The net amount of annual property tax, in US Dollars. This is the actual property tax paid after deductions or credits are applied.

GRSPRPTA (Gross Property Tax) ***[Act20]*** *{TEXT:50 CHAR}*
The gross amount of annual property tax, in US Dollars. This is the total property tax before deductions or credits.

PROPCLASS (Class of Property) ***[Act20]*** *{TEXT:150 CHAR}*
The class of property, as specified in *Wisconsin s. 70.32 (2) (a)*. Wisconsin law requires the assessor to classify land on the basis of use. Sometimes this involves a judgment of the predominant use. The eight statutory classifications for real property are: (1) residential, (2) commercial, (3) manufacturing, (4) agricultural, (5) undeveloped, (5m) agricultural forest, (6) productive forest land, and (7) other. Classification is important since it affects the assessed value of land classified as agricultural, undeveloped, and agricultural forest. If domains provided by the county do not match the 8 classes listed, these domains will be placed in the AUXCLASS field. If multiple classes exist, each class is listed in this field, delimited by commas.
Class Examples:
1 – Residential
2 – Commercial
3 – Manufacturing
4 – Agricultural
5 – Undeveloped
5m – Agricultural forest
6 – Productive Forest Land
7 – Other
Domain Examples:
1,3,4
3,4,5m
M
1
4,5

AUXCLASS (Auxiliary Class of Property) *[AUX] {TEXT:150 CHAR}*
This field contains any domains that are listed by data contributors within a Class of Property field that do not fit those domains specified in *Wisconsin s. 70.32(2) (a.)* or otherwise populating PROPCLASS, above. Domains are left unstandardized. If available, descriptions of classes will be summarized and provided in this layer's metadata.
Domain Examples:
FF1,T3,T4,M

H3,FF4
FM
99
44,45
MFL
W6
W4

DEEDACRES (Deeded Acres) ***[Act20]*** *{TEXT:50 CHAR}*
The parcel area, in acres, as specified within property deed.

GISACRES (GIS Acres) *[AUX] {TEXT:50 CHAR}*
The parcel area, in acres, as calculated by contributing entity directly from GIS features.

CONAME (County Name) *[AUX] {TEXT:50 CHAR}*
The name of the parcel's county jurisdiction, as defined by the contributing data steward or by the county jurisdiction in which parcel's geographic center resides. (See Table F-1 for county spelling conventions)
Domain Examples:
DANE
FOND DU LAC
CHIPPEWA

LOADDATE (Load Date) *[AUX] [AUTO] {TEXT:10 CHAR}*
The mm/dd/yyyy when a parcel feature is loaded and aggregated with the statewide dataset.
Dates must be formatted as follows:
Syntax: ***<MM>/<DD>/<YYYY>***
Example: ***01/20/1984***

PARCELFIPS (Parcel Source FIPS) *[AUX] {TEXT:10 CHAR}*
Indicates the FIPS Code of the contributing jurisdiction of the parcel dataset. This can be populated with the FIPS code of the appropriate County or County Sub as defined in **Wisconsin_Parcels_Attribute_Schema_Domains.xlsx.**[11]
Domain Examples:
County – "**025**" (for DANE COUNTY)
County Subs – "**48000**" (for CITY OF MADISON)

PARCELSRC (Parcel Source Name) *[AUX] {TEXT:50 CHAR}*
Indicates the name of the contributing jurisdiction of the parcel dataset. This can be populated with the jurisdictional name of the appropriate County or County Sub as defined in **Wisconsin_Parcels_Attribute_Schema_Domains.xlsx.**[12]
Include "COUNTY" after the county name for this field.
Domain Examples:
County – "**DANE COUNTY**"
County Subs:
City – "**CITY OF MADISON**"
Village – "**VILLAGE OF LAKE HALLIE**"
Town – "**TOWN OF WINDSOR**"

[11] The domains of this field are drawn from: http://www2.census.gov/geo/docs/reference/codes/files/st55_wi_cousub.txt
[12] The domains of this field are drawn from: http://www2.census.gov/geo/docs/reference/codes/files/st55_wi_cousub.txt

COUNTY NAMES

County Name	FIPS CODE
ADAMS	FIPS: 001
ASHLAND	FIPS: 003
BARRON	FIPS: 005
BAYFIELD	FIPS: 007
BROWN	FIPS: 009
BUFFALO	FIPS: 011
BURNETT	FIPS: 013
CALUMET	FIPS: 015
CHIPPEWA	FIPS: 017
CLARK	FIPS: 019
COLUMBIA	FIPS: 021
CRAWFORD	FIPS: 023
DANE	FIPS: 025
DODGE	FIPS: 027
DOOR	FIPS: 029
DOUGLAS	FIPS: 031
DUNN	FIPS: 033
EAU CLAIRE	FIPS: 035
FLORENCE	FIPS: 037
FOND DU LAC	FIPS: 039
FOREST	FIPS: 041
GRANT	FIPS: 043
GREEN	FIPS: 045
GREEN LAKE	FIPS: 047
IOWA	FIPS: 049
IRON	FIPS: 051
JACKSON	FIPS: 053
JEFFERSON	FIPS: 055
JUNEAU	FIPS: 057
KENOSHA	FIPS: 059
KEWAUNEE	FIPS: 061
LA CROSSE	FIPS: 063
LAFAYETTE	FIPS: 065
LANGLADE	FIPS: 067
LINCOLN	FIPS: 069
MANITOWOC	FIPS: 071
MARATHON	FIPS: 073
MARINETTE	FIPS: 075
MARQUETTE	FIPS: 077
MENOMINEE	FIPS: 078
MILWAUKEE	FIPS: 079
MONROE	FIPS: 081
OCONTO	FIPS: 083
ONEIDA	FIPS: 085
OUTAGAMIE	FIPS: 087
OZAUKEE	FIPS: 089
PEPIN	FIPS: 091
PIERCE	FIPS: 093
POLK	FIPS: 095
PORTAGE	FIPS: 097
PRICE	FIPS: 099
RACINE	FIPS: 101
RICHLAND	FIPS: 103
ROCK	FIPS: 105
RUSK	FIPS: 107
ST CROIX	FIPS: 109
SAUK	FIPS: 111
SAWYER	FIPS: 113
SHAWANO	FIPS: 115
SHEBOYGAN	FIPS: 117
TAYLOR	FIPS: 119
TREMPEALEAU	FIPS: 121
VERNON	FIPS: 123
VILAS	FIPS: 125
WALWORTH	FIPS: 127
WASHBURN	FIPS: 129
WASHINGTON	FIPS: 131
WAUKESHA	FIPS: 133
WAUPACA	FIPS: 135
WAUSHARA	FIPS: 137
WINNEBAGO	FIPS: 139
WOOD	FIPS: 141

Table F-1. V2 County Naming and FIPS Code Syntax

Appendix
G. Zoning Schema for V2

Legend	
V2 ELEMENTNAME	Denotes database field name
(Element Name)	Full English database field name
[Act20]	Denotes a field name that fills requirements defined by **Wisconsin s. 59.72(2)(a)**: http://docs.legis.wisconsin.gov/statutes/statutes/59/VII/72
[Act20*]	Denotes a field name that fills requirements defined by **Wisconsin s. 59.72(2)(a)**: http://docs.legis.wisconsin.gov/statutes/statutes/59/VII/72 *This field requires 1 of 2 options.
[REQ]	Denotes a field that is not required by **Wisconsin s. 59.72(2)(a)**, but is a requirement to the Statewide Parcel Layer.
{TEXT:<#> CHAR}	Denotes the datatype of the file(all are TEXT) and the character length of the field.[13]

***NOTE**: This schema definition is applicable to all five zoning layer deliverables. These layers include:*

Zoning Category	Zoning Type	Statutory Authority	EXAMPLE>.gdb /Filename
General	**County General**	59.69	**ST_CROIX_ZONING.gdb/GENERAL**
Special Purpose	**Farmland Preservation**	59.69, 61.35, 62.23(7), 60.61, or 60.62	**ST_CROIX_ZONING.gdb/FARMLAND**
Special Purpose	**Shoreland**	59.692, 61.351, or 62.231	**ST_CROIX_ZONING.gdb/SHORELAND**
Special Purpose	**Floodplain**	87.3	**ST_CROIX_ZONING.gdb/FLOODPLAIN**
Special Purpose	**Airport Protection**	114.136	**ST_CROIX_ZONING.gdb/AIRPORT**

ZONINGFIPS (Zoning Source FIPS) *[AUX] {TEXT:10 CHAR}*
Indicates the FIPS Code of the contributing jurisdiction of the zoning dataset. This can be populated with the FIPS code of the appropriate County or County Sub as defined in **Wisconsin_Parcels_Attribute_Schema_Domains.xlsx.**[14] This value is distinct from JURISDICTION in that it calls for the jurisdiction contributing the data to the statewide zoning layer, not the jurisdiction that creates or maintains the layer. ZONINGFIPS and JURISDICTION could both reference the same jurisdiction or they could be different.
Domain Examples:
County – "**025**" (for DANE COUNTY)

JURISDICTION (Jurisdiction) ***[REQ]*** *{TEXT:100 CHAR}*
The name of the authoritative jurisdiction of the zoning feature. The authoritative jurisdiction is the jurisdiction that creates and maintains the zoning feature. There may be multiple authoritative jurisdictions within one zoning layer. Authoritative jurisdictions could include counties as defined in ***Zoning_Domains.xlsx***.
Domain Examples:
- *DANE COUNTY*

ZONINGCLASS (Zoning Class) ***[Act20]*** *{TEXT:100 CHAR}*

[13] Full list can be found in: Wisconsin_Zoning_Attribute_Schema_Domains.xlsx\GENERAL
[14] The domains of this field are drawn from: http://www2.census.gov/geo/docs/reference/codes/files/st55_wi_cousub.txt

The class name for the zoning feature. Class names are unrestricted but all must contain or link to a description. Class names may vary across Jurisdictions. There are no restrictions on this field, however the content of this field should correlate with the descriptions provided through DESCRIPTION or LINK fields.
Examples:

- *R1*
- *R2*
- *Agricultural*

DESCRIPTION (Description) ***[Act20*]*** *{TEXT:254 CHAR}*
A 255 character, unrestricted field to contain a description of the class name of the zoning feature. **This field is optional if LINK is correctly populated.**

LINK (Link) ***[Act20*]*** *{TEXT:254 CHAR}*
A web link (URL) to a valid webpage or web document that contains authoritative/official descriptions of the given feature's zoning class or all zoning classes within the jurisdiction. This may be one document describing all zoning types and their sub categories or a page describing the feature's Zoning Class exclusively. The link provided must remain valid until a subsequent zoning layer is submitted, an anticipated time period of one year. Users of this layer will be directed to this weblink for zoning class definitions. **This field is optional if DESCRIPTION is correctly populated.**
Examples:

- http://www.waukeshacounty.gov/uploadedFiles/Media/PDF/County_Ordinance/Appendix_A_09.09.14.pdf
- https://www.waukeshacounty.gov/defaultwc.aspx?id=39757
- http://danedocs.countyofdane.com/webdocs/PDF/plandev/zoning/district_fact_sheets/A-1.pdf
- http://danedocs.countyofdane.com/webdocs/PDF/plandev/zoning/district_fact_sheets/C-1.pdf

Appendix
H. Parcel Schema for V1

Final V1 Schema – 41 Total Fields

Legend	
V1 ELEMENTNAME	Denotes database field name
(Element Name)	Full English database field name
[CP]	Denotes database field name that is equivalent to Community Parcels element name
[AUX]	Denotes field that is an auxiliary element intended to build value into the parcel layer beyond that of Act 20.
[Act20]	Denotes a field name that fills requirements defined by **Wisconsin s. 59.72(2)(a)**: http://docs.legis.wisconsin.gov/statutes/statutes/59/VII/72
[REQ]	Denotes a field that is not required by **Wisconsin s. 59.72(2)(a)**, but is a requirement to the Statewide Parcel Layer.
[FGDC: <FGDC Element>]	Denotes database field name modeled after the FGDC U.S. Thoroughfare, Landmark, and Postal Address Data Standard. If name is different from FGDC, the FGDC element's name is also listed.
[AUTO]	Denotes that this field is auto populated by the Aggregation tool (current version = V1.2.0)

STATEID (State ID) *[AUX] [AUTO]*
This string field contains the county FIPS code appended to the PARCELID (the unique number or identifier assigned to a parcel by the local authority)
<COFIPS>+<PARCELID>
http://www2.census.gov/geo/docs/reference/codes/files/st55_wi_cousub.txt

PARCELID (Parcel ID) *[CP]* ***[REQ]***
Unique number or identifier assigned to a parcel by the local GIS authority. This ID can be the same as the tax parcel ID or may have commonalities with the Tax Parcel ID. This ID may also be completely distinct from the tax parcel ID, however.

TAXPARCELID (Tax Parcel ID) *[AUX]*
Number or identifier assigned to a parcel that directly joins to the parcel number in the tax roll, in some cases, this ID may be Unique the same as Parcel ID. The Department of Revenue lists the components that contribute to the format of these numbers here: http://www.revenue.wi.gov/ust/parcels.html.

PARCELDATE (Parcel Date) *[AUX]*
The date that best describes the parcel's vintage. Shall be taken from parcel metadata (such as from file mod date) unless otherwise available within parcel tabular data.

TAXROLLYEAR (Tax Roll Year) *[AUX]*
The year of the tax roll from which tax information is procured.
Examples:

- 2013
- 2014

OWNERNME1 (Primary Owner Name) *[CP]*
The primary owner name of a parcel.

OWNERNME2 (Secondary Owner Name) *[CP]*
The secondary owner name of a parcel (if available)

PSTLADRESS (Full Mailing Address) *[CP]*

The full mailing address of a parcel comprised of AddNumPrefix*, AddNum, AddNumSuffix*, PrefixDir*, StreetName, StreetType*, SuffixDir*, Building*, UnitType*, UnitID*, PlaceName*, State* and ZipCode* concatenated together. This attribute is complete as provided from native datasets.
*where applicable

SITEADRESS (Full Physical Address) ***[Act20]*** *[CP]*
The full physical address (or site address) of a parcel comprised of AddNumPrefix*, AddNum, AddNumSuffix*, PrefixDir*, StreetName, StreetType*, SuffixDir*, Building*, UnitType* and UnitID* concatenated together. Natively provided full addresses are included in this field whenever available. If a natively provided full address is not available, then a full address is constructed from the above address components.
*where applicable.

ADDNUMPREFIX (Address Number Prefix) *[FGDC]*
Is a rarely used prefix of the address number. In Wisconsin, this field is of particular interest due to grid address examples such as "W180N8085 TOWN HALL ROAD"
Examples:

- *N*
- *S*
- *W180N*
- *S379W*

ADDNUM (Address Number) *[FGDC]*
The whole number component of a posted building identifier

ADDNUMSUFFIX (Address Number Suffix) *[FGDC]*
Is a rarely used extension of the address number for a posted building identifier, not to be confused with unit divisions within a building (UnitID). *For example "798 A 26TH STREET"
Examples:

- -856
- *-2445A*
- *B*
- *C*
- *½*
- *.5*

PREFIX (Prefix) *[FGDC: Street Name Predirectional]*
One letter street direction that precedes the street name
Examples:

- *N – North*
- *S – South*
- *E – East*
- *W – West*
- *NW – North West*
- *SW – South West*
- *NE – North East*
- *SE – South East*
- *SB – South Bound*
- *NB – North Bound*
- *EB – East Bound*
- *WB – West Bound*
- *CTH – County Highway*
- *STH – State Highway*
- *USH – United States Highway*
- *INTERSTATE – Interstate Highway*
- *W CTH – West County Highway*
- *N STH – North State Highway*

STREETNAME (Street Name) *[FGDC]*
The legal street name as assigned by local address authority. StreetName does not include the StreetType of a named street. Additionally, StreetName does not include the suffix direction of a coordinate street. The suffix direction of a coordinate street should be stored in the Suffix

STREETTYPE (Street Type) *[FGDC: Street Name Posttype]*
Street type of a named street written to full name of type:
Example Domains:

ACCESS	CREST	GREEN	PARKWAY	SPRING
ACRES	CROSS	GROVE	PASS	SPRINGS
ALLEY	CROSSING	HARBOR	PASSAGE	SPUR
AVENUE	CURVE	HEIGHTS	PATH	SQUARE
BAY	DALE	HIGHWAY	RIDGE	STREET
BEACH	DRIVE	HILL	ROAD	STRIP
BEND	DRIVE N	HILLS	PATHWAY	SUMMIT
BLUFF	DRIVE W	HOLLOW	PIKE	TERRACE
BOULEVARD	DUGWAY	ISLAND	PLACE	TOWER
BOULVARD	EASEMENT	ISLE	PLAZA	TRACE
BRANCH	END	JUNCTION	POINT	TRAIL
BYPASS	ESTATE	KNOLL	PRAIRIE	TRAILS
CAUSEWAY	ESTATES	KNOLLS	PRIVATE DRIVE	TRAILWAY
CENTER	EXPRESSWAY	LAKE	R3	TURN
CHASE	HAVEN	LANDING	R4	TURNPIKE
CIRCLE	HEIGHT	LANE	RAPIDS	VALE
CLIFF	GATEWAY	LOOP	RESERVE	VALLEY
CLOSE	GLEN	MALL	RETREAT	VIEW
COMMON	GLENN	MANOR	ROUND	VISTA
COMMONS	EXTENSION	MEADOW	ROW	WALK
COURSE	FIELDS	MEADOWS	RUN	WAY
COURT	FOREST	MEWS	SCHOOL	WELLS
COVE	FORK	NEST	SETTLEMENT	
CREEK	GARDENS	OVERLOOK	SHORE	
CRESCENT	GATE	PARK	SHORES	

SUFFIX (Suffix) *[FGDC: Street Name Postdirectional]*
One letter street direction that follows the street name
Coded Value Domains:

- *N – North*
- *S – South*
- *E – East*
- *W – West*
- *NW – North West*
- *SW – South West*
- *NE – North East*
- *SE – South East*
- *40W*
- *2N*

LANDMARKNAME (Landmark Name) *[FGDC]*
The common place name of a parcel feature. (Provided as available.)

UNITTYPE (Unit Type) *[FGDC: Subaddress Type]*
Indicates the unit type associated with a parcel feature (i.e., apartment, room, suite, unit, etc.). (Provided as available.)

UNITID (Unit ID) *[FGDC: Subaddress Identifier]*

UnitID includes the number or letter identification string for a building, apartment, room, suite, unit, room or desk (as well as other examples). Not to be confused with AddNumSuffix, as this is a component to the address number. UnitID delineates a unit within an address (i.e., "123 ½ Apt A" → "½" is the AddNumSuffix, "Apt" is the UnitType and "A" is the UnitID).

PLACENAME (Place Name) *[FGDC: Complete Place Name]*
The name of an officially designated jurisdiction that the parcel belongs to. The name shall be explicitly defined in the native dataset by the county or jurisdiction itself. PLACENAME will be provided where it is available in native datasets and standardized to include LSAD descriptors (CITY, TOWN, VILLAGE) when possible.

ZIPCODE (Zip Code) *[FGDC: ZIP Code]*
The 5 digit zip code associated with a parcel feature

ZIP4 (Zip Code) *[FGDC: ZIP Plus 4]*
The 4 additional digits appended to the 5 digit zip code of some parcel features

STATE (State) *[FGDC: State Name]*
Two letter state abbreviation of a parcel feature's site address

SCHOOLDIST (School District) *[AUX]*
The name of the school district, as defined in the table corresponding to the school year of the data here: http://wise.dpi.wi.gov/edfacts_federal. All values should correspond to values in the "ID 4 LEA ID (State)" field of this table.

SCHOOLDISTNO (School District Number) *[AUX]*
The school district number, as defined here: http://wise.dpi.wi.gov/edfacts_federal. All values should correspond to values in the "ID 7 LEA Name" field of this table with upper case applied.

IMPROVED (Improved Structure) *[CP] [AUTO]*
Indicates whether the parcel contains an improved value within the IMPVALUE field.
"YES" if IMPVALUE is > $0
"NO" if IMPVALUE is <= $0
<NULL> if IMPVALUE is <NULL>
"N/A" if IMPVALUE is populated with a non-numeric element

CNTASSDVALUE (Total Assessed Value) ***[Act20]*** *[CP]*
The total assessed value of the parcel, in US Dollars (assessed value of land + assessed value of improvements).

LNDVALUE (Assessed Value of Land) ***[Act20]*** *[CP]*
The total value of land, without improvements, in US Dollars (assessed value of land).

IMPVALUE (Assessed Value of Improvements) ***[Act20]*** *[CP]*
The total value of improvements on the land, in US Dollars (assessed value of improvements).

FORESTVALUE (Assessed Forested Value) ***[Act20]***
The total value forested land, in US Dollars (assessed value of forested land).

ESTFMKVALUE (Estimated Fair Market Value) ***[Act20]***
The estimated fair market value, in US Dollars.

NETPRPTA (Net Property Tax) ***[Act20]***
The net amount of annual property tax, in US Dollars. This is the actual property tax paid after deductions or credits are applied.

GRSPRPTA (Gross Property Tax) ***[Act20]***
The gross amount of annual property tax, in US Dollars. This is the total property tax before deductions or credits.

PROPCLASS (Class of Property) ***[Act20]***

The class of property, as specified in *Wisconsin s. 70.32 (2) (a)*. Wisconsin law requires the assessor to classify land on the basis of use. Sometimes this involves a judgment of the predominant use. The eight statutory classifications for real property are: (1) residential, (2) commercial, (3) manufacturing, (4) agricultural, (5) undeveloped, (5m) agricultural forest, (6) productive forest land, and (7) other. Classification is important since it affects the assessed value of land classified as agricultural, undeveloped, and agricultural forest. If domains provided by the county do not match the 8 classes listed, these domains will be placed in the AUXCLASS field. If multiple classes exist, each class is listed in this field, delimited by commas. In addition to the 8 classes, an (M) multiple classes domain will be accepted.

Class Examples:

1 – Residential
2 – Commercial
3 – Manufacturing
4 – Agricultural
5 – Undeveloped
5m – Agricultural forest
6 – Productive Forest Land
7 – Other
M – Multiple Classes

Domain Examples:

1,3,4
3,4,5m
M
1
4,5

AUXCLASS (Auxiliary Class of Property) *[AUX]*
This field contains any domains that are listed by data contributors within a Class of Property field that do not fit those domains specified in *Wisconsin s. 70.32(2) (a.)* or otherwise populating PROPCLASS, above. Domains are left unstandardized. If available, descriptions of classes will be summarized and provided in this layer's metadata.

Domain Examples:

FF1,T3,T4,M
H3,FF4
FM
99
44,45
MFL
W6
W4

DEEDACRES (Deeded Acres) ***[Act20]***
The parcel area, in acres, as specified within property deed.

GISACRES (GIS Acres) *[AUX]*
The parcel area, in acres, as calculated by contributing entity directly from GIS features.

CONAME (County Name) *[AUX]*
The name of the county in which the parcel's geographic center resides. (See Table H-1 for county spelling conventions)

Example:

County – "DANE"

LOADDATE (Load Date) *[AUX] [AUTO]*
The mm/dd/yyyy when a parcel feature is loaded and aggregated with the statewide dataset.

PARCELFIPS (Parcel Source FIPS) *[AUX]*
Indicates the FIPS Code of the entity from which a parcel feature originates. This can be populated with the County or the County Sub as defined here: http://www2.census.gov/geo/docs/reference/codes/files/st55_wi_cousub.txt.

Examples:

County – "025" (for DANE COUNTY)
County Subs – "48000" (for CITY OF MADISON)

PARCELSRC (Parcel Source Name) *[AUX]*
Indicates the name of the entity from which a parcel feature originates. This can be populated with the County or the County Sub as defined here: http://www2.census.gov/geo/docs/reference/codes/files/st55_wi_cousub.txt. Include "COUNTY" after the county name for this field.

Examples:

County – "DANE COUNTY"
County Subs:
City – "CITY OF MADISON"
Village - "VILLAGE OF LAKE HALLIE"
Town – "TOWN OF WINDSOR"

COUNTY NAMES

County Name	FIPS CODE				
ADAMS	FIPS: 001	IOWA	FIPS: 049	POLK	FIPS: 095
ASHLAND	FIPS: 003	IRON	FIPS: 051	PORTAGE	FIPS: 097
BARRON	FIPS: 005	JACKSON	FIPS: 053	PRICE	FIPS: 099
BAYFIELD	FIPS: 007	JEFFERSON	FIPS: 055	RACINE	FIPS: 101
BROWN	FIPS: 009	JUNEAU	FIPS: 057	RICHLAND	FIPS: 103
BUFFALO	FIPS: 011	KENOSHA	FIPS: 059	ROCK	FIPS: 105
BURNETT	FIPS: 013	KEWAUNEE	FIPS: 061	RUSK	FIPS: 107
CALUMET	FIPS: 015	LA CROSSE	FIPS: 063	ST CROIX	FIPS: 109
CHIPPEWA	FIPS: 017	LAFAYETTE	FIPS: 065	SAUK	FIPS: 111
CLARK	FIPS: 019	LANGLADE	FIPS: 067	SAWYER	FIPS: 113
COLUMBIA	FIPS: 021	LINCOLN	FIPS: 069	SHAWANO	FIPS: 115
CRAWFORD	FIPS: 023	MANITOWOC	FIPS: 071	SHEBOYGAN	FIPS: 117
DANE	FIPS: 025	MARATHON	FIPS: 073	TAYLOR	FIPS: 119
DODGE	FIPS: 027	MARINETTE	FIPS: 075	TREMPEALEAU	FIPS: 121
DOOR	FIPS: 029	MARQUETTE	FIPS: 077	VERNON	FIPS: 123
DOUGLAS	FIPS: 031	MENOMINEE	FIPS: 078	VILAS	FIPS: 125
DUNN	FIPS: 033	MILWAUKEE	FIPS: 079	WALWORTH	FIPS: 127
EAU CLAIRE	FIPS: 035	MONROE	FIPS: 081	WASHBURN	FIPS: 129
FLORENCE	FIPS: 037	OCONTO	FIPS: 083	WASHINGTON	FIPS: 131
FOND DU LAC	FIPS: 039	ONEIDA	FIPS: 085	WAUKESHA	FIPS: 133
FOREST	FIPS: 041	OUTAGAMIE	FIPS: 087	WAUPACA	FIPS: 135
GRANT	FIPS: 043	OZAUKEE	FIPS: 089	WAUSHARA	FIPS: 137
GREEN	FIPS: 045	PEPIN	FIPS: 091	WINNEBAGO	FIPS: 139
GREEN LAKE	FIPS: 047	PIERCE	FIPS: 093	WOOD	FIPS: 141

Table H-1. V1 County Naming and FIPS Code Syntax

Appendix
I. Statutory Requirements

The Department of Administration Must Create a Statewide Digital Parcel Map

16.967(3) **Land information program; Duties of the Department [of Administration]**

The Department shall direct and supervise the land information program and serve as the state clearinghouse for access to land information. In addition, the department shall:
(h) Establish an implementation plan for a statewide digital parcel map

16.967(6)(b) **Land information program; Reports**

No later than January 1, 2017, the department shall submit to the members of the joint committee on finance a report on the progress in developing a statewide digital parcel map

Counties Must Coordinate With the Department

16.967(7)(a)2m **Land information program; Aid to counties**

[A county board . . . may apply to the department . . . for a grant for any of the following projects . . .] In coordination with the department, the creation, maintenance, or updating of a digital parcel map.

The County Board Shall Post Certain Parcel Information

59.72 (2)(a) **Land information; Duties**

No later than June 30, 2017, the board shall post on the Internet, in a searchable format determined by the department of administration, the following information related to individual land parcels:

1. Property tax assessment data as provided to the county by municipalities, including the assessed value of land, the assessed value of improvements, the total assessed value, the class of property, as specified in s. 70.32 (2) (a), the estimated fair market value, and the total property tax
2. Any zoning information maintained by the county
3. Any property address information maintained by the county
4. Any acreage information maintained by the county

County Penalty for Violation of 59.72(2)(a)

16.967 (7m) (b) **Land Information program; Suspension of aid**

If the department determines that a county has violated s. 59.72, the department shall suspend the eligibility of the county to receive grants under sub. (7) and, after June 30, 2017, the county shall be eligible to retain only $6 of the portion of each fee submitted to the department under s. 59.72(5)(a). After not less than one year, if the department determines that the county has resolved the violation, the department may reinstate the eligibility of the county for grants under sub.(7) and for retaining $8 of the portion of each fee submitted to the department under s. 59.72(5)(a).

Standards for Strategic Initiative Grants

Chapter Adm 47.04(4), Wis. Admin. Code, **Grants**

Strategic initiative grants for eligible projects and activities as provided in s. Adm 47.03 (1) through (5), for expediting and fostering statewide and regional strategic initiatives consistent with specific statutory requirements and standards adopted by the department.

DIGITAL APPENDICES

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