# Broadband Coverage Data Documentation

**About Broadband Mapping:** These geospatial data represent areas of advertised internet access in Wisconsin. Access data are retrieved from internet providers and the Federal Communications Commission's (FCC) Form 477. Data from providers may be current up to **January 26, 2022**. Data from the Form 477 may be current up to **December 31, 2020**. Mobile data are from **December 31, 2016**. Actual coverage dates for each provider can be found using the **Identify** tool. No independent verification of access has been made by the WBO.

**Background and Coverage Metadata:** All wireline, fixed wireless, and satellite Internet Service Providers (ISPs) are to submit coverage data in tabular format to the FCC every six months. These ISPs will report a list of all census blocks where they can provide service to at least one customer. Providers do not necessarily offer subscription service to all locations in reported census blocks. The ISPs include the provider's name, the specific type of technology used to transmit broadband and the advertised download and advertised upload speeds offered for each census block in their submission.

Mobile wireless ISPs submit coverage information to the FCC in shapefile format every six months. Mobile wireless ISPs use coverage models to estimate service boundaries. Additionally, mobile wireless ISPs only provide information on where they offer services, not speeds.

The FCC compiles all wireline, fixed wireless, and satellite ISP submissions and makes them available for download in a tabular format, or in the case of mobile wireless ISP data, shapefile format (https://www.fcc.gov/general/broadband-deployment-data-fcc-form-477).

The PSC, on an annual or biannual basis, requests copies of the most recent Form 477 and any more granular coverage submissions from each ISP. Due to the time it takes for the FCC and the PSC to convert tabular data to geospatial data, the PSC will use data it collected directly from ISPs when they are newer or more granular than what the FCC has available.

To convert tabular data to a geospatial format, the 2010 version of census blocks geospatial data were downloaded from the US Census Bureau (https://www2.census.gov/geo/tiger/TIGER2010BLKPOPHU/tabblock2010_55_pophu.zip). These census block data were joined to the ISPs' tabular data based upon the unique census block numbers. To differentiate the FCC's data from submissions coming directly from ISPs, source and coverage data information are included in geospatial data. Only coverage data available for consumers, per the FCC's Form 477, are included with this download.

**Disclaimer:** While these GIS data attempt to highlight areas of the state that have internet access, no guarantee of said coverage can be fully made. The methodology of collecting coverage data, local anomalies, and coverage changes may result in the understatement or overstatement of internet coverage. As a result, the PSC is not liable for inaccuracies or other unusual phenomena in these map layers. All data are subject to the PSC's Terms and Conditions.

**Data Formats:** Downloadable data are available in ESRI Geodatabase format and in shapefile format. The Geodatabase contains five feature classes. Each feature class is also available in shapefile format. See Table 1 for files names and associated technology types. There are separate look up tables for the

geodatabase and the shapefiles, see Tables 2A-C & 3A-C. For more information on the definitions of connection technologies go to https://www.fcc.gov/general/types-broadband-connections.

**Table 1: Mapping Layers included in Download & Associated Content**

| Geodatabase Format: CoverageDataGeodatabase20220126.gdb | Shapefile Format: \Shapefiles20210126\ |
|---|---|
| **BbCovConMobile** includes the following access: | **BbCovConMobile** includes the following access: |
| Terrestrial Mobile Wireless | Terrestrial Mobile Wireless |
| **BbCovConProvidersGeneralized** includes: | **BbCovConProvidersGeneralized** includes: |
| ISP Advertised Access Boundary Data (with Generalized boundaries) | ISP Advertised Access Boundary Data (with Generalized boundaries) |
| **BbCovConSatellite** includes the following access: | **BbCovConSatellite** includes the following access: |
| Satellite | Satellite |
| **BbCovConWireless** includes the following access: | **BbCovConWireless** includes the following access: |
| Terrestrial Fixed Wireless | Terrestrial Fixed Wireless |
| **BbCovConWireline** includes the following access: | **BbCovConWireline** includes the following access: |
| ADSL2, ADSL2+ | ADSL2, ADSL2+ |
| Asymmetric xDSL | Asymmetric xDSL |
| Cable Modem - DOCSIS 1, 1.1 or 2.0 | Cable Modem - DOCSIS 1, 1.1 or 2.0 |
| Cable Modem - DOCSIS 3.0 | Cable Modem - DOCSIS 3.0 |
| Cable Modem – DOCSIS 3.1 | Cable Modem – DOCSIS 3.1 |
| Cable Modem other than DOCSIS 1, 1.1, 2.0, 3.0, or 3.1 | Cable Modem other than DOCSIS 1, 1.1, 2.0, 3.0, or 3.1 |
| Optical Carrier / Fiber to the End User | Optical Carrier / Fiber to the End User |
| Other Copper Wireline | Other Copper Wireline |
| Symmetric xDSL | Symmetric xDSL |
| VDSL | VDSL |

**Table 2A: Geodatabase Field Data Dictionary for BbCovConMobile**

| Geodatabase Field List | Description |
|---|---|
| MAPDISPLAYNAME | Provider name |
| CONNECTIONTECHTYPE | Connection technology (string) |
| COVDATALASTUPDATED | Coverage data last update |
| COVERAGEDATASOURCE | Coverage data source |
| PROVIDERWEBSITE | Provider website |
| DISCLAIMER | Call to verify local connection |

**Table 2B: Geodatabase Field Data Dictionary for BbCovConProviders**

| Geodatabase Field List | Description |
| --- | --- |
| TechCodeGeneral | Connection technology (string) |
| CommonProviderName | Provider name |

**Table 2C: Geodatabase Field Data Dictionary for BbCovConSatellite, BbCovConWireless, BbCovConWireline**

| Geodatabase Field List | Description |
| --- | --- |
| ISPName | Provider name |
| TransTech | FCC connection technology (long) |
| MaxAdDown | Maximum advertised download speed (long) |
| MaxAdUp | Maximum advertised upload speed (long) |
| TechCodeTxt | Connection technology (string) |
| TechCodeGeneral | General technology category |
| MaxAdDownTxt | Maximum advertised download speed (string) |
| MaxAdUpTxt | Maximum advertised upload speed (string) |
| CoverageDateTxt | Coverage data last updated |
| CoverageSource | Coverage data source |
| ProviderWebsite | Provider URL |
| Disclaimer | Disclaimer text |
| Subsidies | Lists subsidy programs available in area (CAF-II, CAF-II Auction, ACAM, R-DOF) |

**Table 3A: Shapefile Field Data Dictionary for BbCovConMobile**

| Shapefile Field List | Description |
| --- | --- |
| MAPDISPLAY | Provider name |
| CONNECTION | Connection technology (string) |
| COVDATALAS | Coverage data last updated |
| COVERAGEDA | Coverage data source |
| PROVIDERWE | Provider URL |
| DISCLAIMER | Disclaimer text |

**Table 3B: Shapefile Field Data Dictionary for BbCovConProviders**

| Shapefile Field List | Description |
| --- | --- |
| TechCodeGe | Connection technology (string) |
| CommonProv | Provider name |

**Table 3C: Shapefile Field Data Dictionary for BbCovConSatellite, BbCovConWireless, BbCovConWireline**

| Shapefile Field List | Description |
| --- | --- |
| ISPName | Provider name |
| TransTech | FCC connection technology (long) |
| MaxAdDown | Maximum advertised download speed (long) |
| MaxAdUp | Maximum advertised upload speed (long) |
| TechCodeTx | Connection technology (string) |
| TechCodeGe | General technology category |
| MaxAdDownT | Maximum advertised download speed (string) |
| MaxAdUpTxt | Maximum advertised upload speed (string) |
| CoverageDa | Coverage data last update |
| CoverageSo | Coverage data source |
| ProviderWe | Provider URL |
| Disclaimer | Disclaimer text |
| Subsidies | Lists subsidy programs available in area (CAF-II, CAF-II Auction, ACAM, R-DOF) |

**Questions or comments:** Contact PSCBroadbandData@wisconsin.gov or the POC of this document (see header).