

# Data Standardize Tool Guide

The *Data Standardize Tool* standardizes parcel data field values to meet the requirements of the searchable format. It will generate a summary and lookup table of domains, which can be edited and utilized to standardize a field.

Use this guide if you wish to standardize fields to match the searchable format, outlined in Appendix D and detailed in Appendix F in the *V1 Submission Documentation*.

When to Use Data Standardize Tool		
	Benchmark 1 Parcel and Zoning Data Submission	Benchmark 2 Extended Parcel Attribute Set Submission with Parsed Address Elements
EXPORT FORMAT OPTION	Standardized domains/fields not required	Standardized domains/fields not required
SEARCHABLE FORMAT OPTION	✓ This tool can assist	✓ This tool can assist

## Fields Requiring Standardization for Searchable Format

Field Name	Definition
PREFIX	Prefix
STREETTYPE	Street Type
SUFFIX	Suffix
SCHOOLDIST	School District
SCHOOLDISTNO	School District Number
IMPROVED	Improved Structure
PROPCCLASS / AUXCLASS	Class of Property / Auxiliary class of Property
*PROPCCLASS / AUXCLASS	Class of Property / Auxiliary class of Property
*County Name	County Name
*PARCELFIPS	Parcel Source FIPS
*PARCELSRC	Parcel Source Name

\*Asterisked fields require standardization for the searchable format, but do not necessarily need to be run through this tool, as they can simply be calculated with one domain within the field calculator or a similar instrument.

## Why is This Guide Necessary?

The statewide parcel layer can be more consistent, understandable, searchable, maintainable, and user friendly if the data within is standardized. Standardization is required for the above fields within **searchable format** submissions. It may be valuable to standardize other fields in the submission, but this should be done at the submitter's discretion.

## How to Use This Guide

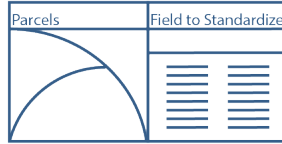
It is recommended you have the following materials at hand:

- The *V2 Submission Documentation* and V2 webpage
- The data participating in the searchable format submission, in file geodatabase format
- The county staff member(s) who will submit the data for V2
- The *Data Standardize Tool* from <http://www.sco.wisc.edu/images/stories/publications/V2/tools>

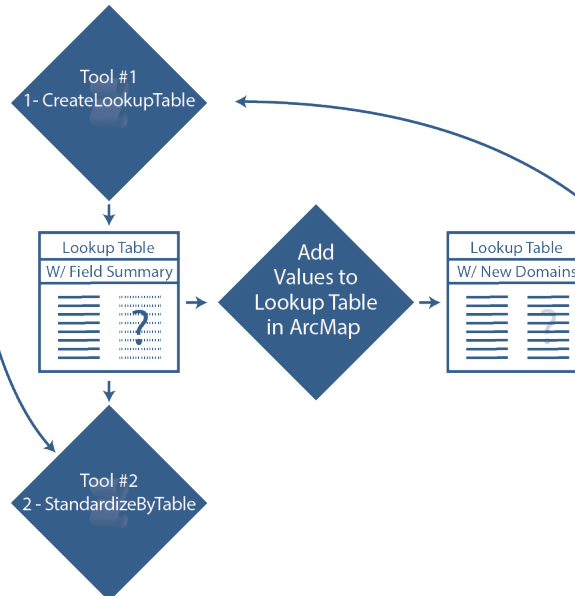
## Process Overview

**STEP 1** Install the Tool

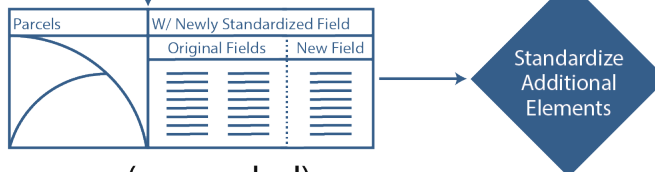
**STEP 2** Prepare the data to be standardized



**STEP 3** Configure and execute tool #1, the 1 - CreateLookupTable Tool



**STEP 4** Configure and execute tool #2, the 2- StandardizeByTable Tool



**STEP 5** Repeat sequence (as needed)

**STEP 6** Proceed in creating export or searchable format...

Figure 1. Data Standardize Tool workflow overview

# ① Install the Tool

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## 1.1 Install the Data Standardize tools

The *Standardize Domains Toolbox* contains two separate ArcPy script tools, both of which participate in the standardizing workflow. These tools can be installed by downloading the zipped package from <http://www.sco.wisc.edu/images/stories/publications/V2/tools/>.

Unzip the download to the directory of your choice. Then open ArcCatalog and navigate to the new directory. You should see toolboxes, labeled with their respective ArcGIS version compatibility. Choose the toolbox that fits your ArcGIS install. If you do not see any toolboxes, hit F5 to refresh the directory.

The tools should be ready to run. If you experience trouble starting or executing either of the tools, see the Troubleshooting section below.

# ② Prepare the data to be standardized

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## 2.1 Determine the fields that require standardization

If you are using this tool as a step towards submitting data via the searchable format, the following fields require standardization.

Field Name	Definition	Field Name in County Land Information System
PREFIX	Prefix	
STREETTYPE	Street Type	
SUFFIX	Suffix	
SCHOOLDIST	School District	
SCHOOLDISTNO	School District Number	
IMPROVED	Improved Structure	
PROPCLASS	Class of Property	
AUXCLASS	Auxiliary Class of Property – <b>Special</b> and <b>Exempt</b> classifications from Appendix F	

## 2.2 Prepare for data standardization

These tools require a file geodatabase feature class as the main input GIS file containing the fields to be standardized. If the data does not yet exist as a file geodatabase feature class, take the appropriate actions to export or join the data into this format.

**Also note that the steps outlined in this guide will need to be executed once for each field that is to be standardized.**

## ③ Configure and execute tool #1, the 1 - CreateLookupTable Tool

The first tool of the sequence is the *1 - CreateLookupTable Tool*. This tool will summarize the field that is to be standardized and output a file geodatabase table containing the following:

- A field containing each unique value within the field of interest, named according to the input field
- A FREQUENCY field containing a count of the number of occurrences of the given attribute in the field of interest
- A blank field that will be manually edited in the next step of the cycle

To configure the *1 - CreateLookupTable Tool* and create a lookup table, configure the tool like the example in Figure 2.

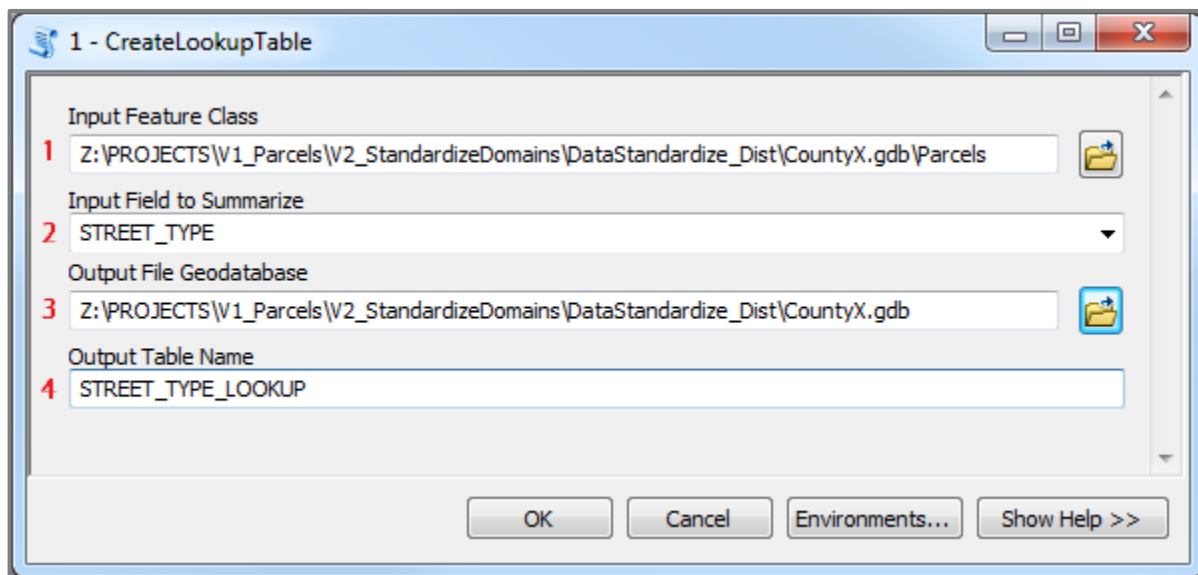


Figure 2. Configuring the 1 – CreateLookupTable Tool

1 – CreateLookupTable Parameter Definitions	
1 Input Feature Class	The feature class containing the field whose attributes are to be summarized and then standardized in 2 – <i>StandardizeByTable Tool</i>
2 Input Field to Summarize	The field whose attributes are to be summarized and then standardized in 2 – <i>StandardizeByTable Tool</i>
3 Output File Geodatabase	The output file geodatabase to which the output lookup table will be written
4 Output Table Name	The name of the lookup table to be written as an output

The outcome of *1 – CreateLookupTable Tool* is a lookup table named as appropriate within the file geodatabase, as seen in Figure 3.

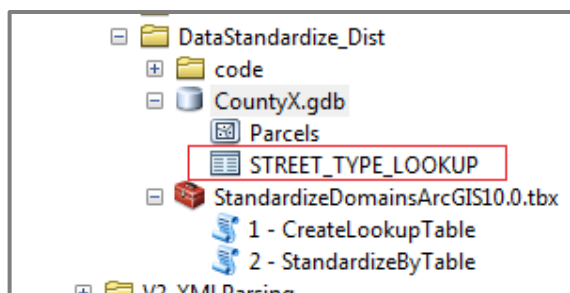


Figure 3. Output table from the 1 – CreateLookupTable Tool

### 3.1 Edit the newly created lookup table in ArcMap

The newly created lookup table will contain a blank field named as the original field's name with an **\_ST1** appended to the end. The second tool, 2 – *StandardizeByTable*, will consume this table and write out whatever corresponding value exists within this field as the standard domain.

Open the lookup table in ArcMap, start an edit session on this table, and manually edit the **\_ST1** column as appropriate. Figure 4 depicts an example of how this would be done to standardize the various forms of “road” and “street.”

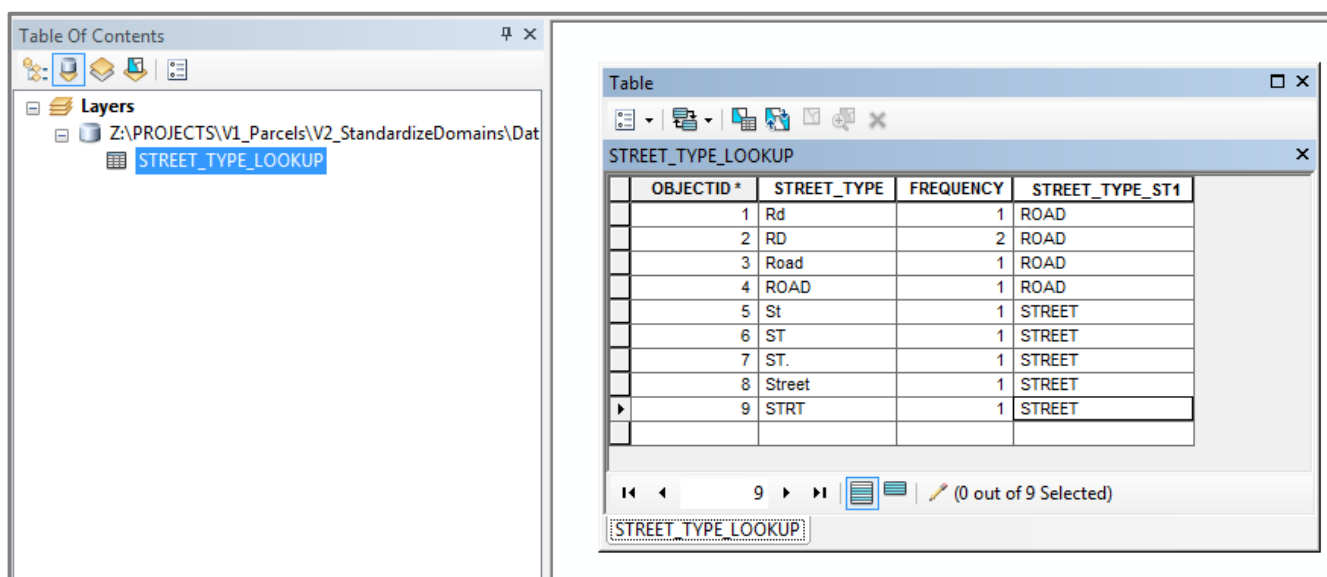


Figure 4. Editing the Lookup Table in an ArcMap editing session

The list of acceptable domains is available as a [Digital Appendix](#), V2\_Parcel\_Domain\_List.xlsx. Note that it may be efficient to use a table join to a list of acceptable domains in order to remove the attributes that already meet the correct domain standard. Domains are also listed in Appendix F.

## ④ Configure and execute tool #2, the 2 – StandardizeByTable Tool

The second tool of the sequence is the 2 – *StandardizeByTable Tool*. This tool will consume the newly edited lookup table and use the **\_ST1** field to standardized and output a file geodatabase feature class containing a new field with the correctly standardized attributes.

Use the newly edited lookup table to configure the *2 – StandardizeByTable Tool* by following the configuration illustrated in Figure 5.

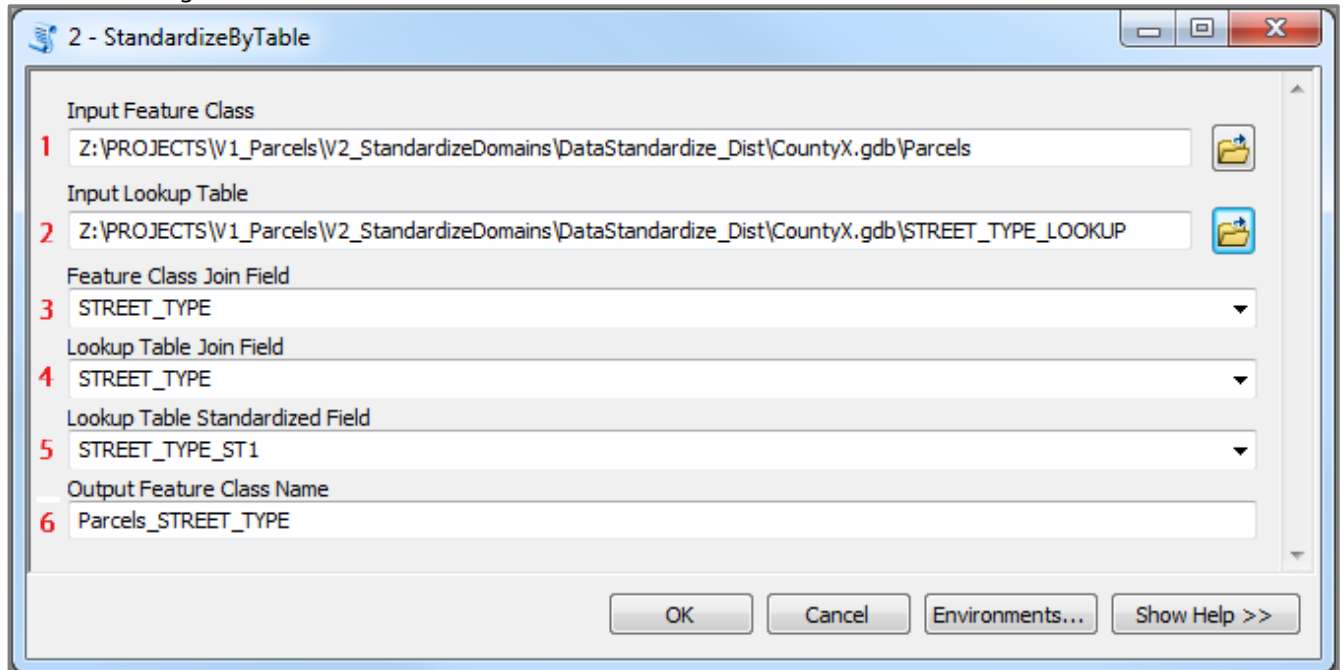


Figure 5. Configuring the *2 – StandardizeByTable Tool*

## 2 – StandardizeByTable Parameter Definitions

1	<b>Input Feature Class</b>	The feature class containing the field to be standardized.
2	<b>Input Lookup Table</b>	The input lookup table, created with <i>1 – CreateLookupTable Tool</i> , containing a field summarizing all unique attributes in the field of interest and another field containing the appropriate domain values the attributes should be standardized to.
3	<b>Feature Class Join Field</b>	The field of interest within the feature class that contains the attributes to be standardized.
4	<b>Lookup Table Join Field</b>	The field within the lookup table containing a summary of all unique attributes in the field of interest.
5	<b>Lookup Table Standardized Field</b>	The field within the lookup table containing the appropriate domain values the output attributes should be standardized to.
6	<b>Output Feature Class Name</b>	The name of the output feature class. This feature class will automatically be written to the file geodatabase that the input feature class resides-in.

After running the *2 – StandardizeByTable* tool to standardize the attributes in the field of interest, the outcome will be standardized fields within the newly created feature class. The original fields will remain intact as the standardized fields will be written to a field named **Original Field Name\_ST2**. Figure 6 shows an example output.

OBJECTID *	Shape *	Original Field	New Field
		STREET_TYPE	STREET_TYPE_ST2
1	Polygon	St	STREET
2	Polygon	STRT	STREET
3	Polygon	ST	STREET
4	Polygon	ST.	STREET
5	Polygon	Street	STREET
6	Polygon	Rd	ROAD
7	Polygon	ROAD	ROAD
8	Polygon	RD	ROAD
9	Polygon	Road	ROAD
10	Polygon	RD	ROAD

Figure 6. Final output of 2 – StandardizeByTable is standardized attributes in a new field

## ⑤ Repeat sequence (as needed)

The standardization sequence articulated through the steps completed to this point will need to be executed once for each field that is to be standardized. Make sure to save your lookup tables for use in subsequent standardization efforts. By joining a legacy lookup table to a freshly summarized lookup table, updating the \_ST1 field should require little additional effort.

## ⑥ Proceed in creating searchable format

# Troubleshooting for Data Standardize Tool

### My tool does not show-up in the directory I have unpacked to.

If the tool does not appear in the directory you have unpacked it to, first try refreshing the directory in ArcCatalog (Right click directory » Refresh...). If the problem continues, it may be because you are using a legacy version of ArcGIS (ArcGIS 9.0 – ArcGIS 10.1). Tools supporting ArcGIS legacy versions are available at [www.sco.wisc.edu/projects/v2-parcels.html](http://www.sco.wisc.edu/projects/v2-parcels.html).

### I get an error when attempting to run the tool.

If running the tool results in an error, first ensure that the tool runs correctly on the test data provided in the zipped package.

- If the tool does not run successfully over the test data, try to interpret the error message in finding a solution and submit the error message (via screen capture or cut and paste) to Codie See at [csee@wisc.edu](mailto:csee@wisc.edu).

It may also be useful to restart ArcCatalog if you continue to get errors.

### I get a properties dialogue instead of a tool input dialogue when opening the tool.

Refresh the directory in ArcCatalog (hit F5 to refresh).

### Who can I contact for help?

Codie See, State Cartographer's Office, 608-890-3793, [csee@wisc.edu](mailto:csee@wisc.edu)