

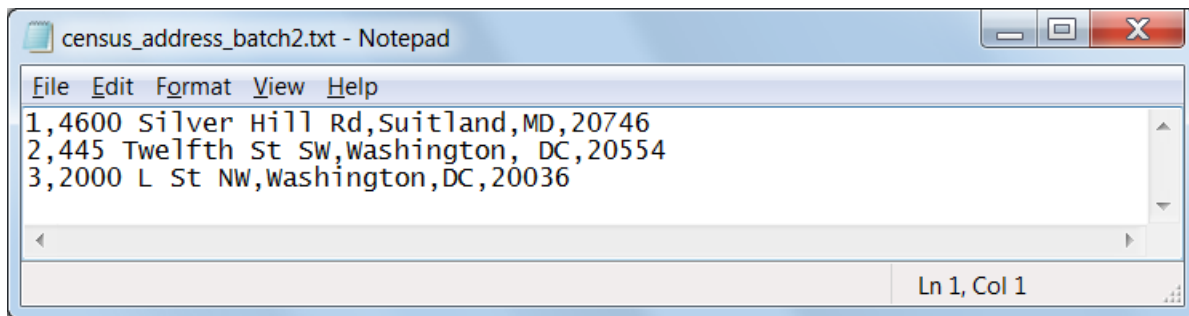
Census Geocoder

The **Census Bureau** has a free address-matching (geocoding) tool that can provide the coordinates as well as the census geographies (state, county, tract and block) associated with addresses. The tool can be used for a single address or up to 1,000 addresses in batch mode. The tool can be found at <http://geocoding.geo.census.gov/geocoder/>.

Here's how to find **census tract** and **census block** codes using the census batch geocoder.

(1) Create an Address File

Start with a plain-text address file that's in good shape – i.e., all the addresses are correct, in USPS format, with the following fields separated by commas: (1) row number (or other unique identifier), (2) street address (no punctuation), (3) city, (4) state, (5) ZIP. The geocoder will separate each row of your file into five parts based on the placement of the commas, so be sure that each row has only four commas and that they are correctly placed. In a plain text editor, like NotePad, the file should look like this:

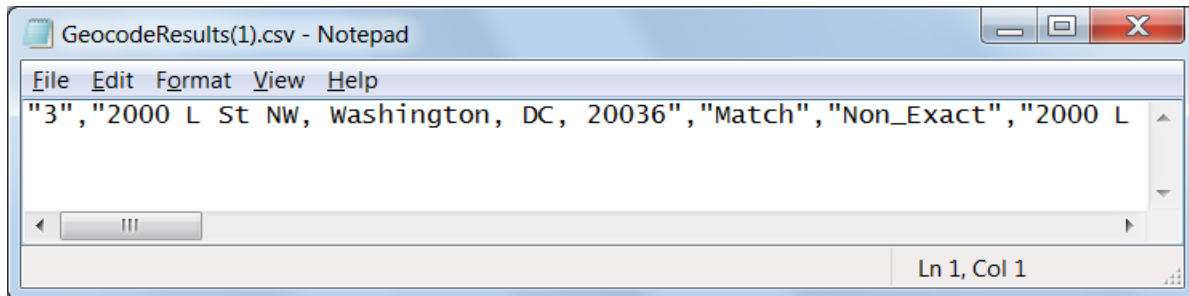


(2) Geocode the Addresses

Go to <http://geocoding.geo.census.gov/geocoder/geographies/addressbatch?form> (or go to <http://geocoding.geo.census.gov/geocoder/>, then from the left menu click **Address Batch** under **Find Geographies Using...**), browse for your address file, then set the **Benchmark** and **Vintage** parameters as follows:



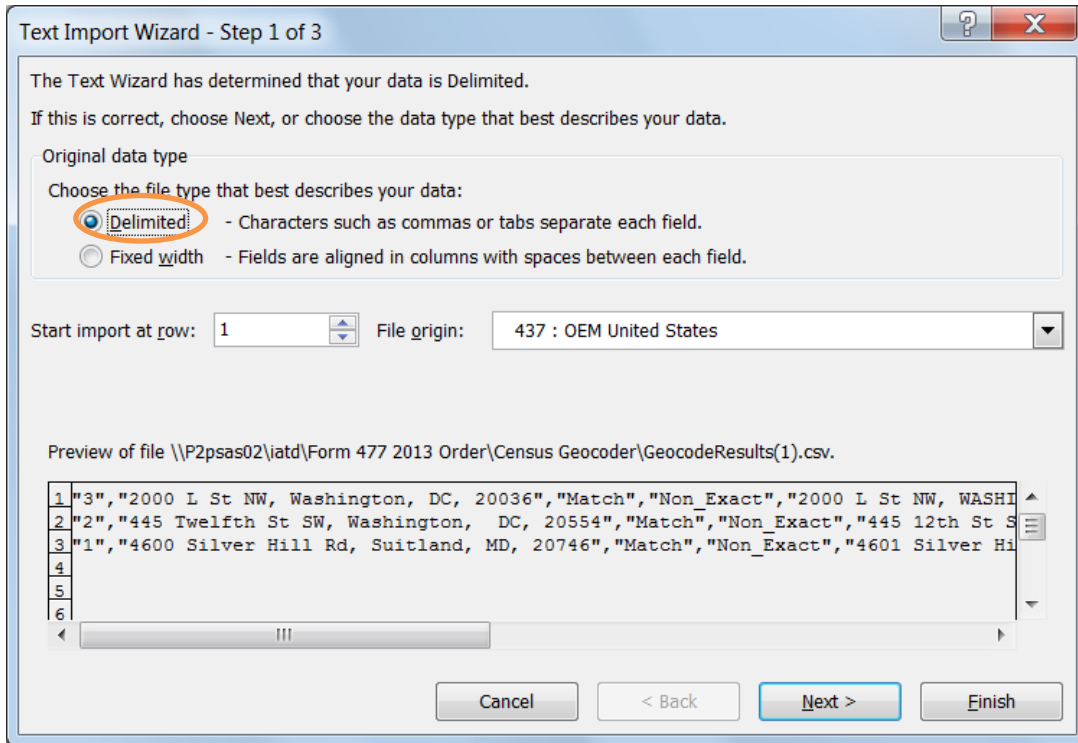
When you click **Get Results**, the geocoder will generate a CSV (comma-separated values) file (called GeocodeResults.csv) and open a dialog box that allows you to open or save the file. If you open the file in a plain-text editor like Notepad, it will look like this:



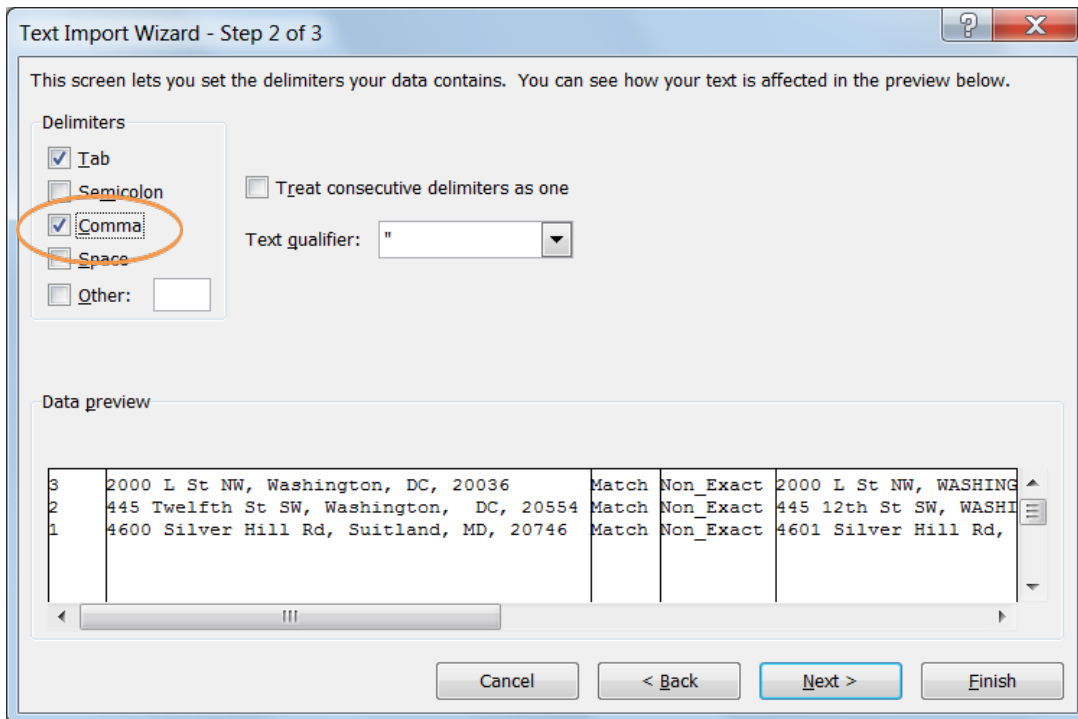
(3) Open the Output File in a Spreadsheet Program

Since the output CSV file is not terribly helpful in the format above, the easiest way to deal with it is to open it in Excel or another spreadsheet or database program that will place the comma-separated values into columns and allow you to concatenate the values in the 3 or 4 right-most columns into census tract or block codes using the guidance below. Exercise caution here. If you simply double-click the file to open it in Excel, for instance, Excel will make assumptions about the structure of the file that aren't always accurate. It's important to use these steps to import the data to Excel:

- Open Excel with a blank sheet.
- Click **Data** on the ribbon.
- Click **From Text**
- Navigate to the geocoder's output CSV file on your file system, select it, then click **Import**
- This will open the Import Wizard, the first step of which will appear like this:

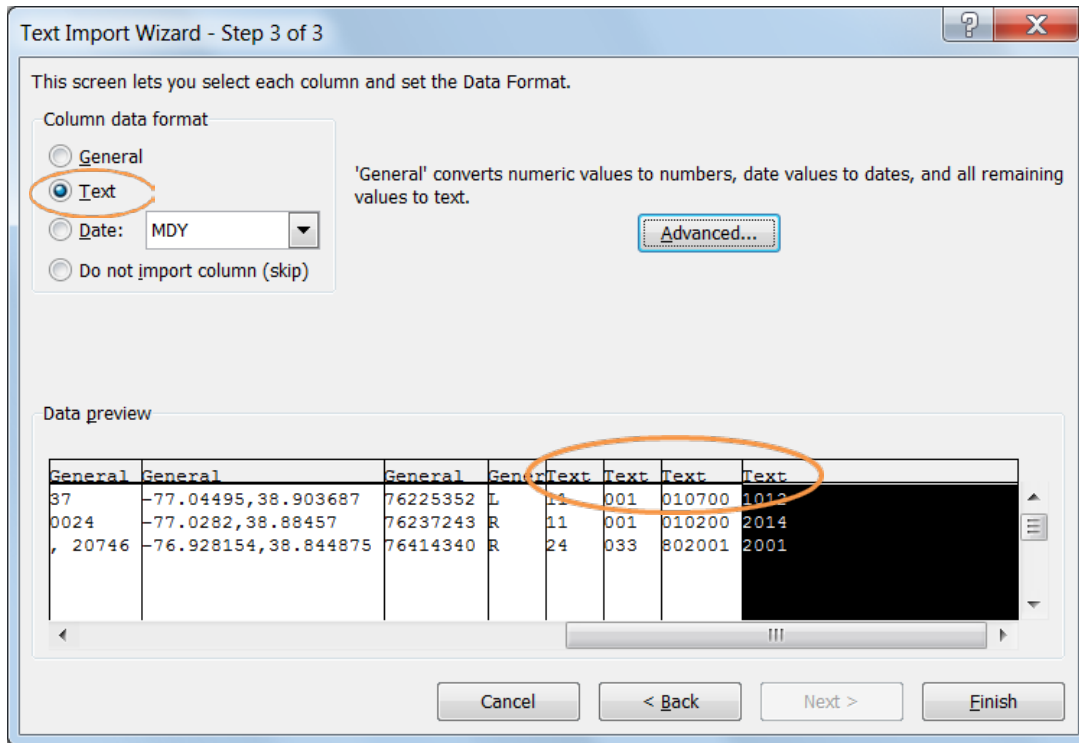


- Click **Next** (Excel has already figured out that these are Delimited data)
- On Step 2, check the box next to **Comma** for the delimiter and make sure Excel properly separates the fields like so:

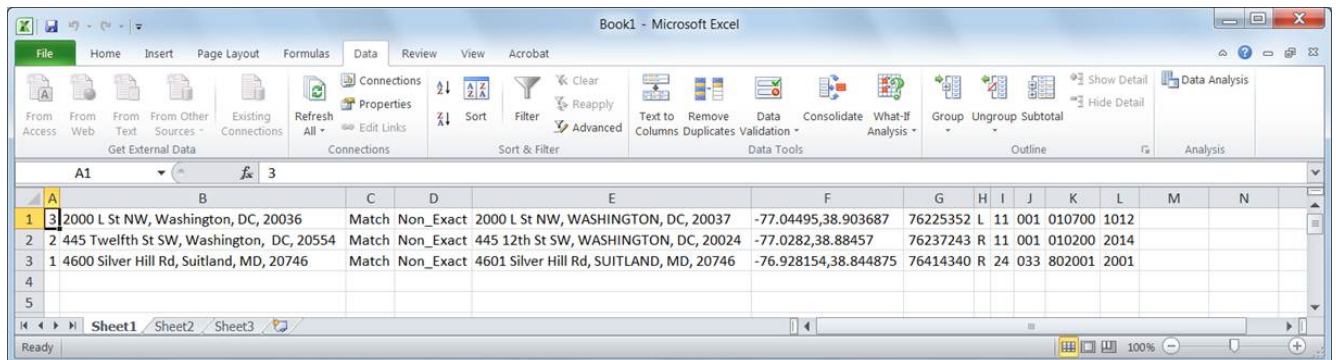


- Click **Next** to go to Step 3

- The last 4 fields are the codes for the state, county, tract and block. **They must be imported as TEXT or you will lose the leading zeros and render the codes invalid.** Change the data type to Text from General for these fields by clicking on the field, then clicking **Text** under **Column data format**:



- Click **Finish**, then **OK**.
- You should get a workbook that looks like this:



To generate the complete **census tract** code for each address:

- In cell M1, type in the following: **=I1&J1&K1**. This will concatenate the 3 columns and give you the complete tract code. After you copy this formula down the rows of the sheet, you should see something like this:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	3	2000 L St NW, Washington, DC, 20036	Match	Non_Exact	2000 L St NW, WASHINGTON, DC, 20037	-77.04495,38.903687	76225352	L	11	001	010700	1012	11001010700	
2	2	445 Twelfth St SW, Washington, DC, 20554	Match	Non_Exact	445 12th St SW, WASHINGTON, DC, 20024	-77.0282,38.88457	76237243	R	11	001	010200	2014	11001010200	
3	1	4600 Silver Hill Rd, Suitland, MD, 20746	Match	Non_Exact	4601 Silver Hill Rd, SUITLAND, MD, 20746	-76.928154,38.844875	76414340	R	24	033	802001	2001	24033802001	
4														
5														

The complete tract code, in column M above, will always be 11 digits, because the state code (column I) will always be 2 digits, the county code (column J) will always be 3 digits and the tract within the county (column K) will always be 6 digits.

To generate the complete **census block** code for each address:

- In cell N1, type in the following: **=I1&J1&K1&L1**. The complete census block code will always be 15 digits – it will consist of the 11-digit census tract code plus the four digits that identify the specific block within the census tract.

Other useful information:

- Also, column F gives the longitude and latitude of the address (x,y), respectively, which might be handy if you need to map your customer location points for internal purposes.