

As a part of the U.S. Census Bureau's Geographic Support System Initiative (GSS-I), the Census Bureau is committed to accepting spatial feature data from our partners beginning in fiscal year 2013. This document outlines the feature data elements, metadata, and representation guidelines that the Census Bureau identifies as optimal and minimal components in feature data for updating the Census Bureau's TIGER geography. "Road" and "Street" are used interchangeably.

FGDC Documents Referenced

<u>Document Number</u>	<u>Document Name</u>
FGDC-STD-001-1998	Content Standard for Digital Geospatial Metadata
FGDC-STD-007.3-1998	Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Data Accuracy
FGDC-STD-014.7c-2008	Geographic Information Framework Data Content Standard, Part 7c: Transportation - Roads
FGDC-STD-016-2011	United States Thoroughfare, Landmark, and Postal Address Data Standard

Minimal Required Metadata

Element and Description	Reference FGDC-STD-001-1998
Date Last Updated (within two years of the current date)	1.3
Spatial Domain (i.e. area of coverage)	1.5
Accurate Spatial Reference (projection)	4
All Coded Values must have clear meanings, provided in Data Dictionary if needed	5.1.2.4.3

Minimal Required Road, Address Range, and Attribute Criteria

To use Road Centerlines	Reference
Must be a road centerline representation (as opposed to an edge-of-pavement)	FGDC-STD-014.7c-2008
Must meet MAF/TIGER spatial accuracy standard (accurate to within 7.6m CE95)	FGDC-STD-007.3-1998
Must contain only built roads, unless planned roads are clearly identified	FGDC-STD-014.7c-2008
To use Road Names	Reference
Must contain the complete road name and route type (Street, Avenue, etc.)	FGDC-STD-014.7c-2008
To use Address Ranges	Reference
Must indicate left/right orientation	FGDC-STD-016-2011
Must indicate from/to orientation	FGDC-STD-016-2011
Must contain the road name and route type (Street, Avenue, etc.)	FGDC-STD-016-2011

Minimal Required Landmark Data Criteria

To use Landmarks	FGDC Reference
Must contain a name, if available, or a classification if no name	FGDC-STD-016-2011
Must contain spatial coordinates	FGDC-STD-016-2011

Minimal Required Parcel Data Criteria

Note: The guidelines below are for using parcel data for geographic purposes. If submitting Parcel Data for Address purposes, please also see the Optimal Address Data Submission Guidelines at <http://www.census.gov/geo/www/gss/gdlns/addgdln.html>.

To use Parcel Data	FGDC Reference
Must contain the site address (as opposed to mailing address)	FGDC-STD-016-2011
Must contain spatial area representation or x,y point coordinates	FGDC-STD-016-2011

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Optimal Road and Address Range Attribute Fields

Data Element	DESCRIPTION	Reference FGDC-STD-016-2011
Source Feature ID	Source file unique feature ID	-
Feature Classification Code	An alphanumeric code that specifies the classification of each feature. (e.g. S1100 = Primary Road, S1200 = Secondary Road, etc.)	-
Street Name Pre Modifier	A word or phrase in a Complete Street Name that 1. Precedes and modifies the Street Name, but is separated from it by a Street Name Pre Type or a Street Name Pre Directional or both, or 2. Is placed outside the Street Name so that the Street Name can be used in creating a list of street names. (ex. Old North First Street)	2.2.2.1
Street Name Pre Directional	A word preceding the Street Name that indicates the direction or position of the thoroughfare relative to an arbitrary starting point or line, or the sector where it is located. (ex. North Main Street)	2.2.2.2
Street Name Pre Type	A word or phrase that precedes the Street Name and identifies a type of thoroughfare in a Complete Street Name. (ex. Avenue of the Americas)	2.2.2.3
Street Base Name	The portion of the Complete Street Name that identifies the particular thoroughfare. (ex. Main Street)	2.2.2.5
Street Name Post Type	A word or phrase that follows the Street Name and identifies a type of thoroughfare in a Complete Street Name. (ex. Main Street)	2.2.2.6
Street Name Post Directional	A word following the street name that indicates the directional taken by the thoroughfare (ex. Cherry Street North)	2.2.2.7
Street Name Post Modifier	A word or phrase in a Complete Street Name that follows and modifies the Street Name. (ex. East End Avenue Extended)	2.2.2.8
Left Side From House Number	From house number on the left side of the edge	2.2.1.4
Left Side To House Number	To house number on the left side of the edge	2.2.1.4
Right Side From House Number	From house number on the right side of the edge	2.2.1.4
Right Side To House Number	To house number on the right side of the edge	2.2.1.4
Left ZIP Code	5-digit ZIP Code on the left side of the edge	2.2.6.3
Right ZIP Code	5-digit ZIP Code on the right side of the edge	2.2.6.3
Left Address Range Type	Actual, Potential, or Unknown	2.3.5.1
Right Address Range Type	Actual, Potential, or Unknown	2.3.5.1
Left Side AR Parity	Even, Odd, or Both	2.3.5.2
Right Side AR Parity	Even, Odd, or Both	2.3.2.5
<p>Notes and Definitions</p> <ul style="list-style-type: none"> The Census Bureau stores address ranges on <u>named road features</u> only. <p>Regarding House Numbers when used as From House Number or To House Number in TIGER Address Ranges:</p> <ul style="list-style-type: none"> Potential values are preferred to actual values to assist in accurately geocoding future addresses. (Actual, Potential, or Unknown should be indicated under 'Address Range Type'). Can contain non-numeric characters. (See FGDC-STD-016-2011, 2.2.1.4) Must contain at least one numeric character. Cannot contain blank spaces. The Census Bureau truncates house number suffixes (e.g. "123 1/2 Main Street", "B317 A Calle 117") from address ranges. Cannot contain tabs or quotation marks. If the non-numeric portion of the address range is not the same, the From House Number and To House Number must have the same numeric values (e.g., 1A – 1F). Can have a zero value if zero is a valid address in the range. 		

Optimal Landmark Attribute Fields

Data Element	DESCRIPTION	FGDC Reference
Name	Landmark name	FGDC-STD-016-2011
Feature Classification Code	An alphanumeric code that specifies the classification of each feature. (e.g. K2543 = School, C3022 = Mountain Peak, etc.)	-

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Optimal Parcel Data Attribute Fields

Note: The guidelines below are for using parcel data for geographic purposes. If submitting Parcel Data for Address purposes, please also see the Optimal Address Data Submission Guidelines at <http://www.census.gov/geo/www/gss/gdlns/addgdln.html>.

Data Element	Field	Type	DESCRIPTION
Local Parcel Number	PARNO	String	Parcel Identifier, Assessor's Parcel Number
Site Address	SITEADD	String	The full site address as a single field
Parcel Use Code	PARUSECODE	String	The local assessment parcel use code (with data dictionary)
Area (text)	AREATXT	String	The area of the parcel in acres as text
Area (number)	AREANO	Number	The area of the parcel in acres as a number
Ownership Type	OWNTYPE	String	Can be exempt/taxable or public/private, but a more complete indication is preferred, such as: International, Tribal, Federal, State, County, Private, Non-Profit, Local/Municipal, Other, or Unknown.
Structure Indicator	STRUCT	String	Is there a structure or improvement on the parcel? (Yes/No)
Notes: For reference see "FGDC Cadastral Data Publication Guideline" (2009): http://www.nationalcad.org/showdocs.asp?docid=1149&navsrc=Standards&navsrc2= Ownership Type examples are from "FGDC Cadastral Data Publication Template": http://www.nationalcad.org/showdocs.asp?docid=1150&navsrc=Standards&navsrc2=			

Optimal Feature Representation

Feature Class (MTFCC)	Definition	Representation Standard
Primary Road (S1100)	Primary roads are generally divided, limited-access highways within the interstate highway system or under state management, and are distinguished by the presence of interchanges.	<ul style="list-style-type: none"> • Must be represented by at least two lines. • Differences in road characteristics (e.g. number of lanes) are stored as attribution. • Must be named.
Secondary Road (S1200)	Secondary roads are main arteries, usually in the U.S. Highway, State Highway or County Highway system. These roads have one or more lanes of traffic in each direction, may be divided, and usually have at-grade intersections with many other roads and driveways. They often have both a local name and a route number.	<ul style="list-style-type: none"> • Divided highways are represented by two lines if it appears to have a median (trees, grass, jersey barriers, concrete) between the directional lanes. • Road features drawn as separate lines transition to a single line where the physical barrier no longer occurs. • Turn lanes are not represented. • Must be named.
Local Neighborhood Road, Rural Road, City Street (S1400)	Generally a paved non-arterial street, road, or byway that usually has a single lane of traffic in each direction. Roads in this feature class may be privately or publicly maintained. Scenic park roads would be included in this feature class, as would some unpaved roads.	<ul style="list-style-type: none"> • Drawn as a single line unless a median (see description above) is between the two lanes that is 7.6m in width or greater.
Vehicular Trail (4WD) / Unimproved Road (S1500)	An unpaved dirt trail where a four-wheel drive vehicle is required. These vehicular trails are found almost exclusively in very rural areas. Minor, unpaved roads usable by ordinary cars and trucks belong in the S1400 category.	In general, vehicular trails/unimproved roads are not to be included in submissions except in the following instances: <ul style="list-style-type: none"> • they lead to at least one housing unit • they serve as a connector between two or more traversable routes in an area with a limited road network • they provide navigation to a unit in a rural area (e.g. "second right past the stone church") • they currently serve a proposed or ongoing development. • they lead to a living situation that would otherwise not be accessible.
Ramps (S1630)	A road that allows controlled access from adjacent roads onto a limited access highway, often in the form of a cloverleaf interchange.	<ul style="list-style-type: none"> • Ramps are represented without names or addresses. • Ramps must connect to the roads to which they provide access.
Service Drive (S1640)	A road, usually paralleling a limited access highway, that provides access to structures along the highway. These roads can be named and may intersect with other roads.	<ul style="list-style-type: none"> • Service/Frontage roads must contain the name of the Interstates they parallel (e.g. "I-80 Service Road")

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Feature Class (MTFCC)	Definition	Representation Standard
Stairway (S1720)	A pedestrian passageway from one level to another by a series of steps.	<ul style="list-style-type: none"> • Generally not represented. Include only in the instance where a stairway provides the only access to a residence.
Alleyway (S1730)	Alleyways are routes designed to access multiple housing units or city infrastructure, most frequently providing access from the back of the building or residence. Alleyways most often provide linkages between city streets but can be a dead-end route, without an outlet.	<p>In general, alleyways are not to be included except in the following instances:</p> <ul style="list-style-type: none"> • alleyways lead to at least one housing unit not accessible from the front roadway/street
Private Road for Service Vehicles (S1740)	A road within private property that is privately maintained for service, extractive, or other purposes. These roads are often unnamed.	<p>In general these are not to be included except in the following instances:</p> <ul style="list-style-type: none"> • they serve as a connector between two or more traversable routes in an area with a limited road network • they provide navigation to housing in a rural area.
Parking Lot Road (S1780)	The main travel route for vehicles through a paved parking area.	<p>In general, parking lot roadways are not to be included except in the following instances:</p> <ul style="list-style-type: none"> • the road leads to a residential structure • the road offers linkages to other roads that without inclusion would be difficult to traverse/navigate. • representation of the parking lot perimeter is not necessary.
Path or Trail (S1820)	A path that is too narrow for or legally restricted from vehicular traffic.	<p>In general, paths or trails are not to be included except in the following instances:</p> <ul style="list-style-type: none"> • they lead to a living situation that otherwise would not be accessible or identifiable • they serve as a connector between two or more traversable routes in an area with a limited road network • they provide navigation to the unit in a rural area
Cul-de-sac (C3061)	An expanded paved area at the end of a street used by vehicles for turning around. For mapping purposes, the Census Bureau maps it only as a point feature.	<ul style="list-style-type: none"> • “Lollipop” representations of cul-de-sacs are not permitted and may be modified in any MAF/TIGER updates.
Traffic Circle (C3062)	The portion of a road or intersection of roads forming a circle.	<ul style="list-style-type: none"> • Traffic circles must be represented as found in the field with linear features connecting to the circle's arc. • The Census Bureau may collapse a traffic circle to a point based on the size of the traffic circle.

Optimal Topology Considerations

	DESCRIPTION
Topological Errors	Spatial data should not contain topological errors, such as gaps and overshoots.
Self-Intersection	A linear feature may not intersect itself; it may be necessary to represent as two linear features.
Point-to-Edge Tolerance	Separate points, vertices, and edges should be at least one meter apart. Otherwise, the Census Bureau may not be able to represent them or may snap them together.
End-Point Tolerance	Edge end points that fall within five meters of another edge will be snapped to that edge (at its nearest point or segment) so as not to create gaps or overshoots.
Cul-de-Sac Exception	A road segment end point may fall within five meters of another edge without snapping if it ends in a cul-de-sac, represented by a cul-de-sac point feature.
Note: The Census Bureau uses GCS NAD83, Degree Decimal coordinates to six decimal places.	