

# New Jersey Broadband Mapping Project:

## Methodology Report on Data Integration and Validation Procedures For April 2012 Submission

March 30, 2012

### Grantee:

New Jersey Office of Information Technology  
200/300 Riverview Plaza  
PO Box 212  
Trenton, NJ 08625

### Contact:

Shelley Bates  
[shelley.bates@oit.state.nj.us](mailto:shelley.bates@oit.state.nj.us)  
609-633-9605

### Contractor:

Applied Communication Sciences  
1 Applied Communication Sciences Drive  
Piscataway, NJ 08854

### Contact:

John R. Wullert, II  
[jwullert@appcomsci.com](mailto:jwullert@appcomsci.com)  
732-699-2687

## Table of Contents

1	Structure of this Report .....	1
2	Data Outreach .....	1
2.1	Provider Data Outreach .....	1
2.2	CAI Data Outreach and Processing .....	3
3	Service Provider Data Reception.....	5
4	Service Provider Data Loading.....	6
5	Validation and Verification Operations.....	7
5.1	Custom Data Verification and Validation .....	7
5.2	Verification through Gap Analysis of Neighboring Census Blocks.....	9
5.3	Processing of Fixed Wireless Coverage .....	12
5.4	Process Verification.....	12
5.5	Validation Warnings.....	12
6	Appendix A: Individual Provider Process Descriptions .....	15
6.1	Advanza .....	15
6.2	AT&T Mobility .....	20
6.3	CenturyLink.....	27
6.4	Clearwire .....	37
6.5	Cogent .....	43
6.6	Cablevision .....	49
6.7	Comcast .....	57
6.8	Dieca-Covad .....	65
6.9	GOES.....	73
6.10	Hometown Online .....	80
6.11	Earthlink .....	87
6.12	HughesNet .....	92
6.13	Jersey Shore Wireless.....	97
6.14	Leap/Cricket .....	101
6.15	Level3.....	108
6.16	Monmouth .....	115
6.17	NetCarrier Telecom .....	121
6.18	Network Billing Systems.....	126
6.19	Service Electric – Hunterdon.....	133
6.20	Service Electric – Sparta .....	139

6.21	Sprint .....	146
6.22	Starband.....	152
6.23	Time Warner.....	159
6.24	T-Mobile.....	166
6.25	TW Telecom.....	175
6.26	Verizon .....	180
6.27	Verizon Wireless .....	186
6.28	Voxitas.....	193
6.29	WildBlue.....	197
6.30	Xchange Telecom.....	202
6.31	XO Communications .....	209
7	Appendix B: CAI Process Description .....	220
7.1	Summary.....	220
7.2	Local Government and Non-Government Organizations .....	221
7.3	State Government .....	221
7.4	Hospitals .....	222
7.5	Higher Education.....	223
7.6	Libraries.....	224
7.7	Private K-12 Schools .....	225
7.8	Public K-12 Schools .....	226
7.9	Public Safety Organizations .....	227
7.10	CAI Validation and Loading .....	228

# **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 31 files, one for each provider whose data is included in the submission. Each report describes 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 appendix describes the CAI processing for this submission, broken down by CAI category.

## **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 attempted to contact every company with an FRN active in the state of New Jersey. We conducted Internet searches and used information provided by NTIA to identify wireless information service providers in the state and reached out to them. 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 several have expressed concerns about the burdens of the data collection process. One provider – Hotwire Communications – previously declined to devote any effort to submitting 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 31 providers. Of those, 30 had submitted data in previous rounds and 1 is a new provider (Jersey Shore Wireless).

## NJ September April 2012 Submission

- We contacted the 70 providers, via email, postings to their Web site and/or telephone calls, broken down as follows:
  - 35 facilities based providers who had contributed data previously;
  - 24 other providers with FRNs associated with the state of New Jersey;
  - 9 service providers reported to offer wireless data services in NJ;
  - 2 potential providers we identified through Internet searches.
- Of the 35 providers who contributed data in the previous round, we are submitting data from 30 of them this round.
  - We had 23 providers submit revised data for this round.
  - Four providers instructed us to use previously submitted data.
  - Three 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 fall data from the following providers again:
    - Advanza
    - Network Billing Systems
    - New Edge/Earthlink
  - Two providers indicated that they would not submit data:
    - OneCommunications sent an email saying they did not believe the data they had was complete or accurate enough for submission;
    - Sidera responded to our request with an email message stating that they no longer had any customers in New Jersey and would not be submitting data.
  - Three other providers who had participated in prior rounds failed to respond to repeated contact attempts via email and phone. These providers had not submitted new data during the last round. Information obtained in our attempts to contact them and investigations into the state of the companies led us to believe that there might be substantive changes in their coverage or in their viability as companies. We thus did not submit data from these providers:
    - Broadview: Outgoing voice mail messages indicated a change in personnel, but we received no response to multiple email and voice mail messages.
    - Cavalier Telephone: Outgoing voice mail message indicated that they are involved in a merger with Windstream. We received no response to multiple email and voice mail messages.
    - Wave2Wave: Published reports indicate they are in bankruptcy proceedings. We received no response to multiple email and voice mail messages.
- We contacted 25 other providers who have FRNs associated with New Jersey. We contacted these providers via email, telephone and/or through postings on their Web sites. Of these, we had direct interactions with only two, listed below. The remaining 23 did not reply to any of our requests.
  - Reliance Global Communications: They expressed interest in the program but did not respond to subsequent inquiries and offers to help.
  - Airband Communications: Responded saying they had only a single point-to-point link in New Jersey and did not offer service to any other areas.
- We investigated nine companies identified as wireless information service providers in New Jersey.
  - Jersey Shore Wireless: They responded with pointers to image-based coverage maps that we converted to shape files and **included in this submission**.
  - Reynwood Communications: They expressed interest in the program but did not respond to subsequent inquiries and offers to help.
  - For five entities, we determined that they were out of business entirely (Web site unavailable, email returned, etc.) or they specifically indicated they were no longer in the wireless business.
  - We received no response from two other providers.
- We contacted two providers that we discovered in Web searches as offering broadband service in New Jersey:
  - Atlantech Online indicated that they do not meet the 7-10 delivery window

- CTI Networks did not respond to our requests.

### 2.1.1 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.

## 2.2 CAI Data Outreach and Processing

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 had previously obtained a reference list of hospitals from the New Jersey Hospital Association and we augmented this with information parsed from the New Jersey Department of Health and Senior Services (NJ HSS) which maintains on-line records of all licensed health care facilities. For K-12 education we augmented our broadband records with information extracted from NJ applications to the federal e-Rate program. For the e-Rate program, we obtained public information on all New Jersey applications from the USAC website. There are five funding categories established in the e-Rate program, plus a Miscellaneous category. We selected applications that requested funding for the Internet Access category. The available information allowed us to identify these schools as having broadband access

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 Processing Results**

CAI Category	Reference Records	Broadband Records	Total Records Identified	Complete Records Created	CAI Category
School K-12 (Public)	2603	796 (Web) 478 (eRate)	2598	227	School K-12 (Public)
School K-12 (Private)	1260 (NCES)		1267	169	School K-12 (Private)
Libraries	465 (IMLS)	89	472	50	Libraries
Medical/Healthcare	1139 (NJHA + NJ HHS)	5	1139	5	Medical/Healthcare
Public Safety	343 (NJ 911 Comm.)	120	349	95	Public Safety
University	158 (NCES IPEDS)	39 (NJEdge)	160	36	University
Other – State Government		2007	1692	1692	Other – State Government
Other – Local Government	0	54	54	54	Other – Local Government
Other – Non Government	0	8	7	7	Other – Non Government

**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

After these records were generated, we applied additional validations while loading the NTIA Transfer model. We discarded 86 records for failing these validations. In the end, we loaded 7549 records.

**2.2.1 CAI Data Issues**

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 expressed concerns about placing additional burdens in a time of shrinking budgets and cutbacks.

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 has been to submit a single entry for each institution, using the highest available download speed, 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.

NJ OIT has initiated an effort in cooperation with the New Jersey Department of Education to collect Internet access information from public K-12 schools. DOE will be conducting a survey of schools this spring to provide information they need to determine the ability of schools to meet on-line testing requirements. DOE will require schools to respond to the survey, so the response rate should be high. DOE has agreed to augment their survey with requests for the data necessary for the NTIA CAI submission. The survey is scheduled to go out to schools in May. Thus, we expect a substantial increase in complete CAI records for the fall submission.

### **3 Service Provider Data Reception**

Applied Communication Sciences defined a process for handling provider data upon receipt. Given the need to provide explanations for NTIA validation errors, the process was modified from previous rounds in order to load the data into the transfer model as quickly as possible. This ensured that there was sufficient time to interact with providers on any discrepancies.

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.
8. Process the data and load it into the NTIA transfer model
9. 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.
- 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. If customers’ selections in neighboring census blocks were vastly different, we would use the highest speed in a (subjectively defined) area as the maximum advertised speed.
- 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). On 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. Where possible, we impute missing data.

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](https://njgin.state.nj.us/NJ_NJGINExplorer/DataDownloads.jsp)), the Federal Government placename information ([http://geonames.usgs.gov/domestic/download\\_data.htm](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+)<sup>1</sup>. 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.

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.

The following business rules were applied above and beyond those in the NTIA script:

We checked uniqueness of the entries in each table, using the definitions shown in Table 2.

---

<sup>1</sup> 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.

**Table 2: Uniqueness Definitions used in Duplicate Removal Process**

Layer	Unique key	Notes
Middle Mile	frn, latitude, longitude	
CAI	anchortname, address, transtech	
Census Block	frn, fullfipsid, transtech	
Street Segment	frn, tlid, transtech	tlid is an internal column.
Wireless	frn,transtech, spectrum, shape	

We also performed the additional validations described in Table 3.

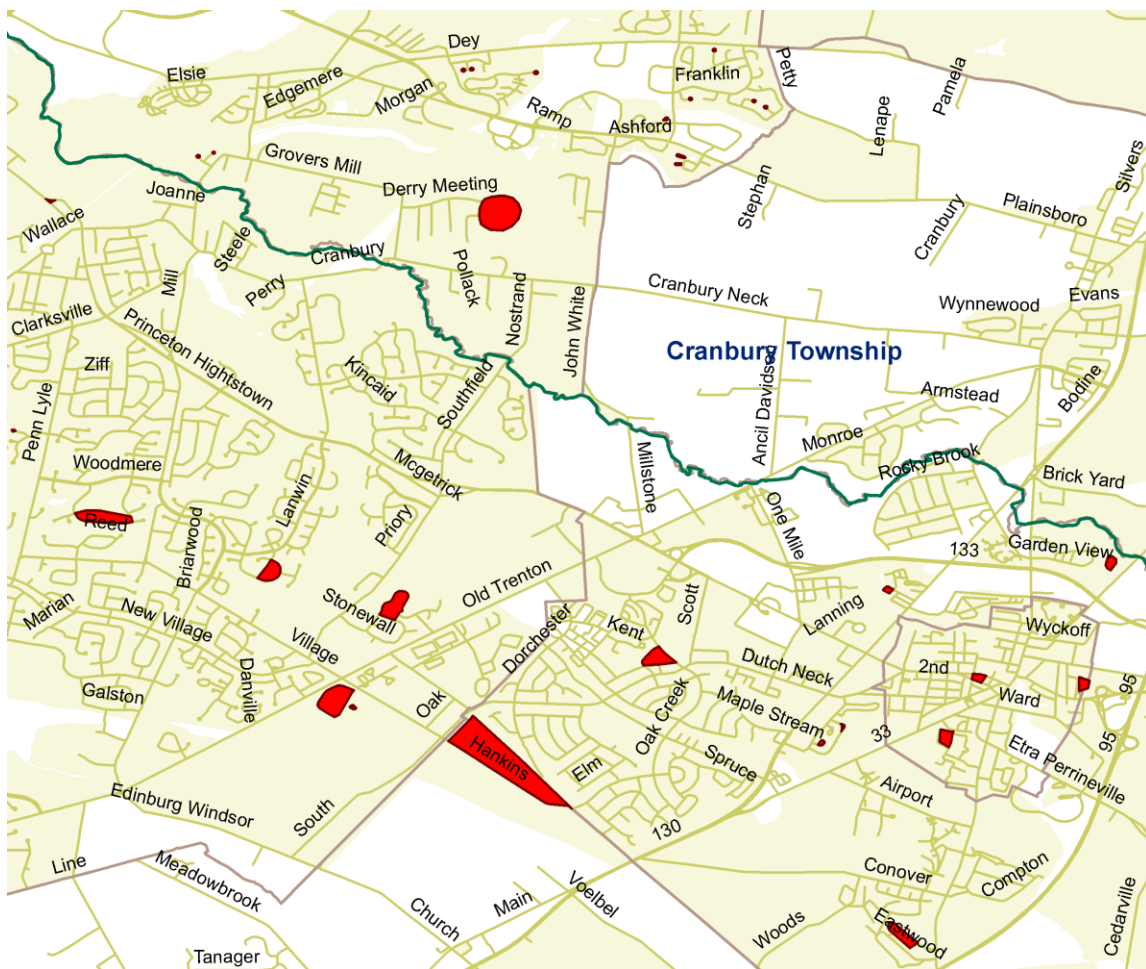
**Table 3: Customized Data Validations**

Layer	Validation Rules
Middle Mile	<ul style="list-style-type: none"> <li>• Check (dbaname, provname, frn) against our FRN reference table</li> <li>• Valid census block id within the state of New Jersey</li> <li>• Check latitude not between 38.7 and 41.4</li> <li>• Check longitude not between -75.6 and -73.8</li> <li>• Shape should not be empty</li> <li>• All check_submission rules</li> </ul>
CAI	<ul style="list-style-type: none"> <li>• Valid zip code</li> <li>• Check latitude not between 38.7 and 41.4</li> <li>• Check longitude not between -75.6 and -73.8</li> <li>• Shape should not be empty</li> <li>• All check_submission rules</li> </ul>
Census Block	<ul style="list-style-type: none"> <li>• Check (dbaname, provname, frn) against our FRN reference table</li> <li>• Valid census block id within the state of New Jersey</li> <li>• The area of a census block should be less than &lt; 2 square Mile</li> <li>• Shape should not be empty</li> <li>• All check_submission rule</li> </ul>
Street Segment	<ul style="list-style-type: none"> <li>• Check (dbaname, provname, frn) against our FRN reference table</li> <li>• Street segment is present in a census block &gt;= 2 square miles</li> <li>• Shape should not be empty</li> <li>• All check_submission rule</li> </ul>
Wireless	<ul style="list-style-type: none"> <li>• Check (dbaname, provname, frn) against our FRN reference table</li> <li>• Shape should not be empty</li> <li>• All check_submission_rule</li> </ul>

## 5.2 Verification through Gap Analysis of Neighboring Census Blocks

The analysis of the survey data identified some instances where a survey respondent specified their service provider and then the service provider's data did not show coverage in that respondent's Census Block. Further analysis indicated that a number of these instances occurred in 'gaps' or 'holes' in submitted provider coverage data. One way to define a simple hole is that it is a single CB that is not in the stated provider coverage area when all neighboring CBs are in the stated coverage area. Our investigations of these simple holes showed that some are associated with zero-population census blocks – e.g., a census block that comprises a strip of land neighboring a major roadway. Other simple holes, however, appear to be anomalies in service provider data as we find examples of a residential census block, surrounded by other residential census blocks, and no clear rationale to explain why the initial (middle) census block would not have coverage when all neighboring census blocks do have coverage.

The figure below illustrates a few simple holes in Comcast data from Cranbury Township.



**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.

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. The table below lists the providers where we identified holes and counts of the holes that we discovered.

**Table 4: Counts of Isolated Census Blocks not Reported as Covered**

Provider	Holes Identified in Oct 2011 Data	Holes Identified in Apr 2012 Data
<b>Advanza</b>	3	3
<b>Broadview</b>	79	N/A
<b>Cablevision</b>	199	286
<b>Cablevision - Lightpath</b>	50	65
<b>Cavalier</b>	2	N/A
<b>CenturyLink</b>	90	82
<b>Comcast</b>	1439	1823
<b>Dieca/Covad</b>	14	12
<b>Hometown Online</b>	28	28
<b>Monmouth Telecom</b>	67	54
<b>OneCommunications</b>	20	N/A

To ensure that the doughnut holes identified in this manner were, at least in some cases, truly a mis-representation of the providers' coverage, we selected a sample of the doughnut holes census blocks for each provider and identified an address within that census block using a spatial join with the available parcel maps for in the state. For providers who offered on-line service availability search functionality, we then searched for those addresses.<sup>2</sup> In each case, we were able to find addresses in doughnut hole census blocks where the providers were reporting coverage through their Web sites.<sup>3</sup> We noted that this was not universally true, however, so a process of automatically extending coverage to the doughnut holes would overstate coverage. For the providers where we could confirm coverage within identified doughnut holes, we sent the detailed information describing the process and the results. We are considering constructing an automated inquiry tool that would allow us to check availability of all the identified doughnut holes. We will work with the other providers in the coming months, hoping to address these issues before the next round.

We have begun applying the process to the recently submitted data, as shown in the right hand column of Table 4. An initial comparison shows that in many cases the number of holes have increased, rather than decreased. We

<sup>2</sup> The providers with doughnut holes who had these capabilities were: Cablevision, CenturyLink and Comcast.

<sup>3</sup> As a control, we also searched using addresses known to be outside the provider's coverage to verify the operation of the availability search capability.

are still investigating the issue, but our initial analysis found multiple cases where providers added census blocks to their coverage area, subsequently converting an area that had multiple uncovered blocks into a single-block that we consider as a hole. This effect is illustrated in Figure 2.



(A) October 2011 Submission



(B) April 2012 Submission

**Figure 2: Increase in number of doughnut holes because of increasing coverage. (A) Portion of coverage map from Oct 2011 submission. (B) Same portion of coverage map from April 2012 submission. Note that darker green census block in middle of picture was added to coverage, leaving yellow census block below that as a single-block hole.**

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



### **5.3 Processing of Fixed Wireless Coverage**

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 wired 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, while protecting the provider’s proprietary data about the customers they serve.

We used the same approach in our fall submission with the second provider, Wave2Wave. The approach was less applicable here, because they do cover a broader area with a fixed wireless infrastructure. We were hoping to assist Wave2Wave in generating a coverage area using a propagation model, but they did not submit data due to their bankruptcy proceedings.

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 drive testing they had conducted in 2008. Given the method used to collect 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 Assessment**

We instituted a thorough review of our processing rules for each provider. The review involved investigation of each process step by a person other than the individual who had created the process or executed it in the past. As a result of this review, we were able to correct several errors and omissions, and implement multiple 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 WildBlue, 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.
- Corrected error in processing rules for CAI that was omitting broadband technology and speed information for NJ state offices
- 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 response to them are included in the individual provider reports later in this document. Here we provide a 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.

**Table 5: Warning Messages Produced by NTIA Validation Tool and Explanations**

Century Link	We received warnings on 7096 census blocks and 1404 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 15576 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.
Hometown Online	We received warnings on 393 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.
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.
GOES	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.
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	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 downstream speed to code 7.
--	---

### 5.5.2 CAI Warnings

We received 5464 warnings for our CAI data for records with a technology code of 0. These warnings are a result of our decision to include all the CAI locations that we were able to identify, even those for whom we have not yet been able to determine the broadband access. 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.

## 6 Appendix A: Individual Provider Process Descriptions

### 6.1 Advanza

Connecting New Jersey - Broadband Provider Data Report

Provider: Advanza

Received: August 2011

Submission date: April 2012

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

#### 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-	X	address	

## NJ September April 2012 Submission

	downstream			
	Subscriber-weighted-up	<input type="checkbox"/>	Not provided	
	Subscriber-weighted-down	<input type="checkbox"/>	Not provided	
<b>Technology Type</b>	Code 30 ( = Other Copper Wireline) given for all records			
<b>End-user specification</b>	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.				
<b>INTERCONNECTION DATA – NO DATA PROVIDED</b>				
<b>ID</b>				
<b>File size</b>				
<b>Ownership</b>				
<b>Transport Type</b>				
<b>Data Rates/Capacity</b>				
<b>Location</b>				
Comments:				

### Section 3: Submission File Details

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

<b>Size</b>	<b>Name</b>
-------------	-------------

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.

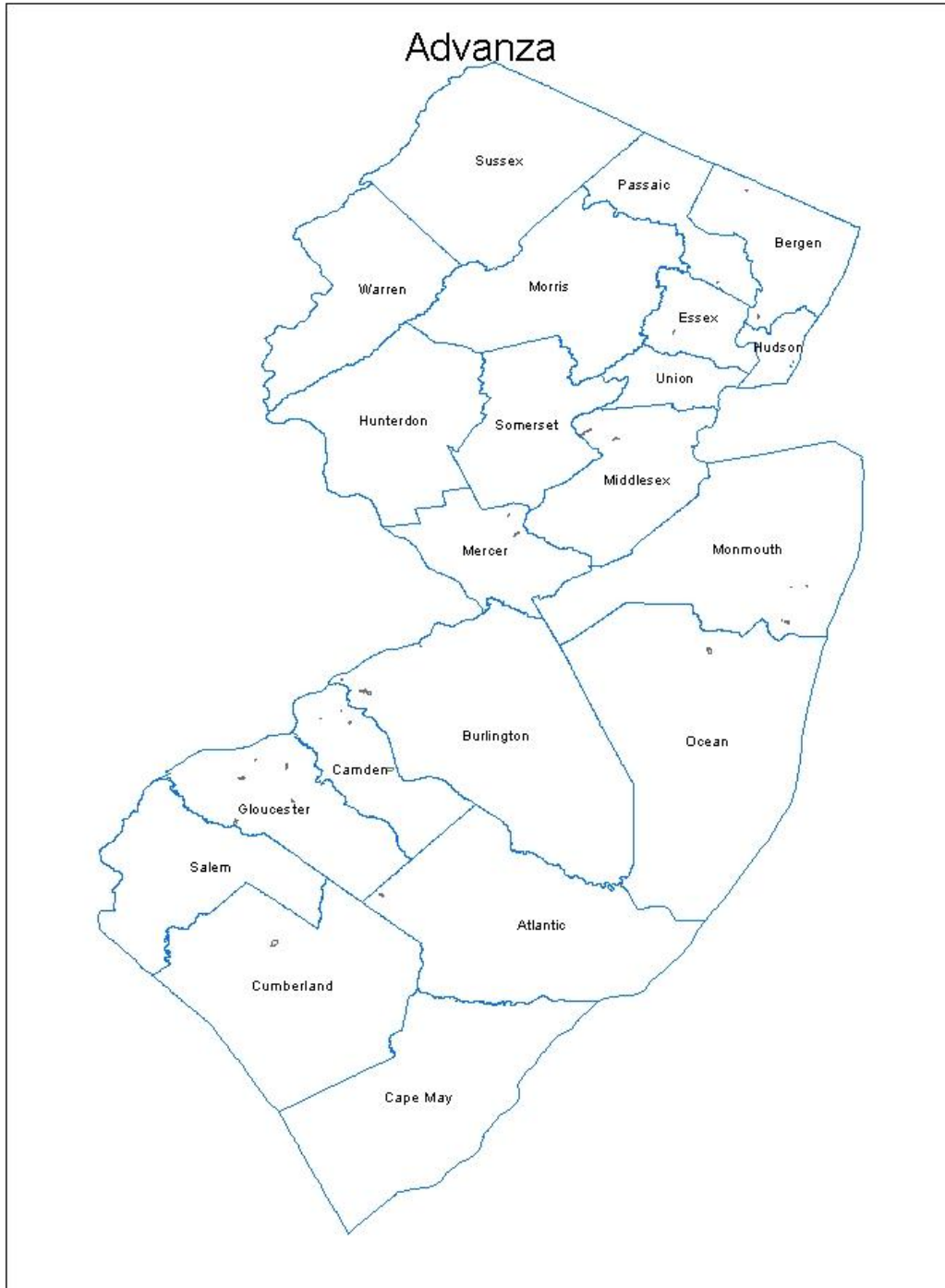
1. Following steps were performed for Fall 2011 submission
  - a. Geocoded the addresses using an Arroyo flow and the Yahoo geocoder, leaving the result with address and lat, long data in an Excel spreadsheet. All addresses were successfully geo-coded.
  - b. Imported the spreadsheet to a simple ESRI 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**

## **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: February 2012

Submission date: April 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-	Not provided	

NJ September April 2012 Submission

	weighted	
<b>Technology Type</b>	Spectrum (Mhz, FCC code)	Cellular (code 1) and PCS (code 3)
Comments:		
<b>INTERCONNECTION DATA</b>		
<b>ID</b>		
<b>File size</b>	Single row	
<b>Ownership</b>	Code 0	
<b>Transport Type</b>	Code 1	
<b>Data Rates/Capacity</b>	Code 6	
<b>Location</b>	Newark, NJ	
Comments: Single location provided		

Data overview:



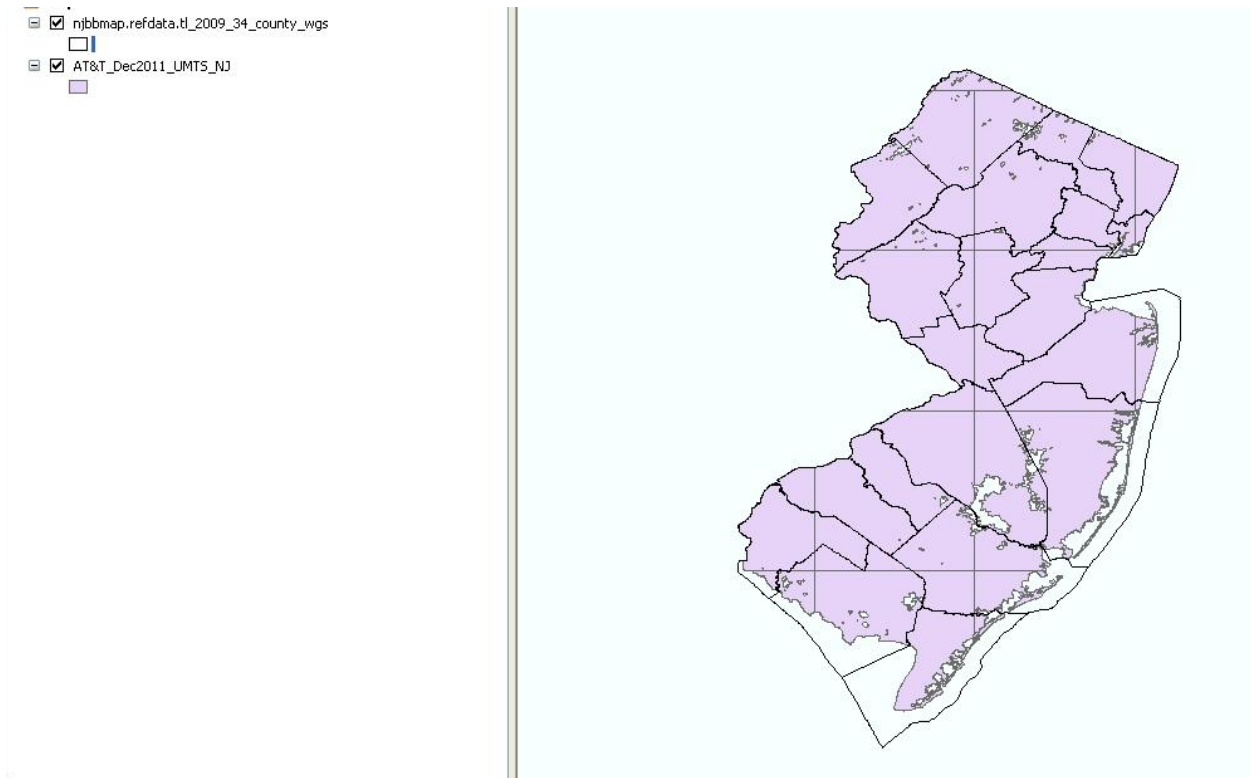






Figure. Quick load of data into ArcMap

**Section 3: Submission File Details**

Received six (6) files by SECURE UPLOAD:

Name	Size
 AT&T_Dec2011_UMTS_NJ.DBF	2 KB
 AT&T_Dec2011_UMTS_NJ.PRJ	1 KB
 AT&T_Dec2011_UMTS_NJ.shp	434 KB
 AT&T_Dec2011_UMTS_NJ.SHX	1 KB
 ATT Router Locations NJ Dec 2011.xlsx	8 KB
 Mobility Response NJ Dec 2011.xlsx	9 KB

**Section 4: Data Validation, Transformation and Loading**

**NTIA Table BB\_ConnectionPoint\_MiddleMile**

Loaded from supplied Excel Spreadsheet “ATT Router Locations NJ Dec 2011.xlsx” (1 row). Data is identical to that included in previous submission. The following table explains the transformations that were applied.

<b>Table Column</b>	<b>Data Source / Transformation</b>
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**

Loaded from the supplied shapefile “AT&T\_Dec2011\_UMTS\_NJ”. 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 NJ Dec 2011.xlsx” (same as the previous submission) contains a single row 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. Shapefile “AT&T\_Dec2011\_UMTS\_NJ” (DBF, PRJ, SHP, and SHX file extensions) contains 24 rows representing a multiple polygons. No text attributes are 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](http://www.wireless.att.com).
3. 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 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. 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 “\_dissolved”.
5. 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.
6. Speeds: The maximum advertised speeds provided in the spreadsheet are 1.7 Mbps down and 1.2 Mbps up. 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 3 (range 768 Kbps – 1.5 Mbps).

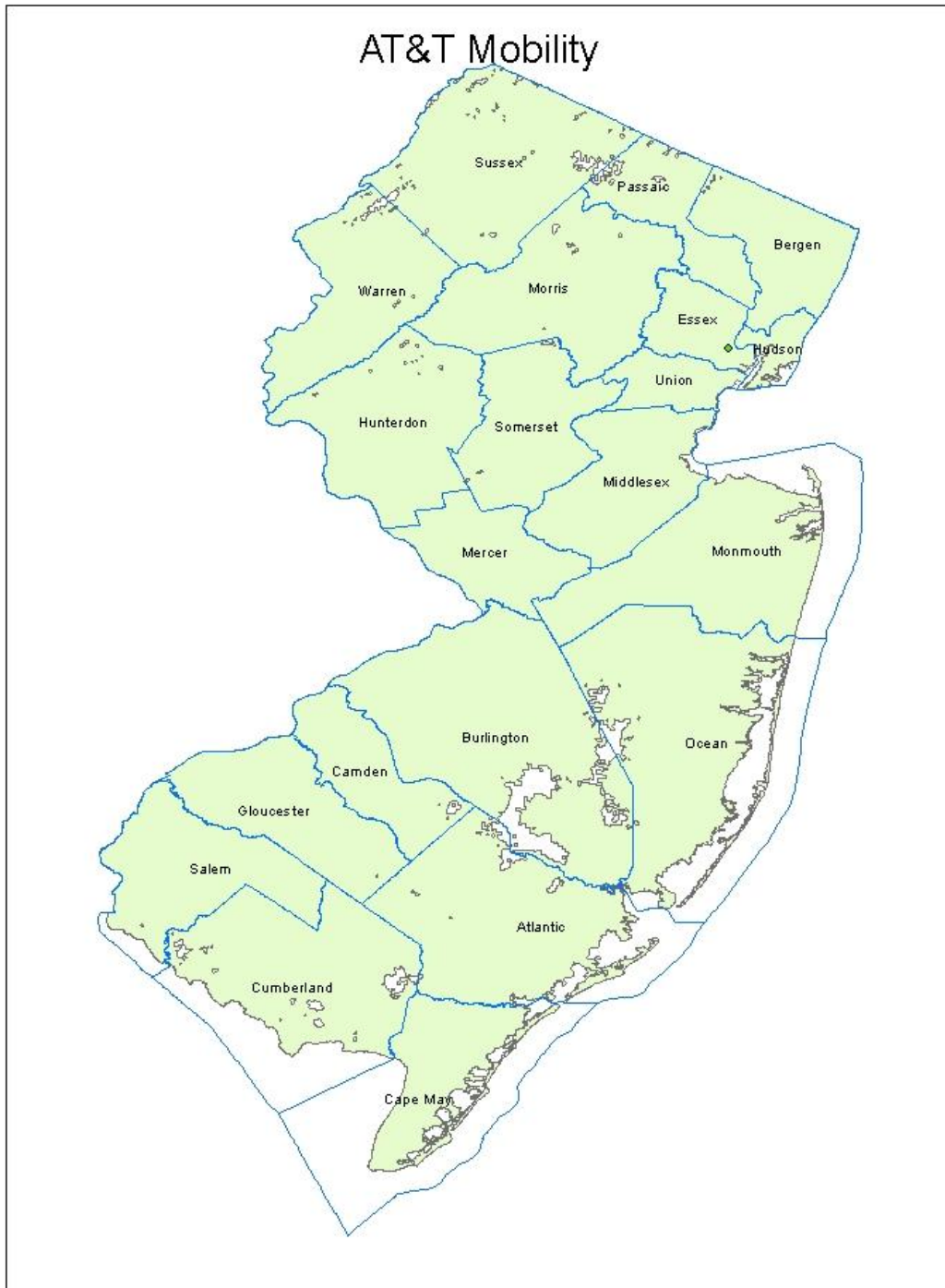
7. The only data imputed was the state abbreviation.

## **Section 5: Clarification Questions and Responses**

None

## **Section 6: Notes and Open Issues**

## Section 7: Overview Map of Submitted Data



### 6.3 CenturyLink

#### Connecting New Jersey - Broadband Provider Data Report

Provider: CenturyTel DBA Century Link

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.

#### 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_2011_12_polyline” and “CTL_NJ_2011_12_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			

<b>Technology Type</b>	10 (ADSL)
<b>End-user specification</b>	Not provided
Comments:	
<b>INTERCONNECTION DATA</b>	
<b>ID</b>	
<b>File size</b>	
<b>Ownership</b>	
<b>Transport Type</b>	
<b>Data Rates/Capacity</b>	
<b>Location</b>	
Comments: Middle-mile data was not provided this submission.	

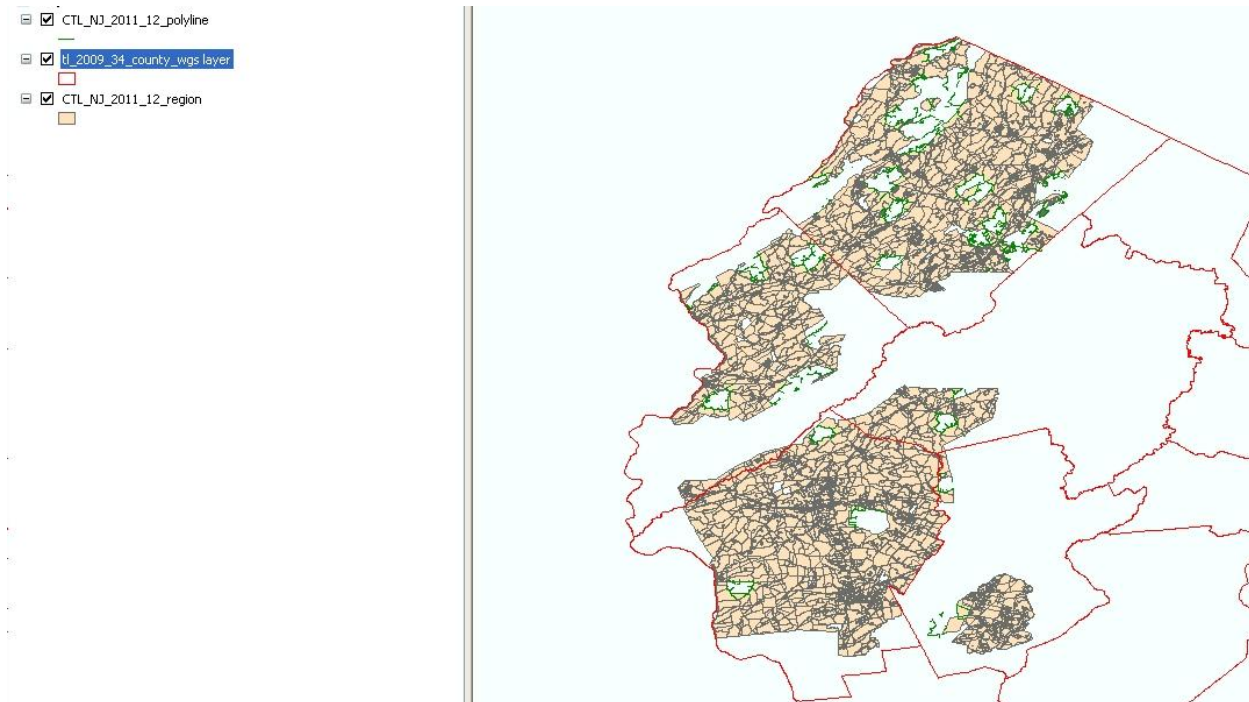











Figure1. Quick load test results

### Section 3: Submission File Details

Name	Size
 CTL_NJ_030512.ZIP	7,769 KB ↗
 CTL_NJ_2011_12_polyline.dbf	976 KB ↑
 CTL_NJ_2011_12_polyline.prj	1 KB ↗
 CTL_NJ_2011_12_polyline.shp	557 KB ↗
 CTL_NJ_2011_12_polyline.shx	23 KB ↗
 CTL_NJ_2011_12_region.dbf	2,475 KB ↑
 CTL_NJ_2011_12_region.prj	1 KB ↗
 CTL_NJ_2011_12_region.shp	11,403 KB ↗
 CTL_NJ_2011_12_region.shx	58 KB ↗

### 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 “CenturyLink, Inc.” per email
DBANAME	As supplied in Dbaname
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:

1. 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.

<b>Table Column</b>	<b>Data Source / Transformation</b>
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

1. The supplied feature class uses XY coordinate system name GCS\_WGS\_1984.
2. 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”.

3. Shapefile (feature class) CTL\_NJ\_2011\_12\_region provides coverage data for census blocks with an area less than or equal to 2 square miles. It contains 7,385 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.
4. The feature class "region" has 289 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.
5. 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.
6. We loaded 7096 records into the bb table.

### NTIA Table BB\_Service\_RoadSegment

Loaded from supplied shapefile feature "CTL\_NJ\_2011\_12\_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\_2011\_12 \_polyline shows street segments for census blocks larger than 2 square miles. In contained 2910 records.
2. The supplied feature class uses XY coordinate system name GCS\_WGS\_1984.
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 868 records with no street name (field empty), leaving 2042 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 638 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 1404 rows.

## 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

---

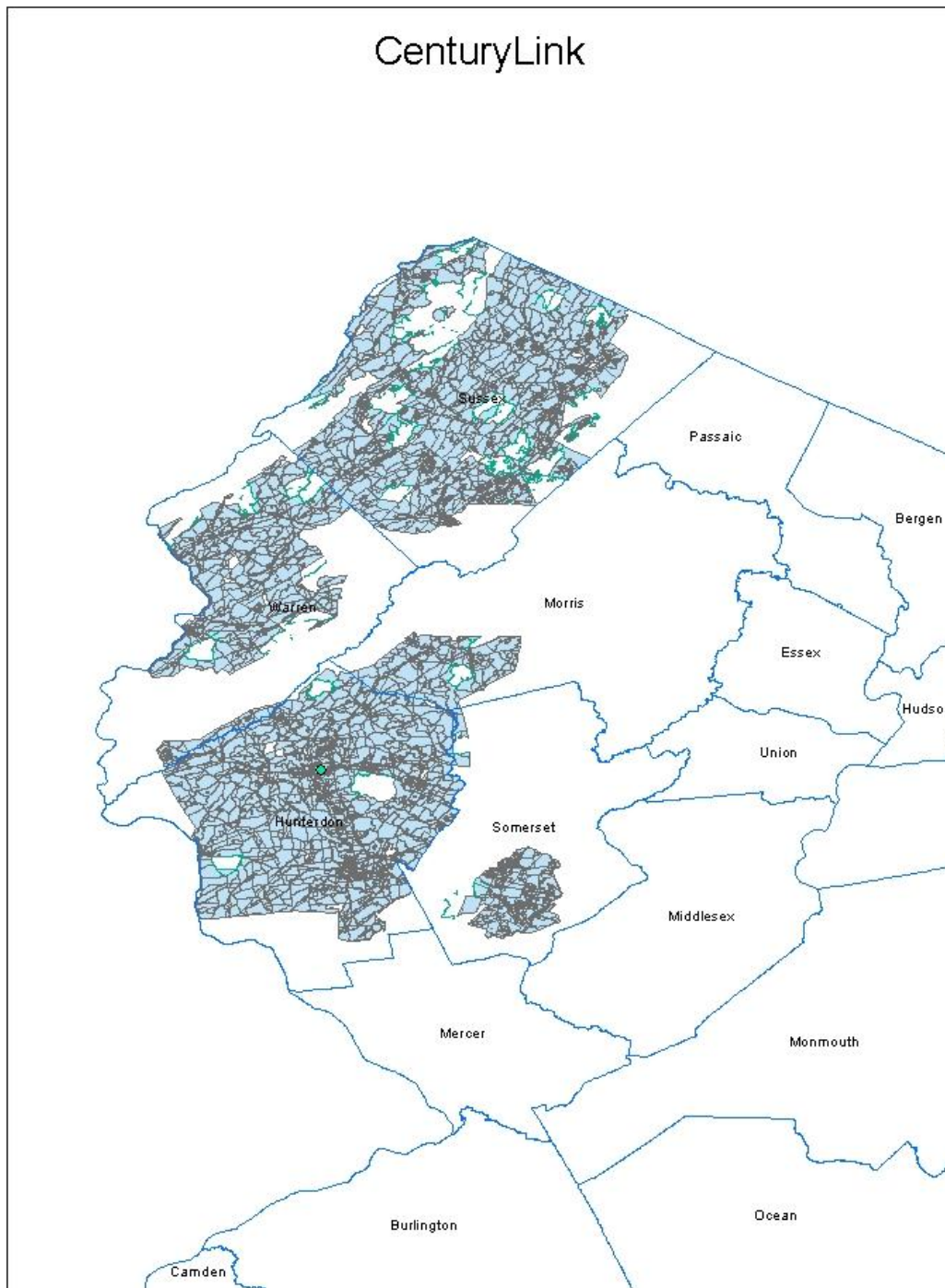
**From:** Flurer, Gerry F [mailto:Gerald.F.Flurer@CenturyLink.com]  
**Sent:** Friday, March 09, 2012 11:58 AM  
**To:** NJ Broadband Data Collection  
**Subject:** RE: NJBB Data Clarification - CenturyLink

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**



## 6.4 Clearwire

### Connecting New Jersey - Broadband Provider Data Report

Provider: Clearwire

Received: January 2012

Submission date: April 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	
	DBA NAME			Clearwire Corporation
	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.	
<b>Technology Type</b>	Spectrum : no		
Comments:			
<b>INTERCONNECTION DATA</b>			
<b>ID</b>			
<b>File size</b>			
<b>Ownership</b>			
<b>Transport Type</b>			
<b>Data Rates/Capacity</b>			
<b>Location</b>			
Comments: no IC data provided.			

### Section 3: Submission File Details

1 zip file containing 4 files:

Size kb	Name
14kb	NJ_WiMAX_123111_region.dbf
1	NJ_WiMAX_123111_region.prj
5402	NJ_WiMAX_123111_region.shp
5	NJ_WiMAX_123111_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:

1. The shape file contains 521 polygon shapes, as well as an attribute, ID\_UNIQUE (a 6 digit number).
2. 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\_123111\_region.
3. 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".
4. The shape extends beyond the NJ State boundary. Clipped the shape using ESRI: Analysis Tools-> Extract -> Clip with, select feature class ntia\_apr2012.State\_Boundary. The feature class has the suffix "\_clip". 272 rows are left after clip operation.
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 "\_dissolved" with a single row.

## Section 5: Clarification Questions and Responses

**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](mailto: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

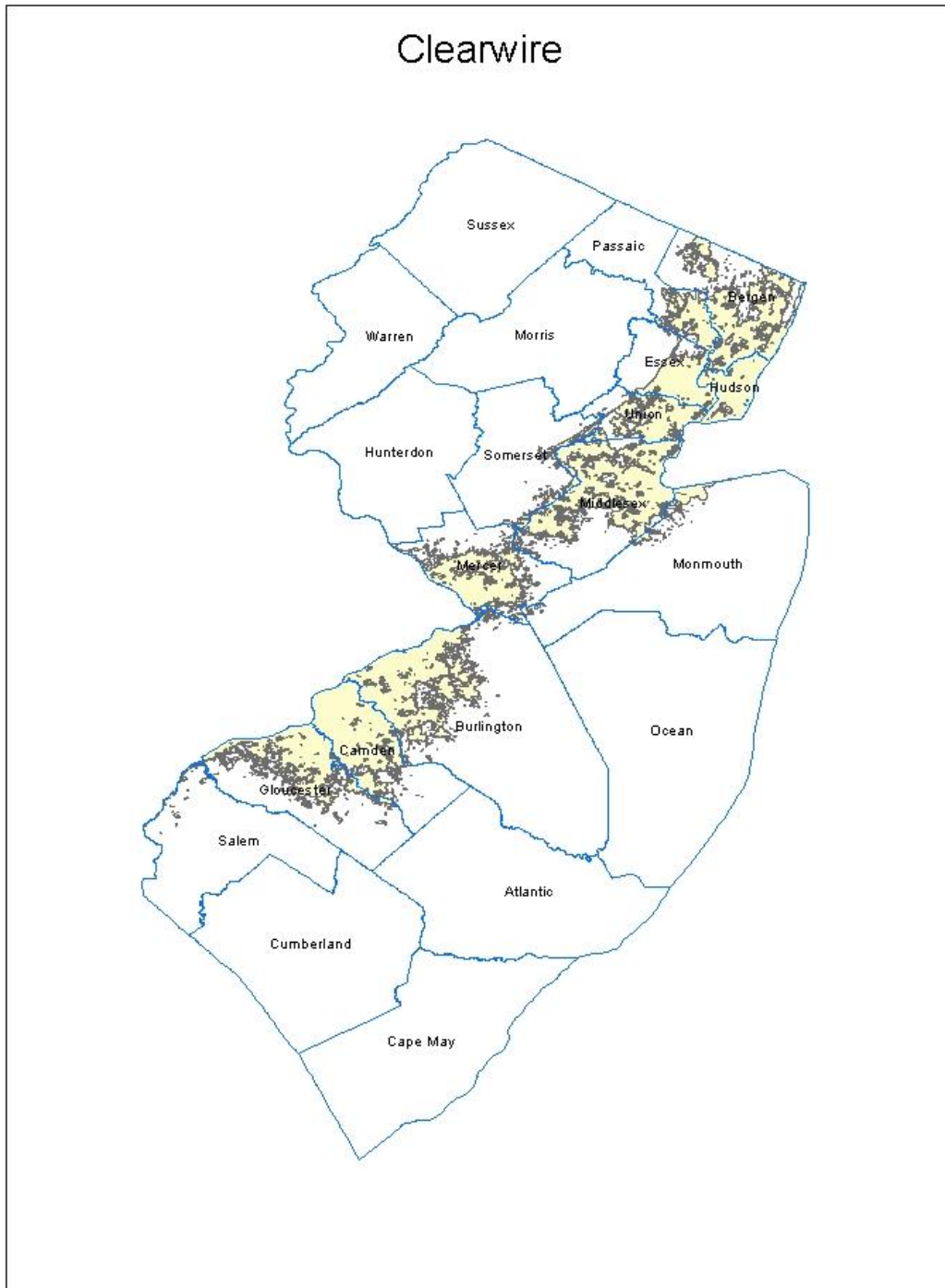


Taj Mehta – [clearwire](#) - Spectrum Development

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**



## 6.5 Cogent

### Connecting New Jersey - Broadband Provider Data Report

Provider: Cogent

Received: February 2012

Submission date: April 2012

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

#### 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 - RECEIVED MARCH 1, 2011		
<b>ID</b>	Provider name	Cogent Communications, Inc.
	"Doing business as" name	Not provided
	FRN	0019898303
FOR WIRELINE		
<b>Filetypes</b>	Txt, xls, pdf, etc.	Email and pointers to Web site
<b>File size</b>	Number of records, data elements	List of 20 addresses where they offer service
<b>Speeds</b>	<b>Type</b>	Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode)
	Adver down	Address
	Adver up	Address
	Typical down	Not provided
	Typical up	Not provided
	Subscriber-weighted	Not provided
<b>Technology Type</b>	DOCSIS, xDSL, fiber, etc.	Fiber

<b>End-user specification</b>	Business, consumer, gov't etc	Provider states Business
Comments: They offer service directly to businesses at the addresses they provided. They are a reseller of broadband access to businesses at other locations.		
<b>INTERCONNECTION DATA</b>		
<b>ID</b>	Provider name "Doing business as" name FRN	
<b>File size</b>	Number of records, data elements	
<b>Ownership</b>	Leased/owned	
<b>Transport Type</b>	Fiber, wireless, copper	
<b>Data Rates/Capacity</b>		
<b>Location</b>	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.		
<b>DATA COMPLETENESS</b>		
<b>Data Validation/ Verification</b>		

### Section 3: Submission File Details

We received instructions via email from Ried Zulager on 26 January 2012 instructing us to retrieve location information from their public Web site.

([http://www.cogentco.com/?lang=en&option=com\\_content&view=article&id=40&action=search](http://www.cogentco.com/?lang=en&option=com_content&view=article&id=40&action=search)). The email instructions also providing information on the technology (all fiber) and how to assign speed tiers to the locations, based on the Site Type information.

We invoked the search function on the Web site using: North America, United States, New Jersey as parameters. The search returned 20 entries. We performed some manual edits on the data to facilitate proper geo-coding (remove alternate addresses, remove some building and floor numbers). We then geo-coded the results using Yahoo and Google geo-coders.

#### Section 4: Data Validation, Transformation and Loading

The following describes the validation and transformation we performed on the provider data.

##### NTIA Table BB\_Service\_CensusBlock

We copied the information retrieved from the provider's Web site 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 (digits 3-5)
TRACT	Populated from Census Block FIPS Code (next 6 digits)
BLOCKID	Populated from Census Block FIPS Code (next 4 digits)
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:

1. Geocoded the addresses using the Yahoo and Google geo-coders to obtain a Latitude, Longitude pair for each. Populated the speed value at each location using the following rules, based on provider instructions:



- a. if Site\_Type == "CDC" OR Site\_Type == "CNDC"
  - b. set maxup = "11" and maxdown = "11";
  - c. otherwise
  - d. Set maxup = "10" and maxdown = "10";
2. Created an excel sheet and imported it to a geodatabase table.
3. 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.
4. Added a column, geoid10, 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. Successfully matched each address to a census block.
5. Discarded 7 rows with duplicate census blocks.
6. Verified size of all census blocks – all of them are less than two square miles.
7. Loaded 13 rows

The mechanized procedure for the geocoding step is described in file GeoExcel\_proc.txt.

## Section 5: Clarification Questions and Responses

**From:** Zulager, Ried [mailto:RZulager@Cogentco.com]  
**Sent:** Thursday, January 26, 2012 3:51 PM  
**To:** ConnectingNJ@groups.appcomsci.com  
**Subject:** NJ Broadband Data Collection - Spring 2012

Cogent has been directing the various parties accepting federal funds to create broadband maps to Cogent's website, where the street addresses where the list of buildings where Cogent provides IP transit services to customers. The State of New York PUC folks, as well as the contracted commercial vendors, have been quite able to create very accurate maps using Cogent's published lists as their starting point.

The appropriate url is

[http://www.cogentco.com/?lang=en&option=com\\_content&view=article&id=40&action=search](http://www.cogentco.com/?lang=en&option=com_content&view=article&id=40&action=search) . As a guide for your office, I have run the search request at Cogent's website for all of New Jersey and pasted the results in the attachment, which contains a list of the addresses in New Jersey where Cogent provides service.

The data that you require for your project is at a location widely available to the general public. Only one supplemental comment is necessary to complement the list of addresses to answer the question of service speeds: Cogent's entire network is fiber-optics, which is a code 50 in the Technology section of data requests. Maximum Upload and Download speed for all Cogent PoP addresses is code 10 at a minimum, *with the exception of* the facilities identified as Cogent data centers (codes CDC CNDC), where the Maximum Upload and Download speed is code 11 (greater than 1 Gig; *all of the data centers where Cogent offers service are equipped for capacity several multiples of 1 Gig*).

Since Cogent has only one basic product – IP transit service [access to the Internet] – the service offering category for Cogent is relatively simple. Good old terrestrial; no wireless, no satellite. However, Cogent’s IP transit product is different from most of the other vendors that you are working with inasmuch as Cogent’s retail demographic purchase in the 100Mbps to 1Gbps+ zone of bandwidth.

I believe that all of the codes COB, CNDC & CDC apply, since Cogent has retail customers (by the NTIA definition) at each type of location. Cogent is content to be included in the map if only to demonstrate what we all know: If you live or work in or near an urban area, you probably have adequate access to broadband.

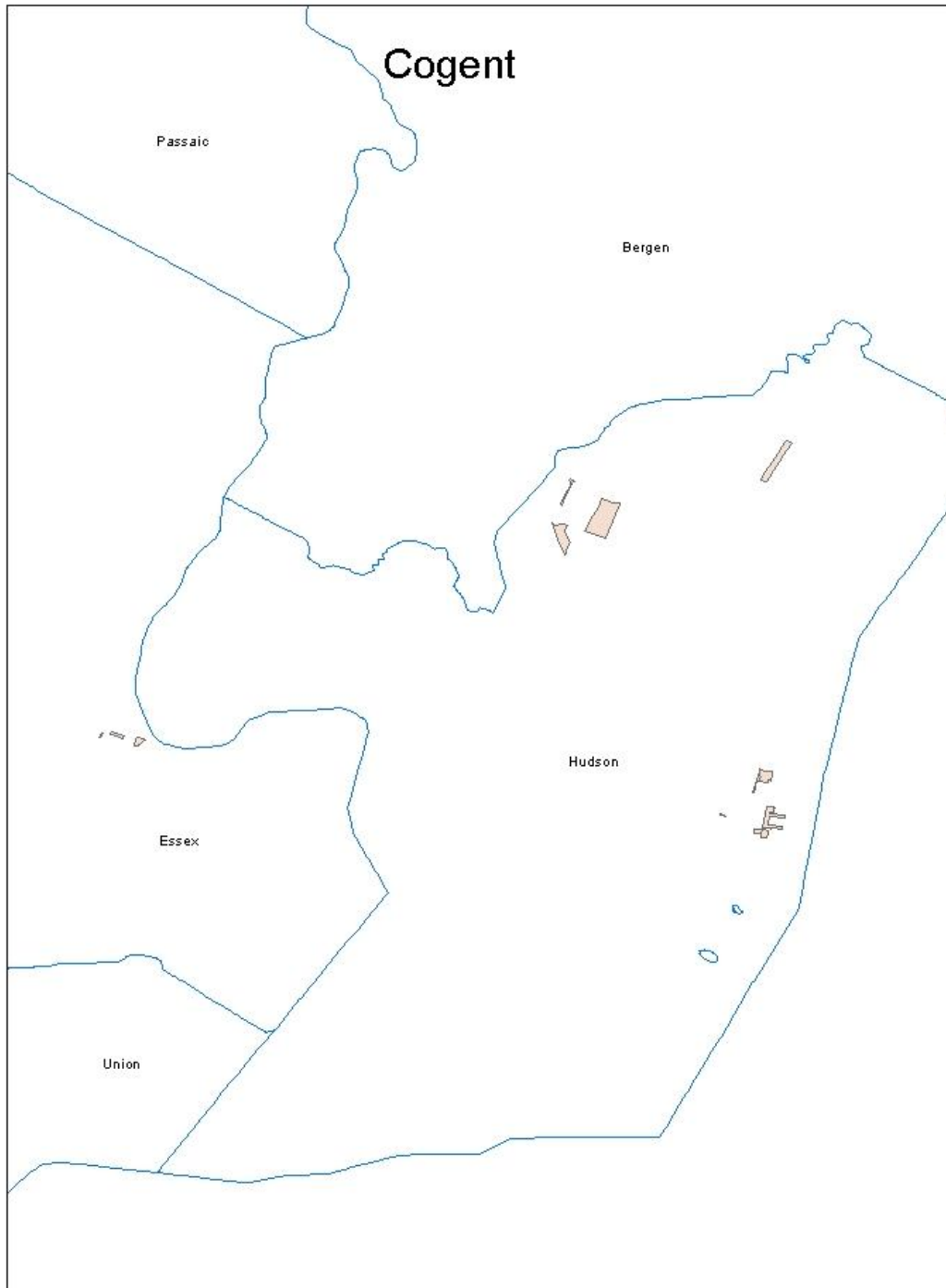
Since Cogent is one of the very few providers at the very core of the Internet, we focus on the high-consumption end of the broadband market. Cogent’s retail customer demographic would be law firms and accounting firms in the modern 20 to 30 story office building, with 100 Mbps as our basic offering for any code “COB” Cogent lit building. All COB code buildings have a minimum of engineered infrastructure to permit at least 1 to 2 Gbps of total bandwidth. There is nearly always room to add additional capacity to 3 to 5 Gbps if we ever get close to the original constructed capacity. This is (as I recall) a 10 or 11 on the NTIA delivery level code system. These are delivery levels far in excess of the residential retail service levels for most of the providers on your map, which I believe is the true focus of the NITA survey. If a business customer wants only 10Mbps at a COB location, Cogent may elect to provision that customer (no customer too small, right), but that is a consumer decision concerning bandwidth need and not a matter of Cogent’s engineered delivery capacity. So the COB code buildings can list all levels of service if you are starting to list “differentiated” products.

All of the data centers, whether Cogent’s exclusive facility (CDC) or carrier neutral (code CNDC), all are generally engineered with something in the 5 to 20 multiple Gbps range of service and should probably be coded at the very highest service delivery code 11. Cogent has retail customers at the data centers, and some elect to buy only 100 Mbps, but the delivery capacity is always several multiples of that. Good examples of retail customers at data centers would include universities, libraries and local school districts, and a few scientific research labs, often buying a Gig or more of bandwidth access. But the data centers are also where Cogent’s wholesale customers are concentrated, so there is a mix. Indeed, it will probably be these wholesale customers of Cogent that will probably be involved in the subsidized build-out and extension of local networks and backhauling the data to Cogent at a data center for access to its worldwide network.

Ried Zulager  
Corporate Secretary  
Cogent Communications Group, Inc.  
1015 31st St. NW  
Washington, DC 20007  
tel: +1-202-295-4274

## **Section 6: Notes and Open Issues**

## Section 7: Overview Map of Submitted Data



## 6.6 Cablevision

### Connecting New Jersey - Broadband Provider Data Report

Provider: Cablevision

Received: February 2012

Submission date: April 2012

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

### Section 1: NDA Status

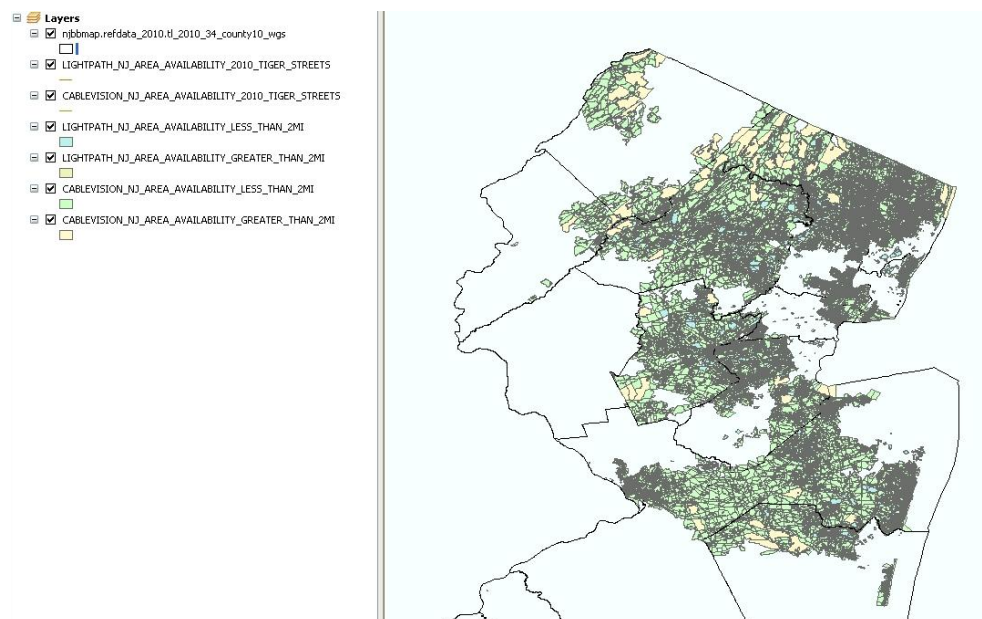
Executed with NJ OIT.

### Section 2: Submission Overview

AVAILABILITY DATA			
ID	Provider name	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-		Not provided



































	up			
	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_AREA_AVAILABILITY_NEWJERSEY.zip	21,863 KB
 CABLEVISION_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.dbf	1,186 KB
 CABLEVISION_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.prj	1 KB
 CABLEVISION_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.shp	462 KB
 CABLEVISION_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.shp.xml	1 KB
 CABLEVISION_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.shx	11 KB
 CABLEVISION_NJ_AREA_AVAILABILITY_GREATER_THAN_2MI.dbf	16 KB
 CABLEVISION_NJ_AREA_AVAILABILITY_GREATER_THAN_2MI.prj	1 KB
 CABLEVISION_NJ_AREA_AVAILABILITY_GREATER_THAN_2MI.sbn	1 KB
 CABLEVISION_NJ_AREA_AVAILABILITY_GREATER_THAN_2MI.sbx	1 KB
 CABLEVISION_NJ_AREA_AVAILABILITY_GREATER_THAN_2MI.shp	419 KB
 CABLEVISION_NJ_AREA_AVAILABILITY_GREATER_THAN_2MI.shp.xml	1 KB
 CABLEVISION_NJ_AREA_AVAILABILITY_GREATER_THAN_2MI.shx	1 KB
 CABLEVISION_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.dbf	16,615 KB
 CABLEVISION_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.prj	1 KB
 CABLEVISION_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.shp	33,984 KB
 CABLEVISION_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.shp.xml	1 KB
 CABLEVISION_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.shx	489 KB
 LIGHTPATH_AREA_AVAILABILITY_NEWJERSEY.zip	780 KB
 LIGHTPATH_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.dbf	135 KB
 LIGHTPATH_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.prj	1 KB
 LIGHTPATH_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.shp	49 KB
 LIGHTPATH_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.shp.xml	1 KB
 LIGHTPATH_NJ_AREA_AVAILABILITY_2010_TIGER_STREETS.shx	2 KB
 LIGHTPATH_NJ_AREA_AVAILABILITY_GREATER_THAN_2MI.dbf	2 KB
 LIGHTPATH_NJ_AREA_AVAILABILITY_GREATER_THAN_2MI.prj	1 KB
 LIGHTPATH_NJ_AREA_AVAILABILITY_GREATER_THAN_2MI.shp	39 KB
 LIGHTPATH_NJ_AREA_AVAILABILITY_GREATER_THAN_2MI.shp.xml	1 KB
 LIGHTPATH_NJ_AREA_AVAILABILITY_GREATER_THAN_2MI.shx	1 KB
 LIGHTPATH_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.dbf	308 KB
 LIGHTPATH_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.prj	1 KB
 LIGHTPATH_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.shp	1,113 KB
 LIGHTPATH_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.shp.xml	1 KB
 LIGHTPATH_NJ_AREA_AVAILABILITY_LESS_THAN_2MI.shx	10 KB

### Section 4: Data Transformation and Loading

**NTIA Table BB\_ConnectionPoint\_MiddleMile**

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.

<b>Table Column</b>	<b>Data Source / Transformation</b>
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:

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

**NTIA Table BB\_Service\_CensusBlock**

The table was 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.

<b>Table Column</b>	<b>Data Source / Transformation</b>
PROVNAME	As supplied in column pronomame

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" and "lp\_nj\_ar\_av\_db\_lt\_2mi".
  - 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\_tol" and "lp\_nj\_ar\_av\_db\_lt\_2mi\_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. Removed 1252 records that were 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.

<b>Table Column</b>	<b>Data Source / Transformation</b>
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?

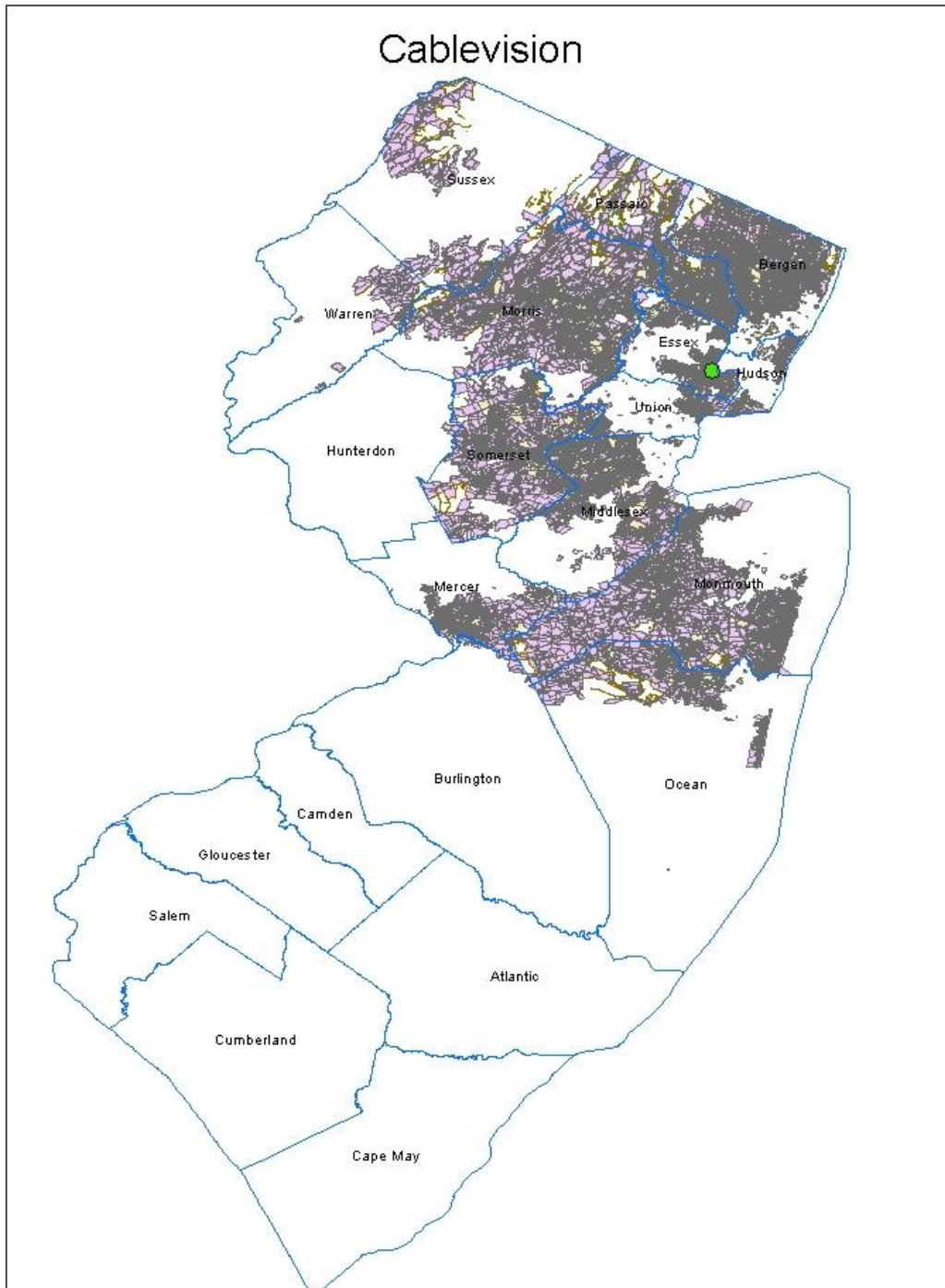
Thanks for your cooperation.

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**



## 6.7 Comcast

### Connecting New Jersey - Broadband Provider Data Report

Provider: Comcast

Received: February 2012

Submission date: April 2012

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

### Section 1: NDA Status

Executed

### 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 Type	40 (Cable Modem DOCSIS3.0), 41			
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.

<b>Size</b>	<b>Name</b>
66KB	34-streets-NJ.xlsx
3161KB	34-blocks-NJ.xlsx
9KB	New Jersey Maximum Advertised Speeds 12 31 11.xlsx

### Section 4: Validation, Data Transformation and Loading

#### NTIA Table BB\_Service\_CensusBlock

Loaded 66,069 records from the supplied Excel file “34-streets-NJ.xlsx”. 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:

1. File 34-blocks-NJ.xlsx contains 66,069 records. No shape was provided, but a Census Block ID is provided. Every ID is 15 digits long.
2. 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.
3. Speeds: Data for maximum advertised down and up speeds were taken from file “New Jersey Maximum Advertised Speeds 12 31 11.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**

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 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 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 598 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 12 31 11.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—

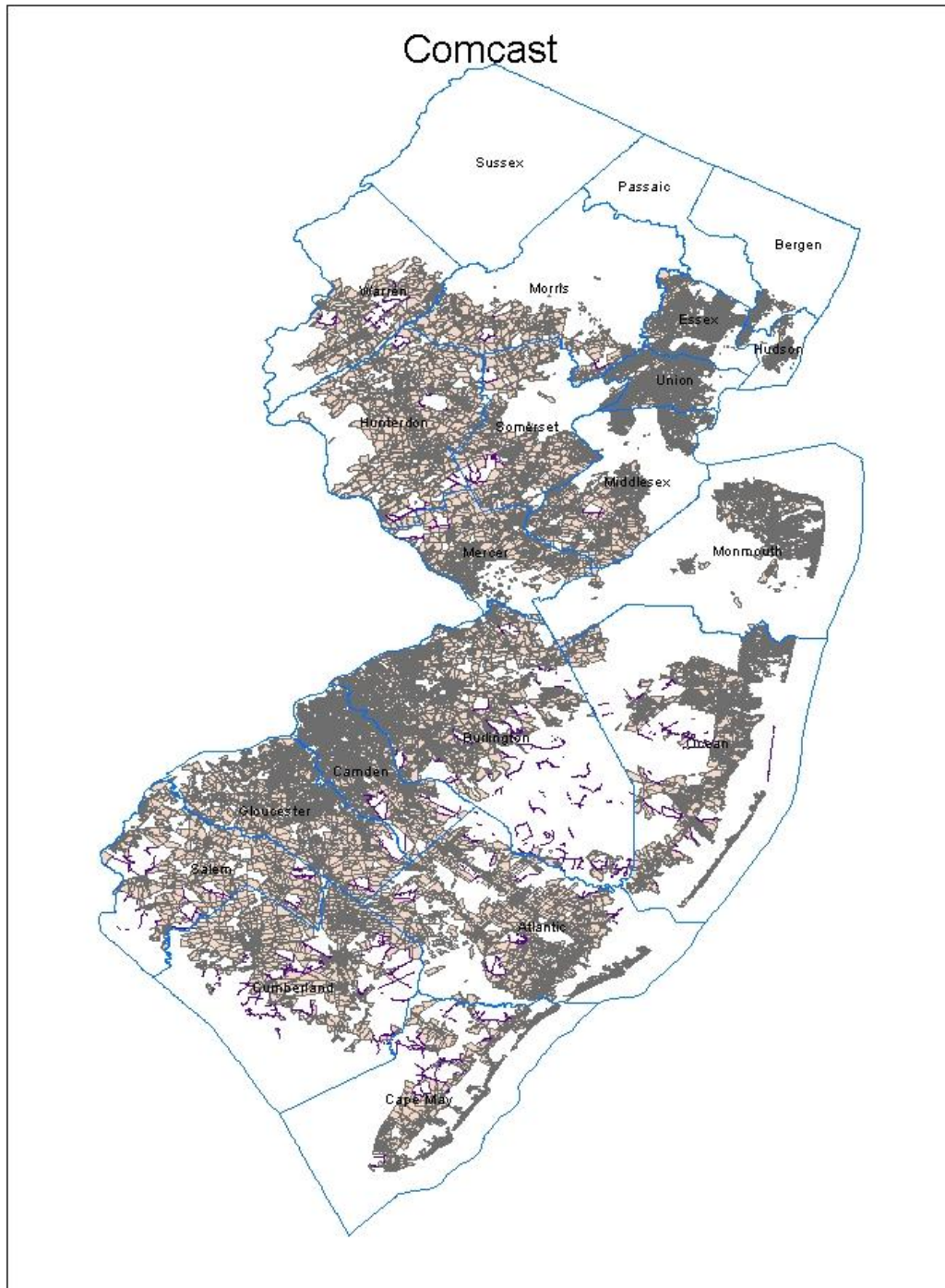
I took another look at what I sent...it's not sufficiently comprehensive to help you.

Thanks--  
Michael

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

## 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: February 2012

Submission date: April 2012

This report presents details on processing 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			DIECA Communications, Inc.	
	“Doing business as” name				Covad Communications Company
	FRN				
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		

<b>Technology Type</b>	10 (ADS), 20 (SDSL), 30 (other copper)
<b>End-user specification</b>	Not provided
Comments:	
<b>INTERCONNECTION DATA</b>	
<b>ID</b>	File **MiddleMileConnection*.txt
<b>File size</b>	1kb
<b>Ownership</b>	1
<b>Transport Type</b>	
<b>Data Rates/Capacity</b>	4, 5
<b>Location</b>	6 locations
Comments: Six (6) data rows provided	

### Section 3: Submission File Details

Received a zip file by SECURE UPLOAD in February 2012:

Size	Name
717739	DIECACommunicationsInc._NJ_CONFIDENTIAL.zip

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

Size	Name
82717	NJBB_0003753753_AddressSegmentAvailability_DIECACommunicationsInc._CONFIDENTIAL.txt
20835019	NJBB_0003753753_CensusBlockAvailability_DIECACommunicationsInc._CONFIDENTIAL.txt
2509	NJBB_0003753753_CMAAdvertisedAvailability_DIECACommunicationsInc._CONFIDENTIAL.txt
728	NJBB_0003753753_MiddleMileConnection_DIECACommunicationsInc._CONFIDENTIAL.txt
2246	NJBB_0003753753_SubscriberWeightedNominalSpeed_DIECACommunicationsInc._CONFIDENTIAL.txt

### Section 4: Data Validation, Transformation and Loading

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

**NTIA Table BB\_ConnectionPoint\_MiddleMile**

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

<b>Table Column</b>	<b>Data Source / Transformation</b>
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:

1. 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
2. There are 6 rows, different from the last submission. Viewing the data in ArcMap indicates that all points are in New Jersey.
3. 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)

4. 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.
5. Added a column "geoid10" with the ID of the containing year 2010 census block via a spatial join of the points and the census block shapes from reference data. Result is feature class middlemile\_point\_tol\_cb.
6. Populated stateabbr and FRN column during data transformation and loaded table.
7. Execution of the validation rules identified 15,576 census blocks where ADSL was reported with a speed code of 10. This warning requires clarification, so we followed up with the provider.

### 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	Set to null (see below)
TYPICUP	Set to null (see below)
ENDUSERCAT	Set to null because not supplied
SHAPE	As found in Census Bureau year 2010 reference data

Internal processing notes:

1. 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
2. The supplied text file has 219,314 rows which exceeds number of census blocks in New Jersey because multiple technologies were submitted.
3. Discarded typical speeds since they were in all cases identical to maximum advertised speeds, not measured values.
4. We used Census Bureau reference data for Year 2010 to locate and submit geographic features (i.e., shapes) for each census block.
5. Total rows (shapes) loaded is 219,314.
6. Validation rules produced a warning on 15,576 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.

<b>Table Column</b>	<b>Data Source / Transformation</b>
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
ADDMIN	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	Set to null (see below)
TYPICUP	Set to null (see below)
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 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 5: 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,

## NJ September April 2012 Submission

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.

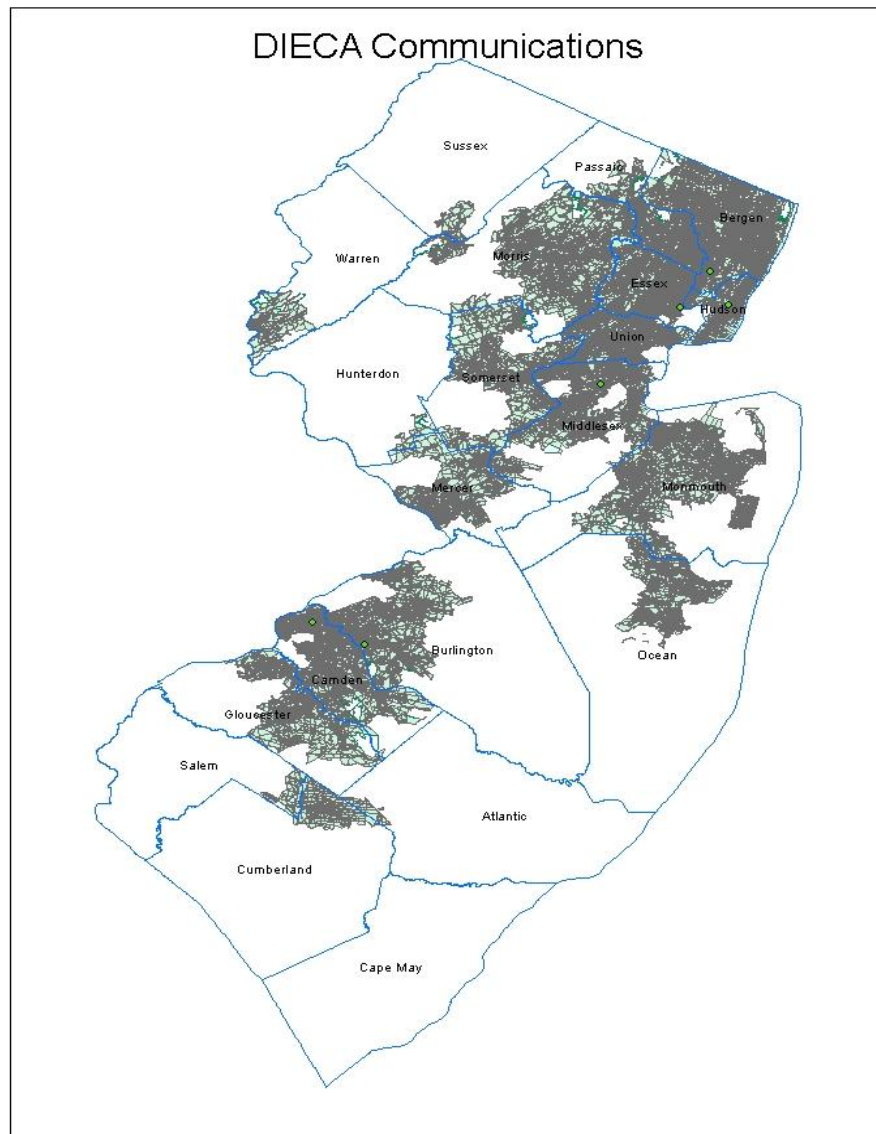
Thanks,

Stefanie

**Section 6: 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 7: Overview Map of Submitted Data



**6.9 GOES****Broadband Provider Data Report**

Provider: GOES Telecom

Received: July 2011

Submission date: April 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 23 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,
	Typical-upstream		Not provided	
	Typical-downstream		Not provided	
	Advertised-upstream		Not provided	
	Advertised-downstream		Not provided	
	Subscriber-weighted-		Not provided	

# NJ September April 2012 Submission

	up		Not provided	submitted speeds “10mpbh”. They confirmed this should be 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.
	Subscriber-weighted-down			
Technology Type	10 (ADSL) and 70 (Terrestrial fixed wireless)			
End-user specification	None			
Comments: Provided a list of 28 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” (23 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:

1. Geocoded the addresses using the Google geocoder to obtain latitude, longitude value pairs.
2. Created point shapes using ESRI from lat, long value pairs.
3. 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”).
4. Verified that all 23 records joined successfully with NJ census blocks
  5. Dropped 14 records that did not have broadband speeds
  6. Dropped 2 records because of duplicate census blocks (caused by multiple customer addresses in the same census block).
  7. All remaining records were verified to be in small (< 2 square miles) census blocks.
  8. Loaded the resulting data into an SDE feature class.
  9. Of 23 original records, all were successfully geocoded; 9 have broadband speeds (rest are 512Kbps down); and 2 are duplicates, leaving 7 records; 6 use ADSL technology and were loaded into the BB\_Service\_CensusBlock table.

### NTIA Table BB\_Service\_Wireless

Loaded using shapes from reference data for the 1 record 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:

1. Geocoded the addresses using the Google geocoder to obtain latitude, longitude value pairs.
2. Created point shapes using ESRI from lat, long value pairs.
3. 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”).
4. Spectrum: Set to 6, Unlicensed
5. 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.

## 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?

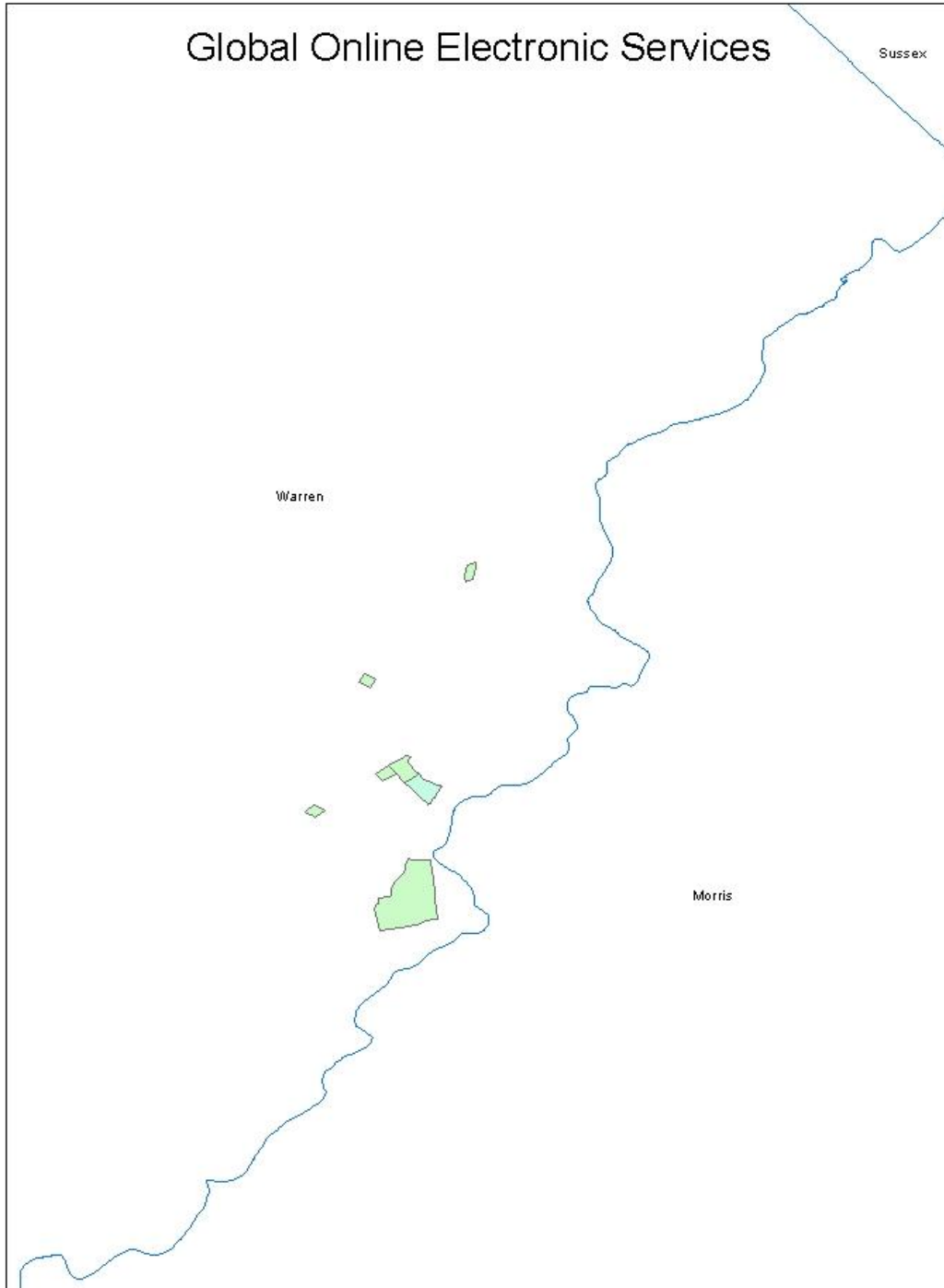
No, the correct speeds are 10mbps and we now only have a single fixed wireless link instead of two.

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: July 2011

Submission date: April 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**

This data was submitted in a the Fall 2011 round. We were informed by the provider that their engineering analysis indicated that nothing had changed in the intervening months.

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
	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	Upstream: 800 Mbps.
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:

<b>Size</b>	<b>Name</b>
1,761,280	M4 STRUCTURES - NJ 7-18-11.xls

The file contains 6778 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 25Mbps. 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:

1. 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.
2. Discarded 6321 rows with duplicate census blocks, leaving 449 unique census blocks.
  3. Discarded 1 census block larger than 2 square miles (340312568021002). Note that only a single address mapped to this census block.
  4. Loaded 451 blocks.
  5. Validation rules run against this data produced a warning regarding speed code 10 for 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.

## Section 5: Clarification Questions and Responses

**From:** Scott Sommerer [mailto:s.sommerer@wvvtcg.com]  
**Sent:** Wednesday, February 22, 2012 7:21 PM  
**To:** NJ Broadband Data Collection  
**Cc:** shelley.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@wvvc.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

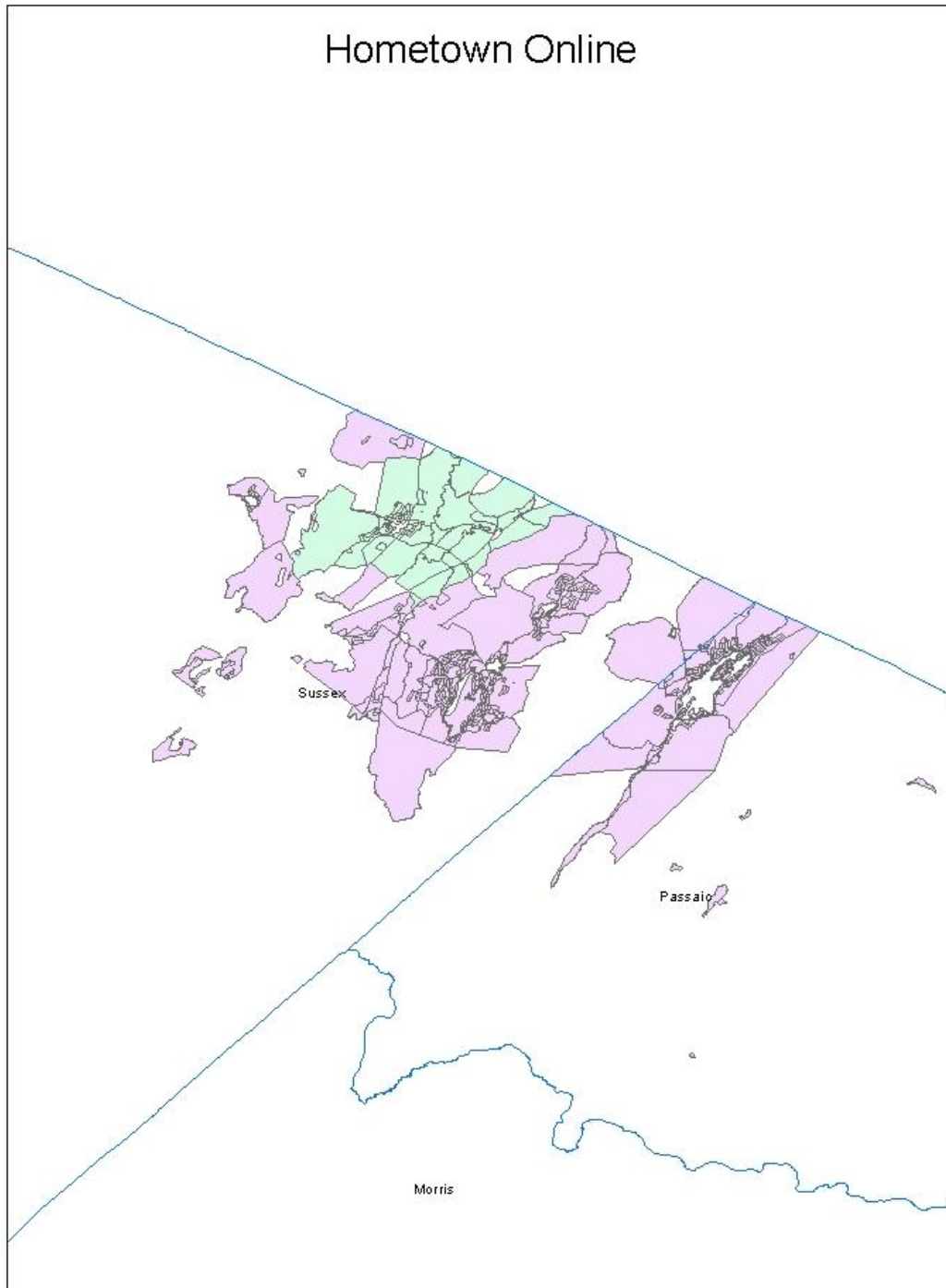
Provider had provided the following information via email in prior rounds and confirmed again this round:

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 Earthlink**

## Connecting New Jersey - Broadband Provider Data Report

Provider: Earthlink Business (previously New Edge Networks)

Received: October 2011

Submission date: April 2012

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

**Section 1: NDA Status**

None

**Section 2: Submission Overview**

AVAILABILITY DATA		
<b>ID</b>	Provider name "Doing business as" name FRN	EarthLink Business EarthLink Business 0003720471
FOR WIRELINE		
<b>Filetypes</b>	Txt, xls, pdf, etc.	xls
<b>File size</b>	Number of records, data elements	605 rows
<b>Speeds</b>	<b>Type</b>	Spatial Resolution (address, street seg, census block, RSA/MSA, zipcode)
	Upstream	1 = < 200, 2 = 200-768, 3 = 768-1.5, 4 = 1.5-3
	Downstream	3 = 768-1.5, 4 = 1.5-3, 5 = 3-6
	Typical	Not given
	Advertised	See above
<b>Technology Type</b>	DOCSIS, xDSL, fiber, etc.	10 = ADSL, 20 = SDSL, 30 = copper
<b>End-user specification</b>	Business, consumer, gov't etc	Not specified; looks like businesses
<b>Comments</b>	Provider did not respond to requests for revised data for Spring 2012 submission. Web site indicates they offer DSL to 7 Mbps as well as T1. Based on this, it was decided to reuse the previously submitted data in the Spring 2012 round	

INTERCONNECTION DATA		
<b>ID</b>	Provider name “Doing business as” name FRN	None
<b>File size</b>	Number of records, data elements	
<b>Ownership</b>	Leased/owned	
<b>Transport Type</b>	Fiber, wireless, copper	
<b>Data Rates/Capacity</b>		
<b>Location</b>	Street address, lat/lon, elevation	

### Section 3: Submission File Details

Received 1 file by a CD

<b>Size</b>	<b>Name</b>
184320	NJ_Service_Address.xls

Address data has 605 records.

### Section 4: Data Validation, Transformation and Loading

The following describes process for loading tables.

#### 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	Set to “EarthLink Business”
DBANAME	Set to “EarthLink Business”

PROVIDER_TYPE	Set to “2”
FRN	As supplied in column
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, but see below
MAXADDOWN	As supplied
MAXADUP	As supplied
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:

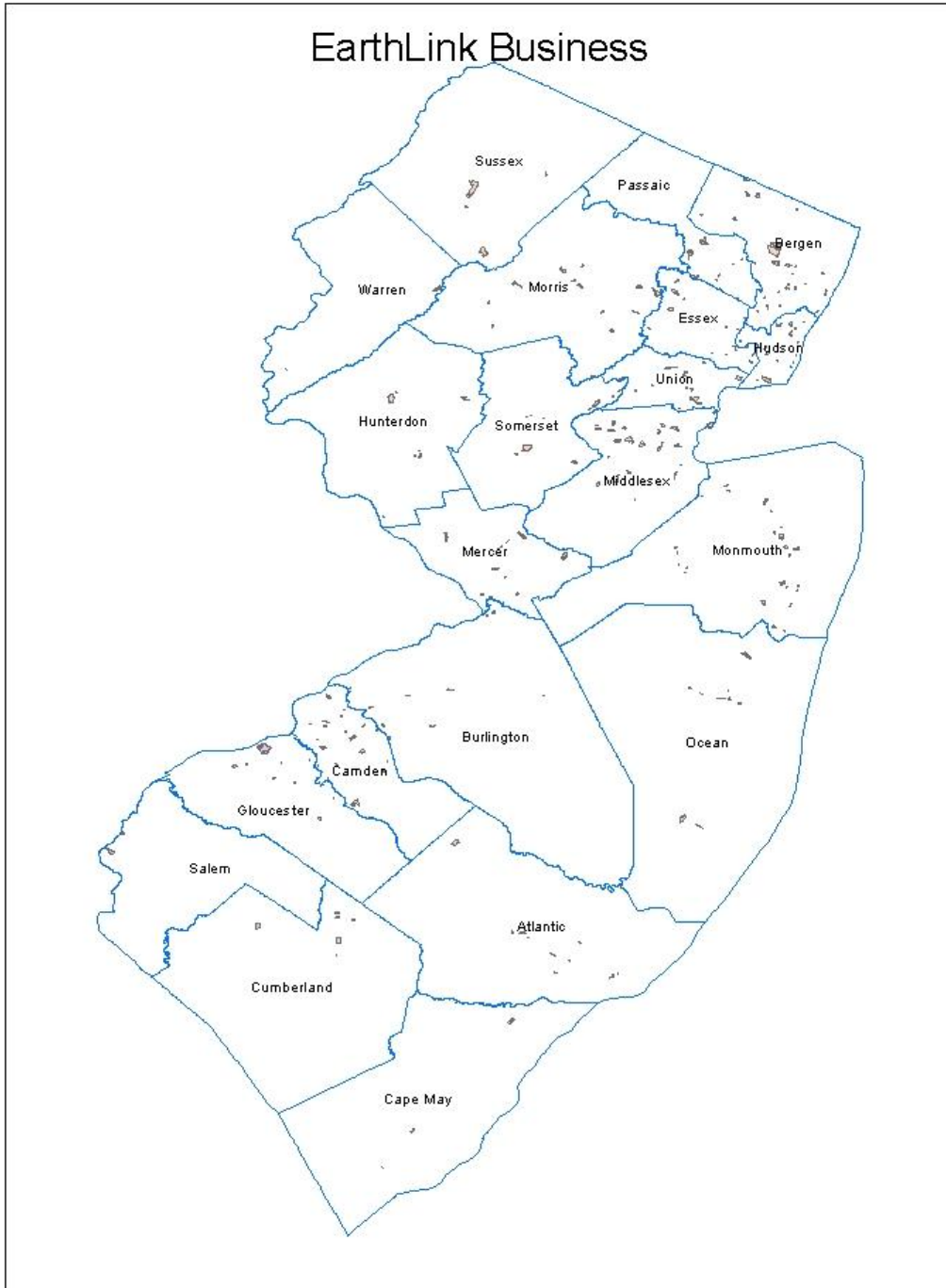
1. The following steps were applied when the data was processed for the fall 2011 submission
  - a. Geocoded the addresses using an Arroyo flow and the Yahoo geocoder, leaving the result with address and lat, long data in an Excel spreadsheet.
  - b. Imported the spreadsheet to a simple ESRI geodatabase 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 198 records with upload speeds that are not considered broadband (speed code 1).
  - f. Discarded 83 duplicate census block records, which result from multiple addresses in the same census block.
  - g. Discarded 1 large census block record (340330216005000).
  - h. Two (2) records have technology code 20 (SDSL) but down speed code 4, up speed code 2. Because this is not valid for SDSL but matches many other ADSL records, we changed the technology code on these two records to 10 (ADSL).
  - i. Loaded 323 records.
2. Copied the results into a new BB\_Service\_CensusBlock table for the Spring 2012 submission
3. Results passed all NTIA validations.

## **Section 5: Clarification Questions and Responses**

- In prior interactions, New Edge indicated that they are a pure reseller serving business customers only. They do not do residential at all (not home-based business, according to Pia). They are co-located in LEC central offices and, when they get a service request, they go to LECs for pre-qualification. Pia's view is that they can provide service anywhere that a LEC can. But she also said that 'technically they are not facilities-based.' We elected to limit their coverage area based on current delivery. We will need to determine in the future if we should adjust the coverage area to match LEC.

## **Section 6: Notes and Open Issues**

**Section 7: Overview Map of Submitted Data**



**6.12 HughesNet**

## Connecting New Jersey - Broadband Provider Data Report

Provider: HughesNet Communications Inc.

Received: March 2012

Submission date: April 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.
	Typical-upstream		Not provided	
	Typical-downstream		Not provided	Email message contained an description of speeds: 2Mbps down, 300Kbps up. The corresponding speed range codes are 4 down, 2 up.
	Advertised-upstream		Provided	
	Advertised-downstream		Provided	
	Subscriber-weighted-up		Not provided	
	Subscriber-weighted-		Not provided	

	down			
<b>Technology Type</b>	Code 60 (Satellite)			
<b>End-user specification</b>				
Comments:				
<b>INTERCONNECTION DATA: NONE</b>				
<b>ID</b>				
<b>File size</b>				
<b>Ownership</b>				
<b>Transport Type</b>				
<b>Data Rates/Capacity</b>				
<b>Location</b>				
Comments: Not provided				

### Section 3: Submission File Details

Received an email explaining their service offering and link to download CSV filed of census blocks.

### 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 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	Single shape created from CBs (See below).

#### Internal notes on processing:

1. Spectrum: No statement was provided. The NTIA data model has a single column for spectrum. Satellite corresponds to NTIA "SPECTRUM USED" code value 7.
2. 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.
3. 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.
4. We verified that all of the resulting census block IDs were unique.
5. 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.
6. 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).
7. We merged the census blocks into a single shape with the suffix "\_dissol" using the ArcGIS "Dissolve" tool.
8. 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

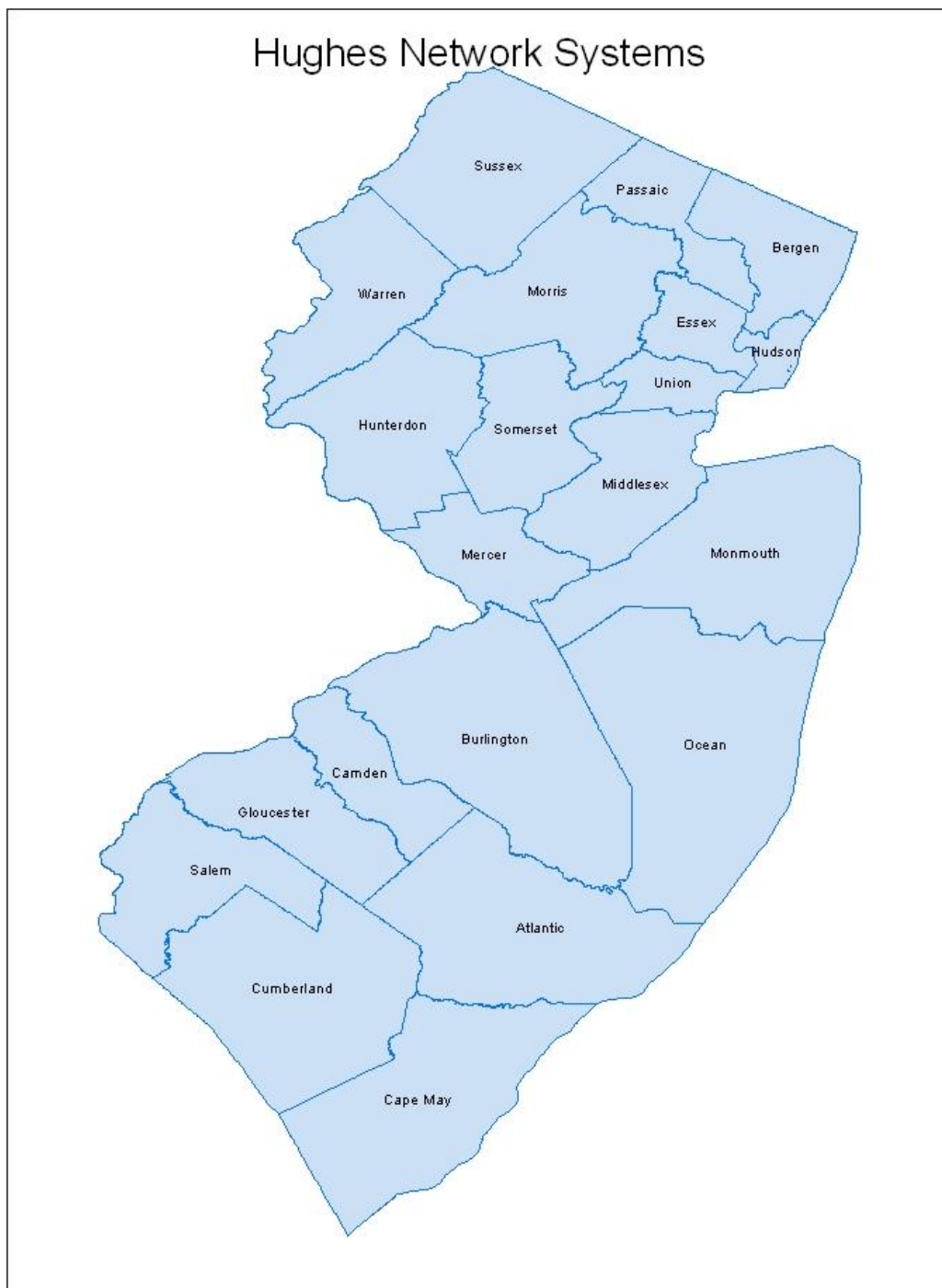
Senior Director – Revenue Management

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

---

## **Section 6: Notes and Open Issues**

## **Section 7: Overview Map of Submitted Data**



**6.13 Jersey Shore Wireless**

## Broadband Provider Data Report

Provider: Jersey Shore Wireless

Received: March 2012

Submission date: April 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		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	

<b>Technology Type</b>	Spectrum (Mhz, FCC code)	Unlicensed
Comments:		
<b>INTERCONNECTION DATA</b>		
<b>ID</b>	NONE	
<b>File size</b>		
<b>Ownership</b>		
<b>Transport Type</b>		
<b>Data Rates/Capacity</b>		
<b>Location</b>		
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

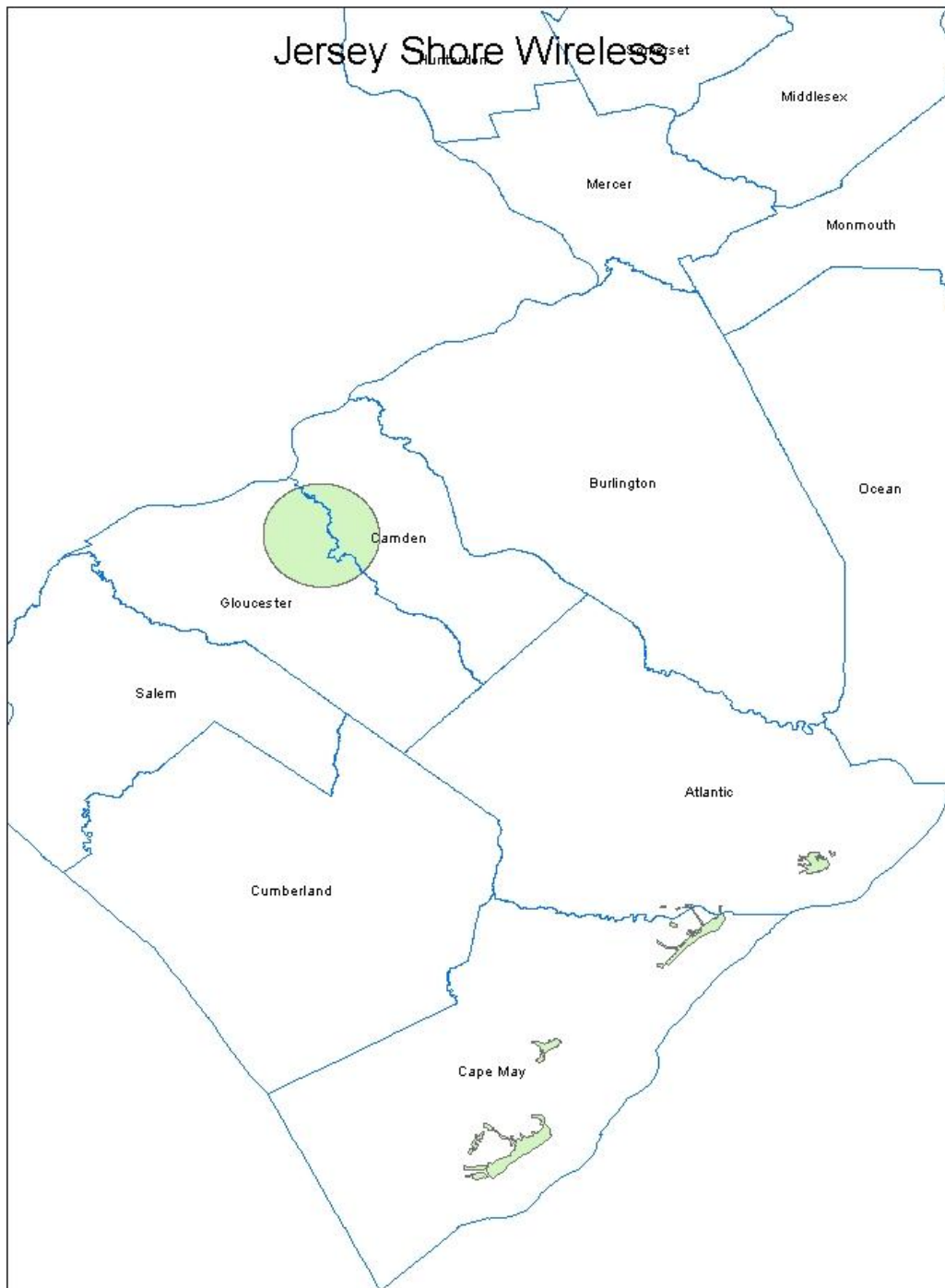
Internal notes on processing:

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**



**6.14 Leap/Cricket**

## Broadband Provider Data Report

Provider: Leap Cricket

Received: February 2012

Submission date: April 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		
<b>ID</b>	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		
<b>Filetypes</b>	shapefile corresponding to NJ terrestrial mobile wireless coverage (type 80)	
<b>Speeds</b>	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-	no.



NJ September April 2012 Submission

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

Quick loading results:

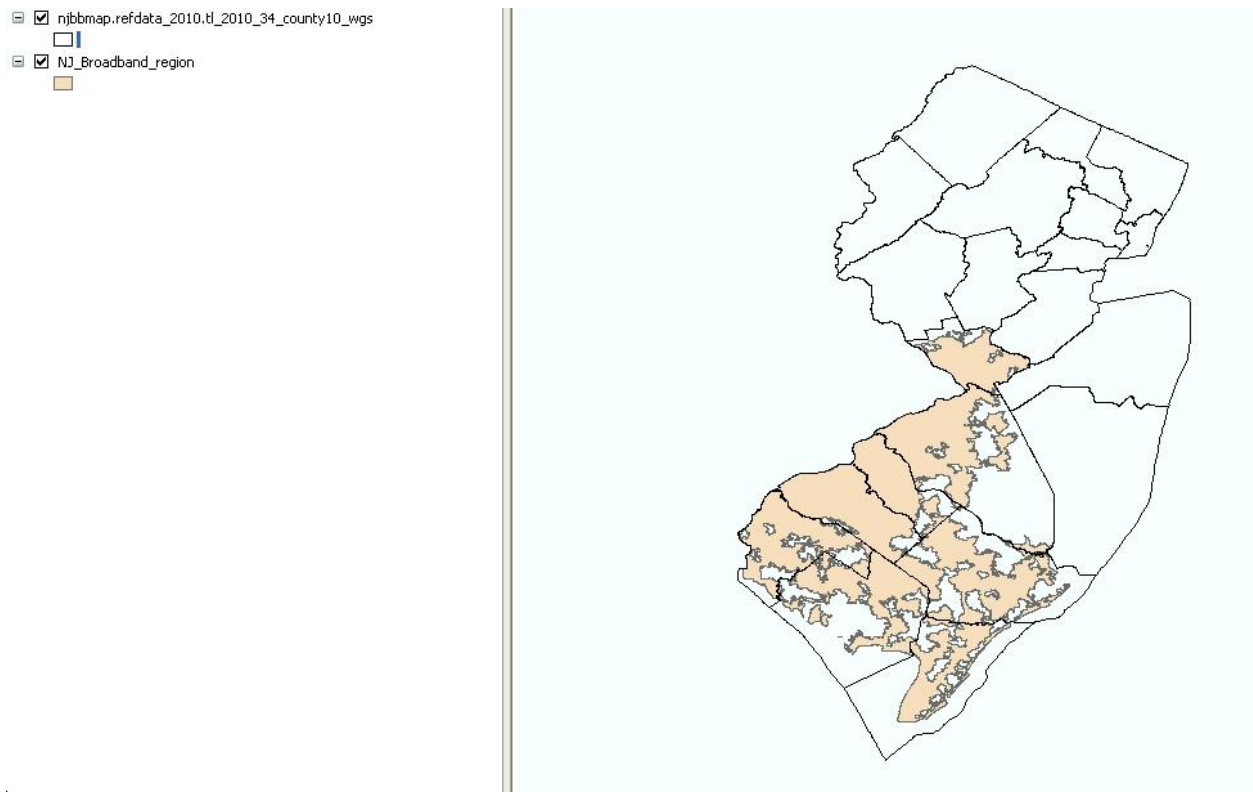


Figure 1. Loading results

**Section 3: Submission File Details**

1 zip file containing 5 files by (EMAIL, SECURE UPLOAD):

Size	Name
1KB	NJ_Broadband_region.dbf
1KB	NJ_Broadband_region.prj
1KB	NJ_Broadband_region.shx
2112KB	NJ_Broadband_region.shp
2KB	NJ_Broadband_region.TAB

## Section 4: Data Validation, Transformation and Loading

Loaded from the supplied Mapinfo 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:

1. 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.
2. 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".
3. 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...**

## 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](mailto: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](mailto:ConnectingNJ@research.telcordia.com)  
**Subject:** RE: NJ Broadband Clarification

John –

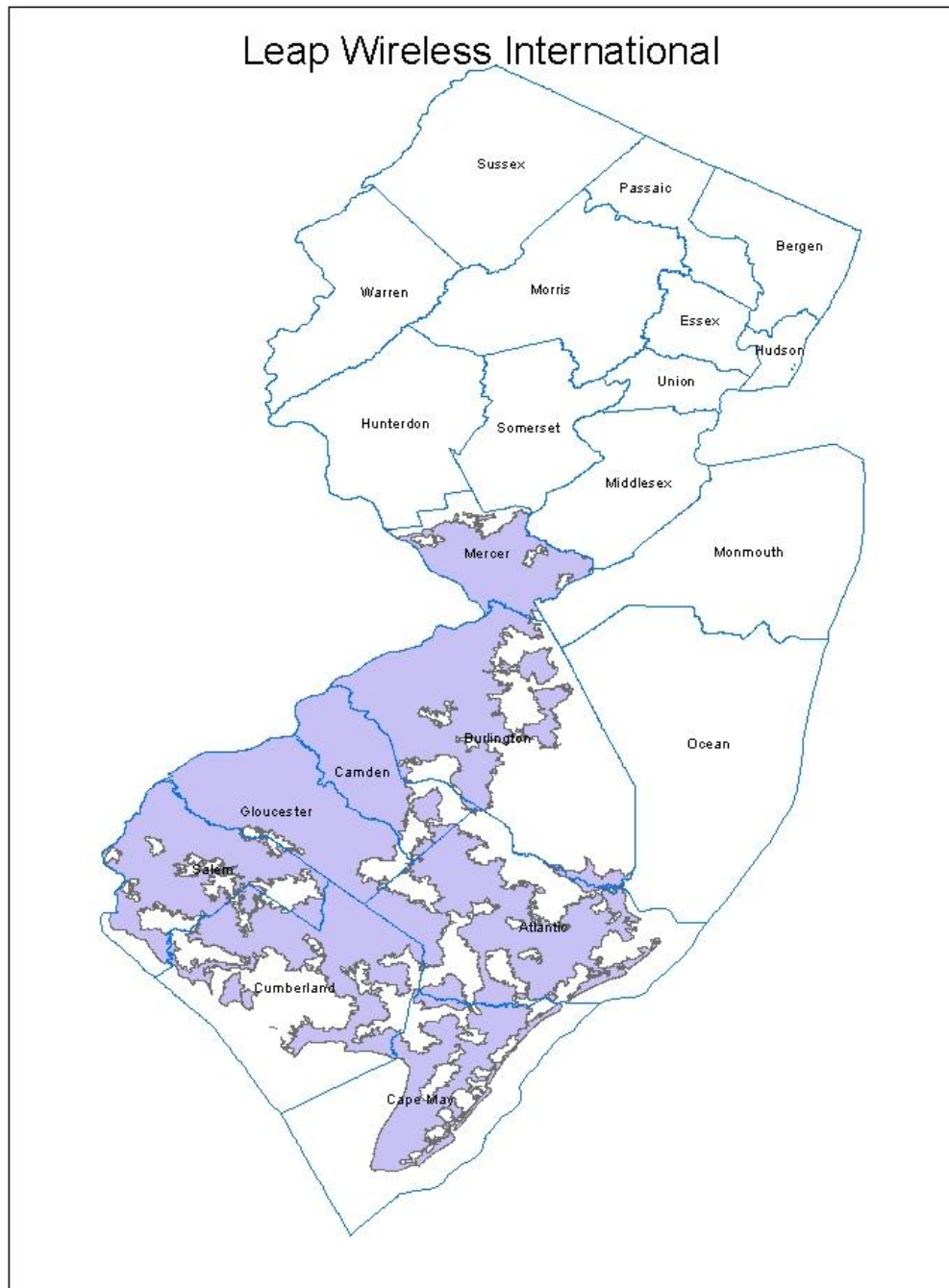
I'm told that the NJ data we previously sent was incorrect. Please find attached the tables with the correction. The FRN is 2963528 and the technology is 80, are correct though.

Please contact me with any questions. Thanks,

-Doug

## **Section 6: Notes and Open Issues**

**Section 7: Overview Map of Submitted Data**



**6.15 Level3**

## Connecting New Jersey - Broadband Provider Data Report

Provider: Level3 Networks, Inc.

Received: August 2011

Submission date: April 2012

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

**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)	
<b>INTERCONNECTION DATA</b>	
<b>ID</b>	
<b>File size</b>	text spreadsheet with 338 rows. (See comment)
<b>Ownership</b>	Not provided
<b>Transport Type</b>	provided
<b>Data Rates/Capacity</b>	provided
<b>Location</b>	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

The Service provider stated there is no change in data for the April 2012 Submission. We copied the Oct 2011 data.

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: Data Validation, Transformation and Loading

#### NTIA Table BB\_ConnectionPoint\_MiddleMile

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



<b>Table Column</b>	<b>Data Source / Transformation</b>
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:

1. 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”.
2. Imported the data to a geodatabase table
3. 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.
4. 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.
5. Discarded 149 records with identical lat, long values and addresses.
6. Loaded 188 records.

**NTIA Table BB\_Service\_CensusBlock**

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

<b>Table Column</b>	<b>Data Source / Transformation</b>
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:

1. 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.
2. Imported the spreadsheet to an ESRI geodatabase table
3. 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
4. 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.
5. Discarded typical speeds since they were in all cases identical to maximum advertised speeds, not measured values.
6. 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.
7. Discarded 79 duplicate census block records, which result from multiple addresses in the same census block.
8. Loaded 270 records.

## Section 5: 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](mailto: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](mailto: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

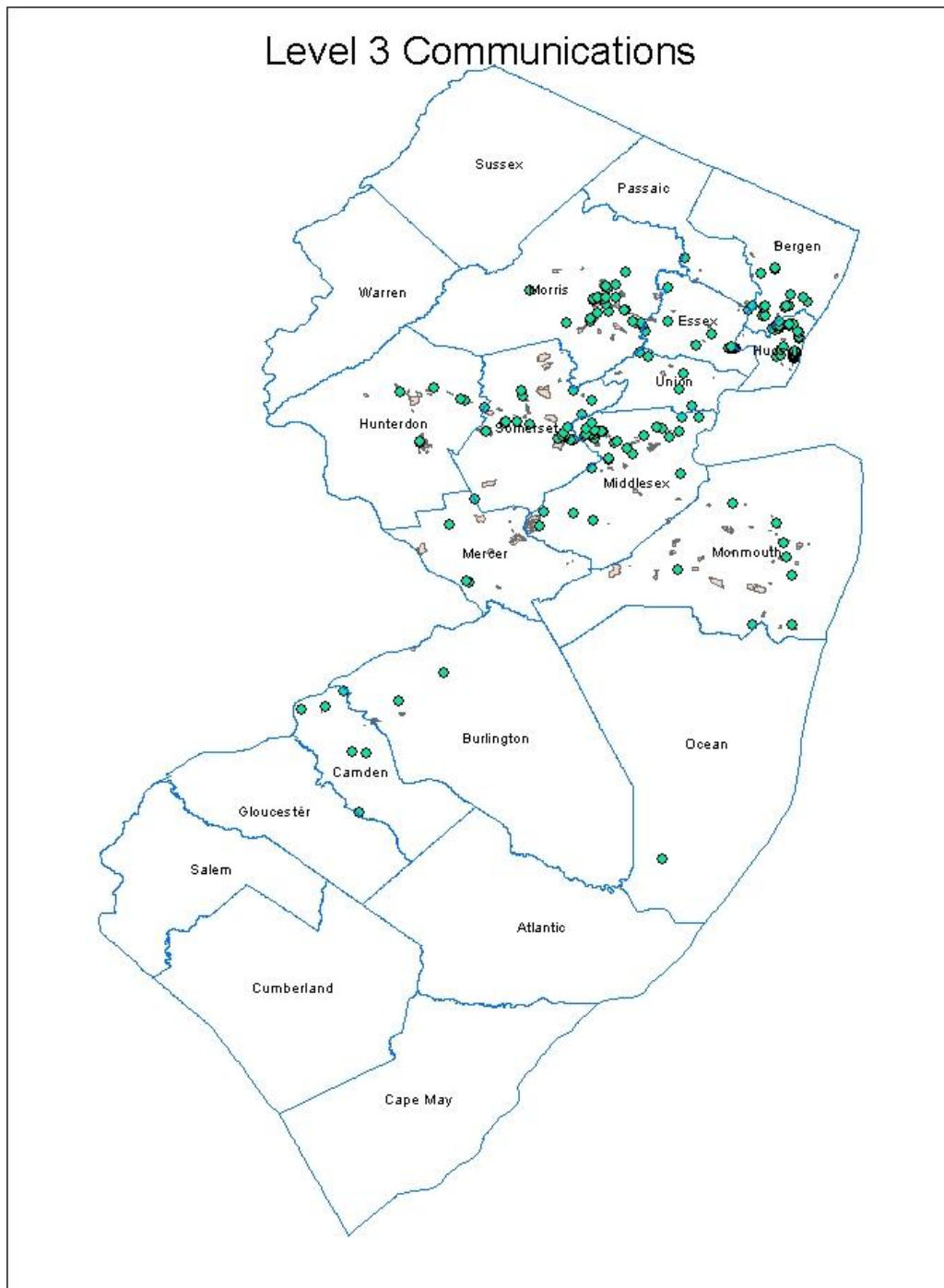
**PLEASE NOTE MY NEW ADDRESS AND TELEPHONE NUMBER**

Gregory T. Diamond

Regulatory Counsel  
Level 3 Communications  
1505 5<sup>th</sup> Avenue  
Suite 501  
Seattle, WA 98110  
Desk: 206-652-5608  
Mobile: 303-562-7378

## **Section 6: Notes and Open Issues**

**Section 7: Overview Map of Submitted Data**



**6.16 Monmouth**

## Connecting New Jersey - Broadband Provider Data Report

Provider: Monmouth Telephone and Telegraph

Received: February 2012

Submission date: April 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		same
	FRN		0004325205
FOR WIRELINE			
Filetypes	Csv (NJBB_0004325205_AddressLevelAvailability.xls)		
File size	267 Kbytes, 1071 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-		Not provided

	down			
<b>Technology Type</b>	Code 30 – other copper line Code 50 - Optical Carrier/Fiber to the End User			
<b>End-user specification</b>	Code 4 – Medium or Large Enterprise			
Comments:				
<b>INTERCONNECTION DATA</b>				
<b>ID</b>				
<b>File size</b>				
<b>Ownership</b>				
<b>Transport Type</b>				
<b>Data Rates/Capacity</b>				
<b>Location</b>				
<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
267Kb	NJBB_0004325205_AddressLevelAvailability.xls

27Kb NJBB\_0004325205\_CMAAdvertisedAvailability. xls  
27Kb NJBB\_0004325205\_SubscriberWeightedNominalSpeed. xls  
22Kb Read Me.doc

File details:

File NJBB\_0004325205\_AddressLevelAvailability.csv:

The file contains 1071 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.

NJBB\_0004325205\_CMAAdvertisedAvailability.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.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

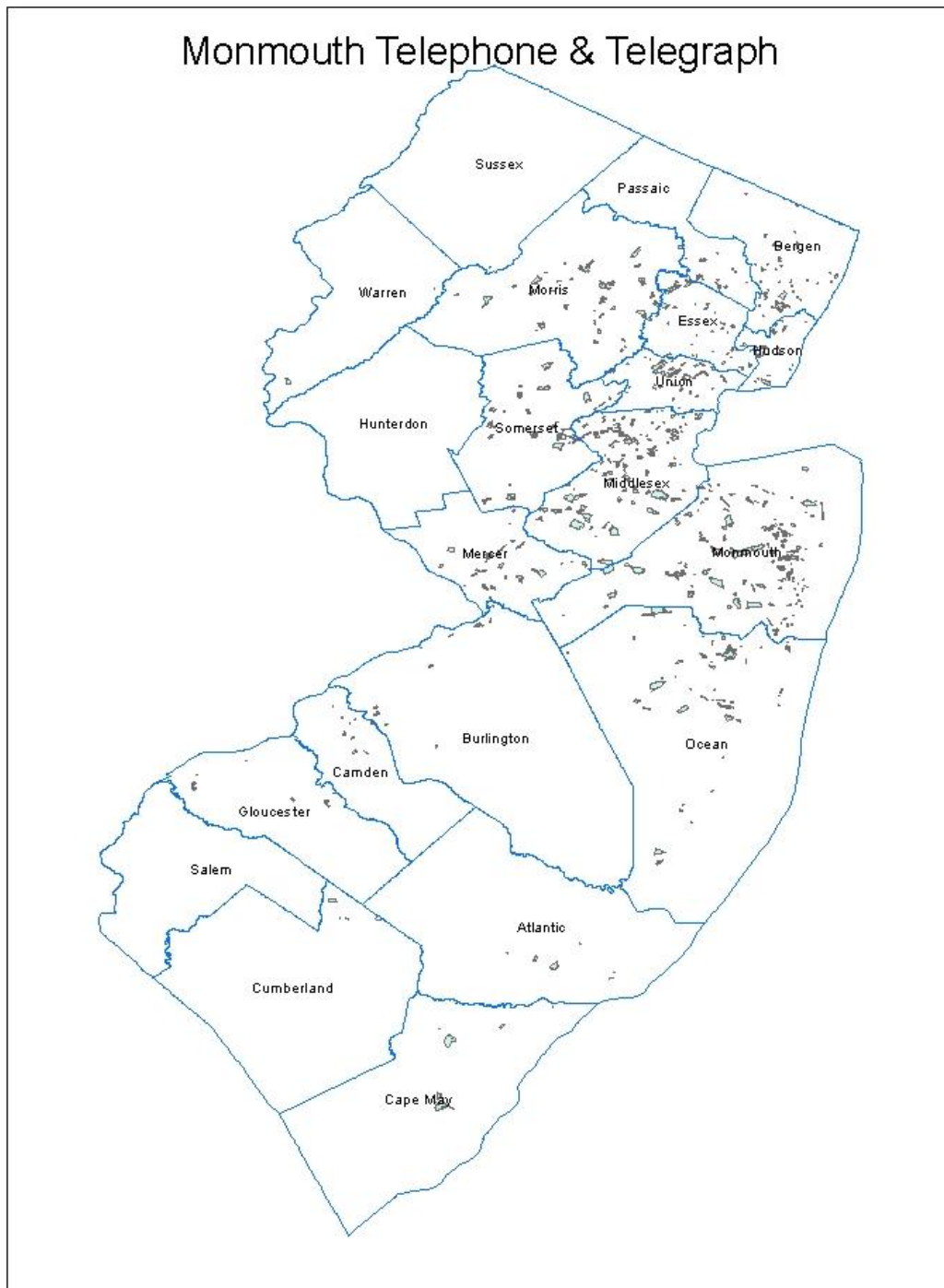
Internal processing notes:

1. 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.  
Geocoding process failed for one address.
2. Created an Excel sheet and imported it to a geodatabase table.
3. 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.
4. 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.
5. Discarded one record that failed to spatially join on the 2010 NJ Census Block shapes.
6. Discarded 81 rows because the max adv down speed code was 1 or 2, which is not broadband according to the requirements of the NOFA
7. Discarded 175 rows with duplicate census blocks while preserving the greatest speed. These result from multiple customers in the same census block.
8. Discarded 4 large census blocks (greater than 2 square miles).
9. Final record count loaded is 734.

## Section 5: Clarification Questions and Responses

## Section 6: Notes and Open Issues

**Section 7: Overview Map of Submitted Data**



**6.17 NetCarrier Telecom**

## Connecting New Jersey - Broadband Provider Data Report

Provider: Netcarrier

Received: June 2011

Submission date: April 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		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	Types: 10, 30, 50			

<b>Type</b>	
<b>End-user specification</b>	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.	
<b>INTERCONNECTION DATA</b>	
<b>ID</b>	NJ_Broadband_Mapping-Backbone-090711
<b>File size</b>	12 kb
<b>Ownership</b>	Not provided
<b>Transport Type</b>	Facility type provided (code 1 and 2 used)
<b>Data Rates/Capacity</b>	Not provided
<b>Location</b>	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:

1. Used the provider name, DBA name, and FRN as supplied.
2. 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.
3. These records were copied over into a new BB\_ConnectionPoint\_MiddleMile table
4. 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

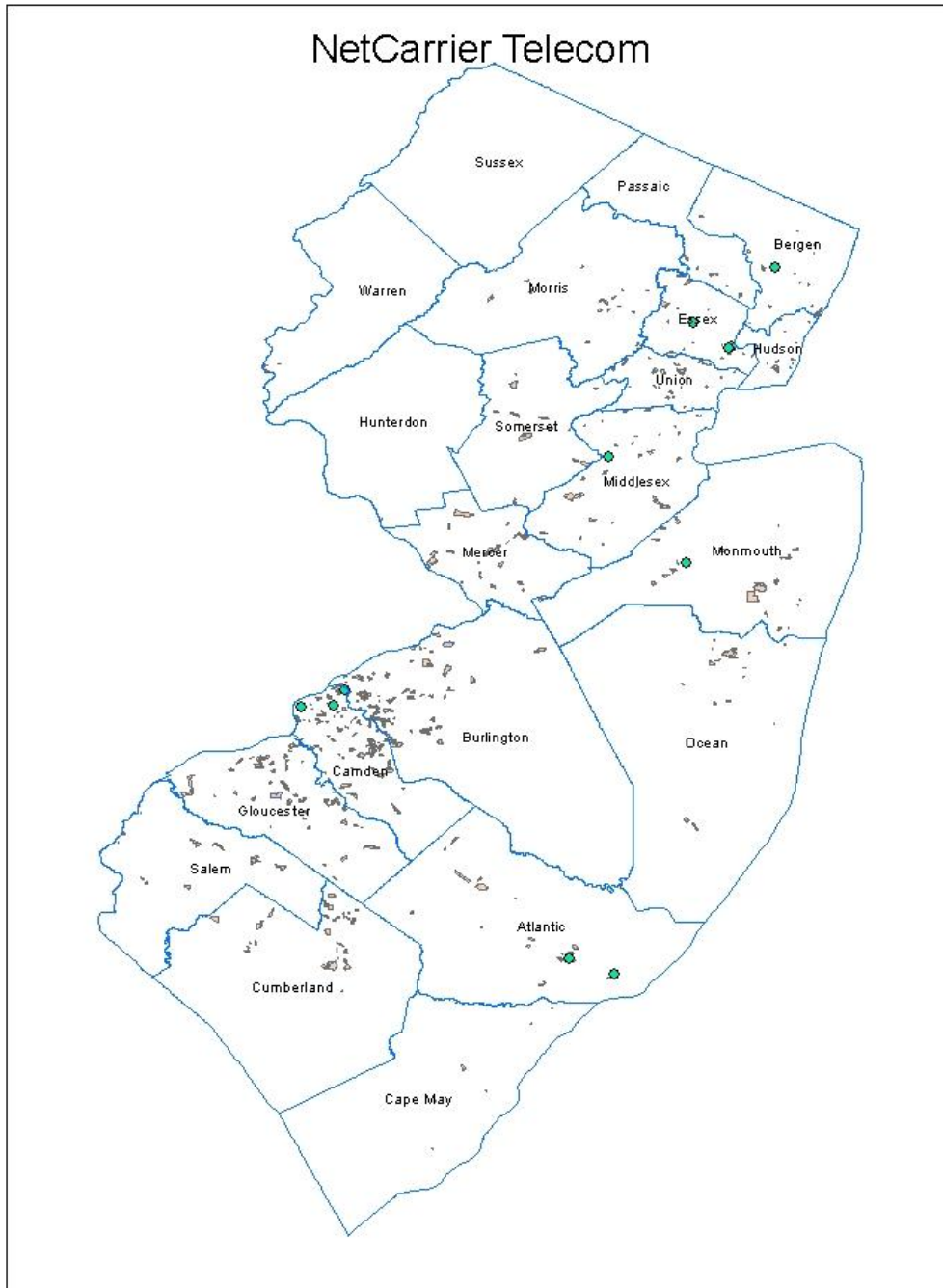
Internal processing notes:

1. 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.
2. 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 Network Billing Systems**

## Connecting New Jersey - Broadband Provider Data Report

Provider: Network Billing Systems

Received: February 2012

Submission date: April 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			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	Types:			

<b>Type</b>	
<b>End-user specification</b>	
Comments:	
<b>INTERCONNECTION DATA</b>	
<b>ID</b>	
<b>File size</b>	
<b>Ownership</b>	Confirmed via email - Leased
<b>Transport Type</b>	Fiber
<b>Data Rates/Capacity</b>	T1 to OC 48 (2.488 Gbps)
<b>Location</b>	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:

1. Used the provider name, DBA name, and FRN from FCC Form 477 reference data.
2. 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.
3. Based on provider email response, set ownership value to leased.
4. 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](mailto: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](mailto: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](mailto: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?

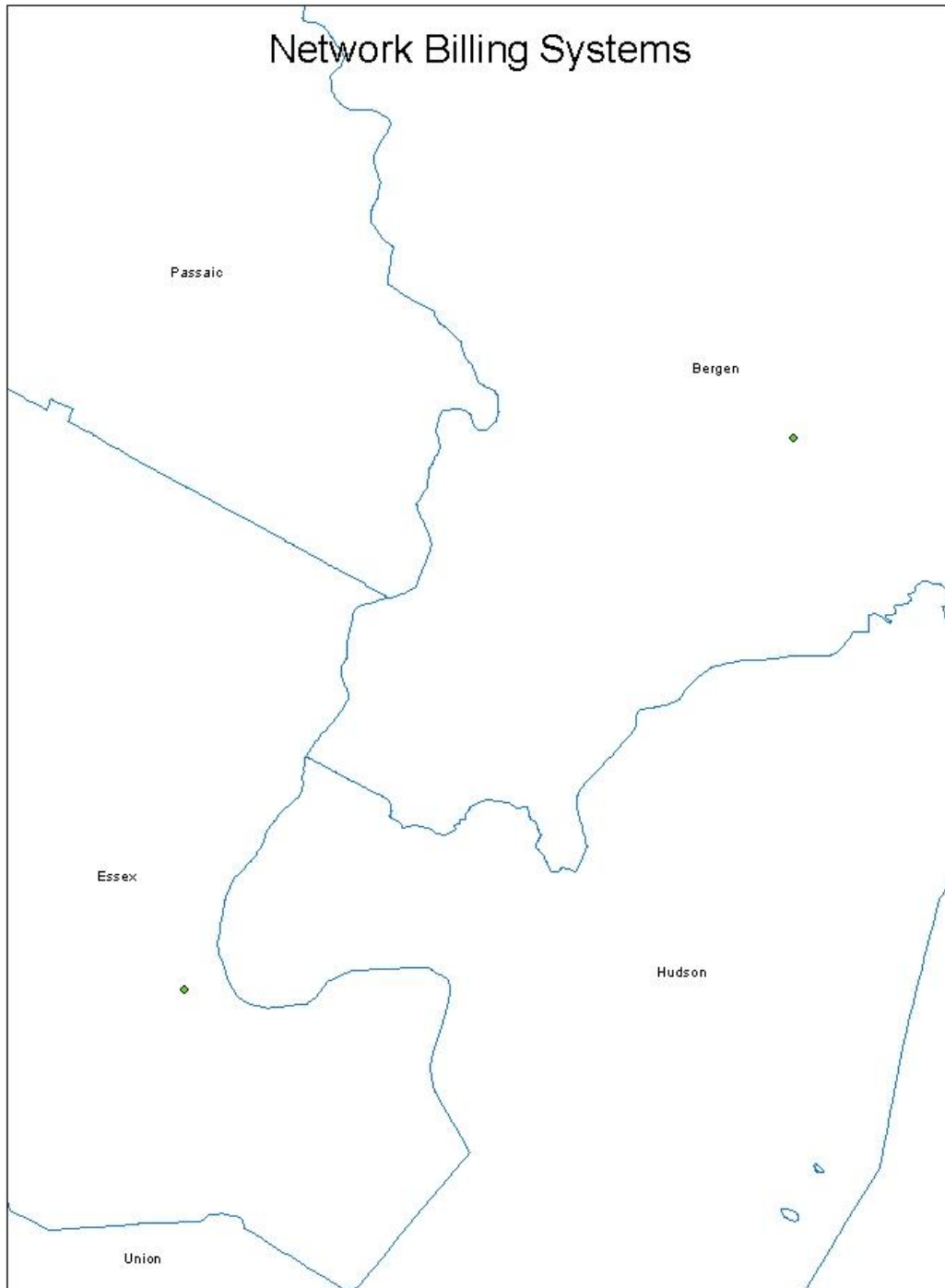
I don't understand.

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

**Yes.**

## Section 6: Notes and Open Issues

**Section 7: Overview Map of Submitted Data**



**6.19 Service Electric – Hunterdon**

## Connecting New Jersey - Broadband Provider Data Report

Provider: Service Electric Cable TV of Hunterdon

Received: August 2010/April 2012

Submission date: April 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		Service Electric Cable TV of Hunterdon, Inc.	
	“Doing business as” name		DBA not provided	
	FRN		0003760014	
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.  In previous submissions, provider had given a list of municipalities that they covered
	Typical-upstream		Not provided	
	Typical-downstream		Not provided	
	Advertised-upstream		Municipality	
	Advertised-downstream		Municipality	
	Subscriber-weighted-		Not provided	



	up			completely.
	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:

1. 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”.

<b>Municipality</b>	<b>County</b>
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.

2. Ran all NTIA validations.

### **NTIA Table BB\_Service\_RoadSegment**

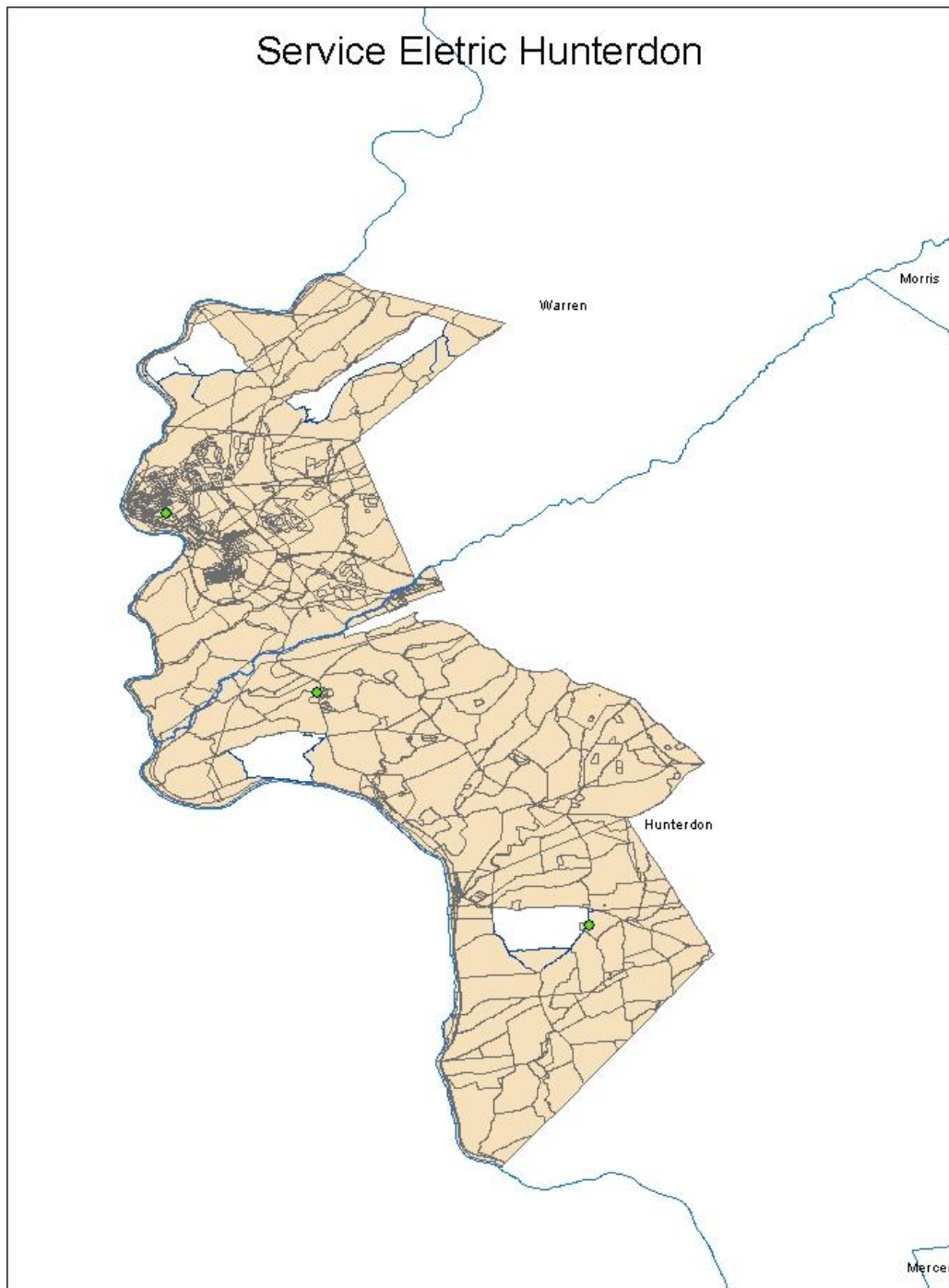
Loaded with street segments in census blocks larger than 2 square miles as listed in Census Bureau TigerLine reference data. The following table explains the transformations that were applied to load the target table.

<b>Table Column</b>	<b>Data Source / Transformation</b>
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**



**6.20 Service Electric – Sparta**

## Connecting New Jersey - Broadband Provider Data Report

Provider: Service Electric Cable TV of Sparta

Received: March 2012

Submission date: April 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 executed.

**Section 2: Submission Overview**

AVAILABILITY DATA				
ID	Provider name		Service Electric Cable TV of NJ Inc.	
	“Doing business as” name		Service Electric Broadband Cable	
	FRN		0005007125	
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 exchange that they offer DOCSIS 3.1 over their entire footprint. He provided list of speeds, which we confirmed with him.
	Typical-upstream		Not provided	
	Typical-downstream		Not provided	
	Advertised-upstream		Municipality	
	Advertised-downstream		Municipality	
	Subscriber-weighted-up		Not provided	
	Subscriber-weighted-downstream		Not provided	

	down			
<b>Technology Type</b>	Docsis 3.1 (will use code 40)			
<b>End-user specification</b>	Not provided			
Comments:				
<b>INTERCONNECTION DATA</b>				
<b>ID</b>				
<b>File size</b>	Several addresses provided			
<b>Ownership</b>	Owned			
<b>Transport Type</b>	Fiber			
<b>Data Rates/Capacity</b>	One says "Fiber 10 gbps"; others have no statement - Clarified this via email. See answers below.			
<b>Location</b>	Address			
Comments:				

### Section 3: Submission File Details

Received one (1) file by EMAIL:

<b>Size</b>	<b>Name</b>
-------------	-------------

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:

- Following steps were performed during prior submission
  - Created an excel sheet and imported to a geodatabase table.
  - 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.
  - 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.
- 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:

1. 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”.
2. Joined against reference data to discover census blocks, for a total of 4,135 blocks.
3. Validation rules produced a warning for speed code of 8 with 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.

**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.

<b>Table Column</b>	<b>Data Source / Transformation</b>
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
ADDMIN	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.

## 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?

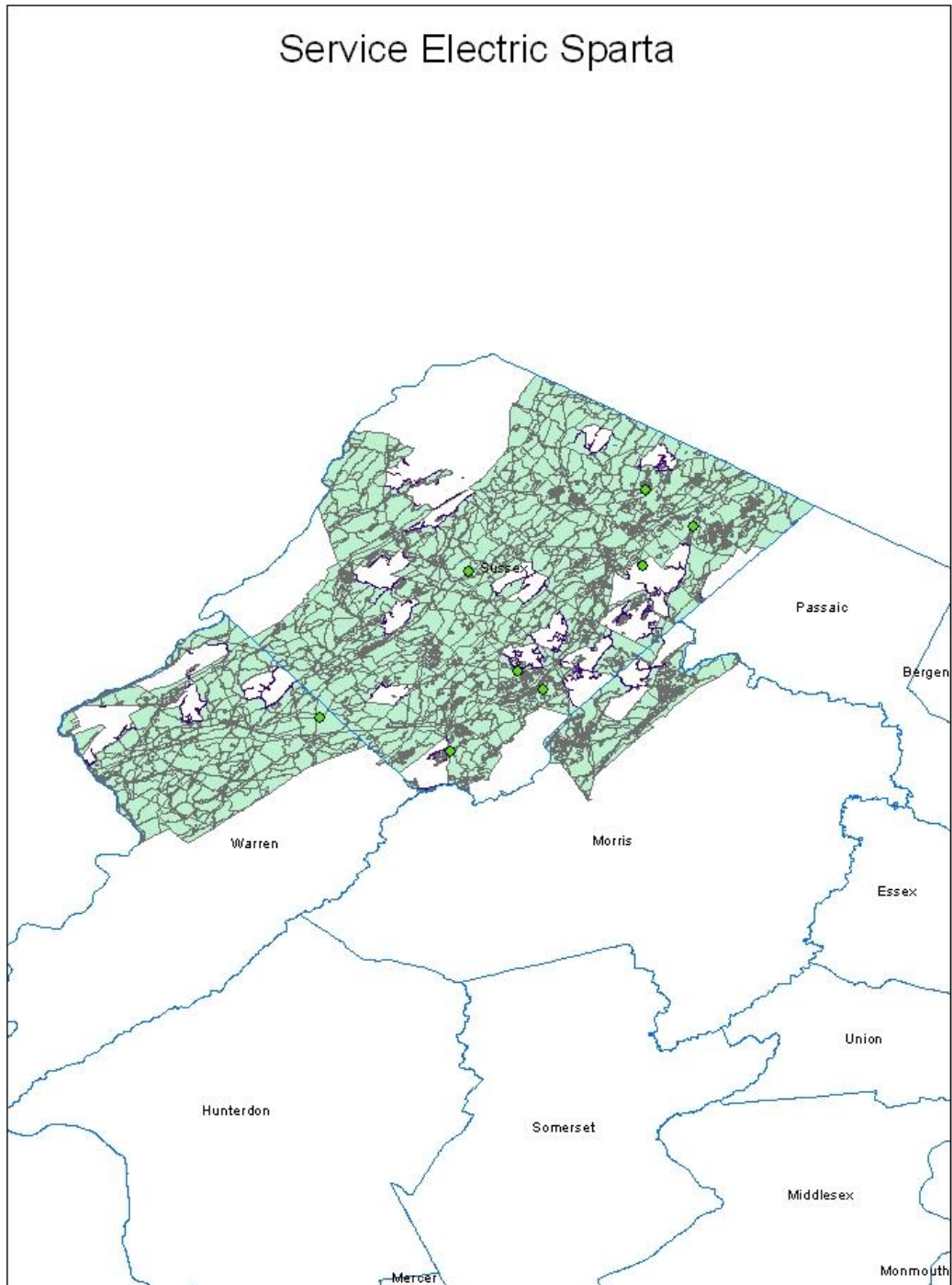
We also have a similar question regarding the cable technology - DOCSIS 3.0 and DOCSIS 1.1. Our current understanding is that you provide both of these in all covered municipalities. Is that correct ? If not, would you be able to provide us with the per-municipality list?

Regards,

Marek Fiuk

## **Section 6: Notes and Open Issues**

**Section 7: Overview Map of Submitted Data**



**6.21 Sprint****Broadband Provider Data Report**

Provider: Sprint

Received: October 2011

Submission date: April 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 - RECEIVED JULY 15, 2010		
ID	Provider name	Sprint Nextel
	“Doing business as” name	Communications
	FRN	Sprint
		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	Business, consumer, gov’t etc	

<b>specification</b>														
Comments:														
<b>FOR WIRELESS</b>														
<b>Filetypes</b>	shapefile collection: shp/dbf/prj/shx, mdb, gdb, imagefile etc.	<b>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.</b>												
<b>Speeds</b>	<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													
<b>Technology Type</b>	Spectrum (Mhz, FCC code)	<b>3 and 5 (PCS 1850-1915 MHz, 1930-1995)</b>												
Comments:														
<b>INTERCONNECTION DATA</b>														
<b>ID</b>	Provider name "Doing business as" name FRN	Sprint Nextel Corporation Sprint 0003-77-45-93												
<b>File size</b>	Number of records, data elements	4												
<b>Ownership</b>	Leased/owned	Leased = 2, owned = 2												
<b>Transport Type</b>	Fiber, wireless, copper	Fiber												
<b>Data Rates/Capacity</b>		2.4 GBPS < < 10GBPS												

Location	Street address, lat/lon, elevation	Lat/Long
Comments:		
DATA COMPLETENESS		
<b>Data Validation/ Verification</b>	<ul style="list-style-type: none"> <li>- Sprint provided a map showing coverage areas covering the majority of the state of New Jersey</li> <li>- 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"> <li>o They included typical and maximum advertised upload and download speeds</li> </ul> </li> <li>- Sprint provided spectrum data</li> </ul>	

### Section 3: Submission File Details

Received these files by upload to the secure web site:

Size	Name
365	Confidential_Middlemile_NJ.zip
3673KB	Sprint_AreaAvailability_NJ.zip

The zip archives contained these files:

Size	Name
498	Confidential_Middlemile_NJ.txt
1160	Sprint_AreaAvailability_NJ_region.dbf
143	Sprint_AreaAvailability_NJ_region.prj
5664180	Sprint_AreaAvailability_NJ_region.shp
116	Sprint_AreaAvailability_NJ_region.shx

### Section 4: Data Validation, Transformation and Loading

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.

Below is description for the Oct 2011 model as a reference.

Loaded 4 rows from the text file "Confidential\_Middlemile\_NJ.txt" supplied in October 2010. The following table explains the transformations that were applied.

<b>Table Column</b>	<b>Data Source / Transformation</b>
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:

1. Created an excel sheet with the data and imported to a geodatabase table.
2. 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.
3. 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.
4. The only data imputed was the state abbreviation.
5. Reused the ESRI feature class created in the last round.

#### **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.



<b>Table Column</b>	<b>Data Source / Transformation</b>
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	Set to null
TYPICUP	Set to null
STATEABBR	Set to “NJ”
SHAPE	As supplied.

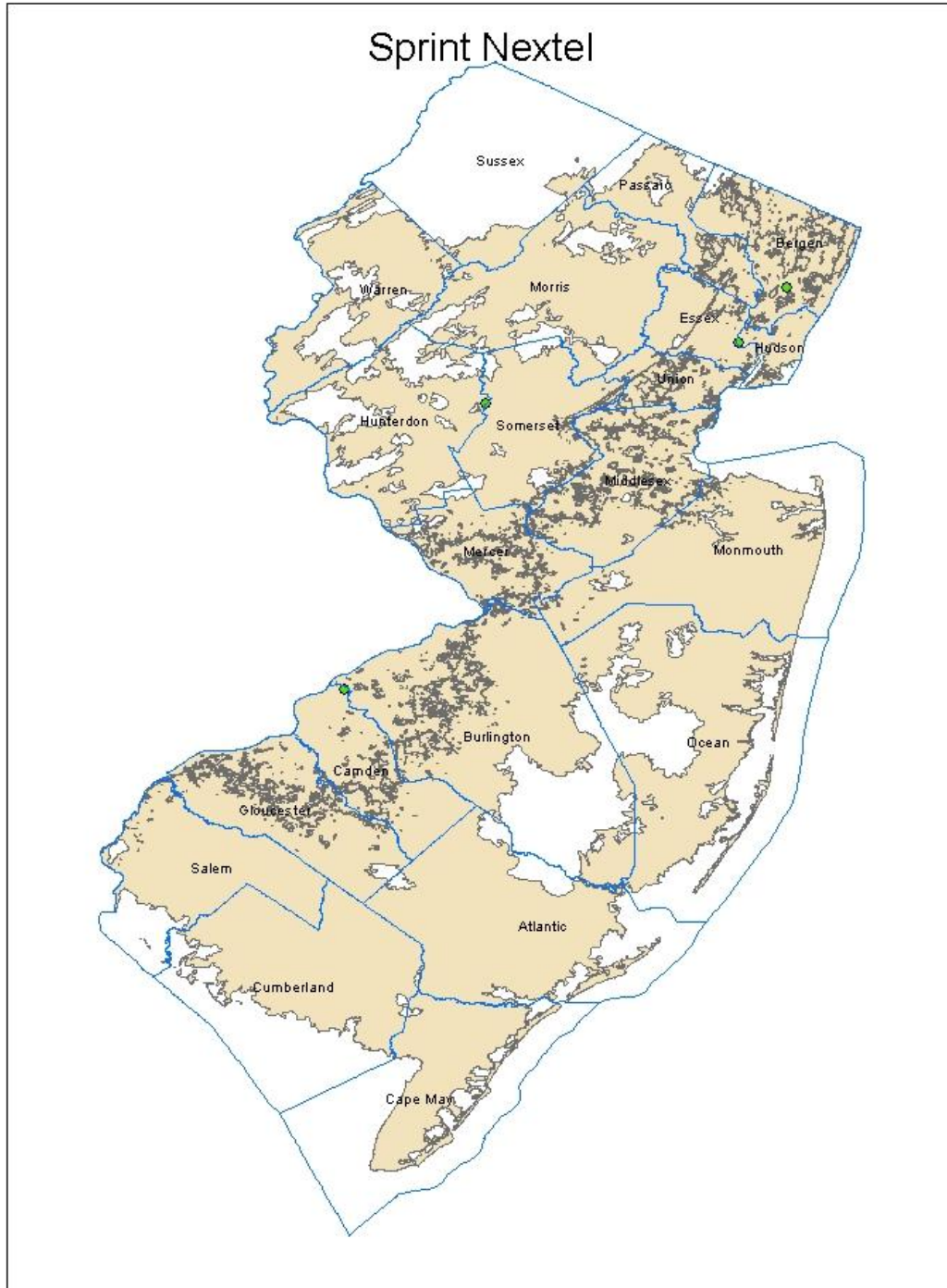
#### Internal notes on processing:

1. 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.
2. 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.
3. The only data imputed was the state abbreviation.

## Section 5: Clarification Questions and Responses

## Section 6: Notes and Open Issues

**Section 7: Overview Map of Submitted Data**



## 6.22 Starband

### Connecting New Jersey - Broadband Provider Data Report

Provider: Starband

Submission date: April 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 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\_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 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

## 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.

### 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	

<b>Technology Type</b>	Code 60 (Satellite)
<b>End-user specification</b>	Not provided
Comments:	
<b>INTERCONNECTION DATA</b>	
<b>ID</b>	
<b>File size</b>	
<b>Ownership</b>	
<b>Transport Type</b>	
<b>Data Rates/Capacity</b>	
<b>Location</b>	
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: Data Validation, 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:

1. Spectrum: No statement was provided. The NTIA data model has a single column for spectrum. Satellite corresponds to NTIA "SPECTRUM USED" code value 7.
2. 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 5: 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,

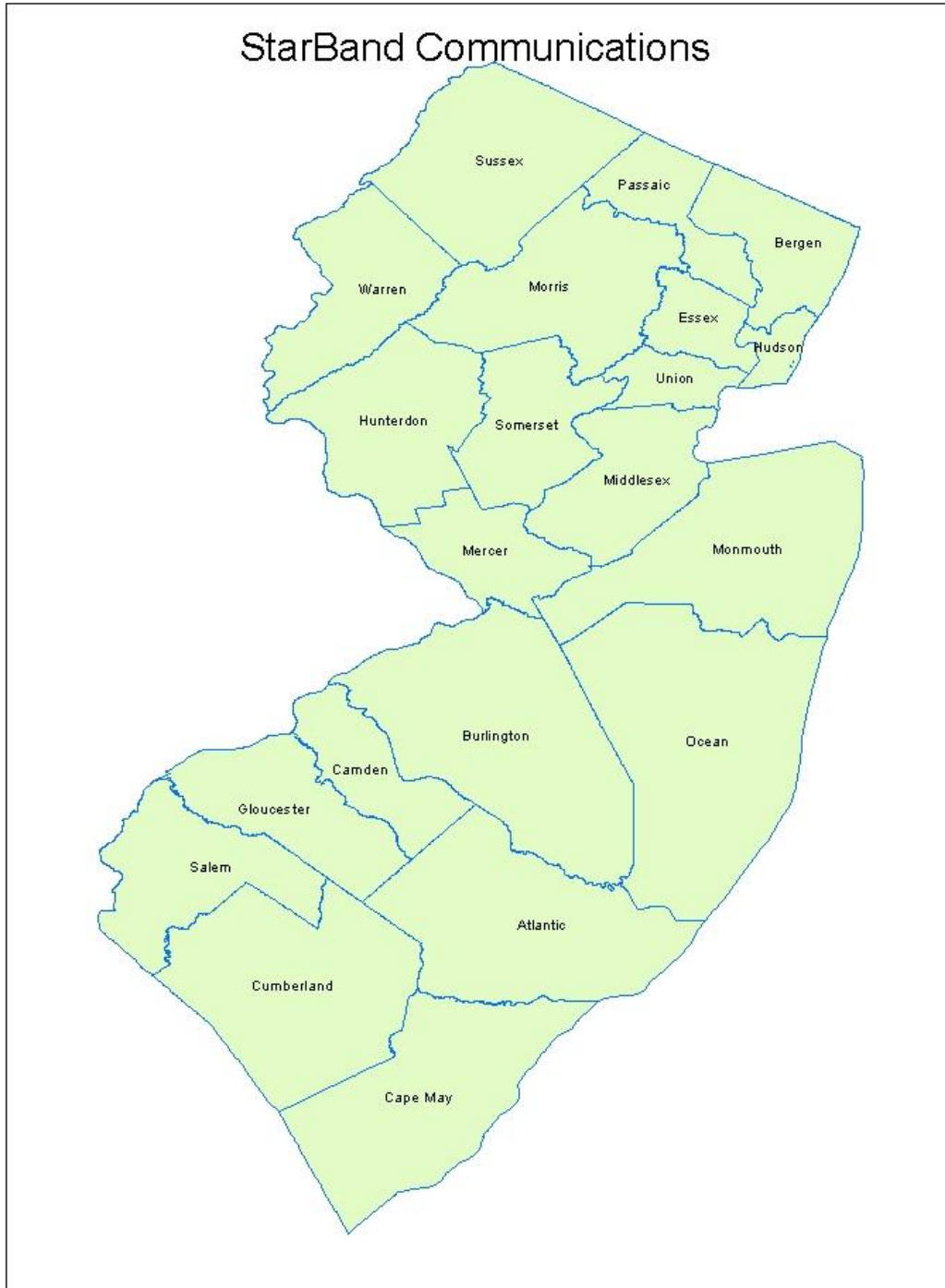
Lesley Cooper  
Senior Counsel  
StarBand Communications

---

## Section 6: Notes and Open Issues



**Section 7: Overview Map of Submitted Data**



**6.23 Time Warner**

## Broadband Provider Data Report

Provider: Time Warner

Received: February 2012

Submission date: April 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	

NJ September April 2012 Submission

	Subscriber-weighted	not provided	
Technology Type	40		
Comments:			
INTERCONNECTION DATA: INSTRUCTED TO USE PREVIOUS DATA			
ID			
File size			
Ownership			
Transport Type			
Data Rates/Capacity			
Location			
Comments: <b>not provided</b> with initial submission. Sent request for updated information.			

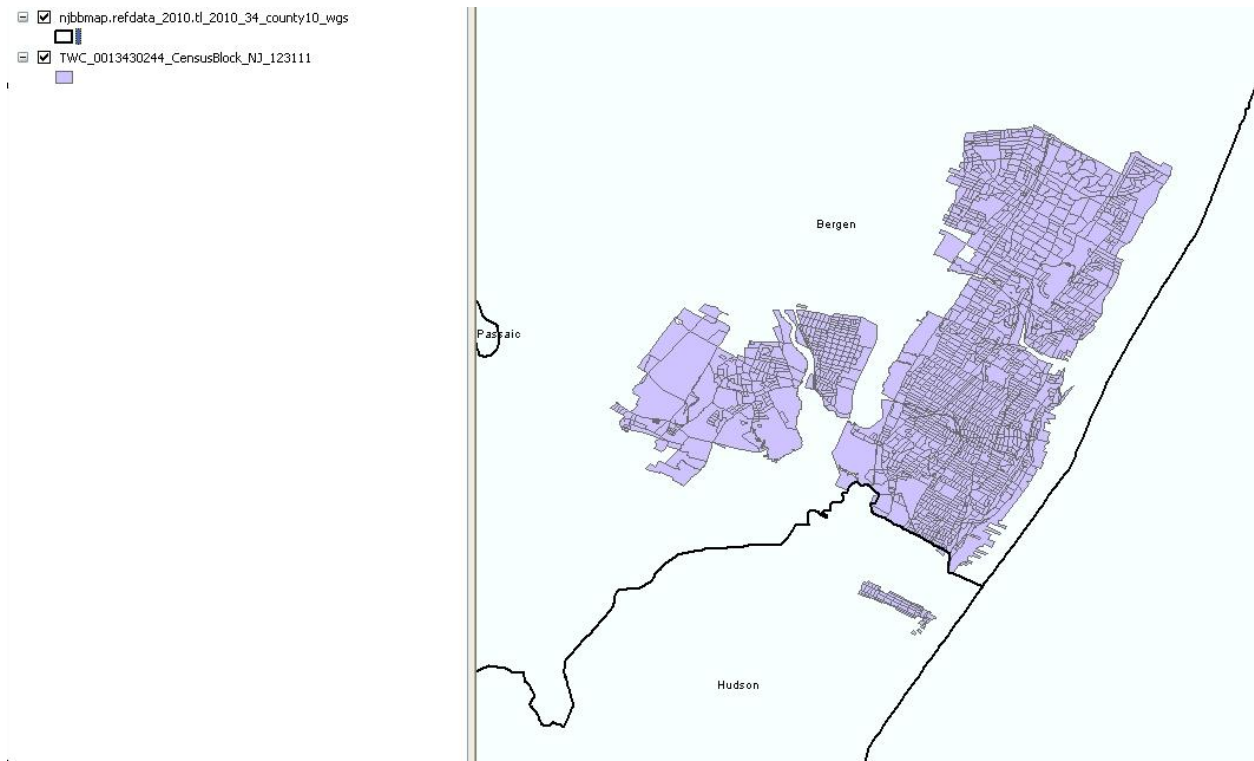
Section 3: Submission File Details

Received 1 archive file by EMAIL:

Name	Size
NJ 5th Round BB Cltr.pdf	147 KB
TWC_0013430244_CensusBlock_NJ_123111.cpg	1 KB
TWC_0013430244_CensusBlock_NJ_123111.dbf	644 KB
TWC_0013430244_CensusBlock_NJ_123111.prj	1 KB
TWC_0013430244_CensusBlock_NJ_123111.shp	529 KB
TWC_0013430244_CensusBlock_NJ_123111.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

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.

<b>Table Column</b>	<b>Data Source / Transformation</b>
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:

1. Created an excel sheet and imported to a geodatabase table.
2. 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.
3. 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 7<sup>th</sup> floor of a building, so we did not change the value.
4. 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 oaded from the supplied shape file. The following table explains the transformations that were applied to load the target table.

<b>Table Column</b>	<b>Data Source / Transformation</b>
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\_123111 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.

## 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?

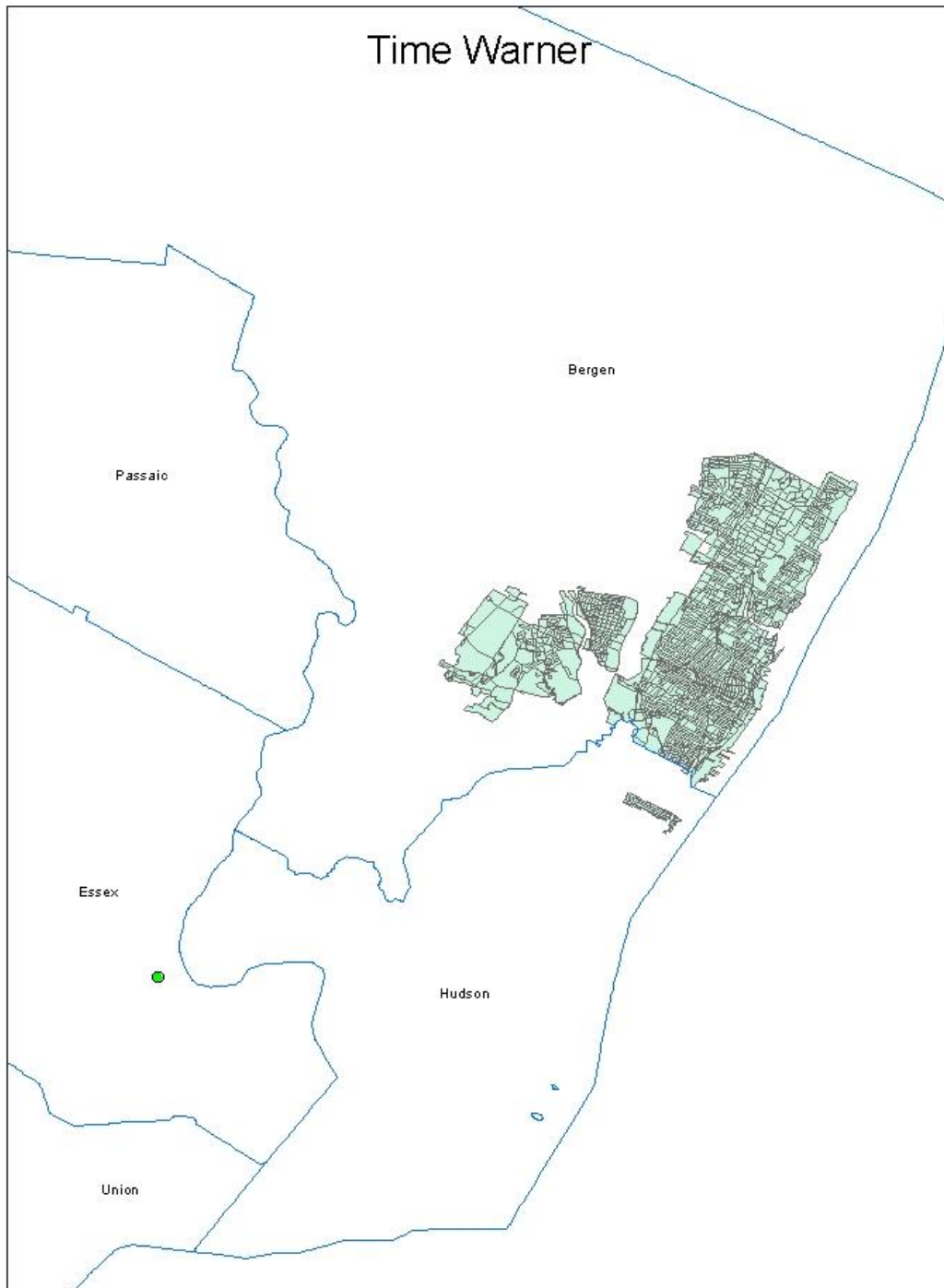
Thanks,

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

---

## **Section 6: Notes and Open Issues**

## **Section 7: Overview Map of Submitted Data**





**6.24 T-Mobile**

## Connecting New Jersey - Broadband Provider Data Report

Provider: T-Mobile

Received: February 2012

Submission date: April 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.	

NJ September April 2012 Submission



















	Subscriber-weighted	Provided as a table of values in 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	3 KB
 area_availability_NJ.zip	5,547 KB
 avg_speed_NJ.xlsx	12 KB
 confidential_NJ.txt	1 KB
 Cover Letter_NJ.pdf	406 KB
 NJ_HSPA21_polygon.dbf	395 KB
 NJ_HSPA21_polygon.prj	1 KB
 NJ_HSPA21_polygon.shp	5,517 KB
 NJ_HSPA21_polygon.shx	48 KB
 NJ_HSPA42_polygon.dbf	62 KB
 NJ_HSPA42_polygon.prj	1 KB
 NJ_HSPA42_polygon.shp	1,024 KB
 NJ_HSPA42_polygon.shx	8 KB
 NJ_UMTS_polygon.dbf	170 KB
 NJ_UMTS_polygon.prj	1 KB
 NJ_UMTS_polygon.shp	5,906 KB
 NJ_UMTS_polygon.shx	21 KB
 T-Mobile_BB Data_NJ.zip	5,869 KB

The second submission includes the middle mile data

Name	Size
Middle-mile_NJ.xls	10kb

### Section 4: Data Validation, Transformation and Loading

#### NTIA Table BB\_ConnectionPoint\_MiddleMile

Loaded from supplied file “middle\_mile\_NJ.xlsx” (10 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:

1. Created an excel sheet with the original data, 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.
2. 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.
3. 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.
4. Dropped 6 records that were as duplicate census blocks
5. Loaded 4 records.

**NTIA Table BB\_Service\_Wireless**

Loaded from the supplied shapefiles NJ\_HSPA21\_polygon (6022 rows), NJ\_HSPA42\_polygon (970 rows), and NJ\_UMTS\_polygon (2586 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"> <li>• HSPA 21 is 6;</li> <li>• HSPA 42 is 7;</li> </ul>

	<ul style="list-style-type: none"> <li>• UMTS is 4;</li> </ul> as specified in file area_availability_NJ.txt
MAXADUP	Set as follows: <ul style="list-style-type: none"> <li>• HSPA 21 is 4;</li> <li>• HSPA 42 is 4;</li> <li>• UMTS is 2;</li> </ul> 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:

1. 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. 6022 candidates
  - b. NJ\_HSPA42
    - i. 970 candidates
  - c. NJ\_UMTS
    - i. 2586 candidates
  - d. All shapes are contained within the state of New Jersey
2. 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.
3. File “avg\_speed\_NJ.xls” provides subscriber-weighted nominal speeds, which we will not be using for this round (no overview table required).
4. 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'.
5. 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”.
6. The supplied shapes use tolerance values different from the NTIA transmittal model. The transformed feature classes with suitable tolerances are named with suffix “\_wgs\_tol”.
7. 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 into a single shape, using ArcGIS Dissolve tool. The transformed table is named with suffix "\_wgs\_tol\_Dissolve".
  - b. Merged shapes in NJ\_HSPA42\_polygon\_wgs\_tol into a single shape, using ArcGIS

- Dissolve tool. The transformed table is named with suffix "\_wgs\_tol\_Dissolve".
- c. Merged the shapes in NJ\_UMTS\_polygon\_wgs\_tol into a single shape, using ArcGIS Dissolve tool. The transformed table is named with suffix "\_wgs\_tol\_Dissolve".
8. Validation rules produced a warning with the HSPA42 having a Maximum Advertised Download Speed code of 7. 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

---

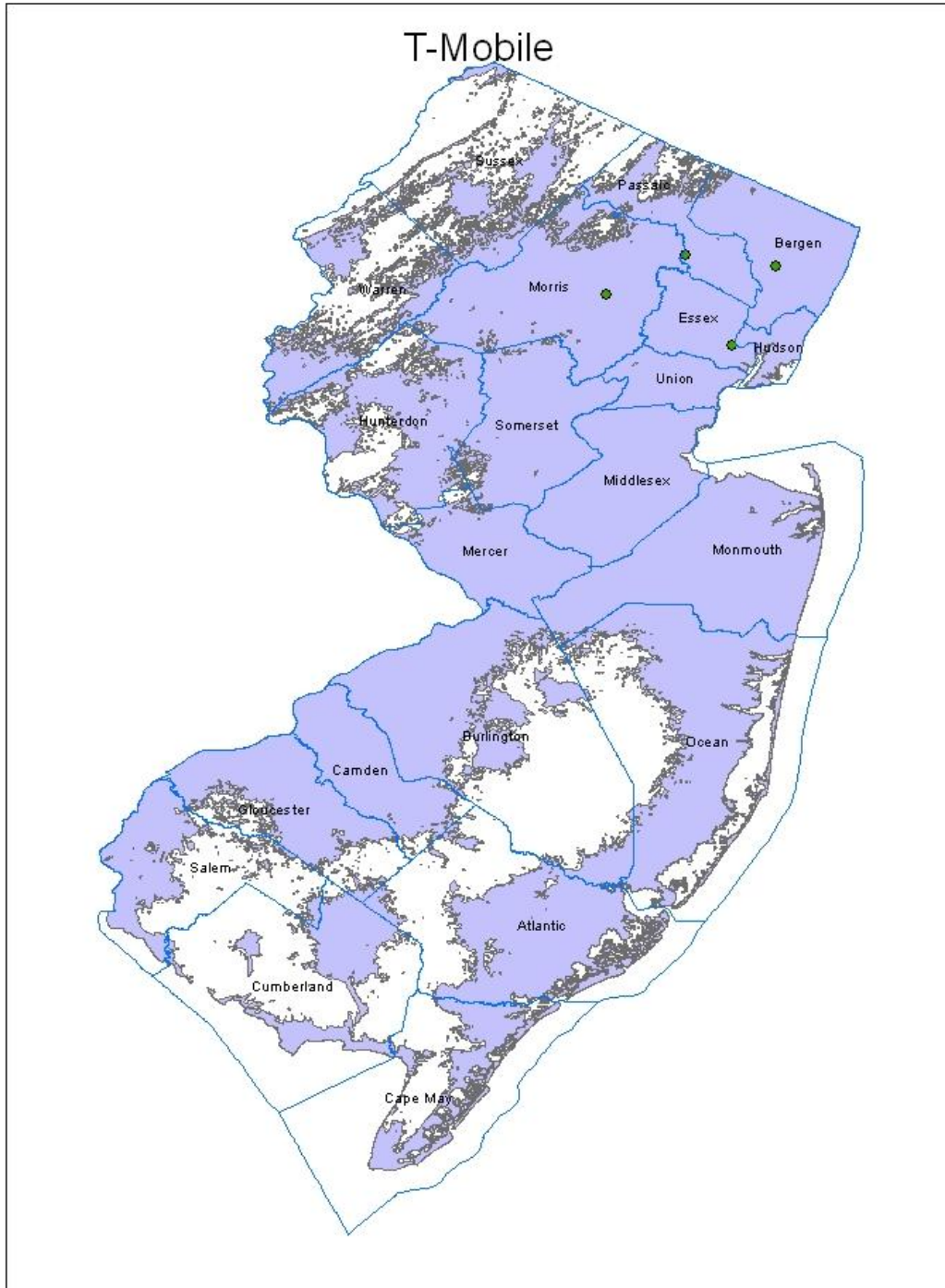
## **Section 6: Notes and Open Issues**

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**



**6.25 TW Telecom**

## Connecting New Jersey - Broadband Provider Data Report

Provider: tw telecom of new jersey l.p.

Received: February 2012

Submission date: April 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		0004351417	
	Holding company name		tw telecom inc.	
	Holding company number		160153	
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-		Not provided	

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

### Section 3: Submission File Details

Received 1 file by secure upload:

Size	Name
3419	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:

1. Geocoded the addresses using the Google geocoder to obtain a Latitude, Longitude pair for each.
2. Created an excel sheet and imported it to a geodatabase table.
3. 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.
4. 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.
5. Discarded 14 rows with duplicate census blocks, generated from the multiple entries at the same addresses
6. Verified that all census blocks were in New Jersey and that no census block was greater than 2

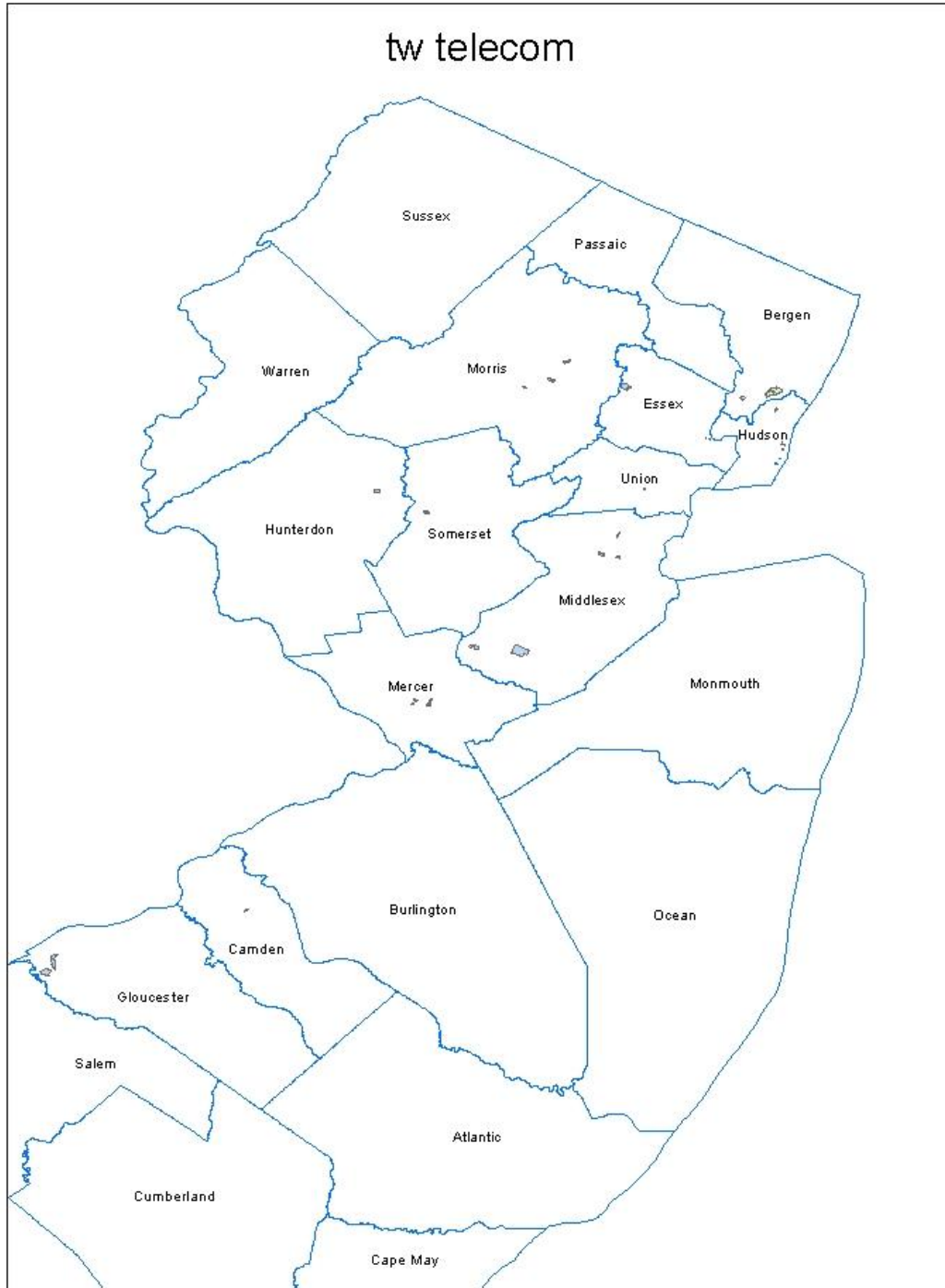
square miles

7. Loaded 26 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**



**6.26 Verizon**

## Broadband Provider Data Report

Provider: Verizon

Received: February 2012

Submission date: April 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

## NJ September April 2012 Submission

	Subscriber-weighted-down		Not provided	
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
114,692	NJ - Broadband Data Cover Letter (2-16-12).pdf
6,454,124	NJ - Wireline Service By Census Block with Speeds (Dec 2011).txt
138,739	NJ - Wireline Service By Street Segment with Speeds (Dec 2011).txt
2,481	NJ - Pricing (Dec 2011).txt
28,160	NJ - POP List (Dec 2011).xls

### Section 4: Data Validation Transformation and Loading



**NTIA Table BB\_ConnectionPoint\_MiddleMile**

Started with information supplied in Excel Spreadsheet “NJ - POP List (Dec 2011).xls”. The following table explains the transformations that were applied.

<b>Table Column</b>	<b>Data Source / Transformation</b>
PROVNAME	Set to “Verizon Online LLC”
DBANAME	Set to “Verizon”
FRN	Set to “0012254363”
OWNERSHIP	Set to 0, owned, based on cover letter information
BHCPACITY	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:

1. 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.
2. Created an excel sheet and imported to a geodatabase table.
3. 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.
4. 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 (Dec 2011).txt”. The following table explains the transformations that were applied to load the target table.

<b>Table Column</b>	<b>Data Source / Transformation</b>
---------------------	-------------------------------------

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 (Dec 2011).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.

<b>Table Column</b>	<b>Data Source / Transformation</b>
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 108 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.
4. Passed all NTIA validations

## 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

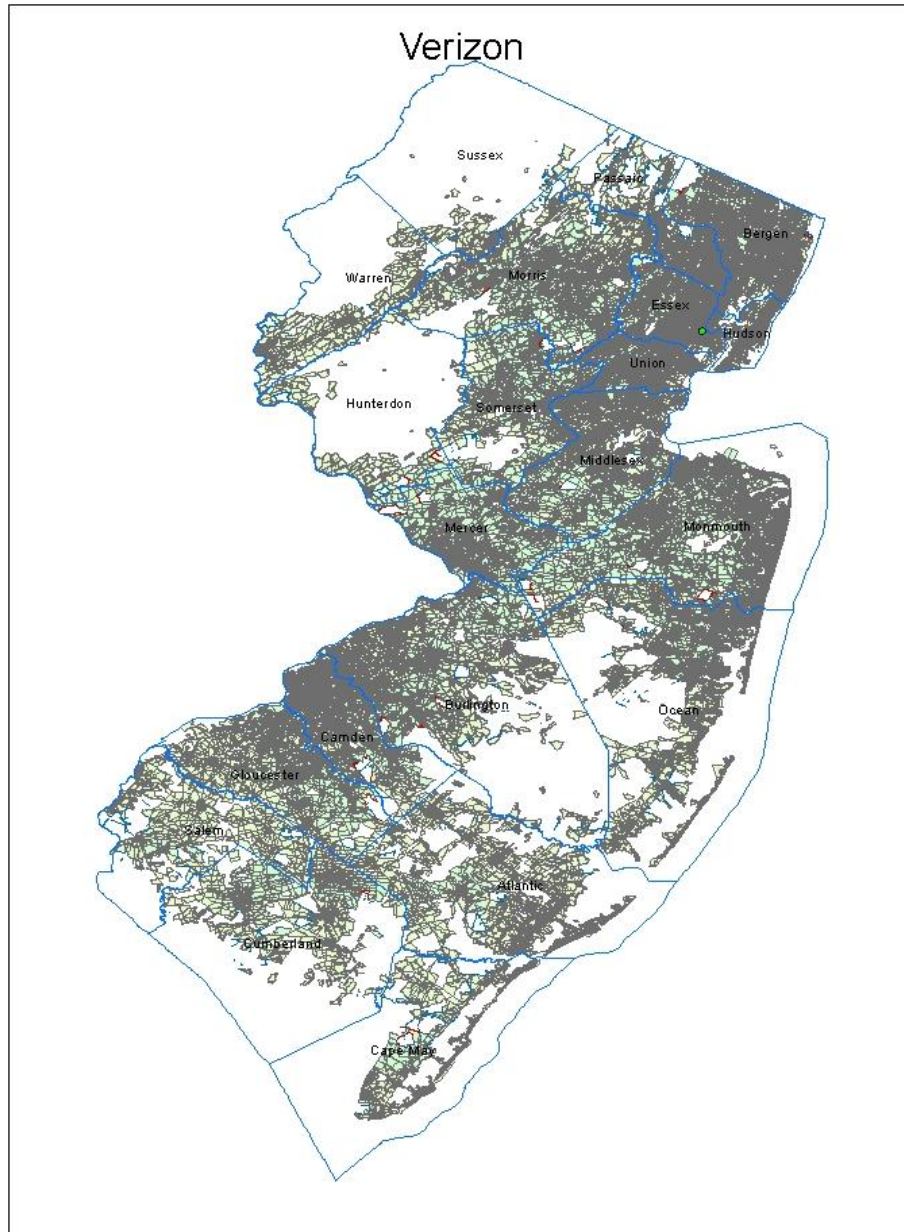
New York, New York 10007-2109

(212) 321-8136 (Phone)

(212) 962-1687 (Fax)

**Section 6: Notes and Open Issues**

## Section 7: Overview Map of Submitted Data



### 6.27 Verizon Wireless

Connecting New Jersey - Broadband Provider Data Report

Provider: Verizon Wireless

Received: February 2012

Submission date: April 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 17 rows for each county. 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 typical	600kbps-1.4mbps	

	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 (1<sup>st</sup> 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			

<b>Transport Type</b>	
<b>Data Rates/Capacity</b>	
<b>Location</b>	
Comments:	

### Section 3: Submission File Details

All data was supplied by email.

Received overview file "VerizonWireless - Email Speed\_Technology Informatoin.pdf" with spectrum and speed information.

Received 2 shapefiles with the following contents. The EVDO\_NJ shapefile has 21 polygons, and the NJ\_LTE shapefile has 17 polygons for each county.

<b>Size</b>	<b>Name</b>
266	NJ_evdo.dbf
145	NJ_evdo.prj
324	NJ_evdo.sbn
132	NJ_evdo.sbx
386052	NJ_evdo.shp
5294	NJ_evdo.shp.xml
268	NJ_evdo.shx

<b>Size</b>	<b>Name</b>
234	NJ_lte.dbf
145	NJ_lte.prj
292	NJ_lte.sbn
132	NJ_lte.sbx
196768	NJ_lte.shp
5284	NJ_lte.shp.xml



Cover letter “Verizon Wireless Broadband Statistics.pdf” was included.

#### 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	Set to null
TYPICUP	Set to null
STATEABBR	Set to “NJ”
SHAPE	As supplied.

Internal notes on processing:

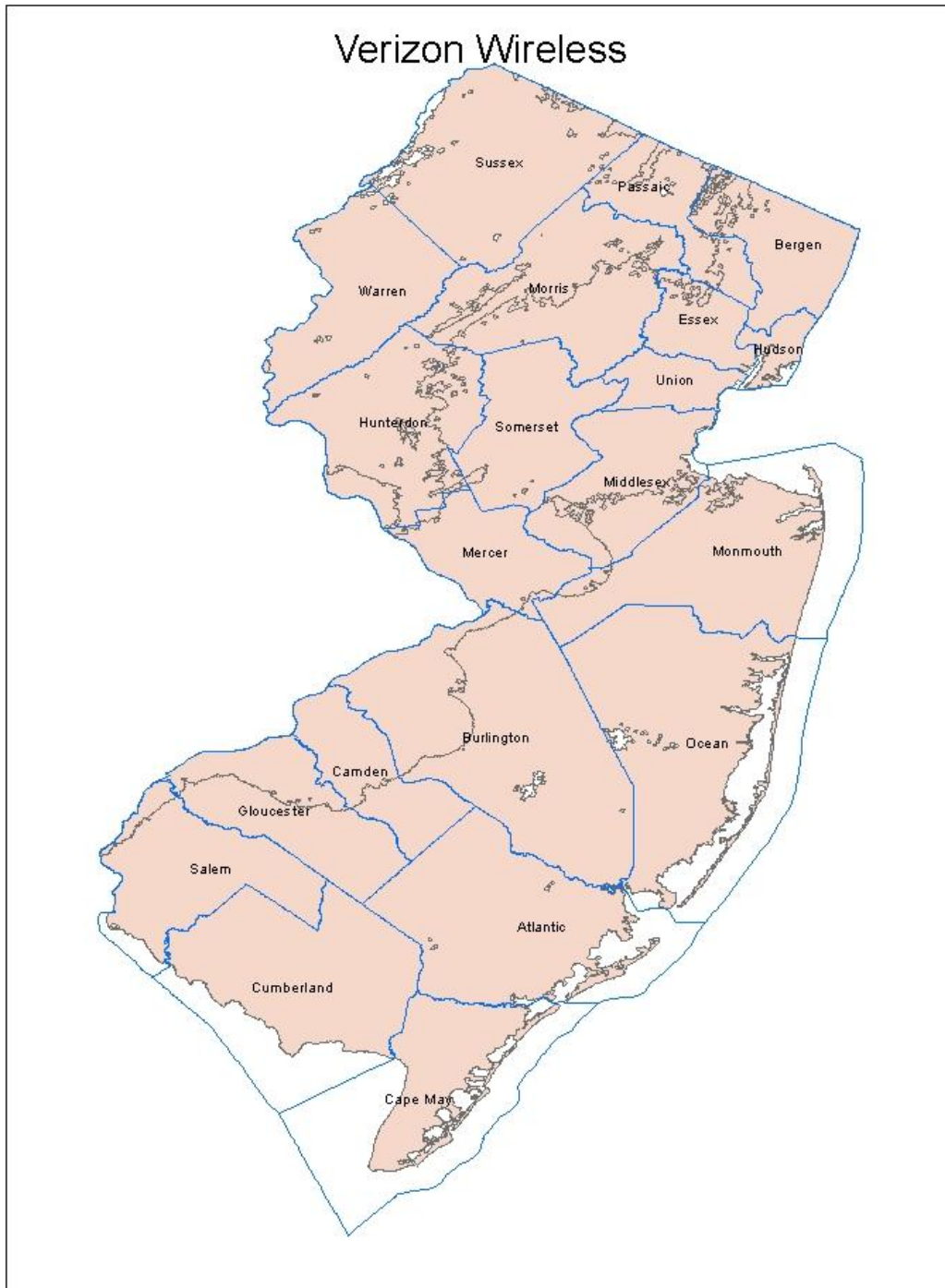
1. Shapefile NJ\_evdo: The total shape apparently covers the entire state of New Jersey. Some differences are visible along the water body edges. There are duplicate shapes in this shapefile.
2. Shapefile NJ\_lte: The shape covers portions of central-Northern New Jersey; the NJ Turnpike appears to be covered for its entire length. Duplicate shapes appear in this shapefile also. 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.
3. 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”.
4. Coalesced the EVDO single-part polygons into one multi-part polygon using the ArcGIS “Dissolve” tool, which resulted in a new feature class with the suffix “\_dissolved”.
  5. Coalesced the LTE single-part polygons into one multi-part polygon using the ArcGIS “Dissolve” tool, which resulted in a new feature class with the suffix “\_dissolved”.
  6. 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.
  7. 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 max adv 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 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.
  8. The only data imputed was the state abbreviation.
  9. Values agreed to by Anne Neville produced warnings in the NTIA validations

## **Section 5: Clarification Questions and Responses**

## **Section 6: Notes and Open Issues**

**Section 7: Overview Map of Submitted Data**



**6.28 Voxitas**

## Connecting New Jersey - Broadband Provider Data Report

Provider: Voxitas

Received: August 2010

Submission date: April 2012

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

**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-downstream		Not provided	
	Subscriber-weighted-up		Not provided	
	Subscriber-weighted-		Not provided	

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

### Section 3: Submission File Details

Received 1 file by secure upload.

<b>Size</b>	<b>Name</b>
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.

<b>Table Column</b>	<b>Data Source / Transformation</b>
---------------------	-------------------------------------

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

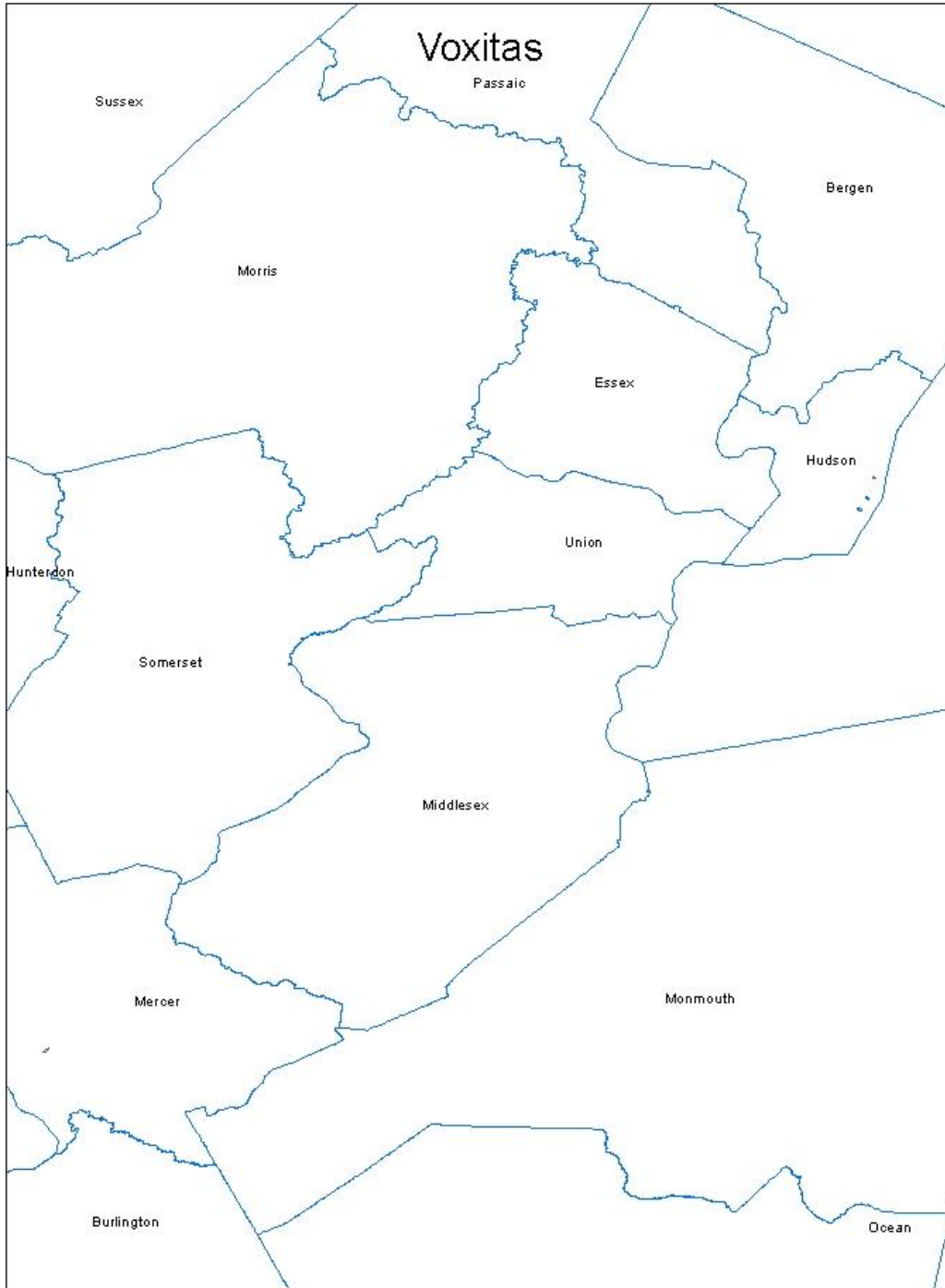
Internal processing notes:

1. 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.
2. 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**



**6.29 WildBlue**

## Connecting New Jersey - Broadband Provider Data Report

Provider: WildBlue Communications Inc.

Received: February 2012

Submission date: April 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			WildBlue Communications, Inc.
	“Doing business as” name			WildBlue
	FRN			0007843766
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”.  Second submission from WildBlue included values in Mbps for maximum advertised up/down speeds:  Download: 1.5 Mbps Upload: 0.25 Mbps
	Typical-upstream		Not provided (‘0’)	
	Typical-downstream		Not provided (‘0’)	
	Advertised-upstream		yes. Entire state.	
	Advertised-downstream		yes. Entire state	
	Subscriber-weighted-up		Not provided	



	Subscriber-weighted-down		Not provided	These correspond to the speed 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				

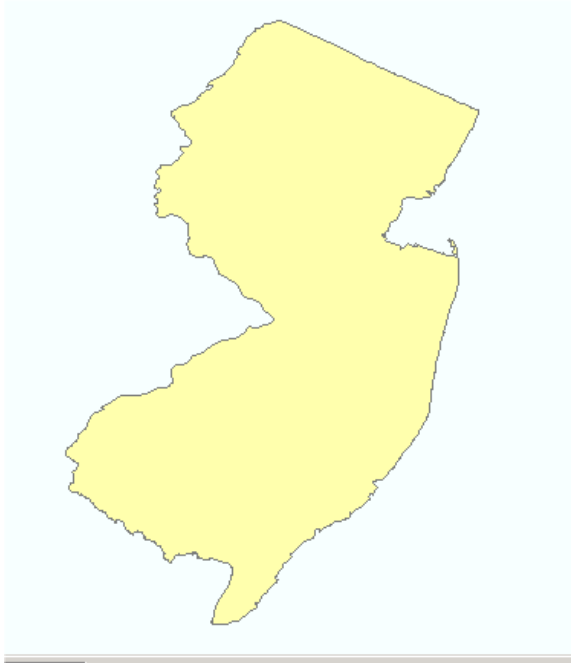


Figure 1. The shape submitted by the provider (the entire state of NJ)

### Section 3: Submission File Details

Size (kb)	Name
1	WildBlue_Communications_Area_Availability_New Jersey.shx
1	WildBlue_Communications_Area_Availability_New Jersey.dbf
1	WildBlue_Communications_Area_Availability_New Jersey.prj
19	WildBlue_Communications_Area_Availability_New Jersey.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 "WildBlue Communications, Inc."
DBANAME	Set to "WildBlue"

FRN	Set to 0007843766
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.

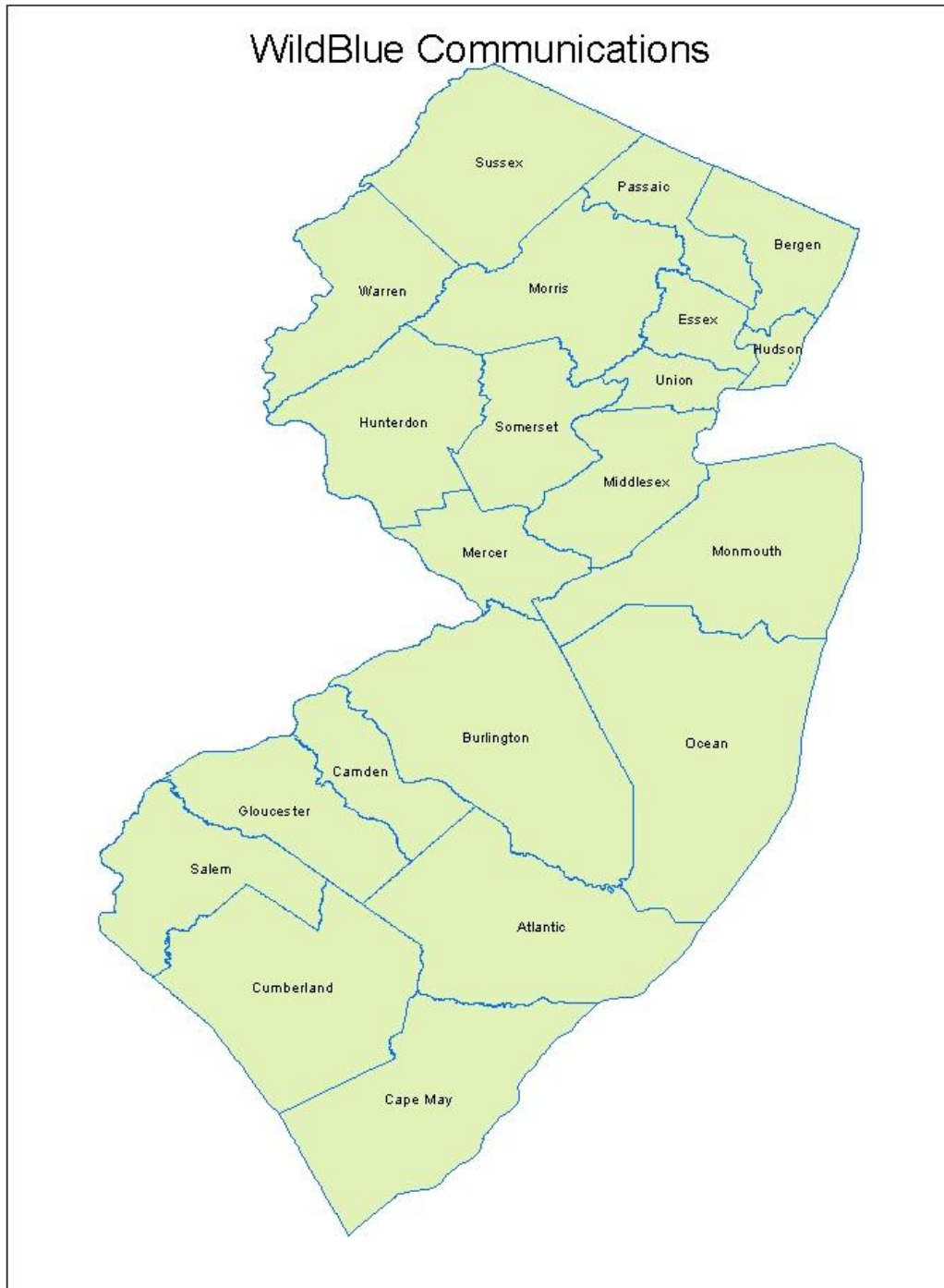
Internal notes on processing:

1. 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.

## Section 5: Clarification Questions and Responses

## Section 6: Notes and Open Issues

**Section 7: Overview Map of Submitted Data**



### 6.30 Xchange Telecom

Connecting New Jersey - Broadband Provider Data Report

Provider: Xchange Telecom

Connecting New Jersey - Broadband Provider Data Report

Provider: Xchange Telecom

Received: March 2011

Submission date: April 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		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).
	Typical-upstream			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
	Typical-downstream			
	Advertised-upstream		2 Mbps (code 4)	

	Advertised-downstream		10 Mbps (code 7)	limited to city of Lakewood and that they cover the entire city limits.
	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:

1. Created a file with a municipality name that matches exactly the "name" column in the Year 2010 Census Bureau TigerLine database.
2. Joined against reference data to discover census blocks, for a total of 1012 blocks.
3. Verified that all the census blocks discovered for Lakewood Township are smaller than 2 square miles, so no road segments were loaded.
4. Validation script produced a warning regarding the speed code of 7 with ADSL. 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](mailto:drottenberg@xchangetele.com)

(646) 722-7258

---

**From:** Duvid Rottenberg [mailto:[drottenberg@xchangetele.com](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](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](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

---

---

### Spring 2012 Interactions

**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

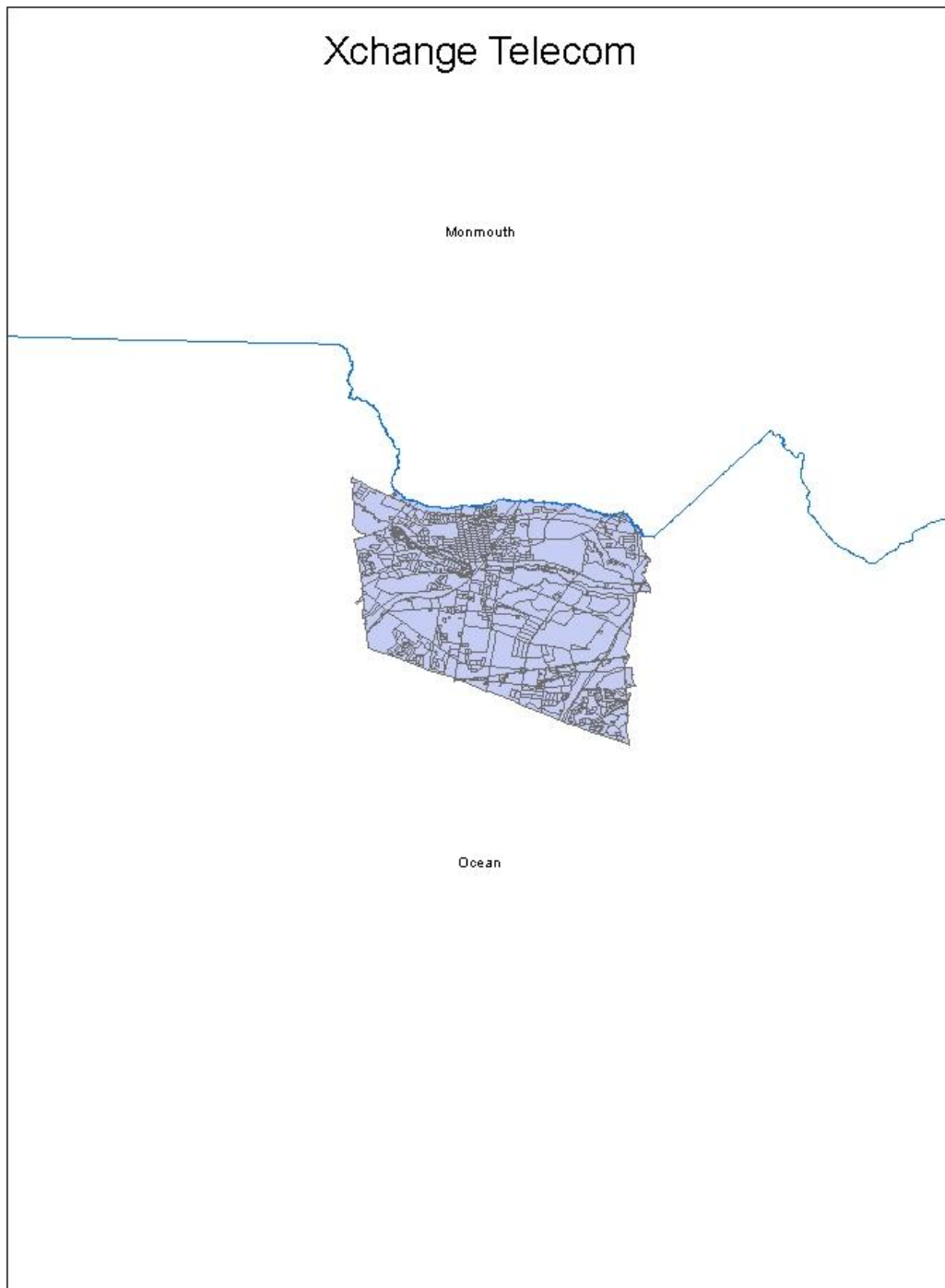
Yes.

Thank You,  
Duvid Rottenberg

---

## Section 6: Notes and Open Issues

**Section 7: Overview Map of Submitted Data**



### **6.31 XO Communications**

#### Connecting New Jersey - Broadband Provider Data Report

Provider: XO Communications

Submission date: April 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 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

NJ September April 2012 Submission

**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

## 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.

### Section 1: NDA Status

Executed.

### Section 2: Submission Overview

AVAILABILITY DATA				
ID	Provider name			XO Communications, LLC
	“Doing business as” name			
	FRN			
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	

<b>Technology Type</b>	Entered codes 1, 2, and 3, which are not valid NOFA TechTrans codes.
<b>End-user specification</b>	Business (444 entries), Residence (5 entries)
Comments:	
<b>INTERCONNECTION DATA</b>	
<b>ID</b>	
<b>File size</b>	
<b>Ownership</b>	
<b>Transport Type</b>	
<b>Data Rates/Capacity</b>	
<b>Location</b>	
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 <sup>st</sup> 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

## NJ September April 2012 Submission

**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

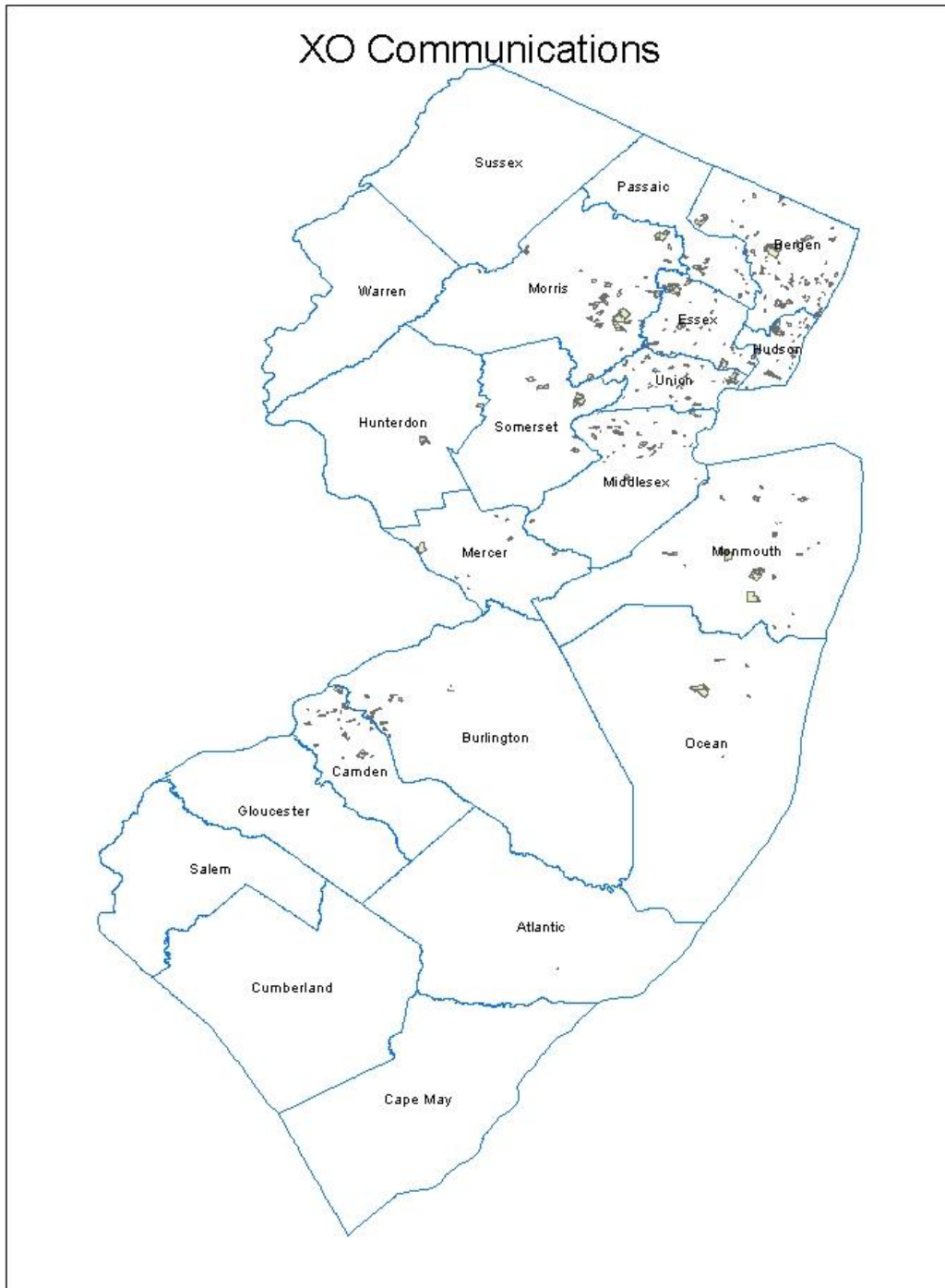
Hi John,

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: CAI Process Description

### 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 most cases, the broadband information was supplied by the institutions via our Web site.

There were exceptions, however, to these guidelines. 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.

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 6: CAI Process Results**

CAI Category	Reference Records	Broadband Records	Total Records Submitted	Complete Records Submitted
School K-12 (Public)	2603	796 (Web)	2598	227
School K-12 (Private)	1260 (NCES)	478 (eRate)	1267	169
Libraries	465 (IMLS)	89	472	50
Medical/Healthcare	1139 (NJHA + NJ HHS)	5	1139	5
Public Safety	343 (NJ 911 Comm.)	120	349	95
University	158 (NCES IPEDS)	39 (NJEdge)	160	36
Other – State Government		2007	1692	1692
Other – Local Government	0	54	54	54
Other – Non Government	0	8	7	7

## **7.2 Local Government and Non-Government Organizations**

1. There were no new submissions to the web site since the October 2011 report. Accepted data submitted by 54 local government and 8 non-governmental organizations via specially designed Web site. We merged data submitted to 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**

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. Results 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 NJ\_State\_Verizon\_Geocoded\_new.xls

## 7.4 Hospitals

1. Obtained a listing of 111 hospitals from NJ Hospital Association (List available at <http://www.njha.com/directories/dirmemhosalpha.aspx>). List of connections included the following data:
  - a. Facility Name
  - b. Address: Street, City, State, Zip

List was copy/pasted from Web page and edited to remove extraneous blank space into file HospitalRawList\_2011-10.txt. Subsequently edited to remove extra non-geo address information (e.g., 7<sup>th</sup> floor) from a few addresses that failed geocoding)
2. Also obtained listing of 1134 hospitals from the NJ Health and Human Services. We created the reference list of hospitals from the union of the two lists (Hospitals\_Merged\_List.csv) using the flow HHS\_NJHA\_Hospital\_Process.arroyo.
3. Generated Latitude and Longitude via geo-coding using Google geocoder API.
  - a. Ensured that at least one entry was returned, that state was New Jersey and that city or zip were present in recognized address.

NJHA\_NJHHS\_Hospital\_Geocode.arroyo. Output of this stage is in file Hospitals\_Geocoded3.csv.
4. Merged reference data (NJ HHS and NJHA) 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. (Files lib\_20110323-edit.xml and lib\_20110907.xml)

- a. Performed exact match between NJHA 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\_Hospital\_Process.arroyo.  
Output is in file Hosp\_Submitted\_Matched.xls.
5. Produced 1139 hospital records at the end of the processing.

## **7.5 Higher Education**

1. Obtained the following data from the named sources in February 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 158 institutions with the following fields:
    - i. Institution Name
    - ii. Address: Street, City, County, State, ZIP
    - iii. IPEDS IDFinal input data, including a few manual edits (see below) is in file CollegeNavigator\_Search\_NJ\_2012-02-02\_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 on 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. Manually updated a few addresses that failed to produce maps. Result was that 156 of 158 institutions were properly geocoded.
2. Obtained an updated list of members of NJEdge (Format-edited version is in file Mapping Bandwidth\_Mb\_01102012\_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 all 36 NJEdge institutions into IPEDS data for total of 160 institutions
    - 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\_01102012.xls

## 7.6 Libraries

1. Obtained the following data from the named sources
  - a. Obtained the file “Public Libraries Survey Fiscal Year 2009” from <http://harvester.census.gov/imls/data/pls/index.asp>. Used file puout09b\_NJ.txt
    - i. Manually extracted 465 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
  - b. 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. However, 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 472 Library entries. This is larger than the 465 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. List of private K-12 education institutions from National Center for Education Statistics Private School Universe Survey (<http://nces.ed.gov/surveys/pss/pssdata.asp>). Table included information on 1260 institutions with the following fields:
    - i. Name
    - ii. Address: Street, City, State, ZIP
    - iii. NCES\_ID
    - iv. Latitude/Longitude
  - 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, listing schools that have obtained subsidized Internet access, including following relevant fields
    - i. Name
    - ii. Address: Street, City, State, ZIP
    - iii. Provider

There were 478 records that corresponded to schools and Internet access.

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 (SubmittedCAI\_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 and ACADEMY
      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. Combined results of step 2 with eRate data to merge address and ID information with access and provider data. (Flow in file K-12\_eRateProcess.arroyo, handles both public and private schools)
  - a. Performed exact match between step-2 results and eRate data on institution name and zip code
  - b. Verified uniqueness of results based on institution name, zip code and provider
  - c. When a match was detected, set the Availability flag to “y” and filled in provider name from eRate data. (Unless provider name was already present from Web-submitted data)
4. Generated 1267 records to submit, of which 169 were merged with submitted broadband data. Note that some schools had more than one service provider and thus include multiple records.
  - a. Output file is PrivateSchool\_GeoMatched.xls

## 7.8 Public K-12 Schools

1. Obtained the following data from the named sources:
  - a. List of public K-12 education institutions from National Center for Education Statistics Public School Universe Survey. (Went to <http://nces.ed.gov/ccd/schoolsearch/> , searched for schools in New Jersey, then selected option at bottom of results page to download an Excel file which was then edited: ncesdata\_86F3D620\_edit.xls.) Table included information on 2605 institutions with the following fields:
    - i. Name
    - ii. Address: Street, City, State, ZIP
    - iii. NCES\_ID
  - b. Data submitted by schools via specially designed Web site. There was no new data submitted after September 2011. This was entries in the school category that did not match any of the NCES private schools. Total number of Public and Private schools submitting information was 796. Of those, 673 did not match private schools.
  - c. Data from the USAC eRate program, listing schools that have obtained subsidized Internet access, including following relevant fields
    - i. Name
    - ii. Address: Street, City, State, ZIP
    - iii. Provider

There were 486 records that corresponded to schools and Internet access.

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. (Flow in file PublicK-12Process.arroyo)
  - a. Performed exact match between NCES and submitted data on institution name and zip code
    - i. Facilitated matching by:
      1. Removing SCHOOL and all truncated versions of the word from the ends of any string
      2. Performing the following conversions
        - a. “SENIOR HIGH” and HIGH to HS
        - b. “MIDDLE”, “M S”, “MID” and “MIDD” to MS
        - c. “ELEMENTARY” to ELEM
        - d. CHARTER to CS
        - e. BOROUGH to BORO
        - f. AVENUE to AVE
        - g. TOWNSHIP to TWP

- h. STREET to ST
    3. Removing the strings REGIONAL, “ REG” and ACADEMY
    4. Removing punctuation and double spaces
    5. Trimming any leading or trailing spaces
  - b. For those submitted data entries that did not match NCES data, performed an approximate match based on concatenation of institution name and zip code
    - i. Preprocess prior to approximate match involved
      1. Removing the following phrases
        - a. “BOARD OF EDUCATION” and all truncated versions
        - b. BOE
        - c. DISTRICT and all truncated versions
        - d. PRIMARY, INTERMEDIATE, ELEM, MS, HS, SR, JR
        - e. # or any digits
        - f. PUBLIC
      2. Trimming excess spaces
      3. Submitted entries that were blank after these operations were removed.
    - ii. Matched using Levenshtein Distance metric with threshold of 2.
  - c. Successfully merged data from 169 submitted entries into 2595 NCES institutions
    - i. Dropped 8 NCES institutions as incomplete
    - ii. Recurring issue was information submitted for districts that did not correspond to a specific school
3. Combined results of step 2 with eRate data to merge address and ID information with access and provider data. (Flow in file K-12\_eRateProcess.arroyo, handles both public and private schools)
  - a. Performed exact match between step-2 results and eRate data on institution name and zip code
  - b. Verified uniqueness of results based on institution name, zip code and provider
  - c. When a match was detected, set the Availability flag to “y” and filled in provider name from eRate data. (Unless provider name was already present from Web-submitted data)
  - d. Filled in nine additional records
4. Generated 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 > 75.
  - b. Ensured that state was New Jersey and that city and/or zip value was populated.
5. Generated 2598 records to submit, 203 matched. Note that some schools had more than one service provider and thus include multiple records.
  - a. Output file is PublicSchool\_GeoMatched.xls
6. Further matches obtained through manual matching of Montgomery, Hillsborough, Paramus and Manchester submission to schools. Website submissions included several entries where comment column stated that the connectivity applies to all schools in district. Also, followed up by email to points-of-contact to verify that some of the entries listed as district BOE were entries that covered all schools in district. Obtained 255 matches after manual matching.

## **7.9 Public Safety Organizations**

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 95 submitted PSAP entries with 911 Commission data.
- Output in file PSAP\_911\_Matched.xls

### **7.10 CAI Validation and Loading**

After the records were pre-processed as described above, we performed final validations on the results and loaded them into the NTIA transfer model.

The validations we performed had the following results:

- Verify that the address had a zip code. If not, attempt to extract it from the remaining address information.
  - Discarded 4 records that had no zip code
- Verify that the addresses had a building number. If not, attempt to extract it from the remaining address information. If no number was found, populate field with "N/A"
- Verify that the address had a city. If not, attempt to extract it from the remaining address information.
  - Discarded 3 records that had no city value
- Verify that the address had state. If not, attempt to extract it from the remaining address information.
- Verify that the address had street information.
  - Discarded 79 records that had no street information (generally P.O Boxes)
- Ensure that records meet NTIA model restrictions
  - bbService and publicWifi set to Y, N or U
  - Ensure that transtech has valid value
    - We discarded two records that had fixed wireless technologies
    - For records that the incomplete records, we filled in a value of 0

We loaded 7549 records.

