

# Washington Broadband Mapping

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## Data Submission Methodology Report

October 1, 2014



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**Data Submission Report (October 1, 2014)**

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# 1 Introduction

This report is submitted along with the tenth data submission for the Washington Broadband Mapping Project. This submission includes all data collected to date per the requirements of the National Telecommunications and Information Administration (NTIA) State Broadband Data and Development Grant Program (Docket No. 0660-ZA29) Notice of Funds Availability (NOFA) and formal and informal clarifications to it. Specifically, it includes broadband data collected from broadband providers and community anchor institutions data compiled from various sources for the State of WA. The State of WA has retained a mapping contractor, The Sanborn Map Company, to perform the work related to the Mapping Grant for this project. Data from the previous submission is now publicly accessible via the WA Broadband Program (<http://wabroadbandmapping.org/>).

**This document is a supplement to the nine previous reports submitted with previous data submissions on May 1, 2010, October 1, 2010, April 1, 2011, October 1, 2011, April 1, 2012, October 1, 2012, April 1, 2013, October 1, 2013, and April 1, 2014.** Therefore, it builds on the documents provided with those submissions. Rather than repeat the contents of the previous report, this document makes incremental updates on various topics where changes have been made in the methodology or reiterates the methodology used. Please refer to the previous documents for further details.

## 2 Overall Project Status

### 2.1 DATA COLLECTION

This section details data collection related to NTIA deliverables which include broadband data and community anchor institution data.

#### 2.1.1 Broadband Data

For this submission, Sanborn started data collection efforts on July 1, 2014 by sending out data update requests. These were sent to a large list of companies which were compiled from multiple lists (FCC Form 477 list (June 30, 2013, as submitted in filings made or revised as of January 9, 2014)), a list provided by the Washington UTC, Wireless Internet Service Providers Association (WISPA)) and from any providers that were identified through other sources such as web research, planning meetings, State outreach, etc. Sanborn also uploaded the final data for each provider in NTIA format from the previous submission on the Sanborn provider portal. The providers were encouraged to use the provider portal and update their information on it.

We followed the same contact and follow-up protocols as the previous submissions. In brief, this involved following up with already participating providers after sending them a letter requesting data updates. For newly identified providers, we contacted them three additional times and offered any/all support to make this as easy as possible. We provided a due date for submission but worked with providers who needed more time. If participating providers did not submit updated data and did not respond to our efforts to contact them, we reused their last submitted data.

The following are some of the important changes or no changes:

1. We continued to request all providers to provide us their speed information in mbps rather than as a speed tier. We did this in order to better validate the data, analyze served/underserved, and identify the breakdowns in speeds within a given tier. However, we have found over the last few submissions, this has caused some confusion between what we are asking for (speeds in mbps) vs. typical speeds. Given that many providers are not providing this information, it is hard to use the data effectively for analysis.
2. As in the previous submission, we also requested fixed wireless providers to provide us appropriate information to do propagation analysis. We helped improve data for 1 provider this submission through propagation, and got improved propagation from 2 providers through Link Technologies. For those WISP providers that provided us the data to accomplish propagation, we used Radio Mobile to do propagation analysis.

3. As in the past, we did not include resellers in the submission.
4. Due to our NDA restrictions, last mile infrastructure points, if submitted by providers, are not being submitted to NTIA. Likewise, address points are not included in this submission for any provider.
5. Like last submission, we emphasized identifying providers that were business only and this submission (like the previous one), we did not get many providers that broke down the type of service by blocks or road segments. If the provider stated they only serve business to business customers we fill in the "category of end user" with code 2, or if they told us specifically that they serve only residential, we used code 1. Where companies did not confirm their end user codes we attempted to verify by reference to their online marketing and any company-specific sources available; where we couldn't verify we entered 5 as a default. For Megapath, based on verification by the State that they served residential customers, we are reporting Megapath as serving business and residential customers with different speeds for the two different types of service, similar to what we did in S9. There are 11 providers in WA who are identified as primarily serving business customers only. These are:
  - 1) CSS
  - 2) Cogent Communications, Inc.
  - 3) Integra Telecom of WA
  - 4) Level 3 Communications, LLC
  - 5) LightSpeed Networks, Inc.
  - 6) Orcas Power & Light Cooperative
  - 7) Startouch
  - 8) TW Telecom of Washington LLC
  - 9) XO Communications, LLC
  - 10) NextLink Wireless
  - 11) Zayo Group, LLC
6. The State of Washington is extensively served by Public Utility Districts (PUDs), which are restricted to wholesale service by state law. PUDs typically own the connection to the customer's premises but offer service only through resellers. Some PUD networks offer up to 20 reseller options. We continue to report PUD networks as business and residential because it is impractical to obtain detailed network information from multiple resellers on each PUD network. **In this submission we have been successful in obtaining FRNs from some of the PUDs that were missing this information.**
7. This submission is being made based on the NTIA data model as of May 22, 2014 provided by NTIA.
8. Terrestrial Mobile Wireless and Terrestrial Fixed Wireless (licensed and unlicensed) were again treated as wireless coverage and were delivered

as a shape. In cases where a provider served the same spectrum with different speeds, overlapping areas were removed and the higher speed was assigned. The exception to this rule is where a provider is using the same spectrum, but delivering different underlying technologies such as 3G, 4G, or 4G LTE. In this case a continuous polygon is being created that represents the area that is offered for both 3G and 4G even if these polygons overlap.

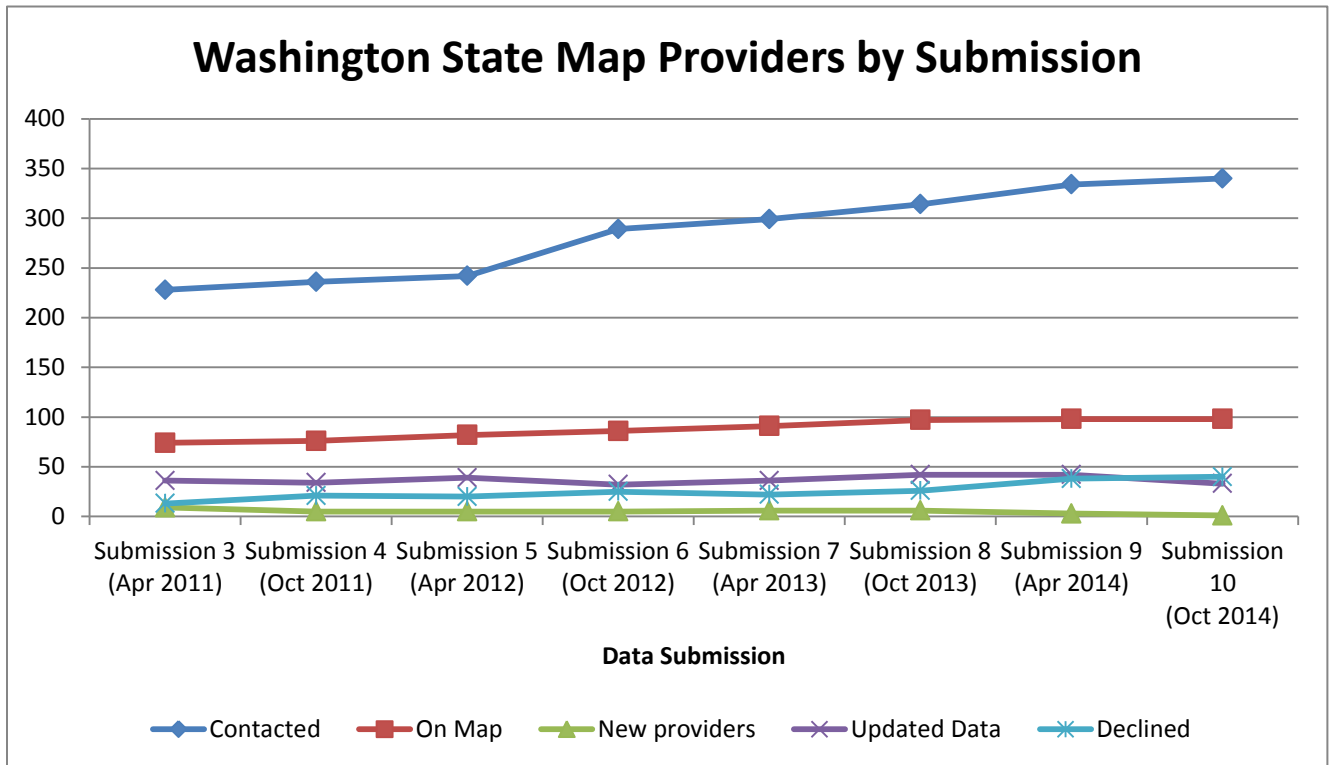
9. Where providers told us to reuse their data from the previous submission or did not respond to our data request, we are resubmitting data that was submitted in S9 and that we believe is still valid. We validated their data against new speed test points and other feedback from our Interactive Map. In comparison to previous submissions, this submission, we had a larger percentage of providers who did not provide updated data (see note below) and we are adding that list of providers in addition to the list of non-responders, resellers, and non-providers at the end of the document.
10. This submission, we had a few providers who have significantly reduced their service area. Such reductions are noted in the Change and Correction documents. Significant reductions were seen in areas that were previously served by Century Link and Comcast. Sanborn contacted both companies several times to confirm that such reductions are valid and both companies confirmed it.
11. We have added the following new provider in this submission:
  - 1) Skyline Telecom, Inc.

In this submission:

- 1) We have contacted a total of 340 providers in WA of which 6 providers were contacted for the first time.
- 2) We have identified 138 potential providers, of which 98 are participating in this map to date and 40 have refused to participate. In addition, 11 providers have not responded to our efforts to contact them and we are not sure whether any of these providers are actual and valid providers or not. A list of the non-responders, resellers and non-providers is provided at the end of the document and all of these potential broadband providers were contacted. Even if some providers were identified as non-providers or resellers in previous submissions, we continue sending out data request letters to these providers in case their status has changed in any way.
- 3) Approximately 34% of the providers submitted new or updated data whereas for the remaining providers we reused data from their previous submissions. This is in contrast to 43% of providers submitting new or updated data in S9 and 43% providing updates or new in S8. There was a decrease in the number of providers

that provided updates this submission even though we made significant attempts to contact them. We are providing a list of the providers that did not update their data this submission at the end of the document.

The following chart shows the level of participation in the various submissions in the last few years.



### 2.1.2 Community Anchor Institutions Data

The community anchor institutions data continues to be crowd-sourced through the online data gathering application created by the Sanborn Team but there has been minimal uptake on this. This submission also resulted in no updates through the crowd-sourced application. However, we have made several improvements to the data:

- 1) Based on NTIA feedback from eRate submissions, we have verified the data for the 9 schools that had fiber based on NTIA reports but were not reported as fiber in our data. We have made corrections where needed.
- 2) Our data continues to contain administrative buildings for schools but they do not have CAIDs associated with them. There were an additional 150+ schools that did not have CAIDs in the previous submissions. Most of these are valid locations and we are not sure why they do not have a NCES ID. We also cleaned up some duplicate records that resulted in merging our data with the NCES data last submission. Where the same school existed twice in our database (from two sources), we updated any missing CAIID in our original source and deleted the other record as it did not have information on broadband subscription and speeds.
- 3) We also checked on some speeds and technology mismatches for schools and contacted data providers in the past to confirm that our information was correct. Where they provided us changes, we incorporated those and where they did not, we are submitting data similar to last submission. It is to be noted, that multiple contacts with some information providers did not yield any results.

There is no place on the CAI data model from NTIA for us to track which CAIs were updated with subscription information or CAIID and which ones were added. However, we are tracking this information on our production databases, should NTIA be interested in knowing what was updated or added.

## **2.2 DATA PROCESSING**

In general, Submission 10 processes followed the same basic approach that was used in earlier submissions. We started with the following base data:

### **Census Blocks:**

For this submission, Census 2010 data was utilized. The data was set up as follows:

- Block size (AREA) is calculated combining the 2010 land area (ALAND) and water area (AWATER)
- AREA is converted from square meters to square miles to calculate square mileage (SMI).
- If the SMI of a block is less than or equal to 2, then the less than or equal to 2 square mile indicator (LE2SMI) is set to true.
- In addition, we looked at the water area in comparison to the total block area, and if the block was 100% water, it was excluded from our reference data.

### **Road Segments:**



2010 Tiger Line IDs (TLID) were used for data processing for this submission. The data was set up as follows:

- The GT2SMI (Greater Than 2 Square Mile) indicator is set to True when:
  - The 2010 road segment is completely within a block that is NOT less than 2 square miles
  - Only minimum and maximum address ranges and a single zip code for each road segment are maintained.

All data received went through the following processing steps:

1. **Triage:** All new data were quickly reviewed to understand what was received, and in what format. We also made sure we had all the required components for NTIA's data model, such as their FRN and advertised speed information. We also screened for any known issues that we might have seen before (such as Excel 2003 spreadsheets that cut off at 32k row).
2. **Ingest:** At this time the data are actually brought into our systems. Each provider is set up with a unique file geodatabase to store their information. Record counts of what was received are logged so that we can validate that we did not drop anything in processing.
3. **Data Processing:** In this step, the data goes through a number of ETL routines to convert the raw proprietary information into a format similar to the NTIA format. The exact routine utilized depends on how the data are received.
  - 1) When a wireline provider submits a service boundary, we select all the blocks and roads inside that shape.
  - 2) If a wireline provider submits a customer address list, the points are geocoded, and then the appropriate block or road segment is selected. In this submission, we added the 2012 TIGER street data for better geocoding and also created a better geocoding routine for addresses missing zip codes.
  - 3) If a wireline provider submits block and road information using Census data, we make sure everything is formatted to the appropriate specifications.
  - 4) If the wireline provider submits any type of road or line data that do not directly correlate to the TIGER data set, we convert the lines to TIGER by selecting the road centroid and spatially selecting the closest segment in our data set. If the road is in a block less than 2 square miles, then the block is selected. Some manual cleanup is also applied to make sure we do not accidentally drop any road segments that should have been processed.
  - 5) Wireless provider data are formatted to ensure that there are no overlapping polygons with the technology type and spectrum. In addition the data are cropped to the state boundary.

- 6) After each round of processing, we make sure that we only keep unique records. A unique record is defined as having a unique combination of FRN, Block/Road ID, and technology type. If there are multiple records with different speeds, but all else is equal, then we selected the maximum advertised speeds.
4. **QC Review:** All data are then sent to a different analyst to perform a thorough quality control review on the processed data set. Record counts are compared to original submitted data. The QC staff also makes sure the ETL scripts and routines populated all of the right fields.
5. **QC Change Detection Review:** Data is then sent to another team for a second Quality Control Review. In this step the data is not only double checked against what was originally submitted, but it is also brought up inside standardized MXD templates that allow us to make sure our results make sense. This step involves comparing the new data set with prior submissions, developing change maps, and looking for any possible technology or speed anomalies. At this stage we also begin our validation process. This includes looking at the provider data in comparison to things such as speed test results, franchise boundaries, siting information, and feedback from the planning surveys.
6. **Provider Review:** Processed data are posted to a customized web-mapping tool we refer to as the Provider Portal. All providers are notified once their data are available on the site, and given a specified period for review of the data and to respond. In this site, providers can log on and visually see their processed data in a map format. It also allows them to overlay their raw data to help them validate that we did indeed process things correctly. In this submission we continued to use our enhancements to this tool that provides the ability to highlight changes between submission 9 and submission 10. The provider portal also has a suite of markup tools that will allow the providers to edit their data, including adding or removing service areas, and making changes to the data attributes.
7. **Comment Processing:** All comments and feedback received from the provider portal are then reviewed and applied to the processed data set. This updated data set goes back through our QA and QC processes, and if time allows, back out to the Provider Portal, for the provider to review and sign off.
8. **Data Append:** After all of the individual data sets are processed and approved, we run an append process which merges all of the individual provider data sets into one geodatabase. This is also the point where our team will do any final transformations to get our working data model into the latest NTIA publishing format.
9. **Submission Comparison Check:** An application was written that compares this submission to the previous submission. We review any

variations and assure that the changes found can be documented as being requested by the provider. We also review statewide data with clients to see changes in service areas, technologies, speeds etc. statewide to make sure it aligns with their local knowledge and expectations.

10. **Final QA/QC:** A series of quality checks are run on the final appended data sets to ensure it is ready for submission to NTIA. We also run the latest version of the NTIA receipt tool at this time. If any issues are flagged as failing they are reviewed and corrected. All warnings are also reviewed and either corrected or documented in the attached document which explains that we have validated this data and it should be accepted. Any last issues are corrected, and the data are sent to the state for their review.
11. **Deliver to NTIA and Publish to Web Applications:** A copy of the Append File Geodatabase is generated to be used in the provider portal web-based application. When verification feedback is received, the individual provider geodatabases are updated. After verification is complete, the Append process, including QA steps, is executed again and then submitted to NTIA.
12. CAI data is also checked but those are discussed in the section above.

## 2.3 DATA VALIDATION

Sanborn has continued to perform the same validation on the data as in the previous nine submissions (details in previous reports and a summarized version provided below). Some minor updates to the validation process are discussed below. We also publish our validation methodology online at <http://wabroadbandmapping.org/MapValidation.aspx>

- 1) QC of the data at various steps – this includes when data are received (triage), when they are processed through the various processing steps discussed above, etc. This submission, there was a lot of back and forth with providers because some of the providers were making large changes. We checked with every provider to confirm that those large changes were not an error.
- 2) Spatial checks against public and commercial datasets
  - a. For WA, we continued to use the following datasets for validation:
    - i. Exchange Boundaries: for DSL boundaries
    - ii. MediaPrints: for Cable and Fiber boundaries
- 3) Speedtest data and other data collection for verification
  - a. We continue to use speedtest data collected through our interactive map and community anchor data crowd-sourced for validation purposes. No FCC speed tests were available for this submission. Also, there were no additional speed tests available through the CAI crowd-sourced data this submission.

- b. We also incorporated any feedback we received through the interactive map – this included feedback such as incorrect speeds, incorrect boundaries, missing provider or areas of no service, etc.
- 4) Verification by providers – processed data are uploaded on our Provider Portal for providers to review both the outcome of data processing and any issues that we found in the third-party and crowd-sourced validation. Issues pertaining to a particular provider are highlighted and shown in the portal for that provider only. Issues that are global and cannot be assigned to a particular provider are shown to all providers (e.g. there are no providers in this area, or we tried to get service here and heard x from A provider, y from B provider, etc.). We make additional calls to providers who have issues.
- 5) Planning workshops and local validation – we have looked into any issues that the State Planning teams have identified and brought to our attention.
- 6) As with previous submissions, we did a significant amount of data validation at the statewide level and used change maps to see if there were any significant anomalies in the data. The WA State Broadband Office helped in reviewing the data at the statewide aggregation.

## **2.4 SUBMISSION 10: NTIA DATA MODEL CHANGES**

The latest data model released was released on May 22, 2014 and was the same as the previous data model. There were no changes in the data model to the best of our knowledge.

## **2.5 UNIVERSE OF CONTACTED PROVIDERS/NON-PROVIDERS**

We have contacted a total of 340 providers in WA of which 6 providers were contacted for the first time.

We have identified 138 potential providers, of which 98 are participating in this submission to date and 40 have refused to participate. In addition, 11 providers have not responded to our efforts to contact them and we are not sure whether any of these providers are actual providers or not. A list of the non-responders, resellers, non-providers, and providers who did not update their data this submission is provided at the end of the document. All of these potential broadband providers were contacted. Even if some providers were identified as non-providers or resellers in previous submissions, we continue sending out data request letters to these providers in case their status has changed in any way.

### **2.5.1 Non-providers**

- 1 Advanced Tel, Inc.
- 2 Americom Technologies, Inc.
- 3 Beaver Creek Telephone Company dba Timberline Tele
- 4 Bell South Long Distance, Inc.
- 5 Bellevue, City of
- 6 Big River Telephone Company, LLC
- 7 Bluebird Wireless Broadband Services, LLC

8      Cbeyond Communications, LLC  
9      CCS, LLC  
10     CIMCO Communications, Inc.  
11     Clear Talk  
12     Convergia, Inc.  
13     Cordia Communications Corp.  
14     CTC Communications Corp.  
15     CTG3/Bandwidth Builders  
16     DigitalBridge Communications Corp.  
17     Eastern Sub-RSA Limited Partnership  
18     Eltopia Communications, LLC  
19     Enhanced Communications Network, Inc.  
20                      Enventis Telecom Inc.  
21     eVolve Business Solutions LLC/Cincinnati Bell Inc  
22     Extenet Systems, Inc.  
23     First Communications, LLC  
24     Harbor Communications, LLC  
25     Horizon Telecom, Inc.  
26     IDT America, Corp  
27     Infotelecom Holdings, LLC  
28     Inland Long Distance Company  
29     Interstate Telecommunications, Inc.  
30     Matrix Telecom, Inc.  
31     McLeod USA Telecomm (PAETEC)  
32     Navigator Telecommunications, LLC  
33     Netlogic, Inc.  
34     NextG Networks of California  
35     North County Communications Corporation  
36     Pac-West Telecomm, Inc.  
37     Public Communications Services, Inc.  
38     PUD - Asotin  
39     PUD - Clark  
40     PUD - Cowlitz  
41     PUD - Ferry  
42     PUD - Jefferson  
43     PUD - Kittitas  
44     PUD - Klickitat  
45     PUD - Lewis  
46     PUD - Mason #1  
47     PUD - Skamania  
48     PUD - Snohomish  
49     PUD - Stevens  
50     PUD - Thurston  
51     PUD - Wahkiakum  
52     PUD - Whatcom  
53     RioNetworks /UIDC Telecom  
54     Smart Choice Communications, LLC  
55     Stat Network Solutions  
56     Syniverse Technologies, Inc.

57	T2 Technologies
58	Tcast Communications, Inc.
59	Telecom Pacific
60	Telovations, Inc.
61	Touchtone Communications, Inc.
62	TransNational Communications International, Inc.
63	Virtual Networking Services, Inc.
64	Voicecom Telecommunications, LLC
65	Wanned Technologies, Inc.
66	Washington RSA No 8 Limited Partnership
67	WCI Cable, Inc.
68	WDT World Discount Telecommunications Co., Inc.
69	Westgate Communications LLC
70	X2Comm, Inc.
71	YMAX Communications Corp.
72	Zayo Bandwidth Northwest, Inc.
73	North Olympic Penninsula Data Centers
74	Plexicomm, LLC
75	Qnect
76	Queenanne.net
77	Axcess Internet
78	DONOBi
79	Envision Technologies
80	Maverick Wireless
81	MultiMeg
82	Webbworks
83	Aircado, Inc.
84	Sisna
85	Stroh Publications
86	Last Mile Gear
87	52-Eighty LLC
88	Pass Word, Inc.
89	CU Online
90	CSK Communications
91	Telewise

## 2.5.2 Resellers

1	Access One, Inc.
2	Access Point, Inc.
3	ACN Communication Services, Inc.
4	Airespring, Inc.
5	Alliance Group Services, Inc.
6	Broadcore, Inc.
7	Broadview Networks Holdings, Inc
8	BullsEye Telcom, Inc
9	Cincinnati Bell Any Distance, Inc.
10	Computers 5, Inc. d/b/a LocalTel

- 11 Digizip.com, Inc.
- 12 Ernest Communications, Inc.
- 13 Global Crossing
- 14 GlobalCom, Inc.
- 15 Greenfly Networks, Inc
- 16 Highland Internet Services
- 17 LightEdge Solutions, Inc.
- 18 Metropolitan Telecommunications Holding Company
- 19 New Edge Network, Inc.
- 20 Norlight, Inc.
- 21 OrbitCom, Inc.
- 22 Reliance Globalcom Services, Inc.
- 23 Silver Star Telecom Washington LLC
- 24 Telekenex, Inc
- 25 Threshold Communications, Inc.
- 26 United Telecom, Inc.
- 27 World Communications, Inc
- 28 Birch Communications
- 29 Amerion
- 30 GalaxyNet Wireless
- 31 Genext
- 32 One World Telecommunications
- 33 OpenAccess
- 34 Reallinx, Inc.
- 35 Blue Mountain Internet's HyperSpeed Internet
- 36 J & N Cable Systems, Inc.
- 37 Light Tower Fiber Long Island LLC
- 38 NetRiver
- 39 OlympusNet
- 40 dishNET Wireline L.L.C.
- 41 Inteltrace, Inc.
- 42 Network Innovations, Inc.
- 43 Telefónica Global Solutions
- 44 WebBand

### **2.5.3 Non-Responders/Difficulty Contacting**

- 1 ALEC, Inc.
- 2 Global Telecom and Technology Americas, Inc.
- 3 Peninsula Telecom of Washington, LLC
- 4 Primus Telecommunications, Inc
- 5 Towerstream, Inc.
- 6 Abba Communications
- 7 Cortland Communications /Seattle DSL
- 8 Internet Expressway
- 9 RapidWiFi
- 10 Saddle Mountain Wireless

11 Winfield Wireless

## 2.5.4 Not-Participating

- 1 Accel Net Inc.
- 2 Cactus International, Inc.
- 3 Guinness Communications Inc.
- 4 iFiber Communications
- 5 Master Mind Productions, Inc
- 6 Meriplex Communications, Ltd.
- 7 Noel Communications Inc.
- 8 Orcas Online, Inc.
- 9 Pend Oreille Valley Network, Inc.
- 10 Thunderbird Broadband
- 11 University Corporation for Advanced Internet
- 12 NCI Datacom
- 13 noWYR
- 14 Symplified Technologies,LLC
- 15 Telebyte NW
- 16 Eastern Oregon Telecom
- 17 360 Communications, LLC
- 18 Skyline Network LLC
- 19 Methownet Wireless
- 20 Customized Cable Services Inc. DBA Country Cable L
- 21 Zito Media
- 22 Coeur d'Alene Tribe
- 23 CONCEPT COMMUNICATION CORP
- 24 Hughes Computer Services, Inc.
- 25 LocalTel Communication
- 26 Atlas Networks
- 27 BCN Telecom Inc
- 28 Condo Internet.net
- 29 Cougar Wireless
- 30 Mount Baker Cable
- 31 Earthlink
- 32 ReachONE Internet
- 33 Rodeo Internet
- 34 OlympicWi-Fi
- 35 Basin Networking
- 36 Aspeedynet
- 37 Cross Stream Communications
- 38 ReallyFast.Net
- 39 South Whidbey Science Fund
- 40 Tulalip Broadband



### **2.5.5 No Updates to Data (Provider Confirmed)**

- 1 Air Speed, LLC
- 2 Coast Communications Company, Inc.
- 3 Community Fiber Network LLC (IsoMedia)
- 4 Hughes Communication (HNS License Sub)
- 5 Inland Telephone Company
- 6 Integra Telecom of Washington, Inc.
- 7 Iron Goat Networks
- 8 Kalama Telephone Company
- 9 Nikola Broadband
- 10 NoaNet
- 11 Northland Cable Television, Inc.
- 12 Odessa Office Equipment
- 13 Pend Oreille Telephone Company
- 14 Pioneer Telephone Company
- 15 PocketiNet Communications Inc.
- 16 PUD - Clallam
- 17 PUD - Douglas
- 18 PUD - Kitsap
- 19 PUD - Pacific
- 20 Skynet Broadband
- 21 St. John Cooperative Telephone & Telegraph Co
- 22 Tenino Telephone Company
- 23 US Cellular
- 24 Western Wahkiakum County Telephone Company
- 25 Whidbey Telcom
- 26 Rebus Communications, LLC
- 27 Davis Communications, Inc.
- 28 Wind Wireless
- 29 ViaSat/Wildblue Communications, Inc.
- 30 Skycasters
- 31 DASH Wireless
- 32 San Juan Cable
- 33 Inland Cellular
- 34 Stephouse Networks
- 35 EasyStreet Online/formally Infinity Internet
- 36 City of Port Angeles

### **2.5.6 No Updates to Data (Provider Unresponsive)**

- 1 Axxis Communications, Inc.
- 2 Benton Rural Electric Association
- 3 Cable One, Inc.
- 4 Click! Network, Tacoma Power
- 5 Frontier Broadband

- 6 Gorge Networks
- 7 Hat Island Telephone Company
- 8 Island Network
- 9 Nextlink Wireless, Inc.
- 10 Northstar Broadband
- 11 PogoZone
- 12 PUD - Chelan
- 13 PUD - Franklin
- 14 PUD - Grays Harbor
- 15 PUD - Okanogan
- 16 Rock Island
- 17 StarBand Communications Inc. (SpaceNet)
- 18 StarTouch Broadband
- 19 TV Association of Republic
- 20 XO Communications
- 21 Zayo Enterprise Networks
- 22 Desert Winds Wireless
- 23 CSS Communications
- 24 Ptera Wireless Inc
- 25 EcliptixNet Broadband, Inc.