



STATE OF INDIANA

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Round 5 (Spring 2012) Data Submission to NTIA April 1, 2012

Data Description File Name	Contents	Description
IN_SBDD_20120401.ZIP	This Delivery Package	A zip file containing all of the files described below
IN_SBDD_2012_04_01.gdb	Data Transfer Model	Current NTIA approved data model with the assembled data properly loaded into the data transfer model
IN_DataPackage. 2012_04_01.xls	Data Package	A formatted file containing associated documentation about Indiana's submission
IN_2011_04_01.txt	Data Submission Receipt	File containing the results of the submission check tool
IN_Methodology _2012_04_01.pdf	Methodology White Paper	Documentation about our process
IN_Readme_2012_04_01.pdf	Readme Doc	A document that contains added notes about the delivery

Provider Participation

91 Internet Providers

- 51 Wireline Providers
- 48 Wireless Providers

75 Data Sets Received

- 27 Wireline Providers
- 48 Wireless Providers



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Data Collection

We continue to collect and compare data from these sources, including:

- The Indiana Utility Regulatory Commission (comparison broadband data)
- Office of Utility Consumer Counselor (comparison broadband data)
- The Indiana Business Research Center (demographic data)
- Indiana Department of Local Government Finance (residential versus commercial status by address)
- Indiana Counties (point addresses, land parcels, road centerlines with address ranges, and administrative boundaries, aggregated and integrated into the IndianaMap)
- Indiana Department of Natural Resources (state forests and parks)
- Indiana Department of Homeland Security (locations of emergency medical service (EMS) stations, fire stations, and hospitals)
- Department of Education (school locations)
- Indiana Libraries (point of connectivity for low income/unemployed consumers—provide vital speed information for respective geographical locations)
- Commission for Higher Education (locations of colleges and universities)
- Reference USA /Infogroup (community anchors)
- **Broadband service providers, and others**

This information is processed according to the current data submission model offered by the National States Geographic Information Council and to be able to perform spatial comparisons, logic rules and other checks.

We also add emphasis to the collection of speed information using the “crowd sourcing” web-based application already implemented.

Integration and Verification Processes Used in the Mapping Indiana Broadband Project Data Integration

When data is received from a service provider, it is loaded into either Excel or Access depending on the number of records and file size. This table is then joined with a copy of the Census Block *.dbf file from our census block shapefile. After the data has been joined, it is exported as a new *.dbf. The original Census block *.dbf is renamed to preserve the original integrity and the newly exported *.dbf is renamed to the same name as the shapefile. The shapefile is then loaded into ArcMap and a Feature Class is generated. The number of records is then validated against the number of records that were originally imported into either Excel or Access.



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Data Loading: A final integration check occurs when the data is loaded into the data model. This includes the logic checks for values.

Validation Processes:

- **Comparing source documents that duplicate geographies or content.** We have public domain data that covers most of the state. We compare this data to that provided by the Internet Service Providers. We note areas of discrepancy for follow-up using other verification methods listed here.
- **Collecting end-user data.** We are working with The Polis Center at Indiana University Purdue University Indianapolis and have created a Google Map-based, user-friendly web application hosted on the IndianaMap portal to collect information from end-users about their location, broadband service provider, and speed (as captured from a speed test). The information collected from this website is valuable for data verification as the database grows. T
- **Using service providers' websites,** especially those that contain service area information. Many service providers have websites that give service area information (often address by address) to assist consumers. These sites are useful for spot checking.
- **Inspection of high-resolution orthophotography.** High-resolution orthophotography has been used to verify the existence and location of wireless towers. Where recent six-inch resolution orthophotography exists (cities and counties), it can also be used to verify the existence of residence connection boxes.
- **"Boots on the ground"** inspection. We visually inspect the existence of physical features, where feasible, when we have a question or conflict that can be resolved by an on-site inspection.

Indiana Broadband Providers Website

A URL is available <http://www.in.gov/iot/Broadband.htm> to communicate and distribute NTIA NOFA requirements to providers along with outreach and data submittal materials including:

- NTIA NOFA and subsequent clarification
- Outreach letter to providers
- Non-Disclosure Agreement
- Data Submission Guidelines
- Broadband Data Submittal Templates (Spreadsheets)
- Data Submittal Assistance Contact Information



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Indiana Broadband Service Questionnaire

<http://www.in.gov/iot/BroadbandQuestionnaire.htm>

<http://in-polis-app21.ads.iu.edu/BroadbandService/default.aspx>

www.in.gov/survey

Instructions

Fill out this form from a hard-wired computer that is connected to the Broadband service (not wireless).

1. Fill in the **address** of the location to which Internet service is being provided. (While you are entering your information, your internet connection speed will be queried).
(e.g.) 123 Smith Street, Indianapolis, 46202
2. Click the "Verify Address" button to confirm/locate address. (The location does not have to be exact, a close street is sufficient).
3. Select **Customer Type** from the dropdown list.
4. Select your **Connection Type** from the dropdown list. If you are unsure about your connection select "Unknown".
5. Select your **Internet Provider** from the drop-down list.
6. Click "Submit" to complete the questionnaire. Your results will be displayed.

Links

- [The Polis Center](#)
- [Indiana Geographic Information Council](#)
- [Indiana Geographic Information Office](#)

Your Information

Fill out this form from a hard-wired computer that is connected to the Broadband service (not wire-less).

Your Address:
(Example: 123 Smith Street, Indianapolis, 46220)

Customer Type:
Business

Connection Type:
Broadband over Power Line (BRC)

Internet Provider:
1-800-Reconex

Indiana Geographic Information Office, 100 N. Senate Ave. Indianapolis, IN 46204 | email address: geoinfo@in.gov | (phone: 317) 234-4111
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The information collected from this website is valuable for data verification. The Polis Center works with communities in Indiana and beyond to develop and apply knowledge, to build collaborations and to find innovative solutions to common problems. The center excels in community-based research and advanced information technologies, especially geographic information systems (GIS).

Small Service Provider Support

We also support small service providers (and those with smaller information technology teams) in the area of data submission. We recognize the challenge that some providers have in submitting data in the formats and specifications required.

We have entered into a contract with AfterImage GIS to provide support to these providers in the area of data submission and assist with the challenges that some providers have in submitting data in the formats and specifications required by National Telecommunications and



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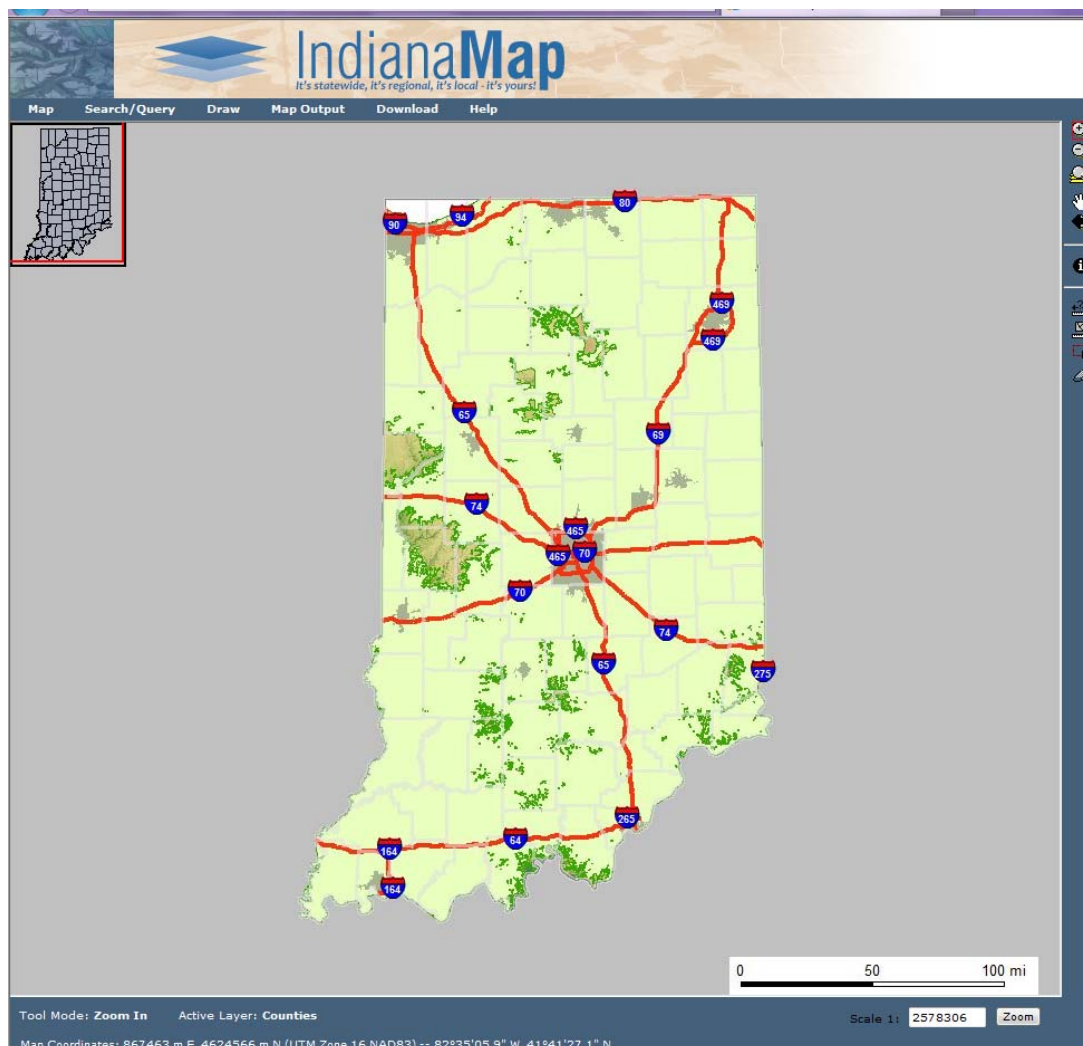
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Information Administration (NTIA) for the National Broadband Map. Since we have engaged in this contract, we have been to acquire five new provider data sets.

Data Display

Indiana Map

We are currently displaying the mapping results as additional geospatial layers added to the 220-plus layers already on the IndianaMap (www.indianamap.org)





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Indiana Business Research Center (IBRC)

We have integrated the broadband map data with economic data available from IBRC

www.stats.indiana.edu/broadband/




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Broadband




Broadband provides high-speed Internet connections to businesses and consumers. While in past decades, access to interstates and railroads played a crucial role in economic development, the knowledge-based economy is experiencing a similar reliance on broadband connectivity.

Indiana Broadband Demographics

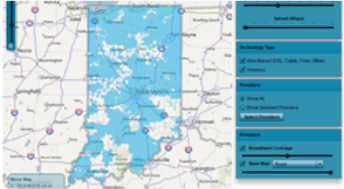
View a report of broadband coverage with associated economic and demographics for neighborhoods and custom regions.

- [About the Data](#)

National Broadband Map



Indiana Broadband Map



Related Links

- [Internet Adoption by County and Census Tract](#) (Federal Communications Commission)
- [Innovation Index](#): Includes data on broadband density
- [Indiana Geographic Information Office](#)
- [Broadband: Federal Communications Commission](#)
- [National Broadband Plan](#)
- [IndianaMap](#): Download broadband shapefiles

Maps

[Broadband Map Gallery](#)

Publications

Find out what local analysts are saying:

- [Broadband Adoption in Indiana](#)
May-June 2011
- [Measuring Regional Capacity for Innovation](#)
Jan-Feb 2010

In the News

Articles compiled daily from newspapers across the state:

- [NWI economic development district can't get guidance from feds](#)
- [New law signed by Daniels aims to stop 'bleeding' of 911 fees in Hoosier counties](#)

-more-



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Indiana Broadband Map

We have developed a new web-based information tool that will provide information about broadband service availability at a user-specified location.

www.indianabroadbandmap.com

This application provides tools for searching and displaying broadband availability information anywhere in Indiana.

Public Use

- Zoom to County
- Zoom to Address and retrieve Broadband Information for that address
- Buffer Address for additional Broadband Information in the area
- View Provider Results
- Filter Broadband Information by Speed
- Filter Broadband Information by Technology (i.e. Wireless, Wireline)
- Filter Broadband Information by Service Provider
- Query Census Blocks

Provider Use

- All of the above
- Edit Broadband Information via Secure Login
 - Multiple webinars were hosted by IOT and our web developer 39°north to train the broadband providers how to update their data. Each broadband provider was given their own unique login information. The website was then released to the public so that they can view the available provider information for their area.
 - Through this secure login, the original provider data may be modified to more accurately reflect the various broadband provider's territories.

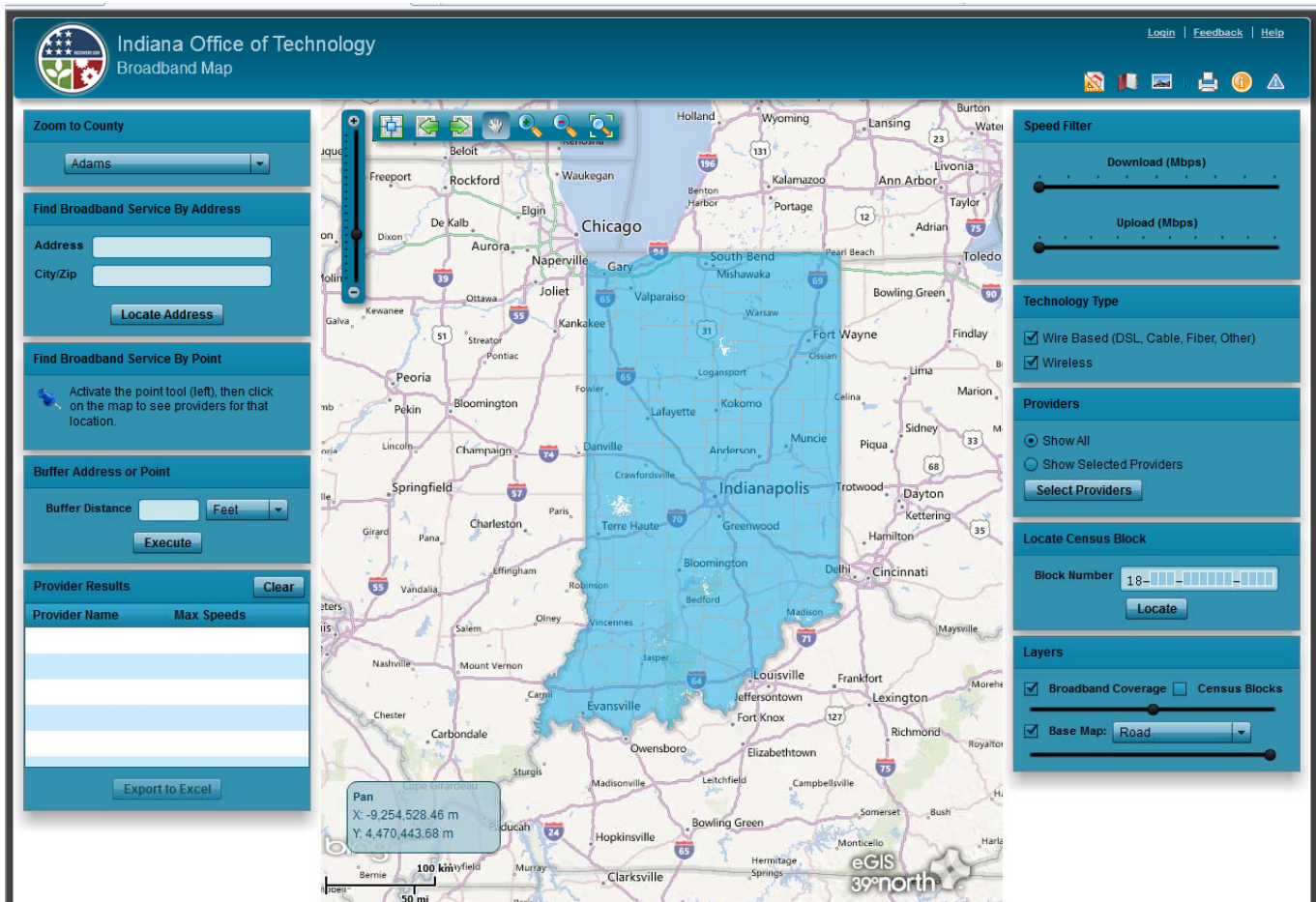


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Address Level Data Collection

We continue to collect address level data. Indeed, as described above, Indiana is well on the way to creating address level reference data to facilitate the collection of address level broadband service availability, not just in census blocks larger than two square miles, but statewide. These data will be invaluable as the lowest common denominator to allow the construction of any geography in support of broadband map display and analysis. This expands the options for how to depict speed across multiple geographies, and facilitates the inquiry of service data at a given x,y.

We are a third of the way in our acquisition of new orthophotography imagery to serve as the foundation for all other geospatial data, including centerlines and address level data.

Here is a graphic showing our orthophotography flight schedule.





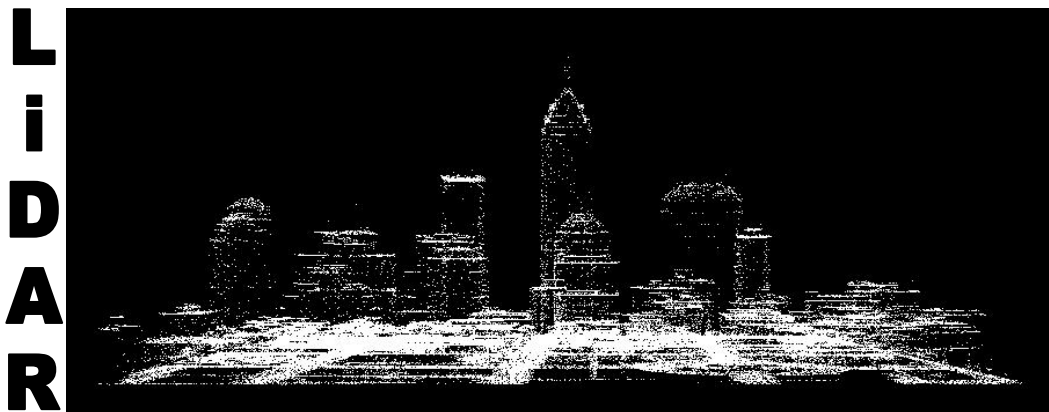
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Orthophotography and LiDAR data were acquired for 28 counties in 2011, 6 of which added funds to pay for higher (6-inch resolution) orthophotography. These data will be sent to each county, stored at the state, and also made available to the public via the IndianaMap. Volunteers from INDOT, IDEM, and DNR are performing the QA/QC of this data prior to acceptance.



Flights have started in the eastern tier of counties to begin the acquisition for this year. The western tier will be acquired in 2013.

We currently have about \$1.5 million committed by partners that include USGS, Indiana Department of Homeland Security, Indiana Department of Transportation, Indiana Department of Environmental Management, and others. We anticipate contributions from most of the Metropolitan Planning Organizations in Indiana and from many Indiana cities and counties.

Efforts in Process

Community Anchor Institutions

We identified community anchor institutions by cross referencing a statewide land parcel dataset with a data set from the Indiana Local Government Finance office containing, among other information, institution name, location by address, and use category. The results of this analysis have been included in previous deliveries for records containing name, location, and category at a minimum. These data, however, did not have sufficient broadband service information. Therefore, we have engaged a third party to survey the institutions to complete



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the attributes defined in the NOFA for these institutions. We anticipate that this additional data will be included in the fall 2012 submission.

The Indiana Office of Technology has engaged Infogroup to identify and contact all anchor institutions in the State of Indiana. The goal was to determine broadband service and internet service providers that meet the definitions of "broadband" as outlined in the broadband mapping Notice of Funds Availability. The definition is inclusive of two-way data transmission with advertised speeds of 768 kbps downstream and 200 kbps upstream.

Infogroup had the ability to identify state anchor institutions and developed a script designed to gather the information required to answer to the requirements of the NTIA.

There data compilation process telephone verified all businesses, including those identified as anchor institutes, to ensure the highest level of accuracy with business name, business type and contact information. After compiling the list, Infogroup prepared a script and software to assist in capturing the necessary information. They then begin the telephone survey and data collection process and created a report in the tab-delimited text file format of the required information. This survey included institution name, complete address, latitude/longitude, category of institution, broadband service, technology of transmission and advertised downstream/upstream service speed where they are collected in a tab-delimited text file.

The Indiana Office of Technology is currently reviewing this data and will include the results in our fall 2012 submission.

IURC Data Replacement

Per our approved project methodology, we began this project by taking advantage of public data that existing in Indiana about broadband service. While we recognized that these data were not granular enough geographically to satisfy the long term goals of this project, they were nonetheless informative and could provide value until more granular data was obtained from the service providers and verified.

As of this submission, all the original IRUC data has either been confirmed with the provider, replaced or removed.