CSV and GIS Technical Formatting Details

& examples for Provider Submission Data Portal (v.2026.01)

The collection process for 2026 is designed to assist broadband providers in streamlining the submission process. This is achieved by adopting the full FCC guidelines for reporting broadband availability in our Virginia broadband collection handbook, either as location lists or as polygons. The only difference between what broadband providers submit to the FCC and to Commonwealth Connection is that submissions to the latter should **only contain addresses from Virginia**.

The preferred file format for reporting Fixed Broadband data, when using a location list, is **`.csv`** (comma-separated values) or a comma-delimited text file. In this format, each value is separated by commas and stored in a simple text file with the **`.csv`** extension.

All fixed broadband providers are required to report coverage by address. For simplicity and enhanced anonymity, providers must use the unique identifier from the FCC's Location Fabric IDs. We are ***NO*** longer using the Virginia Geographic Information Network (VGIN) address data, ***NOR*** are we accepting full postal addresses.

Please ensure that you are using Version 8 of the FCC Location Fabric (fcc_rel=12312025). Information about how to obtain FCC Location Fabric v8 can be found here.

CSV or 'Location List' Standards

These standards were adopted from FCC's "How to Format Fixed Broadband Availability Location Lists." The CSV (comma-delimited) file should look like the examples below as shown in Notepad or other similar simple text editors. The headers/fields should be as follows: **`provider_id, brand_name, location_id, technology, max_advertised_download_speed, max_advertised_upload_speed, low_latency, business_residential_code`**

- Coverage areas from the same provider may overlap when involving different technologies. However, they cannot overlap for the same technology. In cases of overlap for the same technology, the highest speed should be reported for that particular area or FCC Location Fabric address point.

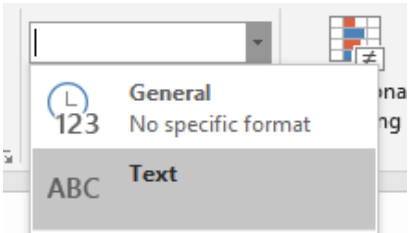


Image 1: Field formatting in Microsoft Excel.

Note: If the **`.csv`** file is opened in Microsoft Excel, you will need to make sure that the column for `location_id` is formatted in 'Text' to prevent scientific notation conversion (e.g., -3.12734E+11). Microsoft Excel has a limit of 1,048,576 rows and FCC's Location Fabric data points have several million rows, so it is recommended that you use ArcGIS, QGIS, or another 3rd party software to compile your data.

Table 1: Fields in Provider Submitted Data for .csv or polygon/shapefile submission. Adopted from FCC.

Field	Header	Data Type	Example	Description and Code Key
Provider ID	provider_id	Numeric / Integer	123456	FCC's unique 6-digit code generated by the FCC Fabric that identifies each service provider.See the list of Provider IDs.
Brand Name	brand_name	Text / String	Acme Broadband	Name of the entity or service advertised or offered to consumers
Location ID	location_id	Numeric / Integer	1000000121	A unique identifier for the location served. Each Location ID is a 10-digit number starting with one billion. Please ensure this field is formatted in as 'Numerical'
Technology	technology	Enumerated Integer	50	Broadband Connection Type Code for the technology used for the specific type of internet service. ***10*** *= Copper Wire* ***40*** *= Coaxial Cable* ***50*** *= Optical Carrier / Fiber to the end user* ***60*** *= Geostationary Satellite* ***61*** *= Non-Geostationary Satellite* ***70*** *= Unlicensed Terrestrial Fixed Wireless* ***71*** *= Licensed Terrestrial Fixed Wireless* ***72*** *= Licensed-by-Rule Terrestrial Fixed Wireless* ***0*** *= All Other* *See Fixed and Mobile Technology Codes for more information.*

Field	Header	Data Type	Example	Description and Code Key
Maximum Advertised Download Speed	max_advertised_download_speed	Numeric / Integer	1000	Maximum advertised download speed offered to location (in Mbps)
Maximum Advertised Upload Speed	max_advertised_upload_speed	Numeric / Integer	1000	Maximum advertised upload speed offered to location (in Mbps)
Latency	low_latency	Boolean Integer	1	The offered service is low latency, defined as having round-trip latency of less than or equal to 100 milliseconds based on the 95th percentile of measurements. *Value must be one of the following codes:* ***0*** *- False* ***1*** *- True*
Business/Residential Category	business_residential_code	Enumerated String {1}	B	Enumerated character identifying whether the service at the location is business-only, residential-only, or offered to both business and residential customers. *Value must be one of the following codes:* ***B*** *- Business-only service* ***R*** *- Residential-only service* ***X*** *- Business and Residential service*

Broadband providers may serve a single location using various technologies. In such cases, providers are permitted to list that location multiple times, corresponding to each different technology used at that location.

However, it is important to note that each entry for a location must include all the required fields to ensure a proper submission. Furthermore, a location can be listed only once per technology code.

Acceptable:

One technology = One location listed with the required fields.
Many technologies = One location, listed repeatedly with required fields pertaining to that particular technology.

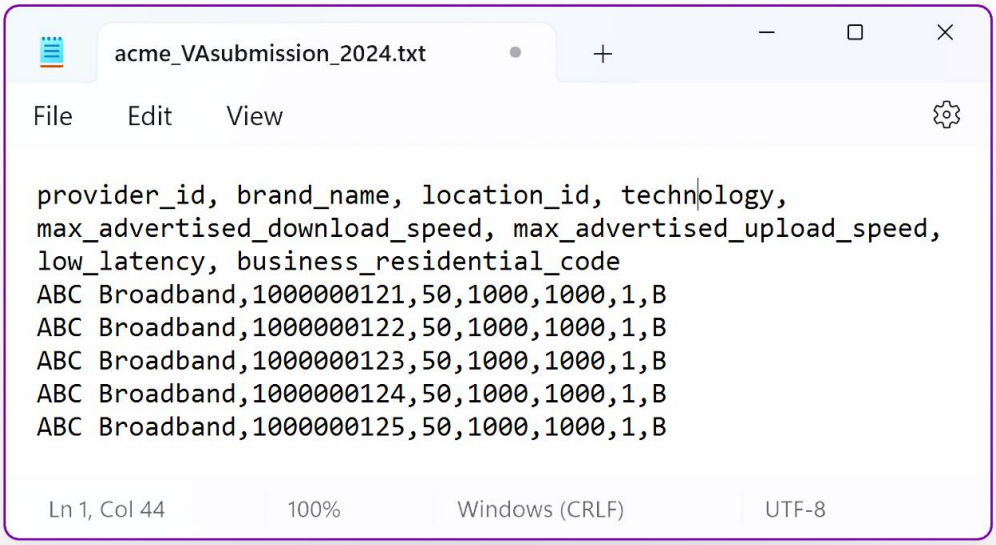
Example:

If we were to place the values in the "Example" column from the table above into a comma separated format for upload, they would make a single data row (record) like this:

```
ABC Broadband,1000000121,50,1000,1000,1,B
```

This record can be translated as saying that at location 1000000121, ABC Broadband can offer low latency (latency code 1) business-grade (category code B) fiber (technology code 50) internet access with advertised bandwidths of 1000 Mbps downstream and 1000 Mbps upstream.

Image 2: Sample CSV submission featuring the FCC's Fabric Location ID.



Example .CSV File

GIS Polygon Standards

The shapefiles should consist of polygons. All mapped areas must be represented by complete polygons, each with a single, unique identifier. These polygons should be closed, non-overlapping, and cover only the addresses with broadband coverage.

Note: If a polygon is submitted, it will be assumed that all addresses within the polygon have the same services as indicated by the polygon's attribute data.

The geometries of the shapefiles must conform to the two-dimensional rules set by the Open Geospatial Consortium (OGC). The shapefiles must include the following files: .shp, .shx, .dbf, and .prj.

Coverage areas from the same provider may overlap when different technologies are involved. However, for the same technology, overlap is not permitted. In such cases, the highest speed should be reported for the specific area or FCC Fabric address point.

Coverage polygons must only encompass locations where the provider either currently offers service or could perform a 'standard broadband installation,' as defined in the FCC's rules.
Each polygon should represent a unique combination of the following fields: **`providerid, brandname, technology, maxdown, maxup, lowlatency, & bizrescode`**.

Table 2: Data attribute fields in Provider Submitted Data for GIS Polygon submission. Adopted from FCC.

Attribute Field	Data Type	Example	Description and Code Key
providerid	Numeric / Integer	123456	FCC's unique 6-digit code generated by the FCC Fabric that identifies each service provider. The list of Provider IDs is at See the list of Provider IDs.
brandname	Text / String	Acme Broadband	Name of the entity or service advertised or offered to consumers
technology	Enumerated Integer	50	Broadband Connection Type Code for the technology used for the specific type of internet service. **10** = Copper Wire (DSL) **40** = Coaxial Cable **50** = Optical Carrier / Fiber to the end user **60** = Geostationary Satellite **61** = Non-geostationary Satellite **70** = Unlicensed Terrestrial Fixed Wireless **71** = Licensed Terrestrial Fixed Wireless **72** = Licensed-by-Rule Terrestrial Fixed Wireless **0** = All Other See Fixed and Mobile Technology Codes for more information.
maxdown	Numeric / Integer	1000	Maximum advertised download speed offered to location (in Mbps)
maxup	Numeric / Integer	1000	Maximum advertised upload speed offered to location (in Mbps)
lowlatency	Boolean Integer	1	The offered service is low latency, defined as having round-trip latency of less than or equal to 100 milliseconds based on the 95th percentile of measurements. *Value must be one of the following codes:* *0 - False* *1 - True*

Attribute Field	Data Type	Example	Description and Code Key
bizrescode	Enumerated String {1}	B	Enumerated character identifying whether the service at the location is business-only, residential-only, or offered to both business and residential customers. *Value must be one of the following codes:* *B - Business-only service* *R - Residential-only service* *X - Business and Residential service*

Example Shapefile Template *(Preferred)*

Example Geojson Template

Example GPKG Template

Example GDB Template