

## 2. Introduction

### 2.1 What is a Shapefile?

Shapefiles are digital representations of geographic features (e.g., lakes, landmarks, roads, and boundaries) used to create maps. A shapefile stores non-topological geometry and attribute information for the spatial features in a data set. The Census Bureau provides shapefile layers in Environmental Systems Research Institute\* (Esri) shapefile format.

\* The use of brand names does not represent an endorsement of a company or its products by the U.S. government. Due to the wide use of Esri products by our partners in the Geographic Information System (GIS) community, and ubiquitous use of the shapefile format as a medium for GIS data exchange, the Census Bureau provides data in shapefile format.

### 2.2 What are TIGER/Line Shapefiles?

The TIGER/Line Shapefiles are extracts of selected geographic and cartographic information from the Census Bureau's Master Address File (MAF)/Topologically Integrated Geographic Encoding and Referencing (TIGER) Database (MTDB). The shapefiles include information for the fifty states, the District of Columbia, Puerto Rico, and the Island areas (American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, and the United States Virgin Islands). The shapefiles include polygon boundaries of geographic areas and features, linear features including roads and hydrography, and point features. These shapefiles do not contain any sensitive data or confidential data protected by [Title 13](#) of the U.S.C.

### 2.3 Relationship of the TIGER/Line Shapefiles to Census Statistical Data

The TIGER/Line Shapefiles contain a standard geographic identifier (GEOID) for each entity that links to the GEOID in the data from censuses and surveys. The TIGER/Line Shapefiles do not include demographic data from surveys and censuses (e.g., Decennial Census, Economic Census, American Community Survey, and the Population Estimates Program). Other, non-census, data often have this standard geographic identifier as well. Data from many of the Census Bureau's surveys and censuses, including the geographic codes needed to join to the TIGER/Line Shapefiles, are available at the Census Bureau's public data dissemination website (<https://data.census.gov/>). For more information regarding the geographic entity codes, please refer to [Section 3.2.7 Codes for Geographic Entities](#).

In addition to the TIGER/Line Shapefiles, the Census Bureau creates additional shapefiles and geodatabases that include demographic data. These are as-is products and are created by Census Bureau staff as time permits. All shapefiles and geodatabases with demographic data are available at

[<https://www.census.gov/geographies/mapping-files/time-series/geo/tiger-data.html>](https://www.census.gov/geographies/mapping-files/time-series/geo/tiger-data.html)

### 2.4 History and Sources of TIGER/Line Files and Shapefiles

The first release of the TIGER/Line Files was in 1989. These files provided the first nationwide street centerline coverage of the United States, Puerto Rico, and the Island Areas in a series of American Standard Code for Information Interchange (ASCII) format fixed tables or record types. Initially, the Census Bureau used the U.S. Geological Survey (USGS) 1:100,000-scale Digital Line Graph (DLG), USGS 1:24,000-scale quadrangles, the Census Bureau's 1980 geographic base files (GBF/DIME Files), and a variety of miscellaneous maps for selected areas outside the contiguous 48 states to create the TIGER Database (predecessor to the current MTDB). The Census Bureau released versions of the TIGER/Line Files periodically throughout the 1990s and 2000s in ASCII format. Beginning with the 2007 version, the format of the TIGER/Line files changed from the ASCII file format to shapefile.

The Census Bureau continually makes additions and corrections to the MTDB, mainly through partner-supplied data, the use of aerial imagery, and fieldwork. The Census Bureau has numerous partner programs where federal, state, and local government partners supply updates to boundaries, features, and addresses. In the 2000s, the Census Bureau underwent a major realignment of the MTDB to improve the spatial accuracy of the road network. Since this realignment, the Census Bureau has added quality standards for data sources used to update the MTDB.