

New Jersey Broadband Mapping Project:

Methodology Report on Data Integration and Validation Procedures For October 2012 Submission

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Data Processing: Collection, Reception, Loading, Validation

This document describes the process used by the New Jersey Office of Information Technology (OIT) and Applied Communication Sciences to collect, receive, load, validate and verify broadband availability and usage data submitted to us by wireless and wireline service providers, CAIs, and other sources and organizations for the State of New Jersey. Individual provider data reports attached hereto provide details on the processing of each provider's submission and explain how the policies presented in this document were applied to the data. The CAI summary report, also attached, provides details on the CAI data processing. This report also describes some of the complexities and challenges we have encountered to date in this project.

1 Structure of this Report

This methodology report consists of the following

- Section 2 summarizes our outreach efforts to collect data
 - This section also describes some of the challenges in determining what service providers are in and out of scope for this work and our approach to service provider categorization, in addition to summarizing our efforts to engage CAI constituencies
- Section 3 provides an overview of our process for Service Provider Data Reception
- Section 4 provides an overview of our process for Service Provider Data Loading
- Section 5 provides an overview of our process for Data Validation
 - This section includes a table of business rules and how they were implemented.
- Section 6 describes our handling of special cases, including verification procedure, validation warnings and handling of fixed wireless providers
- Appendix A: NJ Provider Data Reports
 - This appendix concatenates 32 files, one file for each provider whose data were included in the submission. Each report provides a narrative describing the steps involved in collecting, verifying, loading, and validating the provider data, including a log of the interactions with the provider.
- Appendix B: CAI Processing Report
 - This is a summary of the details of the CAI processing for this submission.
- Appendix C: Third Party Comparisons
 - This summarizes analysis of feedback received from NTIA/Michael Baker based on their comparison of NJ data submissions with third-party data, and responses from them to questions raised by our analysis.

2 Data Outreach

2.1 Provider Data Outreach

Applied Communication Sciences and OIT have conducted further outreach to identify additional potential providers not previously participating. We re-attempted to contact every company with an FRN active in the state of New Jersey. We conducted Internet searches and used information provided by wireless information service provider associations and neighboring states to try and identify potential new providers. When contacting these providers, we described the potential benefits of participation and included instructions on data requirements, including how to submit via our custom-designed Web site found at <http://connectingnj.state.nj.us/>.

Most providers who had participated in the past were willing to participate again, although some small providers, e.g., Advanza, expressed concerns about the burdens of the data collection process. Several, listed below, opted not to provide data updates in this round. One provider, New Edge/Earthlink opted out because of data accuracy concerns about their map data. The large national providers clearly have processes in place to collect and submit data, while the small local providers require greater assistance. Applied Communication Sciences offers assistance where possible, allowing providers to submit whatever data they have available in any convenient

format. This increases the complexity of the data collection and processing operations, but enables greater coverage of providers. As examples, some smaller wireline providers simply submitted a list of addresses where they offer service and some small cable operators submitted the names of the municipalities they cover.

- In this round, we are submitting data from 34 providers. Of these, two (Tata Communications and Skycasters) are new providers. Also note that AT&T and Cablevision each provided data for two FRN's.
- We contacted more than 70 organizations that were potential service providers, via email, postings to their Web site and/or telephone calls, broken down as follows:
 - 29 facilities based providers who had contributed data previously;
 - 22 other organizations with FRNs associated with the state of New Jersey and hence potential service providers;
 - 6 service providers reported to offer wireless data services in NJ, including one (Jersey Shore Wireless/Duxpond Communications) that submitted data in the last round;
 - 18 additional potential providers we identified through our own market research and Internet searches.
 - Note that Sprint generously provided their data before we sent out requests and information about two other providers, Broadstar and Convergence Technologies, was gleaned from web searches.
- Of the 31 providers who contributed data in the previous round, we are submitting data from 30 of them:
 - We had 20 providers submit revised data for this round.
 - Six providers instructed us to use previously submitted data.
 - Four providers failed to respond to repeated contact attempts via email and phone, but had submitted data during the last round. We elected to submit the spring data for the following providers again:
 - Jersey Shore Wireless/Duxpond Communications
 - Level3
 - Netcarrier Telecommunications
 - Service Electric of Sparta
 - One provider indicated that they no longer wished to submit data:
 - New Edge/OneCommunications/EarthLink sent an email saying they did not believe the data they had was complete or accurate enough for submission;
- We contacted many other organizations who have FRNs associated with New Jersey to try and determine if they are providing service in the state. We contacted these organizations via several emails, telephone and/or through postings on their Web sites. In addition, we reached out through our regional sharing group consisting of local states (PA, VA, MD, WV, DE, etc.) and through PBWORKS to obtain contacts at organizations that other nearby states are using. Of these, we had direct interactions with only four, listed below.
 - Reallinx, Inc.: Provides consulting to potential commercial broadband customers
 - Sidera: Has no broadband customers in New Jersey.
 - World Discount Telecommunications: Uses Megapath or Covad to provision their broadband services in New Jersey.
 - Tata Communications and Skycasters: Provided data for this submission.
 - The following did not reply to any of our requests: Abry Partners, Broadcore, eVolve/Cincinnati Bell, Hickory Tech Corporation/Enventis Telecom, Hotwire Communication, Interglobe, Lightower, SmartChoice, Stage 2 Networks, T2 Technologies, Towerstream, Transbeam, Vocal IP Networks, VoicePulse, Windstream/Cavalier Telephone/Paetec, and Zayo.
 - Email was returned (or not successfully delivered) to the following: Line Systems/Magellen Hill, Reliance Global Communications/YIPES Holdings, and Telefonica Data Corporation.
 - We determined from web searches that Broadstar, a twenty-third organization with an FRN, did not yet offer service in New Jersey.
- We contacted 8 companies identified as wireless information service providers in New Jersey.

- Hughes Network Systems, ViaSat and Skycasters provided data.
- StarBand instructed us to resubmit their data from the last round.
- Jersey Shore Wireless/Duxpond Communications did not respond to our request, so we have resubmitted their data from the last round.
- We received no response from three other providers: Natural Wireless, Reynwood Communications, and Yellowspeed.
- In addition to those providers indentified in our last submission as either out of business or no longer in the wireless business we are adding Wave2Wave.
- We attempted to contact 18 additional organizations, not already identified in our April-12 methodology, that we subsequently discovered through our own ongoing market research and in Web searches as **potentially** offering broadband service in New Jersey, e.g., those who provided broadband services in neighboring states:
 - Frontier Communications replied that they do not offer BB services in New Jersey
 - Airespring, Bandwave Systems, BCN Telecom, Cooperative Communications, Copper.net, CTI Networks, Everest Broadband Networks, Link Technologies, Savvis, Tele-Data Solutions, TouchTone Communications, and VoicePulse did not respond to our requests.
 - The following were either unreachable or email was returned from their published addresses: 1800HIGHSPEED.com, Data Network Solutions, EmbraceCORTEL Technologies, and MetroPCS Wireless.
 - We determined from their website that Convergence Technologies does not deliver broadband service in New Jersey.
- We have previously identified the following organizations that do not serve New Jersey:
 - Five companies that are not in business at this time: FARIOUS.NET, Near You Networks, SeaWaves Technology, SuperNet WISP, and WEBNJ.net.
 - Four companies that are not service providers: American Telephone Company (sells equipment), MeTel Metropolitan Telecommunications (reseller), Reallinx (consulting group), and World Discount Telecommunications (reseller).
 - Four companies not providing service in New Jersey: Broadstar, Metrocast/Harron Communications, and Sidera (formerly RCN).
 - Three companies that provide service in New Jersey but cannot meet a 7-10 day service window: Atlantech Online, Azirband Communications Holdings, and Global Crossing North America.

2.2 Service Provider Classification

We have classified Service Providers into the four categories as follows:

Type 1 = Broadband

These are broadband providers that meet the NOFA definition of a facilities-based provider with a 7-10 service provision time frame.

Type 2 = Reseller

These are broadband providers who do not meet the NOFA definition of a facilities-based provider because they resell facilities that belong to another service provider.

Type 3= Other

These are broadband providers who are known not to be of Type 1 or Type 2. Typically this is either because they cannot meet the 7-10 day service provision time frame or because their service architecture is complex and is neither facilities-based nor a reseller.

Type 4 = N/A

We used this classification for providers who did not respond to our requests, because we did not have sufficient information to assign them to another class.

Since it is only Type 1 providers who are squarely in scope for this program, these are the only ones for whom we have ensured that the NDA, provider_ind and submit_ind columns in the service_provider_info spreadsheet are completed. Our rationale for this is the following -- we would not want to categorize a non-Type-1 organization as “will not provide data” or “non-responsive” under provider_ind, as this may appear pejorative.

In our ongoing efforts to reach out to the full set of broadband service providers in New Jersey, we work to identify potential providers and screen them to determine if they are providing or reselling broadband services in the state. We maintain a commented list of those organizations that we have determined not to be New Jersey broadband providers or resellers and of those organizations that remain under investigation. Some of these organizations are no longer active business concerns; some are no longer independent organizations, but have been acquired by other entities; some offer or resell broadband service in other locations but not in New Jersey; some are companies that provide engineering or consulting support around broadband, but do not provide or resell service; and some are firms for which further interaction is needed to definitely determine their situation. Service Providers

2.3 CAI Data Outreach

Applied Communication Sciences and OIT used a variety of means to collect Community Anchor institution data. We collected reference data with lists of CAIs of various types in the state and we collected broadband data from individual institutions via our website and from aggregated sources. For healthcare institutions we used as the reference list an enhanced list of hospitals, pharmacies and clinical laboratories that the NJ OIT obtained. For public K-12 schools, we obtained the results of the survey conducted by the New Jersey Department of Education to collect Internet access information from public K-12 schools. This survey had a high degree of participation from the schools and has resulted in significantly higher records in the category of public schools.

| CAI Category | Reference Records | Broadband Records | Total Records Identified | Complete Records Created |
|------------------------------------|--------------------|-------------------|--------------------------|--------------------------|
| School K-12 (Public) | 2686 (DOE) | 2428 (DOE) | 3762 | 2465 |
| School K-12 (Private) | 1156 (NCES) | 796 (Web) | | |
| Libraries | 461 (IMLS) | 89 | 460 | 43 |
| Medical/Healthcare | 9265 | 5 | 8604 | 5 |
| Public Safety | 343 (NJ 911 Comm.) | 120 | 337 | 76 |
| University | 160 (NCES IPEDS) | 39 (NJEdge) | 159 | 34 |
| Other – State and Local Government | | 2007 | 1694 | 1694 |
| Other – Non Government | | 8 | 8 | 8 |

For each CAI category, the following table provides the number of records we obtained from the reference source, the number of broadband access records we obtained, the total number of records we submitted to the NTIA and the number of complete records, with verified address information and broadband access information.

Abbreviations and Acronyms

| | |
|----------|--|
| 911 Comm | New Jersey 9-1-1 Commission |
| IMLS | Institute of Museum and Library Services |
| IPEDS | Integrated Postsecondary Education Data System |
| NCES | National Center for Education Statistics |
| NJHA | New Jersey Hospital Association |
| NJ-DHHS | New Jersey Department of Health and Human Services |

New Jersey has a strong tradition of home rule and, like many eastern states, a plethora of small governance entities – towns, townships, boroughs, cities, and other local municipalities. Among the major challenges we face in collecting broadband CAI data in the state are the dearth of strong, state-level organizations that might compel members to provide data (as opposed to comparatively weaker coordinating bodies) and the lack of existing broadband data sources. NJEdge’s data on the higher education institutions to which they provide service is one of the very few such resources in the state.

NJ OIT executives worked through state-level contacts in public safety, education and libraries, etc., to encourage their constituencies to participate and submit data through the website. While some groups were more responsive than others, many have expressed concerns about placing additional burdens in a time of shrinking budgets and cutbacks. We did not receive any additional data from the website in this round.

We encountered a few issues with collection, interpretation and processing of CAI data:

- Some institutions provide information on multiple connections to the internet, each with its own technology of transmission and maximum speeds. These may represent separate redundant connections for a large institution that provides critical services or separate facilities for different classes of users (e.g., staff and clients). Our policy thus far has been to submit a single entry for each institution, but this policy may be a candidate for refinement.
- Satellite institutions such as branch libraries or campus outreach centers can complicate the CAI picture. Our policy is to attempt to collect data for each separate geographic location as a separate CAI.
- Sometimes multiple government offices are co-located in one geographic location; e.g., a large building or complex that may include county government offices, court, jail, and/or other government offices. Here the challenge is avoid incorrectly overstating broadband capability or understating the need for broadband services.
- It remains challenging to convince busy employees at CAIs to take the time to provide this data.
- The CAI transfer model requires a street number and for some CAIs this is not readily available as institutions may use a cross street for directions, a PO box for paper mail, etc.

3 Service Provider Data Reception

Applied Communication Sciences defined a process for handling provider data upon receipt. The following steps describe that process:

These steps must be performed upon receipt of provider data. These steps set up the file system and database for later processing, including both the initial assessment and load, and protect the confidentiality of the information.

1. Update the provider interaction log spreadsheet with the date of receipt and other metadata.

2. Copy the email or decrypt the uploaded files to individual directory on dedicated and secure server.
3. Test that the files can be opened, read, etc. This may require using ESRI ArcCatalog to check a shapefile or file geodatabase.
4. Send an acknowledgement to the provider of receipt of readable submission, or request re-send as needed.
5. Create empty provider data report into the new folder, using the appropriate wireless or wireline template.
6. Connect to the PostgreSQL database and instantiate a schema for the provider
7. Perform an evaluation on the submitted data, evaluating the completeness of the submission and the validity and reasonableness of the included values. In addition, run the NTIA validations against the submitted data to determine if there are any errors or warnings. Interact with provider to address any questions or issues.

4 Service Provider Data Loading

The provider data submissions vary in form, format and content and in the ease versus complexity of the processing and loading tasks.

In general, the most straightforward data to process are shape files submitted by wireless providers. Wireline providers who submit census block data are a step up in terms of complexity. Some cable providers simply list the municipalities which they serve. A number of smaller providers submit a list of addresses corresponding to locations where they provide service. These are much more challenging to process as we must first manipulate the address information and then geo-code the locations; these operations can be time consuming and subject to inaccuracies.

The service provider reports attached in Appendix A give the full details per provider on all steps taken to extract, transform, and load the contents of the provider tables into the NTIA tables. Note that every NTIA table has a “shape” column where a geographic feature such as a point, line (e.g., road segment) or area (e.g., census block) must be submitted.

Here is a summary of some of our key policies and challenges:

- All non-disclosure agreements executed with providers prohibit us from disclosing customer addresses. Although some providers have not executed NDAs, we have chosen to treat all providers similarly. We have chosen to obfuscate the address data by transforming it to census blocks or street segments. This carries a slight risk of overstating coverage, but that seems more appropriate than simply dropping the data because it is sensitive. In addition we had one provider who sent us proprietary subscriber-weighted nominal speed data. Given the proprietary restrictions associated with these data, we did not include them in the submission.
- Speeds associated with address data from some providers represent the price plan chosen by the customer; they are definitely neither the max advertised speed nor the typical speed. Our decision was to keep the maximum speeds encountered in the census block and report them in the maximum advertised fields and to report typical as null.
- Maximum advertised speed, combined with the 7-10 day availability requirement, results in vagaries in interpretation. In particular, the concept of advertised speed is well suited for providers who offer services to extended areas, such as large telephone and cable television companies. Its application is less clear for providers who offer service to defined set of specific addresses. They deliver services to those specific addresses, and could offer the same service to a new tenant within the time limit. In some cases, they could increase the speed within that time period as well. They could not easily deliver service to any neighboring location with a two-week period. We have operationalized the notion of maximum advertised speed by determining the maximum speed a provider could offer on the facilities they have in place at customer locations, then reporting that speed for census blocks or street segments.
- After initial poor results in geo-coding the customer address lists provided by some cable providers who had no geo-spatial capabilities, we identified an alternate approach that leveraged the franchise-nature of

cable television service in the state. We asked those cable TV providers to send us the list of municipalities that they are licensed to serve. We build the submission by locating the municipality shapes and using those shapes to find all census blocks contained within them. For large census blocks, we report all the TigerLine street segments that are contained within those blocks.

- For middle mile data, the exact definition of a connection point remains open to interpretation and requires further development. We are not completely sure that all providers interpret middle mile in the same fashion and do not have a clear enough picture ourselves to provide appropriate guidance or validation. Despite this, we have submitted the middle mile information that we received.
- All but one provider submitted 2010 Census Blocks (CBs). One satellite provider submitted data using 2000 CBs. Given that we had to convert this to a single shape, rather than map to Y2010 census blocks, this was not an issue.

5 Validation and Verification Operations

5.1 Custom Data Verification and Validation

Incoming data was subjected to a number of validation checks. When incoming data failed a validation check, we first investigated our process to ensure that we were not inadvertently creating an issue. If the problem was determined to be with the submitted data, we notified the provider concerned and recorded the interaction in the provider data report as provided in Appendix A.

We have observed a few issues that arose when processing the current submission:

- New Jersey placenames can be difficult. We validate against data from the following sources: State of New Jersey geographic information (https://njgin.state.nj.us/NJ_NJGINExplorer/DataDownloads.jsp), the Federal Government placename information (http://geonames.usgs.gov/domestic/download_data.htm), and the US Postal Service data (available for a fee).
- A survey of 3100 New Jersey households was conducted in November and December by Rutgers University as Applied Communication Sciences's subcontractor under this program. Householders who responded that they were broadband users were asked who their service provider was and this was compared against service provider serving areas. 95% of the responses aligned with service provider information. In the remaining 63 cases, the survey respondents reported being served by a provider whose coverage area did not appear to cover that location. Through these cases we have identified an area for additional investigation which may lead to improvements in service provider coverage. The technique, based on geo-spatial analysis of neighboring CBs is briefly described in Section 6.2.
- T-Mobile submitted wireless coverage data that provided one of the more interesting validation issues. T-Mobile provided separate information about three different varieties of 3GPP-based wireless technology, each of which supports broadband data services through mobile terrestrial wireless service capability; namely: UMTS, HSPA21 (i.e., HSPA) and HSPA42 (i.e., HSPA+)¹. In order to avoid duplicates – that is, rows of T-Mobile data with identical shapes and the same technology and spectrum codes, differing only in maximum speed, we performed spatial joins separately for each of UMTS, HSPA21 and HSPA42. We then submitted one shape for each technology.
- The End_User_Category for Census Blocks or Road Segments is an optional field for designating the geography as being primarily Residential, Non-Residential, or Other (primarily neither Residential nor Non-Residential). We have elected not to complete this field as we do not have a trusted data source for this information.

¹ Here are a few more technical details. UMTS is based upon 3GPP release 99 and is the oldest and slowest of the three varieties. HSPA (HSPA21) is 3GPP R6 which supports HSDPA and HSUPA for downlink and uplink high-speed packet access and offers intermediate speeds. HSPA+ (HSPA42) is 3GPP R7. It is the most advanced of the three and supports high-speed packet access evolution with peak data rate increases from MIMO and higher-order modulation, among other technical advances.

We applied the business rules in the script supplied by the NTIA and other data-specific validations after the data were loaded into the tables. These were applied as a check on both the data supplied by the providers and on the process we used for data collections, reception and loading. Moreover, other business rules were applied above and beyond those in the NTIA script, as described below.

We checked uniqueness of the entries in each table, using the following definitions of uniqueness:

| Layer | Unique key | Notes |
|-----------------------|--|-----------------------------|
| Middle Mile | frn, latitude, longitude | |
| CAI | anchormame, address | |
| Census Block | frn, fullfipsid, transtech | |
| Street Segment | frn, tlid, transtech | Tlid is an internal column. |
| Wireless | frn,transtech, spectrum, maxadup, maxaddown | |

We also performed the following additional validations:

| Layer | Validation Rules |
|-----------------------|---|
| Middle Mile | <ul style="list-style-type: none"> • Check (dbaname, provname, frn) against our FRN reference table • Valid census block id within the state of New Jersey • Check latitude not between 38.7 and 41.4 • Check longitude not between -75.6 and -73.8 • Shape should not be empty • All check_submission rules |
| CAI | <ul style="list-style-type: none"> • Valid zip code • Check latitude not between 38.7 and 41.4 • Check longitude not between -75.6 and -73.8 • SubScrbDown is less than SubSrbUP • CAIID is null for schools and libraries • Mismatch of transtech with SubScrbDown and SubSrbUP • Shape should not be empty • All check_submission rules |
| Census Block | <ul style="list-style-type: none"> • Check (dbaname, provname, frn) against our FRN reference table • Valid census block id within the state of New Jersey • The area of a census block should be less than < 2 square Mile • Shape should not be empty • All check_submission rule |
| Street Segment | <ul style="list-style-type: none"> • Check (dbaname, provname, frn) against our FRN reference table • Street segment is present in a census block >= 2 square miles • Shape should not be empty • All check_submission rule |

5.2 Verification through Gap Analysis of Neighboring Census Blocks

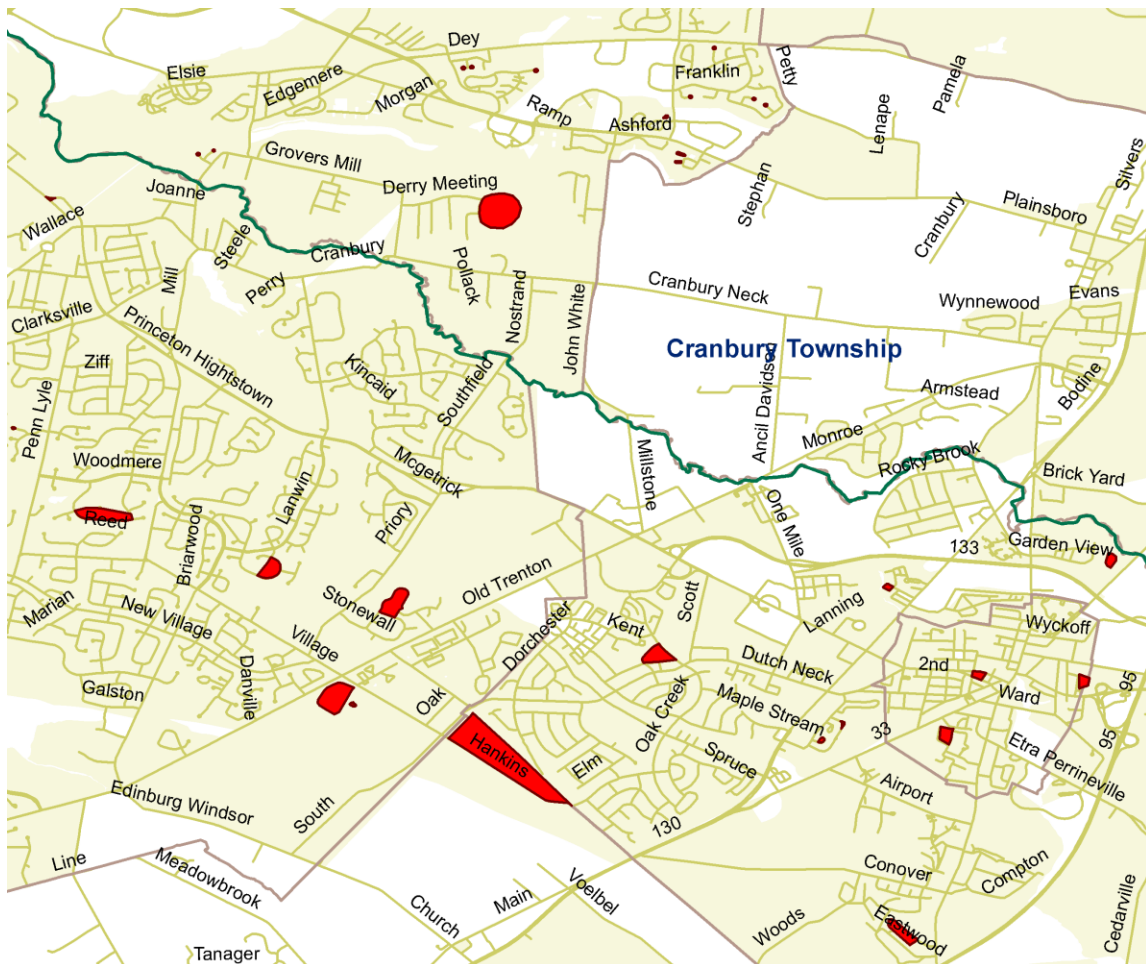


Figure 1: Detailed view of “Doughnut Holes” in coverage

Our analysis of the simple holes shows that some are anomalies that may provide a way to improve the accuracy of provider data. To pursue such possible improvements, we developed software that automates the identification of simple holes. Somewhat to our surprise, when we ran this software on the data for this submission, we found rather sizeable numbers of holes for some of the providers. For example, we identified almost 250 simple holes for Cablevision (including Lightpath) and over 1400 for Comcast. The following graphic illustrates the simple holes for Comcast.

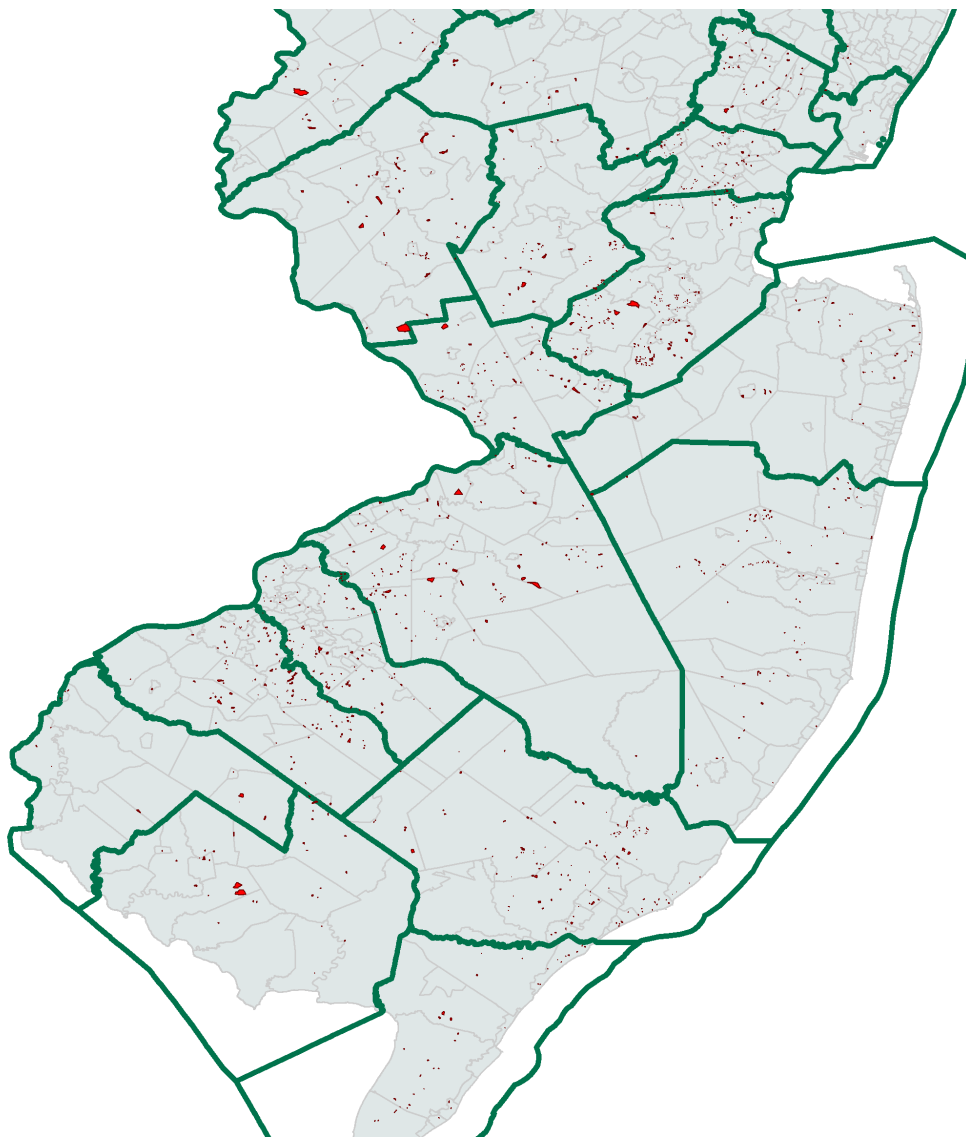


Figure 2: Graphic of Holes in Comcast Data:

For the providers where we identified such holes in the data they submitted for the Fall 2011 round, we generated a complete listing of the holes and a document containing a description of the process of identifying the holes and a detailed analysis of a few sample holes that appear in the provider's coverage. This information was sent to the providers along with the request for revised data for this round.

In the course developing the tools for this analysis, we noticed that Verizon has made changes in their process for generating submitted data, because while such holes had been present in the data they submitted previously, their current data has no such holes.

5.3 Fixed Wireless Processing

NTIA had questioned us about the coverage areas associated with two providers who offer fixed-wireless service in New Jersey. In one case, the provider, Global Online Electronic Services, uses fixed wireless links as a substitute for wireline connections and serves a single location with each link. We therefore generated a "coverage area" by using the census block that contains the address. This is clearly not the result of propagation model analysis, but due to the nature of the service they provide accurately reflects their capabilities.

We also receive information from a new fixed wireless provider, Jersey Shore Wireless. They provided us with image files (e.g., jpegs) with coverage maps that had been hand-drawn based on a drive-test they had conducted in 2008. Given the source of the information, the shapes tend to align with major roadways. Jersey Shore Wireless did not have the resources available for propagation modeling and we did not have sufficient time to assist them in performing this task. For this round, we manually converted their images into shape files. It was clear that these shapes would understate, rather than overstate coverage, and thus it seemed reasonable to include them.

5.4 Process Verification

We instituted a thorough review of our process steps. The review involved investigation of each process step by an individual other than the person who had created the process or executed it in the past. As a result of this process, we were able to implement several process improvements. The corrections and improvements include:

- For CenturyLink, altered Census Block process to allow provider's speed values, with validation-related adjustments, rather than setting all values the same.
- For Hometown Online, adjusted Census Block process to account for the fact that provider reported different transtech and speed values in one census tract.
- For Service Electric – Sparta, set middle mile capacity and type values, which had inadvertently been left null in the previous submission. Adjusted technology and speed values to reflect DOCSIS 3.0.
- For ViaSat, corrected spectrum value to reflect that they offer satellite service.
- For Verizon, corrected the ownership value of the middle mile locations, which had been inadvertently left as null in previous rounds.
- For Xchange Telecom, set provider type to "reseller", based on interaction with provider that indicated that they lease facilities from Verizon.
- Revised CAI processing rules to insert "NA" for building number when no value was available.
- Made multiple improvements to CAI address processing to enhance the automated address extraction and mapping to reference data.

5.5 Validation Warnings

We received warning messages from the NTIA data validation tool when processing submission data from several providers. The details of these warnings and our reaction to them are included in the individual provider reports later in this document. Here we provide a convenient summary of those warnings that are still present in the submitted data.

5.5.1 Provider Warnings

The following table describes the warnings we received from the validation script and provides our explanations for submitting these values.

| Provider | Warning |
|---|---|
| AT&T | We received a warning on the wireless shape record for the combination of downstream speed code of 7 (10-25 Mbps) with a transtech code of 80 (Mobile Wireless) for the LTE service. The maximum advertised speed tier provided in the cover letter that came with the provider's submission is 7. Provider confirmed that the value is correct. |
| Century Link | We received warnings on 7083 census blocks and 1690 street segments for the combination of a downstream speed code of 7 (10-25 Mbps) with a transtech code of 10 (ADSL). The provider had originally reported speeds exceeding 25 Mbps, or a speed code of 8. When we questioned these, the provider could not confirm those values, but asserted that all areas were covered with speeds exceeding 10 Mbps. |
| Covad | We received warnings on 9681 census blocks for the combination of a downstream speed code of 7 (10-25 Mbps) with a transtech code of 10 (ADSL). Note that the provider confirmed that they support 15 Mbps with their ADSL2+ service in limited regions in the state. |
| Global Online | We received warnings on the wireless shape record for the combination of upstream and downstream speed codes of 7 (10-25 Mbps) with a transtech code of 70 (Fixed Wireless - Unlicensed). The provider has only a single fixed wireless site, and it is used for point-to-point links, rather than to provide a coverage area. The provider confirmed that the speed is 10 Mbps. |
| Service Electric Broadband Cable | We received warnings on 5265 census blocks and 985 street segments for the combination of a downstream speed code of 8 (25-50 Mbps) with a transtech code of 40 (DOCSIS 3.1). The provider was not willing to commit that they offered anything faster. A search of their Web site confirmed that the fastest speed they advertise is 35 Mbps down and 3 Mbps up. |
| Skycasters | We received a warning on the wireless shape record for the combination of downstream speed code of 6 (6-10 Mbps) with a transtech code of 60 (Satellite). A search of their Web site confirmed that the fastest speed they advertise is 6.09 Mbps down and 1.5 Mbps up. |
| T-Mobile | We received a warning on the wireless shape record for the combination of downstream speed code of 7 (10-25 Mbps) with a transtech code of 80 (Mobile Wireless). Investigation of the T-Mobile Web site showed that they are advertising average speeds "approaching 10 Mbps" and peak speeds of 27 Mbps. Sent a note to the provider to verify the value. Provider confirmed that those values are correct. |
| Verizon Wireless | We received a warning on the wireless shape record for the combination of downstream speed code of 7 (10-25 Mbps) with a transtech code of 80 (Mobile Wireless). The maximum advertised speeds provided in the cover letter that came with the provider's submission are 600 - 9.99 mbps down and 3.00 - 5.99 mbps up. The typical speeds are provided as ranges: 5 - 12 Mbps down and 2 - 5 Mbps up. For max adv speeds we had originally encoded the submitted down speed as value 6 (range 6-10Mbps) and encoded the submitted up speed as value 5 (range 3-6mbps). Based on the email from Anne Neville data 2/21/2012, we modified the down speed to code 7. |
| ViaSat | We received a warning on the wireless shape record for the combination of downstream and |

| | |
|------------------------|--|
| | upstream speed code of 7 (10-25 Mbps) with a transtech code of 60 (Satellite). Provider said that in most locations, speeds are significantly in excess of the speeds set forth in the NTIA Tiers for “Satellite Technology” so they are reporting the actual maximum advertised upload and download speeds. Provider confirmed that they launched two new services named Exede 5 and Exede 12 and Exede 12 has a maximum advertised upload speed of 3 Mbps and a maximum advertised download speed of 12 Mbps. |
| Warwick Online | We received warnings on 404 census blocks for the combination of a downstream speed code of 7 (10-25 Mbps) with a transtech code of 10 (ADSL). We searched the provider’s Web site for speed information. We only found one reference to speed packages, and these values and the Web page seemed out of date. We sent a request for clarification to the provider. The provider acknowledged the validation requirements, indicated that the Web page found by our search was in error and confirmed the submitted speed values. The president of the company also indicated that they would be launching a new Web site with corrected speed information in the near future. |
| Xchange Telecom | We received warnings on 1012 census blocks for the combination of a downstream speed code of 7 (10-25 Mbps) with a transtech code of 10 (ADSL). Note that the provider confirmed, and we validated via their Web site that they advertise, 10 Mbps, which is just at the bottom of the range for code 7. |

5.5.2 CAI Warnings

The validation script produced 10718 warnings on our CAI data for 10695 null values of transtech and 23 zero values of transtech. This is a result of our decision to include all the CAIs that we could reliably identify and geo-locate, even if we have not been able to ascertain the broadband usage at the site as yet. The 23 records with zero for transtech are a result of two forms of data submission. 16 of these records were a result of submissions to our website where the CAIs selected it to signify a technology other than the NTIA defined ones. These are accompanied by valid speed tiers. The remaining 7 were from records where the technology, downstream speed and upstream speed were all zero. We are in the process of ascertaining if this indicates that there is no broadband connection or if it is unknown.

This full list provides us with a target for our outreach efforts to these institutions. The set of “complete records”, which include full broadband access information, is a key metric we are using to track progress in obtaining information about the broadband access. The counts of these records by category are included in the table above and in the CAI data processing section in Appendix B.

5.6 Analysis of FCC Third Party Data Comparisons

For this submission the NJ BB Mapping Team benefited from having received feedback from NTIA/Michael Baker with results of comparisons they made between the data we had submitted in June-11 and Dec-11 and their third-party data. After a careful analysis of these results (provided in Appendix C) we determined that most of the discrepancies reported back to us could be attributed to data submitted by the following six providers: Comcast, DIECA/COVAD/Megapath, Sprint, T-Mobile, Verizon Online, and Verizon Wireless/Cellco. It is important to note that the NJ BB Mapping Team was not given copies of the third-party data, so the reasons for mismatches between the data we submitted and these third-party data were not clear. Our intent was two-fold: (1) to try and understand the scope of possible reasons underlying the discrepancies and (2) share with providers problematic fields, such as provider name or speed tier, which seemed to generate a lot of mismatches, and do some further inquiry to better validate the provider's data. Obviously, by working more closely with providers in this way, we

hope to continue to improve data quality in future submissions. The table below summarizes the apparent source of discrepancies and the provider's explanation, for those who responded.

| Provider | Probable Source of Discrepancy | Provider Explanation |
|-----------------------------|--|--|
| Comcast | <ul style="list-style-type: none"> Most mismatches on max advertised downstream speed (principally tier 10) and maximum advertised upstream speed (principally tier 7) for Cable Modem DOCSIS 3.0. | <p>I believe this issue is one that we have encountered in other states, and results from the method by which we submit data. We provide maximum advertised speed data by MSA, but not all Census blocks within an MSA may offer D3 service--in which case, a D2 Census block may reflect a maximum advertised speed coded as "10." Similarly, but less frequently, Comcast may be in the process of upgrading service to D3 but has not yet initiated advertising for D3 speeds in that area--in which case, a D3 Census block may reflect a maximum advertised speed coded as "7."</p> <p>Accordingly, if a D2 Census block is in a MSA in which the overwhelming majority of Census blocks are coded as a "10," those D2 blocks should be coded as a "7." If a D3 Census block is in an MSA coded as a "7," that is likely due to the fact that Comcast has not begun advertising the D3 speeds in that MSA.</p> <p>I believe in our last submission, Comcast showed 100% D3 blocks throughout the state of New Jersey and a maximum advertised download speed of "10." I am waiting for this cycle's data to confirm that this remains the case.</p> <p>Comcast provides D3 throughout New Jersey, so there should be no disconnect between the Census block data and maximum advertised speeds.</p> |
| DIECA/COVAD/Megapath | <ul style="list-style-type: none"> Many provider name mismatches. Might this be attributed to recent M&A activities? On records where provider name matches third-party data, large number of transfer technology mismatches, primarily involving transtech code 20 (SDSL) and code 30 (Other Copper Wireline). Most mismatches on max advertised downstream speed involve tiers 5 & 7. Most mismatches on max advertised upstream speed involve tiers 3, 5 & 7. | <p>More than half of our lines in each state are supplied via ISP resellers, where we provide the underlying internet connectivity in a wholesale capacity for service that is otherwise branded, billed and supported as the ISP's own service. For over 90 of our resellers, we perform a layer 2 network handoff, such that the reseller's IP address space is what would be visible via the internet as well. This makes it impossible for a third party data collector to know these are being served by our last mile infrastructure without detailed cooperation from each ISP. Of course, if supplied a few example instances of these purported mismatches, we could readily provide an exact analysis.</p> <p>Our branding does not necessarily make it clear what underlying technologies are being used to provide service, so it is likely that a third party data collector has made incorrect assumptions in some situations. For example, we offer "TeleSpeed" and "Ethernet" branded services that may be utilizing symmetric DSL or other copper wireline technology. In a few cases, we also have legacy residential "TeleSurfer" services</p> |

| | | |
|--|---|------------------------|
| <p>that may be utilizing symmetric or asymmetric DSL technology. Again, if we could be supplied a few examples, we could readily provide a exact analysis.</p> <p>In the case where a third party data provider may have found faster than reported speed, this may be due to the filing requirement that we report only services that can be installed within a typical service interval. From time to time, we also change our network deployment which could result in an increase or decrease in maximum available speed. Also, in our own direct business, we did not always sell our maximum provisionable speed, even though we made these offerings available to our resellers. We will be happy to provide more precise explanation if given actual examples.</p> | | |
| Sprint | <ul style="list-style-type: none"> • Most mismatches on max advertised downstream speed tier 3. Possibility that tier 3 understates downstream speed? • Most mismatches on max advertised upstream speed for tier 2. Possibly understating upstream speed? | No explanation offered |
| T-Mobile | <ul style="list-style-type: none"> • Most mismatches on max advertised downstream speed tiers 4 & 6. Possibly understated downstream speed in lowest tiers? • Most mismatches in max advertised upstream speed for tier 2. Possibly understating your upstream speed? | No explanation offered |
| Verizon Online | <ul style="list-style-type: none"> • Most mismatches on max advertised downstream speed involve tiers 4, 5 & 6 for ADSL. • Most mismatches on max advertised upstream speed involve tiers 2 (ADSL) & 7 (Optical Fiber). • Mismatches have to do with the way provider identifies ADSL speed tiers? | No explanation offered |
| Verizon Wireless/Cellco | <ul style="list-style-type: none"> • Most mismatches on max advertised downstream speed tiers 3 & 7. Possibility 3 understates downstream speed and 7 overstates it? • - Most mismatches in max advertised upstream speed is for tier 2. Possibly understating upstream speed? | No explanation offered |

The complete set of email exchanges with these providers regarding these analyses is included in their respective data reports (see Appendix A). A set of six questions related to this analysis of discrepancies between NJ and third-party data was also transmitted to the NTIA/Michael Baker team and discussed in a teleconference call involving members of this team and the NJ Broadband Mapping Team. These questions, along with answers provided by the NTIA/Michael Baker participants, are provided in Appendix C.

6 Appendix A: Individual Provider Process Descriptions

6.1 Advanza

Connecting New Jersey - Broadband Provider Data Report

Provider: Advanza

Received: August 2011

Submission date: October 2012

This report presents details on processing of broadband data for delivery to the National Telecommunications and Information Administration.

For October 2012:

This is a stub report, since data from the previous submission was reused unchanged. The complete report from the previous submission begins on the next page. Notable differences from the processing done on the previous submission are listed next.

Section 1: NDA Status

Advanza states that NONE is required.

Section 2: Submission Overview

| AVAILABILITY DATA – RECEIVED AUGUST, 2010 | | | | |
|---|---|---|--|--|
| ID | Provider name | | Advanza Telecom Inc | |
| | “Doing business as” name | | Advanza | |
| | FRN | | 0017029141 | |
| | Holding Company Name | | Advanza Telecom, Inc. | |
| | Holding Company Number | | 180002 | |
| FOR WIRELINE | | | | |
| Filetypes | 1 xlsx spreadsheet | | | |
| File size | NJBB_0017029141_AddressLevelAvailability-20110630.xls file has 47 records | | | |
| Speeds | Type | | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode,etc) | All provided speeds have code 4 (1.5 mbps ≤ BW < 3.0 mbps) for all records, which would make sense if all service is T1 |
| | Typical-upstream | X | address | |

| | | | | |
|---|---|--------------------------|--------------|--|
| | Typical-downstream | X | address | |
| | Advertised-upstream | X | address | |
| | Advertised-downstream | X | address | |
| | Subscriber-weighted-up | <input type="checkbox"/> | Not provided | |
| | Subscriber-weighted-down | <input type="checkbox"/> | Not provided | |
| Technology Type | Code 30 (= Other Copper Wireline) given for all records | | | |
| End-user specification | Values 2, 3 or 4 (Government, Small Business or Enterprises). | | | |
| Comments: Data was submitted for Fall 2011 submission. Provider did not respond to requests for revised data. Confirmed via Web site that they offer these services (T1 and NxT1). Web site lists possibility of higher speeds as well. Based on this information, it was determined that the data is likely still accurate and decision was made to re-use prior data. | | | | |
| INTERCONNECTION DATA – NO DATA PROVIDED | | | | |
| ID | | | | |
| File size | | | | |
| Ownership | | | | |
| Transport Type | | | | |
| Data Rates/Capacity | | | | |
| Location | | | | |
| Comments: | | | | |

Section 3: Submission File Details

Received one file by secure upload to the connectingnj web site.

Size Name

71,168 NJBB_0017029141_AddressLevelAvailability-20110630.xls

The addresses in this file appear to be for individual customers (as opposed to addresses of multi-tenant buildings in a central business district).

Section 4: Data Validation, Transformation and Loading

The standard NDA prohibits us from submitting address-level data to the NTIA. Instead, we discover the census block for each customer address, and then report the census block shape drawn from Census Bureau TigerLine reference data.

NTIA Table BB_Service_CensusBlock

Loaded from the file mentioned above. The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------|---|
| PROVNAME | Set to " Advanza Telecom Inc" (no trailing period) |
| DBANAME | Not supplied; set same as PROVNAME |
| PROVIDER_TYPE | Set to 1 |
| FRN | Set to "0017029141" |
| STATEFIPS | Set to "34" (NJ) |
| COUNTYFIPS | Populated from Census Block FIPS Code (first 3 digits) |
| TRACT | Populated from Census Block FIPS Code (next 6 digits) |
| BLOCKID | Populated from Census Block FIPS Code |
| FULLFIPSID | Populated from Census Block FIPS Code |
| TRANSTECH | As supplied in column Tehcnology of Transmission (sic) |
| MAXADDOWN | As supplied in column Maximum Advertised Downstream Speed |
| MAXADUP | As supplied in column Maximum Advertised Upstream Speed |
| TYPICDOWN | Set to null (see below) |
| TYPICUP | Set to null (see below) |
| ENDUSERCAT | Set to null (see below) |
| SHAPE | Copied from Census Bureau TigerLine 2010, as matched by spatial join on geocoded address |

Internal processing notes.

1. Following steps were performed for Fall 2011 submission
 - a. Geocoded the addresses using an Arroyo flow and the Yahoo geocoder, leaving the result with address and lat, long data in an Excel spreadsheet. All addresses were successfully geo-coded.
 - b. Imported the spreadsheet to a simple ESRI geodatabase table
 - c. Added point shapes corresponding to each Latitude,Longitude pair by creating a feature

- class from the table using ArcCatalog's "Create Feature Class from XY Table" option
- d. Added a column containing the ID of the containing year 2010 census block using ArcCatalog's spatial join feature. The newly created point shapes are joined against census block shapes from reference data. All records successfully spatially joined on 2010 NJ Census Block shapes.
 - e. Discarded typical speeds since they were in all cases identical to maximum advertised speeds, not measured values.
 - f. The end user category value as originally supplied applied to an address, but we must anonymize the addresses and report census blocks. The NTIA directs us to report the "predominant" end-user category, which is not supplied here.
 - g. Copied contents to the target data model table with the transformations specified above. Discarded 15 rows with duplicate census blocks.
2. Copied prior data into new BB_Service_CensusBlock table.
 3. All data passed NTIA validations.

Section 5: Clarification Questions and Responses

Subject:URGENT: Response Requested: Get your Broadband Services on the National Broadband Map

Date: Fri, 17 Aug 2012 14:34:18 -0400

From: Connecting NJ <ConnectingNJ@appcomsci.com>

To: TomG@advanza.net

Tom,

Will Advanza Telecom be submitting map data updates in this round? Time is running out. If you require assistance, please contact us so we can include your service area in the latest National Broadband Map: connectingNJ@groups.appcomsci.com or 732-699-2380.

Regards,

Cliff Behrens

Subject:Re: URGENT: Response Requested: Get your Broadband Services on the National Broadband Map

Date: Fri, 17 Aug 2012 14:40:38 -0400

From: Tom Garrison <tomg@advanzasystems.com>

To: Connecting NJ <ConnectingNJ@appcomsci.com>, TomG@advanza.net

Hi,

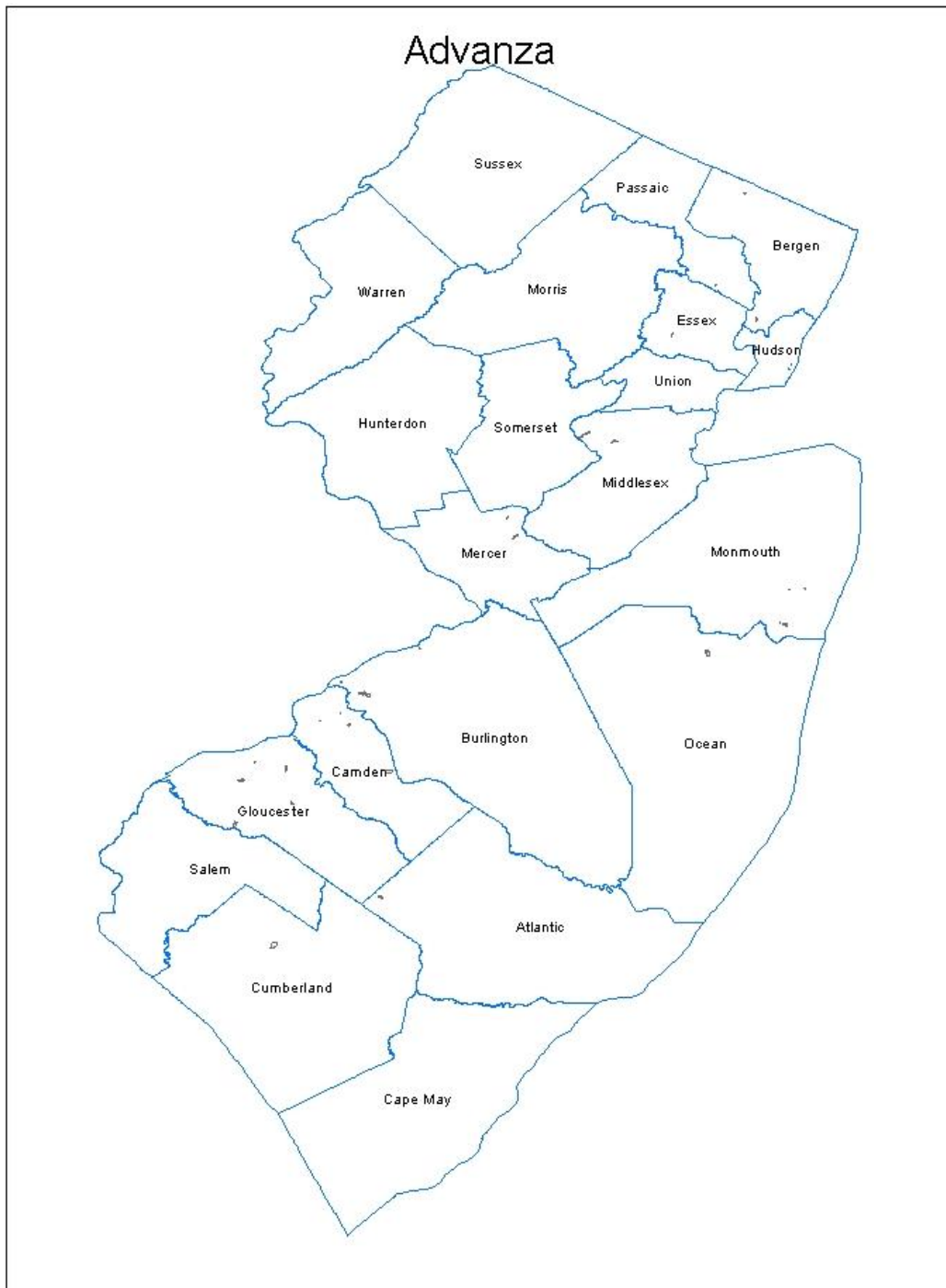
If it's not absolutely required I would prefer not to. We're a small company with less than 100 circuits in service and I really don't have time to gather the data.

Thank You.

Tom

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.2 AT&T Mobility

Connecting New Jersey - Broadband Provider Data Report

Provider: AT&T Mobility LLC

Received: August 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Section 1: NDA Status

NDA was executed with NJ OIT.

Section 2: Submission Overview

| AVAILABILITY DATA | | |
|-------------------|---|--|
| ID | Provider name | AT&T Mobility LLC |
| | “Doing business as” name | AT&T Mobility LLC |
| | FRN | 0004979233 for mobility |
| | | NB: “AT&T Corporation, Inc.” with FRN 0004979244 for middle mile |
| FOR WIRELESS | | |
| Filetypes | shapefile collection: shp/dbf/prj/shx, mdb, gdb, imagefile etc. | Spreadsheet (XLSX) and shapefile that uses projection GCS_WGS_1984 |
| Speeds | Type | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode) |
| | Upstream max adv | State |
| | Downstream max adv | State |
| | Upstream typical | Not provided |
| | Downstream typical | Not provided |
| | Subscriber-weighted | Not provided |
| Technology | Spectrum (Mhz, FCC code) | Cellular (code 1) and PCS (code 3) |

| | | |
|------------------------------------|------------|--|
| Type | | |
| Comments: | | |
| INTERCONNECTION DATA | | |
| ID | | |
| File size | Single row | |
| Ownership | Code 0 | |
| Transport Type | Code 1 | |
| Data Rates/Capacity | Code 6 | |
| Location | Newark, NJ | |
| Comments: Single location provided | | |















Data overview:



Figure 1. Quick load of data into ArcMap

Section 3: Submission File Details

Received files by SECURE UPLOAD:

| Name | Size |
|--|--------|
|  ATT Router Locations NJ June 2012.xlsx | 8 KB |
|  ATT_LTE_July2012_NJ.DBF | 12 KB |
|  ATT_LTE_July2012_NJ.PRJ | 1 KB |
|  ATT_LTE_July2012_NJ.shp | 175 KB |
|  ATT_LTE_July2012_NJ.SHX | 1 KB |
|  Mobility Response Template June 2012 Ne... | 9 KB |
|  NJ_ATT_3G_July2012.DBF | 1 KB |
|  NJ_ATT_3G_July2012.PRJ | 1 KB |
|  NJ_ATT_3G_July2012.shp | 161 KB |
|  NJ_ATT_3G_July2012.SHX | 1 KB |
|  NJ_ATT_4G_July2012.DBF | 1 KB |
|  NJ_ATT_4G_July2012.PRJ | 1 KB |
|  NJ_ATT_4G_July2012.shp | 112 KB |
|  NJ_ATT_4G_July2012.SHX | 1 KB |

Section 4: Data Validation, Transformation and Loading

NTIA Table BB_ConnectionPoint_MiddleMile

Loaded from supplied Excel Spreadsheet “ATT Router Locations NJ June 2012.xlsx” (1 row). Since data is identical to that included in previous submission, we copied the previous data.

The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|---|
| PROVNAME | As supplied |
| DBANAME | As supplied |
| FRN | Added leading zeroes to read 0004496774 (see below) |
| OWNERSHIP | As provided in column “Ownership” |
| BHCAPACITY | As provided in column “Serving Facility Capacity” |
| BHTYPE | As provided in column “Serving Facility Type” |
| LATITUDE | As provided in column “Latitude_geo” |
| LONGITUDE | As provided in column “Longitude_geo” |

| | |
|------------|---|
| ELEVFEET | Set to “0” (zero) |
| STATEABBR | Set to “NJ” |
| FULLFIPSID | ID of containing census block from Year 2010 Census Bureau TigerLine reference data |
| SHAPE | Created using ESRI ArcDesktop |

Internal notes on processing:

1. Used the provider name, DBA name, and FRN as supplied, after adding back leading zeros to the FRN. Note that the middle-mile entity is different than the mobility entity and per clarification from AT&T during the October 2010 submission round, should indeed be reported differently.
2. Imported the excel sheet to a geo-database table.
3. Added point for the Latitude, Longitude pair by creating a feature class from the table using ArcCatalog’s “Create Feature Class from XY Table” option.
4. Mapped to separate shape file to correct tolerance.
5. Added a column containing the ID of the containing year 2010 census block via a spatial join of the points and the census block shapes from reference data.

NTIA Table BB_Service_Wireless

Different from the last submission where only one shape file, UMTS, is submitted, there are 3 shape files submitted this time: ATT_LTE_July2012_NJ with 47 records, NJ_ATT_3G_July2012 with 25 records, and NJ_ATT_4G_July2012 with 9 records.

The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|---|
| PROVNAME | Set to “AT&T Mobility LLC” |
| DBANAME | As supplied in file Mobility Response NJ June 2011.xlsx |
| FRN | Set to 0004979233 |
| TRANSTECH | As supplied in file Mobility Response NJ June 2010.xlsx |
| SPECTRUM | Set to “3” per translation shown below |
| MAXADDOWN | Set to “4”, see below. |
| MAXADUP | Set to “3”, see below. |
| TYPICDOWN | Not provided, set to null |
| TYPICUP | Not provided, set to null |

| | |
|-----------|--------------|
| STATEABBR | Set to "NJ" |
| SHAPE | As supplied. |

Internal notes on processing:

1. File "Mobility Response Template June 2012 New Jersey.xlsx" (different than the one in the previous submission) contains three rows with provider name, DBA name, FRN, technology of transmission, a specification of the spectrum bands used, and the maximum advertised up/down speeds. The FRN is missing the leading zeros. The TechTrans code is valid. The max speed values are plausible.
2. The shape files have no text attributes associated with the row. The coverage area is most of the State of New Jersey, broken into separate shapes by various horizontal and vertical lines. The map strongly resembles the map shown at www.wireless.att.com.
3. The supplied shapes use geographic coordinate system name GCS_WGS_1984. The NTIA data model requires the same coordinate system. No geographic transformation was required, but the XY Tolerance value differs from the required value. Imported shape then mapped to separate shape with proper tolerance which resulted in a new feature class with the suffix "_tol".
4. NTIA requires shapes to be contained in the NJ state boundary. Although we visually verified that it is the case, we clipped the shape using ESRI: Analysis Tools-> Extract -> Clip with, select feature class refdata_2010.tl_2010_34_state10_wgs. The feature classes have the suffix "_clip"
5. Coalesced the single-part polygons into one multi-part polygon using the ArcGIS "Dissolve" tool, which resulted in a new feature class with the suffix "_Dissolve".
6. Spectrum: AT&T Mobility provided multiple columns of data about their spectrum use. Searching on the web suggests that AT&T 3G uses frequencies 850MHz and 1900Mhz. The NTIA data model has a single column for spectrum. No mapping is provided for frequency 850MHz. Frequency 1900MHz corresponds to NTIA "SPECTRUM USED" code value 3 – this was used for the 3G and 4G services.
7. Speeds were given as index values conforming to the NTIA model.
8. The only data imputed was the state abbreviation.
9. Validation rules produced a warning on the wireless shape record for the combination of downstream speed code of 7 (10-25 Mbps) with a transtech code of 80 (Mobile Wireless) for the LTE service. The maximum advertised speed tier provided in the cover letter that came with the provider's submission is 7. Provider confirmed that the value is correct.

Section 5: Clarification Questions and Responses

From: Connecting NJ [<mailto:ConnectingNJ@appcomsci.com>]
 Sent: Friday, August 31, 2012 3:17 PM
 To: WAGNER, GREGORY G
 Subject: Re: NJ Broadband Data Collection - Fall 2012

Greg,

Before we submit provider data to the NTIA it must be validated by an NTIA script. When we processed your submission with this script, it generated a warning and

recommended that for transtech=80 the maxaddown speed should be changed from "7" to "6." In other words, the NTIA believes that the maximum advertised downstream Service Speed for Terrestrial Mobil Wireless cannot equal 10 mbps or greater (hence the recommended value "6", see table below). I just need to confirm from you that you think "7" is the value you intended to submit and the speed you support.

Best regards,

Cliff

Subject: RE: NJ Broadband Data Collection - Fall 2012
Date: Tue, 4 Sep 2012 13:15:02 +0000
From: WAGNER, GREGORY G <gw5604@att.com>
To: Connecting NJ <ConnectingNJ@appcomsci.com>

Cliff,

We have determined that speed tier 7 is the appropriate designation for our LTE product.

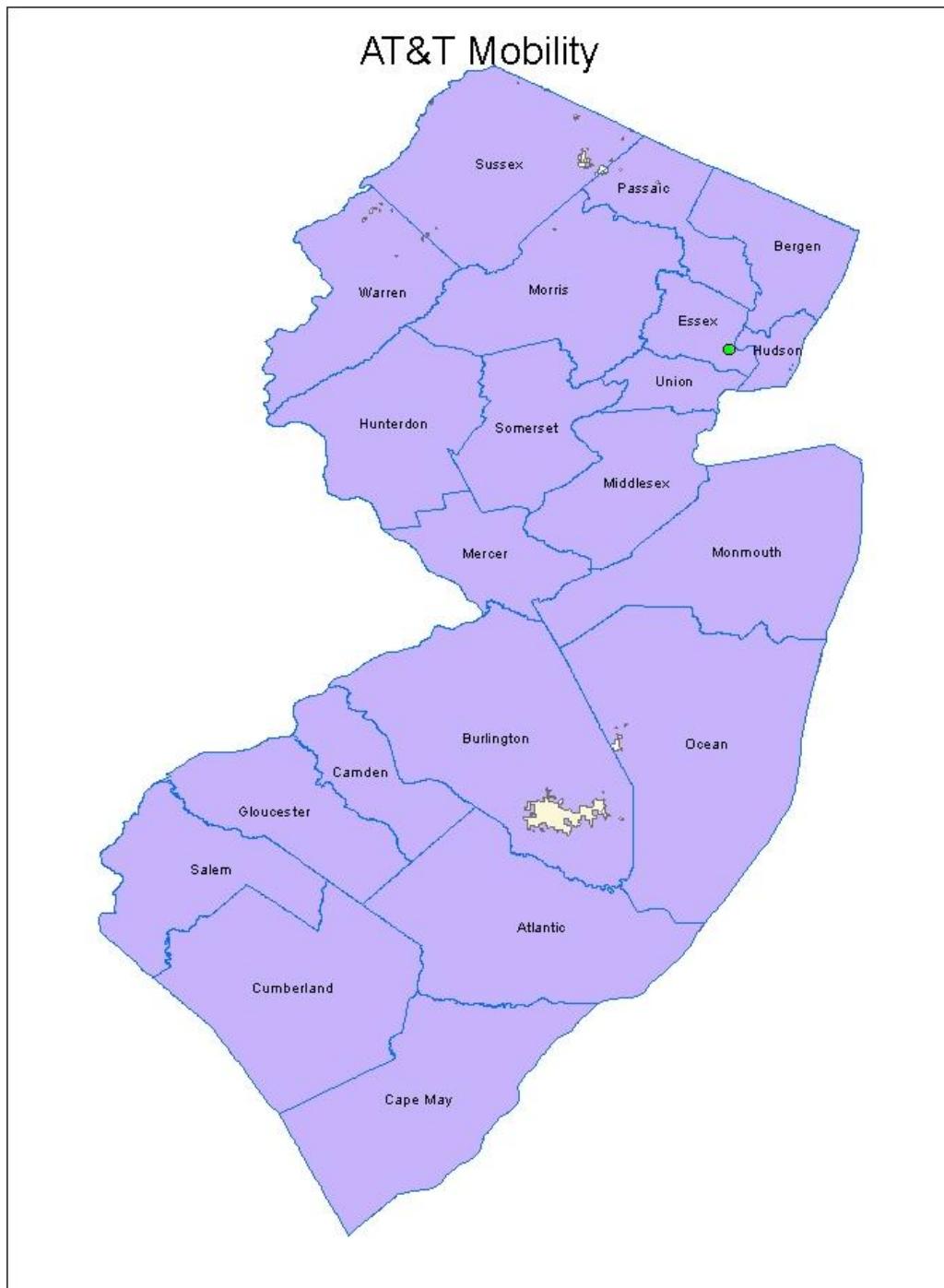
Greg

Gregory G. Wagner
(210)246-8157

Note: This e-mail message is confidential and intended only for the named recipient(s) above. It contains information that may be privileged, attorney work product, or exempt from disclosure under applicable law. If you have received this message in error, or are not the named recipient(s), please immediately notify me at (210)246-8157 and delete this e-mail message from your computer. Thank you.

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.3 CableVision

Connecting New Jersey - Broadband Provider Data Report

Provider: Cablevision

Received: August 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Sections:

1. NDA Status
2. Submission Overview
3. Submission File Details
4. Data Validations and Results
5. Data Transformation and Loading
6. Clarification Questions and Provider Responses
7. Notes and Open Issues

Section 1: NDA Status

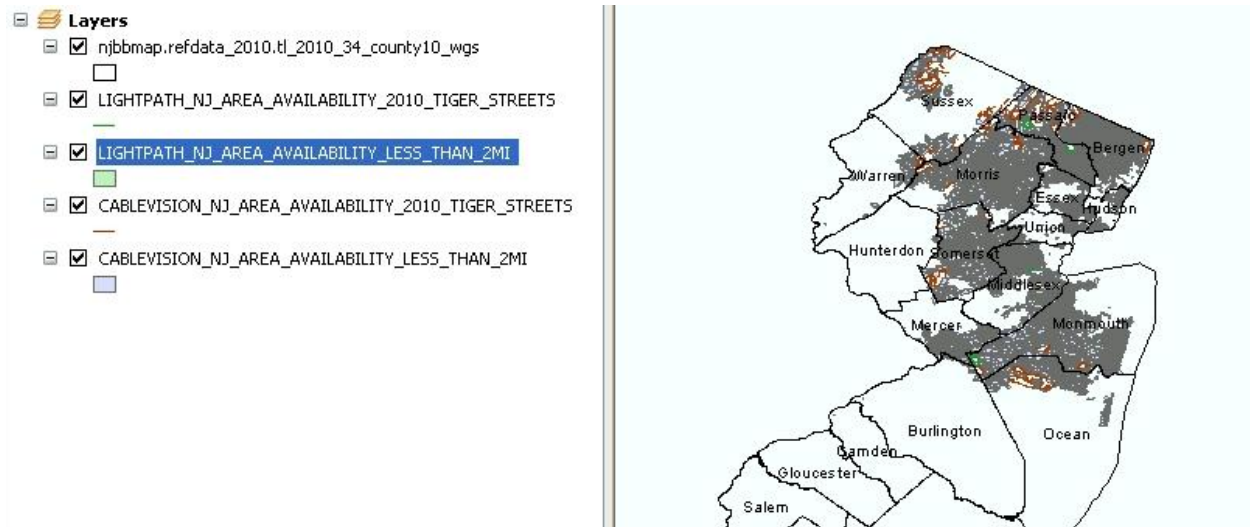
Executed with NJ OIT.

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|---|--|---|--|
| ID | Provider name | | CSC HOLDINGS INC | |
| | “Doing business as” name | | CABLEVISION / LIGHTPATH | |
| | FRN | | 0003735909, 0003510195 | |
| | Holding company name | | CSC Holdings, Inc. | |
| | Holding company number | | 130370 | |
| FOR WIRELINE | | | | |
| Filetypes | Shapefile with Census Block Year 2010 data | | | |
| File size | Multiple tables and shapes, for cable modem and optical (Lightpath) technologies. | | | |
| Speeds | Type | | Spatial Resolution | |
| | | | (address, street seg, census block, RSA/MSA, zipcode,etc) | |

| | | | | |
|--|--|--|---------------------------------|--|
| | Typical-upstream | | Not provided | |
| | Typical-downstream | | Not provided | |
| | Advertised-upstream | | Census block and street segment | |
| | Advertised-downstream | | Census block and street segment | |
| | Subscriber-weighted-up | | Not provided | |
| | Subscriber-weighted-down | | Not provided | |
| Technology Type | 40 (Cable Modem DOCSIS3.0), 41 (Cable Modem - Other), 50 (Optical carrier) | | | |
| End-user specification | Yes. Address data provided in 2 shape files (for both cable and optical) with street segment ID. (a field is called TLID, which is assumed means Tiger Line ID). | | | |
| Comments: Street data is comprised solely of polylines in the shapefile while the other files are polygons representing coverage. No subscriber weighted data found. | | | | |
| INTERCONNECTION DATA: PROVIDED AFTER REQUEST | | | | |
| ID | | | | |
| File size | | | | |
| Ownership | | | | |
| Transport Type | | | | |
| Data Rates/Capacity | | | | |
| Location | | | | |
| Comments: None. | | | | |

Figure 1. submitted data (quick preview)



Section 3: Submission File Details

Received one (1) file by SECURE UPLOAD. The zip archive contains six shapefiles: large census blocks (Cablevision and Lightpath), small census blocks (Cablevision and Lightpath), and one with roadsegments (Cablevision and Lightpath). The data and shapes appear to use Year 2010 Census Bureau geometry. The shapefiles use the XY Coordinate System GCS_North_American_1983.

| Name | Size |
|---|-----------|
|  CABLEVISION_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.dbf | 1,147 KB |
|  CABLEVISION_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.prj | 1 KB |
|  CABLEVISION_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.shp | 457 KB |
|  CABLEVISION_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.shx | 11 KB |
|  CABLEVISION_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.dbf | 16,126 KB |
|  CABLEVISION_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.prj | 1 KB |
|  CABLEVISION_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.shp | 32,489 KB |
|  CABLEVISION_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.shx | 475 KB |
|  CABLEVISION_NJ_LESS_THAN_2_BLOCKS_07_2012.zip | 20,272 KB |
|  CABLEVISION_NJ_STREETS_07_2012.zip | 301 KB |
|  CABLEVISION_NJ_STREETS_07_2012_bad.zip | 20,272 KB |
|  LIGHTPATH_NJ_07_2012.zip | 755 KB |
|  LIGHTPATH_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.dbf | 100 KB |
|  LIGHTPATH_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.prj | 1 KB |
|  LIGHTPATH_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.shp | 31 KB |
|  LIGHTPATH_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.shp.xml | 1 KB |
|  LIGHTPATH_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.shx | 1 KB |
|  LIGHTPATH_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.dbf | 317 KB |
|  LIGHTPATH_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.prj | 1 KB |
|  LIGHTPATH_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.shp | 1,142 KB |
|  LIGHTPATH_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.shx | 10 KB |
|  LIGHTPATH_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.shp.NJBBMAP-PC.259... | 0 KB |

Section 4: Data Transformation and Loading

NTIA Table BB_ConnectionPoint_MiddleMile

Since data was not provided for the October 2012 submission, the April 2012 data was copied.

The following describes how the data was loaded in previous submission.

Loaded from data supplied in the XLS sheet. Only one row describes a connection point in New Jersey. The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|---|
| PROVNAME | Set to "CSC HOLDINGS INC" |
| DBANAME | Set to "CABLEVISION" |
| FRN | As supplied in column frn_name |
| OWNERSHIP | Set to code 1, leased |
| BHCAPACITY | Set to code 4; 1gbps falls in range 600mbps – 2.4gbps |

| | |
|------------|---|
| BHTYPE | Set to code 1, fiber |
| LATITUDE | Obtained by geocoding the address |
| LONGITUDE | Obtained by geocoding the address |
| ELEVFEET | Set to “0” (zero) |
| STATEABBR | Set to “NJ” |
| FULLFIPSID | ID of containing census block from Year 2010 Census Bureau TigerLine reference data |
| SHAPE | Point shape created using ESRI ArcDesktop |

Internal notes on processing:

6. Reused the table created for the October 2010 submission, but mapped Lat/Long to 2010 census block.
7. Since the data was not provided for the April 2012, the October 2010 data was reused.

NTIA Table BB_Service_CensusBlock

Loaded from the two supplied feature classes (shapefiles) with census blocks, one for Cablevision and one for LightPath. The following table explains the transformations that were applied to load the target table. The Cablevision has 60,706 records and LightPath has 1,242 records.

| Table Column | Data Source / Transformation |
|---------------------|---|
| PROVNAME | As supplied in column pronaame |
| DBANAME | As supplied in column dbaname |
| PROVIDER_TYPE | Set to 1 |
| FRN | As supplied in column frn |
| STATEFIPS | Set to “34” (NJ) |
| COUNTYFIPS | Populated from cenblock (digits 3-5) |
| TRACT | Populated from cenblock (digits 6-11) |
| BLOCKID | Populated from cenblock (digits 12-15) |
| FULLFIPSID | As supplied in column cenblock |
| TRANSTECH | As supplied - For Cablevision: column trechtrans2 - For Lightpath: column techtrans |
| MAXADDOWN | As supplied in column maxaddnsp |
| MAXADUP | As supplied in column maxadupsp |

| | |
|------------|-----------------------------|
| TYPICDOWN | Set to null, not supplied |
| TYPICUP | Set to null, not supplied |
| ENDUSERCAT | Set to null, not supplied |
| SHAPE | As supplied in column shape |

Internal processing notes:

1. Import the features with XY Coordinate System "GCS_North_American_1983" via the following three-step process. (A simple Import using ArcCatalog yields an incompatible tolerance value.)
 - a. First, copy the data from the shapefiles to the geodatabase using a geographic transformation "NAD_1983_to_WGS_1984_5". This yields feature classes with the required coordinate system but an incorrect tolerance value. Names are "cv_nj_ar_av_cb_lt_2mi_wgs" and "lp_nj_ar_av_cb_lt_2mi_wgs".
 - b. Second, create new feature classes with the same schema as the provided shapefile feature classes and the required coordinate reference system (GCS_WGS_1984) and tolerance (0.000000002 degrees). Names are "cv_nj_ar_av_cb_lt_2mi_wgs_tol" and "lp_nj_ar_av_cb_lt_2mi_wgs_tol".
 - c. Third, load the data into the newly created feature classes to ensure perfect compatibility with the required coordinate reference system and tolerance.
2. Ignored the column "techtrans1" in the Cablevision feature class. The presence of two transport technologies indicates that they can support both DOCSIS 3.0 and Other on the all lines.
3. All of the cenblock values correspond to valid Year 2010 Census Block IDs.
4. All census blocks were confirmed to be less than 2 square miles.
5. There were no duplicates in terms of census block and transtech.

NTIA Table BB_Service_RoadSegment

Loaded from the two supplied features with line segments. The following table explains the transformations that were applied to load the target table. The Cablevision has 1,276 records and Lightpath has 111 records.

| Table Column | Data Source / Transformation |
|---------------------|--|
| PROVNAME | As supplied in column prvd_name |
| DBANAME | As supplied in column dba_name |
| PROVIDER_TYPE | Set to 1 |
| FRN | As supplied in column frn_name |
| ADDMIN | Set to the least of the non-empty address numbers |
| ADDMAX | Set to the greatest of the non-empty address numbers |

| | |
|------------|--|
| PREDIR | Set to null (no value supplied) |
| STREETNAME | As supplied (has all street components, not just name) |
| STREETTYPE | Set to null (no value supplied) |
| SUFFDIR | Set to null (no value supplied) |
| CITY | Set to null (no value supplied) |
| STATECODE | Set to "NJ" |
| ZIP5 | Set to null (no value supplied) |
| ZIP4 | Set to null (no value supplied) |
| TRANSTECH | As supplied in column tech_trans |
| MAXADDOWN | As supplied in column max_ad_dwn |
| MAXADUP | As supplied in column max_ad_up |
| TYPICDOWN | Set to null (no value supplied) |
| TYPICUP | Set to null (no value supplied) |
| SHAPE | As supplied |

Internal processing notes:

1. Feature classes were imported exactly as discussed above for table BB_Service_CensusBlock.
2. Ignored the column "techtrans1" in the Cablevision feature class. The presence of two transport technologies indicates that they can support both DOCSIS 3.0 and Other on the all lines.
3. Three records in the Cablevision set were determined to be duplicates, in terms of county and Tiger Line ID. One record in the Lightpath set was found to be duplicate. These records were discarded.

Section 5: Clarification Questions and Responses

From: NJ Broadband Data Collection [mailto:ConnectingNJ@groups.appcomsci.com]

Sent: Tuesday, February 21, 2012 10:14 PM

To: 'tbaecher@cablevision.com'

Cc: 'NJ Broadband Data Collection'

Subject: NJ Broadband Clarification

Ted,

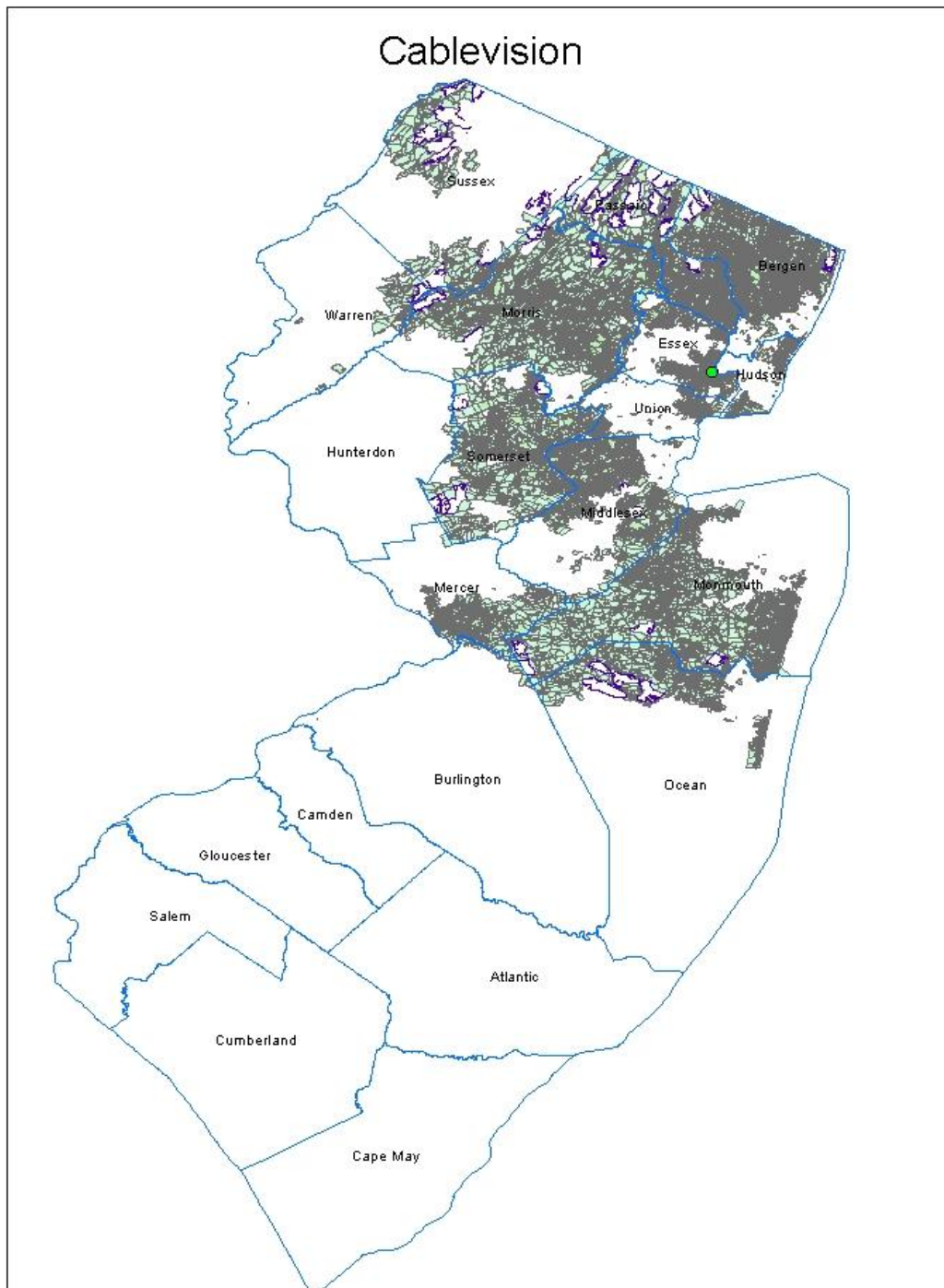
We have performed our initial review of the data you submitted and we have a clarification question. Your recent submission did not include any middle mile information. The last middle-mile data you submitted is from a year ago. Is that data still valid? If not, could you please supply us with revised information?

Thanks for your cooperation.

John Wullert
Manager - NJ BB Data Collection
Applied Communication Sciences
732-699-2687

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.4 Century Link

Connecting New Jersey - Broadband Provider Data Report

Provider: CenturyTel DBA Century Link

Received: August 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Sections:

8. NDA Status
9. Submission Overview
10. Submission File Details
11. Data Validations and Results
12. Data Transformation and Loading
13. Clarification Questions and Provider Responses
14. Notes and Open Issues
15. Overview Map of Submitted Data

Section 1: NDA Status

Century Link executed an NDA with NJ OIT; the data files refer to the NDA.

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|--|--|---------------------------------|--|
| ID | Provider name | | CenturyLink, Inc. (per email) | |
| | “Doing business as” name | | Century Link | |
| | FRN | | 0018626853 | |
| FOR WIRELINE | | | | |
| Filetypes | Shapefiles “CTL_NJ_2012_06_polyline” and “CTL_NJ_2012_06_region” | | | |
| File size | | | | |
| Speeds | Type | | Spatial Resolution: county | |
| | Typical-upstream | | Census block and street segment | |
| | Typical-downstream | | Census block and | |

| | | | | |
|--|--------------------------|--|----------------|--|
| | | | street segment | |
| | Advertised-upstream | | Census block | |
| | Advertised-downstream | | Census block | |
| | Subscriber-weighted-up | | Not provided | |
| | Subscriber-weighted-down | | | |
| Technology Type | 10 (ADSL) | | | |
| End-user specification | Not provided | | | |
| Comments: | | | | |
| INTERCONNECTION DATA | | | | |
| ID | | | | |
| File size | | | | |
| Ownership | | | | |
| Transport Type | | | | |
| Data Rates/Capacity | | | | |
| Location | | | | |
| Comments: Middle-mile data was not provided this submission. | | | | |

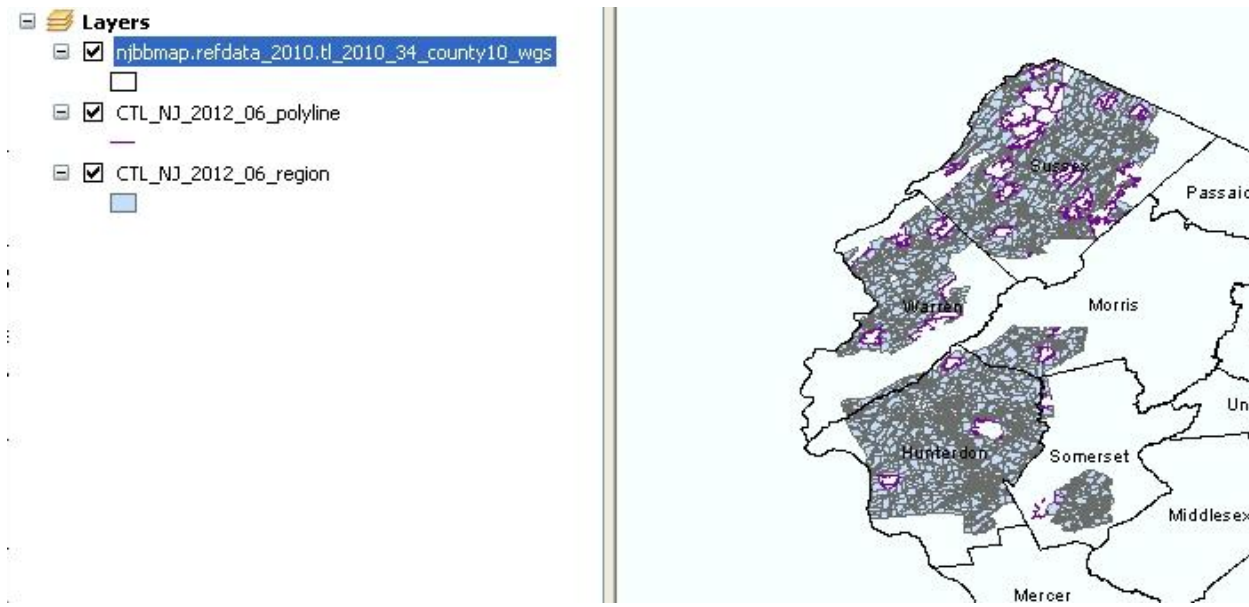


Figure1. Quick load test results

Section 3: Submission File Details

| Name | Size |
|-----------------------------|-----------|
| CTL_NJ_2012_06_polyline.dbf | 1,036 KB |
| CTL_NJ_2012_06_polyline.prj | 1 KB |
| CTL_NJ_2012_06_polyline.shp | 619 KB |
| CTL_NJ_2012_06_polyline.shx | 25 KB |
| CTL_NJ_2012_06_region.dbf | 2,462 KB |
| CTL_NJ_2012_06_region.prj | 1 KB |
| CTL_NJ_2012_06_region.shp | 11,388 KB |
| CTL_NJ_2012_06_region.shx | 58 KB |
| CTL_NJ_080812.zip | 8,828 KB |

Section 4: Data Validation, Transformation and Loading

NTIA Table BB_ConnectionPoint_MiddleMile

According to the email below, there is no change in middle mile data in the 2012 April. Since the middle mile data is not submitted, we assume that there is no change in this submission.

The following table explains the transformations that were applied in earlier submission.

| Table Column | Data Source / Transformation |
|---------------------|---|
| PROVNAME | Set to “CenturyLink, Inc.” per email |
| DBANAME | As supplied in DbName |
| FRN | As supplied in FRN |
| OWNERSHIP | As supplied in Own |
| BHCAPACITY | As supplied in BHCap |
| BHTYPE | As supplied in BHType |
| LATITUDE | As supplied in Lat |
| LONGITUDE | As supplied in Long |
| ELEVFEET | Set to “0” (zero) |
| STATEABBR | Set to “NJ” |
| FULLFIPSID | ID of containing census block from Year 2010 Census Bureau TigerLine reference data |
| SHAPE | Point shape created using ESRI ArcDesktop |

Internal notes on processing:

8. Loaded 1 row of data from Excel Spreadsheet “middlemile_NJ.txt” (1 row) that was supplied for the April 2011 submission. Data in that table had previously been spatially joined to find containing census block.

NTIA Table BB_Service_CensusBlock

Loaded from supplied shapefile feature “CTL_NJ_2011_12_region”. The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------------|--|
| PROVNAME | Set to “CenturyLink, Inc.” per email |
| DBANAME | As supplied in column “dba_name” |
| PROVIDER_TYPE | Set to 1 |
| FRN | Set to "0018626853" |
| STATEFIPS | Set to “34” (NJ) |
| COUNTYFIPS | Populated from census_blo (digits 3-5) |
| TRACT | Populated from census_blo (digits 6-11) |
| BLOCKID | Populated from census_blo (digits 12-15) |

| | |
|---------------|----------------------------------|
| BLOCKSUBGROUP | Set to null |
| FULLFIPSID | As supplied in column census_blo |
| TRANSTECH | As supplied in column technology |
| MAXADDOWN | Set to 7 for all records |
| MAXADUP | Set to 4 for all records |
| TYPICDOWN | Set to null |
| TYPICUP | Set to null |
| SHAPE | As supplied |

Internal notes on processing

10. Differently from the 2012 April submission, the supplied shapes use geographic coordinate system GCS_North_American_1983. The NTIA data model requires coordinate system GCS_WGS_1984. To change the projection we applied the ESRI geographic transformation NAD_1983_To_WGS_1984_5 (per ESRI KB article 24159). The resulting table is named with suffix “_wgs”.
11. We had to create a new feature class and reload the data so that the tolerance value matches the NTIA transfer model’s tolerance value exactly, resulting in a feature class with a suffix of “_tol”.
12. Shapefile (feature class) CTL_NJ_2012_06_region provides coverage data for census blocks with an area less than or equal to 2 square miles. It contains 7,369 records. All of the IDs shown in the shapefile correspond to valid Year 2010 Census Block IDs and all are smaller than 2 square miles.
13. The feature class "region" has 286 rows with duplicate census block IDs and identical technology codes (confusingly the speeds are different for the some of these duplicates). We discarded these to avoid creating duplicate shapes in the table.
14. The feature class has 11 rows with technology 10 and downstream speed code 8. This combination produced a validation warning. The provider could not confirm that these values were correct, but asserted that all areas were covered with speed tiers 7 down and 4 up. We changed the speed tiers on these values to 7/4.
15. We loaded 7083 records into the bb table.

NTIA Table BB_Service_RoadSegment

Loaded from supplied shapefile feature “CTL_NJ_2012_06_polyline”. The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------|--------------------------------------|
| PROVNAME | Set to “CenturyLink, Inc.” per email |
| DBANAME | As supplied in column “dba_name” |
| PROVIDER_TYPE | Set to 1 |

| | |
|------------|--|
| FRN | Set to "0018626853" |
| ADDMIN | Set to the least of the non-empty address numbers |
| ADDMAX | Set to the greatest of the non-empty address numbers |
| PREDIR | Set to null (no value supplied) |
| STREETNAME | As supplied |
| STREETTYPE | Set to null (no value supplied) |
| SUFFDIR | Set to null (no value supplied) |
| CITY | Set to null (no value supplied) |
| STATECODE | Set to "NJ" |
| ZIP5 | Set to null (no value supplied) |
| ZIP4 | Set to null (no value supplied) |
| TRANSTECH | As supplied |
| MAXADDOWN | Set to 7 |
| MAXADUP | Set to 4 |
| TYPICDOWN | Set to null |
| TYPICUP | Set to null |
| TLID | Set to Null – not supplied |
| SHAPE | As supplied |

Internal notes on processing:

1. Shapefile (feature class) CTL_NJ_2012_06_polyline shows street segments for census blocks larger than 2 square miles. It contained 3098 records.
2. Differently from the 2012 April submission, the supplied shapes use geographic coordinate system GCS_North_American_1983. The NTIA data model requires coordinate system GCS_WGS_1984. To change the projection we applied the ESRI geographic transformation NAD_1983_To_WGS_1984_5 (per ESRI KB article 24159). The resulting table is named with suffix "_wgs".
3. We had to create a new feature class and reload the data so that the tolerance value matches the NTIA transfer model's tolerance value exactly, resulting in a feature class with a suffix of "_tol".
4. We discarded 734 records with no street name (field empty), leaving 2364 full records. These entries typically had no min/max address information as well.
5. We checked for uniqueness using the county number, street name, min and max address and the string portion of the shape object. Including the string description of the shape object had the effect of including the number of points in the shape as part of the uniqueness test. We discarded 674 records as duplicates using this method. There is a chance that this discarded some non-duplicates, but our manual inspection of the data made it appear valid.
6. Based on provider instructions that they have 10 Mbps coverage in all their NJ exchanges, we set all down/up advertised speeds to 7/4.

7. We loaded 1690 rows.

Validation rules produced a warning on 7084 census blocks and 1690 street segments for the combination of a downstream speed code of 7 (10-25 Mbps) with a transtech code of 10 (ADSL). The provider had originally reported speeds exceeding 25 Mbps, or a speed code of 8. When we questioned these, the provider could not confirm those values, but asserted that all areas were covered with speeds exceeding 10 Mbps.

Section 5: Questions

From: NJ Broadband Data Collection [<mailto:ConnectingNJ@groups.appcomsci.com>]

Sent: Friday, March 09, 2012 6:42 AM

To: Flurer, Gerry F

Cc: NJ Broadband Data Collection

Subject: NJBB Data Clarification - CenturyLink

Gerry,

We have reviewed the data you submitted and have a few questions:

1. The NTIA wants us to verify cases where speeds over 10 Mbps are reported for DSL. You reported instances of download speeds in the 10-25 Mbps and 25-50 Mbps for your DSL service. Are these correct values?
2. In previous rounds, you had submitted a single middle mile point. Do you have updated information, or should we use that same data for this round?
3. In prior submissions, your street-segment data included the TigerLine ID of each segment. Is it possible for you to include that information this round?

We appreciate your participation in the program.

John Wullert

Manager - NJ BB Data Collection

Applied Communication Sciences

732-699-2687

From: Flurer, Gerry F [<mailto:Gerald.F.Flurer@CenturyLink.com>]

Sent: Friday, March 09, 2012 10:59 AM

To: NJ Broadband Data Collection

Cc: Bonsick, David

Subject: RE: NJBB Data Clarification - CenturyLink

John: See response inserted, below.

Gerry Flurer

From: NJ Broadband Data Collection [<mailto:ConnectingNJ@groups.appcomsci.com>]

Sent: Friday, March 09, 2012 6:42 AM

To: Flurer, Gerry F

Cc: NJ Broadband Data Collection

Subject: NJBB Data Clarification - CenturyLink

Gerry,

We have reviewed the data you submitted and have a few questions:

1. The NTIA wants us to verify cases where speeds over 10 Mbps are reported for DSL. You reported instances of download speeds in the 10-25 Mbps and 25-50 Mbps for your DSL service. Are these correct values?

[G. Flurer] Yes. CTL uses ADSL2 and VDSL2 in certain areas to achieve those speeds.

2. In previous rounds, you had submitted a single middle mile point. Do you have updated information, or should we use that same data for this round?

[G. Flurer] No updates for that data.

3. In prior submissions, your street-segment data included the TigerLine ID of each segment. Is it possible for you to include that information this round?

[G. Flurer] In several other states we found Tiger ID data from Pitney Bowes to be invalid. For this round we adopted the use of the TIGER street data. I'm looking at possibly including the TIGER ID in future submissions.

We appreciate your participation in the program.

From: NJ Broadband Data Collection [<mailto:ConnectingNJ@groups.appcomsci.com>]

Sent: Friday, March 09, 2012 10:08 AM

To: Flurer, Gerry F

Cc: NJ Broadband Data Collection

Subject: RE: NJBB Data Clarification - CenturyLink

Gerry,

Thanks for the quick response. Can you give us any sense of where you have the ADSL2/VDSL2 operational? The NTIA would prefer not to overstate capabilities.

Thanks,

John

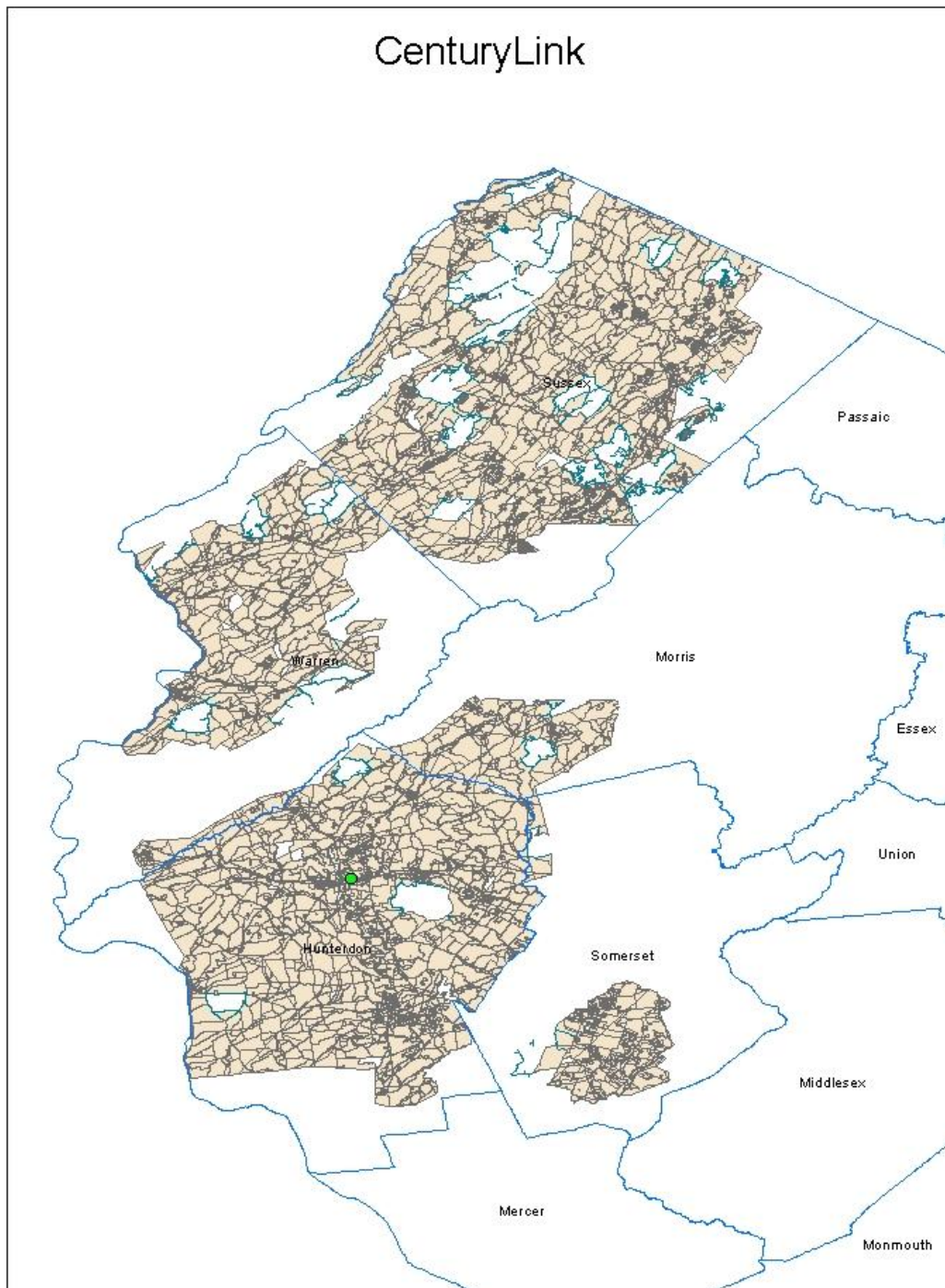
From: Flurer, Gerry F [mailto:Gerald.F.Flurer@CenturyLink.com]
Sent: Friday, March 09, 2012 11:58 AM
To: NJ Broadband Data Collection
Subject: RE: NJBB Data Clarification - CenturyLink

John: We have 10 mbps service available in all our NJ exchanges. The few spots we have listed as Speed Tier 8 look pretty remote to me. I'll have to check into them more specifically. For now, though, can we consider them as a lower speed tier for this round? Let's make them tier 7 and I'll look into them for the next round.

Gerry Flurer

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.5 Clearwire

Connecting New Jersey - Broadband Provider Data Report

Provider: Clearwire

Received: July 2012

Submission date: October 2012

This report presents details on processing of broadband data for delivery to the National Telecommunications and Information Administration.

Section 1: NDA Status

Unknown

Section 2: Submission Overview

| AVAILABILITY DATA | | | |
|-------------------|---|--|--|
| ID | PROVIDER NAME | | Clearwire Corporation Clearwire Corporation 0017775628 |
| | DBA NAME | | |
| | FRN | | |
| | Holding company name: | | |
| | Holding company number: | | |
| FOR WIRELESS | | | |
| Filetypes | shapefile collection: shp/dbf/prj/shx, mdb, gdb, imagefile etc. | | The shape file contains 521 polygon shapes, as well as an attribute, ID_UNIQUE (6 digit number) |
| Speeds | Type | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode) | This data was not included with submitted shape file, but advertised speed, technology and spectrum data from prior rounds was verified with provider. |
| | Upstream max adv | no. | |
| | Downstream max adv | no. | |
| | Upstream typical | no. | |
| | Downstream typical | no. | |
| | Subscriber-weighted | no. | |

| | | |
|--------------------------------|---------------|--|
| Technology Type | Spectrum : no | |
| Comments: | | |
| INTERCONNECTION DATA | | |
| ID | | |
| File size | | |
| Ownership | | |
| Transport Type | | |
| Data Rates/Capacity | | |
| Location | | |
| Comments: no IC data provided. | | |

Section 3: Submission File Details

Received the zip file by email

| Size | Name |
|--------|----------------------------|
| 3739KB | NJ_WiMAX_063012_region.zip |

The1 zip file containing 6 files:

| Size | Name |
|--------|----------------------------|
| 14KB | NJ_WiMAX_063012_region.dbf |
| 1KB | NJ_WiMAX_063012_region.prj |
| 6KB | NJ_WiMAX_063012_region.sbn |
| 1KB | NJ_WiMAX_063012_region.sbx |
| 5918KB | NJ_WiMAX_063012_region.shp |
| 5KB | NJ_WiMAX_063012_region.shx |

Section 4: Data Validation,Transformation and Loading

NTIA Table BB_Service_Wireless

Loaded from the supplied shapefiles as augmented by email and phone conversations. The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|---------------------|---|
| PROVNAME | Set to “Clearwire Corporation” per email |
| DBANAME | Set to “Clearwire Corporation” per email |
| FRN | Set to “0017775628” |
| TRANSTECH | Set to “80” (terrestrial mobile wireless) based on statement of WiMAX |
| SPECTRUM | Set to “5” per email |
| MAXADDOWN | Set to “5” (code for range of 3-6Mbps) per email |
| MAXADUP | Set to “3” (code for range that includes 1Mbps) per email |
| TYPICDOWN | Set to null |
| TYPICUP | Set to null |
| STATEABBR | Set to “NJ” |
| SHAPE | As supplied. |

Internal notes on processing:

16. The shape file contains 520 polygon shapes, as well as an attribute, ID_UNIQUE (a 6 digit number).
17. The supplied shape file uses geographic coordinate system name GCS_WGS_1984. The NTIA data model requires the same coordinate system. No geographic transformation was required. Loaded into our geo-database to feature class name NJ_WiMAX_063012_region.
18. The XY Tolerance value differs on the supplied data from the required NTIA model. Imported the table schema and the table data in two separate operations, thereby ensuring perfect compatibility with the NTIA data model. The table has the suffix “_tol”.
19. The shape extends beyond the NJ State boundary. Clipped the shape using ESRI: Analysis Tools-> Extract -> Clip with, select feature class ntia_oct2012.State_Boundary. The feature class has the suffix "_clip". 269 rows are left after clip operation.
20. Coalesced the single-part polygons into one multi-part polygon using the ArcGIS ESRI: Data Management Tools->Generalization->Dissolve (without choosing anything in the Dissolve_Field(s) option), which resulted in a new feature class with the suffix “_dissolved” with a single row.

Section 5: Clarification Questions and Responses

The email has no info about advertized and typical speed. (7/12/2012)

From: NJ Broadband Data Collection [<mailto:ConnectingNJ@groups.appcomsci.com>]
Sent: Wednesday, February 15, 2012 5:23 PM
To: Tajit Mehta
Cc: ConnectingNJ@groups.appcomsci.com
Subject: RE: NJ Broadband Data Collection - Spring 2012

Taj,

A few additional questions regarding the service you deliver over the covered area. From your previous submissions, we have the following information:

Provider Name = Clearwire Corporation

FRN = "0017775628"

Transmission technology = 80 (wireless)

spectrum = 5 (Broadband Radio Service/Educational Broadband Service spectrum (2496-2690 MHz))

Maximum Advertised Download Speed = "5" (Greater than or equal to 3 mbps and less than 6 mbps)

Maximum Advertised Upload Speed = "3" (Greater than or equal to 768 kbps and less than 1.5 mbps)

Are these values still accurate?

John Wullert
Manager - NJ BB Data Collection
Applied Communication Sciences
732-699-2687

From: Tajit Mehta [<mailto:tajit.mehta@clearwire.com>]
Sent: Wednesday, February 15, 2012 5:24 PM
To: NJ Broadband Data Collection
Subject: RE: NJ Broadband Data Collection - Spring 2012

Hi John,

Yes the date stays the same.

Regards,

Taj

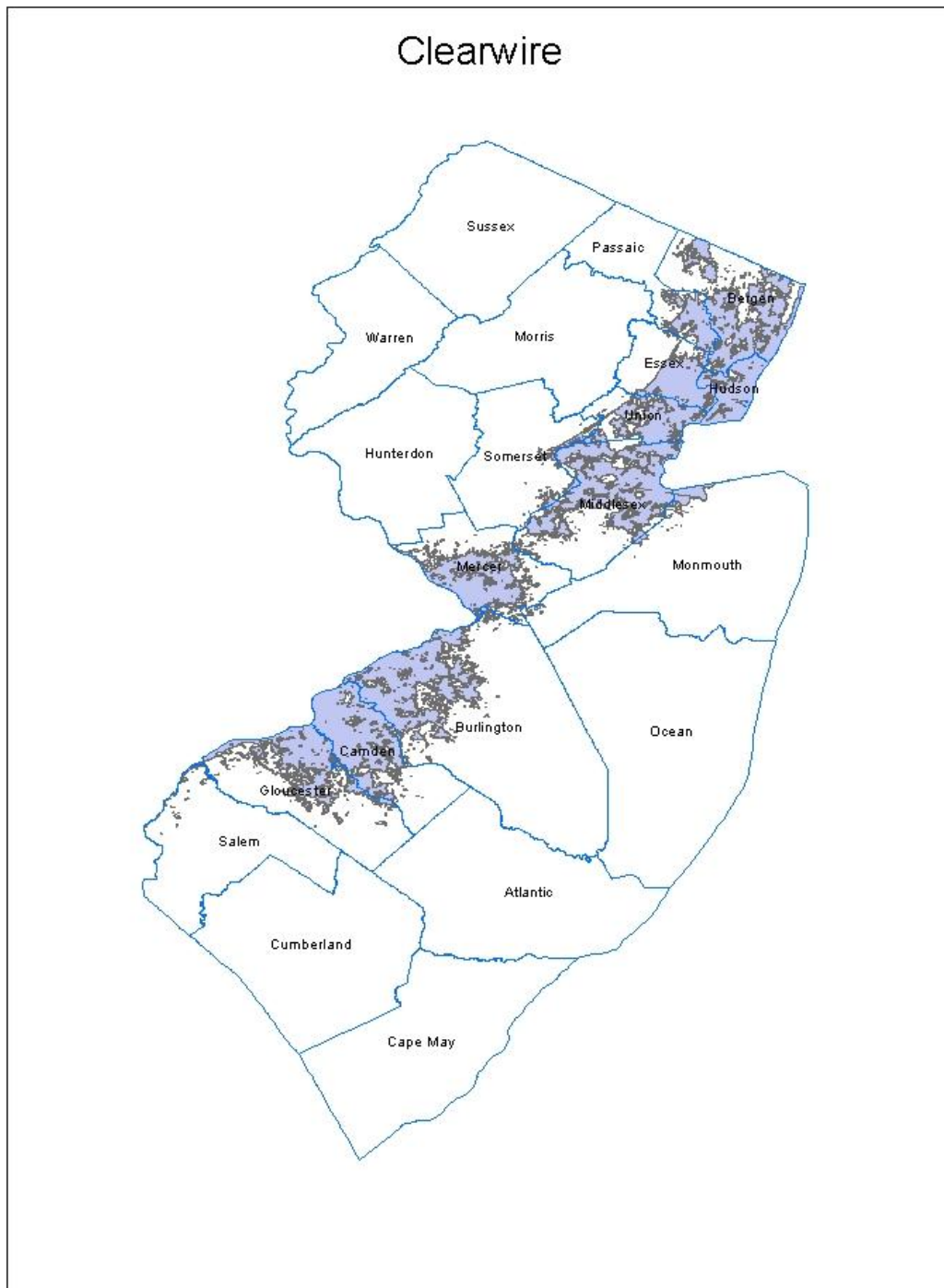


Taj Mehta – [clearwire](#) - Spectrum Development

593 Herndon Parkway, Herndon, VA 20170 - Office 571-490-8577 - Mobile 571-220-4657 – Fax 571-490-8491

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.6 Cogent Communications

Broadband Provider Data Report

Provider: Cogent Communications

Received: August 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Sections:

- 16. NDA Status
- 17. Submission Overview
- 18. Submission File Details
- 19. Data Validations and Results
- 20. Data Transformation and Loading
- 21. Clarification Questions and Provider Responses
- 22. Notes and Open Issues

Section 1: NDA Status

No NDA was executed. All data were taken from the provider's public web site, FCC filings and/or information supplied by the provider via email

Section 2: Submission Overview

| MAPPING DATA | | | |
|--------------|----------------------------------|--|--|
| ID | Provider name | | Cogent Communications, Inc. |
| | “Doing business as” name | | Not provided |
| | FRN | | 0019898303 |
| FOR WIRELINE | | | |
| Filetypes | Txt, xls, pdf, etc. | | Email and pointers to Web site and SEC filings |
| File size | Number of records, data elements | | List of 21 addresses where they offer service |
| Speeds | Type | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode) | Provided building addresses. Adver down and up are 10/11, very fast. |
| | Adver down | Address | |

| | | | |
|--|--|--------------|-------|
| | Adver up | Address | |
| | Typical down | Not provided | |
| | Typica up | Not provided | |
| | Subscriber-weighted | Not provided | |
| Technology Type | DOCSIS, xDSL, fiber, etc. | | Fiber |
| End-user specification | Business, consumer, gov’t etc | | |
| Comments: They offer service directly to businesses at the addresses they provided. They are a reseller of broadband access to businesses at other locations. | | | |
| They had previously refused to provide data on Typical and Subscriber Weighted speeds. | | | |
| INTERCONNECTION DATA | | | |
| ID | Provider name “Doing business as” name FRN | | |
| File size | Number of records, data elements | | |
| Ownership | Leased/owned | | |
| Transport Type | Fiber, wireless, copper | | |
| Data Rates/Capacity | | | |
| Location | Street address, lat/lon, elevation | | |
| Comments: | | | |
| We had previously extracted data for Middle Mile sites, based on the assumption that Cogent’s Data Centers were interconnection points. We were instructed by the provider that these sites did not meet the definition of Middle Mile sites and thus should be removed. | | | |
| DATA COMPLETENESS | | | |
| Data Validation/ Verification | | | |

Section 3: Submission File Details

Data received and processed in previous submissions was updated (address information) via a query of "Service Locations" from provider's Web site
(http://www.cogentco.com/?lang=en&option=com_content&view=article&id=40&action=search).

There were two new records in the data from the Web site – one was an update of a previously present record, another was a truly new record (for 3003 Woodbridge Ave.). The CDNC field together with information obtained in previous rounds were used to determine the advertised speeds for that record.

Section 4: Validations and Results

During previous rounds provider reported data rates were confirmed with their published information and SEC filings.

The only other validation to be done is whether each address can be successfully geocoded. See next section. One address is not

Section 5: Data Transformation and Loading

The standard NDA prohibits us from submitting address-level data to the NTIA. Instead, we discover the census block for each customer address, then report the census block shape drawn from Census Bureau TigerLine reference data.

NTIA Table BB_Service_CensusBlock

We copied the information to a spreadsheet. The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------|--|
| PROVNAME | Set to “Cogent Communications, Inc.” |
| DBANAME | Same as PROVNAME |
| PROVIDER_TYPE | Set to 1 |
| FRN | Set to “0019898303” |
| STATEFIPS | Set to “34” (NJ) |
| COUNTYFIPS | Populated from Census Block FIPS Code (first 3 digits) |
| TRACT | Populated from Census Block FIPS Code (next 6 digits) |
| BLOCKID | Populated from Census Block FIPS Code |
| BLOCKSUBGROUP | Set to null |
| FULLFIPSID | Populated from Census Block FIPS Code |
| TRANSTECH | Set to “50” |
| MAXADDOWN | Populated from column “Maximum Advertised Speed Down” |
| MAXADUP | Populated from column “Maximum Advertised Speed Up” |
| TYPICDOWN | Set to null |

| | |
|---------|---|
| TYPICUP | Set to null |
| SHAPE | Copied from Census Bureau TigerLine 2010, as matched by spatial join on geocoded address |

Internal processing notes:

9. Geocoded the addresses using the Google geocoder to obtain a Latitude, Longitude pair for each..
10. Created an excel sheet and imported it to a geodatabase table.
11. Added point shapes corresponding to each Latitude, Longitude pair by creating a feature class from the table using ArcCatalog's "Create Feature Class from XY Table" option.
12. Added a column containing the ID of the containing year 2010 census block via a spatial join of the point shapes and the census block shapes from reference data.
13. Discarded 6 rows with duplicate census blocks.

Section 6: Clarification Questions and Responses

From: Zulager, Ried [mailto:RZulager@Cogentco.com]

Sent: Thursday, July 07, 2011 11:11 AM

To: Wullert, John R II

Subject: For your information: NJ Broadband Data Collection

Fine. The website may have changed slightly, but you can still get a list of address locations fairly easily from Cogent's public facing data. Just limit your searches to NJ as the jurisdiction of interest.

<http://www.cogentco.com/en/network/service-locations>

Ried Zulager

Corporate Secretary

Cogent Communications Group, Inc.

1015 31st St. NW

Washington, DC 20007

tel: +1-202-295-4274

rzulager@cogentco.com

From: NJ Broadband Data Collection [mailto:ConnectingNJ@research.telcordia.com]

Sent: Tuesday, March 01, 2011 4:45 PM

To: 'Zulager, Ried'

Cc: ConnectingNJ@research.telcordia.com

Subject: RE: NJ BB Data Collection - Spring 2011
Sensitivity: Private

Ried,

The attached spreadsheet integrates the data you submitted to us last year with and the data we could obtain from your Web site and SEC filings. We will use this data as the basis for the submission to the NTIA. If you have any comments or corrections on the data, please let me know.

We did notice that the “Service Location” form on your Web site did not return a valid zip code for the 5851 Westside Ave in North Bergen. We assigned an zip code of 07047 based on a Google search.

Of the data requested by NTIA, we were not able to obtain data on Typical speeds and the Subscriber Weighted Nominal Speed. You indicated last time that you were not prepared to offer this information. If your position on this matter has changed, we would be happy to receive the data.

Thanks for your cooperation

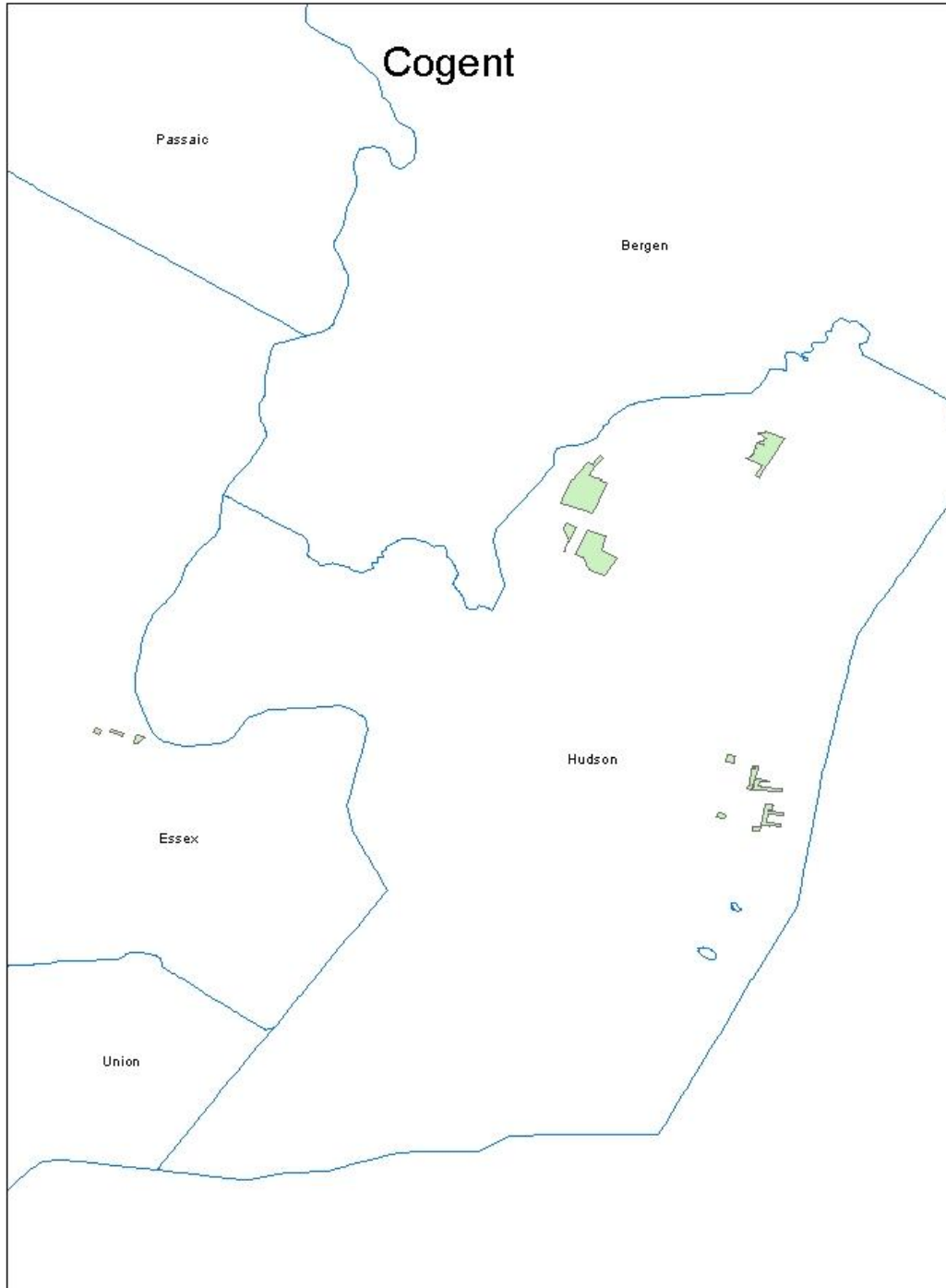
John Wullert
Manager – NJ BB Data Collection
Telcordia Technologies
732-699-2687

From: Zulager, Ried [mailto:RZulager@Cogentco.com]
Sent: Tuesday, March 01, 2011 6:03 PM
To: ConnectingNJ@research.telcordia.com
Subject: RE: NJ BB Data Collection - Spring 2011
Sensitivity: Private

“We did notice that the “Service Location” form on your Web site did not return a valid zip code for the 5851 Westside Ave in North Bergen. We assigned an zip code of 07047 based on a Google search.” Seems reasonable; since zip codes are fairly irrelevant to Cogent’s business the zip code is not something that hits out A list of priorities in any database – nor is geocode.

Section 7: Notes and Open Issues

Section 8: Overview Map of Submitted Data



6.7 Comcast

Connecting New Jersey - Broadband Provider Data Report

Provider: Comcast

Received: August 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Section 1: NDA Status

Section 2: Submission Overview

| AVAILABILITY DATA | | | |
|-------------------|---|----------------------------------|--|
| ID | Provider name | COMCAST CABLE COMMUNICATIONS LLC | |
| | “Doing business as” name | COMCAST | |
| | FRN | 0004-4416-63 | |
| FOR WIRELINE | | | |
| Filetypes | Excel files w. Census Block Year 2010 data. Street segment level and CB level availability tables for CB’s less than and greater than 2 sq. mi. | | |
| File size | see files | | |
| Speeds | Type | | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode,etc) |
| | Typical-upstream | | Not provided |
| | Typical-downstream | | Not provided |
| | Advertised-upstream | | yes (CBSA/RSA level) |
| | Advertised-downstream | | yes (CBSA/RSA level) |
| | Subscriber-weighted-up | | no |
| | Subscriber-weighted-down | | no. |
| Technology | 40 (Cable Modem DOCSIS3.0), 41 | | |

| | |
|---|---|
| Type | |
| End-user specification | Comcast provides availability at the Census Block and Street Segment level. |
| | |
| INTERCONNECTION DATA: PROVIDED AFTER REQUEST | |
| ID | |
| File size | |
| Ownership | |
| Transport Type | |
| Data Rates/Capacity | |
| Location | |
| Comments: | |

Section 3: Submission File Details

Received three (3) files by SECURE UPLOAD.

| Size | Name |
|--------|--|
| 72KB | 34-streets-NJ.xlsx |
| 3374KB | 34-blocks-NJ.xlsx |
| 9KB | New Jersey Maximum Advertised Speeds June 30 2012.xlsx |

Section 4: Validation, Data Transformation and Loading

NTIA Table BB_Service_CensusBlock

The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------|---|
| PROVNAME | As supplied in column "Provider_Name" but without trailing period |
| DBANAME | As supplied in column "DBA_Name" |
| PROVIDER_TYPE | Set to 1 |

| | |
|------------|---|
| FRN | As supplied in column “FRN” |
| STATEFIPS | Set to “34” (NJ) |
| COUNTYFIPS | Populated from Census_Block_FIPS_Code (first 3 digits) |
| TRACT | Populated from Census_Block_FIPS_Code (next 6 digits) |
| BLOCKID | Populated from Census_Block_FIPS_Code (last 4 digits) |
| FULLFIPSID | As supplied in column Census_Block_FIPS_Code |
| TRANSTECH | As supplied in column Technology_of_Transmission |
| MAXADDOWN | Set to “8”, “9” or “10” (see below) |
| MAXADUP | Set to “7” (see below) |
| TYPICDOWN | Set to null, not supplied |
| TYPICUP | Set to null, not supplied |
| SHAPE | Copied from Census Bureau TigerLine 2010, As matched by Census block 2010 ID |

Processing notes:

4. File 34-blocks-NJ.xlsx contains 70,672 records. No shape was provided, but a Census Block ID is provided. Every ID is 15 digits long.
5. Census Blocks: Comcast supplied Census 2010 block IDs. We referenced the Census Bureau reference database for Year 2010 to extract and submit geographic features (i.e., shapes) for each census block based on the supplied Census_Block_FIPS_Code.
6. Speeds: Data for maximum advertised down and up speeds were taken from file “New Jersey Maximum Advertised Speeds June 30 2012.xlsx”. Comcast listed the same upload speed (7) and download speed (10) for all seven MSAs they serve. However, for records with a technology of transmission code 41, we reported a download speed to code 8.

NTIA Table BB_Service_RoadSegment

Loaded as discussed below. The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------|--|
| PROVNAME | Set to “Comcast Cable Communications, LLC” |
| DBANAME | Set to “Comcast” |
| PROVIDER_TYPE | Set to 1 |
| FRN | Set to “0004441663” |
| ADDMIN | Set to the least of the non-empty address numbers for the line segment |

| | |
|------------|--|
| ADDMAX | Set to the greatest of the non-empty address numbers for the line segment |
| PREDIR | Set to null (no value supplied) |
| STREETNAME | As obtained with the procedure outlined below (has all street components, not just name) |
| STREETTYPE | Set to null (no value supplied) |
| SUFFDIR | Set to null (no value supplied) |
| CITY | Set to null (no value supplied) |
| STATECODE | Set to "NJ" |
| ZIP5 | Set to value of zipl column for the line segment |
| ZIP4 | (no value supplied) |
| TRANSTECH | As supplied (40) |
| MAXADDOWN | See below |
| MAXADUP | Set to 7 |
| TYPICDOWN | Set to null |
| TYPICUP | Set to null |
| SHAPE | Copied from Census Bureau TigerLine 2010, As matched by County + Tiger Line ID |

File 34-streets-NJ.xlsx contains 656 records. No shape is provided, and no reference ID such as Tiger Line ID is provided either. We cannot validate these segments against reference data, nor can we accurately generate shapes for these segments. Instead we gathered a list of segments in large census blocks based on the municipalities served by Comcast. We processed 3142 street segments.

For municipalities served in their entirety by Comcast, the following approach was used. (Note: steps 1-4 were performed previously and not repeated for this round.)

1. Adjusted the Municipality names provided by Comcast with the following rules to enable matching with official New Jersey Municipality reference data
 - a. Changed to upper case
 - b. Performed the following string replacements on the Municipality field
 - i. TOWNSHIP -> TWP
 - ii. BOROUGH -> BORO (only when preceded by a space)
 - iii. MT. -> MOUNT
 - iv. PT. -> POINT
 - v. ORANGE CITY -> CITY OF ORANGE TWP (ORANGE at start of line)
 - c. Removed any additional information in parentheses (I.e., appended county name)
2. Performed join between two data sources, using Municipality and County as keys
3. Dropped four military bases that did not match any municipality

4. Generated a file with Municipality, Type, County and Municipal Code
5. Joined this information with the large census blocks for each municipality, and then joined that result with the street segments for each large census block.
6. Loaded the resulting set of street segments and shapes after removing duplicates.

Download Speed

1. Speeds: Data for maximum advertised down and up speeds were taken from file "New Jersey Maximum Advertised Speeds June 30 2012.xlsx". Comcast listed the same upload speed (7) and download speed (10) for all seven MSAs they serve so these values were used. (Note: all the streets included in the street-segment data submitted by Comcast had technology code of 40, so there was no need to insert a lower speed for code 41, as was done for census block data.)

Section 5: Clarification Questions and Responses

From: NJ Broadband Data Collection [mailto:ConnectingNJ@groups.appcomsci.com]
Sent: Wednesday, February 22, 2012 6:51 AM
To: 'Ruger, Michael'
Subject: NJBB Clarification

Michael,

We wanted to verify that our processing strategy is still appropriate. During the previous rounds, we had difficulties in mapping the street-level data you provided for the large census blocks. The data is generally the same, so we anticipate similar issues. The approach we have taken was to assume Comcast offered full coverage for a set of municipalities (the list you provided is attached.) You also named three municipalities where that approach would not be advisable (Mount Olive Twp, Toms River, Berkeley Twp.). Can we use that same approach during this submission? Can you provide an updated list of municipalities or confirm that the attached list still applies?

John Wullert
Manager - NJ BB Data Collection
Applied Communication Sciences
732-699-2687

From: Ruger, Michael [mailto:Michael_Ruger@comcast.com]
Sent: Wednesday, February 22, 2012 6:53 AM
To: 'connectingnj@groups.appcomsci.com'
Subject: Re: NJBB Clarification

John--

We have not changed our communities served so the same list and logic apply. Would it help if we provided address data?

Thanks--

Michael

From: Wullert, John R II

Sent: Wednesday, February 22, 2012 6:58 AM

To: 'Ruger, Michael'; 'connectingnj@groups.appcomsci.com'

Subject: RE: NJBB Clarification

Michael,

The process we defined works well for the communities you serve completely. However, if it is still the case that you do not cover Mount Olive Twp, Toms River, Berkeley Twp completely, then address level data might be helpful there.

John

From: Ruger, Michael [mailto:Michael_Ruger@comcast.com]

Sent: Wednesday, February 22, 2012 9:15 AM

To: Wullert, John R II

Subject: RE: NJBB Clarification

John—

Let me know if this helps.

Thanks--

Michael

Michael Ruger

Senior Director, Government Affairs

Comcast Cable Communications, LLC

One Comcast Center

Philadelphia, Pennsylvania 19103

(215) 286-7586

Note: attachment was a list of 5284 addresses, all in large census blocks, including Technology of Transmission.

From: Ruger, Michael [mailto:Michael_Ruger@comcast.com]
Sent: Wednesday, February 22, 2012 1:25 PM
To: NJ Broadband Data Collection
Subject: RE: NJBB Clarification

John—

I took another look at what I sent...it's not sufficiently comprehensive to help you.

Thanks--

Michael

Michael Ruger
Senior Director, Government Affairs
Comcast Cable Communications, LLC
One Comcast Center
Philadelphia, Pennsylvania 19103
(215) 286-7586

Subject: Questions about previous data submissions
Date: Fri, 27 Jul 2012 11:39:08 -0400
From: Connecting NJ <ConnectingNJ@appcomsci.com>
To: Michael_Ruger@comcast.com

Mr. Ruger,

The NJ Broadband Mapping team has received feedback from the NTIA regarding our 4/11 and 10/11 data submissions. The NTIA contracted the Michael Baker firm who, using third-party data, evaluated the quality of data submissions it received from its grantees. Since the feedback we have received for the last two submissions is consistent, we would like to share it with you. Please note that we were not given copies of the

third-party data, so the reasons for mismatches between the data we submitted and these third-party data are not always clear. Our intent is merely to share with you problematic fields, such as provider name or speed tier, that have a lot of mismatches, and do some further inquiry to better validate the provider's data. Obviously, by working more closely with you, we hope to reduce data mismatches in future submissions. Here are some of the questions we have about your data.

Comcast

- Most of your mismatches are on max advertised downstream speed (principally tier 10) and maximum advertised upstream speed (principally tier 7) for Cable Modem DOCSIS 3.0. (Please refer to speed tier tables below.)

Can you please explain how you are determining these speeds?

Thank you for your interest and continued support in our NJ BB Mapping program.

Best regards,

Cliff Behrens
Manager - NJ BB Data Collection
Applied Communication Sciences
ConnectingNJ@groups.appcomsci.com
732.699.2380

Subject:RE: Questions about previous data submissions
Date:Fri, 27 Jul 2012 15:52:01 +0000
From:Ruger, Michael <Michael_Ruger@comcast.com>
To:Connecting NJ <connectingnj@appcomsci.com>

Mr. Behrens--

I believe this issue is one that we have encountered in other states, and results from the method by which we submit data. We provide maximum advertised speed data by MSA, but not all Census blocks within an MSA may offer D3 service--in which case, a D2 Census block may reflect a maximum advertised speed coded as "10." Similarly, but less frequently, Comcast may be in the process of upgrading service to D3 but has not yet initiated advertising for D3 speeds in that area--in which case, a D3 Census block may reflect a maximum advertised speed coded as "7."

Accordingly, if a D2 Census block is in a MSA in which the overwhelming majority of Census blocks are coded as a "10," those D2 blocks should be coded as a "7." If a D3 Census block is in an MSA coded as a "7," that is likely due to the fact that Comcast has not begun advertising the D3 speeds in that MSA.

I believe in our last submission, Comcast showed 100% D3 blocks throughout the state of New Jersey and a maximum advertised download speed of "10." I am waiting for this cycle's data to confirm that this remains the case.

Please let me know if this helps, or if you would like to discuss.

Thanks--
Michael

Michael Ruger
Senior Director, Government Affairs
Comcast Cable Communications, LLC
One Comcast Center
Philadelphia, Pennsylvania 19103
(215) 286-7586

Subject:Re: Questions about previous data submissions
Date: Tue, 31 Jul 2012 13:30:07 -0400
From: Connecting NJ <ConnectingNJ@appcomsci.com>
To: Ruger, Michael <Michael_Ruger@comcast.com>

Mr. Ruger,

After reviewing your response below, our data collection team was wondering whether you can provide us with a means of distinguishing D2 and D3 census blocks within an MSA?

Cliff Behrens

Subject:RE: Questions about previous data submissions
Date: Tue, 31 Jul 2012 23:21:44 +0000
From: Ruger, Michael <Michael_Ruger@comcast.com>
To: Connecting NJ <connectingnj@appcomsci.com>

Cliff--

Let me take a look at the data that is being finalized to determine the extent of this issue in New Jersey based on the June 30 data. That will direct the easiest way to solve the issue.

Thanks--

Michael

Subject: RE: NJ Broadband Data Collection - Fall 2012
Date: Thu, 9 Aug 2012 14:01:29 +0000
From: Ruger, Michael <Michael_Ruger@comcast.com>
To: Connecting NJ <connectingnj@appcomsci.com>

Good morning--

I have Comcast's broadband data update ready to file. In the past I have sent the data directly to Shelly Bates; may I do so again this time?

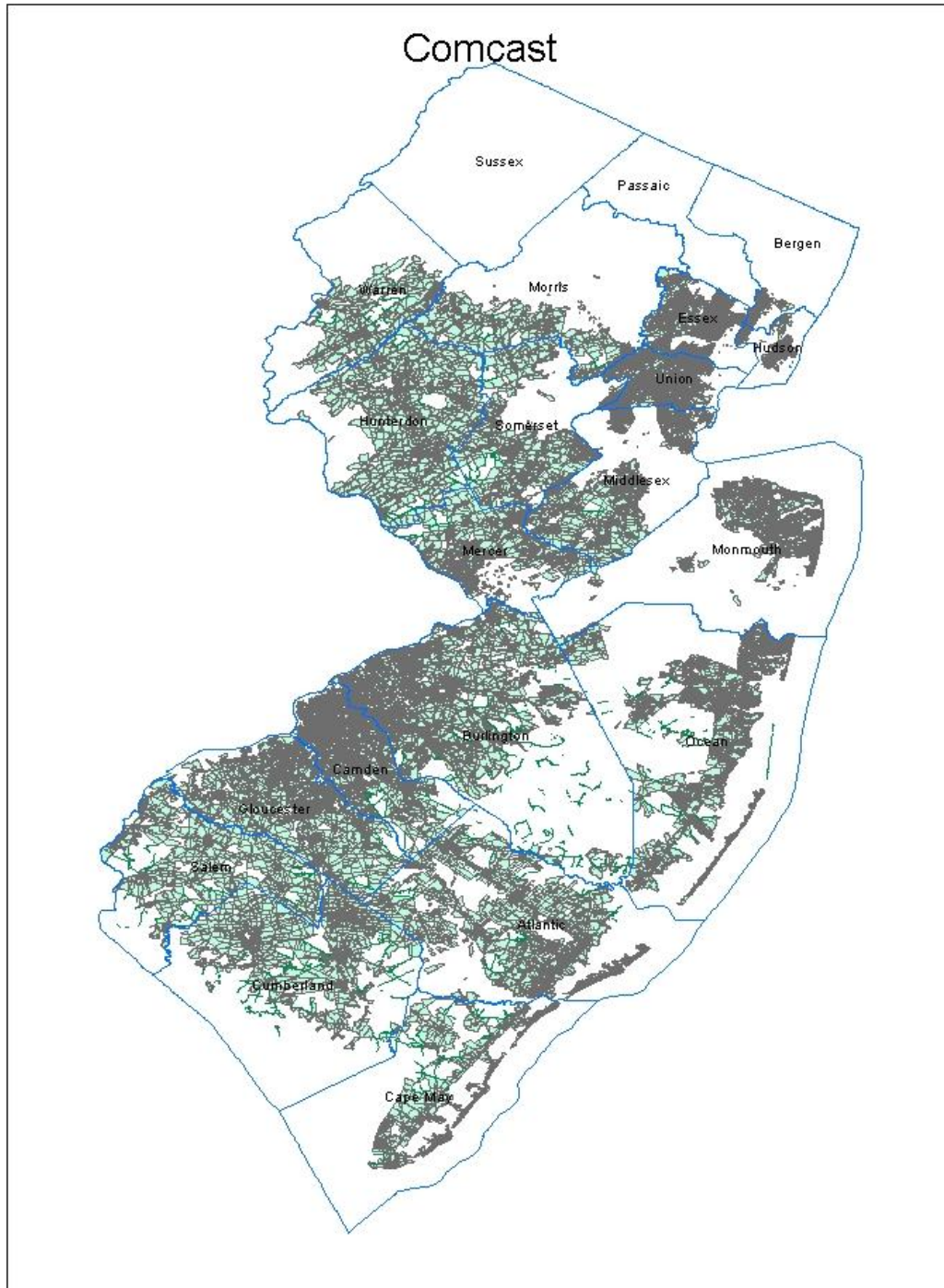
Also, I note that Comcast provides D3 throughout New Jersey, so there should be no disconnect between the Census block data and maximum advertised speeds.

Thanks--

Michael

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.8 Dieca/Covad

Connecting New Jersey - Broadband Provider Data Report

Provider: Dieca DBA Covad

Received: July 2012

Submission date: October 2012

This report presents details on processing broadband data for delivery to the National Telecommunications and Information Administration.

Sections:

- 23. NDA Status
- 24. Submission Overview
- 25. Submission File Details
- 26. Data Validations and Results
- 27. Data Transformation and Loading
- 28. Clarification Questions and Provider Responses
- 29. Notes and Open Issues
- 30. Overview Map of Submitted Data

Section 1: NDA Status

NDA was executed with NJ OIT.

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|--------------------------|--|---|---|
| ID | Provider name | | | DIECA Communications, Inc. |
| | “Doing business as” name | | | Covad Communications Company |
| | FRN | | | 0003753753 |
| FOR WIRELINE | | | | |
| Filetypes | | | | |
| File size | | | | |
| Speeds | Type | | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode,etc) | Speeds are provided at address (line segment) and census block granularity. |
| | Typical-upstream | | Address & block | |
| | Typical-downstream | | Address & block | |

| | | | | |
|---------------------------------------|--|--|-----------------|--|
| | Advertised-upstream | | Address & block | |
| | Advertised-downstream | | Address & block | |
| | Subscriber-weighted-up | | county level | |
| | Subscriber-weighted-down | | county level | |
| Technology Type | 10 (ADS), 20 (SDSL), 30 (other copper) | | | |
| End-user specification | Not provided | | | |
| Comments: | | | | |
| INTERCONNECTION DATA | | | | |
| ID | File **MiddleMileConnection*.txt | | | |
| File size | 1kb | | | |
| Ownership | 1 | | | |
| Transport Type | | | | |
| Data Rates/Capacity | 4, 5 | | | |
| Location | 5 locations | | | |
| Comments: Five (5) data rows provided | | | | |

Section 3: Submission File Details

Received a zip file by SECURE UPLOAD in July 2012:

| Size | Name |
|--------|---|
| 700790 | DIECACommunicationsInc._NJ_CONFIDENTIAL.zip |

The original archive contains the following five (5) files:

| Size | Name |
|----------|---|
| 82717 | NJBB_0003753753_AddressSegmentAvailability_DIECACommunicationsInc._CONFIDENTIAL.txt |
| 20361729 | NJBB_0003753753_CensusBlockAvailability_DIECACommunicationsInc._CONFIDENTIAL.txt |
| 2509 | NJBB_0003753753_CMAAadvertisedAvailability_DIECACommunicationsInc._CONFIDENTIAL.txt |

630 NJBB_0003753753_MiddleMileConnection_DIECACommunicationsInc._CONFIDENTIAL.txt
 2240 NJBB_0003753753_SubscriberWeightedNominalSpeed_DIECACommunicationsInc._CONFIDENTIAL.txt

Section 4: Data Validation and Results

Section 5: Data Transformation and Loading

The following describes the validations and transformations that were applied to the submitted data.

NTIA Table BB_ConnectionPoint_MiddleMile

Since the data is exactly the same as the last submission with one less record and there is no change in NTIA data model, the table is copied from the 2012 April table, using an ESRI tool, "ArcToolBox->Data Management Tools->General->Append" with NO_TEST in the Schema Type option and one record is removed.

Below is description for the April 2012 model as a reference.

Loaded from supplied file “..MiddleMileConnection..”. The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|---|
| PROVNAME | As supplied in column Provider Name |
| DBANAME | As supplied in column DBA Name |
| FRN | As supplied in column FRN |
| OWNERSHIP | As supplied in column Ownership |
| BHCAPACITY | As supplied in column Serving Facility Capacity |
| BHTYPE | As supplied in column Service Facility Type |
| LATITUDE | As supplied in column Latitude |
| LONGITUDE | As supplied in column Longitude |
| ELEVFEET | As supplied in column Elevation |
| STATEABBR | Set to “NJ” |
| FULLFIPSID | ID of containing census block from Year 2010 Census Bureau reference data |
| SHAPE | Point shape created using ESRI |

Internal notes on processing:

14. The data included the following fields:

- a. Provider Name
- b. DBA Name
- c. FRN
- d. Ownership
- e. Serving Facility Capacity
- f. Service Facility Type
- g. Latitude
- h. Longitude
- i. Street Address (blank)
- j. Elevation

15. There are 6 rows, different from the last submission. Viewing the data in ArcMap indicates that all points are in New Jersey.

16. Created an Excel sheet and imported to a geodatabase table.

(The column data format of the FRN should be Text, not General. Save the excel in the 97-2003 format)

17. Added a point shape to each row corresponding to the Latitude, Longitude pair by creating a feature class from the table using ArcCatalog's "Create Feature Class from XY Table" option. Specify WGS84 for the coordinate system of the points. Result is feature class middlemile_point_tol.

18. Added a column "geoid10" with the ID of the containing year 2010 census block via a spatial join of the points. Result is feature class middlemile_point_tol_cb.

19. Populated stateabbr and FRN column during data transformation and loaded table.

NTIA Table BB_Service_CensusBlock

Loaded from supplied file "..CensusBlockAvailability..". The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------------|---|
| PROVNAME | As supplied in column Provider_Name |
| DBANAME | As supplied in column DBA_Name |
| PROVIDER_TYPE | Set to 1 |
| FRN | As supplied in column FRN |
| STATEFIPS | Set to "34" (NJ) |
| COUNTYFIPS | Populated from Census_Block_ID (digits 3 to 5) |
| TRACT | Populated from Census_Block_ID (next 6 digits) |
| BLOCKID | Populated from Census_Block_ID (remaining 4 digits) |
| FULLFIPSID | As supplied in column Census_Block_ID |
| TRANSTECH | As supplied in column Technology_of_Transmission |

| | |
|------------|---|
| MAXADDOWN | As supplied in column Maximum_Advertised_Downstream_Speed |
| MAXADUP | As supplied in column Maximum_Advertised_Upstream_Speed |
| TYPICDOWN | As supplied in column Typical Downstream Speed |
| TYPICUP | As supplied in column Typical Upstream Speed |
| ENDUSERCAT | Set to null because not supplied |
| SHAPE | As found in Census Bureau year 2010 reference data |

Internal processing notes:

6. Following data fields were supplied:

- a. Provider Name
- b. DBA Name
- c. FRN
- d. Census Block ID
- e. Street NameStreet Segment ID (TLID)
- f. Technology of Transmission
- g. Maximum Advertised Downstream Speed
- h. Maximum Advertised Upstream Speed
- i. Typical Downstream Speed
- j. Typical Upstream Speed

7. The supplied text file has 214,332 rows which exceeds number of census blocks in New Jersey because multiple technologies were submitted.
8. Typical speeds were used as provided.
9. We used Census Bureau reference data for Year 2010 to locate and submit geographic features (i.e., shapes) for each census block.
10. Total rows (shapes) loaded is 214,331.
11. Validation rules produced a warning on 9,681 census blocks that had a transtech of 10 (ADSL) and a download speed code of 7 (10-25 Mbps). We reported this to the provider, who confirmed the submitted data. The provider offers ADSL2+, with a download speed of 15 Mbps, in select areas in New Jersey.

NTIA Table BB_Service_RoadSegment

Loaded from supplied File “..AddressSegmentAvailability..”. The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------|-------------------------------------|
| PROVNAME | As supplied in column Provider_Name |
| DBANAME | As supplied in column DBA_Name |
| PROVIDER_TYPE | Set to 1 |
| FRN | As supplied in column FRN |

| | |
|------------|--|
| ADMIN | Set to the least of the non-empty address numbers from TigerLine |
| ADDMAX | Set to the greatest of the non-empty address numbers from TigerLine |
| PREDIR | Set to null (no value supplied) |
| STREETNAME | As supplied (has all street components, not just name) |
| STREETTYPE | Set to null (no value supplied) |
| SUFFDIR | Set to null (no value supplied) |
| CITY | Set to null (no value supplied) |
| STATECODE | Set to "NJ" |
| ZIP5 | Set to zipl from TigerLine |
| ZIP4 | Set to null (no value available in reference data) |
| TRANSTECH | As supplied in column Technology_of_Transmission |
| MAXADDOWN | As supplied in column Maximum_Advertised_Downstream_Speed |
| MAXADUP | As supplied in column Maximum_Advertised_Upstream_Speed |
| TYPICDOWN | As supplied in column Typical Downstream Speed |
| TYPICUP | As supplied in column Typical Upstream Speed |
| SHAPE | Road segment shape from Year 2010 TigerLine reference data, as matched by TLID |

Internal processing notes:

1. The following data fields were submitted
 - a. Provider Name
 - b. DBA Name
 - c. FRN
 - d. Census Block ID
 - e. Technology of Transmission
 - f. Maximum Advertised Downstream Speed
 - g. Maximum Advertised Upstream Speed
 - h. Typical Downstream Speed
 - i. Typical Upstream Speed
2. There were 704 input rows. One was row was removed as a duplicate, in terms of county and Tiger Line ID. After a join against Census Bureau 2010 reference data, no rows were discarded based on compound key of county, TLID, and tech_transmission fields. Total rows (shapes) loaded is 703.

Section 6: Clarification Questions and Responses

From: NJ Broadband Data Collection [mailto:ConnectingNJ@groups.appcomsci.com]

Sent: Thursday, February 23, 2012 9:00 PM

To: 'Stefanie Santa-Esparza'
Cc: NJ Broadband Data Collection
Subject: NJ Broadband Clarification

Stefanie,

The NTIA has provided additional validation rules for us to apply to the data during this round. One of these rules raises a warning, and requires additional clarification, in cases where ADSL is reported with a speed code of 7 (10-25 Mbps). In the data you supplied, there are about 15,000 census blocks that meet this condition. Can you please confirm that these values are correct? A few of the census blocks with this combination are listed below.

Thanks for your help,

John Wullert
Manager - NJ BB Data Collection
Applied Communication Sciences
732-699-2687

340030010005000
340030010005001
340030010005002
340030010005003
340030010005004
340030010005005
340030010005006
340030010005008
340030010005010

From: Stefanie Santa-Esparza [mailto:Stefanie.Santa-Esparza@megapath.com]
Sent: Friday, February 24, 2012 12:21 PM
To: 'NJ Broadband Data Collection'
Subject: RE: NJ Broadband Clarification

John,

Our highest bandwidth asymmetric DSL is ADSL2+ for which we have a 15.0Mbps/1.0Mbps offering, in limited parts of the state. Actually, at the beginning of this month, we reduced our ADSL2+ deployment in NJ from 54

central offices down to 35 central offices, but the blocks specified in our Round 5 submission indeed represent our 2011 Year End coverage.

Thanks,

Stefanie

Subject: Questions about previous data submissions
Date: Fri, 27 Jul 2012 11:26:52 -0400
From: Connecting NJ <ConnectingNJ@appcomsci.com>
To: SSanta@covad.com

Stefanie,

The NJ Broadband Mapping team has received feedback from the NTIA regarding our 4/11 and 10/11 data submissions. The NTIA contracted the Michael Baker firm who, using third-party data, evaluated the quality of data submissions it received from its grantees. Since the feedback we have received for the last two submissions is consistent, we would like to share it with you. Please note that we were not given copies of the third-party data, so the reasons for mismatches between the data we submitted and these third-party data are not always clear. Our intent is merely to share with you problematic fields, such as provider name or speed tier, that have a lot of mismatches, and do some further inquiry to better validate the provider's data. Obviously, by working more closely with you, we hope to reduce data mismatches in future submissions. Here are some of the questions we have about your data.

Provider Name: DIECA Communications, Inc.; DBA Name: Covad Communications Co.

- Your data seem to have many provider name mismatches. Might this be attributed to recent M&A activities?
- On those records where the provider name matches the third-party data, there seem to be a large number of transfer technology mismatches, and these primarily involve transtech code 20 (SDSL) and code 30 (Other Copper Wireline).
- Most mismatches on max advertised downstream speed involve tiers 5 & 7. (Please refer to downstream speed tier table below.)
- Most mismatches on max advertised upstream speed involve tiers 3, 5 & 7. (Please refer to upstream speed tier table below.)

We are wondering whether you can help us better understand these discrepancies?

Thank you for your interest and continued support in our NJ BB Mapping program.

Best regards,

Cliff Behrens

Subject:RE: Questions about previous data submissions

Date: Thu, 2 Aug 2012 15:48:59 -0700

From: Katherine Mudge <Katherine.Mudge@megapath.com>

To: Connecting NJ <ConnectingNJ@appcomsci.com>

CC: Stefanie Santa-Esparza <Stefanie.Santa-Esparza@megapath.com>

Cliff:

Sorry for the delay in responding - I ended up on some unexpected business travel.

Here are our observations and responses to your questions. Once you've had a chance to review, please let us know if you have any other questions.

NJ: Your data seem to have many provider name mismatches. Might this be attributed to recent M&A activities?

Response: More than half of our lines in each state are supplied via ISP resellers, where we provide the underlying internet connectivity in a wholesale capacity for service that is otherwise branded, billed and supported as the ISP's own service. For over 90 of our resellers, we perform a layer 2 network handoff, such that the reseller's IP address space is what would be visible via the internet as well. This makes it impossible for a third party data collector to know these are being served by our last mile infrastructure without detailed cooperation from each ISP. Of course, if supplied a few example instances of these purported mismatches, we could readily provide an exact analysis.

NJ: On those records where the provider name matches the third-party data, there seem to be a large number of transfer technology mismatches, and these primarily involve transtech code 20 (SDSL) and code 30 (Other Copper Wireline).

Response: Our branding does not necessarily make it clear what underlying technologies are being used to provide service, so it is likely that a third party data collector has made incorrect assumptions in some situations. For example, we offer "TeleSpeed" and "Ethernet" branded services that may be utilizing symmetric DSL or other copper wireline technology. In a few cases, we also have legacy residential "TeleSurfer" services that may be utilizing symmetric or asymmetric DSL technology. Again, if we could be supplied a few examples, we could readily provide an exact analysis.

NJ: Most mismatches on max advertised downstream speed involve tiers 5 & 7. (Please refer to downstream speed tier table below.) AND Most mismatches on max advertised upstream speed involve tiers 3, 5 & 7. (Please refer to upstream speed tier table below.)

Response: In the case where a third party data provider may have found faster than reported speed, this may be due to the filing requirement that we report only services that can be installed within a typical service interval. From time to time, we also change our network deployment which could result in an increase or decrease in maximum available speed. Also, in our own direct business, we did not always sell our maximum provisionable speed, even though we made these offerings available to our resellers. We will be happy to provide more precise explanation if given actual examples.

Again, I trust that our additional information responds to your questions. Please let us know if you need anything else.

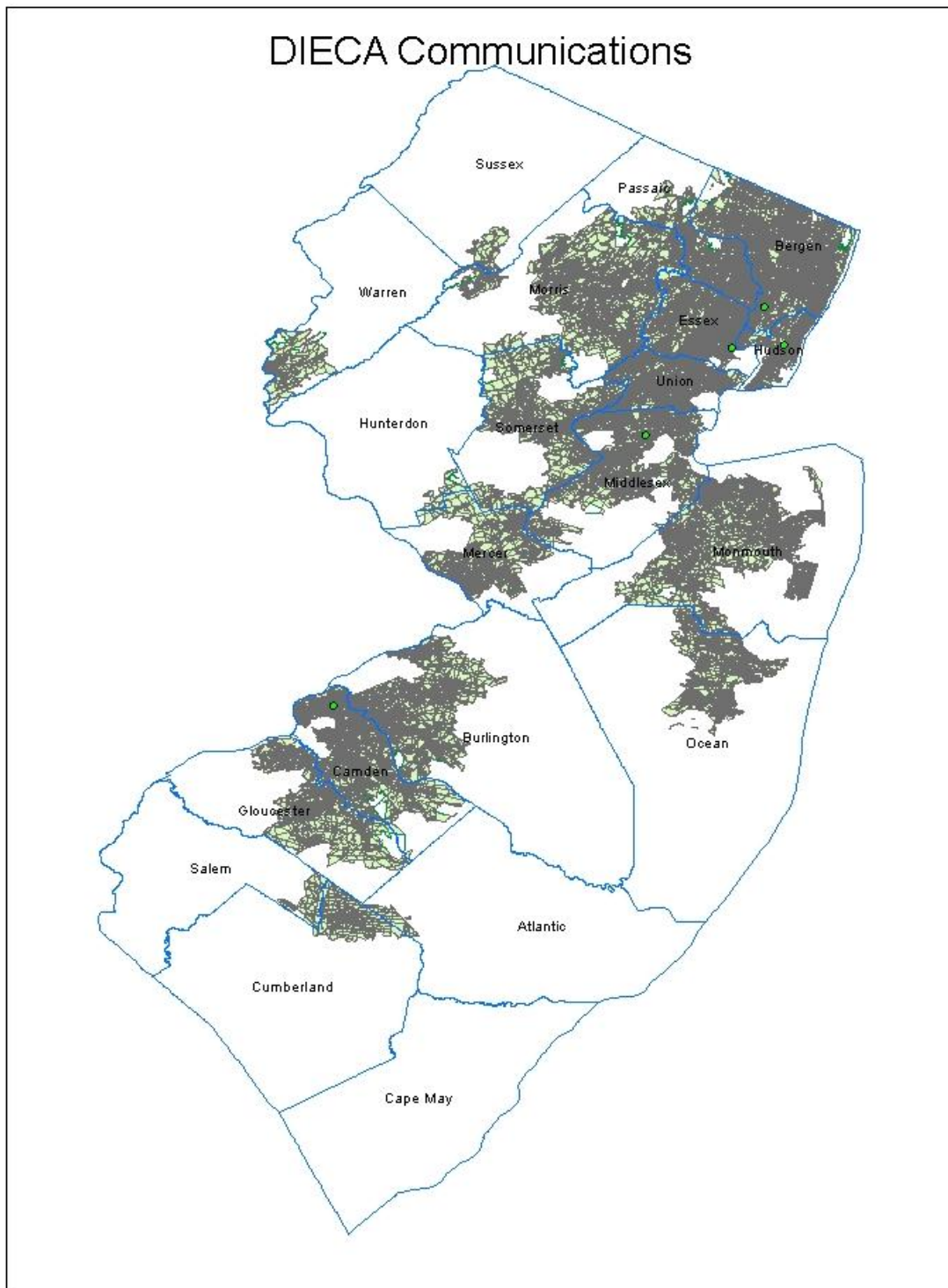
Katherine K. Mudge
Director, State Affairs & Litigation

1835-B Kramer Ln., Ste. 100
Austin, Texas 78758
(512) 794-6197 (T)
(512) 794-6006 (F)

Section 7: Notes and Open Issues

The provider submitted the file “..CMAAdvertisedAvailability..”, which provides three technology codes (10, 20, 30), MSA codes, and max advertised up and down speed codes. The max speed for a given technology is different for different MSAs. We did not use this data since max speed codes were provided on a row-by-row basis.

Section 8: Overview Map of Submitted Data



6.9 GOES Telecom

Broadband Provider Data Report

Provider: GOES Telecom

Received: August 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Section 1: NDA Status

None

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|----------------------------------|--|--|---|
| ID | Provider name | | | GOES Telecom |
| | “Doing business as” name | | | Not provided |
| | FRN | | | 0011437746 |
| | Holding company name | | | GOES |
| | Holding company number | | | 130548 |
| FOR WIRELINE | | | | |
| Filetypes | 1 Excel | | | |
| File size | worksheet 20 bytes, 23 data rows | | | |
| Speeds | Type | | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode,etc) | Submitted 24 addresses with upload and download speeds (generally in kbps) for each address. These are delivered speeds to customers. We located advertised speeds on their Web site, and provider confirmed that those speeds were available at each location they served. We will use the data from Web site as advertised speeds. Note that for two addresses, submitted speeds “10mpbh”. They confirmed this should be |
| | Typical-upstream | | Not provided | |
| | Typical-downstream | | Not provided | |
| | Advertised-upstream | | Not provided | |
| | Advertised-downstream | | Not provided | |
| | Subscriber-weighted-up | | Not provided | |

| | | | | |
|---|---|--|--------------|---|
| | Subscriber-weighted-down | | Not provided | 10Mbps. Note also that some speeds are listed as having faster upload speeds than download speeds. All of these values are less than broadband speeds, so are not relevant. No typical or subscriber weighted speeds were provided. |
| Technology Type | 10 (ADSL) and 70 (Terrestrial fixed wireless) | | | |
| End-user specification | None | | | |
| Comments: Provided a list of 24 customers and the speeds they are subscribed to. Most are 128K up, 512K down. | | | | |
| INTERCONNECTION DATA | | | | |
| ID | None provided | | | |
| File size | | | | |
| Ownership | | | | |
| Transport Type | | | | |
| Data Rates/Capacity | | | | |
| Location | | | | |
| Comments: | | | | |

Section 3: Submission File Details

Received 1 file by email:

| Size | Name |
|--------|------------------------|
| 20,000 | 20120228 Telcordia.xls |

The file contains a list of addresses and max speeds; e.g., the “up-to” limit of their rate plan. The addresses in this file appear to be for individual customers (as opposed to addresses of multi-tenant buildings in a central business district).

Section 4: Data Validation, Transformation and Loading

NTIA Table BB_Service_CensusBlock

Loaded from supplied file “20120228 Telcordia_update.xls” (24 data rows). The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------|---|
| PROVNAME | Set to “Global Online Electronic Services, Inc.” |
| DBANAME | Not supplied; set same as PROVNAME |
| PROVIDER_TYPE | Set to 1 |
| FRN | Set to “0011437746” |
| STATEFIPS | Set to “34” (NJ) |
| COUNTYFIPS | Populated from Census Block FIPS Code (digits 2-5) |
| TRACT | Populated from Census Block FIPS Code (next 6 digits) |
| BLOCKID | Populated from Census Block FIPS Code |
| BLOCKSUBGROUP | Set to null |
| FULLFIPSID | Populated from Census Block FIPS Code |
| TRANSTECH | As supplied in column Technology Code |
| MAXADDOWN | Set to code 4 per March 2011 email response to questions |
| MAXADUP | Set to code 3 per March 2011 email response to questions |
| TYPICDOWN | Set to null, not provided |
| TYPICUP | Set to null, not provided |
| SHAPE | Copied from Census Bureau 2010, as matched by spatial join on geocoded address point |

Internal processing notes:

7. Geocoded the addresses using the Google geocoder to obtain latitude, longitude value pairs. Of 24 original records, all were successfully geocoded.
8. Created point shapes using ESRI from lat, long value pairs.
9. Spatially joined the points with Census Bureau Year 2010 reference data to find the containing census block. This yielded census-block attributes including the block ID (“geoid10”).
10. Verified that all 24 records joined successfully with NJ census blocks
11. Dropped 16 records that did not have broadband speeds
12. Dropped 2 records because of duplicate census blocks (caused by multiple customer addresses in the same census block).

13. All remaining records were verified to be in small (< 2 square miles) census blocks.
14. Loaded the resulting data into an SDE feature class.

NTIA Table BB_Service_Wireless

Loaded using shapes from reference data for the records that indicates wireless technology. The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|--|
| PROVNAME | Set to "Global Online Electronic Services, Inc." |
| DBANAME | Not supplied; set same as PROVNAME |
| FRN | Set to "0011437746" |
| TRANSTECH | Set to 70 as supplied in XLS sheet |
| SPECTRUM | Set to 6 |
| MAXADDOWN | Set to 7 |
| MAXADUP | Set to 7 |
| TYPICDOWN | Set to null |
| TYPICUP | Set to null |
| STATEABBR | Set to "NJ" |
| SHAPE | Year 2010 Census Block shape obtained from reference data. |

Internal processing notes:

21. Processed, as described above (points 1 – 7).
22. Spectrum: Set to 6, Unlicensed
23. Speeds: The fixed-wireless link is reported with 10Mbph, which we confirmed with provider is actually 10Mbps in each direction (symmetric). That corresponds to NOFA speed code 7. Provider also noted that they only have one fixed-wireless site.

Validation rules produced a warning on the wireless shape record for the combination of upstream and downstream speed codes of 7 (10-25 Mbps) with a transtech code of 70 (Fixed Wireless - Unlicensed). The provider has only a single fixed wireless site, and it is used for point-to-point links, rather than to provide a coverage area. The provider confirmed that the speed is 10 Mbps.

Section 5: Clarification Questions and Responses

From: NJ Broadband Data Collection [mailto:ConnectingNJ@groups.appcomsci.com]

Sent: Friday, March 02, 2012 7:15 AM

To: 'georgeb@tricaps.com'

Subject: RE: Goes Telecom Telicordia data

George,

I wanted to confirm the speed values you included in the data you submitted. I have three questions:

1. In the past, we had used the data from your Web site to determine your maximum advertised upload and download speeds. I still see 1536K Downstream/768K Upstream as the fastest DSL speed you deliver. Is that correct?
2. You report two fixed wireless sites as "10mpbh". Is that really mega-bits-per-hour? That comes to about 2.8 Mbps. Is that correct?
3. When we have spoken in the past, you reported that you use fixed wireless for point-to-point links, rather than to cover a wider area. Is that still correct?

Thanks for your participation,

John Wullert

Manager - NJ BB Data Collection

Applied Communication Sciences

From: georgeb@tricaps.com [mailto:georgeb@tricaps.com]

Sent: Monday, March 05, 2012 11:08 AM

To: NJ Broadband Data Collection

Subject: Re: Goes Telecom Telicordia data

Hi John,

I got the answers. See blow.

Thanks,

George

George,

I wanted to confirm the speed values you included in the data you submitted. I have three questions:

1. In the past, we had used the data from your Web site to determine your maximum advertised upload and download speeds. I still see 1536K Downstream/768K Upstream as the fastest DSL speed you deliver. Is that correct?

Yes

2. You report two fixed wireless sites as "10mpbh". Is that really mega-bits-per-hour? That comes to about 2.8 Mbps. Is that correct?

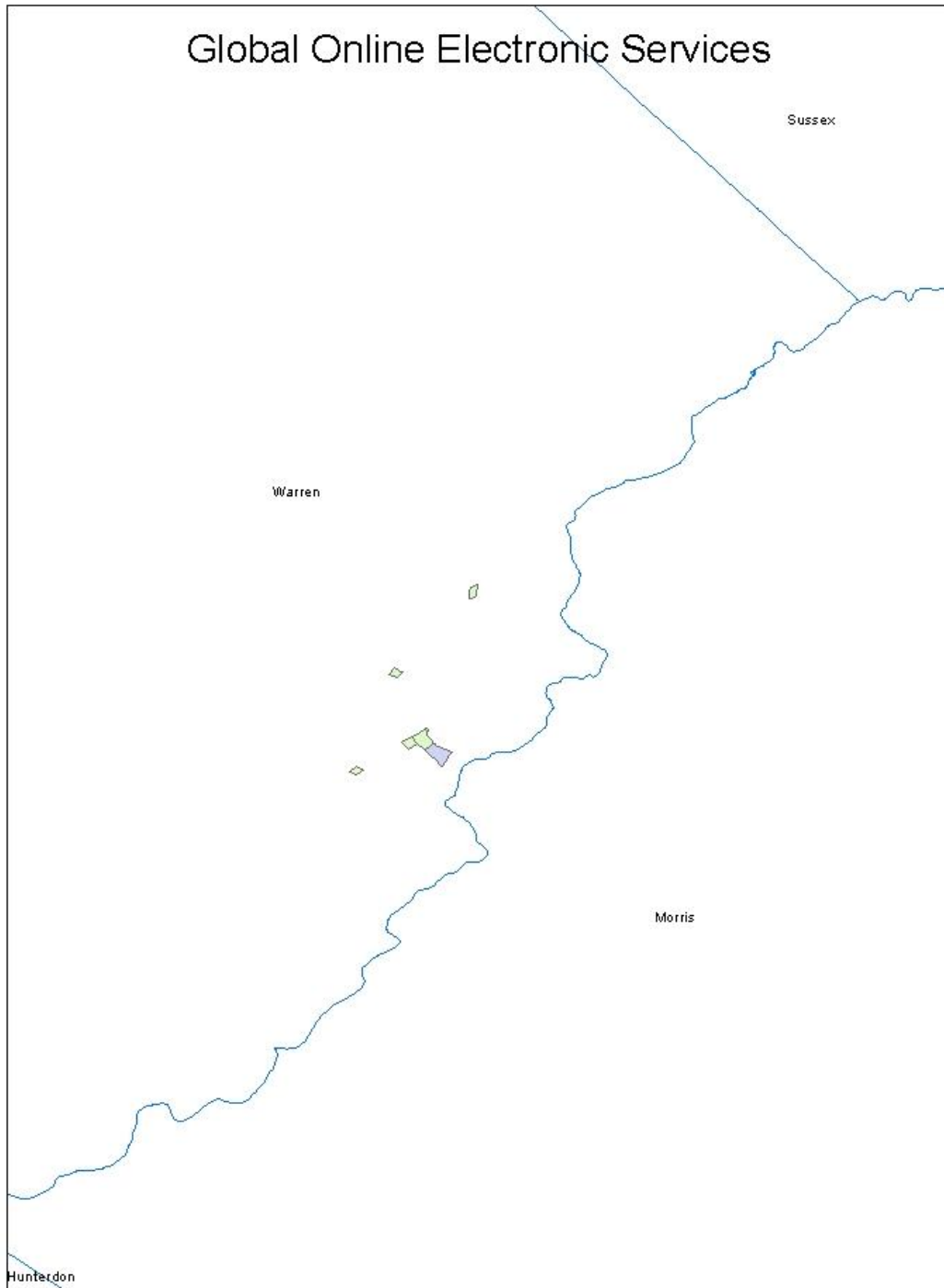
No, the correct speeds are 10mbps and we now only have a single fixed wireless link instead of two.

3. When we have spoken in the past, your reported that you use fixed wireless for point-to-point links, rather than to cover a wider area. Is that still correct?

Yes

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.10 Hometown Online

Connecting New Jersey - Broadband Provider Data Report

Provider: Hometown Online

Received: August 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Section 1: NDA Status

No NDA in place.

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|---|--|--|--|
| ID | Provider name | | | Hometown Online Inc. |
| | “Doing business as” name | | | Warwick Online |
| | FRN | | | 0006-6512-44 |
| FOR WIRELINE | | | | |
| Filetypes | Text | | | |
| File size | 1,764,352 bytes; 6,778 rows | | | |
| Speeds | Type | | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode,etc) | Provided list of customer locations with column “DSL speed avail”. This is probably downstream speed, but need to verify with provider. Communications with provider and validation via their Web site resulted in clarification: Max advertised ADSL speeds are: Downstream: 15 Mbps Upstream: 800 Mbps. |
| | Typical-upstream | | Not provided | |
| | Typical-downstream | | Not provided | |
| | Advertised-upstream | | Not provided | |
| | Advertised-downstream | | Not provided | |
| | Subscriber-weighted-up | | Not provided | |
| | Subscriber-weighted-down | | Not provided | |
| Technology Type | DSL – Previous interactions with provider revealed that Census tract 3714 has SDSL, all others are ADSL | | | |

| | |
|--|--------------|
| End-user specification | Not provided |
| Comments: Address data with some indications of qualification for different data services. | |
| INTERCONNECTION DATA | |
| ID | |
| File size | |
| Ownership | |
| Transport Type | |
| Data Rates/Capacity | |
| Location | |
| Comments: No connection-point data provided | |

Section 3: Submission File Details

Received one (1) file by EMAIL:

| | |
|-------------|-----------------------|
| Size | Name |
| 1,061,712 | NJ Final 8-14-12.xlsx |

The file contains 7054 rows of data. Each row has a street address. All rows have an indication of maximum possible DSL speed. Some indicate 5Mbps, some 15Mbps and some 30Mbps. Also has information about TV qualification, which we will ignore.

Section 4: Data Validation, Transformation and Loading

This section details the validations and transformations we applied to the provider submitted data.

NTIA Table BB_Service_CensusBlock

Loaded from the supplied file after geocoding. The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------------|-------------------------------------|
| PROVNAME | Set to "Hometown Online Inc." |

| | |
|---------------|---|
| DBANAME | Set to “Warwick Online” |
| PROVIDER_TYPE | Set to 1 |
| FRN | Set to “0006651244” |
| STATEFIPS | Set to “34” (NJ) |
| COUNTYFIPS | Populated from Census Block 2010 (digits 2-5) |
| TRACT | Populated from Census Block 2010 (next 6 digits) |
| BLOCKID | Populated from Census Block 2010 Code |
| BLOCKSUBGROUP | Set to null |
| FULLFIPSID | Populated from Census Block 2010 Code |
| TRANSTECH | Census blocks in census tracts starting with 3714 were set to code “20” (SDSL) All others set to code “10” (ADSL), (per provider email) |
| MAXADDOWN | Set to code “7” (range includes 15Mbps, per email) |
| MAXADUP | For ADSL: Set to code “3” (range includes 1Mbps, per email) For SDSL: Set to code “7” (range includes 15Mbps, per email) |
| TYPICDOWN | Set to null, not supplied |
| TYPICUP | Set to null, not supplied |
| SHAPE | Copied from Census Bureau TigerLine 2000, as matched by spatial join on geocoded address point |

Internal processing notes:

15. The following steps were performed when the data was submitted and the results were re-used for this round
 - a. All addresses were successfully geocoded using Arroyo with the Yahoo geocoder. Four records failed to spatially join on 2010 NJ Census Block shapes.
 - b. Created an excel sheet and imported to a geodatabase table.
 - c. Added point shapes corresponding to each Latitude, Longitude pair by creating a feature class from the table using ArcCatalog’s “Create Feature Class from XY Table” option.
 - d. Added a column containing the ID of the containing year 2010 census block via a spatial join of the point shapes and the census block shapes from reference data.
16. Discarded 6579 rows with duplicate census blocks, leaving 465 unique census blocks.
17. Discarded 3 census blocks larger than 2 square miles.
18. Loaded 462 blocks.
19. Validation rules produced a warning on 404 census blocks that had a transtech of 10 (ADSL) and a download speed code of 7 (10-25 Mbps). We searched the provider’s Web site for speed information. We only found one reference to speed packages, and these values and the Web page seemed out of date. We sent a request for clarification to the provider. The provider

acknowledged the validation requirements, indicated that the Web page found by our search was in error and confirmed the submitted speed values. The president of the company also indicated that they would be launching a new Web site with corrected speed information in the near future.

Section 5: Clarification Questions and Responses

From: Scott Sommerer [mailto:s.sommerer@wvtcg.com]
Sent: Wednesday, February 22, 2012 7:21 PM
To: NJ Broadband Data Collection
Cc: shelly.bates@oit.state.nj.us
Subject: RE: Reminder - NJ Broadband Data Collection

Dear Sir or Madam:

I have investigated with technicians and engineers. Our data is totally unchanged from last year's submission

Have A GREAT DAY

J. Scott Sommerer
845 986 2250

From: NJ Broadband Data Collection [mailto:ConnectingNJ@groups.appcomsci.com]
Sent: Thursday, February 23, 2012 8:11 PM
To: 'Scott Sommerer'
Cc: NJ Broadband Data Collection
Subject: RE: Reminder - NJ Broadband Data Collection

Scott,

As I mentioned, we have additional validations to perform. NTIA is questioning reported DSL speeds over 10 Mbps. In our previous interactions, you had given us the following speeds:

ADSL: 15 Mbps and uploads of 800 kbps.

SDSL: 15 Mbps up and down (available in Census tract 3714)

I see on your Web site now the packages you offer are at 512, 1 Mbps and 2 Mbps. Should we be using 2 Mbps as the download speed? Does this apply for both ADSL and SDSL?

Thanks in advance for the clarification.

John Wullert
Manager - NJ BB Data Collection
Applied Communication Sciences
732-699-2687

From: Scott Sommerer [mailto:s.sommerer@wvtcg.com]
Sent: Tuesday, February 28, 2012 10:35 AM
To: NJ Broadband Data Collection
Cc: Ginny Quackenbush
Subject: RE: Reminder - NJ Broadband Data Collection

John

I appreciate your validation requirements.

No, do not use 2 Mbps. Our website is inaccurate. Please use the submission from last year. With the higher speeds.

J. Scott Sommerer

From: Ginny Quackenbush [mailto:g.quackenbush@wvtc.com]
Sent: Tuesday, February 28, 2012 11:51 AM
To: Scott Sommerer; NJ Broadband Data Collection
Cc: Jean Beattie
Subject: RE: Reminder - NJ Broadband Data Collection

Good Afternoon,

FYI, we will be launching a new website by or before the end of March.

Our new website will have the correct information.

Thank you very much.

Virginia Quackenbush

President, Warwick Valley Telephone Company

47 Main Street - PO Box 592

Warwick, NY 10990

Section 6: Notes and Open Issues

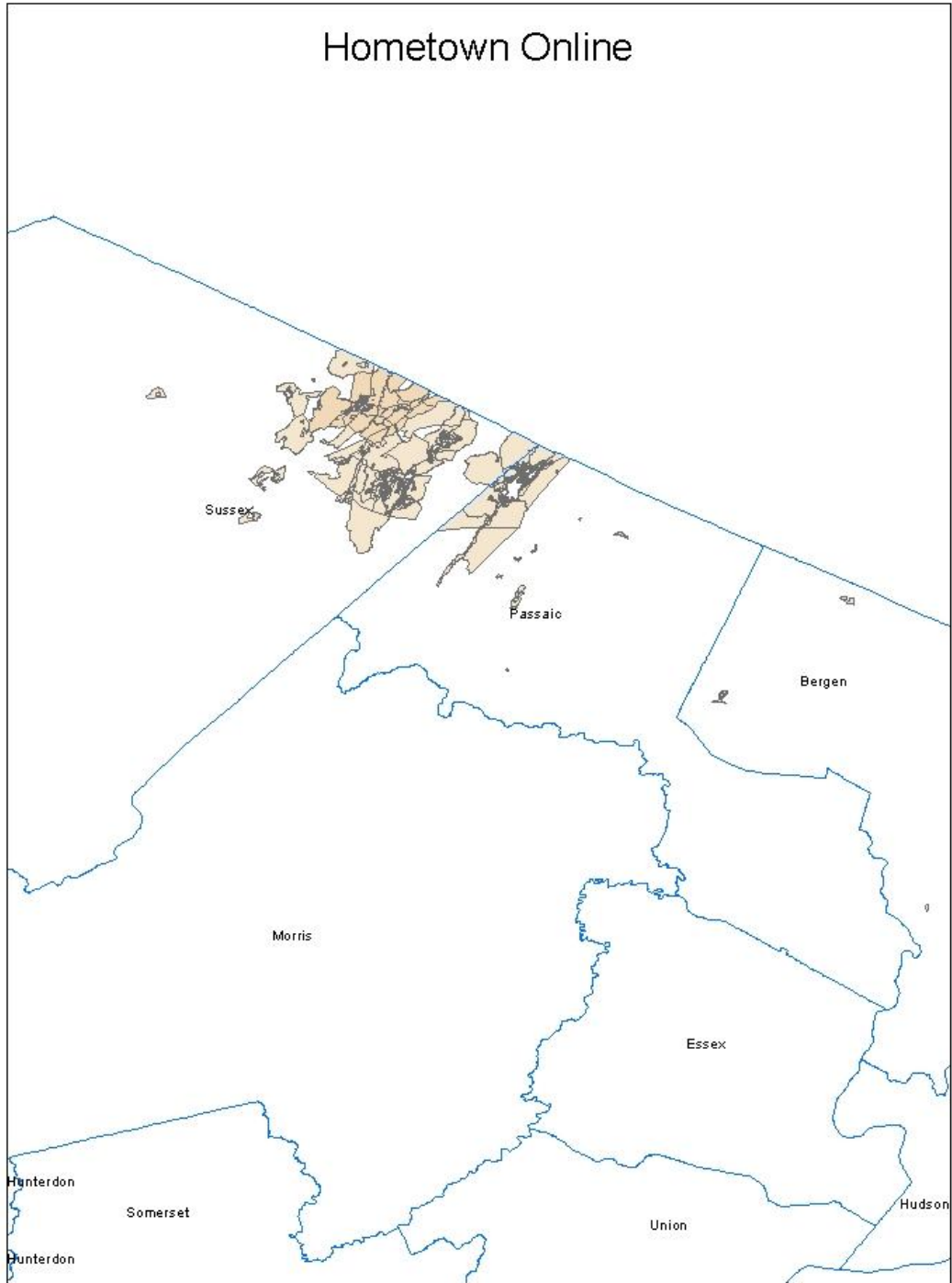
Provider had provided the following information via email in prior rounds and confirmed again this round:

Maximum advertised download speed is 15 Mbps for both ADSL and SDSL

Maximum upload speed for ADSL is 800 Kbps

SDSL is available in census tract 3714xx, all other locations are ADSL

Section 7: Overview Map of Submitted Data



6.11 HughesNet Communications

Connecting New Jersey - Broadband Provider Data Report

Provider: HughesNet Communications Inc.

Received: August 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Section 1: NDA Status

NONE

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|--|--|--|---|
| ID | Provider name | | Hughes Network Systems, LLC | |
| | “Doing business as” name | | HughesNet | |
| | FRN | | 0017434911 | |
| FOR WIRELINE | | | | |
| Filetypes | CSV file with list of Year 2000 census blocks, plus email information on speed | | | |
| File size | | | | |
| Speeds | Type | | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode,etc) | Submitted CSV file with list of 141,363 records of Y2000 census blocks, specified by fips code, census tract and block. Note that this exceeds number of Y2000 census blocks in NJ. Email message contained an description of speeds: 2Mbps down, 300Kbps up. The corresponding speed range codes are 4 down, 2 up. Spectrum is 9, satellite. |
| | Typical-upstream | | Not provided | |
| | Typical-downstream | | Not provided | |
| | Advertised-upstream | | Provided | |
| | Advertised-downstream | | Provided | |
| | Subscriber-weighted-up | | Not provided | |
| | Subscriber-weighted-down | | Not provided | |
| Technology | Code 60 (Satellite) | | | |

| | |
|-----------------------------------|--|
| Type | |
| End-user specification | |
| Comments: | |
| INTERCONNECTION DATA: NONE | |
| ID | |
| File size | |
| Ownership | |
| Transport Type | |
| Data Rates/Capacity | |
| Location | |
| Comments: Not provided | |

Section 3: Submission File Details

Received an email containing a link to the submission data (census blocks) together with the necessary credentials. All other information reused from the previous rounds.

Section 4: Data Validation, Transformation and Loading

NTIA Table BB_Service_Wireless

The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|--------------------------------------|
| PROVNAME | Set to "Hughes Network Systems, LLC" |
| DBANAME | Set to "HughesNet" |
| FRN | Set to 0017434911 |
| TRANSTECH | Set to 60 |
| SPECTRUM | Set to 9 per translation shown below |
| MAXADDOWN | Set to 4, see below. |

| | |
|-----------|--|
| MAXADUP | Set to 2", see below. |
| TYPICDOWN | Not provided, set to null |
| TYPICUP | Not provided, set to null |
| STATEABBR | Set to "NJ" |
| SHAPE | Single shape created from CBs (See below). |

Internal notes on processing:

24. Spectrum: No statement was provided. The NTIA data model has a single column for spectrum. As per the latest clarifications, satellite corresponds to NTIA "SPECTRUM USED" code value 9.
25. We concatenated the fips code, census tract and block values into a census block ID. In some cases the census tract values had less than six digits. In some cases the block id had less than four digits. In these cases, leading zeros were added to the values to pad the values to the correct length.
26. In 21 cases, the values for block ID and census tract were filled in with spaces. We attempted to pad these out with zeros, but the resulting census block IDs did not match any NJ census block. These 21 records represent the amount by which the submission exceeded the count of Y2000 NJ census blocks. These were dropped.
27. We verified that all of the resulting census block IDs were unique.
28. We compared the census block IDs generated from the submission with the set of 141,342 Y2000 census blocks for New Jersey. All NJ census blocks (large and small) were matched. .
29. Speeds: For maximum advertised speeds we encoded the down speed as value 4 (range 1.5-3 Mbps) and encoded the up speed as value 2 (range 200 Kbps -- 768 Kbps).
30. We merged the census blocks into a single shape with the suffix "_dissol" using the ArcGIS "Dissolve" tool.
31. The resulting shape passed all NTIA validations

Section 5: Clarification Questions and Responses

From: Alok Mathur [mailto:Alok.Mathur@hughes.com]
Sent: Monday, March 12, 2012 1:17 PM
To: Wullert, John R II
Cc: Mark Wymer
Subject: RE: NJ Broadband Data Collection

John

You may download listing of each of the FIPS Code, Census Tract and Block where Hughes Network coverage is available at download speeds of up to 2 mbps and upload speeds of up to 300 kbps.

<https://REDACTED>

username: REDACTED
password: REDACTED

For the most recent data, please use the following folder;

[/ Home/ ex_hns_pickup/ 201201 - Census 2000/](#)

Thanks

Alok

Alok Mathur

PMP, CISA, CIPP, CRISC

Senior Director – Revenue Management

Hughes Network Systems, LLC., Germantown, MD 20876, USA.

Subject:Re: URGENT: Response Requested: Get your Broadband Services on the National Broadband Map

Date: Fri, 07 Sep 2012 17:59:31 -0400

From: Connecting NJ <ConnectingNJ@appcomsci.com>

To: Alok Mathur <Alok.Mathur@hughes.com>

Alok,

Sorry for another note but the word I am getting back from the person who is loading all of the data we receive is that the attached CSV file is effectively identical to the zipped file (and to the file from your previous submission). Moreover, after downloading the files once again (from the exact location you indicated) and comparing the data with the previous submission, there are no differences. After unzipping, the date on the file is 1/27/2012 even though the zip file itself has the date 8/14/2012.

Please understand that, if necessary, we are willing to resubmit your data without updates; I just was operating on the impression that you wished to submit data more recent than the last April submission. Please let me know what you want to do.

Regards,

Cliff

Subject:RE: URGENT: Response Requested: Get your Broadband Services on the National Broadband Map

Date: Mon, 10 Sep 2012 08:39:08 -0400

From: Alok Mathur <Alok.Mathur@hughes.com>

To: Connecting NJ <ConnectingNJ@appcomsci.com>

Cliff

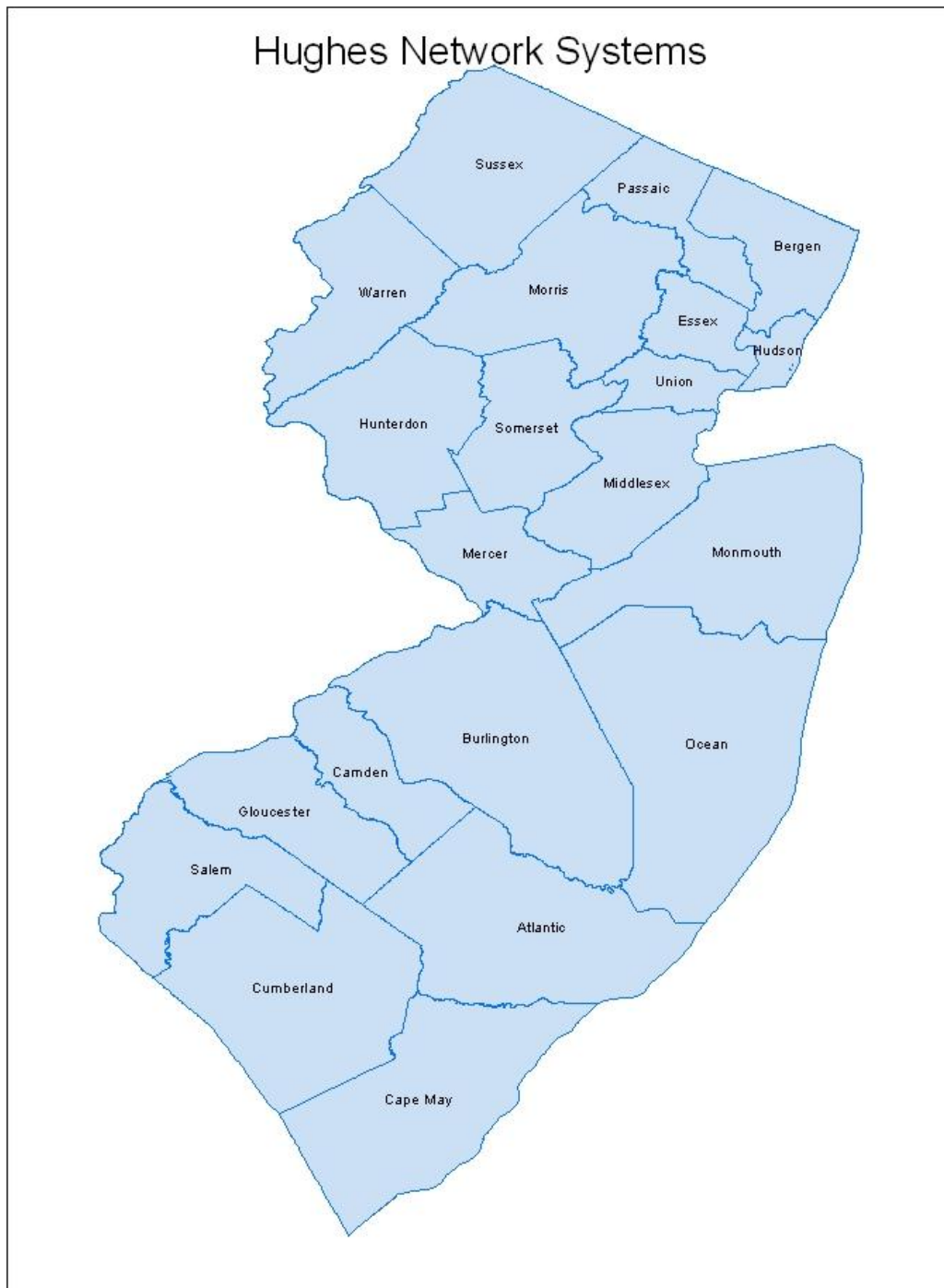
Your observation is correct. There is no change in the HughesNet coverage since last submission. HughesNet is available in the entire state of New Jersey. Files were updated on 8/14 to ensure that we have the most recent data.

Thanks

Alok

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.12 Jersey Shore Wireless

Broadband Provider Data Report

Provider: Jersey Shore Wireless

Received: March 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

For October 2012:

This is a stub report, since data from the previous submission was reused unchanged. The complete report from the previous submission begins on the next page. Notable differences from the processing done on the previous submission are listed next.

Section 1: NDA Status

None

Section 2: Submission Overview

| AVAILABILITY DATA | | | |
|-------------------|---|--|---|
| ID | Provider name | | Jersey Shore Wireless |
| | “Doing business as” name | | Duxpond Communications |
| | FRN | | 0011543782 |
| FOR WIRELESS | | | |
| Filetypes | shapefile collection: shp/dbf/prj/shx, mdb, gdb, imagefile etc. | | Images files (jpegs) depicting coverage maps in various regions in New Jersey |
| Speeds | Type | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode) | |
| | Upstream max adv | 10 Mbps listed on Web site | |
| | Downstream max adv | Not specifically advertised. Listed as 800 kbps | |
| | Upstream typical | N/A | |

| | | | |
|-----------------------------|--------------------------|-----|------------|
| | Downstream typical | N/A | |
| | Subscriber-weighted | N/A | |
| Technology Type | Spectrum (Mhz, FCC code) | | Unlicensed |
| Comments: | | | |
| INTERCONNECTION DATA | | | |
| ID | NONE | | |
| File size | | | |
| Ownership | | | |
| Transport Type | | | |
| Data Rates/Capacity | | | |
| Location | | | |
| Comments: | | | |

Section 3: Submission File Details

Provider pointed us to information on their Web site, including coverage maps and speed offerings.

Section 4: Data Validation, Transformation and Loading

The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|---------------------------------|
| PROVNAME | Set to "Jersey Shore Wireless" |
| DBANAME | Set to "Duxpond Communications" |
| FRN | Set to 0011543782 |
| TRANSTECH | Set to 70, for fixed wireless |
| SPECTRUM | Set to "6" for unlicensed |
| MAXADDOWN | Set to "6", see below. |
| MAXADUP | Set to "3", see below. |

| | |
|-----------|---------------------------|
| TYPICDOWN | Not provided, set to null |
| TYPICUP | Not provided, set to null |
| STATEABBR | Set to "NJ" |
| SHAPE | Generated, see below |

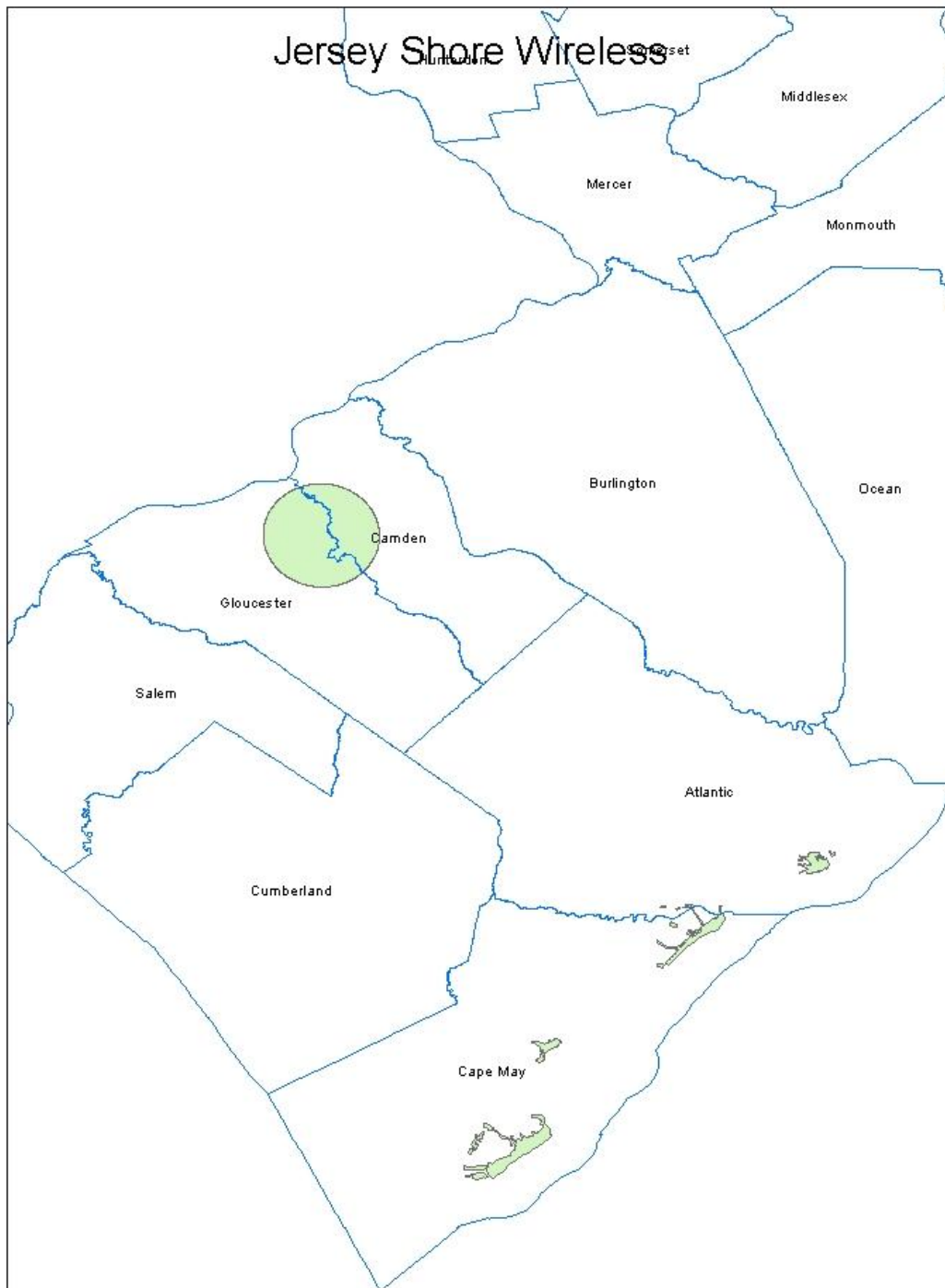
Internal notes on processing:

1. Provider directed us to their Web site, which included image files (jpeg) depicting coverage maps, along with listings of the speed plans they offer.
2. We manually created shape files that replicated the coverage in their image files to produce the SHAPE
3. Their Web site had two different listings for download speeds, one showing speeds of 1, 2 and 5 Mbps and the other showing speeds of 1, 2, 3 and 10 Mbps. Given the discrepancy between the two lists, and without any confirmation from the provider, we elected to map this to speed tier 6, ranging from 6 to 10 Mbps.
4. The Web site did not include advertised upload speeds. There was an indication of typical upload speeds of 800 Kbps. We mapped that value to a speed tier of 3.

Section 5: Clarification Questions and Responses

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.13 Leap/Cricket

Broadband Provider Data Report

Provider: Leap Cricket

Received: August 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Section 1: NDA Status

NDA with NJ OIT in place

Section 2: Submission Overview

| AVAILABILITY DATA | | |
|-------------------|--|--|
| ID | PROVIDER NAME | Leap Wireless International, Inc. |
| | DBA NAME | Cricket Communications, Inc. |
| | FRN | 0002963528 |
| | Holding company name: | Leap Wireless International, Inc." |
| | Holding company number: | 130730 |
| FOR WIRELESS | | |
| Filetypes | shapefile corresponding to NJ terrestrial mobile wireless coverage (type 80) | |
| Speeds | Type | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode) |
| | Upstream max adv | yes (for entire shapefile) given in tier |
| | Downstream max adv | yes (for entire shape) given in tier |
| | Upstream typical | no. |
| | Downstream typical | no. |
| | Subscriber-weighted | no. |

| | | |
|--------------------------------|----------------|--------------------|
| Technology Type | Spectrum : yes | 3 (PCS) and 4(AWS) |
| Comments: | | |
| INTERCONNECTION DATA | | |
| ID | | |
| File size | | |
| Ownership | | |
| Transport Type | | |
| Data Rates/Capacity | | |
| Location | | |
| Comments: no IC data provided. | | |

Quick loading results:



Figure 1. Loading results

Section 3: Submission File Details

1 zip file containing 6 files by (EMAIL, SECURE UPLOAD):

| Name | Size |
|--|----------|
| NJ_Broadband_Map.zip | 1,287 KB |
| Cricket Communications - Wireless Record Format.xlsx | 12 KB |
| NJ_Broadband_Map_region.dbf | 1 KB |
| NJ_Broadband_Map_region.prj | 1 KB |
| NJ_Broadband_Map_region.shp | 2,008 KB |
| NJ_Broadband_Map_region.shx | 1 KB |
| NJ_Broadband_Map_region.TAB | 2 KB |

Section 4: Data Validation, Transformation and Loading

Loaded from the supplied file, with transformations as:

| Table Column | Data Source / Transformation |
|--------------|---------------------------------|
| PROVNAME | As supplied in column prov_name |
| DBANAME | As supplied in column dba_name |

| | |
|-----------|--|
| FRN | Set to " 0002963528" |
| TRANSTECH | As supplied in column tech_trans |
| SPECTRUM | Set to "4" per translation shown below |
| MAXADDOWN | As supplied in column down_speed. |
| MAXADUP | As supplied in column up_speed.. |
| TYPICDOWN | Not supplied, set to null |
| TYPICUP | Not supplied, set to null. |
| STATEABBR | Set to "NJ" |
| SHAPE | As supplied. |

Internal notes on processing:

5. The shape file contains a single row with a multipolygon shape (see above for preview picture). The columns identify that the technology of transmission is wireless and that two different spectrum ranges are in use.
6. The supplied shape uses geographic coordinate system GCS_WGS_1984, same as that required by the NTIA data model. No geographic transformation was required, but the XY Tolerance values differ if the shape file is imported trivially into the geo-database. Imported shape then mapped to separate shape with proper tolerance which resulted in a new feature class with the suffix "_tol".
7. NTIA requires shapes to be contained in the NJ state boundary. Although we visually verified that it is the case, we clipped the shape using ESRI: Analysis Tools-> Extract -> Clip with, select feature class refdata_2010.tl_2010_34_state10_wgs. The feature class has the suffix "_clip"
8. Spectrum: Leap provided "Y" value in the columns spectrum_pcs and spectrum_aws. In response to previous queries on this, the provider had indicated that they covered separate areas, with PCS coverage limited to a few counties, but did not provide separate shapes. We sent a request again. Therefore, we uniformly use value 4 (AWS) for the entire coverage, at this time.

Section 5: Clarification Questions and Responses

From: NJ Broadband Data Collection [mailto:ConnectingNJ@groups.appcomsci.com]

Sent: Thursday, February 23, 2012 8:42 PM

To: 'Douglas White'

Cc: 'ConnectingNJ@research.telcordia.com'

Subject: RE: State broadband mapping, 5th round submission for Cricket

Doug,

We had asked previously, but wanted to see if there was any change. Are you able to generate separate shape files for the AWS and PCS coverage areas?

John Wullert
Manager - NJ BB Data Collection
Applied Communication Sciences
732-699-2687

From: NJ Broadband Data Collection [<mailto:ConnectingNJ@groups.appcomsci.com>]
Sent: Tuesday, February 28, 2012 10:05 AM
To: Douglas White
Cc: ConnectingNJ@research.telcordia.com
Subject: NJ Broadband Clarification

Doug,

We have reviewed the data you submitted and have discovered two anomalies:

1. The FRN included in your shape file is 5927056. We have your FRN number as 0002963528. Is this latter number still correct?
2. The transtech number in your shape file is 160. This is an invalid value. We have your transtech as 80 (Terrestrial Mobile Wireless). Is this still correct?

Thanks for your help.

John Wullert
Manager - NJ BB Data Collection
Applied Communication Sciences
732-699-2687

From: Douglas White [<mailto:dougwhite@cricketcommunications.com>]
Sent: Friday, March 02, 2012 7:18 PM
To: NJ Broadband Data Collection
Cc: ConnectingNJ@research.telcordia.com
Subject: RE: NJ Broadband Clarification

John –

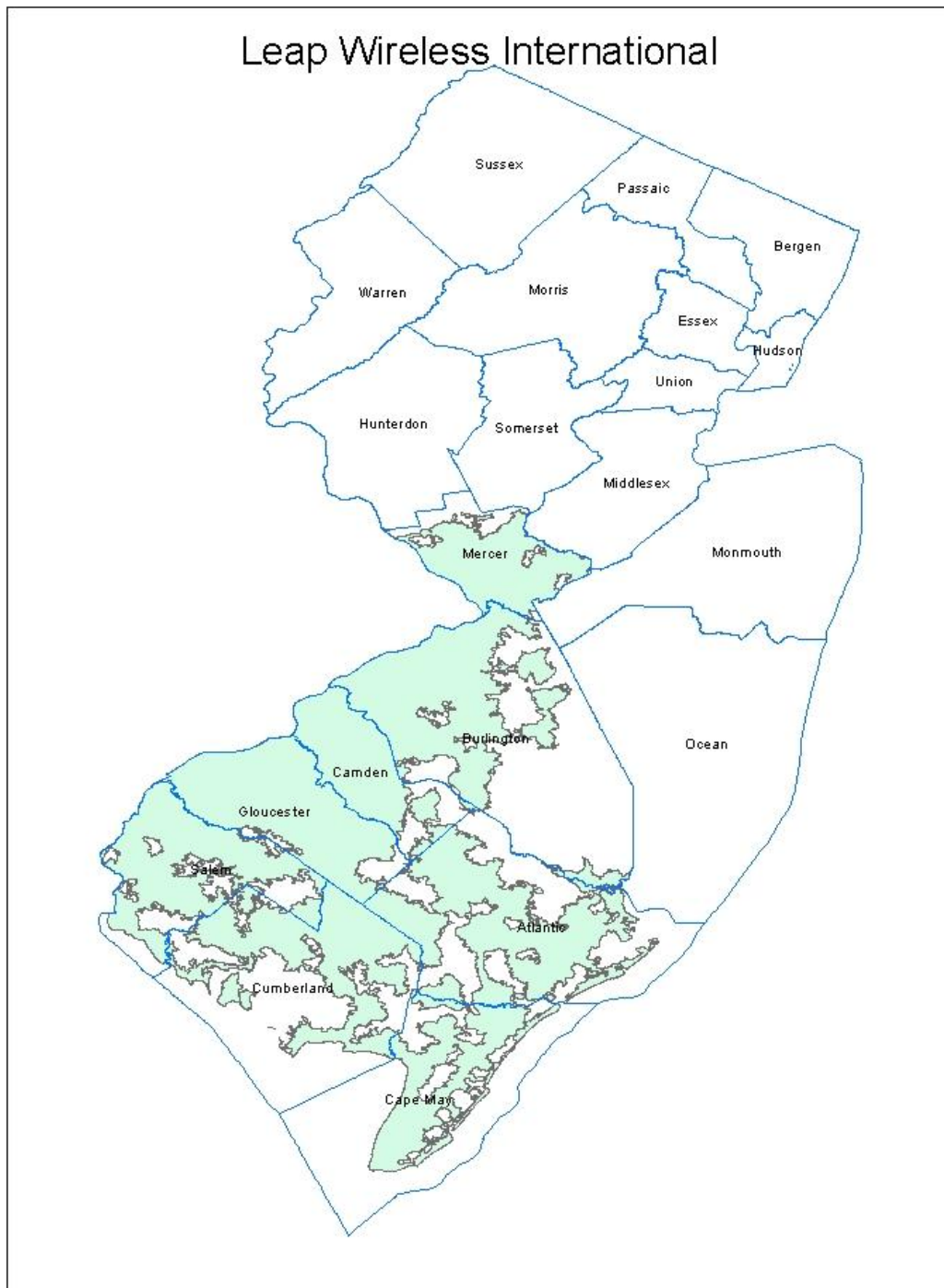
I'm told that the NJ data we previously sent was incorrect. Please find attached the tables with the correction. The FRN is 2963528 and the technology is 80, are correct though.

Please contact me with any questions. Thanks,

-Doug

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.14 Level3 Networks

Connecting New Jersey - Broadband Provider Data Report

Provider: Level3 Networks, Inc.

Received: August 2011

Submission date: October 2012

This report presents details on processing of broadband data for delivery to the National Telecommunications and Information Administration.

For October 2012:

This is a stub report, since data from the previous submission was reused unchanged. The complete report from the previous submission begins on the next page. Notable differences from the processing done on the previous submission are listed next.

For April 2012:

The Service provider stated there is no change in data for the April 2012 Submission.

We copied the Oct 2011.

Sections:

- 31. NDA Status
- 32. Submission Overview
- 33. Submission File Details
- 34. Data Validations and Results
- 35. Data Transformation and Loading
- 36. Clarification Questions and Provider Responses
- 37. Notes and Open Issues

Section 1: NDA Status

No NDA executed.

Section 2: Submission Overview

| AVAILABILITY DATA | | |
|-------------------|--------------------------|-----------------------------|
| ID | Provider name | Level 3 Communications, LLC |
| | “Doing business as” name | Level 3 |
| | FRN | 0003723822 |

| FOR WIRELINE | | | | |
|---|---|--|--------------------|---------------------------------------|
| Filetypes | Text file spreadsheets | | | |
| File size | 350 data rows | | | |
| Speeds | Type | | Address level data | All set to same value: 11 (>= 1gpbs) |
| | Typical-upstream | | Yes | |
| | Typical-downstream | | Yes | |
| | Advertised-upstream | | Yes | |
| | Advertised-downstream | | Yes | |
| | Subscriber-weighted-nominal speed | | Not provided | |
| Technology Type | 50 (optical carrier/fibre) | | | |
| End-user specification | Yes (addresses) | | | |
| Comments: typical and Advertised UP and DOWN are ALL THE SAME VALUE: 11 (>= 1gpbs) | | | | |
| INTERCONNECTION DATA | | | | |
| ID | | | | |
| File size | text spreadsheet with 338 rows. (See comment) | | | |
| Ownership | Not provided | | | |
| Transport Type | provided | | | |
| Data Rates/Capacity | provided | | | |
| Location | Address provided as well as lat/long | | | |
| Comments: A large number of duplicate rows were confusing. This is worth asking the provider. | | | | |
| Provider indicates that they are separate instances and should NOT be removed as duplicates. | | | | |

Section 3: Submission File Details

Received 2 files by secure upload:

| Size kb | Name |
|---------|---|
| 45 | AddressAvailability_NewJersey_8-18-2011.txt |
| 41 | MiddleMile_New Jersey_8-18-2011.txt |

Section 4: Validations and Results

The “address” file has 350 rows. All speed codes set the same, code 11 (1+ Gbps), suggesting these are all commercial customers.

The “middlemile” file has 338 rows, including many rows that are exact duplicates which we will have to discard despite the provider’s assurances that they are “different”.

Section 5: Data Transformation and Loading

The standard NDA prohibits us from submitting address-level data to the NTIA. Instead, we discover the census block for each customer address, and then report the census block shape drawn from Census Bureau TigerLine reference data.

NTIA Table BB_ConnectionPoint_MiddleMile

Loaded from the supplied tab-separated file. The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|---|
| PROVNAME | As supplied in column “DBA” (no provider name supplied separately) |
| DBANAME | As supplied in column “DBA” |
| FRN | As supplied in column “FRN” after removing dashes |
| OWNERSHIP | Set to null (not supplied) |
| BHCAPACITY | As provided in column “Serving Facility Capacity” |
| BHTYPE | As provided in column “Serving Facility Type” |
| LATITUDE | As supplied |
| LONGITUDE | As supplied |
| ELEVFEET | As supplied (all zero values) |
| STATEABBR | Set to “NJ” |
| FULLFIPSID | ID of containing census block from Year 2010 Census Bureau TigerLine reference data |
| SHAPE | Point shape created using ESRI ArcDesktop |

Internal notes on processing:

20. Imported the data to a geodatabase table
21. Added a point for each Latitude, Longitude pair by creating a feature class from the table using ArcCatalog's "Create Feature Class from XY Table" option.
22. Added a column containing the ID of the containing year 2010 census block via a spatial join of the points and the census block shapes from reference data. All records successfully spatially joined on 2010 NJ Census Block shapes.
23. Discarded 149 records with identical lat, long values and addresses.
24. Loaded 188 records.

NTIA Table BB_Service_CensusBlock

Loaded from the supplied tab-separated file. The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------------|---|
| PROVNAME | As supplied in column "DBA" (no provider name supplied separately) |
| DBANAME | As supplied in column "DBA" |
| PROVIDER_TYPE | Set to "1" |
| FRN | As supplied in column "FRN" |
| STATEFIPS | Set to "34" (NJ) |
| COUNTYFIPS | Populated from Census Block FIPS Code (first 3 digits) |
| TRACT | Populated from Census Block FIPS Code (next 6 digits) |
| BLOCKID | Populated from Census Block FIPS Code |
| FULLFIPSID | Populated from Census Block FIPS Code |
| TRANSTECH | As supplied in column "Technology of Transmission" |
| MAXADDOWN | As supplied in column "Maximum Advertised Download Speed" |
| MAXADUP | As supplied in column "Maximum Advertised Upload Speed" |
| TYPICDOWN | Set to null (see below) |
| TYPICUP | Set to null (see below) |
| ENDUSERCAT | Set to null (see below) |
| SHAPE | Copied from Census Bureau TigerLine 2010, as matched by spatial join on the geocoded address |

Internal processing notes:

20. Geocoded the addresses using an Arroyo flow and the Yahoo geocoder, leaving the result with address and lat, long data in an Excel spreadsheet. All addresses were successfully geocoded,

although 1 was not placed in New Jersey.

21. Imported the spreadsheet to an ESRI geodatabase table
22. Added point shapes corresponding to each Latitude,Longitude pair by creating a feature class from the table using ArcCatalog's "Create Feature Class from XY Table" option
23. Added a column containing the ID of the containing year 2010 census block using ArcCatalog's spatial join feature. The newly created point shapes are joined against census block shapes from reference data. All but three records successfully spatially joined on 2010 NJ Census Block shapes.
24. Discarded typical speeds since they were in all cases identical to maximum advertised speeds, not measured values.
25. The end user category value as originally supplied applied to an address, but we must anonymize the addresses and report census blocks. The NTIA directs us to report the "predominant" end-user category, which is not supplied here.
26. Discarded 79 duplicate census block records, which result from multiple addresses in the same census block.
27. Loaded 270 records.

Section 6: Clarification Questions and Responses

From: NJ Broadband Data Collection [<mailto:ConnectingNJ@research.telcordia.com>]

Sent: Wednesday, August 24, 2011 9:14 AM

To: Diamond, Greg

Cc: ConnectingNJ@research.telcordia.com

Subject: NJBB Data Clarification

Greg,

We have reviewed the data you submitted to the New Jersey Broadband Mapping program. We have one question. The middle-mile data you submitted in MiddleMile_New Jersey_8-18-2011.txt includes many rows that are duplicates. Can we safely discard these duplicate entries?

Thanks for you participation,

John Wullert

Manager – NJ BB Data Collection

Telcordia Technologies

732-699-2687

From: Diamond, Greg [<mailto:Greg.Diamond@Level3.com>]
Sent: Wednesday, August 24, 2011 1:17 PM
To: ConnectingNJ@research.telcordia.com
Subject: RE: NJBB Data Clarification

John, this issue came up with our CA submission as well. We investigated and determined that there were in fact some differences, albeit small, with some of the sites such that each site is in fact unique. Give that, I would not treat them as duplicates.

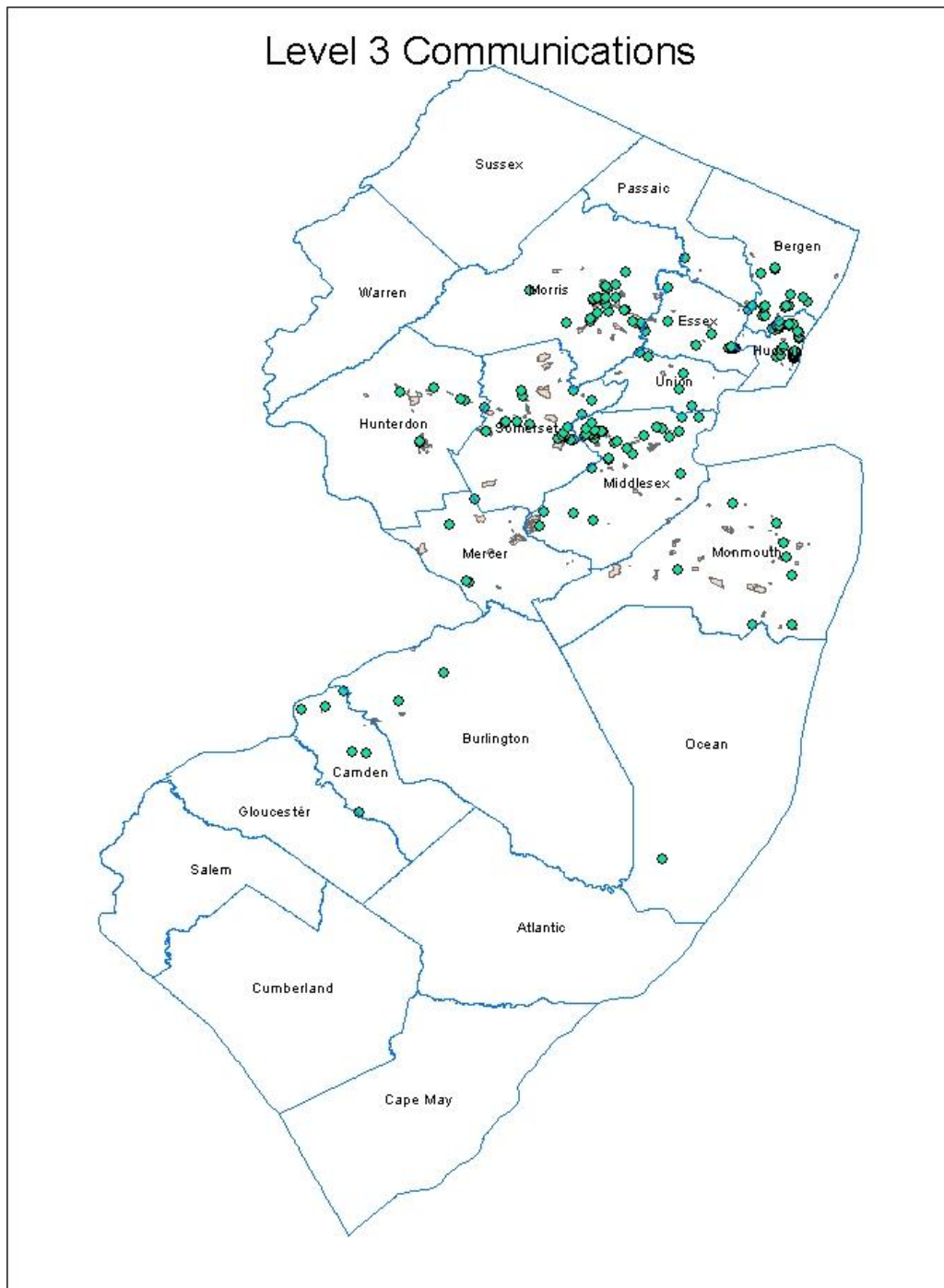
Greg

PLEASE NOTE MY NEW ADDRESS AND TELEPHONE NUMBER

Gregory T. Diamond
Regulatory Counsel
Level 3 Communications
1505 5th Avenue
Suite 501
Seattle, WA 98110
Desk: 206-652-5608
Mobile: 303-562-7378

Section 7: Notes and Open Issues

Section 8: Overview Map of Submitted Data



6.15 Monmouth Telephone and Telegraph

Connecting New Jersey - Broadband Provider Data Report

Provider: Monmouth Telephone and Telegraph

Received: August 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Section 1: NDA Status

Signed NDA is in place with NJ OIT.

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|---|--|--|--------------------------------|
| ID | Provider name | | | Monmouth Telephone & Telegraph |
| | “Doing business as” name | | | |
| | FRN | | | |
| 0004325205 | | | | |
| FOR WIRELINE | | | | |
| Filetypes | Csv (NJBB_0004325205_AddressLevelAvailability june 30 2012.csv) | | | |
| File size | 94 Kbytes, 946 records | | | |
| Speeds | Type | | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode,etc) | |
| | Typical-upstream | | Address | |
| | Typical-downstream | | Address | |
| | Advertised-upstream | | Address | |
| | Advertised-downstream | | Address | |
| | Subscriber-weighted-up | | None provided | |
| | Subscriber-weighted-down | | Not provided | |
| Technology | Code 30 – other copper line | | | |

| | |
|---|---|
| Type | Code 50 - Optical Carrier/Fiber to the End User |
| End-user specification | Code 4 – Medium or Large Enterprise |
| Comments: | |
| INTERCONNECTION DATA | |
| ID | |
| File size | |
| Ownership | |
| Transport Type | |
| Data Rates/Capacity | |
| Location | |
| <p>Comments: No middle mile was provided at this time. Monmouth gave the following explanation:</p> <p>Please note that Table 8, “Middle-mile and Backbone Interconnection Points Data”, is not included per instructions on page 11 of the Data Submission Specifications” “Middle-mile and Backbone Interconnection Point information should focus on the connectivity at a point. That is, if a point at which network elements or segments are joined would not reasonably offer the possibility of technical connectivity with the network[s], it should not be reported”.</p> | |

Section 3: Submission File Details

The data are very similar to the last submission.

Received 1 zip file:

| Size | Name |
|------|-----------------------|
| 20Kb | Broadband Mapping.zip |

The zip archive contains the following files:

| Size | Name |
|------|--|
| 94Kb | NJBB_0004325205_AddressLevelAvailability june 30 2012.csv |
| 1Kb | NJBB_0004325205_CMAAdvertisedAvailability June 30 2012.csv |

1Kb NJBB_0004325205_SubscriberWeightedNominalSpeed June 30 2012.csv
 22Kb Read Me.doc

File details:

NJBB_0004325205_AddressLevelAvailability june 30 2012.csv:

The file contains 946 records. Note that data file does not have a header row, but follows (largely) the ADDRESS DATA table from the NTIA “State Broadband Data and Development Grant Program” document. The columns and the corresponding headers are:

| | |
|-----|-----------------|
| A | - Provider Name |
| C | - FRN |
| D-L | - Address |
| M | - EndUserCat |
| N | - TransTech |
| O | - MaxAdvDown |
| P | - MaxAdvUp |
| Q | - TypicDown |
| R | - TypicUp |

The FRN is missing leading zeros. Most of the zip codes do not have the required leading zeros. It was established (prior interactions) that the DBA is Monmouth Telephone & Telegraph. Certain addresses will need to be fixed for geocoding (also per prior interactions). Some records have speed tiers of 2 or less.

NJBB_0004325205_CMAAdvertisedAvailability June 30 2012.csv

The file contains 16 records. Note that data file does not have a header row, but follows the CMA data submission template that we posted on the connectingnj web site. The columns and the corresponding headers are:

| | |
|---|-----------------|
| A | - Provider Name |
| C | - FRN |
| D | - CMA |
| E | - TransTech |
| F | - MaxAdvDown |

G - MaxAdvUp

NJBB_0004325205_SubscriberWeightedNominalSpeed June 30 2012.csv

The file contains 16 records. Note that data file does not have a header row, but follows the Subscriber-Weighted Nominal Speed data submission template that we posted on the connectingnj web site. The columns and the corresponding headers are:

A - Provider Name
 C - FRN
 D - CMA
 E - TransTech
 F - SubsWeightedSpeed

Read Me.doc

The file contains explanations of the submission.

Section 4: Data Validation, Transformation and Loading

NTIA Table BB_Service_CensusBlock

We loaded from supplied Excel spreadsheet after suitable geo-spatial operations that obtained latitude/longitude pairs for each address. The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------------|--|
| PROVNAME | Set to "Monmouth Telephone & Telegraph" |
| DBANAME | Set same as PROVNAME |
| PROVIDER_TYPE | Set to 1 |
| FRN | Set to "0004325205" |
| STATEFIPS | Set to "34" (NJ) |
| COUNTYFIPS | Populated from Census Block FIPS Code (first 3 digits) |
| TRACT | Populated from Census Block FIPS Code (next 6 digits) |

| | |
|---------------|---|
| BLOCKID | Populated from Census Block FIPS Code |
| BLOCKSUBGROUP | Set to null |
| FULLFIPSID | Populated from Census Block FIPS Code |
| TRANSTECH | As supplied in column TransTech |
| MAXADDOWN | As supplied in column MaxAdvDown |
| MAXADUP | As supplied in column MaxAdvUp |
| TYPICDOWN | Set to null |
| TYPICUP | Set to null |
| SHAPE | Copied from Census Bureau TigerLine 2000, as matched by spatial join on geocoded address |

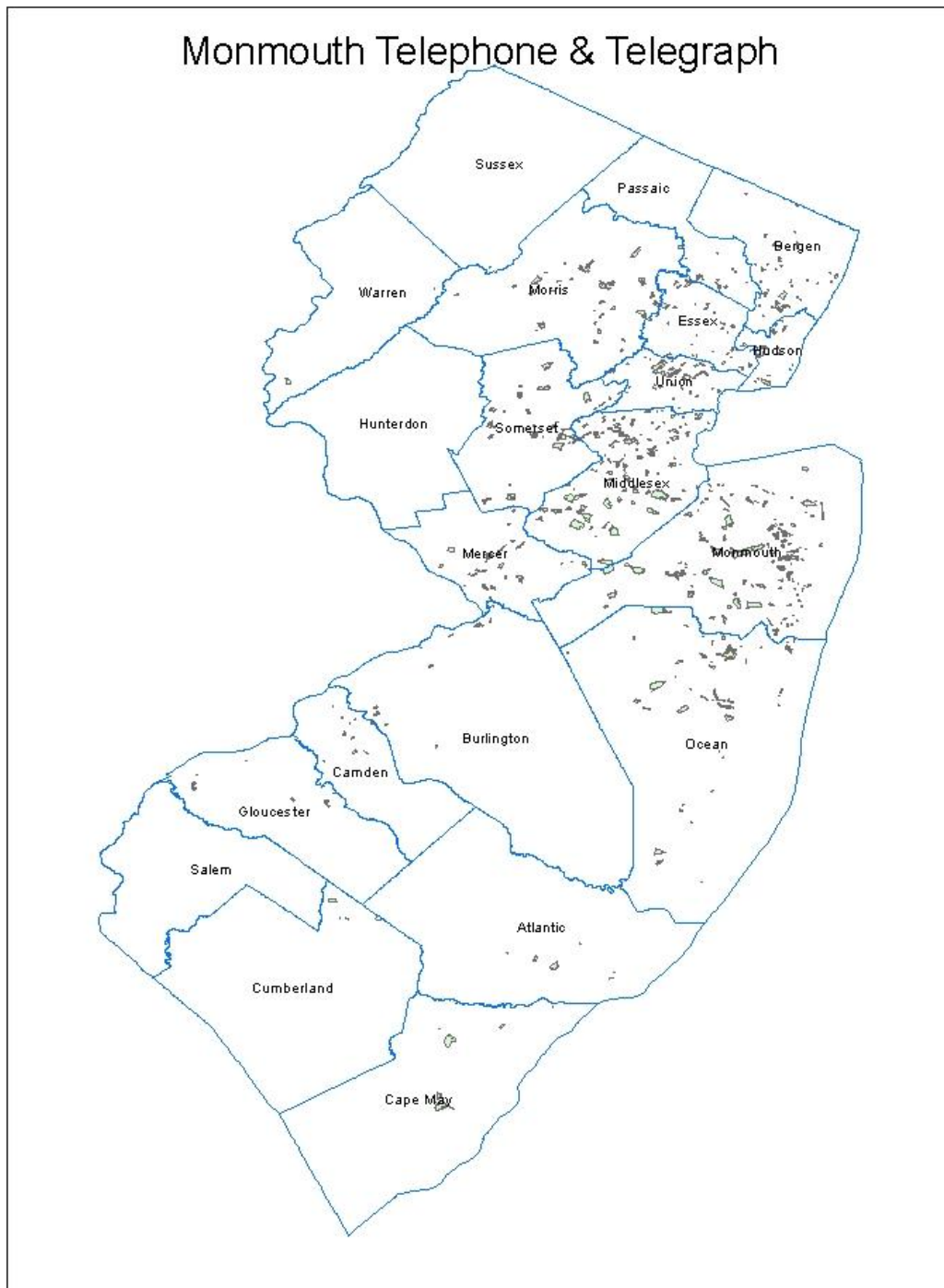
Internal processing notes:

28. All NJBB_0004325205_AddressLevelAvailability.csv records were successfully geo-coded using the Google and Yahoo geocoders to obtain a Latitude, Longitude pair for each.. Addresses that yielded results with accuracy of 6 or below were excluded; only intersection (7) or rooftop (8) accuracy is acceptable.
Created an Excel sheet and imported it to a geodatabase table.
29. Added point shapes corresponding to each Latitude, Longitude pair by creating a feature class from the table using ArcCatalog's "Create Feature Class from XY Table" option.
30. Added a column containing the ID of the containing year 2010 census block via a spatial join of the point shapes and the census block shapes from reference data.
31. Discarded one record that failed to spatially join on the 2010 NJ Census Block shapes.
32. Discarded 72 rows because the max adv down speed code was 1 or 2, which is not broadband according to the requirements of the NOFA
33. Discarded 163 rows with duplicate census blocks while preserving the greatest speed. These result from multiple customers in the same census block.
34. Discarded 4 large census blocks (greater than 2 square miles).
35. Final record count loaded is 703.

Section 5: Clarification Questions and Responses

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.16 Network Billing Systems

Connecting New Jersey - Broadband Provider Data Report

Provider: Network Billing Systems

Received: February 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

For October 2012:

This is a stub report, since data from the previous submission was reused unchanged. The complete report from the previous submission begins on the next page. Notable differences from the processing done on the previous submission are listed next.

Section 1: NDA Status

None

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|--------------------------|--|--------------------------------|-----------------------------|
| ID | Provider name | | | Network Billing Systems LLC |
| | “Doing business as” name | | | |
| | FRN | | | |
| 0004965141 | | | | |
| FOR WIRELINE | | | | |
| Filetypes | | | | |
| File size | | | | |
| Speeds | Type | | Spatial Resolution: address | |
| | Typical-upstream | | | |
| | Typical-downstream | | | |
| | Advertised-upstream | | | |
| | Advertised-downstream | | | |
| | Subscriber-weighted- | | | |

| | | | | |
|---|------------------------------|--|--|--|
| | up | | | |
| | Subscriber-weighted-down | | | |
| Technology Type | Types: | | | |
| End-user specification | | | | |
| Comments: | | | | |
| INTERCONNECTION DATA | | | | |
| ID | | | | |
| File size | | | | |
| Ownership | Confirmed via email - Leased | | | |
| Transport Type | Fiber | | | |
| Data Rates/Capacity | T1 to OC 48 (2.488 Gbps) | | | |
| Location | Provided by street address | | | |
| One email with three addresses of their fiber ring interconnections, two in New Jersey. | | | | |

Section 3: Submission File Details

Received information via email:

Section 4: Data Validation, Transformation and Loading

NTIA Table BB_ConnectionPoint_MiddleMile

The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|--------------------------------------|
| PROVNAME | Set to "Network Billing Systems LLC" |
| DBANAME | Set to "Network Billing Systems LLC" |
| FRN | Set to "0004965141" |
| OWNERSHIP | Set to null, not provided |
| BHCAPACITY | Set to 5, OC-48 is 2.5Gbps |

| | |
|------------|---|
| BHTYPE | Set to 1, transport facility is fiber |
| LATITUDE | As computed from address |
| LONGITUDE | As computed from address |
| ELEVFEET | Set to "0" (zero) |
| STATEABBR | Set to "NJ" |
| FULLFIPSID | ID of containing census block from Year 2010 Census Bureau TigerLine reference data |
| SHAPE | Created using ESRI ArcDesktop |

Internal notes on processing:

25. Used the provider name, DBA name, and FRN from FCC Form 477 reference data.
26. The following steps were performed for the October 2011 submission and the results re-used here:
 - a. Geocoded the address to obtain a Latitude, Longitude value pair. All middle-point addresses were successfully geocoded using Arroyo with Yahoo geocoder.
 - b. Imported the resulting data to a geodatabase table.
 - c. Added a point for the Latitude, Longitude pair by creating a feature class from the table using ArcCatalog's "Create Feature Class from XY Table" option.
 - d. Added a column containing the ID of the containing year 2010 census block via a spatial join of the points and the census block shapes from reference data. All records successfully spatially joined on 2010 NJ Census Block shapes.
27. Based on provider email response, set ownership value to leased.
28. Loaded 2 records.

Section 5: Clarification Questions and Responses

From: Ray Wood [mailto:RayW@nbsvoice.com]
Sent: Wednesday, February 22, 2012 4:07 PM
To: NJ Broadband Data Collection
Cc: shelley.bates@oit.state.nj.us
Subject: FW: Reminder - NJ Broadband Data Collection

John/Shelley,

Nothing has changed on our end – sorry this is late, in this chain you will see my other responses.

If this does not suffice, please let me know.

Ray Wood
NBS
973-638-2155

From: Ray Wood
Sent: Tuesday, August 16, 2011 3:11 PM
To: 'ConnectingNJ@research.telcordia.com'
Cc: shelley.bates@oit.state.nj.us
Subject: RE: Reminder - NJ Broadband Data Collection

This is what I submitted – I think last summer.

Does this suffice?

To: Telcordia (NJ BB Data Collection)
From: Ray Wood (NBS, Product Manager).
Re: NJ BB Data Collection

I believe that we qualify for the BB Data Collection. However, what we do have that qualifies is only a portion of our business.

I don't believe we qualify as a fixed broadband or mobile broadband service provider.

However, we probably do qualify as a middle mile infrastructure provider.

We have a fiber ring that runs through the addresses listed below:

60 Hudson Street
NY, NY
(Carrier Hotel)

155 Halsey Street
Newark, NJ 07102
(Carrier Hotel)

282 Main Street

Little Ferry NJ
(Verizon Central Office)

We can offer bandwidth increments from T1 to OC-48.

Please let me know if you require further detail on this.

Thank you,

Ray Wood
Product Manager
NBS
973-638-2155

From: NJ Broadband Data Collection [mailto:ConnectingNJ@groups.appcomsci.com]
Sent: Wednesday, February 22, 2012 5:57 PM
To: 'Ray Wood'; 'NJ Broadband Data Collection'
Cc: 'shelley.bates@oit.state.nj.us'
Subject: RE: Reminder - NJ Broadband Data Collection

Ray,

This is great. The NTIA is collecting data every six months, and wants us to get revised data or verify previous data.

A couple of clarifications:

1. I am assuming you lease space at these facilities, rather than own them. Is that true in all three cases?
2. When you say you can offer T1 to OC-48, how is that configured? Do you resell facilities from other providers to connect to your locations?

John Wullert
Manager - NJ BB Data Collection
Applied Communication Sciences
732-699-2687

From: Ray Wood [<mailto:RayW@nbsvoice.com>]
Sent: Wednesday, February 22, 2012 6:00 PM
To: NJ Broadband Data Collection
Cc: shelley.bates@oit.state.nj.us
Subject: RE: Reminder - NJ Broadband Data Collection

From: NJ Broadband Data Collection [<mailto:ConnectingNJ@groups.appcomsci.com>]
Sent: Wednesday, February 22, 2012 5:57 PM
To: Ray Wood; 'NJ Broadband Data Collection'
Cc: shelley.bates@oit.state.nj.us
Subject: RE: Reminder - NJ Broadband Data Collection

Ray,

This is great. The NTIA is collecting data every six months, and wants us to get revised data or verify previous data.

A couple of clarifications:

1. I am assuming you lease space at these facilities, rather than own them. Is that true in all three cases?

Yes.

2. When you say you can offer T1 to OC-48, how is that configured?

I don't understand.

Do you resell facilities from other providers to connect to your locations?

Yes.

Subject: RE: URGENT: Response Requested: Get your Broadband Services on the National Broadband Map
Date: Mon, 30 Jul 2012 12:35:27 -0400
From: Ray Wood <RayW@nbsvoice.com>
To: Connecting NJ <ConnectingNJ@appcomsci.com>

Mr. Behrens,

Is NBS required to actually participate in this? By law, I mean?

I have provided info by email to John Wullert / Shelley Bates in the past. I took a quick look at the guidelines now - it seems very onerous.

Ray Wood
973-638-2155

Subject:Re: URGENT: Response Requested: Get your Broadband Services on the National Broadband Map

Date: Mon, 30 Jul 2012 13:04:16 -0400

From: Connecting NJ <ConnectingNJ@appcomsci.com>

To: Ray Wood <RayW@nbsvoice.com>

Ray,

No...your are not required by law to participate in this mapping activity. You are strongly encouraged to do so, but the decision is yours. The map is used primarily for national and state-level planning and informational purposes. Having said all of this, the reason I contacted you is because you are on my list of those who made previous data submissions. I looked at the report for NBS Voice, and found the following:

:
:
:

If there haven't been any changes in the services you offer since last December, then we can resubmit the same data that we used last April.

Regards,

Cliff Behrens

Subject:RE: URGENT: Response Requested: Get your Broadband Services on the National Broadband Map

Date: Mon, 30 Jul 2012 13:54:35 -0400

From: Ray Wood <RayW@nbsvoice.com>

To: Connecting NJ <ConnectingNJ@appcomsci.com>

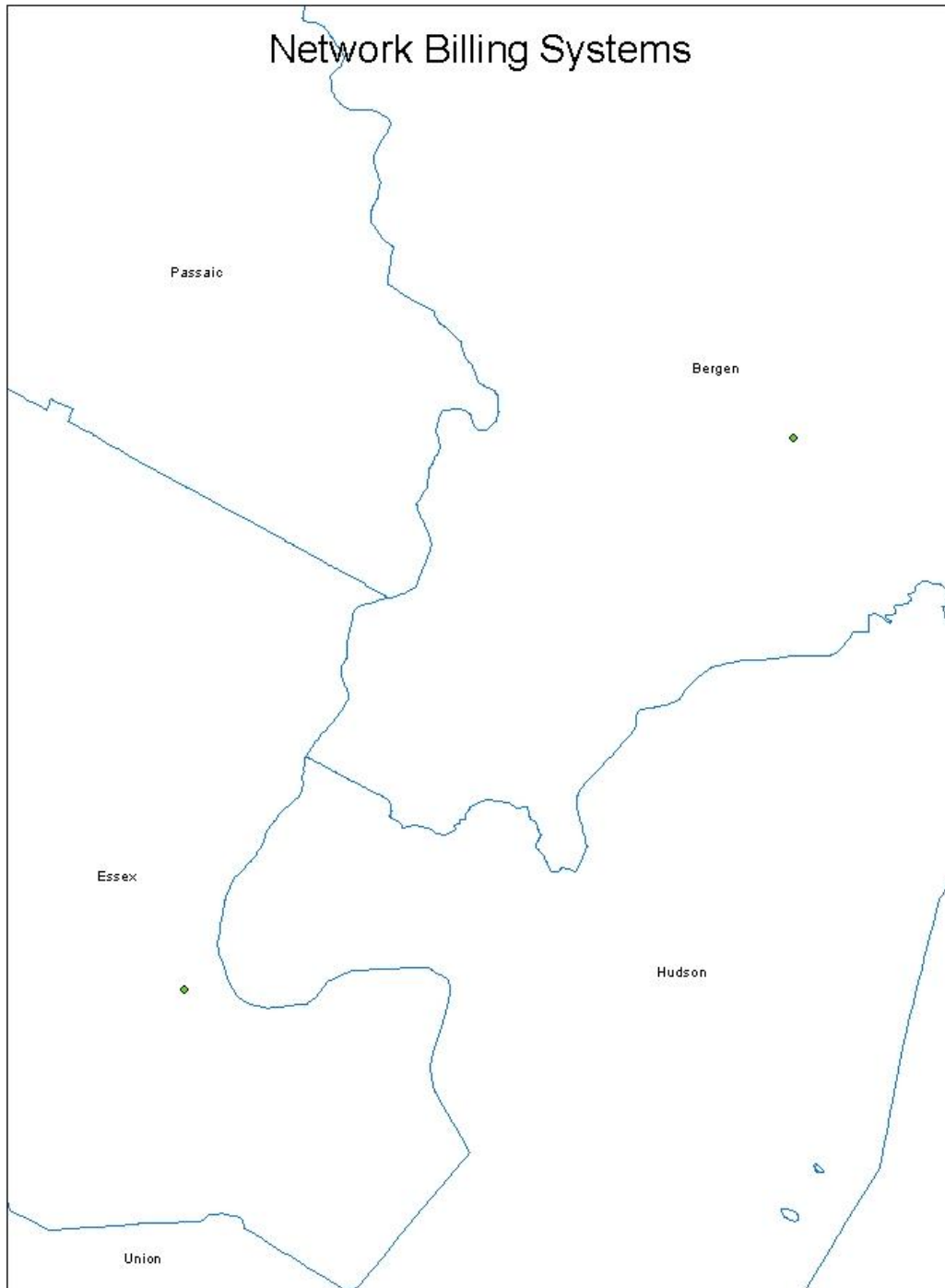
If there haven't been any changes in the services you offer since last December, then we can resubmit the same data that we used last April.

There have been no changes. I would have resubmitted the email I have sent, but it appeared that your org was looking for more and different types of info.

Ray

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.17 Netcarrier

Connecting New Jersey - Broadband Provider Data Report

Provider: Netcarrier

Received: June 2011

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

For October 2012:

This is a stub report, since data from the previous submission was reused unchanged. The complete report from the previous submission begins on the next page. Notable differences from the processing done on the previous submission are listed next.

Section 1: NDA Status

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|--------------------------|--|--------------------------------|---|
| ID | Provider name | | Netcarrier | |
| | “Doing business as” name | | Netcarrier Telecom, Inc. | |
| | FRN | | 0005043195 | |
| FOR WIRELINE | | | | |
| Filetypes | Excel | | | |
| File size | 119 KB (595 rows) | | | |
| Speeds | Type | | Spatial Resolution: address | Provides a .xls file with 895 rows of information (end user addresses). |
| | Typical-upstream | | Address-level | |
| | Typical-downstream | | Address-level | |
| | Advertised-upstream | | Address-level | |
| | Advertised-downstream | | Address-level | |
| | Subscriber-weighted-up | | Not provided | |

| | | | | |
|---|---|--|--------------|--|
| | Subscriber-weighted-down | | Not provided | |
| Technology Type | Types: 10, 30, 50 | | | |
| End-user specification | Address level. | | | |
| Comments: Provider did not respond to requests for revised information for Spring 2012 submission. Their Web site indicates that they offer T1/T3 and fiber-based services. They do not specifically list ADSL. They do offer fractional T1 services, indicating that they could potentially support new customers at existing locations. Based on this information, it was decided to reuse their prior data for this round. | | | | |
| INTERCONNECTION DATA | | | | |
| ID | NJ_Broadband_Mapping-Backbone-090711 | | | |
| File size | 12 kb | | | |
| Ownership | Not provided | | | |
| Transport Type | Facility type provided (code 1 and 2 used) | | | |
| Data Rates/Capacity | Not provided | | | |
| Location | Provided by street address (elevation provided as well) | | | |
| Comments: 2 other fields called V-COORD and H-COORD (5 digit #'s) are provided. | | | | |

Section 3: Submission File Details

Received 1 file by secure upload:

| Size | Name |
|-------|---|
| 74 kb | NJ477_Workbook-090411-NJ-BroadbandMapping-A.xls |
| 12 | NJ_Broadband_Mapping-Backbone-090711.xls |

Section 4: Data Transformation and Loading

The following describes the processing applied to load the tables

NTIA Table BB_ConnectionPoint_MiddleMile

Loaded from the supplied Excel Spreadsheet. The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|---------------------|---|
| PROVNAME | As supplied in column “Provider Name” but changed “c” to “C” |
| DBANAME | As supplied in column “DBA” but changed “c” to “C” |
| FRN | As supplied in column “FRN” |
| OWNERSHIP | As provided in column “Ownership” |
| BHCAPACITY | As provided in column “Serving Facility Capacity” |
| BHTYPE | As provided in column “Serving Facility Type” |
| LATITUDE | As computed from address |
| LONGITUDE | As computed from address |
| ELEVFEET | Set to “0” (zero); values such as “Fl 1” were not parsed |
| STATEABBR | Set to “NJ” |
| FULLFIPSID | ID of containing census block from Year 2010 Census Bureau TigerLine reference data |
| SHAPE | Created using ESRI ArcDesktop |

Internal notes on processing:

29. Used the provider name, DBA name, and FRN as supplied.

30. Following steps were performed for Fall 2011 submission and the results reused:

- a. Geocoded the address to obtain a Latitude, Longitude value pair. All middle-point addresses were successfully geocoded using Arroyo with Yahoo geocoder.
- b. Imported the resulting data to a geodatabase table.
- c. Added a point for the Latitude, Longitude pair by creating a feature class from the table using ArcCatalog’s “Create Feature Class from XY Table” option.
- d. Added a column containing the ID of the containing year 2010 census block via a spatial join of the points and the census block shapes from reference data. All records successfully spatially joined on 2010 NJ Census Block shapes.
- e. Loaded 11 records.

31. These records were copied over into a new BB_ConnectionPoint_MiddleMile table

32. Results passed all NTIA validations.

NTIA Table BB_Service_CensusBlock

The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------------|--|
| PROVNAME | As supplied in column “Provider Name” but changed “c” to “C” |

| | |
|---------------|---|
| DBANAME | As supplied in column “DBA” but changed “c” to “C” |
| PROVIDER_TYPE | Set to “1” |
| FRN | As supplied in column “FRN” |
| STATEFIPS | Set to “34” (NJ) |
| COUNTYFIPS | Populated from Census Block FIPS Code (first 3 digits) |
| TRACT | Populated from Census Block FIPS Code (next 6 digits) |
| BLOCKID | Populated from Census Block FIPS Code |
| FULLFIPSID | Populated from Census Block FIPS Code |
| TRANSTECH | As supplied in column “Technology Code” |
| MAXADDOWN | As supplied in column “Max Ad Download Speed” |
| MAXADUP | As supplied in column “Max Ad Upload Speed” |
| TYPICDOWN | Set to null (see below) |
| TYPICUP | Set to null (see below) |
| ENDUSERCAT | Set to null (see below) |
| SHAPE | Copied from Census Bureau TigerLine 2010, as matched by spatial join on geocoded address |

Internal processing notes:

36. Following steps were performed for the Fall 2011 submission:

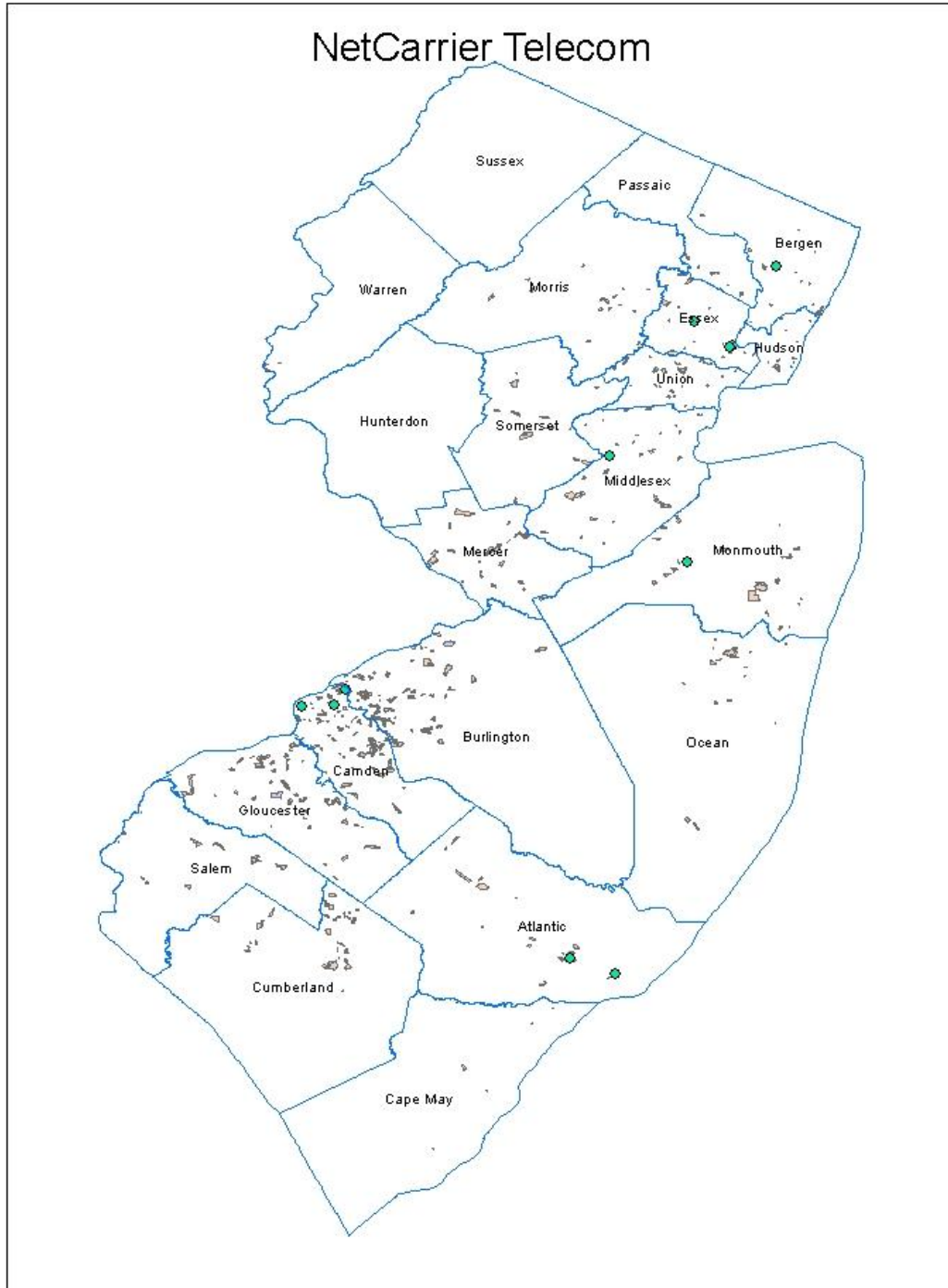
- a. Geocoded the addresses using an Arroyo flow and the Yahoo geocoder, leaving the result with address and lat, long data in an Excel spreadsheet. All addresses were successfully geocoded (note: Excel file has an empty record at the end).
- b. Imported the spreadsheet to a simple ESRI geodatabase table
- c. Added point shapes corresponding to each Latitude,Longitude pair by creating a feature class from the table using ArcCatalog’s “Create Feature Class from XY Table” option
- d. Added a column containing the ID of the containing year 2010 census block using ArcCatalog's spatial join feature. The newly created point shapes are joined against census block shapes from reference data. All but three records successfully spatially joined on 2010 NJ Census Block shapes.
- e. Discarded typical speeds since they were in all cases identical to maximum advertised speeds, not measured values.
- f. The end user category value as originally supplied applied to an address, but we must anonymize the addresses and report census blocks. The NTIA directs us to report the “predominant” end-user category, which is not supplied here.
- g. Discarded 324 duplicate census block records, which result from multiple addresses in the same census block.
- h. Discarded 1 large census block record (340297351041013).
- i. Loaded 567 records.

37. Copied result into new BB_Service_CensusBlock

Section 5: Clarification Questions and Responses

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.18 Service Electric Cable TV of Hunterdon

Connecting New Jersey - Broadband Provider Data Report

Provider: Service Electric Cable TV of Hunterdon

Received: August 2010/April 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

For October 2012:

This is a stub report, since data from the previous submission was reused unchanged. The complete report from the previous submission begins on the next page. Notable differences from the processing done on the previous submission are listed next.

Section 1: NDA Status

None.

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|--------------------------------------|--|--|---|
| ID | Provider name | | | Service Electric Cable TV of Hunterdon, Inc. DBA not provided 0003760014 |
| | “Doing business as” name | | | |
| | FRN | | | |
| | | | | |
| FOR WIRELINE | | | | |
| Filetypes | Text (a letter, not structured data) | | | |
| File size | | | | |
| Speeds | Type | | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode,etc) | In telephone conversation, provider indicated that their footprint has not changed from previous submissions, that speeds were 15 Mbps down and 1 Mbps up. While they are testing DOCSIS 3.0, it is not yet available commercially for residential customers. |
| | Typical-upstream | | Not provided | |
| | Typical-downstream | | Not provided | |
| | | | | |

| | | | | |
|---|--------------------------|--|--------------|--|
| | Advertised-upstream | | Municipality | In previous submissions, provider had given a list of municipalities that they covered completely. |
| | Advertised-downstream | | Municipality | |
| | Subscriber-weighted-up | | Not provided | |
| | Subscriber-weighted-down | | Not provided | |
| Technology Type | Docsis 2.0 (use code 41) | | | |
| End-user specification | Not provided | | | |
| Comments: Provider also indicated they deliver fiber service to business customers, but were not in a position to deliver location data for this round. We will pursue this further for the next round. | | | | |
| INTERCONNECTION DATA | | | | |
| ID | | | | |
| File size | | | | |
| Ownership | Leased | | | |
| Transport Type | Fiber | | | |
| Data Rates/Capacity | 1 Gbps | | | |
| Location | List of addresses | | | |
| Comments: In telephone conversation, Provider described locations of interconnection huts and provided information on technology and speeds. | | | | |

Section 3: Submission File Details

Received email for October submission with information on the municipalities served in entirety, the technology of transmission, and the speed tiers offered to customers. Confirmed that information via phone on March 4, 2011

Section 4: Data Validation, Transformation and Loading

NTIA Table BB_ConnectionPoint_MiddleMile

The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|------------------------------|
|--------------|------------------------------|

| | |
|------------|---|
| PROVNAME | Set to “Service Electric Cable TV of Hunterdon, Inc.” |
| DBANAME | Not supplied; set same as PROVNAME |
| PROVNAME | As supplied |
| DBANAME | As supplied |
| FRN | Set to “0003760014” |
| OWNERSHIP | Set to 1 for leased |
| BHCAPACITY | Set to 4 for 1 Gbps |
| BHTYPE | Set to 1 for fiber |
| LATITUDE | Obtained by geo-coding addresses |
| LONGITUDE | Obtained by geo-coding addresses |
| ELEVFEET | Set to “0” (zero) |
| STATEABBR | Set to “NJ” |
| FULLFIPSID | ID of containing census block from Year 2010 Census Bureau TigerLine reference data |
| SHAPE | Created using ESRI ArcDesktop |

Internal notes on processing:

1. Provider gave a set of addresses. These addresses were geo-coded using Google geo-coder into an Excel spreadsheet.
2. Imported the Excel sheet to a geo-database table.
3. Added point for the Latitude, Longitude pair by creating a feature class from the table using ArcCatalog’s “Create Feature Class from XY Table” option.
4. Mapped to separate shape file to correct tolerance.
5. Added a column containing the ID of the containing year 2010 census block via a spatial join of the points and the census block shapes from reference data.

NTIA Table BB_Service_CensusBlock

Loaded based on email received on August 23, 2010. We submitted all census blocks in the named municipalities. The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|--------------|---|
| PROVNAME | Set to “Service Electric Cable TV of Hunterdon, Inc.” |
| DBANAME | Not supplied; set same as PROVNAME |
| RESELLER | Set to “N” |

| | |
|---------------|---|
| FRN | Set to "0003760014" |
| STATEFIPS | Set to "34" (NJ) |
| COUNTYFIPS | Populated from Census Block FIPS Code (first 3 digits) |
| TRACT | Populated from Census Block FIPS Code (next 6 digits) |
| BLOCKID | Populated from Census Block FIPS Code |
| BLOCKSUBGROUP | Set to null |
| FULLFIPSID | Populated from Census Block FIPS Code |
| TRANSTECH | Set to 41 (Cable Modem – Other) per email Docsis-2.0 |
| MAXADDOWN | Set to 7 (15 Mbps) per email |
| MAXADUP | Set to 3 (1 Mbps) per email |
| TYPICDOWN | Set to null, not provided |
| TYPICUP | Set to null, not provided |
| SHAPE | Copied from Census Bureau TigerLine 2000, as matched by spatial join on geocoded address |

Internal processing notes:

38. Following steps were performed for October 2011 submission

- a. Created a file with municipality names that match exactly names in the "name" column in the Year 2000 Census Bureau TigerLine database. Primarily this meant changing "Boro" to "Borough".

| Municipality | County |
|---------------------|---------------|
| Alexandria Township | Hunterdon |
| Alpha Borough | Warren |
| Bloomsbury Borough | Hunterdon |
| Frenchtown Borough | Hunterdon |
| Greenwich Township | Warren |
| Harmony Township | Warren |
| Holland Township | Hunterdon |
| Kingwood Township | Hunterdon |
| Lopatcong Township | Warren |
| Milford Borough | Hunterdon |
| Phillipsburg | Warren |

Pohatcong Township

Warren

- b. Joined against municipalities against reference data to identify corresponding list of census blocks.
- 39. Ran all NTIA validations.

NTIA Table BB_Service_RoadSegment

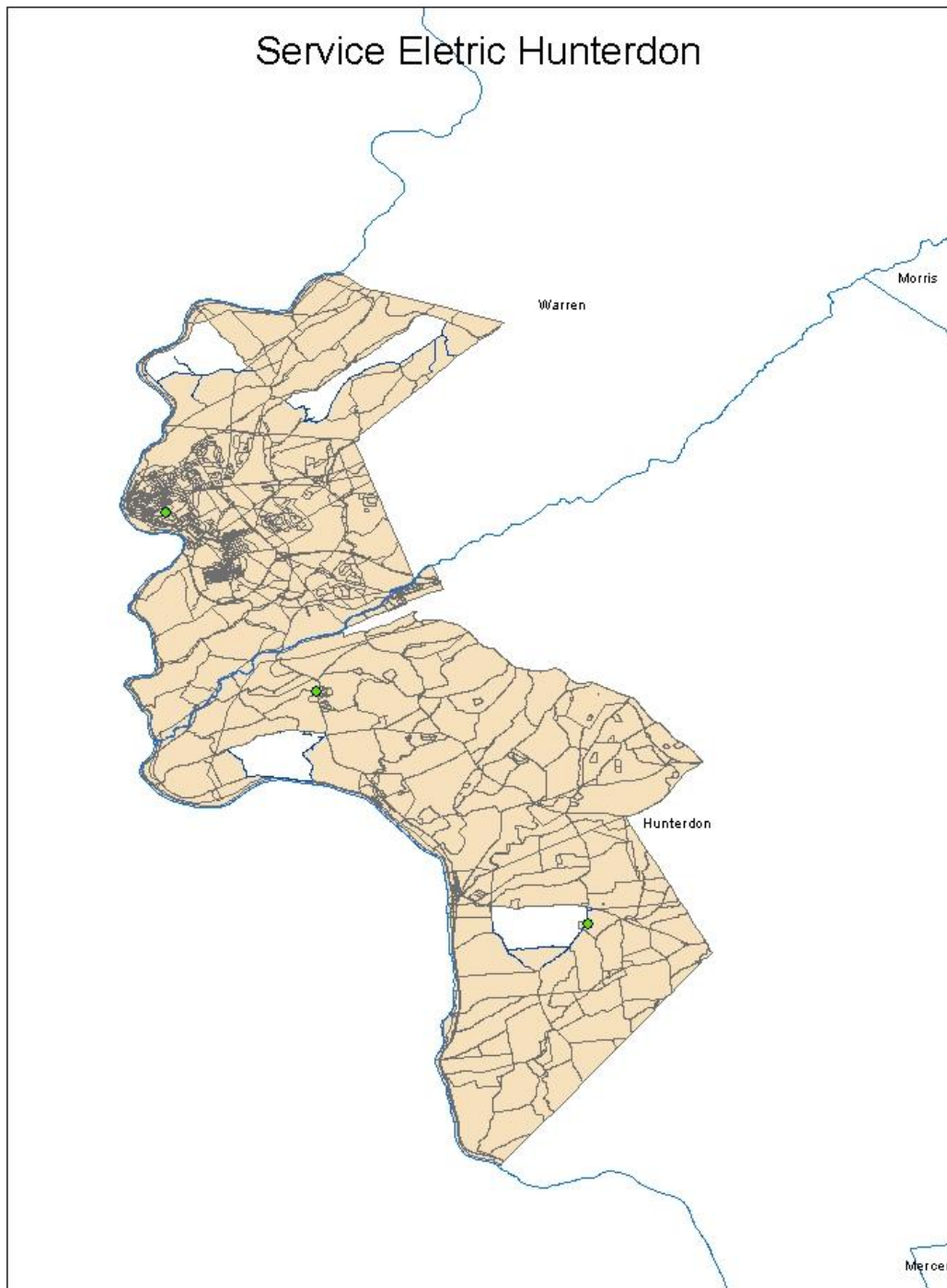
Loaded with street segments in census blocks larger than 2 square miles as listed in Census Bureau TigerLine reference data. The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------------|---|
| PROVNAME | Set to "Service Electric Cable TV of Hunterdon, Inc." |
| DBANAME | Not supplied; set same as PROVNAME |
| RESELLER | Set to "N" |
| FRN | Set to "0003760014" |
| ADDMIN | From reference data |
| ADDMAX | From reference data |
| PREDIR | From reference data |
| STREETNAME | From reference data |
| STREETTYPE | From reference data |
| SUFFDIR | From reference data |
| CITY | From reference data |
| STATECODE | From reference data |
| ZIP5 | From reference data |
| ZIP4 | From reference data |
| TRANSTECH | Set to 41 (Cable Modem – Other) per email Docsis-2.0 |
| MAXADDOWN | Set to 7 (10Mbps) per email |
| MAXADUP | Set to 3 (800Kbps) per email |
| TYPICDOWN | Set to null, not provided |
| TYPICUP | Set to null, not provided |
| SHAPE | From reference data |

Section 5: Clarification Questions and Responses

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.19 Service Electric Cable TV of Sparta

Connecting New Jersey - Broadband Provider Data Report

Provider: Service Electric Cable TV of Sparta

Received: March 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

For October 2012:

This is a stub report, since data from the previous submission was reused unchanged. The complete report from the previous submission begins on the next page. Notable differences from the processing done on the previous submission are listed next.

Section 1: NDA Status

No NDA executed.

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|--------------------------|--|--|---|
| ID | Provider name | | | Service Electric Cable TV of NJ Inc. Service Electric Broadband Cable 0005007125 |
| | “Doing business as” name | | | |
| | FRN | | | |
| FOR WIRELINE | | | | |
| Filetypes | Text | | | |
| File size | 9728 bytes | | | |
| Speeds | Type | | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode,etc) | Provided list of municipalities they serve. Provider indicated that they do not cover all streets in the rural area they serve. Rather than overstate coverage, we elected to omit streets in large census blocks that are more likely to represent rural areas. Provider indicated in email |
| | Typical-upstream | | Not provided | |
| | Typical-downstream | | Not provided | |
| | Advertised-upstream | | Municipality | |
| | Advertised-downstream | | Municipality | |

| | | | | |
|------------------------|--|--|--------------|---|
| | Subscriber-weighted-up | | Not provided | exchange that they offer DOCSIS 3.1 over their entire footprint. He provided list of speeds, which we confirmed with him. |
| | Subscriber-weighted-down | | Not provided | |
| Technology Type | Docsis 3.1 (will use code 40) | | | |
| End-user specification | Not provided | | | |
| Comments: | | | | |
| INTERCONNECTION DATA | | | | |
| ID | | | | |
| File size | Several addresses provided | | | |
| Ownership | Owned | | | |
| Transport Type | Fiber | | | |
| Data Rates/Capacity | One says “Fiber 10 gbps”; others have no statement - Clarified this via email. See answers below. | | | |
| Location | Address | | | |
| Comments: | | | | |

Section 3: Submission File Details

Received one (1) file by EMAIL:

| Size | Name |
|------|------|
|------|------|

| | |
|------|--------------------------------|
| 9728 | Broadband data Information.xls |
|------|--------------------------------|

Received a spreadsheet with information on the municipalities served in entirety, the technology of transmission, the modem speeds offered to customers, and some connection points.

We will gather all the census blocks in the municipality based on the TigerLine reference data and report those shapes in the BB_service_censusblock table.

Section 4: Data Validation, Transformation and Loading

NTIA Table BB_ConnectionPoint_MiddleMile

Loaded from 8 rows in the supplied Excel spreadsheet. The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|---|
| PROVNAME | Set to “Service Electric Cable TV of NJ Inc.” per email response |
| DBANAME | Set to “Service Electric Broadband Cable” per email response |
| FRN | Set to “0005007125” per email response |
| OWNERSHIP | Set to 0 to indicate owned |
| BHCAPACITY | Set to 6 or 4, see below |
| BHTYPE | Set to 1, provider indicated fiber. |
| LATITUDE | Created by geocoding the supplied address |
| LONGITUDE | Created by geocoding the supplied address |
| ELEVFEET | Set to “0” (zero) |
| STATEABBR | Set to “NJ” |
| FULLFIPSID | ID of containing census block from Year 2000 Census Bureau TigerLine reference data |
| SHAPE | Created using ESRI ArcDesktop |

Internal notes on processing:

6. Following steps were performed during prior submission
 - a. Created an excel sheet and imported to a geodatabase table.
 - b. Added points corresponding to each Latitude,Longitude pair by creating a feature class from the table using ArcCatalog’s “Create Feature Class from XY Table” option.
 - c. Added a column containing the ID of the containing year 2000 census block via a spatial join of the points and the census block shapes from reference data.
7. Provider indicated that two sites are served by dual 10 Gbps links (code 6) and the rest are served by dual 2 Gbps links (code 4).

NTIA Table BB_Service_CensusBlock

Loaded based on the supplied file “Broadband data Information.xls”. We submitted all census blocks less than 2 square miles in the named municipalities. The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------------|---|
| PROVNAME | Set to “Service Electric Cable TV of NJ Inc.” per email response |
| DBANAME | Set to “Service Electric Broadband Cable” per email response |
| PROVIDER_TYPE | Set to 1 |
| FRN | Set to “0005007125” per email response |
| STATEFIPS | Set to “34” (NJ) |
| COUNTYFIPS | Populated from Census Block FIPS Code (digits 3-5) |
| TRACT | Populated from Census Block FIPS Code (next 6 digits) |
| BLOCKID | Populated from Census Block FIPS Code (next 5 digits) |
| BLOCKSUBGROUP | Set to null |
| FULLFIPSID | Populated from Census Block FIPS Code |
| TRANSTECH | Set to 40 per file (DOCSIS 3.0) |
| MAXADDOWN | Set to code 8 as reported by provider |
| MAXADUP | Set to code 5 as reported by provider |
| TYPICDOWN | Set to null, not provided |
| TYPICUP | Set to null, not provided |
| SHAPE | Copied from Census Bureau TigerLine 2010, as matched by spatial join on geocoded address |

Internal processing notes:

40. Created a file with municipality names supplied by provider in a form that match exactly names the “name” column in the Year 2010 Census Bureau TigerLine database. Primarily this meant changing “Boro” to “Borough”.
41. Joined against reference data to discover census blocks, for a total of 4,135 blocks.

NTIA Table BB_Service_RoadSegment

Loaded with street segments in census blocks larger than 2 square miles as gathered from Census Bureau TigerLine reference data. The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------------|--|
| PROVNAME | Set to “Service Electric Cable TV of NJ Inc.” per email response |
| DBANAME | Set to “Service Electric Broadband Cable” per email response |
| PROVIDER_TYPE | Set to 1 |

| | |
|------------|--|
| FRN | Set to "0005007125" per email response |
| ADMIN | From reference data |
| ADDMAX | From reference data |
| PREDIR | Set to null, not available in reference data |
| STREETNAME | From reference data |
| STREETTYPE | Set to null, not available in reference data |
| SUFFDIR | Set to null, not available in reference data |
| CITY | From reference data |
| STATECODE | Set to "NJ" |
| ZIP5 | From reference data |
| ZIP4 | Set to null, not available in reference data |
| TRANSTECH | Set to 40 (DOCSIS 3.0) |
| MAXADDOWN | Set to code 8 as reported by provider |
| MAXADUP | Set to code 5 as reported by provider |
| TYPICDOWN | Set to null, not provided |
| TYPICUP | Set to null, not provided |
| SHAPE | From reference data |

Internal processing notes:

1. Discovered all street segments that touch census blocks larger than 2 square miles in the municipalities served by the provider as discussed for table BB_Service_Censusblock.
2. Joined against reference data to discover street segment, for a total of 2,223 entries.

Validation rules produced a warning on 5265 census blocks and 985 street segments for the combination of a downstream speed code of 8 (25-50 Mbps) with a transtech code of 40 (DOCSIS 3.1). Provider was not willing to commit that they offered anything faster. Internet search confirms that the fastest speed they advertise is 35 Mbps down and 3 Mbps up.

Section 5: Clarification Questions and Responses

From: James Galliford [mailto:jamesg@secable.com]
Sent: Monday, March 05, 2012 4:04 PM
To: Fiuk, Marek J
Cc: Wullert, John R II
Subject: Re: Tiger lines

Marek,

Thank you for your understanding.

These are the changes in speeds:

- 1.5/256 -> 2.0/256
- 7/1 -> 8/1
- 12/2 - 15/2
- 35/3 - No Change

We are going to work on compiling the detailed information using information that apparently has become available from our billing system recently. As soon as we get this information, we'll pass it on to you.

Thanks again.

-James

On 3/12/12 12:30 PM, Fiuk, Marek J wrote:

James,

Thank you for your cooperation in providing us with data needed for the forthcoming New Jersey Broadband submission.

While processing your data we have encountered some issues that we would like to clarify with you, in order to assure the best possible quality of the information we are going to submit.

You have provided us with a list of speed tiers that you support. Are all these speeds (in particular, the highest one) advertised in ALL municipalities from the list you supplied to us ?

If this is not the case, would you be able to provide the speed list on the per-municipality basis?

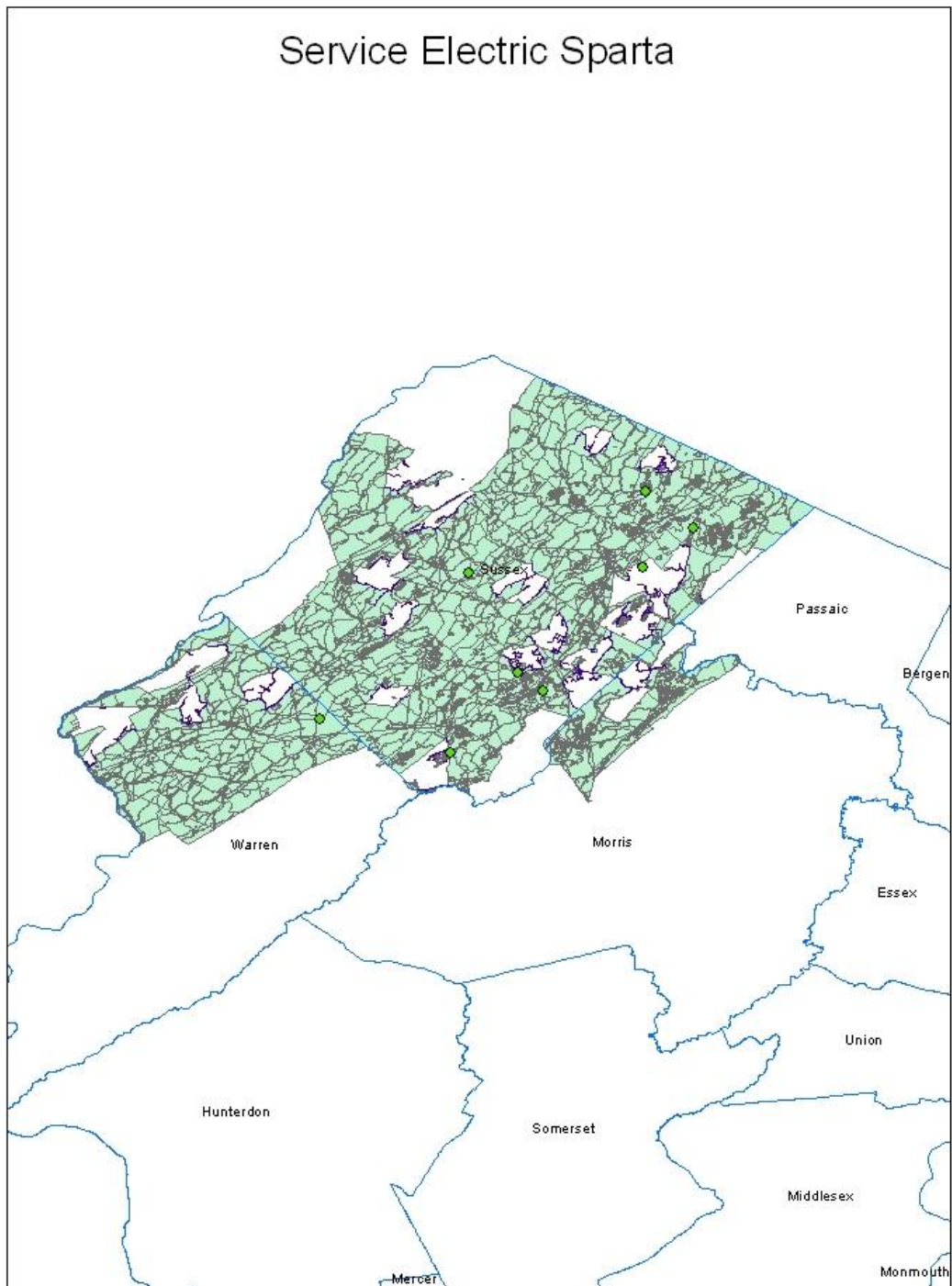
We also have a similar question regarding the cable technology - DOCSIS 3.0 and DOCSIS 1.1. Our current understanding is that you provide both of these in all covered municipalities. Is that correct ? If not, would you be able to provide us with the per-municipality list?

Regards,

Marek Fiuk

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.20 Skycasters

Connecting New Jersey - Broadband Provider Data Report

Provider: Skycasters, LLC

Received: September 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Section 1: NDA Status

NONE

Section 2: Submission Overview

| AVAILABILITY DATA | | | |
|--|---|--|---|
| ID | Provider name | | Skycasters, LLC |
| | “Doing business as” name | | Skycasters, LLC |
| | FRN | | 0018756155 |
| FOR WIRELESS | | | |
| Filetypes | Excel file with data gleaned from the Skycasters WEB site | | |
| Speeds | Type | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode) | Skycasters WEB site lists multiple speed plans, the highest speed combination offered is 6.09M / 1.5M |
| | Upstream max adv | 1.5M | |
| | Downstream max adv | 6.09M | |
| | Upstream typical | | |
| | Downstream typical | | |
| | Subscriber-weighted | | |
| Technology Type | Code 60 (Satellite) | | |
| Comments: Skycasters WEB site indicates that Ku-Band (12-18 GHz) satellites are being used. None of the spectrum ranges available in the NTIA document covers Ku-Band. | | | |
| INTERCONNECTION DATA | | | |

| | |
|----------------------------|--|
| ID | |
| File size | |
| Ownership | |
| Transport Type | |
| Data Rates/Capacity | |
| Location | |
| Comments: | |

Section 3: Submission File Details

The Excel file was created from data gleaned from the Skycasters WEB site:

<http://www.skycasters.com/satellite-internet-coverage/skycasters-coverage-NewJersey.html>

There are 729 records. The file has latitude and longitude for county, city, zip code, and area code. It looks like the latitude and longitude is a centroid of area codes. Since we do not have shape files for area codes, we will use the latitude and longitude as a centroid of zip codes.

Section 4: Data Validation, Transformation and Loading

NTIA Table BB_Service_Wireless

The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|---------------------|--------------------------------------|
| PROVNAME | Set to "Skycasters, LLC" |
| DBANAME | Set to "Skycasters, LLC" |
| FRN | Set to 0018756155 |
| TRANSTECH | Set to 60 |
| SPECTRUM | Set to 9 per translation shown below |
| MAXADDOWN | Set to 6. |
| MAXADUP | Set to 4. |
| TYPICDOWN | Not provided, set to null |

| | |
|-----------|---|
| TYPICUP | Not provided, set to null |
| STATEABBR | Set to "NJ" |
| SHAPE | Single shape created from Municipalities (see below). |

Internal notes on processing:

9. The excel sheet is imported to a geodatabase table.
10. Added point shapes corresponding to each Latitude, Longitude pair by creating a feature class from the table using ArcCatalog's "Create Feature Class from XY Table" option. The name is skycasters_cov.
11. Refdata.nj_zip_poly_wgs is our reference data that contains shapes for zip codes in NJ. Spatial join nj_zip_poly_wgs with skycasters_cov, using the "contains match" option and unselecting "keep all target features". The output is skycasters_cov_zip_poly. This is a subset of the nj_zip_poly_wgs table that contains the points in the skycasters_cov table.
12. Coalesced the single-part polygons into one multi-part polygon using the ArcGIS "Dissolve" tool, which resulted in a new feature class with the suffix "_dissol".
13. Spectrum: Skycasters uses Ku-Band spectrum (12-18 GHz band). While this is not specifically included in the list of satellite frequencies associated with Code 9, we used code 9 anyway. This is consistent with the approach taken for WildBlue.

Validation rules produced a warning on the wireless shape record for the combination of downstream speed code of 6 (6-10 Mbps) with a transtech code of 60 (Satellite). A search of their Web site, <http://www.skycasters.com/broadband-satellite-compare/compare.html>, confirmed that the fastest speed they advertise is 6.09 Mbps down and 1.5 Mbps up.

Section 5: Clarification Questions and Responses

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.21 Sprint

Broadband Provider Data Report

Provider: Sprint

Received: July 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Sections:

- 38. NDA Status
- 39. Submission Overview
- 40. Submission File Details
- 41. Data Validations and Results
- 42. Data Transformation and Loading
- 43. Clarification Questions and Provider Responses
- 44. Notes and Open Issues

Section 1: NDA Status

NDA was executed.

Section 2: Submission Overview

| AVAILABILITY DATA - RECEIVED JULY 11, 2012 | | |
|--|----------------------------------|--|
| ID | Provider name | Sprint Nextel Communications |
| | “Doing business as” name | Sprint |
| | FRN | 0003-77-45-93 |
| FOR WIRELINE | | |
| Filetypes | Txt, xls, pdf, etc. | |
| File size | Number of records, data elements | |
| Speeds | Type | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode) |
| | Upstream | |

| | | | | | | | | | | | | | | | |
|-------------------------------|--|---------------------------|--|------------------|----------------------------|--------------------|----------------------------|------------------|----------------------------|--------------------|----------------------------|---------------------|--------------------------------------|--|--|
| | Downstream | | | | | | | | | | | | | | |
| | Typical | | | | | | | | | | | | | | |
| | Advertised | | | | | | | | | | | | | | |
| | Subscriber-weighted | | | | | | | | | | | | | | |
| Technology Type | DOCSIS, xDSL, fiber, etc. | | | | | | | | | | | | | | |
| End-user specification | Business, consumer, gov't etc | | | | | | | | | | | | | | |
| Comments: | | | | | | | | | | | | | | | |
| FOR WIRELESS | | | | | | | | | | | | | | | |
| Filetypes | shapefile collection: shp/dbf/prj/shx, mdb, gdb, imagefile etc. | | Supplied a shapefile (zip archive) with a two rows that uses projection GCS_WGS_1984. The actual shape in the archive is a multi-polygon. The 2 rows correspond to spectrums 3 and 5. | | | | | | | | | | | | |
| Speeds | <table border="1"> <tr> <td>Type</td><td>Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode)</td></tr> <tr> <td>Upstream max adv</td><td>Single shape, single speed</td></tr> <tr> <td>Downstream max adv</td><td>Single shape, single speed</td></tr> <tr> <td>Upstream typical</td><td>Single shape, single speed</td></tr> <tr> <td>Downstream typical</td><td>Single shape, single speed</td></tr> <tr> <td>Subscriber-weighted</td><td>County; but all values are identical</td></tr> </table> | Type | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode) | Upstream max adv | Single shape, single speed | Downstream max adv | Single shape, single speed | Upstream typical | Single shape, single speed | Downstream typical | Single shape, single speed | Subscriber-weighted | County; but all values are identical | Max advertised up 3, down 2; typical upstream 3, down 2. | |
| Type | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode) | | | | | | | | | | | | | | |
| Upstream max adv | Single shape, single speed | | | | | | | | | | | | | | |
| Downstream max adv | Single shape, single speed | | | | | | | | | | | | | | |
| Upstream typical | Single shape, single speed | | | | | | | | | | | | | | |
| Downstream typical | Single shape, single speed | | | | | | | | | | | | | | |
| Subscriber-weighted | County; but all values are identical | | | | | | | | | | | | | | |
| Technology Type | Spectrum (Mhz, FCC code) | | 3 and 5 (PCS 1850-1915 MHz, 1930-1995) | | | | | | | | | | | | |
| Comments: | | | | | | | | | | | | | | | |
| INTERCONNECTION DATA | | | | | | | | | | | | | | | |
| ID | Provider name | Sprint Nextel Corporation | | | | | | | | | | | | | |

| | | |
|--------------------------------------|--|-------------------------|
| | “Doing business as” name FRN | Sprint 0003-77-45-93 |
| File size | Number of records, data elements | 4 |
| Ownership | Leased/owned | Leased = 1, owned = 0 |
| Transport Type | Fiber, wireless, copper | Fiber |
| Data Rates/Capacity | | 2.4 GBPS < < 10GBPS |
| Location | Street address, lat/lon, elevation | Lat/Long |
| Comments: | | |
| DATA COMPLETENESS | | |
| Data Validation/ Verification | <ul style="list-style-type: none"> - Sprint provided a map showing coverage areas covering the majority of the state of New Jersey - Sprint provided a single set of attribute data, to be applied to the entire coverage area on 2 polygons <ul style="list-style-type: none"> o They included typical and maximum advertised upload and download speeds - Sprint provided spectrum data | |

Section 3: Submission File Details

Received these files by upload to the secure web site:

| Size | Name |
|--------|--------------------------------|
| 1KB | Confidential_Middlemile_NJ.zip |
| 3413KB | Sprint_AreaAvailability_NJ.zip |

The zip archives contained these files:

| Size | Name |
|--------|---------------------------------------|
| 1KB | Confidential_Middlemile_NJ.txt |
| 2KB | Sprint_AreaAvailability_NJ_region.dbf |
| 1KB | Sprint_AreaAvailability_NJ_region.prj |
| 5647KB | Sprint_AreaAvailability_NJ_region.shp |

1KB Sprint_AreaAvailability_NJ_region.shx

Section 4: Validations and Results

Section 5: Data Transformation and Loading

Loaded 4 rows from the text file “Confidential_Middlemile_NJ.txt” supplied. The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|---|
| PROVNAME | As supplied in column “provider_name” |
| DBANAME | As supplied |
| FRN | As supplied in column “frn”, after removing hyphens |
| OWNERSHIP | As supplied |
| BHCAPACITY | As supplied in column “servingfacilitycapacity” |
| BHTYPE | As supplied in column “servicefacilitytype” |
| LATITUDE | As supplied |
| LONGITUDE | As supplied |
| ELEVFEET | As supplied in column “elevation” (all zero) |
| STATEABBR | Set to “NJ” |
| FULLFIPSID | Year 2010 Census Bureau TigerLine reference data |
| SHAPE | Created via ArcMap “Add XY Data” feature for lat/long value pairs |

Internal notes on processing:

8. Removed a space in the longitude of the last line of the input file: “-74.1610 ”
9. Created an excel sheet with the data and export to dBase from the excel 97-2003 format. Make sure the types of latitude and longitude are double.
10. Created a feature class from the table by creating a Point shape using ArcMap’s “Add XY Data” feature corresponding to each Latitude, Longitude pair, using the wgs 1984 coordinate. The name of the feature class is sprint_middlemile_shape_wgs_tol.
11. Added a column containing the census block id of the containing year 2010 census block via a spatial join of the points and the census block shapes from reference data. The name of the feature class is sprint_middlemile_shape_wgs_tol_cb.
12. The only data imputed was the state abbreviation.

NTIA Table BB_Service_Wireless

Loaded two rows from from the supplied shapefile “Sprint_AreaAvailability_NJ_region. The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|---------------------|--|
| PROVNAME | As supplied in column “provider_name” |
| DBANAME | As supplied in column “dbaname” |
| FRN | As supplied in column “frn” after removing hyphens |
| TRANSTECH | As supplied in column “techtrans” |
| SPECTRUM | Set to 3 or 5 per translation shown below |
| MAXADDOWN | As supplied in column “maxaddnsp” |
| MAXADUP | As supplied in column “maxadupsp” |
| TYPICDOWN | As supplied in column “typdnsp” |
| TYPICUP | As supplied in column “typupsp” |
| STATEABBR | Set to “NJ” |
| SHAPE | As supplied. |

Internal notes on processing:

14. The supplied shape uses geographic coordinate system name GCS_WGS_1984 The NTIA data model requires the same coordinate system. No geographic transformation was required, but the XY Tolerance values differ when the shapefile is imported into the geodatabase. Imported the table schema and the table data in two separate operations, thereby ensuring perfect compatibility with the NTIA data model. The table has the suffix “_tol”.
15. NTIA requires shapes to be contained in the NJ state boundary. Although we visually verified that it is the case, we clipped the shape using ESRI: Analysis Tools-> Extract -> Clip with, select feature class refdata_2010.tl_2010_34_state10_wgs. The feature class has the suffix "_clip"
16. Details on spectrum transformation: Sprint provided input columns: spectrum1, spectrum2, spectrum3, spectrum4, spectrum5, spectrum6, spectrum7. Sprint put a "Y" in columns spectrum3 (representing range 1850-1915 MHz) and spectrum5 (representing range 2496–2690 MHz). The NTIA data model has a single column for spectrum. The corresponding NTIA “SPECTRUM USED” coded values are 3 and 5.
17. The only data imputed was the state abbreviation.

Section 6: Clarification Questions and Responses

The midde mile data is almost identical except the last line has 5 instead of 6 for the “Serving Facility Capacity” column

| 2012_april_data_Confidential_MiddleMile_NJ.txt - WordPad | | | | | | | | | | |
|--|----------|-----------------|-----------|------------------|----------|--|-----------------------|------------|-----------|-----------|
| Provider Name | DBA Name | FRN | Ownership | Serving Facility | Capacity | | Service Facility Type | Latitude | Longitude | Elevation |
| "Sprint Nextel Corporation" | "Sprint" | "0003-77-45-93" | "1" | "5" | "1" | | "40.8622" | "-74.0547" | "0" | |
| "Sprint Nextel Corporation" | "Sprint" | "0003-77-45-93" | "0" | "6" | "1" | | "40.6085" | "-74.7147" | "0" | |
| "Sprint Nextel Corporation" | "Sprint" | "0003-77-45-93" | "1" | "6" | "1" | | "39.9839" | "-75.0262" | "0" | |
| "Sprint Nextel Corporation" | "Sprint" | "0003-77-45-93" | "0" | "6" | "1" | | "40.7425" | "-74.1610" | "0" | |

| Confidential_MiddleMile_NJ.txt - WordPad | | | | | | | | | | |
|--|----------|-----------------|-----------|------------------|----------|--|-----------------------|------------|-----------|-----------|
| Provider Name | DBA Name | FRN | Ownership | Serving Facility | Capacity | | Service Facility Type | Latitude | Longitude | Elevation |
| "Sprint Nextel Corporation" | "Sprint" | "0003-77-45-93" | "1" | "5" | "1" | | "40.8622" | "-74.0547" | "0" | |
| "Sprint Nextel Corporation" | "Sprint" | "0003-77-45-93" | "0" | "6" | "1" | | "40.6085" | "-74.7147" | "0" | |
| "Sprint Nextel Corporation" | "Sprint" | "0003-77-45-93" | "1" | "6" | "1" | | "39.9839" | "-75.0262" | "0" | |
| "Sprint Nextel Corporation" | "Sprint" | "0003-77-45-93" | "0" | "5" | "1" | | "40.7425" | "-74.1610" | "0" | |

Subject: NJ BB data update for Fall 2012

Date: Fri, 13 Jul 2012 09:41:25 -0400

From: Connecting NJ <ConnectingNJ@appcomsci.com>

To: jack.delaney@sprint.com

Mr. Delaney,

I just wanted to confirm that we have received your data update for the Fall 2012 NJ BB submission to NTIA. Thank you for being "out in front" of this. We do have the following question regarding this update.

As you can see in the attachment, the middle mile data is almost identical to the 2012 April data except the last line has a value of "5" (instead of "6") for the "Serving Facility Capacity" column. Is this intentional?

Sincerely,

Cliff Behrens

Subject: RE: NJ BB data update for Fall 2012

Date: Fri, 13 Jul 2012 14:46:42 +0000

From: Delaney, Jack L [LEG] <Jack.Delaney@sprint.com>

To: Connecting NJ <ConnectingNJ@appcomsci.com>

Cliff,

Thanks for alerting me to that. Yes, that's correct. It is a correction. It should have been '5' in the last round. By next round, it should be '6' again, since we are in the process of upgrading the system.

Thanks again,

Jack Delaney

Manager, Systems Operations
Legal Department
Sprint Nextel
Office: 913-315-9705
Cell: 703-906-9533

Subject: Questions about previous data submissions
Date: Fri, 27 Jul 2012 11:49:32 -0400
From: Connecting NJ <ConnectingNJ@appcomsci.com>
To: jack.delaney@sprint.com

Mr. Delaney,

The NJ Broadband Mapping team has received feedback from the NTIA regarding our 4/11 and 10/11 data submissions. The NTIA contracted the Michael Baker firm who, using third-party data, evaluated the quality of data submissions it received from its grantees. Since the feedback we have received for the last two submissions is consistent, we would like to share it with you. Please note that we were not given copies of the third-party data, so the reasons for mismatches between the data we submitted and these third-party data are not always clear. Our intent is merely to share with you problematic fields, such as provider name or speed tier, that have a lot of mismatches, and do some further inquiry to better validate the provider's data. Obviously, by working more closely with you, we hope to reduce data mismatches in future submissions. Here are some of the questions we have about your data.

Sprint

- Most mismatches result from reporting of max advertised downstream speed tier 3. (Please refer to downstream speed tier table below.) One possibility is that tier 3 understates your downstream speed.
- Most mismatches in your reporting of max advertised upstream speed is for tier 2. (Please refer to upstream speed tier table below.) Might you possibly be understating your upstream speed?

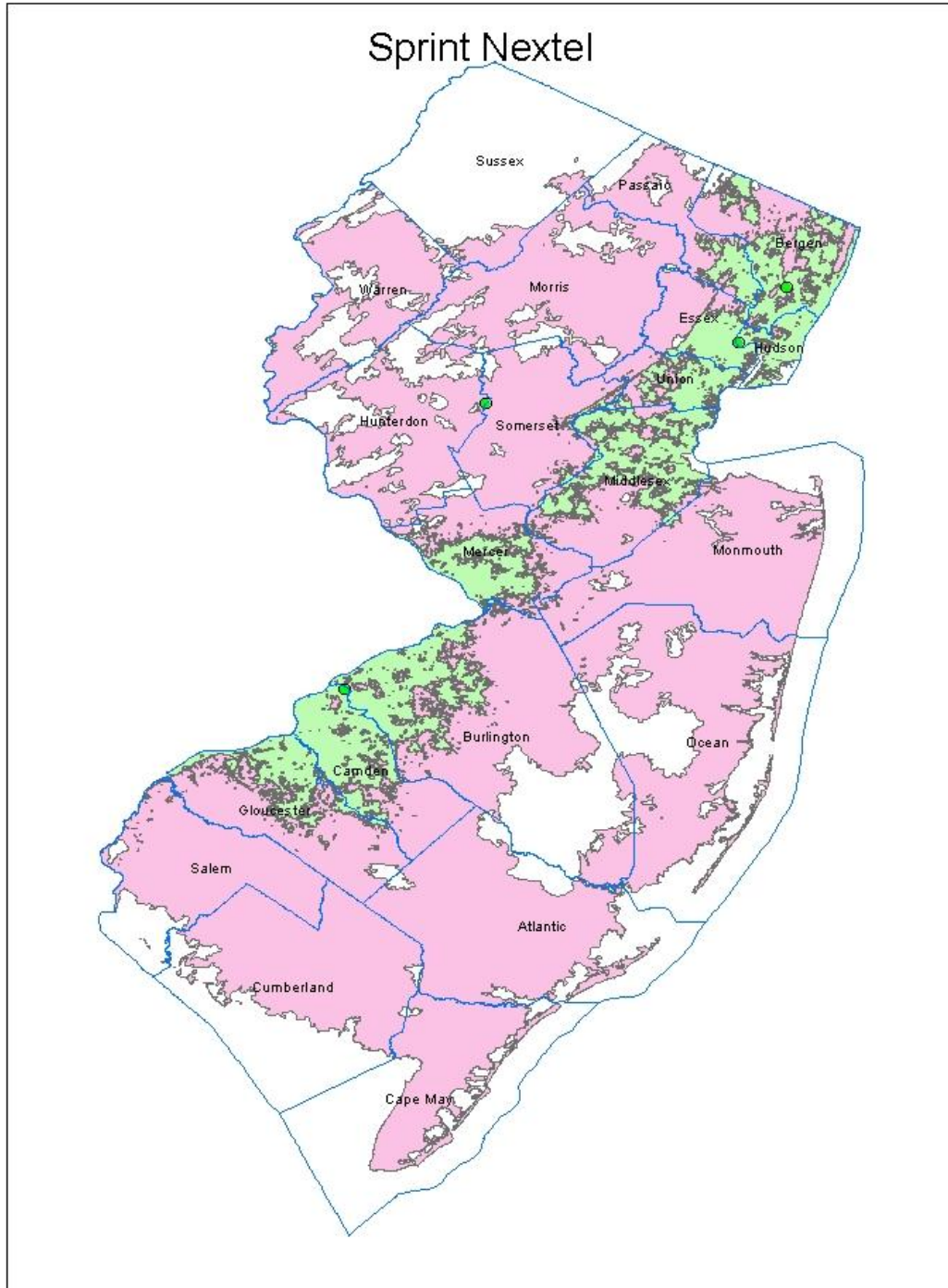
Thank you for your interest and continued support in our NJ BB Mapping program.

Best regards,

Cliff Behrens
Manager - NJ BB Data Collection
Applied Communication Sciences
ConnectingNJ@groups.appcomsci.com
732.699.2380

Section 7: Notes and Open Issues

Section 8: Overview Map of Submitted Data



6.22 Starband Communications

Connecting New Jersey - Broadband Provider Data Report

Provider: Starband

Submission date: October 2012

This report presents details on processing broadband data for delivery to the National Telecommunications and Information Administration (NTIA).

This is a stub report, since data from the previous submission was reused with the spectrum set to 9 being the only change. The complete report from the previous submission begins on the next page. Notable differences from the processing done on the previous submission are listed next.

NTIA Table BB_Service_Wireless

Total rows loaded: 1 (shape of The State of New Jersey).

Since there is no change in the data and NTIA data model, the table is copied from the 2012 April table, using an ESRI tool, "ArcToolBox->Data Management Tools->General->Append" with NO_TEST in the Schema Type option.

As per the latest clarification, the value in column "SPECTRUM" was set to 9.

Provider Interactions

Subject: RE: NJ Broadband Data Collection - Fall 2012
Date: Tue, 24 Jul 2012 18:14:36 -0400
From: Lesley Cooper - McLean <Lesley.Cooper@spacenet.com>
To: Connecting NJ <ConnectingNJ@appcomsci.com>

Dear Scott,

This is to advise you that StarBand Communications Inc. does not have any changes to report at this time.

Regards,

Lesley Cooper

Since there is no change in the data and NTIA data model, the table is copied from the 2011 October table, using an ESRI tool, "ArcToolBox->Data Management Tools->General->Append" with NO_TEST in the Schema Type option.

Provider Interactions

From: Lesley Cooper - McLean [mailto:Lesley.Cooper@spacenet.com]
Sent: Monday, January 23, 2012 5:42 PM
To: NJ Broadband Data Collection
Subject: RE: NJ Broadband Data Collection - Spring 2012

Dear Sir/Madam:

As of December 31, 2011, StarBand Communications does not have any changes to report.

Regards,

Lesley

From: NJ Broadband Data Collection [mailto:ConnectingNJ@groups.appcomsci.com]
Sent: Friday, February 03, 2012 2:05 PM
To: 'Lesley Cooper - McLean'
Cc: NJ Broadband Data Collection
Subject: RE: NJ Broadband Data Collection - Spring 2012

Lesley,

Does Starband have any information on actual coverage areas, taking into account topography, building shadows, etc? Such data, perhaps from modeling and simulations, could improve the accuracy of the coverage map.

John Wullert
Manager - NJ BB Data Collection
Applied Communication Sciences

732-699-2687

From: Lesley Cooper - McLean [mailto:Lesley.Cooper@spacenet.com]
Sent: Tuesday, March 20, 2012 4:58 PM
To: NJ Broadband Data Collection
Subject: RE: NJ Broadband Data Collection - Spring 2012

Dear John,

Sorry for my delay in getting back to you. For each site that StarBand installs, prior to the actual installation our installers will go out to the site and make an assessment as to where the antenna should be placed so that it has adequate line of site.

Hope this helps.

Thanks,

Lesley

Subject: RE: NJ Broadband Data Collection - Fall 2012
Date: Tue, 24 Jul 2012 18:14:36 -0400
From: Lesley Cooper - McLean <Lesley.Cooper@spacenet.com>
To: Connecting NJ <ConnectingNJ@appcomsci.com>

Dear Scott,

This is to advise you that StarBand Communications Inc. does not have any changes to report at this time.

Regards,

Lesley Cooper

StarBand Communications

Connecting New Jersey - Broadband Provider Data Report

Provider: StarBand Communications Inc.

Received: March 2011

Submission date: April 2011

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Sections:

- 45. NDA Status
- 46. Submission Overview
- 47. Submission File Details
- 48. Data Validations and Results
- 49. Data Transformation and Loading
- 50. Clarification Questions and Provider Responses
- 51. Notes and Open Issues

Section 1: NDA Status

NONE

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|--------------------------|--|--|---|
| ID | Provider name | | | StarBand Communications Inc. |
| | “Doing business as” name | | | Not provided |
| | FRN | | | 0005087457 |
| FOR WIRELINE | | | | |
| Filetypes | | | | |
| File size | | | | |
| Speeds | Type | | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode,etc) | Max advertised up is Code 2 (256 Kbps), down is Code 3 (1.5 Mbps) |

| | | | | |
|------------------------|--------------------------|--|--------------|--|
| | Typical-upstream | | Not provided | |
| | Typical-downstream | | Not provided | |
| | Advertised-upstream | | | |
| | Advertised-downstream | | | |
| | Subscriber-weighted-up | | 256Kbps | |
| | Subscriber-weighted-down | | 1.5Mbps | |
| Technology Type | Code 60 (Satellite) | | | |
| End-user specification | Not provided | | | |
| Comments: | | | | |
| INTERCONNECTION DATA | | | | |
| ID | | | | |
| File size | | | | |
| Ownership | | | | |
| Transport Type | | | | |
| Data Rates/Capacity | | | | |
| Location | | | | |
| Comments: Not provided | | | | |

Section 3: Submission File Details

Received email explaining their service offering. Satellite service is provided in all of New Jersey.

On subscriber weighted values, they say:

“Since we have only 1 service that meets the definition of broadband service, the weighted average is the same as the average for that service. Upload speed is 256 Kbps and download speed is 1.5Mbps.”

Section 4: Validations and Results

No rows of data need to be validated.

Section 5: Data Transformation and Loading

NTIA Table BB_Service_Wireless

Loaded county shapes from reference data for counties in the State of New Jersey based on emailed statements that all counties are covered. The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|--|
| PROVNAME | Set to "StarBand Communications Inc." |
| DBANAME | Set to "StarBand" |
| FRN | Set to 0005087457 |
| TRANSTECH | Set to 60 |
| SPECTRUM | Set to 7 per translation shown below |
| MAXADDOWN | Set to 4, see below. |
| MAXADUP | Set to 2, see below. |
| TYPICDOWN | Not provided, set to null |
| TYPICUP | Not provided, set to null |
| STATEABBR | Set to "NJ" |
| SHAPE | County shape read from reference data. |

Internal notes on processing:

18. Spectrum: No statement was provided. The NTIA data model has a single column for spectrum. Satellite corresponds to NTIA "SPECTRUM USED" code value 7.
19. Speeds: The maximum advertised speeds provided in the emailed brochure are as discussed above. For max adv speeds we encoded the submitted down speed as value 4 (range 1.5-3 Mbps) and encoded the submitted up speed as value 2 (range 200 Kbps -- 768 Kbps).

Section 6: Clarification Questions and Responses

1. What is DBA name if different than provider name?
-

From: NJ Broadband Data Collection [mailto:ConnectingNJ@research.telcordia.com]
Sent: Friday, March 18, 2011 10:51 AM
To: 'Lesley Cooper - McLean'
Cc: 'NJ Broadband Data Collection'
Subject: Starband NJBB CLarification

Lesley,

One quick clarification: we have your provider name as Starband Communications Inc. Do you have any other “doing-business-as” name that we should include in the submission to the NTIA?

John Wullert
Manager – NJ BB Data Collection
Telcordia Technologies
732-699-2687

From: Lesley Cooper - McLean [mailto:Lesley.Cooper@Spacenet.com]
Sent: Tuesday, March 22, 2011 5:48 PM
To: ConnectingNJ@research.telcordia.com
Subject: RE: Starband NJBB CLarification

John,

No, we do not. StarBand is the provider of consumer broadband. StarBand is a part of another company, Spacenet Inc., but Spacenet is not a provider of consumer broadband services.

Please let me know if you have any further questions.

Lesley

From: Lesley Cooper - McLean [mailto:Lesley.Cooper@Spacenet.com]
Sent: Tuesday, July 12, 2011 11:54 AM
To: ConnectingNJ@research.telcordia.com
Subject: RE: NJ Broadband Data Collection

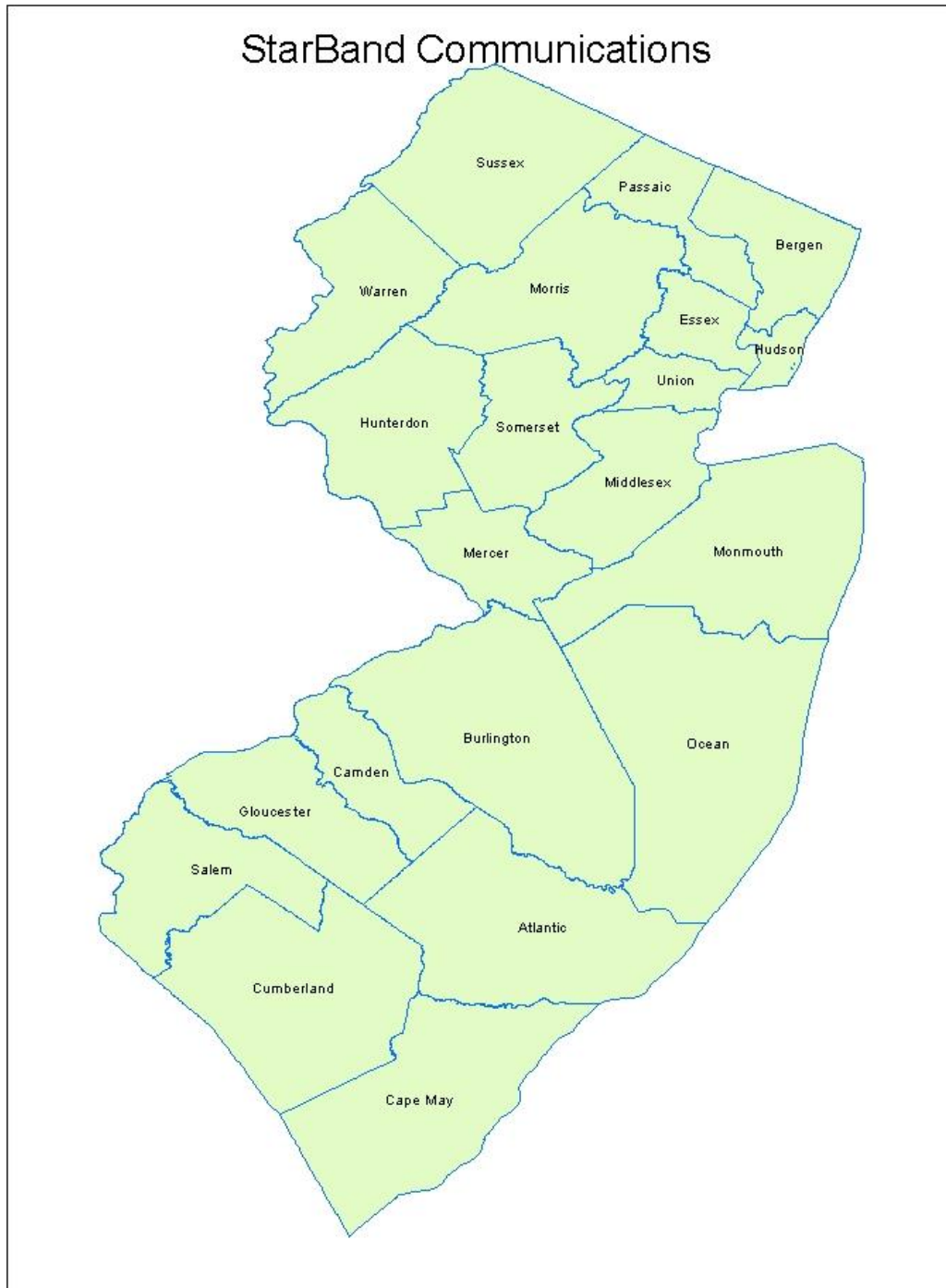
This is to advise you that StarBand Communications does not have any changes to report.

Regards,

Lesley Cooper
Senior Counsel
StarBand Communications

Section 7: Notes and Open Issues

Section 8: Overview Map of Submitted Data



6.23 Tata Communications

Broadband Provider Data Report

Provider: Tata Communications

Received: August 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Section 1: NDA Status

None

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|--------------------------|--|--|---|
| ID | Provider name | | Tata Communications (America) Inc. Tata Communications (America) Inc. 0009480302 | |
| | “Doing business as” name | | | |
| | FRN | | | |
| FOR WIRELINE | | | | |
| Filetypes | E-mail communications | | | |
| File size | | | | |
| Speeds | Type | | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode,etc) | Received e-mail with address-level information for their only two broadband customers in NJ. |
| | Typical-upstream | | Not provided | |
| | Typical-downstream | | Not provided | |
| | Advertised-upstream | | Address | |
| | Advertised-downstream | | Address | |
| | Subscriber-weighted-up | | Not provided | |
| | Subscriber-weighted-down | | Not provided | |

| | |
|-------------------------------|---------------|
| Technology Type | 20 (SDSL) |
| End-user specification | None |
| Comments: | |
| INTERCONNECTION DATA | |
| ID | None provided |
| File size | |
| Ownership | |
| Transport Type | |
| Data Rates/Capacity | |
| Location | |
| Comments: | |

Section 3: Submission File Details

Received e-mail with address-level information for their only two broadband customers in NJ (located in Montvale and Secaucus).

Section 4: Data Validation, Transformation and Loading

NTIA Table BB_Service_CensusBlock

Using information from the e-mail, manually prepared an Excel file "TataBBInfo.xls" which was later geocoded, joined to NJ census blocks and loaded into an SDE table providerInput. Subsequently, the BB_Service_CensusBlock table was loaded from providerInput, with the fields (columns) set as detailed bellow:

| Table Column | Data Source / Transformation |
|---------------|---|
| PROVNAME | Set to "Tata Communications (America) Inc." |
| DBANAME | Set to "Tata Communications (America) Inc." |
| PROVIDER_TYPE | Set to 3, as per the e-mail info |
| FRN | Set to "0009480302" |

| | |
|---------------|---|
| STATEFIPS | Set to "34" (NJ) |
| COUNTYFIPS | Populated from Census Block FIPS Code (digits 2-5) |
| TRACT | Populated from Census Block FIPS Code (next 6 digits) |
| BLOCKID | Populated from Census Block FIPS Code |
| BLOCKSUBGROUP | Set to null |
| FULLFIPSID | Populated from Census Block FIPS Code |
| TRANSTECH | Set to 20, as per the e-mail info |
| MAXADDOWN | Set per records provided in the e-mail. |
| MAXADUP | Set per records provided in the e-mail. |
| TYPICDOWN | Set to null, not provided |
| TYPICUP | Set to null, not provided |
| SHAPE | Copied from Census Bureau 2010, as matched by spatial join on geocoded address point |

Section 5: Clarification Questions and Responses

Subject:Re: NJ Broadband Data Collection - Fall 2012

Date: Thu, 26 Jul 2012 15:27:49 -0400

From: Connecting NJ <ConnectingNJ@appcomsci.com>

To: Diana Peneva <Diana.Peneva@tatacommunications.com>

Ms. Peneva,

Thank you for your quick response to our request.

Best regards,

Cliff

On 7/26/2012 2:21 PM, Diana Peneva wrote:

> Dear Cliff,

>

> Tata Communications (America) Inc. ("Tata America") typically cannot provide broadband services to any customer location in less than 30 days (and it often takes more than 60 days) because it does not own any facilities that connect to customer locations. Because Tata America cannot provide service more quickly without an extraordinary commitment of resources, Tata America's broadband service is not typically considered "available" to any additional Maryland addresses. Our only two broadband customer continue to be located at:

>

> 1. 155 Chestnut Ridge Road, Montvale, New Jersey 07645-3Mbps, and
>
> 2. 275 Hartz Way, Secaucus, New Jersey 07094 - 1Mbps
>
> Please let me know if you need any additional information.
> Kind regards,
> Diana
>

Subject:Re: NJ Broadband Data Collection - Fall 2012

Date:Tue, 04 Sep 2012 22:11:27 -0400

From:Connecting NJ <ConnectingNJ@appcomsci.com>

To:Diana Peneva <Diana.Peneva@tatacommunications.com>

Diana,

Could you please tell use what technology you use to deliver broadband service to each of these two customers?

> 1. 155 Chestnut Ridge Road, Montvale, New Jersey 07645-3Mbps, and
>
> 2. 275 Hartz Way, Secaucus, New Jersey 07094 - 1Mbps
Here are the possibilities:

0= Asymmetric xDSL.
20= Symmetric xDSL.
30= Other Copper Wireline
40= Cable Modem-DOCSIS 3.0.
41= Cable Modem-Other.
50= Optical Carrier/Fiber to the End User
60= Satellite.
70= Terrestrial Fixed Wireless-Unlicensed.
71= Terrestrial Fixed Wireless-Licensed.
80= Terrestrial Mobile Wireless.
90= Electric Power Line.
0 = All Other

Thank you for you assistance,

Cliff Behrens

On 7/26/2012 2:29 PM, Diana Peneva wrote:

> Apology for the typo, I meant New Jersey not Maryland.
> Regards,
> Diana
>

Subject:Re: NJ Broadband Data Collection - Fall 2012

Date: Wed, 05 Sep 2012 22:02:14 -0400

From: Connecting NJ <ConnectingNJ@appcomsci.com>
To: Diana Peneva <Diana.Peneva@tatacommunications.com>

Diana,

Thank you for getting back to me on this.

Regards,

Cliff

On 9/5/2012 11:21 AM, Diana Peneva wrote:

> Dear Cliff,

>

> The technology for 155 Chesnut Ridge Road, Montvale, New Jersey 07645-3Mbps was Connect IP Sec.

>

> The technology 275 Hartz Way, Secaucus, New Jersey 07094 - 1Mbps was Connect IP Sec

>

> Please note that we do not have these customers for the period January - June 2012.

> Please let me know if you need anything further or require any additional assistance.

> Regards,

> Diana

>

Subject:Re: NJ Broadband Data Collection - Fall 2012

Date: Thu, 06 Sep 2012 21:18:20 -0400

From: Connecting NJ <ConnectingNJ@appcomsci.com>

To: Diana Peneva <Diana.Peneva@tatacommunications.com>

Diana,

We understand Internet Protocol Security (IPsec) to be a protocol suite for securing Internet Protocol (IP) communications by authenticating and encrypting each IP packet of a communication session. For reporting the technology of transmission, the NTIA requests reporting the technology used by the portion of the connection that terminates at the end-user location. If different technologies are used in the two directions of information transfer (''downstream'' and ''upstream''), report the connection in the technology category for the downstream direction. The technology of transmission should be entered as an integer based on the following reference:

0= Asymmetric xDSL.

20= Symmetric xDSL.

30= Other Copper Wireline

40= Cable Modem-DOCSIS 3.0.
41= Cable Modem-Other.
50= Optical Carrier/Fiber to the End User 60= Satellite.
70= Terrestrial Fixed Wireless-Unlicensed.
71= Terrestrial Fixed Wireless-Licensed.
80= Terrestrial Mobile Wireless.
90= Electric Power Line.
0 = All Other

Cliff

Subject:RE: NJ Broadband Data Collection - Fall 2012

Date: Thu, 13 Sep 2012 16:47:05 +0000

From: Angelic Franklin <Angelic.Franklin@tatacommunications.com>

To: Connecting NJ (ConnectingNJ@appcomsci.com) <ConnectingNJ@appcomsci.com>

Cliff,

We use 20—Symmetric xDSL for those two locations.

Please confirm receipt.

Angelic Franklin

Paralegal

Legal

Tata Communications (America) Inc.

2355 Dulles Corner Boulevard

Suite 700

Herndon, VA 20171

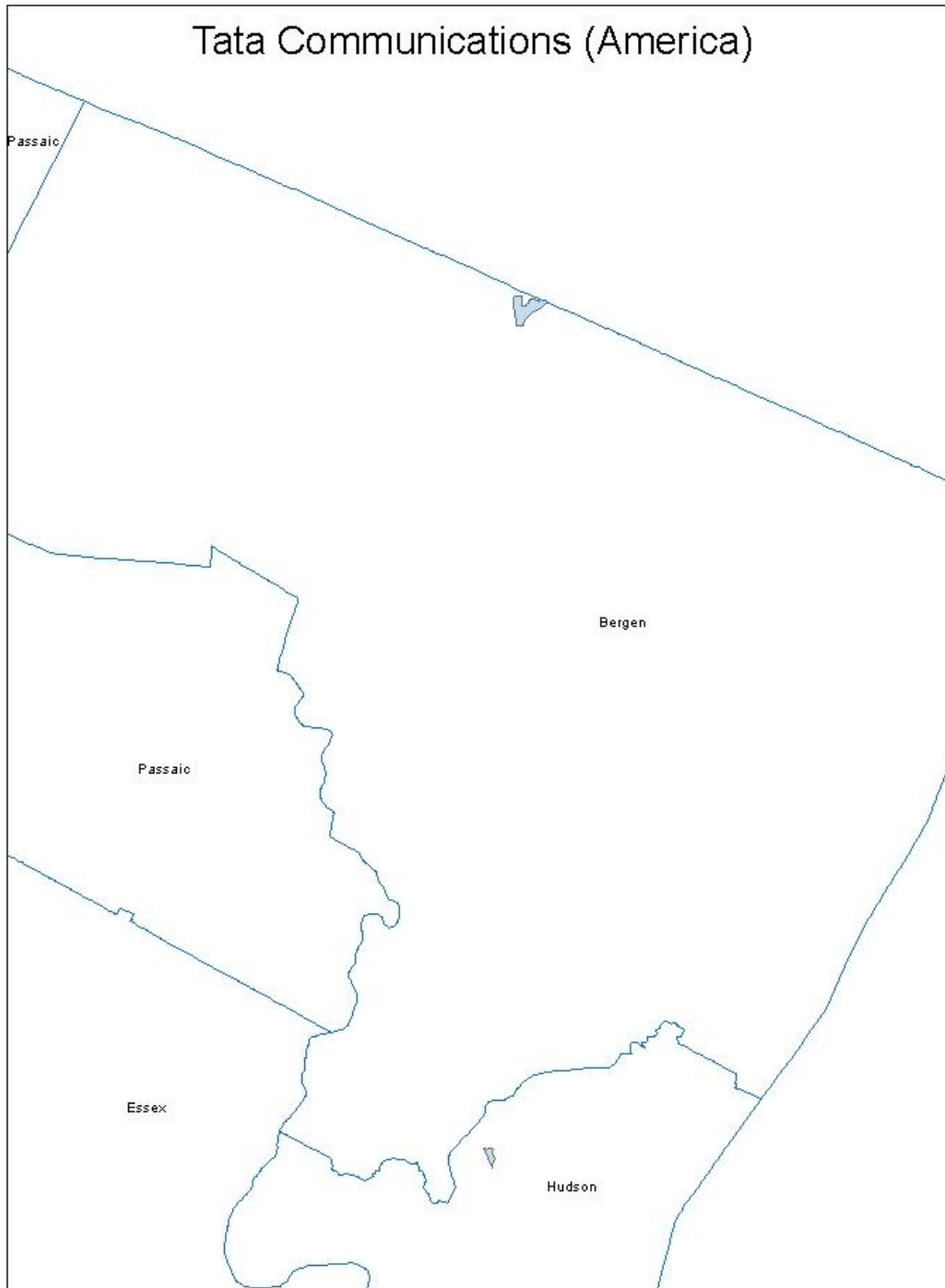
United States of America

Direct 703 657 8413 | Fax 703 657 8340 | IP 808413

Angelic.Franklin@tatacommunications.com

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.24 Time Warner

Broadband Provider Data Report

Provider: Time Warner

Received: August 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Section 1: NDA Status

NDA established with NJ OIT.









Section 2: Submission Overview

| AVAILABILITY DATA | | | |
|-------------------|---|--|------------------------|
| ID | PROVIDER NAME | | Time Warner Cable, LLC |
| | DBA NAME | | Time Warner Cable |
| | FRN | | 0013430244 |
| | Holding company name | | Time Warner Cable Inc. |
| | Holding company number | | 131352 |
| FOR WIRELINE | | | |
| File types | Time Warner supplied 2 pdf files and a shapefile showing coverage on FIPS census block level. | | |
| Speeds | Type | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode) | |
| | Upstream max adv | yes (code 5). census block. | |
| | Downstream max adv | yes (code 9). census block | |
| | Upstream typical | not provided. | |
| | Downstream typical | not provided | |
| | Subscriber-weighted | Provided; however data is proprietary | |

| | | | |
|--|----|---|--|
| | | business-confidential information that cannot be further distributed or disseminated. | |
| Technology Type | 40 | | |
| Comments: | | | |
| INTERCONNECTION DATA: INSTRUCTED TO USE PREVIOUS DATA | | | |
| ID | | | |
| File size | | | |
| Ownership | | | |
| Transport Type | | | |
| Data Rates/Capacity | | | |
| Location | | | |
| Comments: not provided with initial submission. Sent request for updated information. | | | |

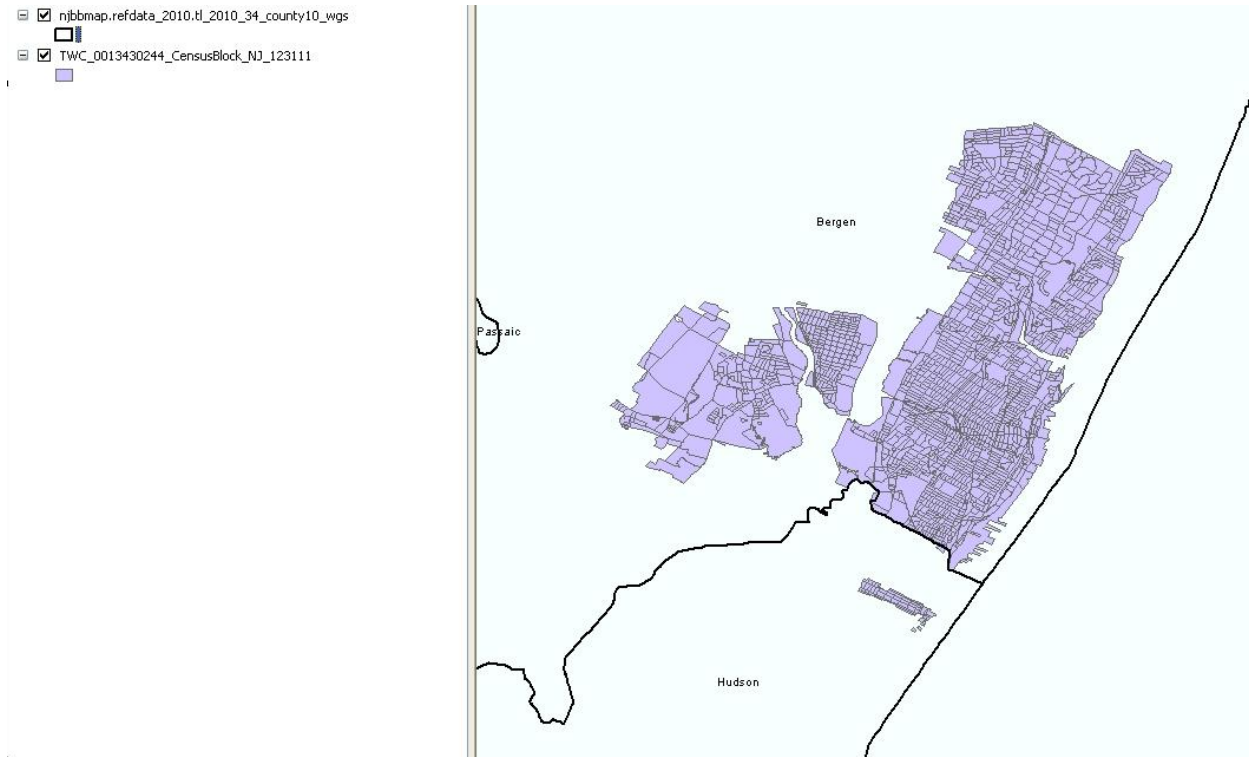
Section 3: Submission File Details

Received 1 archive file by EMAIL:

| Name | Size |
|--|--------|
|  NJ | |
|  0013430244_blendedaverage_NJ_6302012.txt | 1 KB |
|  NJ 6th BB Cltr.pdf | 150 KB |
|  TWC_0013430244_CensusBlock_NJ_063012.cpg | 1 KB |
|  TWC_0013430244_CensusBlock_NJ_063012.dbf | 644 KB |
|  TWC_0013430244_CensusBlock_NJ_063012.prj | 1 KB |
|  TWC_0013430244_CensusBlock_NJ_063012.shp | 529 KB |
|  TWC_0013430244_CensusBlock_NJ_063012.shx | 16 KB |

Quick loading results: 1973 polygons in shapefile, spanning 2 counties in NJ.

Figure 1. Loaded results



Section 4: Data Validation, Transformation and Loading

NTIA Table BB_ConnectionPoint_MiddleMile

NJ 6th BB Cltr.pdf states that the middle mile data has not been changed. Therefore we copied the 2012 April middle mile data.

The following describes how to create the middle mile data in the previously submitted data which dates from the 2010 October submission.

Loaded from supplied file “0013430244_middlemile_NJ_06302009.txt” (19 rows, only 1 in New Jersey) received in **June 2010** (and apparently unchanged since). The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|--|
| PROVNAME | Set to “Time Warner Cable LLC” (“LLC” was missing) |
| DBANAME | As supplied in column ”DBAName” |

| | |
|------------|---|
| FRN | Set to “0013430244” |
| OWNERSHIP | As supplied in column ”Ownership” |
| BHCAPACITY | As supplied in column ”Serving Facility Capacity” |
| BHTYPE | As supplied in column ”Serving Facility Type” |
| LATITUDE | As supplied in column “Latitude” |
| LONGITUDE | As supplied in column “Longitude” |
| ELEVFEET | As supplied in column “Elevation” |
| STATEABBR | Set to “NJ” |
| FULLFIPSID | ID of containing census block from Year 2010 Census Bureau reference data |
| SHAPE | Point corresponding to Lat, Long created using ESRI |

Internal processing notes from prior report:

13. Created an excel sheet and imported to a geodatabase table.
14. Added points corresponding to each Latitude,Longitude pair by creating a feature class from the table using ArcCatalog’s “Create Feature Class from XY Table” option.
15. We dropped all locations outside the New Jersey state boundary, leaving just one. In this row, the elevation value is 30, and we were told in June 2010 that the connection point is on the 7th floor of a building, so we did not change the value.
16. Added a column with the ID of the containing Year 2000 Census block via a spatial join of the points and the census block shapes from reference data.

NTIA Table BB_Service_CensusBlock

The census block information was loaded from the supplied shape file. The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------------|--|
| PROVNAME | Set to “Time Warner Cable LLC” (“LLC” was missing in submitted data) |
| DBANAME | As supplied in column ”DBAName” |
| PROVIDER_TYPE | Set to 1 |
| FRN | Set to “0013430244” |
| STATEFIPS | Set to “34” |
| COUNTYFIPS | Populated from cb_fips (digits 3-5) |
| TRACT | Populated from cb_fips (next 6 digits) |
| BLOCKID | Populated from cb_fips (next 4 digits) |
| FULLFIPSID | As supplied in column cb_fips |

| | |
|------------|--|
| TRANSTECH | As supplied in column tech_trans |
| MAXADDOWN | As supplied in column max_ad_dwn |
| MAXADUP | As supplied in column max_ad_up |
| TYPICDOWN | Submitted as "0" in provided data, set to null |
| TYPICUP | Submitted as "0" in provided data, set to null |
| ENDUSERCAT | Not provided, set to null |
| SHAPE | As supplied |

Internal notes on processing

1. The shapefile TWC_0013430244_CensusBlock_NJ_063012 contains 1973 rows (polygons). See above for a preview picture.
2. The shapes use XY coordinate system GCS_North_American_1983. Provides census-block shapes and associated speed data. All census block IDs are length 15. All submitted block IDs are unique and were found in Census Bureau Year 2010 reference data. Only technology code 40 is present. Maximum advertised speed codes are present.
3. Geographic coordinate system: The supplied shape uses geographic coordinate system name GCS_North_American_1983. The NTIA transmittal data model requires coordinate system GCS_WGS_1984. To change the projection we applied the geographic transformation NAD_1983_To_WGS_1984_5 (per ESRI KB article 24159). We also had to load the data into a second feature class such that the tolerance value matches the NTIA transmittal model's value of 0.000000002.
4. Checked that all census blocks were valid NJ blocks and that no duplicates were present.

NTIA Table BB_Service_Overview

The following data were submitted in 0013430244_blendedaverage_NJ_6302012.txt. However, the service provider stated that the data are proprietary, not for public consumption or dissemination in any form. Since we are not sure if the BB_Service_Overview table has proper protection, we did not submit the data in that table and are instead including it here..

| NAME | DBA | FRN | COUNTY | STATE | TECH | CODE | SWNOMSPEED |
|-----------------------|-------------------|------------|--------|-------|------|------|------------|
| Time Warner Cable LLC | Time Warner Cable | 0013430244 | 003 | 34 | 40 | | |
| 7630.1 | | | | | | | |
| Time Warner Cable LLC | Time Warner Cable | 0013430244 | 017 | 34 | 40 | | |
| 6477.1 | | | | | | | |

Section 5: Clarification Questions and Responses

From: NJ Broadband Data Collection [mailto:ConnectingNJ@groups.appcomsci.com]
Sent: Monday, February 27, 2012 10:26 AM
To: 'monique.crawford@twcable.com'
Cc: 'NJ Broadband Data Collection'
Subject: NJ Broadband Clarification

Monique,

We have begun reviewing your latest broadband availability data and noticed that this round you did not include any information on middle mile. Do you have updated middle mile information or should we use the data you submitted in the previous round?

Thanks,

John Wullert
Manager - NJ BB Data Collection
Applied Communication Sciences
732-699-2687

Subject: RE: FW: NJ State Broadband Mapping Program - 6th Round
Date: Fri, 7 Sep 2012 14:44:26 -0400
From: Bates, Shelley <Shelley.Bates@oit.state.nj.us>
To: Duffy, Diane <dduffy@appcomsci.com>
CC: Kort, Rania <Rania.Kort@oit.state.nj.us>, Kloss, Scott
<Scott.Kloss@oit.state.nj.us>

Diane,

Please include the nominal speed data from Time Warner in our submission to the NTIA. However, include a disclaimer stating that this portion of the data is not for public consumption or dissemination in any form.

Thanks,

Shelley

*From:*Kloss, Scott
Sent: Friday, September 07, 2012 2:40 PM
To: Bates, Shelley

Cc: Kort, Rania
Subject: RE: FW: NJ State Broadband Mapping Program - 6th Round

Shelley,

Below is the email response from Brian requesting we still include the nominal speed data from TWC in the current data submission. Can you please let ACS know what the plan will be?

Thanks,

Scott

From: Brian T. Gibbons [<mailto:BGibbons@ntia.doc.gov>]
<[mailto:\[mailto:BGibbons@ntia.doc.gov\]](mailto:[mailto:BGibbons@ntia.doc.gov])>
Sent: Thursday, September 06, 2012 8:23 PM
To: Kloss, Scott
Cc: Kort, Rania; Akins Lawal; Dorota Wilke
Subject: RE: FW: NJ State Broadband Mapping Program - 6th Round

Scott

The question raised below has not been raised by any other SBI grantee regarding data submissions.

SBI receives sizeable amounts of data each round that is not for public distribution, for example middle mile data which is collected, stored, and not released.

If Time-Warner has previously contributed to the NJ data gathering effort I'm not certain why this is now a concern if the statement below is new to the submission.

It may be a pro forma notice.

SBI recommends you submit the data.

For assurances, you can flag the submission to SBI with Time Warner's expressed prohibition accordingly.

If time permits SBI may review past submissions from NJ and contact you if additional information is needed

Thanks

Brian

Brian T. Gibbons

SBI-OTIA-NTIA

Rm 7846

US Department of Commerce

1401 Constitution Ave NW

Washington DC 20230

202-482-6094-phone

202-482-2156-fax

bgibbons@ntia.doc.gov <<mailto:bgibbons@ntia.doc.gov>>

URL: <http://www2.ntia.doc.gov/SBDD>

URL: <http://broadbandmap.gov> <<http://broadbandmap.gov/>>

*From:*Kloss, Scott
Sent: Monday, August 20, 2012 3:57 PM
To: Brian T. Gibbons (BGibbons@ntia.doc.gov
<<mailto:BGibbons@ntia.doc.gov>>)
Cc: Kort, Rania
Subject: FW: FW: NJ State Broadband Mapping Program - 6th Round

Brian,

Here's the email thread regarding the Provider Weighted Nominal Speed data sent in by TWC. The question is whether or not we can submit this data to the NJ or National maps due to them saying it is not for public disclosure. Can you let us know if you've seen this before in other states or what to make of it?

Thanks,

Scott

*From:*Diane Duffy [<mailto:dduffy@appcomsci.com>]
<[mailto:\[mailto:dduffy@appcomsci.com\]](mailto:[mailto:dduffy@appcomsci.com])>
Sent: Monday, August 13, 2012 11:11 AM
To: Bates, Shelley
Cc: Behrens, Clifford A; Kloss, Scott; dduffy@appcomsci.com
<<mailto:dduffy@appcomsci.com>>
Subject: Re: FW: NJ State Broadband Mapping Program - 6th Round

Thanks, Shelley.

Let's add to our agenda for tomorrow a discussion item related to the implications of the confidentiality of this information; i.e., under these restrictions, do we deliver to NTIA and, if so, how?

On 8/13/2012 10:53 AM, Bates, Shelley wrote:

From: Crawford, Monique [<mailto:monique.crawford@twcable.com>]
Sent: Monday, August 13, 2012 10:00 AM
To: Crawford, Monique; Bates, Shelley
Subject: RE: NJ State Broadband Mapping Program - 6th Round

Hello Shelly:

Attached is the Time Warner Cable Confidential Subscriber-Weighted Nominal Speed data showing the blended average of our advertised maximum broadband download speeds as of June 30, 2012 for New Jersey. This information is highly Confidential and is protected under the confidentiality requirements set forth in Section 106 (h) of the Broadband Data Improvement Act and the Nondisclosure Agreement. The information is not for public disclosure.

If you have any questions regarding this submission please let me know.

Best regards,

Monique R. Crawford

Regulatory Affairs

Time Warner Cable

13820 Sunrise Valley Dr.

Herndon, VA 20171

(703) 345-3175 Office

(703) 554-5019 Mobile

(704) 697-4933 E-fax

From: Crawford, Monique
Sent: Tuesday, August 07, 2012 3:02 PM
To: 'Shelley.Bates@oit.state.nj.us
<<mailto:Shelley.Bates@oit.state.nj.us>>'
Cc: Crawford, Monique
Subject: NJ State Broadband Mapping Program - 6th Round

Hello Shelly:

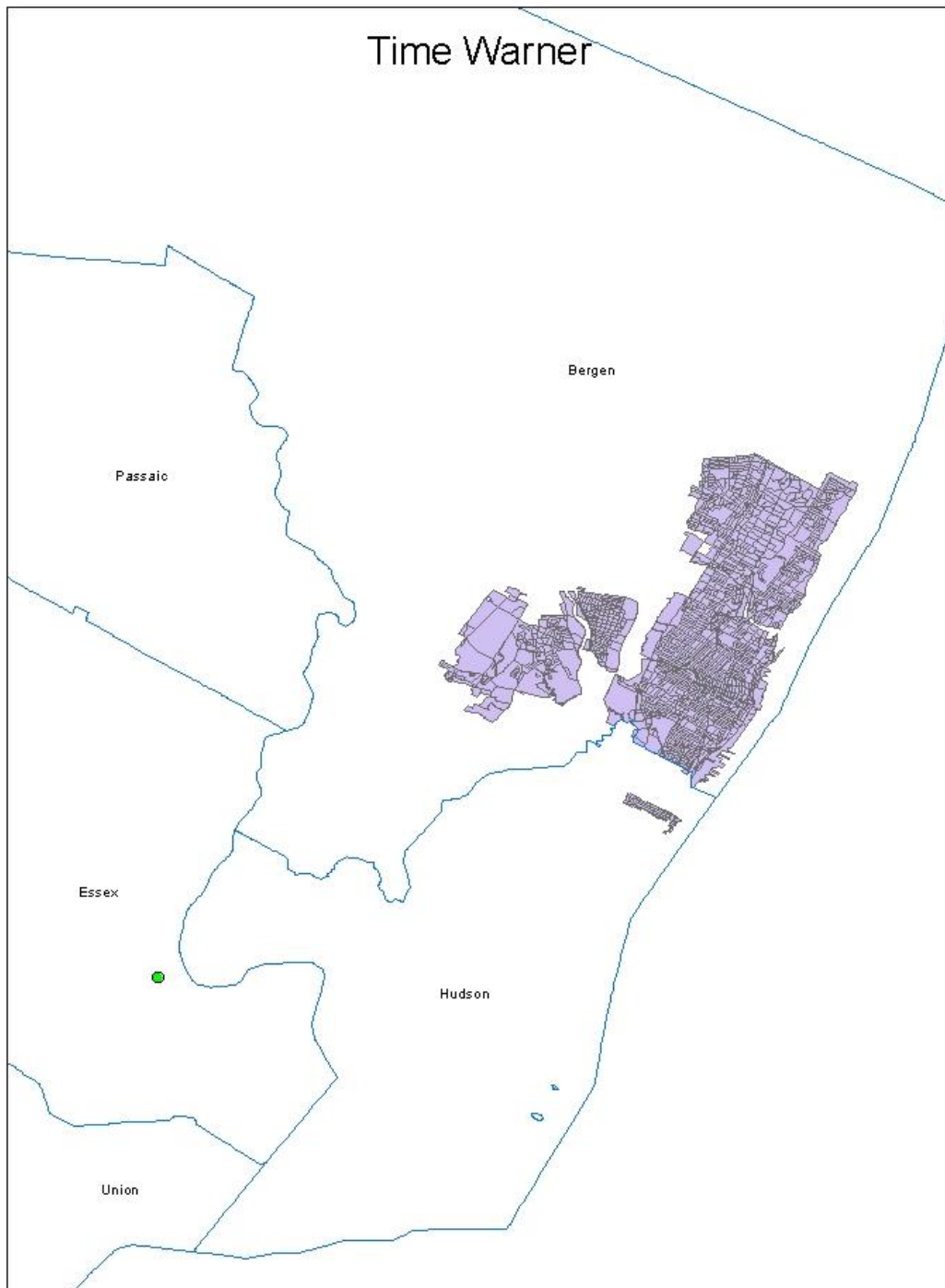
Attached is Time Warner Cable's 6th round broadband mapping submission. Please let me know if you have any questions or concerns.

Best regards,

Monique R. Crawford
Regulatory Affairs
Time Warner Cable
13820 Sunrise Valley Dr.
Herndon, VA 20171
(703) 345-3175 Office
(703) 554-5019 Mobile
(704) 697-4933 E-fax

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.25 T-Mobile

Connecting New Jersey - Broadband Provider Data Report

Provider: T-Mobile

Received: August 2012

Submission date: October 2012

This report presents details on processing broadband data for delivery to the National Telecommunications and Information Administration.

Section 1: NDA Status

Executed with NJ OIT.

Section 2: Submission Overview

| AVAILABILITY DATA | | | |
|-------------------|---|--|--|
| ID | PROVIDER NAME | | T-Mobile USA, Inc. |
| | DBA NAME | | T-Mobile |
| | FRN | | 0006945950 |
| | Holding company name | | T-Mobile USA |
| | Holding company number | | 130403 |
| FOR WIRELESS | | | |
| Filetypes | T-mobile supplies .xls, .txt. and shapefiles (availability). They supply 3 sets of shape files: 2 for HSPA+ coverage and another for 3G coverage. | | |
| Speeds | Type | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode) | Notes: “T-Mobile submitted three sets of map files for this state. The file names correspond with maximum advertised speed data above. HSPA42 represents increased 4G download speed (it does not affect upload speed).” |
| | Upstream max adv | yes (shapefiles for both 3G and 4G) | |
| | Downstream max adv | yes (shapefiles for both 3G and 4G) | |
| | Upstream typical | not found. | |
| | Downstream typical | not found. | |
| | Subscriber- | Provided as a table of values in | |

| | | | |
|--|--|---|--|
| | weighted | mbps (not kbps) correlated to 21 FIPS codes (code 80) | |
| Technology Type | Spectrum (Mhz, FCC code) | | Advanced Wireless Services spectrum (1710-1755 MHz; 2100-2155) |
| Comments: | | | |
| INTERCONNECTION DATA | | | |
| ID | | | |
| File size | 10 rows | | |
| Ownership | Code 1 | | |
| Transport Type | Type 1 | | |
| Data Rates/Capacity | codes 4 and 6 | | |
| Location | lat/longs given for all (either A or Z end is in NJ) | | |
| Comments: T-Mobile had reported with their submission that this information would be delayed | | | |

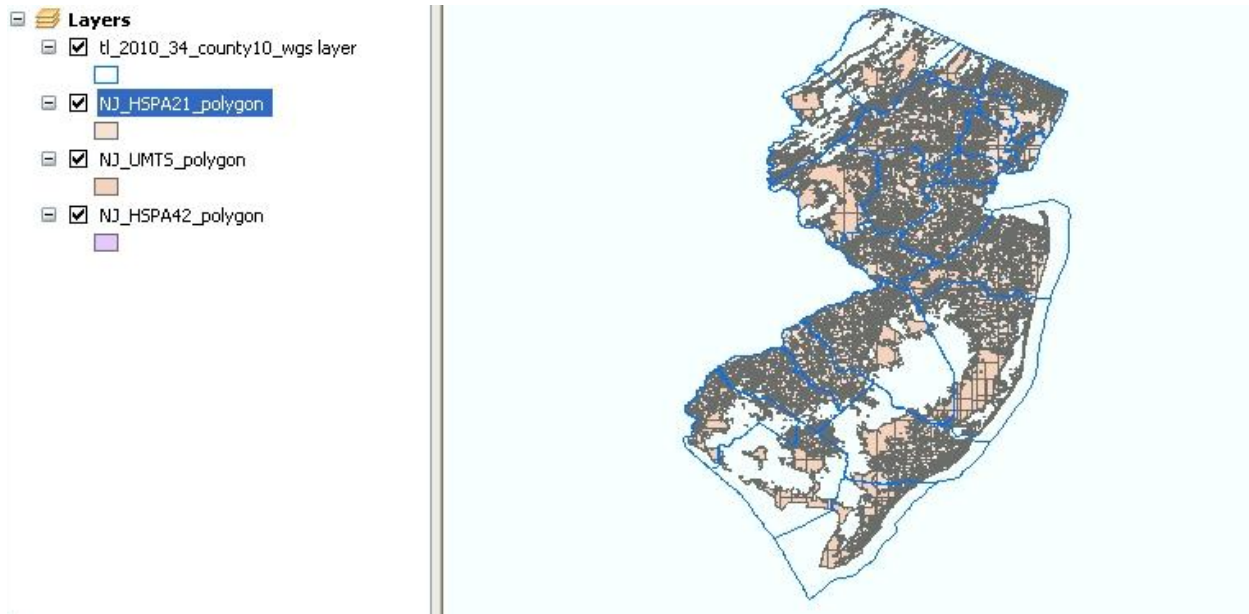


Figure 1. Preview of submitted data in ESRI

Section 3: Submission File Details

The original submission includes the following files:

| Name | Size |
|--------------------------|-----------|
| area_availability_NJ.txt | 4 KB |
| area_availability_NJ.zip | 7,023 KB |
| avg_speed_NJ.xlsx | 12 KB |
| confidential_NJ.txt | 1 KB |
| Cover Letter_NJ.pdf | 23 KB |
| middle-mile_NJ.xlsx | 10 KB |
| NJ_HSPA21_polygon.dbf | 105 KB |
| NJ_HSPA21_polygon.prj | 1 KB |
| NJ_HSPA21_polygon.shp | 11,092 KB |
| NJ_HSPA21_polygon.shx | 47 KB |
| NJ_HSPA42_polygon.dbf | 10 KB |
| NJ_HSPA42_polygon.prj | 1 KB |
| NJ_HSPA42_polygon.shp | 5,527 KB |
| NJ_HSPA42_polygon.shx | 25 KB |
| NJ_UMTS_polygon.dbf | 150 KB |
| NJ_UMTS_polygon.prj | 1 KB |
| NJ_UMTS_polygon.shp | 5,980 KB |
| NJ_UMTS_polygon.shx | 18 KB |
| T-Mobile_BB Data_NJ.zip | 7,056 KB |

Section 4: Data Validation, Transformation and Loading

NTIA Table BB_ConnectionPoint_MiddleMile

Loaded from supplied file “middle_mile_NJ.xlsx” (8 rows). The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|---|
| PROVNAME | Set to “T-Mobile USA, Inc.” |
| DBANAME | Set to "T-Mobile" |
| FRN | Set to “0006945950” |
| OWNERSHIP | As provided in column Ownership (value 1) |
| BHCAPACITY | As provided in column Serving Facility Capacity |
| BHTYPE | As provided in column Serving Facility Type |
| LATITUDE | Created by geocoding the supplied address |

| | |
|------------|---|
| LONGITUDE | Created by geocoding the supplied address |
| ELEVFEET | Set to "0" (zero) |
| STATEABBR | As provided in column State |
| FULLFIPSID | ID of containing census block from Year 2010 Census Bureau reference data |
| SHAPE | Point created using ESRI tools |

Internal notes on processing:

17. Created an excel sheet with the original data, remove the first 3 header lines, add the Latitude and Longitude columns, copied the NJ lat/long from the A or Z lat/long to the Latitude and Longitude columns, and imported to a geo-database table. (If A and Z are all NJ, copy Z which is arbitrarily chosen.)
18. Added points corresponding to each Latitude, Longitude pair by creating a feature class from the table using ArcCatalog's "Create Feature Class from XY Table" option.
19. Added a column containing the ID of the containing year 2010 census block via a spatial join of the points and the Year 2010 census block shapes from Tiger Line reference data. Ensured that all entries were successfully mapped to 2010 census blocks.
20. Dropped 4 records that were as duplicate census blocks
21. Loaded 4 records.

NTIA Table BB_Service_Wireless

Loaded from the supplied shapefiles NJ_HSPA21_polygon (5944 rows), NJ_HSPA42_polygon (3171 rows), and NJ_UMTS_polygon (2286 rows). The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|--|
| PROVNAME | Set to "T-Mobile USA, Inc." per area_availability_NJ.txt |
| DBANAME | Set to "T-Mobile" per area_availability_NJ.txt |
| FRN | Set to "0006945950" |
| TRANSTECH | Set to 80 per area_availability_NJ.txt |
| SPECTRUM | Set to "4" per translation shown below |
| MAXADDOWN | Set as follows: <ul style="list-style-type: none"> • HSPA 21 is 6; • HSPA 42 is 7; • UMTS is 4; as specified in file area_availability_NJ.txt |
| MAXADUP | Set as follows: <ul style="list-style-type: none"> • HSPA 21 is 4; |

| | |
|-----------|---|
| | <ul style="list-style-type: none"> • HSPA 42 is 4; • UMTS is 2; as specified in file area_availability_NJ.txt |
| TYPICDOWN | Set to null (not supplied) |
| TYPICUP | Set to null (not supplied) |
| STATEABBR | As supplied in column “state” with “NJ” |
| SHAPE | As supplied. |

Internal notes on processing:

20. Received three shape files; see above for preview of shapefiles in ESRI. (Note that we do not check duplicate since the shapes will be merged to a single shape for each technology)
 - a. NJ_HSPA21
 - i. 5944 candidates
 - b. NJ_HSPA42
 - i. 3171 candidates
 - c. NJ_UMTS
 - i. 2286 candidates
21. The data rows carry no technology, speed, or other broadband data. This data is provided in a separate file. File “area_availability_NJ.txt” provides technology and spectrum codes that are within the valid set. It also provides maximum-advertised speeds for each wireless technology.
22. File “avg_speed_NJ.xls” provides subscriber-weighted nominal speeds, which we will not be using for this round (no overview table required).
23. Spectrum: NOFA defines 7 spectrum columns. T-Mobile provided a “Y” value in column 4 (Advanced Wireless Services, ranges 1710-1755 MHz; 2100-2155) in file area_availability_NJ.txt, so we coded the value as '4'.
24. The supplied shapes use Z coordinate. We need to remove it using ArcToolbox > Conversion Tools > To Geodatabase-> Feature Class to Geodatabase (multiple) tool. The resulting tables are named with suffix “_z”.
25. The supplied shapes use geographic coordinate system GCS_North_American_1983. The NTIA data model requires coordinate system GCS_WGS_1984. To change the projection we applied the ESRI geographic transformation NAD_1983_To_WGS_1984_5 (per ESRI KB article 24159). The resulting tables are named with suffix “_wgs”.
26. The supplied shapes use tolerance values different from the NTIA transmittal model. The transformed feature classes with suitable tolerances are named with suffix “_tol”.
27. NTIA requires shapes to be contained in the NJ state boundary. Although we can visually verified that it is the case, we clipped the shape using ESRI: Analysis Tools-> Extract -> Clip with, select feature class refdata_2010.tl_2010_34_state10_wgs. The feature class has the suffix "_clip".
28. The NJ_HSPA42 and NJ_UMTS shapefiles contained some identical rows as determined by spectrum, technology, and shape; the rows only differed in the maximum advertised speed. To prevent the problem of duplicate shapes in the merged data, we took the following actions:
 - a. Merged shapes in NJ_HSPA21_polygon_wgs_tol_clip into a single shape, using ArcGIS Dissolve tool: Data Management Tools->Generalization->Dissolve (without choosing

- anything in the Dissolve_Field(s) option). The transformed table is named with suffix "_z_wgs_tol_clip_Dissolve".
- b. Merged shapes in NJ_HSPA42_polygon_wgs_tol_clip into a single shape, using ArcGIS Dissolve tool. The transformed table is named with suffix "_z_wgs_tol_clip_Dissolve".
 - c. Merged the shapes in NJ_UMTS_polygon_wgs_tol_clip into a single shape, using ArcGIS Dissolve tool. The transformed table is named with suffix "_z_wgs_tol_clip_Dissolve".
29. Validation rules produced a warning with the HSPA42 having a Maximum Advertised Download Speed code of 7(10-25 Mbps). Investigation of the T-Mobile Web site showed that they are advertising average speeds "approaching 10 Mbps" and peak speeds of 27 Mbps. Sent a note to the provider to verify the value. Provider confirmed that those values are correct.

Section 5: Clarification Questions and Responses

From: NJ Broadband Data Collection [mailto:ConnectingNJ@groups.appcomsci.com]
Sent: Tuesday, February 28, 2012 8:21 AM
To: 'jeni.wilcox@t-mobile.com'
Cc: 'NJ Broadband Data Collection'
Subject: NJ Broadband Clarification

Jeni,

As part of the validation of the Broadband Data, the NTIA has defined a set of speed ranges associated with various technologies and asked us to verify any submission values outside those ranges. In the case of the T-Mobile data, the value of 7 (10 to 25 Mbps) associated with download on HSPA42 is outside the NTIA's expected range. Can you please confirm that you are reporting download speeds of greater than or equal to 10 Mbps and less than 25 Mbps?

Thanks,

John Wullert
Manager - NJ BB Data Collection
Applied Communication Sciences
732-699-2687

From: Wilcox, Jeni [mailto:Jeni.Santana@t-mobile.com]
Sent: Tuesday, March 20, 2012 12:41 PM

To: NJ Broadband Data Collection
Subject: RE: NJ Broadband Clarification

Hi John,

Sorry, this one slipped by me. Yes, T-Mobile is reporting $\geq 10 \text{ mbps} < 25 \text{ mbps}$ as the maximum advertised download speed for its HSPA+42 network.

Thank you,

Jeni Wilcox
Senior Specialist, State Regulatory Affairs

Subject: Questions about previous data submissions
Date: Fri, 27 Jul 2012 11:52:45 -0400
From: Connecting NJ <ConnectingNJ@appcomsci.com>
To: jeni.wilcox@t-mobile.com

Ms. Wilcox,

The NJ Broadband Mapping team has received feedback from the NTIA regarding our 4/11 and 10/11 data submissions. The NTIA contracted the Michael Baker firm who, using third-party data, evaluated the quality of data submissions it received from its grantees. Since the feedback we have received for the last two submissions is consistent, we would like to share it with you. Please note that we were not given copies of the third-party data, so the reasons for mismatches between the data we submitted and these third-party data are not always clear. Our intent is merely to share with you problematic fields, such as provider name or speed tier, that have a lot of mismatches, and do some further inquiry to better validate the provider's data. Obviously, by working more closely with you, we hope to reduce data mismatches in future submissions. Here are some of the questions we have about your data.

T-Mobile

- Most mismatches result from your reporting of max advertised downstream speed tiers 4 & 6. (Please refer to downstream speed tier table below.) One possibility is that you have understated downstream speed in the lowest tiers.
- Most mismatches in your reporting of max advertised upstream speed is for tier 2. (Please refer to upstream speed tier table below.) Might you possibly be understating your upstream speed?

Thank you for your interest and continued support in our NJ BB Mapping

program.

Best regards,

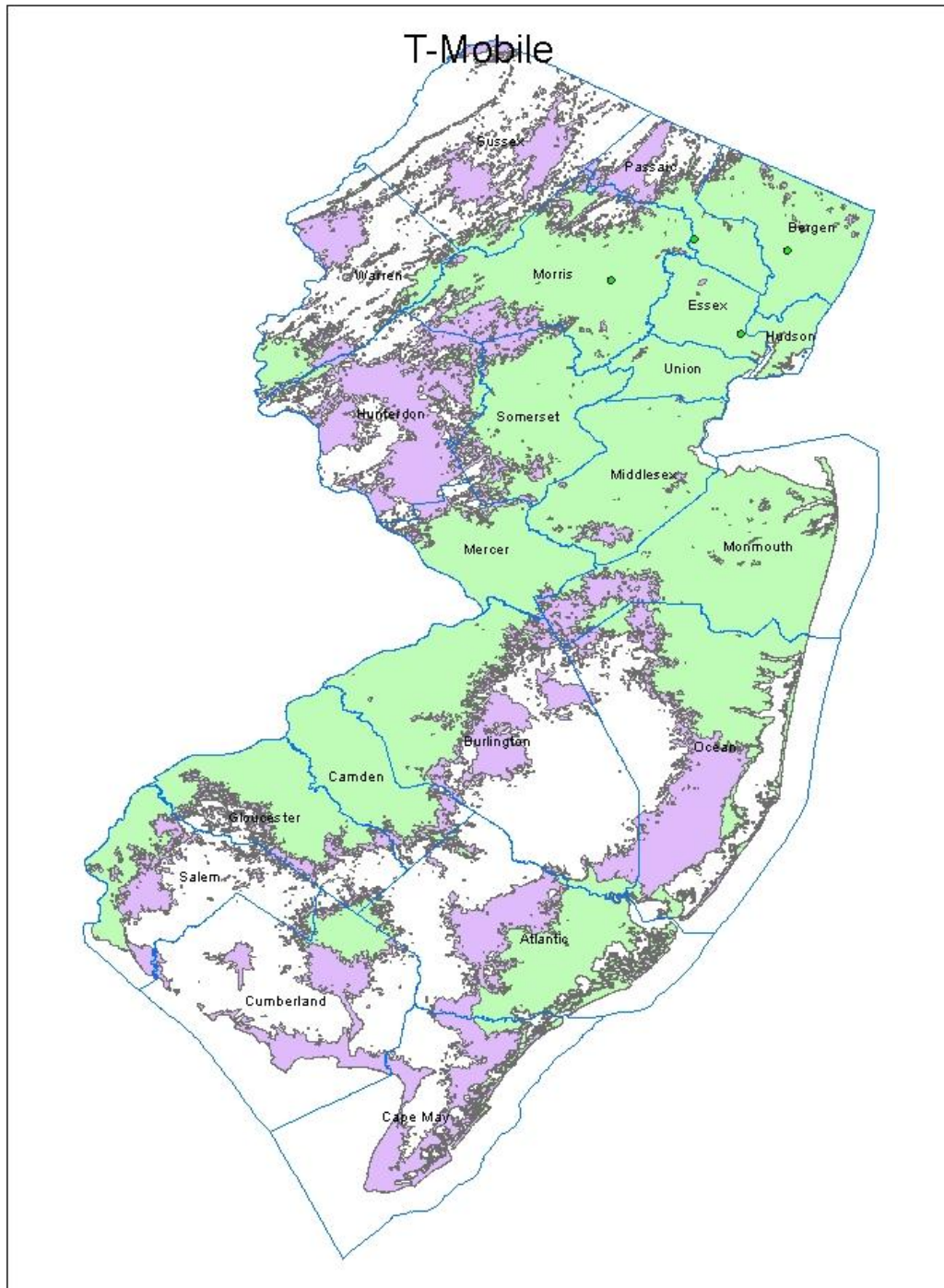
Cliff Behrens
Manager - NJ BB Data Collection
Applied Communication Sciences
ConnectingNJ@groups.appcomsci.com
732.699.2380

Section 6: Notes and Open Issues

This provider has given us three sets of shapes, one for "HSPA21", one for "HSPA42" and one for "UMTS". All are submitted to us as technology code 80 and all in spectrum code 4. But they have different speeds. The validations complain about duplicate rows, based on the shape column and the technology code. Here it seems the technology and spectrum codes do not adequately capture what we have received from the provider.

We solved the problem by using the ArcGIS "Dissolve" tool to merge all the polygons in each submitted feature class into a single polygon. The submission has exactly three rows, one shape for each speed tier, and is not flagged as duplicates.

Section 7: Overview Map of Submitted Data



6.26 tw telecom of New Jersey

Connecting New Jersey - Broadband Provider Data Report

Provider: tw telecom of New Jersey

Received: August 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Section 1: NDA Status

NONE

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|--------------------------|--|--|--|
| ID | Provider name | | | tw telecom of new jersey l.p. Not provided |
| | “Doing business as” name | | | |
| | FRN | | | |
| | Holding company name | | | |
| | Holding company number | | | |
| FOR WIRELINE | | | | |
| Filetypes | Text | | | |
| File size | 3419 bytes, 35 records | | | |
| Speeds | Type | | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode,etc) | |
| | Typical-upstream | | Not provided | |
| | Typical-downstream | | Not provided | |
| | Advertised-upstream | | Address; values 2..11 | |
| | Advertised-downstream | | Address; values 2..11 | |
| | Subscriber-weighted-up | | Not provided | |

| | | | | |
|-------------------------|--|--|--------------|--|
| | Subscriber-weighted-down | | Not provided | |
| Technology Type | 30 (Other copper) and 50 (fiber) | | | |
| End-user specification | 4 (medium – large enterprise) in all cases | | | |
| Comments: | | | | |
| INTERCONNECTION DATA | | | | |
| ID | | | | |
| File size | | | | |
| Ownership | | | | |
| Transport Type | | | | |
| Data Rates/Capacity | | | | |
| Location | | | | |
| Comments: None provided | | | | |

Section 3: Submission File Details

Received 1 file by secure upload:

| Size | Name |
|------|--|
| 3970 | NJBB_0004351417_AddressLevelAvailability.txt |

The file has 41 records. All are addresses; no apartment/suite/unit numbers are provided. Some addresses are repeated, sometimes with different speed numbers, suggesting that these entries are customer service addresses. Several are the addresses of multi-tenant buildings. Technology code 30 is present with symmetric speeds, codes range from 4 to 7. Technology code 50 is present with symmetric speeds; codes range from 4 to 11. This is a result of the provider collecting information about the services subscribed to by current customers at these addresses.

Section 4: Data Validation, Transformation and Loading

NTIA Table BB_Service_CensusBlock

Loaded from supplied file “NJBB_0004351417_AddressLevelAvailability.txt”. The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------|---|
| PROVNAME | As supplied in column “Provider Name”, but removed “l.p.” from the end of the address. |
| DBANAME | Not supplied; set same as PROVNAME |
| PROVIDER_TYPE | Set to 1 |
| FRN | As supplied in column “FRN”, with leading zeroes appended |
| STATEFIPS | Set to “34” (NJ) |
| COUNTYFIPS | Populated from Census Block FIPS Code (digits 3-5) |
| TRACT | Populated from Census Block FIPS Code (next 6 digits) |
| BLOCKID | Populated from Census Block FIPS Code (next 5 digits) |
| BLOCKSUBGROUP | Set to null |
| FULLFIPSID | Populated from Census Block FIPS Code |
| TRANSTECH | As supplied in column Technology of Transmission |
| MAXADDOWN | For technology 30: Set to 7, the max val in MaxAdDown For technology 50: Set to 11, the max val in MaxAdDown |
| MAXADUP | For technology 30: Set to 7, the max val in MaxAdDown For technology 50: Set to 11, the max val in MaxAdDown |
| TYPICDOWN | Set to null, not provided |
| TYPICUP | Set to null, not provided |
| SHAPE | Copied from Census Bureau TigerLine 2000, as matched by spatial join on geocoded address |

Internal processing notes:

22. Geocoded the addresses using the Google geocoder to obtain a Latitude, Longitude pair for each.
23. Created an excel sheet and imported it to a geodatabase table.
24. Added point shapes corresponding to each Latitude, Longitude pair by creating a feature class from the table using ArcCatalog’s “Create Feature Class from XY Table” option.
25. Added a column containing the ID of the containing year 2010 census block via a spatial join of the point shapes and the census block shapes from reference data. All addresses were

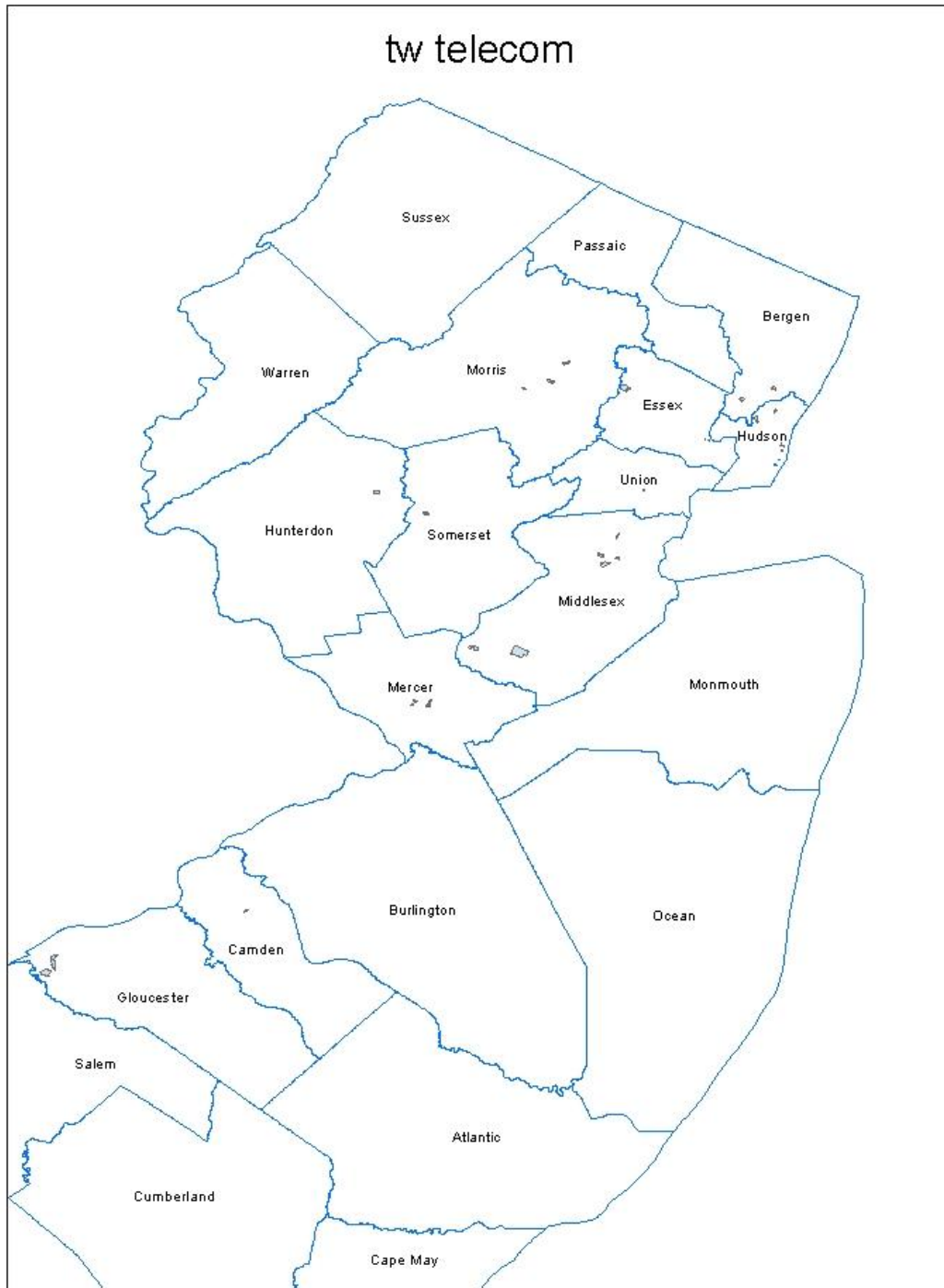
successfully joined with a census block.

26. Discarded rows with duplicate census blocks, generated from the multiple entries at the same addresses
27. Verified that all census blocks were in New Jersey and that no census block was greater than 2 square miles
28. Loaded 28 records into the transfer model table.

Section 5: Clarification Questions and Responses

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.27 Verizon

Broadband Provider Data Report

Provider: Verizon

Received: August 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Section 1: NDA Status

Verizon executed an NDA with NJ OIT.

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|--------------------------|--|--|-----------------------------|
| ID | Provider name | | | Verizon Online LLC |
| | “Doing business as” name | | | Verizon |
| | FRN | | | 0012254363 |
| | Holding company name | | | Verizon Communications Inc. |
| | Holding company number | | | 131425 |
| FOR WIRELINE | | | | |
| Filetypes | Text and excel | | | |
| File size | See below | | | |
| Speeds | Type | | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode, etc) | |
| | Typical-upstream | | Not provided | |
| | Typical-downstream | | Not provided | |
| | Advertised-upstream | | Census Block | |
| | Advertised-downstream | | Census Block | |
| | Subscriber-weighted-up | | Not provided | |
| | Subscriber-weighted- | | Not provided | |

| | | | | |
|--|--|--|--|--|
| | down | | | |
| Technology Type | DSL (10) and FTTP (50) | | | |
| End-user specification | Not provided | | | |
| Comments: | | | | |
| INTERCONNECTION DATA | | | | |
| ID | | | | |
| File size | Excel file, 2 POP rows provided, see below | | | |
| Ownership | Specified in cover letter as being owned by Verizon’s affiliate, MCI Communications Services, Inc. | | | |
| Transport Type | Not provided | | | |
| Data Rates/Capacity | Not provided | | | |
| Location | Address | | | |
| Comments: Sent email to Verizon requesting additional information on Middle Mile points. | | | | |

Section 3: Submission File Details

Received these files via email, sent to Shelley Bates in an encrypted zip archive.

| Size | Name |
|-------------|---|
| 131,072 | NJ - Broadband Data Cover Letter (8-6-12).pdf |
| 6,791,528 | NJ - Wireline Service By Census Block with Speeds (June 2012).txt |
| 143,837 | NJ - Wireline Service By Street Segment with Speeds (June 2012).txt |
| 2,580 | NJ - Pricing (June 2012).txt |
| 30,123 | NJ - POP List (June 2012).pdf |

Section 4: Data Validation Transformation and Loading

NTIA Table BB_ConnectionPoint_MiddleMile

Started with information supplied in Excel Spreadsheet "NJ - POP List (June 2011).pdf". Since the data is the same as the previous submission, we copied the previous data.

The following table explains the transformations that were applied in the previous submission.

| Table Column | Data Source / Transformation |
|---------------------|---|
| PROVNAME | Set to “Verizon Online LLC” |
| DBANAME | Set to “Verizon” |
| FRN | Set to “0012254363” |
| OWNERSHIP | Set to 0, owned, based on cover letter information |
| BHCAPACITY | Set to null |
| BHTYPE | Set to null |
| LATITUDE | Created by geocoding the supplied addresses |
| LONGITUDE | Created by geocoding the supplied addresses |
| ELEVFEET | Set to “0” (zero) |
| STATEABBR | Set to “NJ” |
| FULLFIPSID | ID of containing census block from Year 2010 Census Bureau TigerLine reference data |
| SHAPE | Created using ESRI ArcDesktop |

Internal notes on processing:

29. We geocoded the addresses to obtain latitude, longitude value pairs. Both addresses were found. Verizon did not supply information on the elevation, serving facility capacity, and service facility type of these addresses. Sent request to Verizon regarding this information.
30. Created an excel sheet and imported to a geodatabase table.
31. Added points corresponding to each Latitude,Longitude pair by creating a feature class from the table using ArcCatalog’s “Create Feature Class from XY Table” option.
32. Added a column containing the ID of the containing year 2010 census block via a spatial join of the points and the census block shapes from reference data.

NTIA Table BB_Service_CensusBlock

Loaded from supplied text file “NJ - Wireline Service By Census Block with Speeds (June 2012).txt”.

The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------------|-------------------------------------|
| PROVNAME | Set to “Verizon Online LLC” |
| DBANAME | Set to “Verizon” |

| | |
|---------------|---|
| PROVIDER_TYPE | Set to 1 |
| FRN | Set to “0012254363” |
| STATEFIPS | Set to “34” (NJ) |
| COUNTYFIPS | Populated from 2010_Census_Block_FIPS_Code (Digits 3-5) |
| TRACT | Populated from 2010_Census_Block_FIPS_Code (next 6 digits) |
| BLOCKID | Populated from 2010_Census_Block_FIPS_Code (next 4 digits) |
| BLOCKSUBGROUP | Set to null |
| FULLFIPSID | First 15 digits of 2010_Census_Block_FIPS_Code See discussion of Census blocks below. |
| TRANSTECH | As supplied in column Technology_of_Transmission |
| MAXADDOWN | As supplied |
| MAXADUP | As supplied |
| TYPICDOWN | Set to null |
| TYPICUP | Set to null |
| SHAPE | Copied from Year 2000 Census Bureau reference data, As matched by Census block 2000 ID |

Internal processing notes:

1. No anomalies were noted in the data

NTIA Table BB_Service_RoadSegment

Loaded from supplied text file “NJ - Wireline Service By Street Segment with Speeds (June 2012).txt” and from road segments discovered in large census blocks our calculations put at slightly larger than two square miles (See item 2 above). The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------------|---|
| PROVNAME | Set to “Verizon Online LLC” |
| DBANAME | Set to “Verizon” |
| PROVIDER_TYPE | Set to 1 |
| FRN | Set to “0012254363” |
| ADDMIN | Set to the least of the address numbers, if any |

| | |
|------------|---|
| ADDMAX | Set to the greatest of the address numbers, if any |
| PREDIR | Set to null (no value supplied) |
| STREETNAME | As supplied (has all street components, not just name) |
| STREETTYPE | Set to null (no value supplied) |
| SUFFDIR | Set to null (no value supplied) |
| CITY | Set to null (no value supplied) |
| STATECODE | Set to "NJ" |
| ZIP5 | Set to null (no value supplied) |
| ZIP4 | Set to null (no value supplied) |
| TRANSTECH | As supplied |
| MAXADDOWN | As supplied |
| MAXADUP | As supplied |
| TYPICDOWN | Set to null (no value supplied) |
| TYPICUP | Set to null (no value supplied) |
| TLID | As supplied |
| SHAPE | Copied from Census Bureau TigerLine 2010, As matched by County + Tiger Line ID |

Internal notes on processing:

1. All rows were supplemented with a line-segment shape from the Census Bureau's TigerLine data set.
2. We removed 110 records from the Verizon submitted data that were duplicates, based on county and tlid.
3. We removed 12 records from the Verizon submitted data that had entries in the tlid field that did not match our list of street segments in large census blocks.

Section 5: Clarification Questions and Responses

From: NJ Broadband Data Collection [mailto:ConnectingNJ@groups.appcomsci.com]
Sent: Tuesday, February 21, 2012 8:48 AM
To: 'laura.a.shine@verizon.com'
Cc: 'Clemons, Keefe B'
Subject: Question on NJ Broadband Data from Verizon

Laura and Keefe,

I believe we raised this issue in the past, but the NTIA wants us to ensure that we have the most accurate and complete data possible. The data you submitted on the middle mile access points (NJ - POP List (Dec 2011).xls) does not include information on elevation, serving facility capacity, or service facility type at these addresses.

Would you be willing and able to provide this information?

John Wullert
Manager - NJ BB Data Collection
Applied Communication Sciences
732-699-2687

From: Clemons, Keefe B [mailto:keefe.b.clemons@verizon.com]
Sent: Tuesday, February 21, 2012 9:43 AM
To: 'NJ Broadband Data Collection'; Shine, Laura A
Subject: RE: Question on NJ Broadband Data from Verizon

John:

The data we provided is consistent with the data that we have provided for all prior rounds of data collection, and is consistent with the level of detail we provide in every state in which we provide this data. Given the sensitivity of this information, we are not prepared to provide additional information regarding our middle mile facilities.

Feel free to contact me if you have any additional questions.

Sincerely,

Keefe

Keefe B. Clemons
General Counsel - Northeast Region
Verizon
140 West Street, 27th Floor
New York, New York 10007-2109
(212) 321-8136 (Phone)
(212) 962-1687 (Fax)

keefe.b.clemons@verizon.com

Subject:Questions about previous data submissions
Date:Fri, 27 Jul 2012 11:34:33 -0400
From:Connecting NJ <ConnectingNJ@appcomsci.com>
To:keefe.b.clemons@verizon.com

Mr. Clemons,

The NJ Broadband Mapping team has received feedback from the NTIA regarding our 4/11 and 10/11 data submissions. The NTIA contracted the Michael Baker firm who, using third-party data, evaluated the quality of data submissions it received from its grantees. Since the feedback we have received for the last two submissions is consistent, we would like to share it with you. Please note that we were not given copies of the third-party data, so the reasons for mismatches between the data we submitted and these third-party data are not always clear. Our intent is merely to share with you problematic fields, such as provider name or speed tier, that have a lot of mismatches, and do some further inquiry to better validate the provider's data. Obviously, by working more closely with you, we hope to reduce data mismatches in future submissions. Here are some of the questions we have about your data.

Provider Name: Verizon Online LLC; DBA Name: Verizon
- Most mismatches on max advertised downstream speed involve tiers 4, 5 & 6 for ADSL. (Please refer to downstream speed tier table below.)
- Most mismatches on max advertised upstream speed involve tiers 2 (ADSL) & 7 (Optical Fiber). (Please refer to upstream speed tier table below.)

Might these mismatches have to do with the way you are identifying ADSL speed tiers?

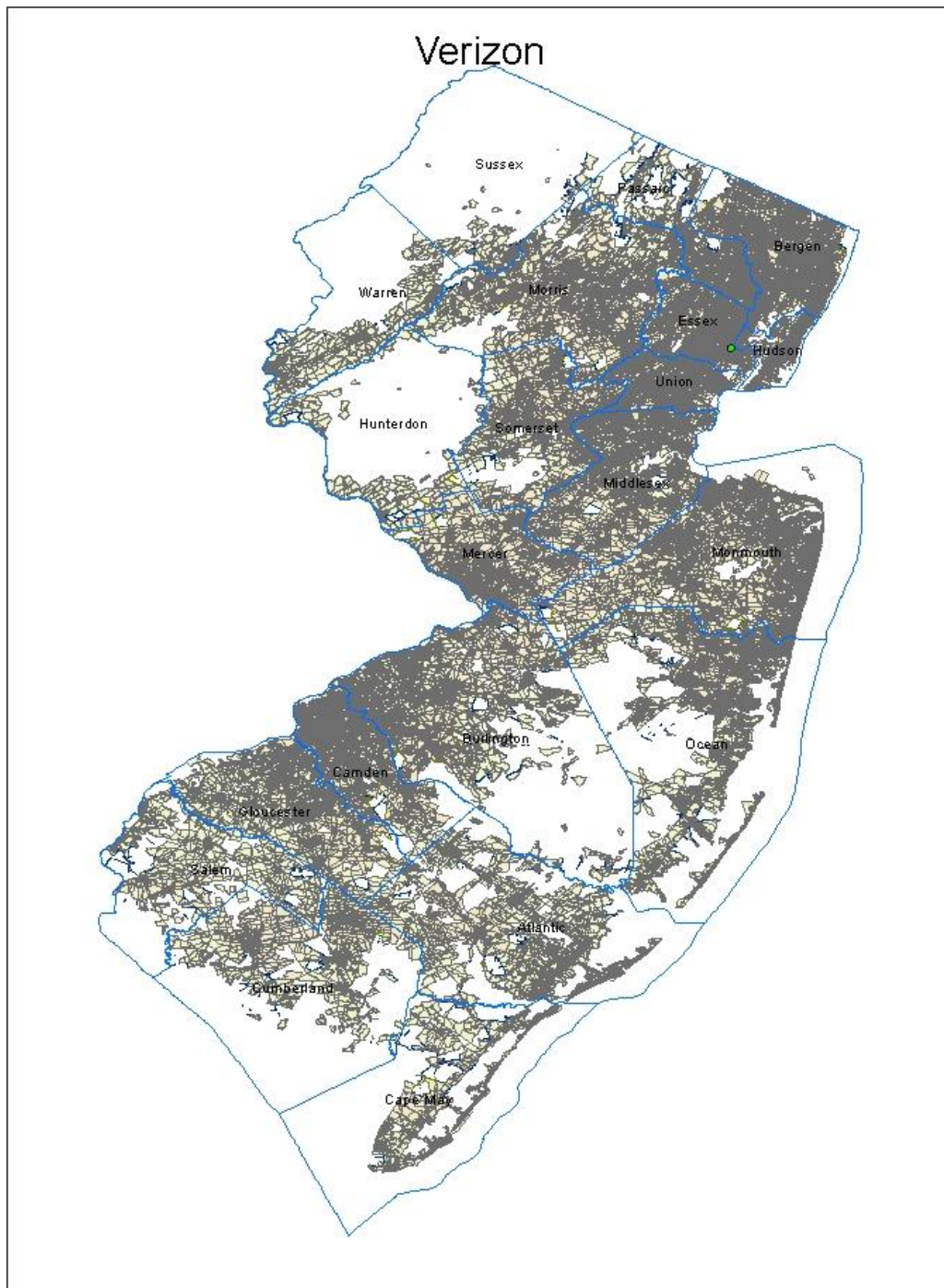
Thank you for your interest and continued support in our NJ BB Mapping program.

Best regards,

Cliff Behrens
Manager - NJ BB Data Collection
Applied Communication Sciences
ConnectingNJ@groups.appcomsci.com
732.699.2380

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.28 Verizon Wireless

Connecting New Jersey - Broadband Provider Data Report

Provider: Verizon Wireless

Received: July 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Section 1: NDA Status

NDA was executed.

Section 2: Submission Overview

| AVAILABILITY DATA | | | |
|-------------------|---|--|--|
| ID | Provider name | | Cellco Partnership |
| | “Doing business as” name | | Verizon Wireless |
| | FRN | | 0003290673 |
| | Holding company name | | Verizon Communications Inc. |
| | Holding company number | | 131425 |
| FOR WIRELESS | | | |
| Filetypes | shapefile collection: shp/dbf/prj/shx, mdb, gdb, imagefile etc. Two sets of data provided – one for EVDO and one for LTE (this was not explicitly stated - inferred from the file names). | | Supplied 2 shapfiles (zip archive) with 21 and 39 rows. Shapefiles use projection GCS_WGS_1984.. |
| Speeds | Type | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode) | |
| | Upstream max adv | 201 - 767 kbps | |
| | Downstream max adv | 768 kbps - 1.49 mbps | |
| | Upstream typical | 500k-800kbps | |
| | Downstream | 600kbps-1.4mbps | |

| | | | |
|----------------------|--------------------------|--|--|
| | typical | | |
| | Subscriber-weighted | Not provided | Ranges provided instead of single values. Lower end of the Down Typical range is OUTSIDE of the Broadband speed definition (will use upper end values for the time being). |
| Speeds | Type | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode) | |
| | Upstream max adv | 3.00 - 5.99 mbps | Ranges provided instead of single values. |
| | Downstream max adv | 600k - 9.99 mbps | |
| | Upstream typical | 2mbps -5mbps | |
| | Downstream typical | 5mbps -12mbps | |
| | Subscriber-weighted | Not provided | |
| Technology Type | Spectrum (Mhz, FCC code) | | <p>Code 80 [Cellular (824-849Mhz, 869-894 Mhz); PCS 1850-1990 Mhz; AWS (1710-1755Mhz, 2110-2155Mhz); 700 (757-758Mhz, 776-779Mhz, 787-788Mhz, 805-806Mhz)]</p> <p>One of the provided Spectrum ranges (1st set) is 869-894 Mhz, which is not within ranges defined for that spectrum</p> <p>The shapefiles are named “NJ_evdo” and NJ_lte suggesting that the availability is only for EVDO and LTE. Verizon Wireless documents on the web suggest the company uses spectrum 850 MHz and 1900 MHz for their EVDO.</p> |
| Comments: | | | |
| INTERCONNECTION DATA | | | |
| ID | | | |
| File size | | | |

| | |
|----------------------------|--|
| Ownership | |
| Transport Type | |
| Data Rates/Capacity | |
| Location | |
| Comments: | |

Section 3: Submission File Details

A link to download the data was supplied by email.

Received overview file "VerizonWireless - Email Speed_Technology Informatoin.pdf" with spectrum and speed information.

Received 2 zip files:

- NJ_evdo.zip (1,493,718 bytes)
- NJ_lte.zip (2,572,820 bytes)

2 shapefiles contain the following contents. The NJ_EVDO shapefile has 21 polygons for each county, and the NJ_lte shapefile has 39 polygons.

| Size | Name |
|---------|-----------------|
| 498 | NJ_evdo.dbf |
| 145 | NJ_evdo.prj |
| 324 | NJ_evdo.sbn |
| 132 | NJ_evdo.sbx |
| 2046156 | NJ_evdo.shp |
| 11512 | NJ_evdo.shp.xml |
| 268 | NJ_evdo.shx |

| Size | Name |
|-------|------------|
| 10575 | NJ_lte.dbf |
| 145 | NJ_lte.prj |
| 500 | NJ_lte.sbn |

148 NJ_lte.sbx
 3669928 NJ_lte.shp
 9798 NJ_lte.shp.xml
 412 NJ_lte.shx

Cover letter “Verizon Wireless Broadband Statistics.pdf” is missing in this submission.

Section 4: Data Validation, Transformation and Loading

NTIA Table BB_Service_Wireless

Loaded from the supplied shapefiles. The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|---|
| PROVNAME | As supplied in Word document |
| DBANAME | As supplied in Word document |
| FRN | Set to "0003290673" |
| TRANSTECH | Set to 80 per Word document |
| SPECTRUM | NJ_EVDO: Set to “3” per translation shown below VZW_NJ_LTE: Set to "2" |
| MAXADDOWN | NJ_EVDO: Set to “3”, see below. VZW_NJ_LTE: Set to "7" per email clarification |
| MAXADUP | NJ_EVDO: Set to “2”, see below. VZW_NJ_LTE: Set to "5" per email clarification |
| TYPICDOWN | NJ_EVDO: Set to “3”, see below. VZW_NJ_LTE: Set to "6" per email clarification |
| TYPICUP | NJ_EVDO: Set to “2”, see below. VZW_NJ_LTE: Set to "5" per email clarification |
| STATEABBR | Set to “NJ” |
| SHAPE | As supplied. |

Internal notes on processing:

30. Shapefile NJ_evdo: The total shape apparently covers the entire state of New Jersey. Some

differences are visible along the water body edges. No need to check duplicates since they will be coalesced into 1 polygon. The supplied shape uses geographic coordinate system name GCS_WGS_1984. The NTIA data model requires the same coordinate system. No geographic transformation was required.

31. Shapefile NJ_lte: The shape covers portions of central-Northern New Jersey; the NJ Turnpike appears to be covered for its entire length. No need to check duplicates since they will be coalesced into 1 polygon. The supplied shape uses geographic coordinate system name GCS_WGS_1984. The NTIA data model requires the same coordinate system. No geographic transformation was required.
32. The XY Tolerance value differs on the supplied data from the required NTIA model. Imported the table schema and the table data in two separate operations, thereby ensuring perfect compatibility with the NTIA data model. The tables have the suffix “_tol”.
33. Coalesced the EVDO single-part polygons into one multi-part polygon using the ArcGIS ESRI: Data Management Tools->Generalization->Dissolve (with choosing state in the Dissolve_Field(s) option), which resulted in a new feature class with the suffix “_dissolved”.
34. Coalesced the LTE single-part polygons into one multi-part polygon using the ArcGIS ESRI: Data Management Tools->Generalization->Dissolve ((with choosing state in the Dissolve_Field(s) option), which resulted in a new feature class with the suffix “_dissolved”.
35. NTIA requires shapes to be contained in the NJ state boundary. Although we visually verified that it is the case, we clipped the shapes using ESRI: Analysis Tools-> Extract -> Clip with, select feature class refdata_2010.tl_2010_34_state10_wgs. The feature class has the suffix “_clip”
36. Spectrum:
 - a. NJ_EVDO: Verizon Wireless provided a statement in their cover letter about their licensed spectrum. Searching on the web indicates that EV-DO uses frequencies 850MHz and 1900Mhz. The NTIA data model has a single column for spectrum. No mapping is provided for frequency 850MHz. Frequency 1900MHz corresponds to NTIA “SPECTRUM USED” code value 3.
 - b. VZW_NJ_LTE: Verizon wireless web site advertises "nationwide contiguous 700 Mhz 4G spectrum. The NTIA coding table provides value 2 for 700Mhz spectrum.
37. Speeds:
 - a. NJ_EVDO: The maximum advertised speeds provided in the cover letter are 768 kbps - 1.49 mbps down and 201 - 767 kbps up. The typical speeds are provided as ranges: 600k to 1.4 Mbps down and 500Kbps-800Kpbs up. For both max adv and typical speeds we encoded the submitted down speed as value “3” (range 768k-1.5Mbps) and encoded the submitted up speed as value “2” (range 200-768kbps). This matches the values provided in the email from Anne Neville data 2/21/2012.
 - b. VZW_LTE_NU: The supplied Word document suggests speeds are "10 times EVDO". The maximum advertised speeds provided in the cover letter are 600 - 9.99 mbps down and 3.00 - 5.99 mbps up. The typical speeds are provided as ranges: 5 - 12 Mbps down and 2 - 5 Mbps up. For max adv speeds we had originally encoded the submitted down speed as value “6” (range 6-10Mbps) and encoded the submitted up speed as value “5” (range 3-6mbps). Based on the email from Anne Neville data 2/21/2012, we modified the down speed to code “7”. Compliant with the same NTIA email directive, we encoded typical down speed as “6” (range 6 mbps – 10 mbps), and typical up speed as “5” (range 3 mbps – 6 mbps).

38. The only data imputed was the state abbreviation.

Section 5: Clarification Questions and Responses

We received a warning on the wireless shape record for the combination of downstream speed code of “7” (10-25 Mbps) with a transtech code of “80” (Mobile Wireless). The maximum advertised speeds provided in the cover letter that came with the provider’s submission are 600 - 9.99 mbps down and 3.00 - 5.99 mbps up. The typical speeds are provided as ranges: 5 - 12 Mbps down and 2 - 5 Mbps up. For max adv speeds we had originally encoded the submitted down speed as value “6” (range 6-10Mbps) and encoded the submitted up speed as value “5” (range 3-6mbps). Based on the email from Anne Neville data 2/21/2012, we modified the down speed to code “7”. In addition, we previously had assigned the same set of values for maximum advertised speeds to typical speeds for both Verizon Wireless 3G and 4G LTE services. In this submission, the first for which we actually have typical speeds for this provider, we complied with the directions given in the previously referenced email, and encoded typical 4G LTE down speed as “6” (range 6-10Mbps) and up speed as “5” (range 3-6mbps).

Subject: Questions about previous data submissions

Date: Fri, 27 Jul 2012 11:45:50 -0400

From: Connecting NJ <ConnectingNJ@appcomsci.com>

To: francis.malnati@verizonwireless.com

Mr. Malnati,

The NJ Broadband Mapping team has received feedback from the NTIA regarding our 4/11 and 10/11 data submissions. The NTIA contracted the Michael Baker firm who, using third-party data, evaluated the quality of data submissions it received from its grantees. Since the feedback we have received for the last two submissions is consistent, we would like to share it with you. Please note that we were not given copies of the third-party data, so the reasons for mismatches between the data we submitted and these third-party data are not always clear. Our intent is merely to share with you problematic fields, such as provider name or speed tier, that have a lot of mismatches, and do some further inquiry to better validate the provider's data. Obviously, by working more closely with you, we hope to reduce data mismatches in future submissions. Here are some of the questions we have about your data.

Verizon Wireless/Cellco

- Most mismatches result from your reporting of max advertised downstream speed tiers 3 & 7. One possibility is that 3 understates downstream speed and 7 overstates it. (Please refer to downstream speed tier table below.)
- Most mismatches in your reporting of max advertised upstream speed is for tier 2. (Please refer to upstream speed tier table below.) Might you possibly be understating your upstream speed?

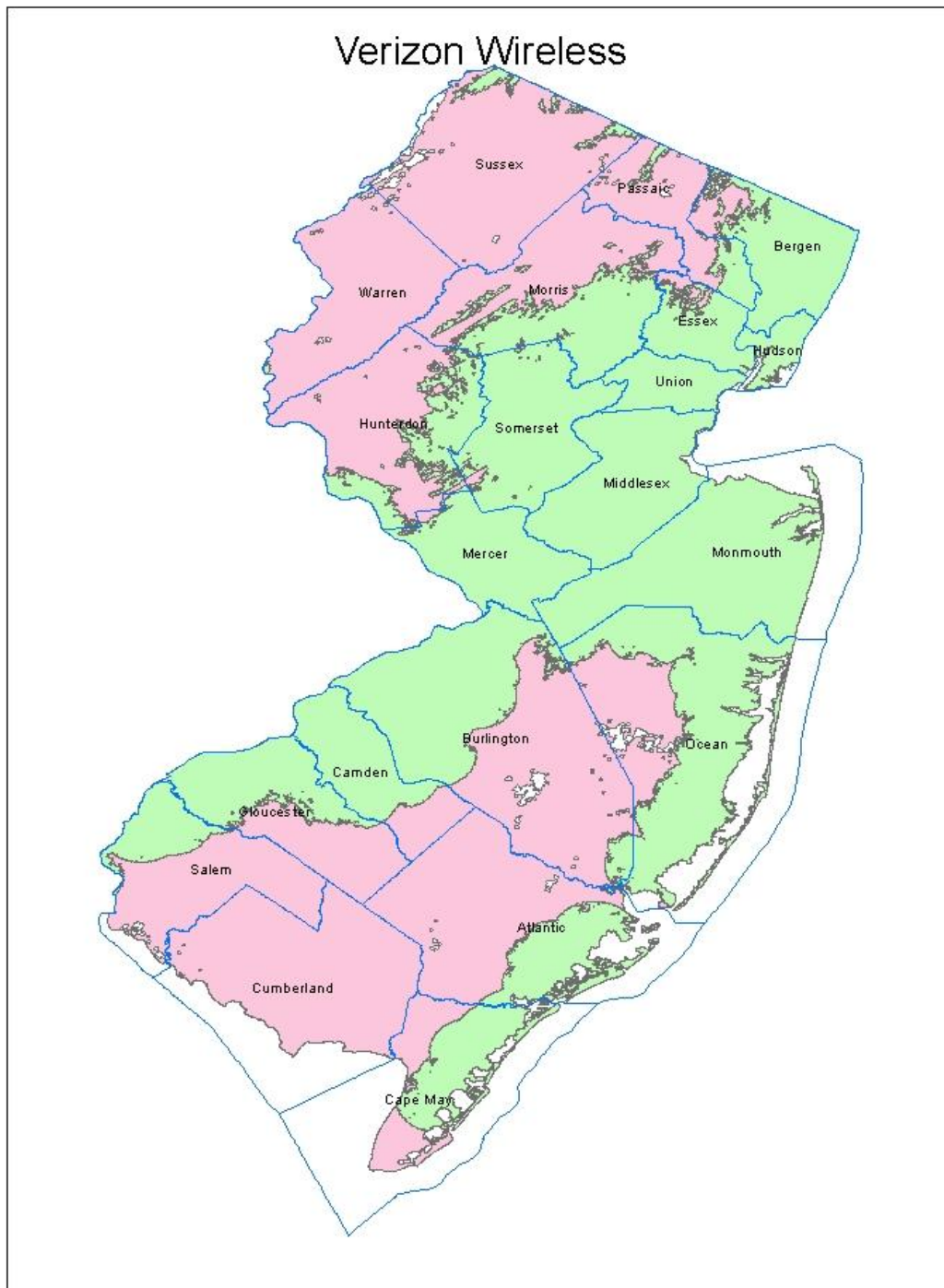
Thank you for your interest and continued support in our NJ BB Mapping program.

Best regards,

Cliff Behrens
Manager - NJ BB Data Collection
Applied Communication Sciences
ConnectingNJ@groups.appcomsci.com
732.699.2380

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.29 Voxitas

Connecting New Jersey - Broadband Provider Data Report

Provider: Voxitas

Received: August 2010

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

For October 2012:

This is a stub report, since data from the previous submission was reused unchanged. The complete report from the previous submission begins on the next page. Notable differences from the processing done on the previous submission are listed next.

Section 1: NDA Status

Executed.

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|--------------------------|--|--|--|
| ID | Provider name | | Netlogic, Inc. | |
| | “Doing business as” name | | Voxitas | |
| | FRN | | 0006825954 | |
| FOR WIRELINE | | | | |
| Filetypes | Excel spreadsheet | | | |
| File size | 9767 bytes, 4 data rows | | | |
| Speeds | Type | | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode,etc) | Address rows with speed entries were provided, probably the speed promised to the customer. Not averaged over an area so not typical; no advertised speeds provided. |
| | Typical-upstream | | Not provided | |
| | Typical-downstream | | Not provided | |
| | Advertised-upstream | | Not provided | |
| | Advertised- | | Not provided | |

| | | | | |
|------------------------|---|--|--------------|--|
| | downstream | | | |
| | Subscriber-weighted-up | | Not provided | |
| | Subscriber-weighted-down | | Not provided | |
| Technology Type | Not provided; Web site search indicates and provider confirmed “Copper – Other” | | | |
| End-user specification | Not provided | | | |
| Comments: | | | | |
| INTERCONNECTION DATA | | | | |
| ID | | | | |
| File size | | | | |
| Ownership | | | | |
| Transport Type | | | | |
| Data Rates/Capacity | | | | |
| Location | | | | |
| Comments: Not provided | | | | |

Section 3: Submission File Details

Received 1 file by secure upload.

| | |
|-------------|------------------|
| Size | Name |
| 9767 | NJBroadband.xlsx |

The file has 4 (four) rows of data. All have customer names and addresses. Three records describe DS1 service, one describes something else. Speeds listed are probably the provisioned speeds, not typical or advertised. No cover letter with DBA name, FRN, or other company data is present. No coded representations of data such as end user type, technology of transmission, etc. are provided.

Section 4: Data Validation, Transformation and Loading

NTIA Table BB_Service_CensusBlock

Loaded from supplied file “NJBroadband.xlsx” (4 rows). The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------------|---|
| PROVNAME | Set to “Netlogic, Inc.” |
| DBANAME | Set to “Voxitas” |
| RESELLER | Set to “N” |
| FRN | Set to “0006825954” |
| STATEFIPS | Set to “34” (NJ) |
| COUNTYFIPS | Populated from Census Block FIPS Code (first 3 digits) |
| TRACT | Populated from Census Block FIPS Code (next 6 digits) |
| BLOCKID | Populated from Census Block FIPS Code |
| BLOCKSUBGROUP | Set to null |
| FULLFIPSID | Populated from Census Block FIPS Code |
| TRANSTECH | Set to “30” |
| MAXADDOWN | As supplied in column Downstream |
| MAXADUP | As supplied in column Upstream |
| TYPICDOWN | Set to null, not provided |
| TYPICUP | Set to null, not provided |
| SHAPE | Copied from Census Bureau TigerLine 2000, as matched by spatial join on geocoded address |

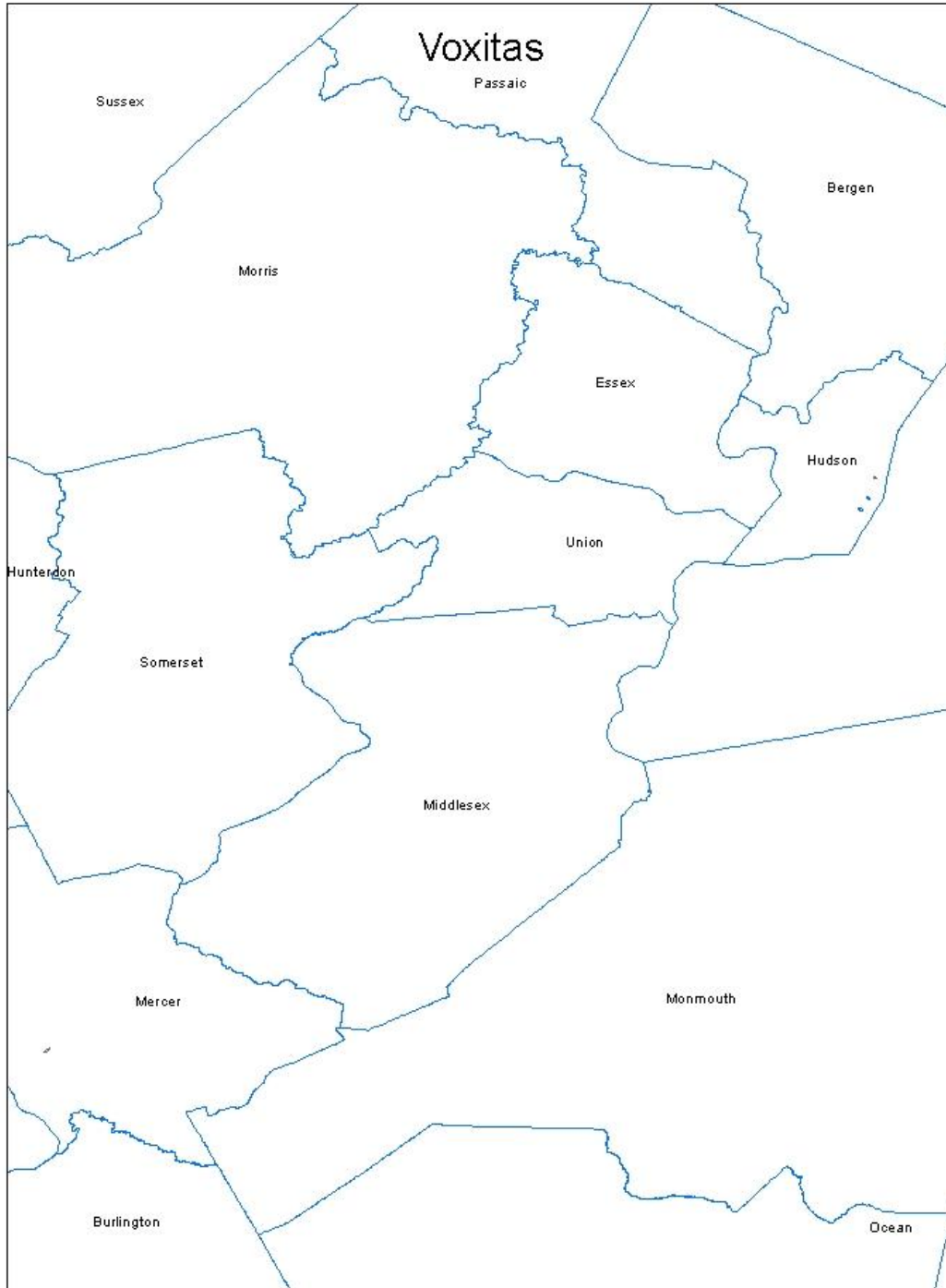
Internal processing notes:

33. Following steps were performed when data was initially submitted and results were reused in this round
 - a. Geocoded the addresses using the Google geocoder.
 - b. Created an excel sheet and imported to a geodatabase table.
 - c. Added point shapes corresponding to each Latitude,Longitude pair by creating a feature class from the table using ArcCatalog’s “Create Feature Class from XY Table” option.
 - d. Added a column containing the ID of the containing year 2000 census block via a spatial join of the point shapes and the census block shapes from reference data.
 - e. Discarded NN rows with duplicate census blocks.
34. Ran NTIA validations and all passed

Section 5: Clarification Questions and Responses

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.30 ViaSat

Connecting New Jersey - Broadband Provider Data Report

Provider: ViaSat, Inc.

Received: July 2012

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Section 1: NDA Status

NONE

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|--------------------------|--|--|--|
| ID | Provider name | | ViaSat, Inc. | |
| | “Doing business as” name | | ViaSat, Inc. | |
| | FRN | | 0004963088 | |
| FOR WIRELESS | | | | |
| Filetypes | text file, shape file | | | |
| File size | | | | |
| Speeds | Type | | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode,etc) | Submitted shape file describing the entire state of NJ with attributes for technology and maximum advertised up/down speed codes. Spectrum is listed as “Satellite”. |
| | Typical-upstream | | Not provided (‘0’) | |
| | Typical-downstream | | Not provided (‘0’) | |
| | Advertised-upstream | | yes. Entire state. | Second submission from WildBlue included values in Mbps for maximum advertised up/down speeds: Download: 1.5 Mbps Upload: 0.25 Mbps These correspond to the speed |
| | Advertised-downstream | | yes. Entire state | |
| | Subscriber-weighted-up | | Not provided | |
| | Subscriber-weighted-down | | Not provided | |

| | | |
|---|---------------------|------------------------------|
| | | tiers 4 and 2, respectively. |
| Technology Type | Code 60 (Satellite) | |
| End-user specification | | |
| Comments: From the provider’s input package: WildBlue notes that of the possible ‘Spectrum Used’ options provided, none list Ka-Band as an option for Satellite Providers. | | |
| INTERCONNECTION DATA: NONE | | |
| ID | | |
| File size | | |
| Ownership | | |
| Transport Type | | |
| Data Rates/Capacity | | |
| Location | | |
| Comments: Not provided | | |

Section 3: Submission File Details

| Size | Name |
|---------|---------------------------------------|
| 116 | ViaSat_AreaAvailability_NJ_region.shx |
| 654 | ViaSat_AreaAvailability_NJ_region.dbf |
| 165 | ViaSat_AreaAvailability_NJ_region.prj |
| 179,268 | ViaSat_AreaAvailability_NJ_region.shp |

Section 4: Data Validation, Transformation and Loading

NTIA Table BB_Service_Wireless

The following table explains the transformations that were applied.

| Table Column | Data Source / Transformation |
|--------------|------------------------------|
| PROVNAME | Set to "ViaSat, Inc." |

| | |
|-----------|--|
| DBANAME | Set to "ViaSat, Inc." |
| FRN | Set to 0007843766 Set to 0004963088 |
| TRANSTECH | Set to 60 |
| SPECTRUM | Set to 9 per translation shown below |
| MAXADDOWN | As provided, confirmed from speed data |
| MAXADUP | As provided, confirmed from speed data |
| TYPICDOWN | Not provided, set to null |
| TYPICUP | Not provided, set to null |
| STATEABBR | Set to "NJ" |
| SHAPE | County shape read from reference data. |

Internal notes on processing:

39. Spectrum: WildBlue uses Ka-Band spectrum (uplink in the 29.5 – 30 gigahertz band and downlink in the 19.7 – 20.2 gigahertz band). While this is not specifically included in the list of satellite frequencies associated with Code 9, we used code 9 anyway. This is a change from previous submissions. (from the last submission)
40. The shape file contains 2 polygon shapes.
41. The supplied shape file uses geographic coordinate system name GCS_North_American_1983. The NTIA data model requires GCS_WGS_1984 geographic coordinate system. Thus transformation is required. The XY Tolerance value differs on the supplied data from the required NTIA model. Imported the table schema and the table data in two separate operations, thereby ensuring perfect compatibility with the NTIA data model. The table has the suffix "_wgs_tol".
42. NTIA requires shapes to be contained in the NJ state boundary. Although we visually verified that it is the case, we clipped the shape using ESRI: Analysis Tools-> Extract -> Clip with, select feature class refdata_2010.tl_2010_34_state10_wgs. The feature class has the suffix "_clip"
43. Validation rules produced a warning on the wireless shape record for the combination of downstream and upstream speed code of 7 (10-25 Mbps)
with a transtech code of 60 (Satellite). Provider said that in most locations, speeds are significantly in excess of the speeds set forth in the NTIA Tiers for "Satellite Technology" so they are reporting the actual maximum advertised upload and download speeds. Provider confirmed that they launched two new services named Exede 5 and Exede 12 and Exede 12 has a maximum advertised upload speed of 3 Mbps and a maximum advertised download speed of 12 Mbps.

Section 5: Clarification Questions and Responses

Subject: Round 6 Broadband Mapping Project New Jersey
Date: Tue, 24 Jul 2012 21:45:30 +0000
From: Hill, Janel <Janel.Hill@viasat.com>
To: connectingnj@appcomsci.com <connectingnj@appcomsci.com>

Greetings,

The attached data is being submitted by ViaSat, Inc. for Round 6 of the Broadband Mapping Program. Please note the following:

1. ViaSat, Inc. is the parent company of ViaSat Communications, Inc. which was formerly known as WildBlue Communications, Inc. Prior submissions were made in the name of WildBlue Communications. Please update your state's map to reflect that ViaSat, Inc. is now the name of the provider.
2. ViaSat provides high speed internet service over several ka band satellites which together cover the entire United States.
3. The speed of the service depends on which satellite is covering the particular area. The attached data consists of the maximum advertised upload and download speeds at the census block level. In most locations, ViaSat's speeds are significantly in excess of the speeds set forth in the NTIA Tiers for "Satellite Technology" so we are reporting the actual maximum advertised upload and download speeds.
4. During the first quarter of 2012, ViaSat launched two new services named Exede 5 and Exede 12. Exede 5 has a maximum advertised upload speed of 1 Mbps and a maximum advertised download speed of 5 Mbps. Exede 12 has a maximum advertised upload speed of 3 Mbps and a maximum advertised download speed of 12 Mbps. The attached data shows which of the two services are available on a census block basis. In limited geographic areas, neither of the two new services are available, in which case the data reflects the maximum advertised upload and download speeds for ViaSat's legacy service called the WildBlue service. The WildBlue service has a maximum advertised upload speed of 256 Kbps and a maximum advertised download speed of 1.5 Mbps.
5. The attached data is current as of June 30, 2012.

Thank you for the opportunity to participate. We look forward to seeing ViaSat's updated information included in your state's broadband map. If you have any questions, feel free to contact me.

Kind Regards,

Janel Hill//

Paralegal | ViaSat, Inc | 6155 El Camino Real | Carlsbad, CA 92009

janel.hill@viasat.com | 760-476-4716

From: Connecting NJ [<mailto:ConnectingNJ@appcomsci.com>]
Sent: Wednesday, July 25, 2012 10:03 AM
To: Hill, Janel
Subject: Re: Round 6 Broadband Mapping Project New Jersey

Janel,

We have a couple of questions regarding your name change:

1. We are using "0007843766" for your FRN. Should we use this or do you have another?
2. What is your DBA name? Should we also use ViaSat for this?

Thanks,

Cliff

Subject: RE: Round 6 Broadband Mapping Project New Jersey
Date: Wed, 25 Jul 2012 20:41:37 +0000
From: Hill, Janel <Janel.Hill@viasat.com>
To: Connecting NJ <ConnectingNJ@appcomsci.com>

Hi Cliff,

The filing is being sent by ViaSat, Inc., which is the parent company of ViaSat Communications, Inc. It is not a DBA situation but rather, a parent/subsidiary relationship.

We have two FRN's, please use these:

ViaSat: 0004963088
ViaSat Communications: 0007843766

Kind Regards,

Janel Hill

Paralegal | ViaSat, Inc | 6155 El Camino Real | Carlsbad, CA 92009 janel.hill@viasat.com | 760-476-4716

Subject:Re: Round 6 Broadband Mapping Project New Jersey
Date: Mon, 20 Aug 2012 12:48:34 -0400
From: Connecting NJ <ConnectingNJ@appcomsci.com>
To: Hill, Janel <Janel.Hill@viasat.com>

Janel,

The NTIA provides its grantees with a script that is used to validate data submissions. When the script produces warnings, we make an attempt

to understand the reason. In the case of the ViaSat data, we received a warning and the following recommendation:

```
transtech = 60 AND maxaddown IN ('3','4','5') AND maxadup IN ('2','3','4')
```

In your latest submission, your data stated transtech=60, maxaddown=7, and maxadup=5. We interpret the warning to mean that, as far as the NTIA is concerned, these speeds are too fast for transtech=60; in other words, these speeds aren't possible for satellite broad band service? FYI, in your last data submission, you stated transtech = 60, maxaddown = 4 and maxadup = 2 for all of New Jersey.

We can report the warning in our data report but, before we do, I thought I would give you a chance to explain what you think are the possible reasons you believe these faster speeds are valid.

Thanks,

Cliff

Subject: RE: Round 6 Broadband Mapping Project New Jersey
Date: Mon, 20 Aug 2012 18:00:31 +0000
From: Strauss, Pamela <Pamela.Strauss@viasat.com>
To: 'ConnectingNJ@appcomsci.com' <ConnectingNJ@appcomsci.com>
CC: Hill, Janel <Janel.Hill@viasat.com>

Hi Cliff. Janel forwarded your email to me. As Janel explained below in the email she sent with the data, during the first quarter of 2012, ViaSat launched two new services named Exede 5 and Exede 12. Exede 5 has a maximum advertised upload speed of 1 Mbps and a maximum advertised download speed of 5 Mbps. Exede 12 has a maximum advertised upload speed of 3 Mbps and a maximum advertised download speed of 12 Mbps. Almost the entire state of New Jersey (with the exception of one small area of around 35 sq. miles) has access to Exede 12.

ViaSat's new services have been made possible by ViaSat's launch of a new state-of-the-art satellite in late 2011. It is true that the speeds for the new services are faster than anything previously available through satellite internet.

Please let me know if you have additional questions.

Pam Strauss
Associate General Counsel
ViaSat, Inc.
349 Inverness Drive South
Englewood, CO 80112
Direct: 720-493-6248
pam.strauss@viasat.com

Subject: Re: Round 6 Broadband Mapping Project New Jersey
Date: Mon, 20 Aug 2012 14:10:10 -0400
From: Connecting NJ <ConnectingNJ@appcomsci.com>
To: Strauss, Pamela <Pamela.Strauss@viasat.com>
CC: Hill, Janel <Janel.Hill@viasat.com>

Pam and Janel,

Thank you for this clarification. I will be sure to include it in our data report so that the NTIA has a comprehensive view of these state-of-the-art satellite capabilities.

Best regards,

Cliff

Subject:Re: Round 6 Broadband Mapping Project New Jersey
Date: Wed, 22 Aug 2012 12:28:30 -0400
From: Connecting NJ <ConnectingNJ@appcomsci.com>
To: Strauss, Pamela <Pamela.Strauss@viasat.com>
CC: Hill, Janel <Janel.Hill@viasat.com>

Pam,

I was wondering whether you could please provide a map or data (in any form) that delimited that 35 sq. miles without access to Exede 12?

Cliff

Subject:Re: Round 6 Broadband Mapping Project New Jersey
Date: Wed, 22 Aug 2012 15:53:34 -0400
From: Connecting NJ <ConnectingNJ@appcomsci.com>
To: Hill, Janel <Janel.Hill@viasat.com>

Janel,

This helps a lot. You have been really great to work with on this data submission. We really appreciate your efforts and those of your colleagues at ViaSat to answer our questions.

Thanks again!

Cliff

On 8/22/2012 3:50 PM, Hill, Janel wrote:
> Hi Cliff,
>

> This is the answer I got from our GIS Analyst who pulled the mapping data together for me:

>

> "...I am 99% confident that New Jersey is entirely covered by Exede 12. However, since we reported to the census block level, there are 4 census block boundaries that I believe extend out into the ocean. Since that area does not fall within our Exede 12 beams, that strip of census block fell out and was included in ProPlus. Unfortunately, this happens when boundaries don't match up exactly to the data in another file. If I look at our data, the beam boundary slices through those census blocks, but I am pretty confident that those blocks are not entirely on land. I didn't want to make the assumption since I am not familiar with that area (i.e, are there vacation islands that people live on part of the year out there)? Usually if the census block extends into water, there is a population count."

>

> Please let me know if this helps, or if you need any more information.

>

> Kind Regards,

>

> Janel Hill

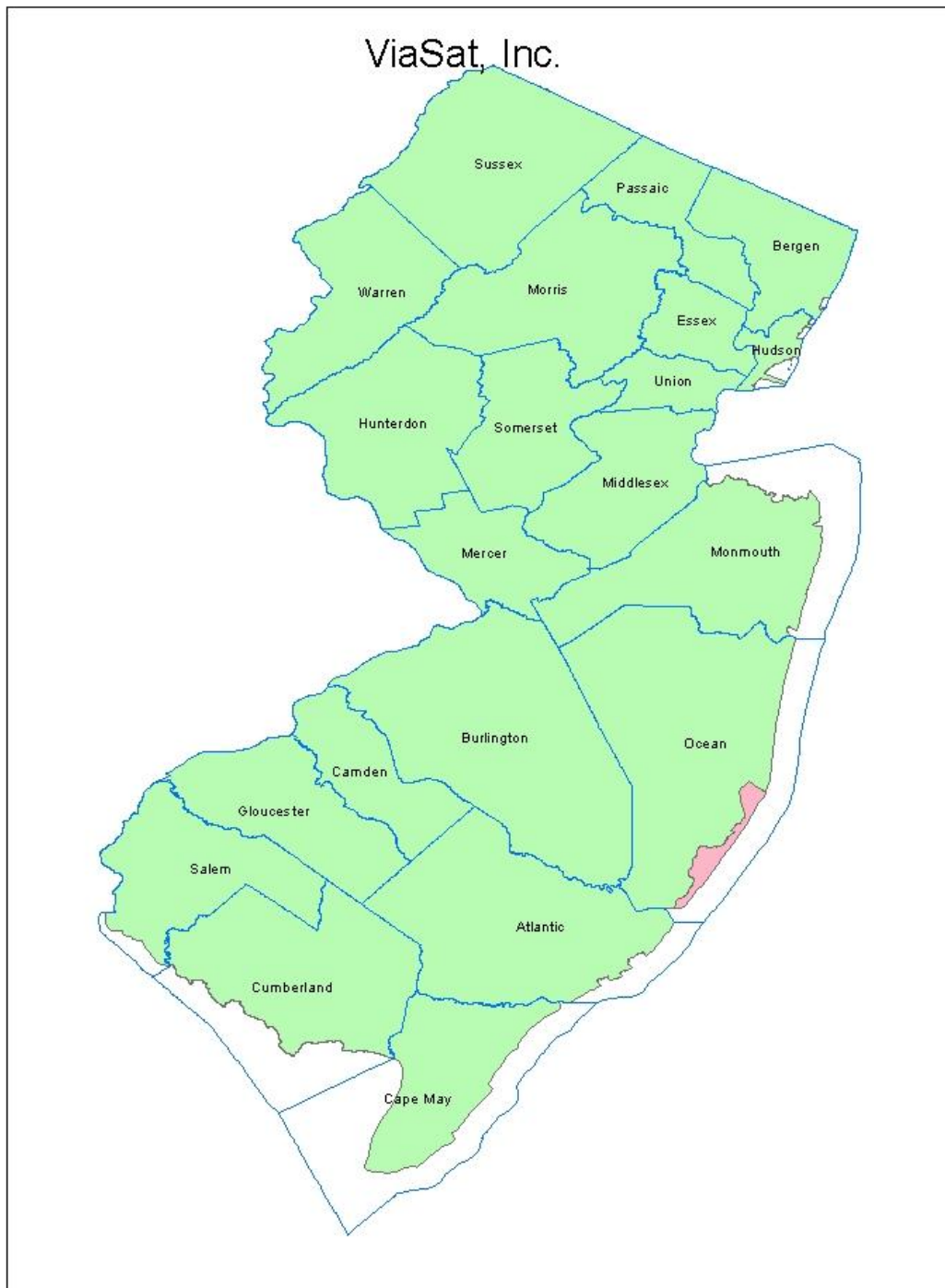
> Paralegal | ViaSat, Inc | 6155 El Camino Real | Carlsbad, CA 92009

> janel.hill@viasat.com | 760-476-4716

>

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.31 Xchange Telecom

Connecting New Jersey - Broadband Provider Data Report

Provider: Xchange Telecom

Received: March 2011

Submission date: October 2012

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

This is a stub report, since data from the previous submission was reused unchanged. The complete report from the previous submission begins on the next page. Notable differences from the processing done on the previous submission are listed next.

Section 1: NDA Status

None

Section 2: Submission Overview

| AVAILABILITY DATA | | | | |
|-------------------|--------------------------|--|--|---|
| ID | Provider name | | | Xchange Telecom Corp |
| | “Doing business as” name | | | Xchange Telecom |
| | FRN | | | 0006831713 |
| FOR WIRELINE | | | | |
| Filetypes | | | | |
| File size | | | | |
| Speeds | Type | | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode,etc) | Information provided via email exchange (see below). Provider originally indicated that their coverage was limited to the area supported by a single central office. In further exchanges, the provider indicated that their coverage is limited to city of Lakewood and that they cover the entire city limits. |
| | Typical-upstream | | | |
| | Typical-downstream | | | |
| | Advertised-upstream | | 2 Mbps (code 4) | |
| | Advertised-downstream | | 10 Mbps (code 7) | |
| | Subscriber-weighted- | | | |

| | | | | |
|-------------------------------|---|--|--|--|
| | nominal speed | | | |
| Technology Type | ADSL (code 10) | | | |
| End-user specification | In response to inquiry, provider reported residential and small business. | | | |
| Comments: | | | | |
| INTERCONNECTION DATA | | | | |
| ID | | | | |
| File size | | | | |
| Ownership | | | | |
| Transport Type | | | | |
| Data Rates/Capacity | | | | |
| Location | | | | |
| Comments: | | | | |

Section 3: Submission File Details

Received no file submission, only statements by email.

Section 4: Data Validation, Transformation and Loading

NTIA Table BB_Service_CensusBlock

Based on the emailed statement coverage area, we selected all of the census blocks in Lakewood Township, Ocean county, New Jersey. We submitted all census blocks less than 2 square miles in this municipality. The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------|--|
| PROVNAME | Set to "Xchange Telecom Corp" per email response |
| DBANAME | Set to "Xchange Telecom" |
| PROVIDER_TYPE | Set to 2 (reseller leasing plant from Verizon) |
| FRN | Set to "0006831713" per email response |
| STATEFIPS | Set to "34" (NJ) |

| | |
|---------------|---|
| COUNTYFIPS | Pre-populated from Census Block FIPS Code (digits 3-5) |
| TRACT | Pre-populated from Census Block FIPS Code (next 6 digits) |
| BLOCKID | Pre-populated from Census Block FIPS Code (next 5 digits) |
| BLOCKSUBGROUP | Set to null |
| FULLFIPSID | Populated from Census Block FIPS Code |
| TRANSTECH | Set to 10 (ADSL) per email |
| MAXADDOWN | Set to code 7 per email |
| MAXADUP | Set to code 4 per email |
| TYPICDOWN | Set to null, not provided |
| TYPICUP | Set to null, not provided |
| SHAPE | Census block |

Internal processing notes:

42. Created a file with a municipality name that matches exactly the “name” column in the Year 2010 Census Bureau TigerLine database.
43. Joined against reference data to discover census blocks, for a total of 1012 blocks.
44. Verified that all the census blocks discovered for Lakewood Township are smaller than 2 square miles, so no road segments were loaded.
45. Validation script produced a warning on 1012 census blocks regarding downstream speed code of 7 (10-25 Mbps). We were unable to obtain any confirmation of advertised speeds from provider Web site, because it required entry of a specific phone number. The provider confirmed via email that they offer 10 Mbps download speeds.

Section 5: Clarification Questions and Responses

Key provider Data submission messages:

From: Duvid Rottenberg [mailto:drottenberg@xchangetele.com]
Sent: Tuesday, March 08, 2011 3:36 PM
To: ConnectingNJ@research.telcordia.com
Cc: 'Shelley Bates'
Subject: RE:

John,

We are a UNE-L company, we lease the loop from Verizon and provide broadband for the end user on the leased circuits. I believe we do cover the whole city of Lakewood.

Duvid Rottenberg

Xchange Telecom, Corp.

drottenberg@xchangetele.com

(646) 722-7258

From: Duvid Rottenberg [mailto:drottenberg@xchangetele.com]

Sent: Monday, March 14, 2011 4:31 PM

To: ConnectingNJ@research.telcordia.com

Cc: 'Shelley Bates'

Subject: RE:

2 Mbps Upstream and 10 Mbps downstream.

Duvid Rottenberg

From: NJ Broadband Data Collection [mailto:ConnectingNJ@research.telcordia.com]

Sent: Monday, March 14, 2011 4:46 PM

To: 'Duvid Rottenberg'; 'ConnectingNJ@research.telcordia.com'

Cc: 'Shelley Bates'

Subject: RE:

Thanks for this.

One other question – do you serve both residential and business customers?

John

From: Duvid Rottenberg [mailto:drottenberg@xchangetele.com]

Sent: Monday, March 14, 2011 4:57 PM

To: ConnectingNJ@research.telcordia.com

Cc: 'Shelley Bates'

Subject: RE:

Yes we do.

Duvid Rottenberg

From: Duvid Rottenberg [mailto:DRottenberg@xchangetele.com]
Sent: Wednesday, February 29, 2012 1:20 PM
To: NJ Broadband Data Collection
Subject: RE: New Jersey Broadband Data Collection - Third Notice

You can reuse our previous data.

Thank You,
Duvid Rottenberg

From: NJ Broadband Data Collection [mailto:ConnectingNJ@groups.appcomsci.com]
Sent: Wednesday, February 29, 2012 2:07 PM
To: 'Duvid Rottenberg'
Cc: NJ Broadband Data Collection
Subject: RE: New Jersey Broadband Data Collection - Third Notice

Duvid,

The data we have states that you cover all of Lakewood township, offering DSL service, with download speeds of 10 Mbps and upload speeds of 2 Mbps. Is that all correct?

Thanks,

John Wullert
Manager - NJ BB Data Collection
Applied Communication Sciences
732-699-2687

From: Duvid Rottenberg [mailto:DRottenberg@xchangetele.com]
Sent: Wednesday, February 29, 2012 2:10 PM
To: NJ Broadband Data Collection
Subject: RE: New Jersey Broadband Data Collection - Third Notice

Yes.

Thank You,
Duvid Rottenberg

Subject: Fwd: NJ Broadband Data Collection - Fall 2012
Date: Mon, 30 Jul 2012 12:03:17 -0400
From: Connecting NJ <ConnectingNJ@appcomsci.com>
To: NJ Broadband Data Collection <ConnectingNJ@appcomsci.com>

All,

I talked to D. Rottenberg this morning and he instructed us to use previous data since Xchange Telecom only provides service in Lakewood and nothing has changed since last submission.

Cliff

----- Original Message -----
Subject: NJ Broadband Data Collection - Fall 2012
Date: Thu, 12 Jul 2012 12:36:11 -0400
From: Connecting NJ <ConnectingNJ@appcomsci.com>
To: drottenberg@xchangetele.com

Mr. Rottenberg,
We are writing to you on behalf of the New Jersey Office of Information Technology (NJ-OIT) which is responsible for collecting broadband availability data for the National Telecommunications and Information Administration (NTIA) State Broadband Data and Development Grant Program.

We thank you for your participation in the previous round of broadband data collection. We now ask once again for your assistance by submitting data describing your broadband service offerings in the State of New Jersey. To meet the NTIA's data submission timeline, we will need your data submission no later than Friday, August 10, 2012. The data should represent your broadband service offerings as of 6/30/2012.

For this round, the NTIA is particularly interested in receiving from providers "typical" downstream and upstream speeds. By the NTIA definition, "typical" is the "data transfer throughput rate that most subscribers to service at the maximum advertised downstream speed can achieve consistently during expected periods of heavy network usage."

We encourage you to submit data via our secured Web server at <http://connectingnj.state.nj.us/>. If this presents a problem, please contact us via email and we can make other arrangements.

As mentioned in the previous request, the organization collecting and validating this data on behalf of NJ OIT is now Applied Communication Sciences, formerly Telcordia Advanced Technology Solutions. This is a result of the acquisition of Telcordia by Ericsson. The same people will be the collecting and validating the data, but the email address has changed.

We look forward to hearing from you. Please feel free to contact us with any questions, comments or suggestions.

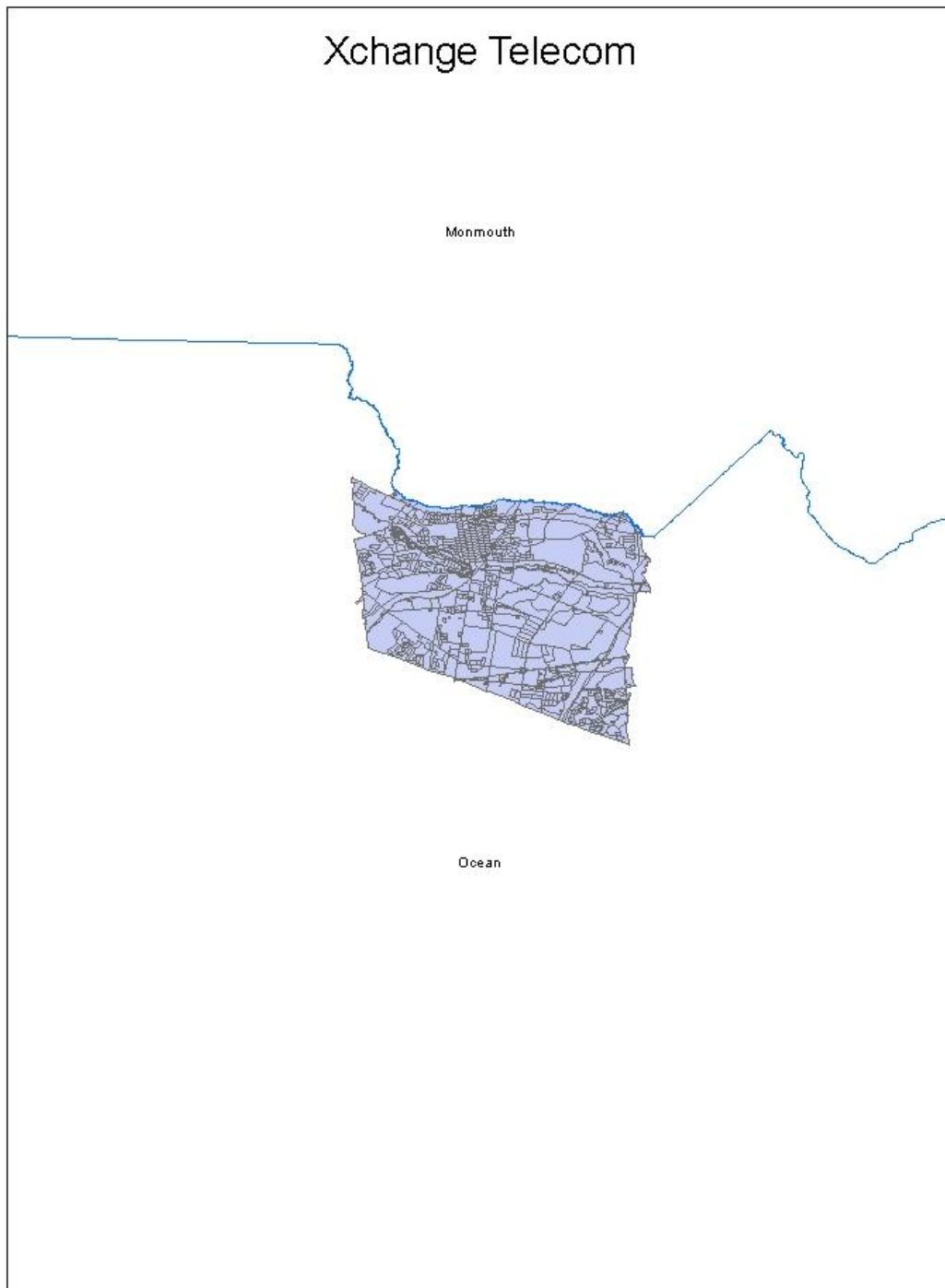
Sincerely,

Cliff Behrens
Manager - NJ BB Data Collection
Applied Communication Sciences
ConnectingNJ@groups.appcomsci.com
732.699.2380

Scott Kloss
Program Manager
NJ Office of Information Technology
scott.kloss@oit.state.nj.us
609.292.4171

Section 6: Notes and Open Issues

Section 7: Overview Map of Submitted Data



6.32 XO Communications

Connecting New Jersey - Broadband Provider Data Report

Provider: XO Communications

Received: July 2011

Submission date: October 2012

This report presents details on processing broadband data for delivery to the National Telecommunications and Information Administration (NTIA).

For October 2012:

This is a stub report, since data from the previous submission was reused unchanged. The complete report from the previous submission begins on the next page. Notable differences from the processing done on the previous submission are listed next.

For April 2012:

This is a stub report, since data from the previous submission was reused unchanged. The complete report from the previous submission begins below. Notable differences from the processing done on the previous submission are listed next.

The provider reported that there were no changes to the reported data. Given that the data we have was submitted in August 2010, we verified with the provider that there were no changes to the coverage area and speeds that they offered.

NTIA Table BB_Service_CensusBlock

Since there is no change in the data and NTIA data model, the table is copied from the 2011 October table, using an ESRI tool, "ArcToolBox->Data Management Tools->General->Append" with NO_TEST in the Schema Type option.

Provider Interactions

From: Adams, Sharon E [<mailto:Sharon.E.Adams@xo.com>]

Sent: Wednesday, February 01, 2012 12:02 PM

To: 'NJ Broadband Data Collection'

Subject: RE: NJ Broadband Data Collection - Spring 2012

Neither XO nor Nextlink have any new or revised data to report.

Thanks,
Sharon Adams

From: NJ Broadband Data Collection [<mailto:ConnectingNJ@groups.appcomsci.com>]
Sent: Friday, February 03, 2012 10:15 AM
To: Adams, Sharon E
Cc: 'NJ Broadband Data Collection'
Subject: RE: NJ Broadband Data Collection - Spring 2012

Sharon,

The last time that you submitted data to us was in August of 2010. Are you saying that the area covered by XO services, and the service speeds offered over that area, have not changed in the last year and a half? I just want to make sure that we can accurately reflect the capabilities you have available in the state of New Jersey.

Thanks,

John Wullert
Manager - NJ BB Data Collection
Applied Communication Sciences
732-699-2687

From: Adams, Sharon E [<mailto:Sharon.E.Adams@xo.com>]
Sent: Friday, February 03, 2012 1:42 PM
To: 'NJ Broadband Data Collection'
Subject: RE: NJ Broadband Data Collection - Spring 2012

Yes.

Thanks,
Sharon Adams

Connecting New Jersey - Broadband Provider Data Report

Provider: XO Communications

Submission date: October 2011

This report presents details on processing broadband data for delivery to the National Telecommunications and Information Administration (NTIA).

This is a stub report, since data from the previous submission was reused unchanged. The complete report from the previous submission begins below. Notable differences from the processing done on the previous submission are listed next.

The provider reported that there were no changes to the reported data. Given that the data we have was submitted in August 2010, we verified with the provider that there were no changes to the coverage area and speeds that they offered.

NTIA Table BB_Service_CensusBlock

1. Column "blocksubgroup" was dropped.
2. Column "endusercat" was added; set to null because data was not supplied.

Notes

1. Discarded 28 records with missing or slow maximum download speed codes.
2. Total rows loaded: 879

Connecting New Jersey - Broadband Provider Data Report

Provider: XO Communications

Submission date: April 2011

This report presents details on processing broadband data for delivery to the National Telecommunications and Information Administration (NTIA).

This is a stub report, since data from the previous submission was reused unchanged. The complete report from the previous submission begins on the next page. Notable differences from the processing done on the previous submission are listed next.

NTIA Table BB_Service_CensusBlock

1. Column "reseller" was dropped.
2. Set the new column "provider_type" to value 1 ("Broadband provider as described in the NOFA")
3. Set the max advertised speed code values (down and up) to 9, which is the maximum value among all records provided to us.
4. Dropped non-measured typical up/down speed code values.

Provider Interactions

From: Adams, Sharon E [mailto:Sharon.E.Adams@xo.com]
Sent: Tuesday, March 01, 2011 4:11 PM
To: ConnectingNJ@research.telcordia.com
Subject: RE: NJ BB Data Collection - Spring 2011

Hi John,

I don't have any new data to report.

Thanks,
Sharon Adams

From: NJ Broadband Data Collection [mailto:ConnectingNJ@research.telcordia.com]
Sent: Tuesday, March 01, 2011 4:23 PM
To: Adams, Sharon E
Cc: ConnectingNJ@research.telcordia.com
Subject: RE: NJ BB Data Collection - Spring 2011

Sharon,

Are you saying that we can use the data you submitted last time (that it reflects your network capabilities as of 12/31/2011)?

John Wullert
Manager – NJ BB Data Collection
Telcordia Technologies
732-699-2687

From: Adams, Sharon E [mailto:Sharon.E.Adams@xo.com]
Sent: Tuesday, March 01, 2011 4:41 PM
To: ConnectingNJ@research.telcordia.com
Subject: RE: NJ BB Data Collection - Spring 2011

Yes, the previous data can be used again.

Thanks,
Sharon Adams

From: NJ Broadband Data Collection [mailto:ConnectingNJ@research.telcordia.com]
Sent: Friday, March 18, 2011 9:34 AM
To: 'Adams, Sharon E'
Cc: 'NJ Broadband Data Collection'
Subject: XO NJBB Data Clarification

Sharon,

We have performed our initial review of your data and have a clarification question:

We see several locations where your download speeds are a tier 2, which the NTIA does not consider broadband. This appears that it might be the provisioned speed sold to the customer. Is there a higher, advertised speed that you could provision to these locations if the customer

asked? One option would be for us to use the highest speed you deliver in a larger area as the maximum advertised speed. Would that accurately represent your ability to deliver service?

John Wullert
Manager – NJ BB Data Collection
Telcordia Technologies
732-699-2687

From: Adams, Sharon E [mailto:Sharon.E.Adams@xo.com]
Sent: Thursday, July 07, 2011 9:56 AM
To: ConnectingNJ@research.telcordia.com
Subject: NJ Broadband Data Collection

Good morning,

Neither XO Communications Services, Inc. nor Nextlink Wireless, Inc. have any updates to previously submitted data. Please advise what steps need to be taken in order to ensure these companies compliance.

Kind regards,
Sharon Adams

From: NJ Broadband Data Collection [mailto:ConnectingNJ@research.telcordia.com]
Sent: Thursday, July 07, 2011 11:13 AM
To: 'Adams, Sharon E'
Cc: 'connectingNJ@research.telcordia.com'
Subject: RE: NJ Broadband Data Collection

Sharon,

Thanks for the quick response. Your email message is sufficient notification for us to proceed using the data you have already submitted.

Note that we will be applying additional validation and verification procedures during this round and will get back to you if any issues arise with the data you supplied.

John Wullert
 Manager – NJ BB Data Collection
 Telcordia Technologies
 732-699-2687

XO Communications
 Connecting New Jersey - Broadband Provider Data Report

Provider: XO Communications
 Received: August, 2010
 Submission date: October 2010

This report presents details on processing of the broadband data for delivery to the National Telecommunications and Information Administration.

Sections:

- 52. NDA Status
- 53. Submission Overview
- 54. Submission File Details
- 55. Data Validations and Results
- 56. Data Transformation and Loading
- 57. Clarification Questions and Provider Responses
- 58. Notes and Open Issues

Section 1: NDA Status

Executed.

Section 2: Submission Overview

| AVAILABILITY DATA | | |
|-------------------|--|---|
| ID | Provider name “Doing business as” name FRN | XO Communications, LLC Provided, but looks weird 0006275945 |
| FOR WIRELINE | | |
| Filetypes | | |
| File size | | |

| | | | |
|------------------------|--|--|--|
| Speeds | Type | Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode,etc) | |
| | Typical-upstream | census block | |
| | Typical-downstream | census block | |
| | Advertised-upstream | census block | |
| | Advertised-downstream | census block | |
| | Subscriber-weighted-up | Not provided | |
| | Subscriber-weighted-down | Not provided | |
| Technology Type | Entered codes 1, 2, and 3, which are not valid NOFA TechTrans codes. | | |
| End-user specification | Business (444 entries), Residence (5 entries) | | |
| Comments: | | | |
| INTERCONNECTION DATA | | | |
| ID | | | |
| File size | | | |
| Ownership | | | |
| Transport Type | | | |
| Data Rates/Capacity | | | |
| Location | | | |
| Comments: Not provided | | | |

Section 3: Submission File Details

Received 1 file by SECURE UPLOAD.

| | |
|-------------|---------------------------|
| Size | Name |
| 41358 | NJBroadbandData63009.xlsx |

Section 4: Validations and Results

The spreadsheet provides census block IDs and associated max adv and typical speeds. The last two rows of the sheet are different from the 447 data rows proceeding them, and one of those last two is in New York. The DBA name looks unusual and the technology of transmission codes are not valid. After receiving clarification by email we created a corrected spreadsheet based on the original submission as follows:

1. Dropped the last two rows that have addresses instead of provider name, DBA name, etc.
2. Changed DBA Name entries to "XOCSI"
3. Changed technology of transmission codes: 1 to 10, 2 to 20, and 3 to 30.

Section 5: Data Transformation and Loading

NTIA Table BB_Service_CensusBlock

Loaded from the supplied spreadsheet. The following table explains the transformations that were applied to load the target table.

| Table Column | Data Source / Transformation |
|---------------|---|
| PROVNAME | As supplied in column "Provider Name" |
| DBANAME | As supplied in column "DBA Name" |
| RESELLER | Set to "N" |
| FRN | As supplied in column "FRN", after adding leading zeros |
| STATEFIPS | Set to "34" (NJ) |
| COUNTYFIPS | Populated from column census_block (1 st 3 digits) |
| TRACT | Populated from column census_block (next 6 digits) |
| BLOCKID | Populated from column census_block (last 4 digits) |
| BLOCKSUBGROUP | Set to null |
| FULLFIPSID | As supplied in column census_block |
| TRANSTECH | As supplied in column Tech Code |
| MAXADDOWN | As supplied in column MaxDownload |
| MAXADUP | As supplied in column MaxUpload |
| TYPICDOWN | As supplied in column TypDownload |
| TYPICUP | As supplied in column TypUpload |

SHAPE Copied from Census Bureau TigerLine 2010,
As matched by Census block ID

Internal processing notes:

1. No duplicate census blocks were found.

Section 6: Clarification Questions and Responses

From: NJ Broadband Data Collection [mailto:ConnectingNJ@research.telcordia.com]
Sent: Tuesday, September 13, 2011 4:07 PM
To: 'Adams, Sharon E'
Cc: ConnectingNJ@research.telcordia.com
Subject: RE: NJ Broadband Data Collection

Sharon,

We realized that we have a potential issue with processing the data you submitted previously. The NTIA has transitioned from using the 2000 census block geometry to the 2010 census block geometry. While it is possible for us to translate your prior data, there is a high risk of overstating or understating your actual coverage area due to the many-to-many mappings between the two sets of census blocks.

Is it possible for you to provide your data using the 2010 geometry?

John Wullert
Manager – NJ BB Data Collection
Telcordia Technologies
732-699-2687

From: Adams, Sharon E [mailto:Sharon.E.Adams@xo.com]
Sent: Tuesday, September 13, 2011 4:10 PM
To: ConnectingNJ@research.telcordia.com
Subject: RE: NJ Broadband Data Collection

Hi John,

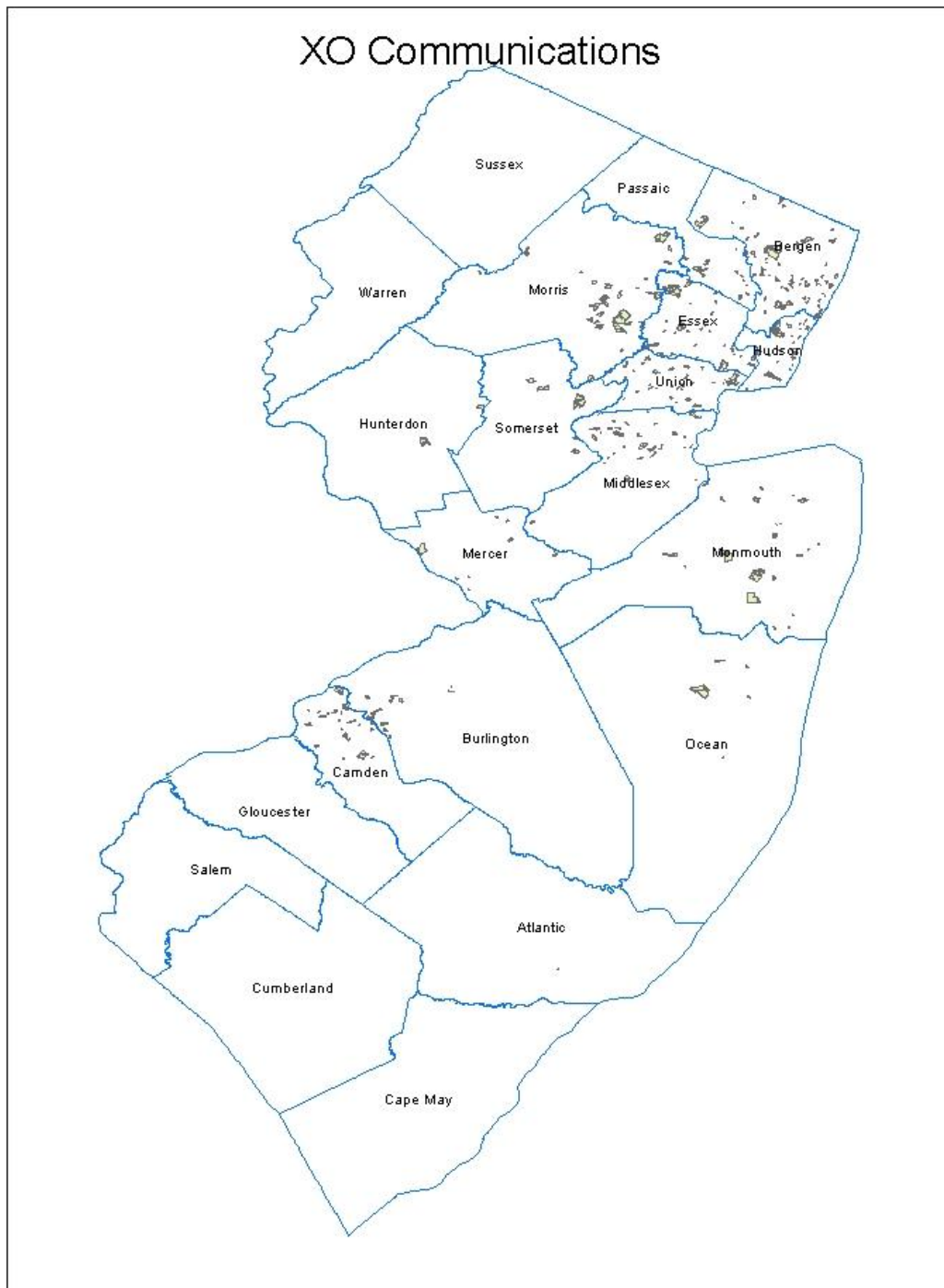
It's fine to restate our data with the new census block geometry. I do not have the new 2010 geometry to restate the data.

Thanks,

Sharon Adams

Section 7: Notes and Open Issues

Section 8: Overview Map of Submitted Data



7 Appendix B: Community Anchor Institution Processing

7.1 Summary

For each category of community anchor institution, we generally obtained data from two sources. One source was a reference source that provided a list of institutions with name, address and ID number where applicable. This reference source was expected to be nearly complete, representing all the institutions of the specified type in the state. The other source provided the broadband information. In many cases, the broadband information was supplied by the institutions via our Web site.

There were exceptions, however, to these procedures. In the case of Higher Education, we obtained the broadband access information from NJEdge, an organization that collects data via its own survey. In the case of State Government, we obtained a list of broadband circuits provided to the state by Verizon; there was no reference list for comparison. We similarly had no reference list for local government and non-governmental organizations; we used only data collected via our Web site for these classes of institution.

There were a couple of significant changes in the data and methodology for this round of submission that are described in further detail in the following sections. First, we obtained broadband data for public schools from the NJ Department of Education (NJDOE) based on the survey responses they received from the public schools. Secondly, we obtained a list of healthcare institutions from NJOIT that we used as the reference list instead of one we obtained from the NJ HHS and NJHA previously. In addition to hospitals, this list includes pharmacies and clinical laboratories.

For each CAI category, the following table provides the number of records we obtained from the reference source, the number of broadband access records we obtained, the total number of records we submitted to the NTIA and the number of complete records, with verified address information and broadband access information.

Table 1 CAI Submission Summary

| CAI Category | Reference Records | Broadband Records | Total Records Submitted | Complete Records Submitted |
|-----------------------|-------------------|-------------------|-------------------------|----------------------------|
| School K-12 (Public) | 2686 | | | |
| | (DOE) | 2428 (DOE) | 3762 | 2465 |
| School K-12 (Private) | 1159 | 796 (Web) | | |
| | (NCES) | | | |
| Libraries | 461 | 89 | 460 | 43 |
| | (IMLS) | | | |
| Medical/Healthcare | 9265 | 5 | 8604 | 5 |
| Public Safety | 343 | 120 | 337 | 76 |
| | (NJ 911 Comm.) | | | |
| University | 160 | 39 | 159 | 34 |

| | (NCES IPEDS) | (NJEdge) | | |
|---------------------------------------|--------------|--------------------------------|------|------|
| Other – State and Local Government | | 2007 (state gov't) 54 (Web) | 1694 | 1694 |
| Other – Non Government | 0 | 8 | 8 | 8 |

7.2 Local Government and Non-Government Organizations

The procedure and data in this section are unchanged from the previous submission.

1. There were no new submissions to the web site since the October 2011 report. Accepted data were submitted by 54 local government and 8 non-governmental organizations via our specially designed Web site. We merged data submitted to this Web site for April 2011 delivery with that submitted between April and September. The flow named SubmittedCAI_GovNGO_Process.arroyo was used to process the data. (Files lib_20110323-edit.xml and lib_20110907.xml) Data collected included:
 - i. Community Anchor Institution Category
 - ii. Community Anchor Institution Name (System, Branch)
 - iii. Address: Street, City, State, Zip, County
 - iv. Contact info: Name, Phone, Email, Web address
 - v. Wi-Fi access
 - vi. Broadband info: Provider, Technology, Upstream and Downstream speeds
 - vii. Comment
2. Generated Latitude and Longitude via geo-coding using Yahoo geocoder API.
 - a. Ensured no errors were present, that at least one entry was returned and that quality metric was over 75. Also ensured that result was in New Jersey and that city and zip were not both blank. Output is in file Submitted_GovNGO_CAIs.xls.

7.3 State Government

The procedure and data in this section are unchanged from the previous submission.

1. Obtained a listing of 2007 connections provided by the primary broadband service provider, Verizon, to the state. List of connections included the following data:
 - a. Service address
 - i. This field included an indication of the office or department being served and an extremely abbreviated version of the address
 - ii. e.g.: “(SPNL)STATE OF NJ-TLS 19 LANDIS AV, UP DRFLD T”
 - b. Speed (single value, 1.5 to 1000 Mbps)
 - c. Technology (ATM, Ethernet, Frame Relay, PRI, Point-to-Point)
2. Used an automated process to expand the town names in the Service Address field (flow for steps 2-6 is in file VerizonList_Geocode.arroyo; input file is Broadband Mapping Prod Sum 2500 Feb 11_Addressed_Ida_Murray4.xlsx)
 - a. For example, replaced “PRSPY” with “Parsippany” and “FR LN” with “Fair Lawn”
 - b. Improved the mapping of abbreviated city names to their expansions

- i. BRIG: Brigantine
 - ii. BRDTN: Bordentown
 - iii. DVR: Dover
 - iv. HMTN: Hammonton
 - v. LWR TWP: Lower Township
 - vi. MAN: Manchester
 - vii. MANT: Mantua
 - viii. MIDL TWP: Middle Township
 - ix. MIDLTN TWP: Middletown
 - x. OAKLN: Oaklyn
 - xi. PIT: Pitman
- 3. Extracted address information from Service Address field by removing the following:
 - a. Digits following and including a pound sign (e.g., NJ STATE PAROLE DIST #6 210 S BROAD)
 - b. P.O Box NNNN,
 - c. Anything in parentheses (e.g., (SPNL)STATE OF NJ:OIT 90 STATE HWY NO 183)
 - d. Any string consisting solely of letters, backslashes, colons, dashes, ampersands and spaces prior to the first number string in the address (e.g., **SONJ:DOE** 7 GLENWOOD AV, E O BLDG FLR 4;DES SUITE 401-402)
 - e. Any string after the first comma (e.g., 7 GLENWOOD AV, **E O BLDG FLR 4;DES SUITE 401-402**)
 - f. Text prior to and including an ampersand (e.g., **NJ STATE DOT @** ROUTE 23)
 - g. Replacing AV, with AVE,
 - h. Any text between commas (e.g., 3810 NEW JERSEY AV, **WILD DES DEPT LABOR,**)
 - i. Any number preceded by "PROJECT" or "PRJCT"
- 4. Merged city information and state information with extracted addresses.
- 5. Generated Latitude and Longitude via geo-coding using Yahoo geocoder API.
 - a. Ensured no errors were present, that at least one entry was returned.
 - b. Ensured that state was New Jersey and that city and state values were populated.
- 6. For those that failed test with Yahoo geocoder API, attempted to match with Google geocoder API.
 - a. Ensured no errors were present, that at least on entry was returned.
 - b. Ensured that state was New Jersey and that city and state values were populated.
- 7. Resulted in successful geocoding of 1941 of the 2007 entries. Entries that could not be geocoded were ones with no street address and those whose street addresses were deliberately disguised.
 - a. Results are in file Verizon_Geocoded_new.xls.

7.4 Healthcare

In this submission, the healthcare category was expanded to include hospitals, pharmacies and clinical laboratories.

- 1. Obtained a listing of 1174 hospitals from NJ OIT (All Licensed Acute Care Facilities 3 12 12.xls). List of hospitals included the following data:
 - a. Facility Name
 - b. Address: Street, City, State, Zip

2. The hospitals were geocoded using the Yahoo Geocoder API (HospitalProcess.arroyo). The output was checked to ensure that the street address was not blank, the state was New Jersey and the city was not blank. This resulted in successful geocoding of 1128 hospitals.
3. Obtained listing of 2010 pharmacies from NJ OIT (2012-06 pharmacies.csv) which included the following data:
 - a. Pharmacy Name
 - b. Address: Street, City, State and Zip
4. The pharmacies were geocoded using the Yahoo Geocoder API in the flow PharmacyProcess.arroyo. The output was checked to ensure that the street address was not blank, the state was New Jersey and the city was not blank. This resulted in successful geocoding of 1940 pharmacies.
5. Obtained listing of 6081 clinical laboratories from NJ OIT. The source was the Centers for Medicare and Medicaid that provides the list of medical labs through the Clinical Laboratory Improvement Amendment (CLIA). The list (CLIA Labs 2012-08-14_edit.xlsx) provides name, address and location of laboratory.
 - a. The name, address, type of lab and location were extracted using CLIA_Labs_Process.arroyo.
 - b. Of this list, we eliminated the labs that were located in hospitals and pharmacies because of the overlap with the other sub-categories and because the NTIA data model only identifies a single category for all healthcare institutions.
 - c. The remaining labs were geocoded using the Yahoo Geocoder API and the Google Geocoder API. This resulted in successfully geocoding 5554 labs using the flow CLIA_Labs_Geocode.arroyo.
6. The three lists formed the reference list of healthcare institutions.
7. Merged reference data with data collected from 5 hospitals via our hosted Web site to merge address and ID information with speed and Wi-Fi availability information. We merged data submitted to Web site for April 2011 delivery with that submitted between April and September. No new data after September 2011. (Files lib_20110323-edit.xml and lib_20110907.xml)
 - a. Performed exact match between and submitted data on institution name
 - i. Facilitated matching by Converting names to upper case, removing certain common words (THE, HOSPITAL, MEDICAL, CENTER, SYSTEM, HEALTHCARE), removing double spaces and trimming leading and trailing spaces.

This portion of the process occurs in SubmittedCAI_Healthcare_Process.arroyo.
Output is in file Healthcare_Submitted_Matched.xls.
8. Produced about 8600 healthcare records at the end of the processing with 5 that included broadband information.

7.5 Higher Education

1. Obtained the following data from the named sources in August 2012
 - a. List of higher education institutions from National Center for Education Statistics IPEDS Data Center (<http://nces.ed.gov/collegenavigator/?s=NJ>). Table included information on 160 institutions with the following fields:
 - i. Institution Name
 - ii. Address: Street, City, County, State, ZIP
 - iii. IPEDS ID

Final input data, including a few manual edits (see below) is in file CollegeNavigator_Search_NJ_2012-08-17_edit.xlsx

- b. Generated Latitude and Longitude via geo-coding using Yahoo geocoder API (flow IPEDS_HigherEd_Geocode.arroyo).
 - i. Ensured no errors were present, that at least one entry was returned
 - ii. Ensured that state was New Jersey and that city and state values were populated.
 - c. For those that failed test with Yahoo geocoder API, attempted to match with Google geocoder API (Flow IPEDS_HigherEd_Geocode.arroyo)
 - i. Ensured no errors were present, that at least on entry was returned
 - ii. Ensured that state was New Jersey and that city and state values were populated.
 - d. All 159 institutions were properly geocoded.
 2. Obtained an updated list of members of NJEdge (Format-edited version is in file Mapping Bandwidth_Mb_07162012_edit.xlsx). Table included information on 52 institutions, most of which (39) were unique state, community or private institutions of higher learning. Information from NJEdge included:
 - i. Institution Name
 - ii. Address
 - iii. Technology Type
 - iv. Upstream and downstream speeds
 3. Merged IPEDS and NJEdge data to match institution data with broadband access information (HigherEd_Merge.arroyo)
 - a. Performed exact match on institution name
 - i. Facilitated matching by Converting names to upper case and trimming excess spaces
 - b. Of those NJEdge data entries that did not match, used approximate matching based on institution name
 - i. Preprocess prior to approximate match involved
 1. Removing strings COLLEGE, UNIVERSITY, NEW JERSEY
 2. Removing any punctuation
 - ii. Matched using Levenshtein Distance metric with threshold of 4.
 - c. Reviewed unmatched NJEdge data manually and identified three additional matches.
 4. Successfully merged data from 37 NJEdge institutions into IPEDS data
 - a. Note that remaining NJEDGE institution (Fairleigh Dickenson) has different address than either of the campuses in the IPEDS data.
 - b. Note that Rutgers entry in NJEdge data has different address than the IPED entries

Final output is in file HigherEd_Geocoded_RateMatched_07162012.xls

7.6 Libraries

1. Obtained the following data from the named sources
 - a. Obtained the file Public Libraries Survey Fiscal Year 2010 from <http://harvester.census.gov/imls/data/pls/index.asp>. Used file puout10a.txt
 - i. Manually extracted 462 records for the state of New Jersey
 - ii. Used the following data items:
 1. FSCSKEY
 2. FSCS_SEQ
 3. LIBNAME
 4. ADDRESS

5. CITY
6. ZIP
7. LATITUDE
8. LONGITUDE

Manually changed the town name for W. Patterson Library to new official name of Woodland Park.

- b. Data submitted by 89 library organizations via specially designed Web site. No new data was submitted after September 2011. Corrected the category type for Summit Public Library, which was mis-categorized as a hospital. Data collected included same fields listed above for Local Governmental organizations
2. Merged library survey data with data collected from libraries via our hosted Web site to merge address and ID information with speed and Wi-Fi availability information (SubmittedCAI_Library_Process.arroyo).
 - a. Performed exact match between survey and submitted data on library name
 - i. Facilitated matching by Converting library names to upper case, cutting submitted names to fixed-field length of survey data (60 characters) and trimming excess spaces
 - b. For those submitted data entries that did not match, performed an approximate match based on library name
 - i. Preprocess prior to approximate match involved
 1. Removing strings P.L., FREE, PUBLIC, LIBRARY, TOWNSHIP, TSWP, PUB, LIB, THE, SYSTEM
 2. Removing any punctuation
 3. Converting NO/SO at start of line to NORTH and SOUTH respectively
 - ii. Matched using Levenshtein Distance metric with threshold of 3.
 - c. Manually changed the names of some libraries to make them consistent between reference data and submitted entries with respect to library name (town name vs. specific name).
 - d. Successfully matched all but ten submitted entries to Library Survey Data
 - i. Remaining ten were branches of Newark Public Library, but all were submitted with the same address, so they could not be successfully geocoded.

Results (LibraryPlusSubmitted.xls) include 469 Library entries. This is larger than the 462 from the survey because some libraries submitted more than one broadband provider.

7.7 Private K-12 Schools

1. Obtained the following data from the named sources:
 - a. Latest list of private K-12 education institutions from National Center for Education Statistics Private School Universe Survey (<http://nces.ed.gov/surveys/pss/privateschoolsearch/>). Table included information on 1159 institutions with the following fields:
 - i. Name
 - ii. Address: Street, City, State, ZIP
 - iii. PSS_ID
 - b. Data submitted by schools via specially designed Web site. There was no new data submitted after September 2011. Data collected included same fields listed above for Local Governmental organizations. Total number of Public and Private schools submitting information was 796.
 - c. Data from the USAC eRate program was not used in this submission.

2. Merged NCES private school with data collected from private schools via our hosted Web site to merge address and ID information with speed information (SubmittedPrivateSchool_Process.arroyo and PrivateSchool_Process.arroyo).
 - a. Performed exact match between NCES and submitted data on institution name and zip code
 - i. Facilitated matching by:
 1. Converting school names to upper case
 2. Removing string , NJ
 3. Converting string SAINT to ST
 - b. For those submitted data entries that did not match NCES data, performed an approximate match based on institution name
 - i. Preprocess prior to approximate match involved
 1. Replacing string SCHOO or SCHO with SCHOOL
 2. Replacing string HIGH SCHOOL with HS and string ELEMENTARY with ELEM
 3. Removing strings SCHOOL, THE, REGIONAL, HIGH, ACADEMY and ACA
 4. Trimming excess spaces
 - ii. Matched using Levenshtein Distance metric with threshold of 3.
 - c. Successfully merged data from submitted private school into NCES institutions
 - i. Manual comparison resulted in matching of additional institutions
 - ii. Remaining institutions were ambiguous or not present in the NCES data.
3. School records were geocoded using the Yahoo geocoder API.
4. Generated 1154 records to submit, of which 57 were merged with submitted broadband data.
 - a. Output file is PrivateSchool_GeoMatched.xls

7.8 Public K-12 Schools

We obtained the reference list and broadband records for public and charter schools from NJ DOE and geolocation information for public and charter schools from the NJ Geographic Imagery Network (NJGIN) team. NJGIN and NJ DOE provided two sources data that were merged to get the geolocation and NCES ID of the schools.

1. Obtained the following data from the named sources:
 - a. List of schools with broadband data provided by NJ DOE (StateOIT_ARRA_Broadband.csv). This table contained records of 2428 schools with the following fields:
 - i. School Name
 - ii. Combined_Code that comprises of a concatenation of county, district and school.
 - iii. WiFi availability
 - iv. ISP Provider Name
 - v. Technology
 - vi. Downstream Speed
 - vii. Upstream Speed
 - b. Geolocation data for 3784 schools that included public, private and charter schools. The data included the following fields:
 - i. School Name
 - ii. Address
 - iii. Latitude
 - iv. Longitude

- v. County Code (2 digits)
- vi. District Code (4 digits)
- vii. School Code (3 digits)
- viii. Type of school – Public, Private or Charter

The last 3 codes were concatenated to get the Combined Code. However, neither this list nor the broadband data contained the NCES ID which is information required by the NTIA. Therefore, a third list provided by the NJ DOE was used to obtain the NCES ID.

- c. List of public K-12 and charter schools in New Jersey (NJ SCH EXTRACT.XLSX) from NJ DOE. Table included information on 2641 institutions with the following fields:

- i. Name
- ii. FIPS State Code
- iii. Two codes ID 4 LEA ID (State) and ID 5 School ID (State), that when combined gave the combined ID used by the DOE in identifying schools.
- iv. Two codes ID 1 LEA ID (NCES) and ID 529 School ID (NCES) that when combined give the NCES ID of the school.

Because information was not available for private schools, the NJ GIN geolocation information was only used for public and charter schools in this submission.

The data from the website and eRATE data were no longer needed in this submission for public schools as the NJ DOE provided all the necessary data providing greater coverage than the other sources.

- 2. Merged the two data sources listed in items b and c above to get the list of public schools with geolocation and NCES ID (NJ_Schools_Process.arroyo). The key for merging the two lists was the Combined Code used by the NJ DOE that consists of county, district and school codes.
 - a. 2464 records were matched between the two lists
 - b. Many of the records in the NJ GIN list could not be matched. Of these, the 67 that were public or charter schools were added to the list of schools.
 - c. 178 schools were not in the NJ GIN list. Of these, we were able to geocode 155 schools using Yahoo geocoder API.
 - i. Ensured no errors were present, that at least one entry was returned and that quality metric was over 75.
 - ii. Ensured that state was New Jersey and that city and/or zip value was populated.
 - iii. This process yielded a total of 2686 schools with geolocation.
- 3. The NJ DOE list of schools with broadband data was merged with the list of schools generated in step 2. The two lists were merged using the Combined Code as the key (Schools_NJDOE_Merge.arroyo). 2421 of the 2428 NJ DOE records were matched.

Output file is PublicSchools_GeoMatched.xls. It has a total of 2686 schools, 2421 with broadband data.

7.9 Public Safety Organizations

The procedure and data in this section are unchanged from the previous submission.

- 1. Obtained the following data from the named sources:
 - a. List of local and state public safety organizations obtained from NJ State 911 Commission. (Reused data from April 2011 - PSAP's & PSDP's_Geocoded.xls) Table included information on 343 institutions with the following fields:
 - i. Name
 - ii. Address: Street, City, State, ZIP, County

- iii. NCES_ID
 - b. Data submitted by 120 public safety organizations via specially designed Web site. Data collected included same fields listed above for Local Governmental organizations
 - 2. Generated on 911 Commission Data Latitude and Longitude via geo-coding using Yahoo geocoder API.
 - a. Ensured no errors were present, that at least on entry was returned and that quality metric was over 75.
 - 3. Merged 911 Commission data with PSAP data collected from via our hosted Web site (120 entries) to merge address and ID information with speed information.
 - a. Performed exact match between 911 and submitted data on institution name
 - i. Facilitated matching by:
 - 1. Converting names to upper case
 - 2. Removing the Strings DEPARTMENT, DEPT, TOWNSHIP, TWP
 - 3. Removing punctuation and double-spaces
 - 4. Replacing string PD with POLICE and string BOROUGH with BORO
 - b. Performed manual merging to integrate additional submitted records that were not matched.
 - i. Successfully merged 85 submitted PSAP entries with 911 Commission data.
- Output in file PSAP_911_Matched.xls

7.10 Additional CAI Processing

All of the CAI data was put through additional processing and validation that achieved the following:

- a. Extracted the building number from the street address
- b. Checked and verified that all records had a 5 digit zip code
- c. Eliminated records that had only PO Boxes for their street addresses
- d. Verified that all the records were in New Jersey
- e. Removed duplicate entries
- f. Checked if the downstream speed was greater than or equal to the upstream speed. There were 163 records where this failed. In these cases, the upstream speed was made equal to the downstream speed in the submitted records. The records that had down less than up are as listed in Table 2. They span almost all of the CAI categories.

This processing resulted in elimination of many records and yielded the final count of submitted records as shown in Table 1.

Table 2 CAI Records with Downstream Speed Less than Upstream Speed

| Anchortname | Address | caicat | Transtech | Down | Up |
|--------------------------------|--------------------------|---------------|------------------|-------------|-----------|
| #19 DANIEL F RYAN SCHOOL | 320 HIGHLAND AVE | 1 | 50 | 9 | 10 |
| ABUNDANT LIFE CHRISTIAN SCHOOL | 43 S JEFFERSON RD | 1 | 40 | 8 | 9 |
| ALL SAINTS ACADEMY | 189 BALDWIN RD | 1 | 40 | 5 | 7 |
| AQUINAS ACADEMY | 388 S LIVINGSTON AVE | 1 | 41 | 3 | 4 |
| ASSUMPTION CATHOLIC SCHOOL | MEREDITH AND JACQUES STS | 1 | 40 | 6 | 7 |
| Bergen Blvd. School | Bergen Blvd. | 1 | 50 | 9 | 10 |
| Charter-TECH High School | 413 New Road | 1 | 40 | 7 | 8 |
| CORPUS CHRISTI SCHOOL | 215 KIPP AVE | 1 | 50 | 8 | 10 |

| | | | | | |
|--|-----------------------------------|---|----|----|----|
| Ethel A. Jacobsen Elementary School | 200 Barnegat Avenue | 1 | 41 | 5 | 6 |
| Etta Gero No 9 Elementary School | 140 First Street | 1 | 50 | 9 | 10 |
| Franklin Elementary School | 1809 Street Georges Avenue | 1 | 50 | 8 | 9 |
| Grace M. Breckwedel Middle School | 13 Augusta Street | 1 | 41 | 4 | 6 |
| Grover Cleveland Elementary School | 486 East Milton Avenue | 1 | 50 | 8 | 9 |
| HOLY SPIRIT SCHOOL | 970 SUBURBAN RD | 1 | 0 | 4 | 6 |
| Jeffrey Clark School | 7 Quaker Road | 1 | 41 | 7 | 8 |
| Long Beach Island Elementary School | 20th Street & Central Avenue | 1 | 41 | 5 | 6 |
| Madison Elementary School | 944 Madison Avenue | 1 | 50 | 8 | 9 |
| MARIST HIGH SCHOOL | 1241 KENNEDY BLVD | 1 | 50 | 8 | 10 |
| MOSHE AARON YESHIVA HIGH SCHOOL | 34 CHARLES ST | 1 | 41 | 7 | 9 |
| N. A. Bleshman Regional Day School - Paramus | 333 E Ridgewood Avenue | 1 | 90 | 10 | 11 |
| NOTRE DAME INTERPAROCHIAL SCHOOL | 312 1ST ST | 1 | 41 | 8 | 10 |
| Number 10, Roosevelt Elementary School | 266 Harrison Street & Park Avenue | 1 | 50 | 9 | 10 |
| Number 11, Cruise Memorial Elementary School | Gregory/Madison Avenues | 1 | 50 | 9 | 10 |
| Number 15 Kindergarten School | 374 Broadway | 1 | 50 | 9 | 10 |
| Number 16 Kindergarten School | 657 Main Avenue | 1 | 50 | 9 | 10 |
| Number 17 | 95-99 Dayton Avenue | 1 | 50 | 9 | 10 |
| Number 1, Thomas Jefferson Elementary School | Broadway & Van Houten Avenue | 1 | 50 | 9 | 10 |
| Number 2 Elementary School | 48 Bergen Street | 1 | 50 | 9 | 10 |
| Number 3, Mario J Drago | 18 Belmont Place | 1 | 50 | 9 | 10 |
| Number 4, Lincoln Middle School | Boulevard & Lafayette Avenue | 1 | 50 | 9 | 10 |
| Number 5 Middle School | 168 Monroe Street | 1 | 50 | 9 | 10 |
| Number 6, Martin Luther King, Jr. | 85 Hamilton Avenue | 1 | 50 | 9 | 10 |
| Number 7, Grant Elementary School | Summer Street & Myrtle Avenue | 1 | 50 | 9 | 10 |
| Number 8, Pulaski Elementary School | 100 Fourth Street | 1 | 50 | 9 | 10 |
| OAKWOOD SCHOOL | 62 HANCE AVE | 1 | 50 | 8 | 10 |
| ORATORY PREPARATORY SCHOOL | 1 BEVERLY RD | 1 | 10 | 4 | 6 |
| Passaic High School | 170 Paulison Avenue | 1 | 50 | 9 | 10 |
| Program 1-Hearing Impaired | 531 Stevens Avenue | 1 | 90 | 10 | 11 |
| Program 2-Multiply Handicapped | 327 East Ridgewood Avenue | 1 | 90 | 10 | 11 |
| Program 3-Emotionally Distur. | 327 East Ridgewood Avenue | 1 | 90 | 10 | 11 |
| Program 5-Life Skills | 327 East Ridgewood Avenue | 1 | 90 | 10 | 11 |
| Program 6-Autistic | 355 East Ridgewood Avenue | 1 | 90 | 10 | 11 |
| Rahway High School | 1012 Madison Avenue | 1 | 50 | 8 | 9 |

| | | | | | |
|---------------------------------------|--------------------------------|---|----|----|----|
| Rahway Intermediate School | Kline Place | 1 | 50 | 8 | 9 |
| RANNEY SCHOOL | 235 HOPE RD | 1 | 50 | 7 | 9 |
| Regional Day School at Millburn | Spring & Willow Streets | 1 | 90 | 10 | 11 |
| Ridgefield Memorial High School | Walnut Street | 1 | 50 | 9 | 10 |
| Roosevelt Elementary School | 811 Street George Avenue | 1 | 50 | 8 | 9 |
| RUTGERS PREPARATORY SCHOOL | 1345 EASTON AVE | 1 | 50 | 7 | 9 |
| Samuel Mickle Elementary School | 559 Kings Highway | 1 | 41 | 7 | 8 |
| SCHOOL OF SAINT ELIZABETH | 30 SENEY DR | 1 | 41 | 5 | 7 |
| Shaler School | 455 Shaler Boulevard | 1 | 50 | 9 | 10 |
| Slocum/Skewes School | Prospect Avenue | 1 | 50 | 9 | 10 |
| Elementary School | | | | | |
| Soaring Heights Charter School | 1 Romar Avenue | 1 | 40 | 7 | 8 |
| ST AUGUSTINE OF CANTERBURY SCHOOL | 45 HENDERSON RD | 1 | 41 | 6 | 7 |
| ST BENEDICT'S PREPARATORY SCHOOL | 520 MARTIN LUTHER KING JR BLVD | 1 | 20 | 5 | 7 |
| ST JOHN THE APOSTLE SCHOOL | VALLEY RD | 1 | 0 | 4 | 6 |
| ST JOSEPH REGIONAL HIGH SCHOOL | 40 CHESTNUT RIDGE RD | 1 | 0 | 8 | 9 |
| ST MARY SCHOOL | 32A CARROLL AVE | 1 | 20 | 4 | 6 |
| ST MARY SCHOOL | 30 ELIZABETH ST | 1 | 50 | 5 | 6 |
| ST PETER SCHOOL | 415 ATLANTIC AVE | 1 | 40 | 3 | 5 |
| The Ethical Community Charter School | 75 Broadway | 1 | 41 | 6 | 8 |
| WALDORF SCHOOL OF PRINCETON | 1062 CHERRY HILL RD | 1 | 40 | 6 | 7 |
| Watchung Hills Regional High School | 108 Stirling Road | 1 | 50 | 7 | 8 |
| William P. Tatem Elementary School | 265 Lincoln Avenue | 1 | 40 | 6 | 7 |
| YAVNEH ACADEMY | 155 N FAIRVIEW AVE | 1 | 50 | 8 | 10 |
| Zane North Elementary School | 801 Stokes Avenue | 1 | 40 | 6 | 7 |
| ALFRED H. BAUMANN FREE PUBLIC LIBRARY | 7 BROPHY LANE | 2 | 20 | 4 | 6 |
| BERNARDSVILLE PUBLIC LIBRARY | 1 ANDERSON HILL ROAD | 2 | 20 | 3 | 5 |
| BLOOMINGDALE PUBLIC LIBRARY | 101 HAMBURG TURNPIKE | 2 | 20 | 4 | 6 |
| CEDAR GROVE PUBLIC LIBRARY | ONE MUNICIPAL PLAZA | 2 | 20 | 3 | 5 |
| CHESTER LIBRARY | 250 WEST MAIN STREET | 2 | 41 | 4 | 6 |
| CLIFTON PUBLIC LIBRARY | 292 PIAGET AVENUE | 2 | 50 | 7 | 9 |
| COLLINGSWOOD PUBLIC LIBRARY | 771 HADDON AVENUE | 2 | 10 | 3 | 4 |
| DOVER FREE PUBLIC LIBRARY | 32 E. CLINTON STREET | 2 | 41 | 3 | 4 |
| DWIGHT D. EISENHOWER PUBLIC LIBRARY | 537 TOTOWA ROAD | 2 | 20 | 3 | 5 |
| EMANUEL EINSTEIN PUBLIC LIBRARY | 333 WANAQUE AVENUE | 2 | 20 | 3 | 5 |
| FAIRFIELD FREE PUBLIC LIBRARY | 261 HOLLYWOOD AVENUE | 2 | 20 | 3 | 5 |
| GLOUCESTER COUNTY LIBRARY SYSTEM | 389 WOLFERTS STATION RD. | 2 | 0 | 8 | 10 |
| HUNTERDON COUNTY LIBRARY | 314 STATE ROUTE 12 | 2 | 0 | 4 | 5 |
| JOHNSON PUBLIC LIBRARY | 274 MAIN STREET | 2 | 41 | 4 | 6 |
| LITTLE FALLS PUBLIC LIBRARY | 8 WARREN ST | 2 | 20 | 4 | 6 |
| MOUNT LAUREL LIBRARY | 100 WALT WHITMAN AVENUE | 2 | 50 | 7 | 9 |

| | | | | | |
|---|---|---|----|---|----|
| NEWARK PUBLIC LIBRARY | 5 WASHINGTON AVE | 2 | 50 | 9 | 11 |
| NORTH HALEDON PUBLIC LIBRARY | 129 OVERLOOK AVENUE | 2 | 20 | 3 | 5 |
| OCEAN COUNTY LIBRARY | 101 WASHINGTON STREET | 2 | 0 | 9 | 11 |
| RINGWOOD PUBLIC LIBRARY | 30 CANNICI DRIVE | 2 | 20 | 4 | 6 |
| SOMERSET COUNTY LIBRARY SYSTEM | NORTH BRIDGE STREET AND VOGT ROAD | 2 | 20 | 6 | 9 |
| TEANECK PUBLIC LIBRARY | 840 TEANECK ROAD | 2 | 41 | 3 | 6 |
| WANAQUE PUBLIC LIBRARY | 616 RINGWOOD AVENUE | 2 | 20 | 3 | 5 |
| WAYNE PUBLIC LIBRARY | 475 VALLEY ROAD | 2 | 50 | 7 | 9 |
| WOODBURY PUBLIC LIBRARY | 33 DELAWARE STREET | 2 | 30 | 3 | 5 |
| CentraState Medical Center | 901 W Main St Freehold, NJ 07728-2537 United States | 3 | 50 | 7 | 9 |
| Cooper Hospital/University Medical Center | 1 Cooper Plz Camden, NJ 08103-1461 United States | 3 | 0 | 4 | 6 |
| Saint Barnabas Medical Center | 94 Old Short Hills Rd Livingston, NJ 07039-5606 United States | 3 | 50 | 9 | 11 |
| SAINT BARNABAS MEDICAL CENTER | 94 OLD SHORT HILLS ROAD,LIVINGSTON NJ 07039 | 3 | 50 | 9 | 11 |
| BERGENFIELD POLICE | 198 North Washington Avenue, Bergenfield, NJ 07621 | 4 | 10 | 4 | 5 |
| CARLSTADT POLICE | 500 Madison Avenue, Carlstadt, NJ 07072 | 4 | 50 | 7 | 8 |
| CLIFTON POLICE | 900 Clifton Avenue, Clifton, NJ 07011 | 4 | 50 | 8 | 10 |
| CLOSTER POLICE | 295 Closter Dock Road, Closter, NJ 07624 | 4 | 50 | 7 | 9 |
| EAST ORANGE POLICE | 61 North Munn Avenue, East Orange, NJ 07019 | 4 | 0 | 3 | 4 |
| EAST WINDSOR POLICE | 80 One Mile Road, East Windsor Township, NJ 08520 | 4 | 50 | 8 | 10 |
| EDGEWATER POLICE | 916 River Road, Edgewater, NJ 07020 | 4 | 41 | 3 | 5 |
| EWING POLICE | 2 Jake Garzio Drive, Ewing, NJ 08628 | 4 | 50 | 8 | 9 |
| FAIR LAWN POLICE | 801 Fair Lawn Avenue, Fair Lawn, NJ 07410 | 4 | 50 | 8 | 10 |
| GARFIELD POLICE | 411 Midland Avenue, Garfield, NJ 07026 | 4 | 41 | 7 | 9 |
| GUTTENBERG POLICE | 6808 Park Avenue, Guttenberg, NJ 07093 | 4 | 41 | 6 | 7 |
| HARRISON POLICE | 318 Harrison Avenue, Harrison, NJ 07029 | 4 | 40 | 5 | 6 |
| HIGHLAND PARK POLICE | 222 South Fifth Avenue, Highland Park, NJ 08904 | 4 | 41 | 5 | 7 |
| JACKSON POLICE | 102 Jackson Drive, Jackson Township, NJ 08527 | 4 | 30 | 7 | 9 |
| JEFFERSON POLICE | 1033 Weldon Road, Jefferson Township, NJ | 4 | 50 | 7 | 9 |

| | | | | | |
|--------------------------------------|---|---|----|---|----|
| | 07849 | | | | |
| LINDEN POLICE | 301 North Wood Avenue, Linden, NJ 07036 | 4 | 40 | 8 | 9 |
| MEDFORD POLICE | 91 Union Street, Medford, NJ 08055 | 4 | 41 | 8 | 9 |
| METUCHEN POLICE | 500 Main Street, Metuchen, NJ 08840 | 4 | 20 | 3 | 5 |
| MIDDLESEX BORO POLICE | 1200 Mountain Avenue, Middlesex, NJ 08846 | 4 | 41 | 6 | 7 |
| MILLBURN POLICE | 435 Essex Street, Millburn, NJ 07041 | 4 | 10 | 6 | 7 |
| MOUNT OLIVE POLICE | 204 Flanders Drakestown Road, Mount Olive, NJ 07828 | 4 | 30 | 3 | 5 |
| NEPTUNE POLICE | 25 Neptune Blvd, Neptune Township, NJ 07753 | 4 | 40 | 5 | 7 |
| NEW BRUNSWICK POLICE | 25 Kirkpatrick Street, New Brunswick, NJ 08901 | 4 | 30 | 3 | 5 |
| NORTHWEST BERGEN CENTRAL DISPATCH | 30 Garber Square, Ridgewood, NJ 07450 | 4 | 20 | 3 | 5 |
| OAKLAND POLICE | 292 Route 202, Oakland, NJ 07436 | 4 | 41 | 6 | 7 |
| OCEAN CITY POLICE | 835 Central Avenue, Ocean City, NJ 08226 | 4 | 41 | 3 | 5 |
| PENNSAUKEN POLICE | 2400 Bethel Avenue, Pennsauken, NJ 08109 | 4 | 40 | 8 | 10 |
| POINT PLEASANT BEACH POLICE | 416 New Jersey Ave, Point Pleasant Beach, NJ 08742 | 4 | 40 | 5 | 6 |
| PRINCETON BORO POLICE | 1 Monement Drive, Princeton, NJ 08540 | 4 | 41 | 6 | 8 |
| RANDOLPH POLICE | 502 Millbrook Avenue, Randolph Township, NJ 07869 | 4 | 30 | 3 | 5 |
| RIVER VALE POLICE | 334 River Vale Road, River Vale, NJ 07675 | 4 | 50 | 7 | 8 |
| ROCKAWAY POLICE | 65 Mount Hope Road, Rockaway, NJ 07866 | 4 | 41 | 8 | 10 |
| ROSELLE PARK POLICE | 110 East Westfield Avenue, Roselle Park, NJ 07204 | 4 | 50 | 3 | 5 |
| SAYREVILLE POLICE | 1000 Main Street, Sayreville, NJ 08872 | 4 | 41 | 6 | 7 |
| SEASIDE HEIGHTS POLICE | 116 Sherman Av, Seaside Heights, NJ 08751 | 4 | 50 | 5 | 7 |
| SECAUCUS POLICE | 1203 Paterson Plank Road, Secaucus, NJ 07094 | 4 | 40 | 7 | 8 |
| SOMERS POINT POLICE | 1 West New Jersey Ave, Somers Point, NJ 08244 | 4 | 40 | 5 | 9 |
| UNION COUNTY POLICE | 300 North Avenue East, Westfield, NJ 07090 | 4 | 50 | 3 | 5 |
| VINELAND POLICE | 111 North 6th Street, Vineland, NJ 08360 | 4 | 41 | 7 | 9 |
| WALLINGTON POLICE | 54 Union Boulevard, Wallington, NJ 07057 | 4 | 50 | 3 | 5 |

| | | | | | |
|-------------------------------|--|---|----|---|----|
| WEST CALDWELL POLICE | 21 Crinton Road, West Caldwell, NJ 07006 | 4 | 10 | 3 | 5 |
| Bernards Township | 1 Collyer Ln Basking Ridge, NJ 07920-1442 United States | 6 | 50 | 8 | 10 |
| Boro of Belmar | 601 Main St Belmar, NJ 07719-2701 United States | 6 | 50 | 7 | 9 |
| Borough of Avalon | 3100 Dune Dr Avalon, NJ 08202-1706 United States | 6 | 50 | 5 | 6 |
| Borough of Buena | 616 Central Ave Minotola, NJ 08341-1008 United States | 6 | 40 | 3 | 4 |
| Borough of East Newark | 34 Sherman Ave East Newark, NJ 07029-2718 United States | 6 | 0 | 4 | 6 |
| Borough of West Long Branch | 965 Broadway West Long Branch, NJ 07764-1504 United States | 6 | 41 | 5 | 7 |
| City of Bordentown | 324 Farnsworth Ave Bordentown, NJ 08505- 1709 United States | 6 | 10 | 5 | 8 |
| City of Jersey City | Jersey City, NJ 07306 United States | 6 | 30 | 4 | 6 |
| City of South Amboy | 140 N Broadway South Amboy, NJ 08879-1642 United States | 6 | 41 | 8 | 10 |
| City of Ventnor City | 6201 Atlantic Ave Ventnor City, NJ 08406-2734 United States | 6 | 41 | 7 | 9 |
| Hardyston Township | 149 Wheatsworth Rd Hamburg, NJ 07419-2607 United States | 6 | 0 | 3 | 4 |
| Hightstown Borough | 148 N Main St Hightstown, NJ 08520-3220 United States | 6 | 41 | 8 | 10 |
| Montgomery Township | 2261 US-206 Belle Mead, NJ 08502-4012 United States | 6 | 50 | 7 | 9 |
| Otto Kaufman Community Center | 356 Skillman Rd Skillman, NJ 08558-1521 United States | 6 | 41 | 7 | 8 |
| Rockaway Township | 51 Mount Hope Rd Rockaway, NJ 07866-1634 United States | 6 | 50 | 8 | 10 |
| Toms River Township | 33 Washington St Toms River, NJ 08753-7642 United States | 6 | 50 | 4 | 6 |
| Township of Clark | 430 Westfield Ave Clark, NJ 07066-1732 United States | 6 | 41 | 5 | 7 |
| Township of Gloucester | 1261 Chews Landing Rd Clementon, NJ 08021-2807 United States | 6 | 50 | 4 | 6 |
| Township of Monroe | 125 Virginia Ave Williamstown, NJ 08094- 1756 United States | 6 | 41 | 4 | 6 |

| | | | | | |
|--|--|---|----|---|---|
| Township of Moorestown | 2 Executive Dr, Ste 9A Moorestown, NJ 08057- 4216 United States | 6 | 30 | 5 | 7 |
| Upper Saddle River Police Department | 368 W Saddle River Rd Upper Saddle River, NJ 07458-1621 United States | 6 | 41 | 3 | 5 |
| West Amwell Township | 150 Rocktown Lambertville Rd Lambertville, NJ 08530- 3203 United States | 6 | 40 | 5 | 7 |
| Precious Littles Early Childhood Development Center, Inc. | 1099 S Orange Ave Newark, NJ 07106-1509 United States | 7 | 20 | 4 | 5 |
| Southern New Jersey Perinatal Cooperative | 2922 Atlantic Ave, Fl Second Atlantic City, NJ 08401- 6306 United States | 7 | 30 | 4 | 6 |
| Southern New Jersey Perinatal Cooperative | 2600 Mt Ephraim Ave, Ste 401 Camden, NJ 08104- 3210 United States | 7 | 30 | 4 | 6 |
| Southern New Jersey Perinatal Cooperative | 2500 McClellan Blvd, Ste. 250 Merchantville, NJ 08109 United States | 7 | 30 | 4 | 6 |

7.11 Summary of DOE Data Review

Contact: D E Duffy
September 20, 2012

The major focus of this brief review is on data quality with the goal of identifying questionable data records for further follow-up by the State of New Jersey. A couple of high-level summaries are provided at the end to identify schools with the lowest speeds. Quality assessments which identified questionable records are flagged with **FOLLOW UP REQUESTED**.

1. There are 5 records that are exact duplicates across all fields in the NJ DOE data. We omitted duplicate records for the following schools:
 - Buckshutem Road School
 - Shore Regional High School
 - Brick Township High School
 - John P. Holland Charter
 - Environment Community Opportunity
2. There was one geographic coding error due to an incorrect zip code for the Millville Public Charter School at 1101 Wheaton Avenue in Millville, NJ. The zip code was given as 08333. The correct Millville zip code is 08332 (one digit different) and we made this correction.
3. **FOLLOW UP REQUESTED:** There were 7 records where the transtech code was zero. We do not know definitively whether this means that the broadband status is Unknown (that is, there may or may not be broadband at this school) or whether it means that the broadband status is No (that is, it has been confirmed that there is no broadband at this school). For the October 1 submission to the NTIA, we coded these 7 records as Unknown. This decision was made largely due to the fact that there is a regional high school, a

middle school and a charter school on this list, so we find it somewhat unlikely that it would have been confirmed that none of these had broadband capability. The 7 schools are:

- Estell Manor Elementary School in Estell Manor NJ
- Kittatinny Regional High School in Newton NJ
- Monmouth Beach Elementary School in Monmouth Beach NJ
- Renaissance Regional Leadership CS in Vincentown NJ
- Vineland Public Charter School in Vineland NJ
- Collingswood Middle School in Collingswood NJ
- Downe Township Elementary School in Newport NJ

It is worth noting that, of these 7 schools, the first one only – Estell Manor – was coded as having an ISP provider of “Comcast”. The other 6 schools had zero coded for their ISP provider. Note also that these schools were coded with 0 for both the download speed and the upload speed.

4. **FOLLOW UP REQUESTED:** There are 19 records with transtech coded as 90, which is the code for broadband over powerline technology (BPL). This is an unexpected outcome as we don’t have any information about BPL providers operating within the state of New Jersey. These records are further suspect because each one of them is also flagged by the verification and validation script with warnings to indicate that there may be potential speed mismatches between the transtech code and the reported speeds. All 19 of these records are associated with Bergen County; however, not all the town addresses lie within Bergen County. Here are the details on these 19 records:
 - 7 records are located in Lodi, NJ and are identified as Lodi Public Schools. These records appear to include 5 lower schools, 1 middle school, and 1 high school and they all have their provider coded as “other”.
 - 5 records are associated with Bergen County Vocational Technical Schools. Of these, 2 schools are in Hackensack, 2 schools are in Paramus and 1 school is in Teterboro. These 5 records all have their provider coded as “Verizon” and we do not believe Verizon offers BPL-based services.
 - 7 records are identified as Bergen County Special Services. These 7 records are further subdivided as follows:
 - 5 records are in Paramus and identified with schools which address hearing impaired, multiply handicapped, emotionally disturbed, life skills and autistic. These 5 records also have the provider coded as “Verizon”.
 - 1 record is identified as the Norman A Bleshman Regional Day School in Paramus and, again, the provider is coded as “Verizon”.
 - 1 record is identified at the Millburn Regional Day School in Millburn, NJ with the provider coded, again, as “Verizon”. Millburn, NJ is in Essex County so the indication of Bergen County is inaccurate.
5. **FOLLOW UP REQUESTED:** There are 45 records for which the download speed has been coded in a lower tier than the upload speed. Broadband technologies are either symmetric (in which case down speed and up speed are in the same tier) or asymmetric (in which case down speed is at a higher tier than up speed). The NTIA validation and acceptance script does not reject these records; however this issue was brought up at the NTIA webinar on September 19. These 45 records are as follows:

- 16 of these records are identified as Passaic City Public Schools. All 16 of these records have the provider identified as “Cablevision”; the transtech as “50” which is Optical Carrier or Fiber to the End User; the download tier as 9; and the upload tier as 10.
- 7 of these records are identified as the same Bergen County Special Services schools discussed above in the previous item. These records all have the provider identified as “Verizon”; the transtech as 90 which or BP; the upload speed at the highest tier of 11 and download speed at tier 10.
- 6 records are identified as in the Rahway Public School District. All 6 of these records have the provider identified as “Comcast”; the transtech as “50” which is Optical Carrier or Fiber to the End User; the download tier as 8; and the upload tier as 9.
- 4 records are identified as Ridgely Public Schools. All 4 of these records have the provider identified as “Cablevision”; the transtech as “50” which is Optical Carrier or Fiber to the End User; the download tier as 9; and the upload tier as 10.
- 2 records are associated with the East Greenwich Township Board of Education in Mickleton, NJ. Both of these records have the provider identified as “Comcast”; the transtech as “41” which is Cable Modem – Other; the download tier as 7; and the upload tier as 8.
- 2 records are associated with Collingswood Public Schools in Collingswood NJ. Both of these records have the provider identified as “Comcast”; the transtech as “40” which is Cable Modem – DOCSIS 3.0; the download tier as 6; and the upload tier as 7.
- 2 records are associated with the Long Beach Island Consolidated School District. One of these schools is in Surf City, NJ and one is in Ship Bottom, NJ. Both of these records have the provider identified as “Comcast”; the transtech as “41” which is Cable Modem – Other; the download tier as 5; and the upload tier as 6.
- The 6 remaining records are as follows:
 - Watchung Hills Regional High School; Cablevision; Optical Carrier or Fiber to the End User; download tier 7; upload tier 8.
 - A Jamesburg Public School in Jamesburg, NJ; Comcast; Cable Modem – Other; download tier 4; upload tier 6.
 - Hoboken Dual Language Charter School in Hoboken, NJ; Cablevision; Cable Modem – Other; download tier 5; upload tier 6.
 - The Ethical Community Charter School in Jersey City, NJ; Verizon; Cable Modem – Other; download tier 6; upload tier 8.
 - Charter Tech High School for the Performing Arts in Somers Point, NJ; Comcast; Cable Modem – DOCSIS 3.0; download tier 7; upload tier 8.
 - Soaring Heights School in Jersey City, NJ; Comcast; Cable Modem – DOCSIS 3.0; download tier 7; upload tier 8.

It is worth noting that for the October, 2012, submission we are using the following methodology for any CAI record with upload speed higher than download speed: We are replacing the upload speed tier with the download speed tier. This is documented in our methodology report.

6. There are a number of more sophisticated validation and verification checks that we can perform based upon combinations of provider, transtech, downspeed and upspeed.
 - First we note that the data do not include any records with the following four possible transtech codes: “60” for Satellite; “70” for Terrestrial Fixed – Unlicensed; “71” for Terrestrial Fixed –

Licensed; or “80” for Terrestrial Mobile Wireless”. Further, the case of transtech coded as “90” for BPL is covered in item 4 above.

- The remaining data includes only these transtech codes: “10” for Asymmetric xDSL; “20” for Symmetric xDSL; “30” for Other Copper Wire; “40” for Cable Modem -- DOCSIS 3.0, “41” for Cable Modem – Other; and “50” for Optical Carrier / Fiber to the End User.
- AT&T is not a cable provider. Hence, we would not expect records where the service provider is “AT&T” and the transtech is “40” for Cable Modem -- DOCSIS 3.0, or “41” for Cable Modem – Other. We have confirmed that there are no such records.
- **FOLLOW UP REQUESTED:** Cablevision and Comcast are both cable providers. Hence, we would not expect records with the service provider as “Cablevision” or “Comcast” and a transtech of “10” for Asymmetric xDSL; “20” for Symmetric xDSL; or “30” for Other Copper Wire. We identified 4 suspect records as follows:
 - Great Oaks Charter School in Newark, NJ, has Cablevision and transtech 10.
 - South Harrison Township Elementary School in Harrisonville, NJ, has Comcast and transtech 10.
 - Sterling High School in Somerdale, NJ, has Comcast and transtech 30.
 - The International Charter School of Trenton has Comcast and transtech 30.
- Service Electric Cable, Service Electric Television and Time-Warner Cable are all cable providers. As such, we would not expect records with any of these three providers and a transtech of “10” for Asymmetric xDSL; “20” for Symmetric xDSL; or “30” for Other Copper Wire. We have confirmed that there are no such records within the data.
- **FOLLOW UP REQUESTED:** Verizon is not a cable provider. Hence, we would not expect records where the service provider is “Verizon” and the transtech is “40” for Cable Modem -- DOCSIS 3.0, or “41” for Cable Modem – Other. There are 3 unexpected records:
 - Robert L Craig School in Moonachie, NJ has Verizon and transtech 41.
 - Elysian Charter School in Hoboken, NJ has Verizon and transtech 41.
 - Ethical Community Charter School in Jersey City, NJ has Verizon and transtech 41.
- **FOLLOW UP REQUESTED:** Transtech 20 is Symmetric xDSL. Since this is an explicitly symmetric technology, one would expect all records with a transtech of 20 to have the same tier for down and up speeds. There are 7 unexpected records:
 - There are 5 records associated with Rutherford Public Schools in Rutherford, NJ which have a transtech of 20, a downspeed of 8 and an upspeed of 7. All of these records have the service provider coded as “Other.”
 - Weymouth Township Elementary School in Dorothy, NJ has a transtech of 20, a downspeed of 4 and an upspeed of 3. The service provider is coded as “Verizon”.
 - Unity Charter School in Morristown, NJ, has a transtech of 20, a downspeed of 4 and an upspeed of 3. The service provider is coded as “Verizon”.
- It is worth noting that we have not, at this time, analyzed the data to check that records with transtech of 10 for Asymmetric xDSL have different speed tiers for downspeed and upspeed. The reason for this is the following – While it is true that transtech 10 is an explicitly asymmetric technology, speeds are coded not as actual speed values but as tiers. Speed tier 4, for example, denotes a speed that is greater than 1.5 Mbps and less than 3 Mbps. It is possible, at least in theory, to have asymmetric speeds both of which fall within this range.

7. As part of our data processing work for the NTIA deliverable, we use reference data sources and matching techniques to identify the NCES (National Center for Educational Statistics) codes for schools. There were 17 schools in the DOE data for which we did not identify an NCES code. Details are below and, as you can see, all 17 are non-traditional schools of various types.
 - 16 of the 17 schools were identified as an adult, evening, continuing education, or alternative high school, vocation technical school or learning center.
 - 1 school is the MCVS Health Careers Center in Hamilton, NJ in Mercer County.
8. Summary of download speeds
 - 93% of schools (~2250) have reported download speeds of at least 10 Mbps (tier 7 or higher).
 - 78% of schools (~1890) have download speeds of at least 25 Mbps (tier 8 or higher).
 - 59% of schools (~1425) have download speeds of at least 50 Mbps (tier 9 or higher).
9. There is no immediately obvious geographic pattern to the schools which reported the very lowest download speeds. The 8 schools with the lowest reported download speeds (tier 2 or tier 3 and less than 1.5 Mbps) are located as follows:
 - One in River Edge, Bergen County
 - Two in Berlin Township, Camden County
 - One in Greenwich, Cumberland County
 - One in Mine Hill, Morris County
 - Two in Sussex County – One in Sandytown-Walpack and one in Walkill Valley
10. There are about 30 schools with download speeds of 1.5 and 3 Mbps (tier 4). They are distributed among New Jersey counties as follows:
 - 6 in Bergen
 - 4 in Passaic
 - 4 in Sussex
 - 3 in Atlantic
 - 3 in Somerset
 - 3 in Union
 - 2 in Camden
 - 2 in Mercer
 - 1 in Burlington
 - 1 in Essex
 - 1 in Hudson
 - 1 in Middlesex
 - 1 in Morris

8 Appendix C: Third-Party Comparisons

8.1 Analysis of Discrepancies between June 2011 Submission and Third-Party Data

NJ June 2011 Assessment Summary

- Based on government provided assessment that used data from third party sources for comparison
 - Appears that there were 4 sources, not all provided all the data
 - Data dictionary indicates max possible comparisons for each field (slide 3)
 - Note that even within these, the number of available data sources were lower for some records
- Database overview:
 - New fields appended to submitted datasets (BB_Service_Address, BB_Service_CensusBlock, BB_Service_RoadSegment)
 - PN_SCORE (provider name comparison score)
 - TT_SCORE (TeraTech comparison score)
 - MADS_SCORE (Max adv upstream fiber comparison score)
 - MAUS_SCORE (Max adv downstream fiber comparison score)
 - TDS_SCORE (Typical upstream fiber comparison score)
 - TUS_SCORE (Typical downstream fiber comparison score)
 - Score field values
 - 0 – no match
 - 1 to 4 – number of matches
 - 7 – un-scored record (no analytics)
 - Comparison data is not provided – only resulting match or no match
 - When PN_M_COUNT=0, TT_T_COUNT, MADS_T_COUNT, MAUS_T_COUNT are set to 0

Notes on Comparison Data

- Summary tables of unmatched records in NJ_June2011_Summary.pdf cover both wireline and wireless
- Wireless_by_Block table gives the wireless data by census block (2010 Census blocks)
- Wireless results include the number of comparison datapoints available for each element
 - *_M_COUNT: number of matches in our data, e.g. TT_M_COUNT
 - *_T_COUNT: number of possible matches, i.e. number of comparisons that were made for each field, upper bound of achievable score for each record, e.g. TT_T_COUNT
- Issues with comparison analysis results
 1. Wireline data does not include number of available comparison values, i.e. upper bound on achievable score for each record
 2. With wireless, where upper bound is provided, how to interpret results where we achieved a score > 0 but less than the bound – *appears that reference datasets were not aligned*
 3. Database only provides number of mismatches - No way of telling which providers overstated their speed vs understated

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Total Possible Matches

The chart below details that maximum score that can be achieved per record.

| Field | Wireline | Wireless |
|------------|----------|----------|
| PN_SCORE | 4 | 4 |
| TT_SCORE | 4 | 4 |
| MADS_SCORE | 2 | 2 |
| MAUS_SCORE | 2 | 2 |
| TDS_SCORE | 2 | 1 |
| TUS_SCORE | 2 | 1 |

BB_Service_CensusBlock Comparison Summary

Total records - 525296

| Field | Score=4 | Score=0 | Score < 4 | Score =7 |
|---------------|----------------|---------|-----------|----------|
| Provider Name | 4142 | 32645 | 521152 | 2 |
| Trans Tech | 3797 | 94854 | 521497 | 2 |
| Max Adv Down | 0 ¹ | 317278 | 525294 | 2 |
| Max Adv Up | 0 ¹ | 248281 | 525294 | 2 |
| Typical Down | | | | |
| Typical Up | | | | |

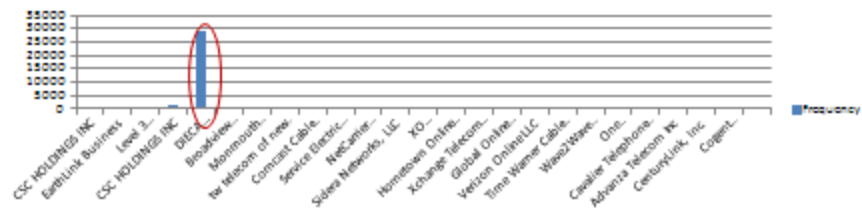
¹Score of 4 is not possible for this element

Provider Name No Match

PN_SCORE=0
BB_Service_CensusBlock



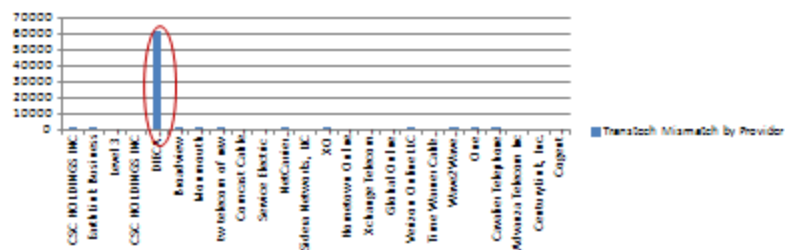
Frequency of Provider Name No Match



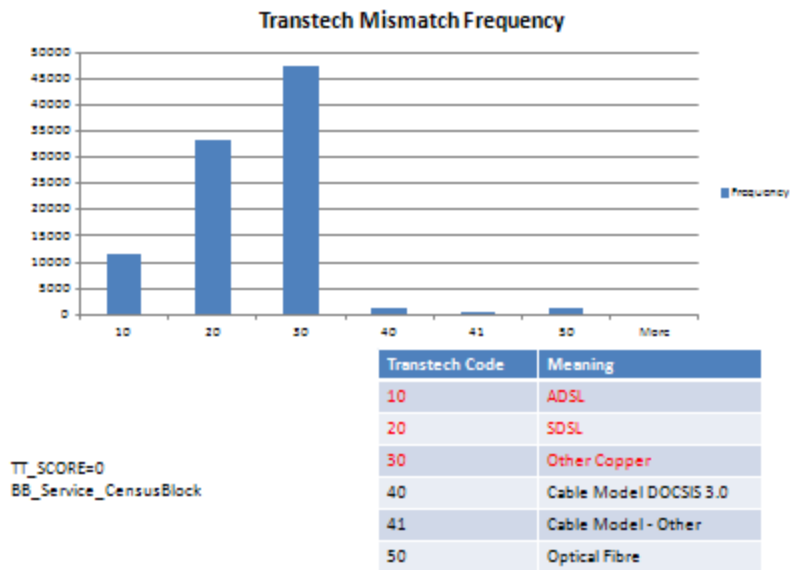
Transtech No Match

- Analyzed db BB_Service_CensusBlock
- Transtech mismatches are counted only for the cases where provider name matched
- TT_SCORE=0 when PN_SCORE>0
- Again DIECA has the most mismatches

Transtech Mismatch by Provider

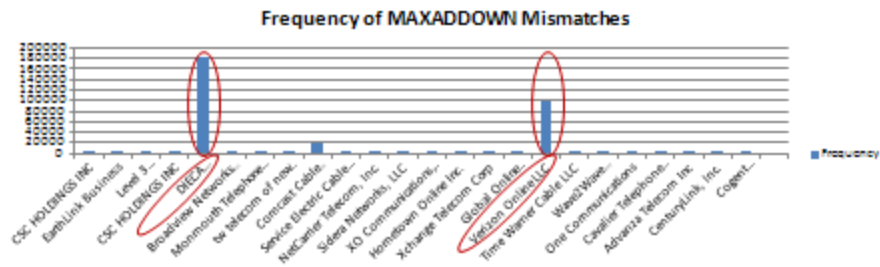


Transtech Mismatch by TT Type



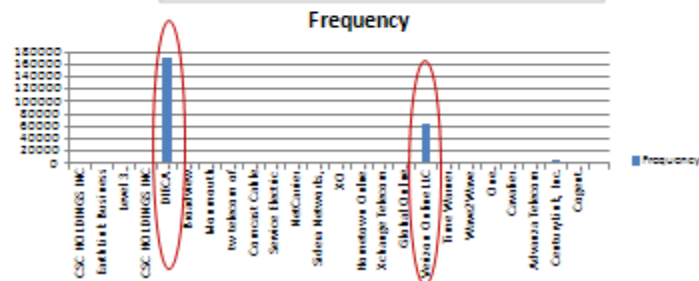
Max Adv Down Mismatch

MADS_SCORE=0
BB_Service_CensusBlock



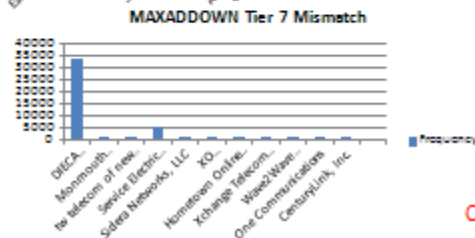
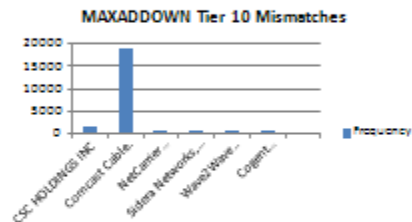
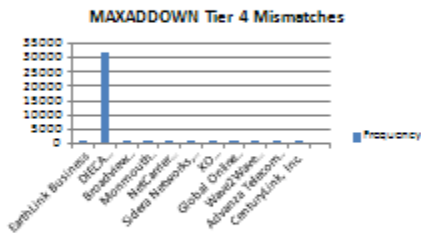
Max Adv Up Mismatch

MAUS_SCORE=0
BB_Service_CensusBlock



MAXADDOWN Non-Green Tiers

- Assessment summary report showed that Tiers 4, 7 and 10 had the most mismatches of concern (NJ reported tier > comparison data, yellow, orange or red)

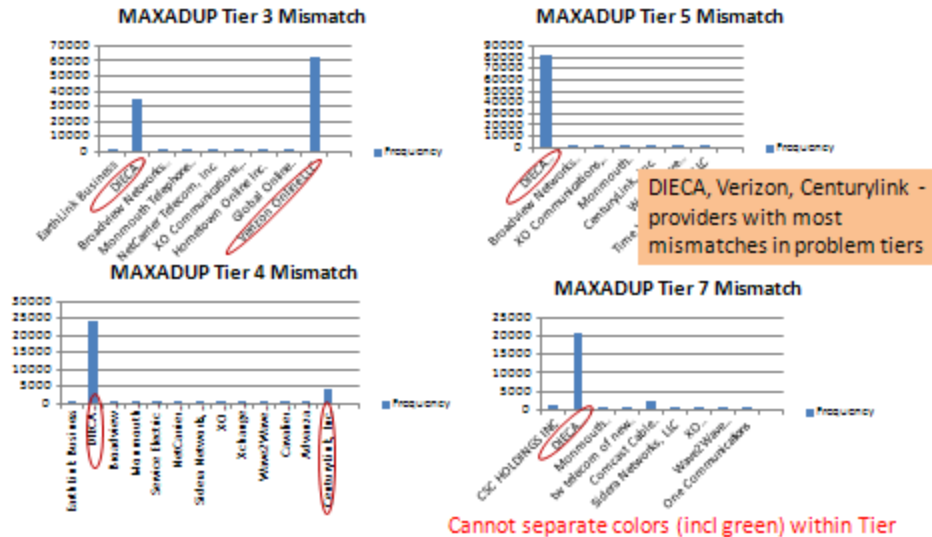


DIECA, Service Electric,
Comcast Cable - providers
with most mismatches in
problem tiers

Cannot separate colors (incl green) within Tier

MAXADUP Non-Green Tiers

- Assessment summary report showed that Tiers 3, 4, 5 and 7 had the most mismatches of concern (NJ reported tier > comparison data, yellow, orange or red)



Wireline Stats for Some Providers

BB_Service_CensusBlock analysis

TT_SCORE column values are after eliminating PN_SCORE=0

MADS_SCORE and MAUS_SCORE after eliminating TT_SCORE=0

| Provider | Total Records | PN_SCORE=0 | TT_SCORE=0 | MADS_SCORE=0 | MAUS_SCORE=0 |
|----------------|---------------|------------|------------|--------------|--------------|
| Comcast | 62834 | 0 | 34 | 19002 | 2241 |
| CSC Holdings | 60904 | 1332 | 759 | 0 | 0 |
| DIECA | 219164 | 29275 | 60992 | 93674 | 79684 |
| Verizon Online | 159874 | 18 | 336 | 100069 | 62493 |

Wireless Statistics

| Element | Total Records | M_COUNT < T_COUNT | M_COUNT=0 |
|---------|---------------|-------------------|-----------|
| PN | 1596895 | 461022 | 446887 |
| TT | 1596895 | 78625 | 19 |
| MADS | 1596895 | 676290 | 669260 |
| MAUS | 1596895 | 338917 | 338917 |

Wireless Statistics by Provider

| | Total Records | PN_M_COUNT=0 | TT_M_COUNT=0 | MADS_M_COUNT | MAUS_M_COUNT |
|-----------------------------------|---------------|--------------|--------------|--------------|--------------|
| Hughes | 169588 | 126880 | 0 | 10215 | 754 |
| AT&T | 167813 | 0 | 0 | 167813 | 48 |
| Leap Wireless | 52217 | 19 | 0 | 493 | 493 |
| Cellco (Verizon) | 254289 | 0 | 19 | 171008 | 171008 |
| Clearwire | 65567 | 3 | 0 | 65564 | 0 |
| Global Online Electronic Services | 1 | 1 | 0 | 0 | 0 |
| Sprint Nextel | 173048 | 0 | 0 | 107521 | 107521 |
| StarBand | 169588 | 169191 | 0 | 124 | 0 |
| T Mobile | 375091 | 1057 | 0 | 232137 | 144708 |
| Wave2Wave | 105 | 12 | 0 | 52 | 52 |
| WildBlue | 169588 | 149724 | 0 | 0 | 0 |

* After eliminating records with provider name mismatches

Hughes

- All PN_M_COUNT=0 records were associated with PN_T_COUNT=1
 - Only one data source was available for comparison in the affected census blocks

Wireless Statistics

| | MADS Speed Tier | MAUS Speed Tier |
|------------------|-----------------|-----------------|
| Hughes | 4 | 2 |
| AT&T | 4 | 3 |
| Cellco (Verizon) | 6 | 5 |
| | 5 | 4 |
| Clearwire | 5 | 3 |
| Sprint Nextel | 3 | 2 |
| T Mobile | 7 | 4 |
| | 6 | 4 |
| | 4 | 2 |

Transtech Mismatch Count

Wireless & Satellite

| Transtech=80 TT_M_COUNT < TT_T_COUNT | Transtech=70 TT_M_COUNT < TT_T_COUNT | Transtech=60 TT_M_COUNT < TT_T_COUNT | Transtech=50 TT_SCORE < PN_SCORE | Transtech=30 TT_SCORE < PN_SCORE | Transtech=20 TT_SCORE < PN_SCORE | Transtech=10 TT_SCORE < PN_SCORE |
|--|--|--|--|--|--|--|
| Terrestrial Mobile Wireless | Terrestrial Fixed Wireless - Unlicensed | Satellite | Fiber | Other Copper | SDSL | ADSL |
| 78625 | 0 | 0 | 12012 | 29811 | 27881 | 12737 |
| 78625 | 0 | 0 | 14585 | 29550 | 27882 | 12749 |

- Numbers in second row in table are obtained from querying GDB (wireless and wireline) for each Transtech code
- Numbers in the bottom row are from NTIA's table "Un-matched Technology Of Transmission Records"
- Wireless numbers match what's in NTIA's table exactly
- Wireline numbers are off by varying degrees, most are close except Transtech=50
- Note: Transtech table counts all mismatches, for all the comparison datasets, not enough to have one match
 - Wireless database provides the target count and so is easy to get
 - For wireline ended up using PN_SCORE as indirect measure of target set for each record – possible cause of deviation

Verizon Wireless Transtech Comparison

- All transtech mismatches in wireless are only in Transtech=80 (Wireless mobile)
 - total 78625 records
- All are for **Cellco Partnership** (Verizon)
- Our data has it as **Transtech=80**, their comparison data has them spread across Transtech=10, 20, 30 and 50! (all wireline transtech codes)
- All of these are records where provider name had no mismatch
- Issue: If provider name matched to Cellco Partnership (uniquely wireless provider) how could the reference transtech codes be in the wireline space?

8.2 Analysis of Discrepancies between December 2011 Submission and Third-Party Data

What's New?

To improve the usefulness of the Awardee file geodatabase, the following changes have been made to the format that was presented in the June 2011 SBI version of the Awardee file geodatabase.

1. The file geodatabase contains data current as of December 31, 2011.
2. Scores for BB_Service_RoadSegment are now shown at the Census Block level. This will provide the Awardee with a better understanding of the scoring for road segments that traverse multiple Census Blocks.
 - a. The census block level scoring is contained in a new table named RoadSegment_by_Block.
 - b. The RoadSegment_by_Block table can be queried similar to the Wireless_by_Block table as described in the *How to Query Road Segment and Wireless Records* section of this document.
 - c. The following fields have been dropped from BB_Service_RoadSegment
 - i. PN_SCORE
 - ii. TT_SCORE
 - iii. MADS_SCORE
 - iv. MAUS_SCORE
 - v. TDS_SCORE
 - vi. TUS_SCORE
3. The following field names in the Wireless_by_block and RoadSegment_by_Block tables have been added or updated to better reflect the original SBI field names
 - a. PROVNAME (updated)
 - b. DBANAME (added)
 - c. FRN (added)
 - d. TRANSTECH (updated)
 - e. MAXADOWN (added)
 - f. MAXADUP (added)
 - g. TYPICDOWN (added)
 - h. TYPICUP (added)

Dec 2011 Unmatched MADS

*****Unmatched Maximum Advertised Downstream Records*****

| | | Congestion Speed Tier | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|--|-----------------------|------|--------|------|--------|------|--------|------|--------|------|---------|-------|---------|-------|--------|------|--------|------|---------|------|---------|------|---|------|
| SBI Speed Tier | | Tier 1 | | Tier 2 | | Tier 3 | | Tier 4 | | Tier 5 | | Tier 6 | | Tier 7 | | Tier 8 | | Tier 9 | | Tier 10 | | Tier 11 | | | |
| | | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | | |
| Tier 1 | | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Tier 2 | | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Tier 3 | | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 75,302 | 8.1% | 33,932 | 3.7% | 103,937 | 11.2% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Tier 4 | | 0 | 0.0% | 0 | 0.0% | 5,317 | 0.6% | 0 | 0.0% | 11,462 | 1.2% | 30,294 | 3.4% | 94,681 | 10.2% | 26 | 0.0% | 0 | 0.0% | 0 | 0.0% | 13 | 0.0% | 0 | 0.0% |
| Tier 5 | | 0 | 0.0% | 0 | 0.0% | 5,328 | 0.6% | 29,080 | 3.1% | 0 | 0.0% | 94,876 | 10.2% | 55,262 | 6.0% | 11 | 0.0% | 0 | 0.0% | 1 | 0.0% | 1 | 0.0% | 0 | 0.0% |
| Tier 6 | | 0 | 0.0% | 0 | 0.0% | 387 | 0.0% | 6,622 | 0.7% | 7,825 | 0.9% | 0 | 0.0% | 106,912 | 11.5% | 2 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Tier 7 | | 0 | 0.0% | 0 | 0.0% | 2,863 | 0.2% | 13,732 | 1.5% | 7,394 | 0.9% | 96,982 | 10.5% | 0 | 0.0% | 231 | 0.0% | 0 | 0.0% | 5 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Tier 8 | | 0 | 0.0% | 0 | 0.0% | 532 | 0.1% | 829 | 0.1% | 224 | 0.0% | 0 | 0.0% | 250 | 0.0% | 0 | 0.0% | 0 | 0.0% | 7 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Tier 9 | | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 262 | 0.0% | 0 | 0.0% | 0 | 0.0% | 65,388 | 7.1% | 0 | 0.0% | 0 | 0.0% |
| Tier 10 | | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 44 | 0.0% | 57,273 | 6.2% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Tier 11 | | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 26 | 0.0% | 0 | 0.0% | 289 | 0.0% | 342 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |

- 926133 mismatches (mismatch for each source is counted separately)
- Only ~25% of these are non-green (15% yellow, 8% orange and 2% red)
- Tiers 5, 7 and 10 have most non-green mismatches
- Biggest differences from June 2011 are in the green cells

Dec 2011 Unmatched MAUS

=====Un-matched Maximum Advertised Upstream Records=====

| | | Comparison Speed Tier | | | | | | | | | | | | | | | | | | | | | |
|----------------------|--------|-----------------------|--------|------|---------|-------|---------|-------|---------|-------|--------|------|--------|------|---------|-------|--------|------|---------|------|---------|------|--|
| SBI Speed Tier | Tier 1 | | Tier 2 | | Tier 3 | | Tier 4 | | Tier 5 | | Tier 6 | | Tier 7 | | Tier 8 | | Tier 9 | | Tier 10 | | Tier 11 | | |
| | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | |
| Tier 1 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | |
| Tier 2 | 0 | 0.0% | 0 | 0.0% | 136,890 | 24.3% | 126,851 | 22.5% | 103,378 | 18.3% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | |
| Tier 3 | 0 | 0.0% | 15,594 | 2.8% | 0 | 0.0% | 268 | 0.0% | 68 | 0.0% | 10 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | |
| Tier 4 | 0 | 0.0% | 797 | 0.1% | 15,521 | 2.8% | 0 | 0.0% | 494 | 0.1% | 34 | 0.0% | 29 | 0.0% | 28 | 0.0% | 0 | 0.0% | 13 | 0.0% | 0 | 0.0% | |
| Tier 5 | 0 | 0.0% | 0 | 0.0% | 5,106 | 0.9% | 24,316 | 4.3% | 0 | 0.0% | 10 | 0.0% | 3 | 0.0% | 11 | 0.0% | 0 | 0.0% | 1 | 0.0% | 0 | 0.0% | |
| Tier 6 | 0 | 0.0% | 0 | 0.0% | 387 | 0.1% | 101 | 0.0% | 16 | 0.0% | 0 | 0.0% | 0 | 0.0% | 2 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | |
| Tier 7 | 0 | 0.0% | 0 | 0.0% | 2,043 | 0.4% | 8,791 | 1.6% | 12,995 | 2.3% | 405 | 0.1% | 0 | 0.0% | 104,348 | 18.5% | 0 | 0.0% | 3,433 | 0.6% | 0 | 0.0% | |
| Tier 8 | 0 | 0.0% | 0 | 0.0% | 532 | 0.1% | 819 | 0.1% | 234 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 7 | 0.0% | 0 | 0.0% | |
| Tier 9 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 13 | 0.0% | 0 | 0.0% | |
| Tier 10 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | |
| Tier 11 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 10 | 0.0% | 0 | 0.0% | 200 | 0.0% | 347 | 0.1% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | |

- 546112 mismatches total (mismatch for each source is counted separately)
- Only 15.6% are non-green (9.9% yellow, 3.4% orange and 2.4% red)
- Tiers 3, 4, 5 and 7 have the most non-green mismatches

Dec 2011 Transtech Mismatches

=====Un-matched Technology of Transmission Records=====

| | | Comparison TRANSTECH | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|--------|----------------------|-------|------|--------|------|-------|------|-------|------|--------|------|-------|------|-------|------|-------|------|-------|------|-------|------|--|--|--|
| SBI TRANS TECH | 10 | | 20 | | 30 | | 40 | | 41 | | 50 | | 60 | | 70 | | 71 | | 80 | | 90 | | | | |
| | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | Count | % | | | |
| 10 | 0 | 0.0% | 1,353 | 9.9% | 9,652 | 6.1% | 50 | 0.0% | 0 | 0.0% | 4,777 | 3.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 5,709 | 3.6% | 0 | 0.0% | | | |
| 20 | 22,287 | 14.1% | 0 | 0.0% | 7,589 | 4.8% | 4 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | | | |
| 30 | 26,511 | 16.5% | 4,950 | 3.1% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | | | |
| 40 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 407 | 0.3% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | | | |
| 41 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | | | |
| 50 | 10,249 | 6.5% | 0 | 0.0% | 2,924 | 1.9% | 1,873 | 1.2% | 520 | 0.3% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 3,962 | 2.5% | 0 | 0.0% | | | |
| 60 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | | | |
| 70 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | | | |
| 71 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | | | |
| 80 | 26,346 | 16.7% | 0 | 0.0% | 13,994 | 8.9% | 0 | 0.0% | 0 | 0.0% | 14,866 | 9.4% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | | | |
| 90 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | | | |

- 158027 mismatches total (includes wireline and wireless)
- All mismatches are in transtech codes 20, 30, 50 and 80
- Queries on the GDB indicate that these results are obtained by the query 'TT_M_COUNT < TT_T_COUNT and PN_M_COUNT>0'
 - Wireless records have insignificant number of TT mismatches where TT_M_COUNT=0

Overview of Mismatches in Wireline Records

Dec 2011 Data - Total Records in Wireline Census Blockgdb: 528401

| Field | Score=4 | Score=2 | Score=0 | Score < 4 | Score < 2 | Score =7 |
|---------------|---------|---------|---------|-----------|-----------|--------------|
| Provider Name | 4120 | | 43078 | 524279 | | 2 (Netlogic) |
| Trans Tech | 3507 | | 68062 | 481814 | | 2 |
| Max Adv Down | | 64990 | 313906 | | 463409 | 2 |
| Max Adv Up | | 139643 | 271564 | | 388756 | 2 |

June 2011 Data - Total records: 525296

| Field | Score=4 | Score=0 | Score < 4 | Score =7 |
|---------------|----------------|---------|-----------|----------|
| Provider Name | 4142 | 32645 | 521152 | 2 |
| Trans Tech | 3797 | 94854 | 521497 | 2 |
| Max Adv Down | 0 ¹ | 317278 | 525294 | 2 |
| Max Adv Up | 0 ¹ | 248281 | 525294 | 2 |

Mismatches have changed slightly since the previous assessment

PN_SCORE = 0

| Provider Name | Frequency |
|---|-----------|
| CSC HOLDINGS INC | 18 |
| VeriLink Business | 323 |
| Level 3 Communications, LLC | 138 |
| CSC HOLDINGS INC | 965 |
| DISCA Communications, Inc. | 39537 |
| Monmouth Telephone & Telegraph | 109 |
| tw telecom of new jersey | 2 |
| Comcast Cable Communications, LLC | 35 |
| Service Electric Cable TV of NJ Inc. | 465 |
| NetCenlar Telecom, Inc. | 55 |
| XO Communications, LLC | 400 |
| Hamdoun Online Inc. | 5 |
| Xohango Telecom Corp. | 358 |
| Global Online Electronic Services, Inc. | 4 |
| Verizon Online LLC | 291 |
| Advance Telecom, Inc. | 12 |

TT_SCORE = 0 / PN_SCORE ≠ 0

| Provider | Frequency |
|--------------------------------|-----------|
| CSC HOLDINGS INC | 224 |
| Level 3 Communications, LLC | 26 |
| CSC HOLDINGS INC | 92 |
| DIECA Communications, Inc. | 66403 |
| Monmouth Telephone & Telegraph | 9 |
| tw telecom of new jersey | 1 |
| NetCarrier Telecom, Inc. | 10 |
| XO Communications, LLC | 23 |
| Hometown Online Inc. | 4 |
| Xchange Telecom Corp | 44 |
| Verizon Online LLC | 1206 |
| Advanza Telecom Inc | 20 |

| TT | Frequency |
|----|-----------|
| 10 | 6181 |
| 20 | 29810 |
| 30 | 31280 |
| 40 | 92 |
| 50 | 699 |

| Transtech Code | Meaning |
|----------------|------------------------|
| 10 | ADSL |
| 20 | SDSL |
| 30 | Other Copper |
| 40 | Cable Modem DOCSIS 3.0 |
| 41 | Cable Modem - Other |
| 50 | Optical Fibre |

Not much of a difference from June 2011

MADS_SCORE=0/TT_SCORE ≠ 0

| Provider | Frequency |
|--------------------------------------|-----------|
| CSC HOLDINGS INC | 417 |
| CSC HOLDINGS INC | 5 |
| DIECA Communications, Inc. | 85590 |
| Monmouth Telephone & Telegraph | 242 |
| tw telecom of new jersey | 16 |
| Comcast Cable Communications, LLC | 19290 |
| Service Electric Cable TV of NJ Inc. | 166 |
| NetCarrier Telecom, Inc. | 30 |
| XO Communications, LLC | 225 |
| Hometown Online Inc. | 281 |
| Xchange Telecom Corp | 346 |
| Verizon Online LLC | 96113 |
| Time Warner Cable LLC | 7 |
| CenturyLink, Inc. | 38 |

| Max Adv Down | Frequency |
|--------------|-----------|
| 3 | 1236 |
| 4 | 19770 |
| 5 | 84731 |
| 6 | 29160 |
| 7 | 27664 |
| 8 | 1758 |
| 9 | 18734 |
| 10 | 19295 |
| 11 | 418 |

MAUS_SCORE=0/TT_SCORE ≠ 0

| Provider | Frequency | Max Adv Up Tier | Frequency |
|--------------------------------------|-----------|-----------------|-----------|
| CSC HOLDINGS INC | 417 | | |
| CSC HOLDINGS INC | 5 | 2 | 20015 |
| DIECA Communications, Inc. | 71894 | 3 | 19362 |
| Monmouth Telephone & Telegraph | 242 | 4 | 10941 |
| tw telecom of new jersey | 16 | 5 | 29196 |
| Comcast Cable Communications, LLC | 2763 | 6 | 306 |
| Service Electric Cable TV of NJ Inc. | 166 | 7 | 78381 |
| NetCenter Telecom, Inc. | 11 | 8 | 1592 |
| XO Communications, LLC | 223 | 9 | 13 |
| Hamdawn Online Inc. | 54 | 11 | 418 |
| Xchange Telecom Corp | 309 | | |
| Verizon Online LLC | 77366 | | |
| Time Warner Cable LLC | 7 | | |
| CenturyLink, Inc. | 6929 | | |

Wireline Stats by Provider

Dec 2011 Assessment

TT_SCORE values are after eliminating PN_SCORE=0
MADS_SCORE and MAUS_SCORE after eliminating TT_SCORE=0

| Provider | Total Records | PN_SCORE=0 | TT_SCORE=0 | MADS_SCORE=0 | MAUS_SCORE=0 |
|----------------|---------------|------------|------------|--------------|--------------|
| Comcast | 66069 | 35 | 0 | 19290 | 2783 |
| CSC Holdings | 62501 | 983 | 316 | 422 | 422 |
| DIECA | 219164 | 39857 | 66403 | 85590 | 71894 |
| Verizon Online | 160123 | 291 | 1206 | 96113 | 77366 |

June 2011 Assessment

| Provider | Total Records | PN_SCORE=0 | TT_SCORE=0 | MADS_SCORE=0 | MAUS_SCORE=0 |
|----------------|---------------|------------|------------|--------------|--------------|
| Comcast | 62834 | 0 | 34 | 19002 | 2241 |
| CSC Holdings | 60904 | 1332 | 759 | 0 | 0 |
| DIECA | 219164 | 29275 | 60992 | 93674 | 79684 |
| Verizon Online | 159874 | 18 | 336 | 100069 | 62493 |

Dieca Focused Analysis - 1

Provider Name (Mis)Matches

| Total Records | PN_SCORE>2 | PN_SCORE=2 | PN_SCORE=1 | PN_SCORE=0 |
|---------------|------------|------------|------------|------------|
| 219314 | 0 | 68 | 179389 | 39857 |

Transtech (Mis)Matches

| Total Records | TT_SCORE>2 | TT_SCORE=2 | TT_SCORE=1 | TT_SCORE=0 |
|---------------|------------|------------|------------|------------|
| 219314 | 0 | 45 | 113009 | 66403 |

Transtech Mismatch Distribution

| Transtech | # records | TT_SCORE=0 |
|-----------|-----------|------------|
| 10 | 66260 | 5366 |
| 20 | 54920 | 29786 |
| 30 | 98134 | 31251 |

Dieca has very few records that match more than one source

Dieca Focused Analysis - 2

| MADS Tier | # Records | # Mismatch |
|-----------|-----------|------------|
| 3 | 10387 | 1085 |
| 4 | 36914 | 6258 |
| 5 | 101557 | 35949 |
| 6 | 24517 | 13760 |
| 7 | 43216 | 26958 |
| 8 | 2723 | 1580 |

| MAUS Tier | # Records | # Mismatch |
|-----------|-----------|------------|
| 2 | 23477 | 6733 |
| 3 | 51513 | 15777 |
| 4 | 24746 | 3473 |
| 5 | 87900 | 28965 |
| 6 | 1315 | 499 |
| 7 | 27640 | 14867 |
| 8 | 2723 | 1580 |

Verizon Focused Analysis - 1

Provider Name (Mis)Matches

| Total Records | PN_SCORE=4 | PN_SCORE=3 | PN_SCORE=2 | PN_SCORE=1 | PN_SCORE=0 |
|---------------|------------|------------|------------|------------|------------|
| 160123 | 2964 | 104545 | 45293 | 7030 | 291 |

Transtech (Mis)Matches

| Total Records | TT_SCORE=4 | TT_SCORE=3 | TT_SCORE=2 | TT_SCORE=1 | TT_SCORE=0 |
|---------------|------------|------------|------------|------------|------------|
| 160123 | 2351 | 83343 | 58176 | 14756 | 1206 |

Transtech Mismatch Distribution

| Transtech | # records | TT_SCORE=0 |
|-----------|-----------|------------|
| 10 | 98818 | 767 |
| 50 | 61305 | 439 |

Verizon Focused Analysis - 2

| MADS Tier | # Records | # Mismatch | Transtech Code |
|-----------|-----------|------------|----------------|
| 4 | 13469 | 13282 | All are 10 |
| 5 | 63580 | 48723 | All are 10 |
| 6 | 21769 | 15393 | All are 10 |
| 9 | 61305 | 18714 | All are 50 |

| MAUS Tier | # Records | # Mismatch | Transtech Code |
|-----------|-----------|------------|----------------|
| 2 | 13469 | 13282 | All are 10 |
| 3 | 85349 | 3453 | All are 10 |
| 7 | 61305 | 60631 | All are 50 |

High percentage of Verizon records have speed mismatches

Comcast Focused Analysis - 1

Provider Name (Mis)Matches

| Total Records | PN_SCORE=4 | PN_SCORE=3 | PN_SCORE=2 | PN_SCORE=1 | PN_SCORE=0 |
|---------------|------------|------------|------------|------------|------------|
| 66069 | 1057 | 38963 | 24106 | 1908 | 35 |

Transtech (Mis)Matches

| Total Records | TT_SCORE=4 | TT_SCORE=3 | TT_SCORE=2 | TT_SCORE=1 | TT_SCORE=0 |
|---------------|------------|------------|------------|------------|------------|
| 66069 | 1057 | 38963 | 24106 | 1908 | 0 |

Comcast Focused Analysis - 2

| MADS Tier | # Records | # Mismatch | Transtech Code |
|-----------|-----------|------------|----------------|
| 10 | 66069 | 19290 | All are 40 |

| MAUS Tier | # Records | # Mismatch | Transtech Code |
|-----------|-----------|------------|----------------|
| 7 | 66069 | 2783 | All are 40 |

Comcast has only one MADS tier of 10 and one MAUS tier of 7 in our data

Wireless Statistics

Dec 2011 Assessment

| Element | Total Records | M_COUNT < T_COUNT | M_COUNT=0 |
|---------|---------------|-------------------|-----------------|
| PN | 1618164 | 472647 | 472647 |
| TT | 1618164 | 55206 | 10 |
| MADS | 1618164 | 583402 | 583402 (702494) |
| MAUS | 1618164 | 339424 | 339424 (458516) |

June 2011 Assessment

| Element | Total Records | M_COUNT < T_COUNT | M_COUNT=0 |
|---------|---------------|-------------------|-----------|
| PN | 1596895 | 461022 | 446887 |
| TT | 1596895 | 78625 | 19 |
| MADS | 1596895 | 676290 | 669260 |
| MAUS | 1596895 | 338917 | 338917 |

Wireless Provider Name Mismatches by Provider

| Provider | Total Records | PN_M_COUNT=0 |
|-----------------------------------|---------------|--------------|
| Leap Wireless International, Inc. | 52359 | 630 |
| Cellco Partnership | 256988 | 8 |
| StarBand Communications Inc. | 169588 | 169237 |
| T-Mobile USA, Inc. | 384706 | 1204 |
| WildBlue Communications, Inc. | 169588 | 153749 |
| Jersey Shore Wireless | 5702 | 3352 |
| Hughes Network Systems, LLC | 168588 | 144465 |
| Clearwire Corporation | 66463 | 2 |

All 3 with poor PN matching are satellite providers, Transtech = 60

Wireless – MADS and MAUS Mismatches

| Provider | Total Records | MADS_M_COUNT=0 | MAUS_M_COUNT=0 |
|---|---------------|----------------|----------------|
| Cellco Partnership | 256988 | 191450 | 103378 |
| Sprint-Nextel Corporation | 174583 | 108140 | 108140 |
| StarBand Communications Inc. | 169588 | 124 | 0 |
| T-Mobile USA, Inc. | 384706 | 210657 | 127574 |
| Global Online Electronic Services, Inc. | 1 | 1 | 1 |
| Hughes Network Systems, LLC | 168588 | 6569 | 331 |
| Clearwire Corporation | 66463 | 66461 | 0 |

- Cellco (Verizon), Sprint Nextel and T-Mobile have the most mismatches
- Cellco, T-Mobile, AT&T and others have a large number of records where MADS_T_COUNT=0 or MAUS_T_COUNT=0 (not included in the table)
- Numbers in the table are a result of the query
MADS_M_COUNT = 0 and MADS_M_COUNT < MADS_T_COUNT and TT_M_COUNT > 0

Cellco Partnership (Verizon) Analysis

| MADS Speed Tier | # Records | # Mismatches | Transtech Code |
|-----------------|-----------|--------------|----------------|
| 3 | 168903 | 103378 | All are 80 |
| 7 | 88085 | 88072 | All are 80 |

| MAUS Speed Tier | # Records | # Mismatches | Transtech Code |
|-----------------|-----------|--------------|----------------|
| 2 | 168903 | 103378 | All are 80 |
| 5 | 88085 | 0 | All are 80 |

Sprint Nextel Analysis

| MADS Speed Tier | # Records | # Mismatches | Transtech Code |
|-----------------|-----------|--------------|----------------|
| 3 | 108160 | 108140 | All are 80 |
| 5 | 66423 | 0 | All are 80 |

| MAUS Speed Tier | # Records | # Mismatches | Transtech Code |
|-----------------|-----------|--------------|----------------|
| 2 | 108160 | 108140 | All are 80 |
| 3 | 66423 | 0 | All are 80 |

- Sprint has significant mismatches, but only in the lowest tier
- Sprint is not overstating speeds

T-Mobile Analysis

| MADS Speed Tier | # Records | # Mismatches | Transtech Code |
|-----------------|-----------|--------------|----------------|
| 4 | 154225 | 126851 | All are 80 |
| 6 | 132784 | 78587 | All are 80 |
| 7 | 97697 | 5219 | All are 80 |

| MAUS Speed Tier | # Records | # Mismatches | Transtech Code |
|-----------------|-----------|--------------|----------------|
| 2 | 154225 | 126851 | All are 80 |
| 4 | 230481 | 723 | All are 80 |

8.3 Questions to Resolve Discrepancies with FCC

The six questions below (in italics) were reviewed on August 21, 2012 in a teleconference call involving ACS, NJ OIT, FCC and Michael Baker personnel. FCC responses are provided for each question.

1. *By far, the bulk of mismatches in the wireline data were from a single provider - Dieca Communications DBA Covad Communications - and in all the comparison fields. Deica/Covad has merged with Megapath and has subsequently explained to us that they provide facilities-based services which are then branded and sold by others. We would be interested in any information NTIA can provide on what FRN or names are being compared against Deica's data.*

Provider names and FRNs are compared to Form 477 data to perform location matches. Mismatches often result from errors in the Form 477 data. Moreover, mismatches aren't often valid for MVN data.

2. *All transtech code mismatches in the wireless data were found to be associated with the provider called "Cellco Partnership" with DBA name of Verizon Wireless. NJ's submitted data has the transtech code of 80 that corresponds to "Wireless Mobile". From the Transtech mismatch table in the summary report, it appears that this data was being compared against records with transtech codes spanning across values in the wireline space. Can you confirm or correct our understanding, and, if this is a case of comparing wireless data against wired records, please advise as to how to correct?*

With the Form 477 data, sometimes different services are grouped under the same FRN, e.g., data for DSL and "other copper" may be confounded. The problem is likely in the third-party data, so we can ignore these discrepancies.

3. *The bulk of provider name mismatches in wireless data came from satellite providers - Hughes, WildBlue and Starband. In addition, about 87% of the satellite provider records (445795 out of 508674) had provider name mismatches. Additional information on what they were compared against is needed to better understand the reason for this.*

This problem likely has the same explanation as 1 above.

Finally, ACS would like to get clarification on the following aspects in order to help us in our analysis and interpretation:

4. *The wireless data include the number of sources that were available for comparison for each record and each compared element (T_COUNT). This helps in determining the true number of mismatches. However, the wireline data do not include such information and just include the score, without any indication of how many comparison sources were used. So, it is not clear if a score of 1 indicates a full match to a single available data source or only a match to a subset of sources.*

NTIA will look into this issue for the Oct. 2012 submission.

5. *In the case of wireless, how should we interpret cases where M_COUNT 0 (indicating at least one match) but the M_COUNT < T_COUNT? This implies that the comparison sources were not in agreement.*

This probably isn't a problem with the data submission. This happens more often in the wireless domain. One of the third party data sources used for wireless comparisons is FCC speed tests, which often have fewer records and the census block coverage is uneven.

6. *The summary results indicate by color code (grades from green to red) the amount by which the submitted data overstated the speed tier in comparison with the third party sources. However, it is not clear how to correlate this to specific providers because the geodatabase only indicates that a mismatch exists but does not indicate the comparison values of the speed tiers. Can you provide provider-specific color-coded data?*

This problem is recognized and is already in the "NTIA court," i.e., is under consideration.