

Comprehensive Market Data Collection for Interstate Special Access Services

SUPPORTING STATEMENT

B. Collections of Information Employing Statistical Methods

The collection is a one-time census survey, consisting of standardized questions. The goal of the collection is to obtain quantitative and qualitative data and information for a competition analysis of the special access market. One question in the survey, directed at *Competitive Providers*, uses sampling to obtain additional information on the *Locations* served by the *Competitive Provider*.¹

1. The Commission plans to collect data from all *Providers* and a wide range of *Purchasers* of special access services, including all facility-based mobile wireless service providers, as well as certain entities that provide *Best Efforts Business Broadband Internet Access Service*, *i.e.*, those entities with 15,000 or more customers or 1,500 or more business broadband customers. The estimated potential respondent pool for the collection is **4,000**.

We plan to collect data for all geographic areas subject to price cap regulation nationwide.² The potential respondent universe includes incumbent local exchange carriers (ILECs), competitive local exchange carriers (CLECs), interexchange carriers (IXCs), cable system operators, fixed and mobile wireless service providers (including wireless Internet service providers (WISPs) and wireless telecommunications carriers), terrestrial and satellite mobile wireless service providers, electric utilities, local government entities, third party network providers, certain private wireless licensees and certain providers of information services.³

We expect a high response rate for the collection as a whole. To help ensure that we have the full universe of facilities-based providers of special access services, all “Facilities-Based Providers of Broadband Connections to End User Locations” that were required to file the FCC Form 477 “Local Telephone Competition and Broadband Reporting” to report broadband connections to end user locations in 2012 are required to respond to this data collection to affirmatively indicate whether or not they are covered by the scope of the data collection, *i.e.*, whether or not the entity is a *Provider* or *Purchaser* of *Dedicated Services* or a covered entity providing *Best Efforts Business Broadband Internet Access Service*. We expect that most, if not all, of the facilities-based *Providers* of special access and best efforts services for which the Commission mandates the submission of data and information are likely to have filed the Form 477 based on that form’s reporting criteria.⁴ Form 477 filers not covered by the scope of the collection will only have to certify as much and are not required to submit data and information in response to the standardized questions contained in the data collection.

¹ Capitalized and italicized terms contained herein are defined in the collection. See Attachment A § I, Definitions.

² See *Special Access Data Collection Order*, 27 FCC Rcd at 16327, 16328, paras. 20, 23.

³ Wireless Telecommunications Carriers is a Census Bureau Category that includes: beeper (*i.e.*, radio pager) communication carriers; cellular telephone communication carriers; cellular telephone services; mobile telephone communication carriers, except satellite; paging services, except satellite; radio paging services communication carriers; ship-to-shore broadcasting communication carriers, except satellite; telecommunications carriers, cellular telephone; telephone communications carriers, wireless, except satellite; two-way paging communication carriers, except satellite; wireless data communication carriers, except satellite; wireless Internet service providers, except satellite; wireless telephone communications carriers, except satellite; and wireless video services, except satellite. See Census Bureau, NAICS 517210, <http://www.census.gov/econ/industry/def/d517210.htm> (last visited July 15, 2013).

⁴ See Instructions for Local Telephone Competition and Broadband Reporting, FCC Form 477, at 2 (Sept. 2013), available at <http://www.fcc.gov/forms> (last visited Sept. 24, 2013).

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The estimated number of potential respondents that are *Providers*, covered entities providing *Best Efforts Business Broadband Internet Access Services*, or facility-based mobile providers is approximately 1,700-1,800. We estimate that 1,662 “Facilities-Based Providers of Broadband Connections to End User Locations” file FCC Form 477 (Local Telephone Competition and Broadband Reporting).⁵ This group includes the largest known providers of facilities-based special access and “best efforts” service, *i.e.*, ILECs, cable system operators, and CLECs, and mobile wireless service providers. There may also be a small number of *Providers* and mobile wireless service providers that must respond to our data request, which are not included in the identified 1,662 providers. For example, there may exist a small number of facility-based suppliers of *Dedicated Services* (including firms that engage in self-provision, for example, by use of fixed wireless) that do not report broadband connections to end user locations on the Form 477. Leaning toward overstating the burden of the proposed collection, we estimate the total number of *Providers*, covered entities providing *Best Efforts Business Broadband Internet Access Services* and facility-based mobile wireless service providers that do, and do not, file the Form 477 but that will be required to respond to the data collection is between 1,700-1,800.

The preceding estimate focuses on *Providers*, covered entities providing *Best Efforts Business Broadband Internet Access Services*, and facility-based mobile wireless service providers. We expect most of these entities are *Purchasers* as well. We also anticipate the collection will potentially require responses from additional *Purchasers*. These *Purchasers* fall into two groups: (1) those that provide communications services or are otherwise required to file the Form 499-A “Telecommunications Reporting Worksheet;” and (2) other *Purchasers*.

All intrastate, interstate, and international providers of telecommunications in the United States must file the Form 499-A.⁶ The large majority of the potential respondents to the collection are likely to fall within the reporting requirements of the Form 499-A due to its filing criteria.⁷ Based on the number of filers – counted at the holding company level – that submitted the Form 499-A for 2012, we estimate that the number of potential respondent *Purchasers* that file the Form 499-A and may be required to respond to the collection is about 5,200. This estimate includes the 1,700 to 1,800 *Providers* that are likely to file both the Form 477 and the Form 499-A.⁸

⁵ At the holding company level, there were, for the June 2012 filing of the Form 477, 1,662 providers of Internet access services at bandwidths of at least 200 kbps in at least one direction. See Industry Analysis and Technology Div., Wireline Comp. Bur., *Internet Access Services: Status as of June 30, 2012*, Table 12 (May 2013), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-321076A1.pdf (last visited Sept. 24, 2013). We count providers at the holding company level, *i.e.*, a parent company and its affiliates are counted as one filer, though providers can respond to the data request at lower levels of their operations. There were 1,906 total providers. Thus, 244 providers (the difference between 1,662 and 1,906) did not provide broadband connections (Internet access). The 1,662 providers included satellite telecommunications providers, non-interconnected VoIP providers, interconnected VoIP service providers, and international service providers. Data are based on filings as of June 2012. *Id.*

⁶ See 2013 Telecommunications Reporting Worksheet Instructions, FCC Form 499-A, at 2-3 (Feb. 2013), available at <http://www.fcc.gov/forms> (last visited at Sept. 24, 2013).

⁷ As stated in the instructions to the Form 499-A, “[t]he term “interstate telecommunications” includes, but is not limited to, the following types of services: wireless telephony, including cellular and personal communications services (PCS); paging and messaging services; dispatch and operator services; mobile radio services; access to interexchange service; special access; wide area telecommunications services (WATS); subscriber toll-free and 900 services; message telephone services (MTS); private line; telex; telegraph; video services; satellite services; resale services; Frame Relay services; asynchronous transfer mode (ATM) services; Multi-Protocol Label Switching (MPLS) services; audio bridging services; and interconnected VoIP services.” *Id.* at 3.

⁸ The count is again made at the holding company level.

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In addition to the potential respondents that are required to file the Form 499-A, we estimate that approximately 1,200 respondents are private wireless licensees that purchase *Dedicated Service* in price cap areas and are therefore covered by the scope of the collection and will respond. This class of licensees generally consists of state and local entities and institutions and businesses that operate wireless facilities for internal, non-commercial use. While our licensing records show several thousands of such licensed entities, we are unable to quantify the exact number of private wireless licensees that meet the reporting requirements of the collection. We thus reach the estimate of 1,200 recognizing that there is limited information available to estimate this class of potential respondents with any degree of certainty.

We then decreased the total estimate to account for the exclusion of *Purchasers* that purchased less than \$5 million in *Dedicated Services* in 2013 as a result of the recent changes. Working from the Pareto principle, roughly 80 percent of purchaser revenue should come from 20 percent of the purchasers, which means a large percentage of purchasers should qualify for the exclusion.⁹ However, in acknowledging our lack of *Dedicated Service* revenue and expenditure information and attempting not to underestimate the burden for the data collection, we estimate that a *de minimis* threshold of less than \$5 million in expenditures would exempt 50 percent of *Purchasers* from responding. That said, we expect more than 50 percent of *Purchasers* have less than \$5 million in 2013 *Dedicated Services* expenditures.

Factoring in all the potential types of entities subject to the collection, the total estimated pool of respondents is about 4,000. As detailed below in Table B.1, the vast majority of the respondents will be businesses or other for-profit entities. While we are unable to quantify with any degree of certainty, we expect that no more than ten percent of the covered respondents are state, local, or tribal government entities. An even smaller number of respondents are expected to be not-for-profit institutions.

Table B.1 – Estimated Respondent Pool		
Respondent Type	Estimated Percentage of Total	Estimated Number of Potential Respondents
Businesses or other for-profit entities	≥91%	3,640
State, local or tribal entities	≤8%	320
Not-for-profit institutions	≤1%	40
Total	100%	4,000

We do not expect that all of these potential respondents will actually have to submit data and information. Many will fall outside the scope of the collection because they do not actually provide or purchase *Dedicated Service* in price cap areas or provide covered *Best Efforts Business Broadband Internet Access Services*. The respondent pool is therefore an overestimate. For additional details on our methods to maximize responses rates see the response to Item B.3.

The Commission considered and rejected sampling, except in one narrow instance, because the Commission “believe[s] that the process of identifying and collecting a representative sample would be unlikely to substantially reduce provider burdens, and could significantly lengthen the data collection process.”¹⁰ For an additional explanation of the Commission’s decision not to use sampling, see the response to Item B.2 below.

The Commission has not previously conducted this collection.

⁹ See Y.S. Chen, P.P. Chong, & M.Y. Tong, *Mathematical and Computer Modeling of the Pareto Principle*, 19 *Mathematical and Computer Modeling* 61-80 (May 1994).

¹⁰ *Special Access Data Collection Order*, 27 FCC Rcd at 16328-29, paras. 24-25 (explaining decision not to use a sampling approach).

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2. This information collection applies to *Providers* and *Purchasers of Dedicated Service* and non-exempt entities providing *Best Efforts Business Broadband Internet Access Service* as explained in the answer to Item B.1.

Almost the entire information collection relies on a census and not a sampling methodology. The Commission considered whether it could reduce the burden of this information collection by collecting all of the data from a sample of locations and or/geographies. The Commission did not adopt a sampling approach, however, because due to the process of identifying and collecting a representative sample, the Commission believed a sampling methodology would not reduce the burden on respondents sufficiently, if at all.¹¹ Further, the Commission determined that a sampling methodology could lengthen the collection process.

As the Commission noted in the *Special Access Data Collection Order*, it would be very difficult to design a representative sample without coming close to covering the entire country.¹² The Commission designed the collection to obtain data at a very granular level because it determined that competition may occur at the building/tower.¹³ There are a wide range of factors that could influence the effectiveness of competition in any location: state and local rules and regulations; regional input prices, weather conditions, soil types and gradients; the nature of localized demand, including the number and density of potential purchasers, and the volume and density of their demands; the identity and number of nearby competitors; and a host of other factors. Consequently, identifying a representative sample of geographic regions likely to provide appropriate controls for such factors represents a challenge. On the one hand, a representative sample of regions used in the pricing flexibility rules, *i.e.*, MSAs and rural equivalents, would nearly encompass the entire country and would be unlikely to result in cost savings as compared to a census. On the other hand, using much smaller geographies would also create substantial uncertainty for respondents. For example, respondents would face substantial costs, if provided with a list of sample census blocks, in determining which of their serviced buildings lay within those census blocks. Indeed, in many cases, this would be more difficult than simply providing all their data.

Alternatively, we could require all respondents to identify all relevant locations so that a sample could be drawn from that census in a scientific way. However, that methodology would likely lengthen the data collection process, because it would require two collections to be conducted sequentially: initially requiring carriers to conduct a census of their served locations from which a sample could be drawn, and then having them answer a subsequent set of questions about locations in the sample. Second, respondents likely would have to do the same or greater amount of coding to “pull” a sample of records as it would if it pulled all records. Third, while the costs in burden saved through sampling are likely to be relatively small, the statistical error of any conclusions based on a sample could be significantly higher than conclusions based on a census.

We do employ sampling, however, for the limited purpose of analyzing the evolution of buildout to *Locations with Connections by Competitive Providers*. In Question II.A.6, we plan to provide *Competitive Providers* with a sample from the total *Locations* they report elsewhere in the collection. For each sampled *Location*, the *Competitive Provider* must state the month and year that it first provided a *Connection* that is owned, leased pursuant to an *Indefeasible Right of Use (IRU)* agreement, or obtained as an *Unbundled Network Element (UNE)* to the *Location*. If the *Connection* was originally supplied to the *Location* over a *UNE*, the *Competitive Provider* will indicate when (if at all) it switched to using a *Connection* that it owns or leases as an *IRU*. The sampling question requires the respondent to research

¹¹ *Id.*

¹² *Id.*

¹³ *Id.* at 16327-28, para. 22.

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the deployment history of each sampled *Location* in a given area. This information will then show how *Competitive Providers* expand their facilities to nearby *Locations* over time, allowing the Commission to test whether providers can easily, and do in fact, extend service to buildings near served *Locations* as claimed by commenters in the proceeding.

Obtaining this history for all served *Locations* is highly burdensome (respondents often do not keep data on past deployment decisions in readily accessible formats), and so realistically data of this nature can only be obtained by sampling. Moreover, we can develop a true random sample of the data, because we are collecting the addresses of all relevant *Locations*, from the full list of *Locations* reported by each *Competitive Provider*, and we can do so without significantly slowing down our data collection process (it will take significant time to process the data received from the main data request, which creates a window in which the respondents can provide their facilities history).

We will derive the sample list of *Locations* as follows. A random sample will be drawn from the *Locations* reported in response to Question II.A.4 equal to the maximum of: (i) p percent of the *Locations* to which the *Competitive Provider* had a *Connection* in 2013 rounded up to the nearest integer or (ii) the number two.¹⁴ *Competitive Providers* with one such *Location* will not need to answer this question. The percentage p will be selected to ensure that about 1,600 sampling units are drawn; based on a current estimate that *Competitive Providers* serve on their own facilities 200,000 *Locations*, the value of p is expected to be on the order of 0.8 percent. This sample size is expected to provide ranges for estimates of proportions of the national population that are with 95% confidence expected to include the true value of the estimated proportion within $\pm 2.5\%$ of the estimate. For example, if the sample produces an estimate of 50% of the national population, the true value of the proportion would be in the range (47.5%, 52.5%) with 95% confidence. The four served *Locations* nearest each of the sampled served *Locations* will be added to the random sample of served *Locations*, and the resulting list, with duplicates removed, will be given to the *Competitive Provider*.

Detailed data on the evolution of *Competitive Provider* networks are necessary for the Commission to understand how competitive facilities are deployed over time and whether the presence of competitive facilities provides a threat of competitive entry in nearby or adjacent areas. We believe that the sampling methodology described above is appropriate for this limited purpose.

3. The Commission plans to use the collected data for a one-time, market analysis. The analysis will include “econometrically sound panel regressions . . . of the prices for special access on characteristics such as 1) the number of facilities-based competitors (both actual and potential); 2) the availability of, pricing of, and demand for best efforts business broadband Internet access services; 3) the characteristics of the purchased service; and 4) other factors that influence the pricing decisions of special access providers, including cost determinants (*e.g.*, density of sales) and factors that deliver economies of scale and scope (*e.g.*, level of sales).”¹⁵ The Commission also plans to assess the reasonableness of terms and conditions offered by *ILECs* for special access service.¹⁶ Once the data are obtained and analyzed, the Commission will evaluate whether it is appropriate to make changes to its existing pricing flexibility rules to better target regulatory relief in competitive areas and evaluate whether remedies are appropriate to address any potentially unreasonable terms and conditions.

We expect the proposed collection is adequate for our intended uses. The Commission’s regression analysis will rely heavily on the quantitative data obtained from *Providers* on their facilities

¹⁴ Forcing a minimum of two sampling units per *Competitive Provider* allows for unambiguous estimates of the stratified sample’s standard deviation.

¹⁵ *Special Access Data Collection Order*, 27 FCC Rcd at 16346, para. 68.

¹⁶ *Id.* at 16354-56, paras. 91-93.

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used to serve *Locations*, billing information at the circuit level, network maps, etc. The information from covered entities that provide a *Best Efforts Business Broadband Internet Access Service* will help to assess the extent to which it is a substitute for *Dedicated Service*. The information obtained from *Purchasers* will help us identify harmful, anticompetitive conduct in the sale of *Dedicated Service*. The Bureau has also directed respondents to report data according to specified record formats to facilitate analysis.

Entities that provide or purchase *Dedicated Service* or provide *Best Efforts Business Broadband Internet Access Service* in price cap areas are required to respond to the collection unless otherwise exempt. Covered entities failing to respond are subject to monetary forfeitures of up to \$160,000 for each violation or each day of a continuing violation, up to a maximum of \$1,575,000 for any single act or failure to act that is a continuing violation.¹⁷ We plan to conduct outreach, *e.g.*, through webinars, to provide additional notice and an opportunity for the public to ask questions about the requirements of the collection.

Providers and covered entities that provide *Best Efforts Business Broadband Internet Access Service* that will provide the bulk of the data for the Commission's panel regressions are likely required to file the Form 477 and/or the Form 499-A. Accordingly, the Commission can look to previous filers of those forms to help determine instances of non-compliance. In addition, as part of the collection, Form 477 filers that are required to report broadband connections to end user locations must affirmatively state whether or not they fall within the scope of the collection. These mechanisms will maximize the responses from facilities-based *Providers* for the analysis that will include panel regressions.

As discussed above, the Commission will use the information obtained from *Purchasers* to help identify harmful, anticompetitive conduct, *i.e.*, terms and conditions, in the sale of *Dedicated Service*. The Commission recognizes that the information collected from *Purchasers* need not, and indeed cannot, be comprehensive to serve this purpose.¹⁸

For *Purchasers* that provide communications services, we can look to previous filers of the Form 477 and Form 499-A to help identify potential instances of non-compliance and maximize the response rate from these respondents. As discussed above, we believe that facilities-based *Providers* of *Dedicated Service* largely fall within the universe of entities that provide broadband connections to end users and are required to file the Form 477. Many of these entities that are required to file the Form 477 are not only *Providers* but are also likely *Purchasers* of *Dedicated Service* in areas outside of their service areas to provide seamless service to their customers. The Form 477 therefore provides us with a mechanism to identify this subcategory of *Purchasers* for instances of potential non-compliance. In addition, entities filing the Form 499-A report revenues for the provision of special access service, even when on a resale basis, providing the Commission with another tool for identifying *Purchasers*. We estimate that this group of *Purchasers* represents the largest *Purchasers* of *Dedicated Service* in the market.

We do not have a mechanism, however, for identifying instances of non-compliance for *Purchasers* that are not required to file the Form 477 or Form 499-A, *e.g.*, entities that merely hold private wireless licenses for internal, non-commercial operations. Moreover, for these "other" *Purchasers*, we recognize that many of them do not engage with the Commission regularly and may be largely unaware of the collection requirement despite our planned outreach efforts. Our ability to maximize the response rate from this group is therefore limited. Even having a limited response to the

¹⁷ 47 U.S.C. § 503(b)(2)(B); *see also* 47 C.F.R. § 1.80(b)(2). Part 1.80(b) of the Commission's rules was recently amended to increase penalty amounts to account for inflation. *See Amendment of Section 1.80(B) of the Commission's Rules, Adjustment of Civil Monetary Penalties to Reflect Inflation*, Order, DA 13-1615 (Enf. Bureau rel. Aug. 2, 2013); *see also* 78 Fed. Reg. 49370 (Aug. 14, 2013).

¹⁸ *See Data Collection Implementation Order* at para. 12.

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data collection is worthwhile because it provides useful information that is not otherwise available, and the fact that the response may be limited does not undermine the usefulness of the data collected because it is going to be non-comprehensive under any circumstances given the size of the market and the limits of our jurisdiction.

The Commission will create a secure Special Access Web Portal for the electronic submission of responses. Filers will login using an FCC Registration Number (FRN) and password and download a data container that will include record specifications for compiling data responses and software tools to verify that data is submitted in the appropriate format. Filers will subsequently log in using its FRN and password and electronically submit responses to the data collection. The Commission will provide additional details on the electronic filing process in advance of the submission deadline.

4. The standardized questions contained in the collection are based on prior questions tested by the Commission on a voluntary basis.¹⁹ In addition, the questions include revisions and the instructions provide potential respondents with additional clarifications based on feedback received from the public following the release of the *Special Access Data Collection Order*, which contained an earlier version of the questions.²⁰

5. The following individuals were consulted on statistical aspects of the design and may be contacted regarding the methodology of the information collection:

- Eric Ralph, Chief Economist, Wireline Competition Bureau, (202) 418-0771, eric.ralph@fcc.gov.
- Kenneth Lynch, Industry Economist, Industry Analysis and Technology Division, Wireline Competition Bureau, (202) 418-7356, kenneth.lynch@fcc.gov.
- Jack Erb, Industry Economist, Office of Strategic Planning and Policy Analysis, (202) 418-1025, jack.erb@fcc.gov.
- William Layton, Attorney Advisor, Pricing Policy Division, Wireline Competition Bureau, (202) 418-0868, william.layton@fcc.gov.

The survey data will be collected and analyzed by these same individuals and other Commission staff. We do not anticipate seeking assistance from outside the agency unit for collecting and/or analyzing the information.

¹⁹ See, e.g., *Competition Data Requested in Special Access NPRM*, WC Docket No. 05-25, RM-10593, Public Notice, 26 FCC Rcd 14000 (2011) (requesting billing and mapping information). The data solicited from the public on a voluntary basis were not subject to the Paperwork Reduction Act. See *id* at fn.8; 5 C.F.R. § 1320.3(h)(4).

²⁰ See Attachment A (Revised Data Collection) and B (Instructions).