

# Technical Appendix: Data Submittal Technical Requirements

## Executive Summary

In order to achieve the best results for the Arizona Broadband Mapping Project as part of NTIA, each data provider is asked to provide, to the best of their ability, information as described on the “Record Format for Community Anchor Institutions” table enclosed within this appendix.

While we ask every provider to submit as much data as required in the NTIA formats described herein, we recognize the effort it may require. Ultimately, we seek the data in a selected format easiest for the provider and we’re glad to help you interpret the formats and how best to prepare and submit your data.

For the purposes of this request, "broadband service" is the provision of data transmission technology that provides two-way data transmission to and from the Internet with advertised speeds of at least 768 kilobits per second (kbps) downstream and greater than 200 kbps upstream to end users. Providers should report on the location of their facilities and also report whether broadband service are available at those facilities and if so, provide whatever information they can on the level of that service. Part of this study is to determine what facilities have minimal or better, broadband service and identify those that do not have broadband service.

## Submitted Data Formats

Preferably, data will be submitted by each provider in tabular and/or map form, and in one (or more, as appropriate) of the following formats:

Tabular data formats (listed in order of descending preference, i.e., the first listed is how ASLD would prefer to receive the data):

- Plain text (ASCII) file(s), fields tab-delimited.
- Plain text (ASCII) file(s), fields comma-delimited, text fields enclosed in matching quotation marks (either single or double).
- Plain text (ASCII) file(s), fixed length record.
- Microsoft Excel Spreadsheet (XLS, XLSX) file(s).
- Microsoft Access database (MDB) file(s).
- dBase table (DBF) file(s).

To assist our efforts, we request that submitted data set(s) be accompanied with documentation listing field names, types and sizes.

GIS or CAD formats (listed in order of descending preference, i.e., the first listed is how ASLD would prefer to receive the data):

- ESRI Shapefile(s).
- ESRI Personal Geodatabase (as Microsoft Access MDB file).
- ESRI File Geodatabase (directory with files).
- ESRI Arc/Info Coverage or Export file(s).
- AutoCAD DWG (drawing) or DXF (drawing interchange, or exchange, format) file(s), up to and including version 2008.

Data can also be submitted in GIS or CAD formats where the Community Anchor Locations are shown as Point Features. If data is submitted in this format, attribute tables or accompanying tables with the GIS data should contain all requested data listed on the “Record Format for Community Anchor Institutions” table.

If the file format does not contain geo-referencing information (e.g., coordinate system, projection, map units, etc.) please specify in a separate text document. To assist our efforts, we request that each data set be accompanied with documentation giving field names, types and sizes.

If a provider is unable to provide data in the formats suggested, for any reason, we are flexible and willing to support data submission in any manner that alleviates a provider’s constraints. Please contact us for assistance.

## Required Information

### Community Anchor Institutions

We are seeking the broadband service available at Community Anchor Institutions throughout the state, including service type and advertised speed, to a specific address.

**Tabular Data Format:** A complete list of Community Anchor Institutions addresses with broadband service information. The following table shows the preferred data format for submission to NTIA and uses Libraries as an example:

<b>Record Format for Community Anchor Institutions - Libraries</b>			
<b>Field</b>	<b>Description</b>	<b>Type</b>	<b>Example</b>
Name	Institution Name	Text	Yavapai County Library
Address	Complete Address of institution	Text	1739 N Elm St Prescott AZ 86303
Latitude	Latitude in decimal degrees of institution	Float	34.884560
Longitude	Longitude in decimal degrees of institution	Float	-112.028123
Category	Category of institution (see details below for category codes).	Integer	2
Broadband Service	Does institution subscribe to broadband service at location? (Y or N)	Text	Y
Technology of Transmission	Category of technology used for the provision of broadband service to the institution (see details following part 1(a) for codes).	Integer	10
Advertised Downstream Service Speed	Speed tier code for the downstream advertised data transfer throughput rate associated with the service that the institution receives (see details following part 1(a) for codes).	Integer	8
Advertised Upstream Service Speed	Speed tier code for the upstream data transfer throughput rate associated with the service that the institution receives (see details following part 1(a) for codes).	Integer	8
Broadband Service Provider	The Name of the Government Organization (i.e. County, City, etc. – IT Services) or Private entity (e.g. Qwest, Comcast or other)	Text	Yavapai County IT Department

If codes other than those shown are used, please use a comparable type from your data and attach an explanation of the codes used.

If unable to provide all data as requested, a list of known institutions, their category and address along with who provides Internet Services at that address will suffice.

### Community Anchor Institution Category Codes

<i>Category Code</i>	<b>Category</b>
1	School – K through 12
2	Library
3	Medical/healthcare
4	Public safety
5	University, college, other post-secondary
6	Other community support - government
7	Other community support - nongovernmental

### Technology of Transmission Codes Table (The technology used to deliver service to the Community Anchor Institution)

<b>Technology Code</b>	<b>Description</b>	<b>Details</b>
10	Asymmetric xDSL	
20	Symmetric xDSL	
30	Other Copper Wire line	All copper-wire based technology other than xDSL (e.g. Ethernet over Copper, Frame Relay, T1 and NxT1)
40	Cable Modem - DOCSIS 3.0	
41	Cable Modem - Other	
50	Optical Carrier/Fiber to the End User	SONET, Metro Ethernet, Fiber Link, ATM, DWDM (does not include "fiber to the curb/FTTC")
70	Terrestrial Fixed Wireless	Unlicensed
71	Terrestrial Fixed Wireless	Licensed
80	Terrestrial Mobile Wireless	
90	Electric Power Line	
0	All Other	Any specific technology not listed above

Speed Tier Codes Table (Upload and Download service speeds)		
Upload Speed Tier	Download Speed Tier	Description
2	n/a	Greater than 200 Kbps and less than 768 Kbps
3	3	Greater than or equal to 768 Kbps and less than 1.5 Mbps
4	4	Greater than or equal to 1.5 Mbps and less than 3 Mbps
5	5	Greater than or equal to 3 Mbps and less than 6 Mbps
6	6	Greater than or equal to 6 Mbps and less than 10 Mbps
7	7	Greater than or equal to 10 Mbps and less than 25 Mbps
8	8	Greater than or equal to 25 Mbps and less than 50 Mbps
9	9	Greater than or equal to 50 Mbps and less than 100 Mbps
10	10	Greater than or equal to 100 Mbps and less than 1 Gbps
11	11	Greater than or equal to 1 Gbps

#### MAP FORMAT TABLES

**GIS or CAD formats** (listed in order of descending preference, i.e., the first listed is how ASLD would prefer to receive the data):

- ESRI Shapefile(s).
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- ESRI File Geodatabase (directory with files).
- ESRI Arc/Info Coverage or Export file(s).
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## Data Submission

Data sets may be submitted by one the following methods:

- Email to Tim Colman at [tcolman@land.az.gov](mailto:tcolman@land.az.gov)
- Mail to Tim Colman, Arizona State Land Department, 1616 W Adams St, Phoenix AZ 85007, on portable storage media (CD or DVD)

## Checking of Submitted Data

Collected data from the provider will be sorted, categorized and processed to identify information gaps, conflicting data and/or if anomalies exist. Once a suitable data set has been compiled, the data will be shared with the provider.