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## FCC RELEASES NUMBERING RESOURCE UTILIZATION REPORT

### *Report shows that Number Optimization Measures Adopted by the FCC are Improving Phone Number Usage Efficiency*

Washington, D.C. – The Federal Communications Commission (FCC) today released its second of a new series of semiannual reports on telephone number utilization in the United States. Telephone number utilization refers to how well numbers are being used by carriers. The report presents statistics based on December 31, 2000 data that telecommunications carriers submitted to the North American Numbering Plan Administrator (NANPA). The number utilization reports are the first to comprehensively examine telephone number utilization in the United States since the FCC enacted a variety of number optimization measures and delegated authority to states to implement certain numbering optimization measures, as well as since the development of local competition.

Numbering resource utilization in the United States has improved since the Commission's first report published in December 2000. When comparing utilization of numbering resources that were reported by the same carriers in the first filing (data as of June 30, 2000) and the second filing (data as of December 31, 2000) utilization rates were generally higher (see table 9 of the report), which are highlighted below:

- No telephone numbers had been voluntarily returned to the NANPA during the year preceding the adoption of the numbering resource optimization strategies (such as assigning numbers in blocks of 1,000 numbers i.e., thousands-block pooling) by the Commission early last year.
- In the first 6 months of 2000, carriers returned 17 million telephone numbers to the NANPA.
- In the last 6 months of 2000, carriers returned nearly 20 million numbers to the NANPA.
- The overall utilization rate for Incumbent Local Exchange Carriers (ILECs) increased from 58.1% to 59.3%.
- The overall utilization rate for Competitive Local Exchange Carriers (CLECs) increased from 8.9% to 10.5%.

- The overall utilization rate for Cellular/PCS carriers increased from 44.8% to 50.7%.

Reporting carriers have more than a billion telephone numbers, of which 440 million were assigned to customers, about 580 million were available to be assigned, and about 100 million were used for other purposes.

Carriers have begun a number of initiatives resulting from the Commission's numbering resource optimization rulings, including, self-assessing their numbering resource needs and inventories, grooming their use of numbers, and returning record quantities of telephone numbers that they may not need immediately to the NANPA so that those numbers can be assigned to other carriers with more immediate needs. Additionally, states have begun implementing certain numbering optimization measures resulting from delegated authority from the FCC.

If thousands-block number pooling were implemented in all top 100 Metropolitan Statistical Areas (MSAs), nearly 180,000 blocks of telephone numbers could be made available to carriers in immediate need of numbering resources. As each "block" contains 1,000 individual telephone numbers, this would make nearly 180 million telephone numbers available to carriers in need of numbering resources. If cellular/PCS carriers were able to pool numbers on December 31, 2000, another 24 million numbers could become available in the 100 largest MSAs. If number pooling were implemented nationwide, nearly 330,000 blocks could be made available to carriers in immediate need of numbering resources.

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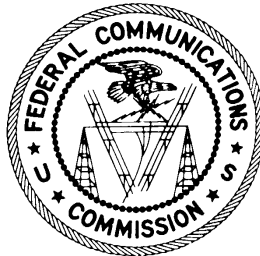
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# Numbering Resource Utilization in the United States as of December 31, 2000

Industry Analysis Division  
Common Carrier Bureau  
Federal Communications Commission

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This report was prepared by Craig Stroup, and is available for reference in the FCC's Reference Information Center, Courtyard Level, 445 12th Street SW, Washington, DC. 20554. Call International Transcription Service, Inc. at (202) 857-3800 to purchase a copy. Also, this and many other useful reports can be downloaded from the **FCC-State Link** Internet site at <<http://www.fcc.gov/ccb/stats>>.

# Numbering Resource Utilization in the United States As of December 31, 2000

## Introduction

In recent years, a rapidly increasing demand for telephone numbers in a competitive environment has required numerous area code splits, overlays, and other number optimization measures. In this report, we summarize the second systematic collection of comprehensive data on the utilization of telephone numbers within the United States. The underlying information was acquired from carriers holding numbering resources and analyzed as part of our ongoing assessment of the efficacy of numbering resource optimization measures prescribed by the Commission's recent NRO Orders.<sup>1</sup> In general, the reported data show that, of the roughly one billion numbers held by U.S. carriers that reported utilization data on their numbering resources, about 40% are assigned to subscribers and in active use, about 50% are available for use, and the remaining 10% are dedicated to administrative and other purposes. Also, numbering resource utilization rates are rising, and carriers are voluntarily returning millions of numbers so that they can be assigned to other carriers.

## Background

The United States uses ten-digit telephone numbers, which are organized in accordance with the North American Numbering Plan (NANP).<sup>2</sup> The NANP divides the country into separate geographic areas called numbering plan areas (NPAs), more commonly called area codes. Calls between these areas are generally dialed using the three-digit area code, followed by a seven-digit local telephone number.

When the NANP was established in 1947, only 86 area codes were assigned to carriers in the United States.<sup>3</sup> Only 61 new codes were added during the next 50 years. But the rate of activation has increased dramatically since then. In 1997 alone, 32 new area codes were activated in the continental United States. As the remaining supply of unassigned area codes

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<sup>1</sup> See *Numbering Resource Optimization*, Report and Order and Further Notice of Proposed Rulemaking, CC Docket No. 99-200, FCC 00-104, 15 FCC Rcd 7574 (rel. Mar. 31, 2000) (*March 2000 NRO Order*). *Numbering Resource Optimization*, Order, CC Docket No. 99-200, FCC 00-280 (rel. July 31, 2000). (*July 2000 NRO Order*) *Numbering Resource Optimization*, Second Report and Order, Order on Reconsideration in CC Docket No. 96-98 and CC Docket No. 99-200, and Second Further Notice of Proposed Rulemaking in CC Docket No. 99-2000) (rel. Dec. 29, 2000) (*December 2000 Order*).

<sup>2</sup> The North American Numbering Plan is used in the United States and its territories; and in Canada, Bermuda, and many Caribbean nations, including Anguilla, Antigua & Barbuda, Bahamas, Barbados, British Virgin Islands, Cayman Islands, Dominica, Dominican Republic, Grenada, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago, and Turks & Caicos. The data contained in this report are all limited to the United States and its overseas territories.

<sup>3</sup> "Nationwide Numbering Plan and Dialing Procedures – Efficient Code Utilization and Conservation Program," Memorandum from AT&T Assistant Vice President of Engineering (R. H. Kaschner) to Commercial Managers, page 1 (Mar. 25, 1974).

is diminishing, and because a premature exhaust of area codes imposes significant costs on consumers, the Commission has taken a number of steps to ensure that the limited numbering resources are used efficiently. Among other things, the Commission has recently required carriers to submit data on numbering resource utilization and forecasts twice a year. The information is submitted using the Numbering Resource Utilization/Forecast (NRUF) form, and is used to monitor the utilization of numbering resources and to develop strategies to further increase the efficiency with which numbering resources are used in the United States.<sup>4</sup>

Carriers controlling numbering resources for the purpose of providing services to their customers are required to file data on their utilization of those resources, using an FCC prescribed form, on February 1 and August 1 of each year.<sup>5</sup> The data are filed with the North American Numbering Plan Administrator (NANPA).<sup>6</sup> On August 1, carriers are required to report data as of June 30. The data for December 31 must be filed by the following February 1.<sup>7</sup> The administrator has compiled the information submitted into a database and provided that database to the Commission.<sup>8</sup> Thus, the information compiled in this report represents number utilization as of December 31, 2000. It reflects all corrections and submissions that the NANPA had received through May 11, 2001.

Historically, local telephone companies received geographic numbers in blocks of 10,000. These blocks of 10,000 numbers are often called NXXs and are identifiable as the first three digits of a seven-digit telephone number.<sup>9</sup> One of the recent efforts to improve the efficiency with which numbers are used is “thousands-block pooling,” where carriers with blocks of 1,000 numbers (thousands-blocks)<sup>10</sup> not needed immediately provide those numbers to a pooling administrator, which then assigns those thousands-blocks to other carriers in need of numbers. This effectively allows the assignment of numbers in blocks of 1,000 rather than 10,000. Most carriers are required to report their telephone number usage at the thousands-block level so that we could evaluate the efficacy of telephone number pooling. Carriers that

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<sup>4</sup> See *Numbering Resource Optimization*, Report and Order and Further Notice of Proposed Rulemaking, CC Docket No. 99-200, FCC 00-104, 15 FCC Rcd 7574 (rel. Mar. 31, 2000) (*NRO Order*).

<sup>5</sup> Carriers file their numbering information on FCC Form 502. This and most other FCC forms can be downloaded from <<http://www.fcc.gov/formpage.html>>.

<sup>6</sup> The current NANPA is NeuStar, Inc.

<sup>7</sup> *Numbering Resource Optimization*, Order, CC Docket No. 99-200, FCC 00-280 (rel July 31, 2000).

<sup>8</sup> The NANPA’s database is continually updated because not all carriers filed by the prescribed date, and because carriers sometimes file updated information throughout the year.

<sup>9</sup> A ten-thousands block is the block of 10,000 telephone numbers that have the same area code and the same NXX.

<sup>10</sup> A thousands-block is the block of 1,000 telephone numbers that have the same area code, the same NXX and the same thousands digit.

meet the statutory definition of “rural telephone company”<sup>11</sup> and operate in non pooling areas are required to submit their number usage at the NXX level.

In this report, we present utilization data for four types of carriers:

- Incumbent Local Exchange Carriers (ILECs),
- Competitive Local Exchange Carriers (CLECs),
- Cellular/PCS Carriers, and
- Paging Carriers.

The four carrier types listed above account for more than 99.9% of the numbers reported in this filing.<sup>12</sup> Where blocks of numbers were initially assigned to one carrier and then that carrier subsequently reassigned a subset of those numbers to a second carrier, the second carrier is required to report its utilization data for the numbers that it has received, and to mark those numbers as having been received from other carriers.<sup>13</sup> Other types of carriers also use numbering resources. Long distance carriers, for example, use millions of numbers to provide toll-free services. As toll-free numbering resources are managed separately from geographic numbers, they are neither surveyed on FCC Form 502 nor included in this report.

From the carriers’ submissions, numbering resources in the following six categories can be determined:

- assigned,
- intermediate,
- reserved,
- aging,
- administrative, and
- available.

An assigned number is one that is in use by an end-user customer. Intermediate numbers are those that one carrier has assigned to another carrier (or to a non-carrier) so that the numbers may then be assigned to an end user. Reserved numbers are those that are being held by the service provider at the request of an end user for future use. Aging numbers are those that are being held out of use by the carrier for a period of time after the end user that last used it discontinues service. Administrative numbers include test numbers and other numbers used

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<sup>11</sup> 47 U.S.C. § 153(37).

<sup>12</sup> Carriers can provide more than one type of service, but on FCC Form 502, carriers list their primary line of business.

<sup>13</sup> This means that sometimes more than one carrier can report utilization data for the same thousands-block (or ten-thousands block). Carriers receiving numbers from another carrier are required to report utilization data for those numbers on a different page (of FCC Form 502) than the page that carriers use to report numbers received directly from the NANPA. Not all carriers that received numbers from other carriers filed on the correct page, however, so within the database it can appear that more than one carrier has reported data for the same block of numbers. Carriers that receive numbers from other carriers are also required, of course, to report on any telephone numbers that it received from the NANPA.

for network purposes. Available numbers are numbers that are generally available for assignment to customers.<sup>14</sup>

## **Analysis and Results**

Table 1 shows the total quantity of telephone numbers reported by the carriers and the number of 10,000 blocks (or NXXs) that contained these numbers. Table 1 also shows the quantity of telephone numbers reported in each of the six categories and the percentages of telephone numbers that are in each category.

Carriers have reported usage data for over 110,000 NXXs. This is up from less than 90,000 NXXs in the previous filing (data for June 30, 2000). As the NANPA calculates that about 122,000 NXXs have been assigned to United States carriers,<sup>15</sup> the second round of information submitted (data for December 31, 2000) appears to have garnered usable information on nearly 91% of the numbering resources assigned to carriers in the United States. Although reporting is up from the last filing, many carriers still had not provided usable utilization data by May 11, 2001.

As frequently happens in any situation where thousands of carriers attempt to deal with new reporting requirements, the reliability of the data should continue to improve in subsequent filings. For those carriers that submitted utilization data for both filings, average utilization rates clearly increased, as shown later in this analysis.

Among filing carriers, 440 million telephone numbers are reported as being assigned and more than 550 million are reported to be available for assignment, indicating that the quantity of numbers available for assignment exceeds the number already assigned. These 550 million available numbers do not include any telephone numbers in NXXs that had not yet been assigned to a carrier. As more NXXs are assigned to carriers by the NANPA, and more area codes are opened up, more numbers will become available. Intermediate, reserved, aging and administrative categories collectively account for another 100 million telephone numbers.

Table 2 presents utilization statistics for carriers that reported at the thousands-block level (carriers that do not meet the statutory definition of a rural carrier are required to report at the thousands-block level). Table 3 presents statistics for rural carriers, which reported at the 10,000 block level (carriers that meet the statutory definition of a rural carrier are required to report at the 10,000 block level).<sup>16</sup> As might be expected, overall utilization rates are reported to be lower in rural areas (18% of telephone numbers are assigned to end users) than in more urban areas (43% of telephone numbers reported are assigned to end users).

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<sup>14</sup> For precise definitions of these categories *see March 2000 NRO Order, n.3.*

<sup>15</sup> The NANPA lists the codes that have been assigned on their web site:  
<[http://www.nanpa.com/number\\_resource\\_info/co\\_code\\_assignments.html](http://www.nanpa.com/number_resource_info/co_code_assignments.html)>.

<sup>16</sup> *See March 2000 NRO Order, para 71.* A small number of rural carriers may operate in areas with pooling. As all carriers in pooling areas are required to report at the thousands-block level, rural carriers in pooling areas, if any, are included in Table 2 rather than Table 3.

Table 4 focuses on the percentages of NXX blocks that were reported as being utilized. After thousands-blocks were rolled up into whole NXXs, the utilization rate for those NXXs was calculated by dividing the quantity of assigned numbers by the quantity of numbers reported in the NXX. For each type of carrier, the data were sorted by decreasing utilization rates. Then, separately, for each type of carrier, the NXXs were divided into ten evenly sized groups (i.e., deciles). The first group contained the most utilized NXXs, and the last group contained the least utilized NXXs. Then, for each group, the lowest utilization rate was reported. Table 4 shows the results for all reporting carriers, as well as details for carriers that reported at the thousands-block level and the NXX level.

Table 5 shows utilization statistics for carriers on a state-by-state basis. As might be expected, states that are relatively rural and have low population densities have fewer telephone numbers assigned to end-user customers, and have a lower percentage of numbers that have been assigned to end-user customers than in more urban, populous states. Again, carriers report for only those numbers that have been assigned to them, so the quantity of available numbers does not include any of the NXXs in the state that had not yet been assigned to a carrier.

Table 6 shows the number of carriers reporting telephone number utilization data for each state. Carriers are required to report their NRUF data at the Operating Company Number (OCN) level.<sup>17</sup> Carriers typically obtain one or more OCNs per state in which they operate. The number of carriers in each state is based on the number of OCNs reported in each state.

A thousands-block can be pooled when 90% or more of the numbers are classified as available for assignment. Several states have been given the authority to implement thousands-block pooling, and other states may be considering pooling.<sup>18</sup> Table 7 shows the

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<sup>17</sup> See *NRO Order*. Carriers obtain OCNs from the National Exchange Carrier Association.

<sup>18</sup> See, e.g., *California Public Utilities Commission Petition for Delegation of Additional Authority Pertaining to Area Code Relief and NXX Code Conservation Measures*, Order, 14 FCC Rcd 17485, 17490-96 (1999); *Florida Public Service Commission Petition for Expedited Decision for Grant of Authority to Implement Number Conservation Measures*, Order, 14 FCC Rcd 17506, 17510-16 (1999); *Massachusetts Department of Telecommunications and Energy's Petition for Waiver of Section 52.19 to Implement Various Area Code Conservation Methods in the 508, 617, 781, and 978 Area Codes*, Order, 14 FCC Rcd 17447, 17451-57 (1999); *New York State Department of Public Service Petition for Additional Delegated Authority to Implement Number Conservation Measures*, Order, 14 FCC Rcd 17467, 17470-76 (1999); *Numbering Resource Optimization*, Order, 15 FCC Rcd 23371 (2000) (granting thousands-block pooling authority to the Arizona Corporation Commission, the Colorado Public Utilities Commission, the Georgia Public Service Commission, the Indiana Regulatory Commission, the Iowa Utilities Board, the Public Service Commission of Kentucky, the Missouri Public Service Commission, the Nebraska Public Service Commission, the North Carolina Utilities Commission, the Oregon Public Utility Commission, the Pennsylvania Public Utility Commission, the Tennessee Regulatory Authority, the Utah Public Service Commission, the Virginia State Corporation Commission, and the Washington Utilities and Transportation Commission); *Numbering Resource Optimization*, Order, CC Docket Nos. 99-200, 96-98 (rel. Feb. 14, 2001) (granting thousands-block pooling authority to the Louisiana Public Service Commission, the Maryland Public Service Commission, the Massachusetts Department of Telecommunications and Energy, and the New Jersey Board of Public Utilities); *Numbering Resource Optimization*, Order, CC Docket Nos. 99-200, 96-98 (rel. Mar. 14, 2001) (granting thousands-block pooling authority to the Indiana Utility Regulatory Commission, the Minnesota Public Utilities Commission, the Missouri Public Service Commission, the Oklahoma Corporation Commission, the Tennessee



number of thousands-blocks that could be available for pooling in each state. Pooling utilizes number porting technology, which the FCC required to be implemented in the top 100 metropolitan statistical areas (MSAs) as defined in 1996.<sup>19</sup> Because pooling is most readily available in the top 100 MSAs, Table 7 shows the number of thousands-blocks that would be available if pooling were implemented in all areas within the top 100 MSAs. Because states can, under certain circumstances, implement pooling in areas outside of the top 100 MSAs,<sup>20</sup> Table 7 also shows the number of thousands-blocks that would be available if pooling were implemented statewide. Given that states may choose not to implement pooling in all areas of the state where pooling is possible, and that carriers with poolable numbering resources need to retain at least one thousands-block per rate center, the numbers shown in Table 7 may be overstated. Wireless carriers are listed separately from CLECs and ILECs because wireless carriers are not required to implement the underlying technology until November 24, 2002.<sup>21</sup>

Figures 1 through 4 focus on utilization rates as a function of the number of NXXs that the carriers hold in a local geographic area. Where carriers have sought and received multiple NXXs within the same area, they should generally be able to achieve higher utilization rates. We have used “rate centers” as our measure of local geographic area because NXXs are assigned to carriers on a rate center basis.<sup>22</sup>

Figure 1 shows a scatter diagram of average ILEC utilization rates<sup>23</sup> as a function of the number of NXXs in a rate center held by the same carrier. These points were calculated using a two-step process. First, NXXs were grouped, depending on the number of NXXs held by the same carrier within the same rate center. Second, the average utilization rates were calculated for each of the groups (i.e., from 1 NXX per rate center through 100 NXXs per rate center). For example, for all instances where a carrier reported exactly one NXX in a rate center, the average utilization rate was calculated. A similar average utilization rate was calculated for all instances where a carrier reported exactly 2 NXXs in a rate center, 3 NXXs

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Regulatory Authority, the Vermont Public Service Board, and the Public Service Commission of West Virginia).

<sup>19</sup> See *Telephone Number Portability*, First Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 8352, 8393 (1996).

<sup>20</sup> See, e.g., *Maine Public Utilities Commission Petition for Additional Delegated Authority to Implement Number Conservation Measures*, Order, 14 FCC Rcd 16440, 16452 (1999) (granting thousands-block pooling authority when a majority of the wireline carriers operating in Maine were LNP-capable); see also *Numbering Resource Optimization*, Order, CC Docket Nos. 99-200 and 96-98, paras. 32-34 (rel. Mar. 14, 2001) (granting thousands-block pooling authority to the Vermont Public Service Board and the Public Service Commission of West Virginia when a majority of the wireline carriers were LNP-capable).

<sup>21</sup> See *Numbering Resource Optimization*, Second Report and Order, Order on Reconsideration in CC Docket No. 96-98 and CC Docket No. 99-200, and Second Further Notice of Proposed Rulemaking in CC Docket No. 99-200, paras. 47-51 (2000).

<sup>22</sup> A rate center is a geographic area used to determine distances and prices for local and long distance calls.

<sup>23</sup> For the purposes of these figures, the utilization rate is defined as the number of telephone numbers assigned to end-user customers divided by the number of telephone numbers in that NXX (10,000).

in a rate center, and so on through 100 NXXs in a rate center.<sup>24</sup> Figures 2 through 4 show the same information for CLECs, Cellular/PCS carriers and paging carriers.

There are three different databases that contain sources of NPA-NXX assignment information: NANPA's NRUF database, NANPA's database of NPA-NXX assignments, and the Local Exchange Routing Guide (LERG).<sup>25</sup> For a variety of reasons, the databases are not identical. Timing is a large factor in this. For instance, during an area code split, a carrier will maintain both the old and new NPA-NXXs in its systems during the phase called permissive dialing.<sup>26</sup> After permissive dialing ends, the carrier should remove the old NPA-NXXs from its systems. Carriers may not do this immediately, however, and may report utilization data on both the old and the new NPA-NXXs. The carrier may not update the LERG immediately, either. Thus, the NRUF database, the LERG and the NANPA assignment database may not be identical. Table 8 shows the number of NXXs that appear in the three databases.

Table 9 shows that utilization rates generally increased for those NXXs that were reported by the same carriers when filing their June 30, 2000 and December 31, 2000 data. When attempting to compare utilization rates over time, one might simply compare Table 1 of this report (showing that the utilization across all carriers was 40.1%) with Table 1 of the previous report, (showing that utilization across all carriers was 44.0%) and conclude that number utilization rates had declined during the second half of the year 2000. This conclusion, however, would be erroneous. Significantly more carriers submitted usable utilization information for this filing than for the previous filing. Also, some carriers filed more accurate data in their second filing than their first filing. For instance, two large paging carriers reported 100% utilization for nearly all their numbering resources when reporting their June 30, 2000 data, but corrected that problem when they reported their December 31, 2000 data. Table 9 accounts for this by examining utilization rates for each industry segment, and by examining only those NXXs that were reported by the same carrier in both filings. Because subscribership is growing over time, and because carriers are starting to use their numbering resources more efficiently, utilization rates for existing NXXs should improve. Indeed, for ILECs, CLECs and Cellular/PCS carriers (those segments with seemingly more reliable data), utilization improved over the six-month period after the first filing.

Table 10 shows, on a quarterly basis, the number of NXX assignments made by the NANPA, the number of NXXs that have been returned to the NANPA, and the number of net NXX assignments to carriers. The table shows that fewer NXXs are being issued each quarter, and the number of NXXs that the carriers have returned to the NANPA for reassignment is up

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<sup>24</sup> In order to prevent disclosure of proprietary information, we have grouped some individual data points into clusters so that the specific utilization data for individual carriers cannot be divined by comparing the individual plot points with other data sources.

<sup>25</sup> The NANPA's assignment database can be found online at [http://www.nanpa.com/number\\_resource\\_info/co\\_code\\_assignments1.html](http://www.nanpa.com/number_resource_info/co_code_assignments1.html). The LERG is published monthly by Telcordia Technologies.

<sup>26</sup> During permissive dialing, a phone number may be called by using either the old or the new NPA.

sharply. The fact that carriers are beginning to return currently unneeded numbering resources suggests that the industry is starting to groom its use of numbering resources, and is becoming more judicious with its use of those resources. Figure 5 shows some of this information graphically.

### **Technical Details**

The following material provides technical details on the data and procedures used in this analysis. With respect to Tables 1 through 3, the reader should note that the number of unique<sup>27</sup> NXXs for each carrier type does not add up to the total number of unique NXXs. This occurs when multiple carriers report data for the same numbering resource. In addition, some carriers reported at the thousands-block level and other carriers reported at the NXX level for the same NXX.

In the past, when numbers were transferred from an ILEC to another carrier, these numbers were classified as “assigned,” because those numbers could not be used elsewhere in the ILEC’s own system. According to the Commission’s standardized definitions, however, these numbers are classified as “intermediate” numbers. It appears that some carriers have found it difficult to report these numbers as intermediate numbers. Because, in many instances, we were unable to match submissions that report intermediate numbers with submissions that report numbers as being received from another carrier, we had to create filters to ensure that numbers were not double counted.

The first filter used a status code created by the NANPA. When the NANPA enters FCC Form 502 submissions into the database, it creates a status code that classifies each submission as either accepted, conditionally accepted, rejected, or obsolete.<sup>28</sup> This analysis excludes any records from submissions that were rejected by the NANPA<sup>29</sup> or where the data were made obsolete by a superseding submission. Additionally, we excluded data from thousands-blocks (or NXXs where appropriate) where the carrier reported that it had received numbers from another carrier.<sup>30</sup> We did this because of difficulty in matching up thousands-blocks (or NXXs where appropriate) where the donating carrier reported *any* intermediate numbers, even though another carrier reported receiving numbers from within that thousands-block or NXX. By excluding data from carriers that reported receiving numbers,

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<sup>27</sup> In some instances, more than one carrier reported numbering utilization data for the same NPA-NXX. Tables 1-3 report on the number of unique NPA-NXXs that were reported by each carrier type and by the industry as a whole.

<sup>28</sup> “Conditionally accepted” means that the submission contained minor errors (which the carrier is expected to fix), but that the information is essentially usable. Submissions with serious errors making the data unusable were classified as “rejected”. If a carrier submitted new data to replace old data, the old data were left in the database, but marked “obsolete”.

<sup>29</sup> Even though the NANPA rejected the reports, the information was included in the database submitted by NANPA to the Common Carrier Bureau so that the Bureau could glean whatever information it could from the submitted data.

<sup>30</sup> Although it appears that some carriers did not report that their numbers came from another carrier, many did so.

we avoided counting the same telephone numbers as being assigned by two different carriers, which would artificially inflate telephone number utilization rates.

Also, if two or more different carriers reported data for a single thousands-block (or NXX), the carrier that reported more numbers as being assigned was used. This was done to ensure that numbers were not double counted, and that the calculated percentage of assigned numbers was not lower than the actual percentage of assigned numbers.

For ease of comparison, Figures 1 through 4 plot utilization rates only when there were 100 or fewer NXXs in a rate center. Some ILECs and Cellular/PCS carriers reported more than 100 unique NXXs in a single rate center. For both types of carriers, however, the average utilization rates remained unchanged when there were more than 100 NXXs in a rate center. The figures therefore show only the data where the carriers reported up to 100 NXXs within a rate center, so that a linear scale could be used.

In some instances, we observed that some CLECs had a large number of NXXs in a single rate center. Although most CLECs do not have enough end-user lines in a rate center to warrant having so many NXXs in that rate center, there are at least two reasons that a CLEC would do so. First, some CLECs provide service to unified messaging services, such as e-fax and j-fax.<sup>31</sup> These services use large quantities of numbers.<sup>32</sup> Second, some CLECs are operating in areas undergoing area code splits, where the area code will change for many of its NXXs. When this happens, a CLEC may maintain two NXXs (one NXX using the old area code, and another NXX using the new area code) in its systems for a period of time so that callers can adapt to the new area code.

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We invite users of this information to provide suggestions for improved data collection and analysis by 1) using the attached customer response form; 2) e-mailing comments to [cstroup@fcc.gov](mailto:cstroup@fcc.gov); or 3) calling the Industry Analysis Division at (202) 418-0940; for TTY, call (202) 418-0484.

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<sup>31</sup> Unified messaging services allow end users to receive multiple types of messages (such as voicemail and faxes) at one phone number. Typically, these messages are then digitized and e-mailed to the end user. Because the end user does not need to answer the call personally, the messages can be sent to any phone number in the United States. Thus, unified messaging service providers can operate efficiently by obtaining a large number of NXXs in a single rate center.

<sup>32</sup> Carriers assigning numbers to unified messaging services are required to report numbers as “intermediate” until the numbers are assigned by the unified messaging service providers to end users. Some carriers have assigned large quantities of numbers to unified messaging services but may not have received information back from the unified messaging company as to whether any of those numbers have been assigned to end users. This may explain why some carriers reported dozens of NXXs in a single rate center, yet still classified all those numbers as intermediate rather than assigned.

**Table 1**  
**Number Utilization by Carrier Type as of December 31, 2000**

Carrier Type	Assigned	Intermediate	Reserved	Aging	Admin	Available <sup>1</sup>	Total	Unique NXXs
	(Thousands of telephone numbers)							
ILEC	303,336	13,017	27,743	14,815	7,818	215,111	581,840	58,576
CLEC	24,799	2,301	8,713	1,113	1,852	213,307	252,085	29,499
Cellular/PCS	99,019	7,309	1,523	9,505	3,506	93,434	214,296	21,553
Paging	13,042	3,423	1,050	1,130	186	30,716	49,545	4,980
Others	181	0	117	11	2	969	1,280	128
All Reporting Carriers	440,376	26,050	39,146	26,574	13,364	553,536	1,099,046	110,843 <sup>2</sup>
ILEC	52.1%	2.2%	4.8%	2.5%	1.3%	37.0%	100.0%	
CLEC	9.8%	0.9%	3.5%	0.4%	0.7%	84.6%	100.0%	
Cellular/PCS	46.2%	3.4%	0.7%	4.4%	1.6%	43.6%	100.0%	
Paging	26.3%	6.9%	2.1%	2.3%	0.4%	62.0%	100.0%	
Others	14.1%	0.0%	9.1%	0.8%	0.2%	75.7%	100.0%	
All Reporting Carriers	40.1%	2.4%	3.6%	2.4%	1.2%	50.4%	100.0%	

**Table 2**  
**Detail of Number Utilization: Carriers that Reported at the Thousands-block Level**

Carrier Type	Assigned	Intermediate	Reserved	Aging	Admin	Available <sup>1</sup>	Total	Unique NXXs
	(Thousands of telephone numbers)							
ILEC	287,694	11,024	25,242	13,774	7,366	149,565	494,666	49,926
CLEC	24,475	2,288	8,607	1,100	1,828	203,658	241,955	28,512
Cellular/PCS	96,760	7,282	1,398	9,341	3,469	86,345	204,595	20,591
Paging	12,732	3,419	1,025	1,114	99	29,845	48,235	4,850
Others	20	0	0	0	1	98	120	12
All Reporting Carriers	421,682	24,013	36,272	25,330	12,763	469,511	989,571	100,239 <sup>2</sup>
ILEC	58.2%	2.2%	5.1%	2.8%	1.5%	30.2%	100.0%	
CLEC	10.1%	0.9%	3.6%	0.5%	0.8%	84.2%	100.0%	
Cellular/PCS	47.3%	3.6%	0.7%	4.6%	1.7%	42.2%	100.0%	
Paging	26.4%	7.1%	2.1%	2.3%	0.2%	61.9%	100.0%	
Others	16.9%	0.0%	0.0%	0.0%	1.0%	82.0%	100.0%	
All Reporting Carriers	42.6%	2.4%	3.7%	2.6%	1.3%	47.4%	100.0%	

**Table 3**  
**Detail of Number Utilization: Carriers that Reported at the NXX Level**

Carrier Type	Assigned	Intermediate	Reserved	Aging	Admin	Available <sup>1</sup>	Total	Unique NXXs
	(Thousands of telephone numbers)							
ILEC	15,642	1,993	2,501	1,041	452	65,546	87,174	8,696
CLEC	324	13	107	13	24	9,649	10,130	1,041
Cellular/PCS	2,259	28	125	164	37	7,089	9,701	970
Paging	309	4	24	16	86	870	1,310	131
Others	160	0	117	11	1	871	1,160	116
All Reporting Carriers	18,694	2,037	2,874	1,244	601	84,025	109,475	10,941 <sup>2</sup>
ILEC	17.9%	2.3%	2.9%	1.2%	0.5%	75.2%	100.0%	
CLEC	3.2%	0.1%	1.1%	0.1%	0.2%	95.3%	100.0%	
Cellular/PCS	23.3%	0.3%	1.3%	1.7%	0.4%	73.1%	100.0%	
Paging	23.6%	0.3%	1.8%	1.2%	6.6%	66.4%	100.0%	
Others	13.8%	0.0%	10.1%	0.9%	0.1%	75.1%	100.0%	
All Reporting Carriers	17.1%	1.9%	2.6%	1.1%	0.5%	76.8%	100.0%	

<sup>1</sup> Includes only telephone numbers in NXXs assigned to carriers and are therefore available for assignment to customers. Does not include any numbers in NXXs that have not yet been assigned to carriers.

<sup>2</sup> Unduplicated Total.

Source: Numbering Resource Utilization/Forecast Reports data filed with NeuStar, Inc. as of May 11, 2001 (90% of NXXs reported). Note: Figures may not add due to rounding.

**Table 4**  
**Dispersion of NXX Utilization Rates by Carrier Type as of December 31, 2000**

<b>All Carriers</b>				
<u>NXXs Sorted by Decreasing Utilization Rates</u>	<u>ILECs</u>	<u>CLECs</u>	<u>Cellular/PCS</u>	<u>Paging</u>
Maximum utilization rate reported	100.0%	100.0%	100.0%	100.0%
Lower bound of top 10% NXXs	91.2%	35.7%	91.4%	68.4%
Lower bound of top 20% NXXs	85.8%	10.0%	84.9%	50.5%
Lower bound of top 30% NXXs	80.5%	3.0%	75.0%	37.3%
Lower bound of top 40% NXXs	73.3%	1.0%	61.8%	27.3%
Lower bound of top 50% NXXs	62.2%	0.3%	47.4%	18.4%
Lower bound of top 60% NXXs	46.4%	0.1%	31.1%	11.2%
Lower bound of top 70% NXXs	29.0%	0.0%	15.7%	4.6%
Lower bound of top 80% NXXs	14.7%	0.0%	4.2%	1.0%
Lower bound of top 90% NXXs	5.6%	0.0%	0.1%	0.0%
Minimum utilization rate reported	0.0%	0.0%	0.0%	0.0%

<b>Carriers that Reported at the Thousands-block Level</b>				
<u>NXXs Sorted by Decreasing Utilization Rates</u>	<u>ILECs</u>	<u>CLECs</u>	<u>Cellular/PCS</u>	<u>Paging</u>
Maximum utilization rate reported	100.0%	100.0%	100.0%	100.0%
Lower bound of top 10% NXXs	91.9%	37.6%	91.5%	68.4%
Lower bound of top 20% NXXs	86.9%	10.1%	85.4%	50.7%
Lower bound of top 30% NXXs	82.3%	3.2%	76.2%	37.4%
Lower bound of top 40% NXXs	76.6%	1.1%	63.4%	27.7%
Lower bound of top 50% NXXs	68.2%	0.4%	49.2%	18.7%
Lower bound of top 60% NXXs	55.6%	0.1%	33.4%	11.0%
Lower bound of top 70% NXXs	39.3%	0.0%	17.8%	4.5%
Lower bound of top 80% NXXs	21.7%	0.0%	5.1%	1.0%
Lower bound of top 90% NXXs	7.1%	0.0%	0.1%	0.0%
Minimum utilization rate reported	0.0%	0.0%	0.0%	0.0%

<b>Carriers that Reported at the NXX Level</b>				
<u>NXXs Sorted by Decreasing Utilization Rates</u>	<u>ILECs</u>	<u>CLECs</u>	<u>Cellular/PCS</u>	<u>Paging</u>
Maximum utilization rate reported	100.0%	96.0%	100.0%	93.6%
Lower bound of top 10% NXXs	54.1%	9.8%	73.2%	65.9%
Lower bound of top 20% NXXs	28.3%	1.7%	52.3%	41.4%
Lower bound of top 30% NXXs	18.2%	0.5%	33.3%	25.8%
Lower bound of top 40% NXXs	12.1%	0.3%	16.0%	16.0%
Lower bound of top 50% NXXs	8.5%	0.1%	7.9%	14.0%
Lower bound of top 60% NXXs	5.8%	0.0%	2.9%	12.9%
Lower bound of top 70% NXXs	4.0%	0.0%	0.9%	10.8%
Lower bound of top 80% NXXs	2.5%	0.0%	0.1%	6.0%
Lower bound of top 90% NXXs	1.3%	0.0%	0.0%	0.3%
Minimum utilization rate reported	0.0%	0.0%	0.0%	0.0%

Source: Numbering Resource Utilization/Forecast forms filed with NeuStar, Inc. as of May 11, 2001.

**Table 5**  
**Telephone Number Utilization by State as of December 31, 2000**

State	Assigned		Intermediate		Reserved		Aging		Administrative		Available <sup>1</sup>		Total 000s
	000s	%	000s	%	000s	%	000s	%	000s	%	000s	%	
Alabama	5,363	35.2	299	2.0	940	6.2	489	3.2	297	1.9	7,869	51.6	15,257
Alaska	819	18.8	19	0.4	84	1.9	42	1.0	19	0.4	3,382	77.5	4,365
Arizona	8,715	53.1	194	1.2	566	3.4	481	2.9	325	2.0	6,139	37.4	16,420
Arkansas	2,374	27.4	601	6.9	260	3.0	181	2.1	83	1.0	5,161	59.6	8,660
California	56,588	41.7	5,678	4.2	3,153	2.3	3,768	2.8	1,845	1.4	64,570	47.6	135,602
Colorado	8,865	50.2	174	1.0	349	2.0	598	3.4	308	1.7	7,353	41.7	17,647
Connecticut	5,275	43.5	898	7.4	330	2.7	233	1.9	251	2.1	5,150	42.4	12,139
Delaware	1,418	36.4	91	2.3	69	1.8	53	1.4	38	1.0	2,224	57.1	3,893
District of Columbia	2,693	54.6	57	1.2	594	12.0	114	2.3	26	0.5	1,450	29.4	4,933
Florida	26,635	46.9	1,072	1.9	2,588	4.6	1,737	3.1	1,044	1.8	23,692	41.7	56,768
Georgia	12,880	37.9	1,011	3.0	1,988	5.8	797	2.3	428	1.3	16,890	49.7	33,994
Hawaii	2,045	50.0	38	0.9	5	0.1	107	2.6	59	1.4	1,836	44.9	4,090
Idaho	1,733	32.7	261	4.9	39	0.7	106	2.0	83	1.6	3,074	58.0	5,297
Illinois	20,073	38.7	2,468	4.8	3,019	5.8	1,245	2.4	599	1.2	24,498	47.2	51,902
Indiana	7,713	35.5	417	1.9	974	4.5	466	2.1	308	1.4	11,869	54.6	21,747
Iowa	4,028	25.9	113	0.7	186	1.2	228	1.5	132	0.8	10,887	69.9	15,574
Kansas	3,309	25.0	970	7.3	376	2.8	220	1.7	133	1.0	8,252	62.2	13,261
Kentucky	4,616	31.3	163	1.1	596	4.0	367	2.5	296	2.0	8,718	59.1	14,754
Louisiana	5,144	31.7	196	1.2	1,447	8.9	446	2.7	270	1.7	8,728	53.8	16,231
Maine	1,716	37.5	24	0.5	90	2.0	65	1.4	16	0.3	2,667	58.3	4,578
Maryland	10,271	43.9	226	1.0	773	3.3	533	2.3	210	0.9	11,368	48.6	23,382
Massachusetts	14,440	48.5	88	0.3	906	3.0	519	1.7	210	0.7	13,594	45.7	29,756
Michigan	15,185	34.8	811	1.9	1,415	3.2	966	2.2	504	1.2	24,699	56.7	43,580
Minnesota	8,414	38.5	148	0.7	606	2.8	507	2.3	178	0.8	11,996	54.9	21,849
Mississippi	2,807	27.2	50	0.5	811	7.8	267	2.6	125	1.2	6,273	60.7	10,332
Missouri	7,499	32.8	884	3.9	637	2.8	541	2.4	205	0.9	13,107	57.3	22,873
Montana	1,074	20.7	24	0.5	38	0.7	96	1.9	35	0.7	3,913	75.5	5,180
Nebraska	2,863	31.4	61	0.7	52	0.6	109	1.2	85	0.9	5,961	65.3	9,132
Nevada	3,352	44.9	411	5.5	200	2.7	152	2.0	119	1.6	3,224	43.2	7,458
New Hampshire	2,541	50.4	17	0.3	97	1.9	84	1.7	45	0.9	2,257	44.8	5,042
New Jersey	14,757	44.5	948	2.9	591	1.8	812	2.4	98	0.3	15,975	48.1	33,181
New Mexico	2,373	43.0	35	0.6	145	2.6	134	2.4	104	1.9	2,730	49.5	5,520
New York	31,814	54.0	592	1.0	2,049	3.5	1,556	2.6	314	0.5	22,553	38.3	58,878
North Carolina	9,234	39.2	486	2.1	1,284	5.5	665	2.8	408	1.7	11,475	48.7	23,551
North Dakota	822	18.1	37	0.8	29	0.6	81	1.8	27	0.6	3,558	78.1	4,553
Ohio	16,305	39.5	1,013	2.5	1,551	3.8	1,057	2.6	533	1.3	20,862	50.5	41,321
Oklahoma	4,004	28.6	936	6.7	274	2.0	268	1.9	180	1.3	8,342	59.6	14,005
Oregon	6,110	45.1	112	0.8	191	1.4	343	2.5	179	1.3	6,617	48.8	13,552
Pennsylvania	17,518	35.8	705	1.4	1,988	4.1	805	1.6	240	0.5	27,692	56.6	48,948
Rhode Island	1,972	38.0	30	0.6	144	2.8	71	1.4	52	1.0	2,921	56.3	5,190
South Carolina	5,264	37.9	244	1.8	842	6.1	399	2.9	283	2.0	6,858	49.4	13,890
South Dakota	902	18.9	18	0.4	35	0.7	90	1.9	50	1.0	3,687	77.1	4,781
Tennessee	7,386	37.9	128	0.7	1,211	6.2	527	2.7	315	1.6	9,896	50.8	19,463
Texas	32,439	38.9	1,881	2.3	2,049	2.5	2,129	2.6	1,268	1.5	43,585	52.3	83,351
Utah	4,319	45.2	85	0.9	260	2.7	294	3.1	140	1.5	4,465	46.7	9,562
Vermont	907	19.6	0	0.0	596	12.9	22	0.5	12	0.3	3,079	66.7	4,616
Virginia	12,679	50.5	145	0.6	912	3.6	608	2.4	143	0.6	10,601	42.3	25,088
Washington	12,455	48.1	784	3.0	674	2.6	717	2.8	429	1.7	10,821	41.8	25,881
West Virginia	1,767	32.2	21	0.4	64	1.2	76	1.4	16	0.3	3,546	64.6	5,491
Wisconsin	6,215	31.4	382	1.9	1,053	5.3	346	1.7	234	1.2	11,588	58.5	19,818
Wyoming	688	25.4	5	0.2	16	0.6	56	2.1	59	2.2	1,887	69.6	2,710
Total U.S.	440,376	40.1	26,050	2.4	39,146	3.6	26,574	2.4	13,364	1.2	553,536	50.4	1,099,046

<sup>1</sup> Includes only telephone numbers in NXXs assigned to carriers and are therefore available for assignment to customers. Does not include any numbers in NXXs that have not yet been assigned to carriers.

Source: Numbering Resource Utilization/Forecast forms filed with NeuStar, Inc. as of May 11, 2001.

Note: Figures may not add due to rounding.

**Table 6**  
**Number of Carriers Reporting Numbering Resources as of December 31, 2000**

State	ILECs	CLECs	Cellular/PCS	Paging Carriers	Total Carriers
Alabama	28	21	24	5	78
Alaska	15	3	10	1	29
Arizona	17	27	14	8	66
Arkansas	23	11	9	4	47
California	24	53	21	17	115
Colorado	28	26	14	5	73
Connecticut	2	24	6	7	39
Delaware	1	15	7	7	30
District of Columbia	1	26	6	3	36
Florida	12	53	26	9	100
Georgia	35	42	24	9	110
Hawaii	2	3	6	3	14
Idaho	21	11	15	1	48
Illinois	51	39	28	10	128
Indiana	38	29	17	14	98
Iowa	157	28	18	2	205
Kansas	41	21	17	6	85
Kentucky	19	35	21	3	78
Louisiana	20	27	16	7	70
Maine	18	10	9	0	37
Maryland	2	36	11	7	56
Massachusetts	4	36	9	4	53
Michigan	33	33	18	10	94
Minnesota	86	45	17	8	156
Mississippi	15	21	18	4	58
Missouri	40	28	20	9	97
Montana	22	8	6	0	36
Nebraska	47	11	10	4	72
Nevada	13	15	9	4	41
New Hampshire	13	15	11	1	40
New Jersey	2	39	7	9	57
New Mexico	18	9	13	4	44
New York	35	54	17	13	119
North Carolina	26	34	14	5	79
North Dakota	34	9	7	0	50
Ohio	38	33	19	9	99
Oklahoma	34	15	16	5	70
Oregon	30	24	12	4	70
Pennsylvania	37	53	21	11	122
Rhode Island	1	20	6	3	30
South Carolina	24	24	17	5	70
South Dakota	47	10	6	0	63
Tennessee	26	37	20	5	88
Texas	63	72	34	14	183
Utah	14	16	13	4	47
Vermont	8	7	3	1	19
Virginia	14	37	22	7	80
Washington	23	36	14	6	79
West Virginia	7	9	16	2	34
Wisconsin	93	27	19	10	149
Wyoming	14	5	12	0	31
Totals <sup>1</sup>	1,416	1,322	745	289	3,772

<sup>1</sup> Company numbers determined by counting operating company numbers (OCNs). Carriers typically obtain at least one OCN per state in which they do business. Thus, carriers operating in multiple states are counted more than once.

Source: Numbering Resource Utilization/Forecast forms filed with NeuStar, Inc. as of May 11, 2001.



**Table 7**  
**Thousands-blocks that Are Potentially Donatable<sup>1</sup> to a Thousands-block Pool as of December 31, 2000**

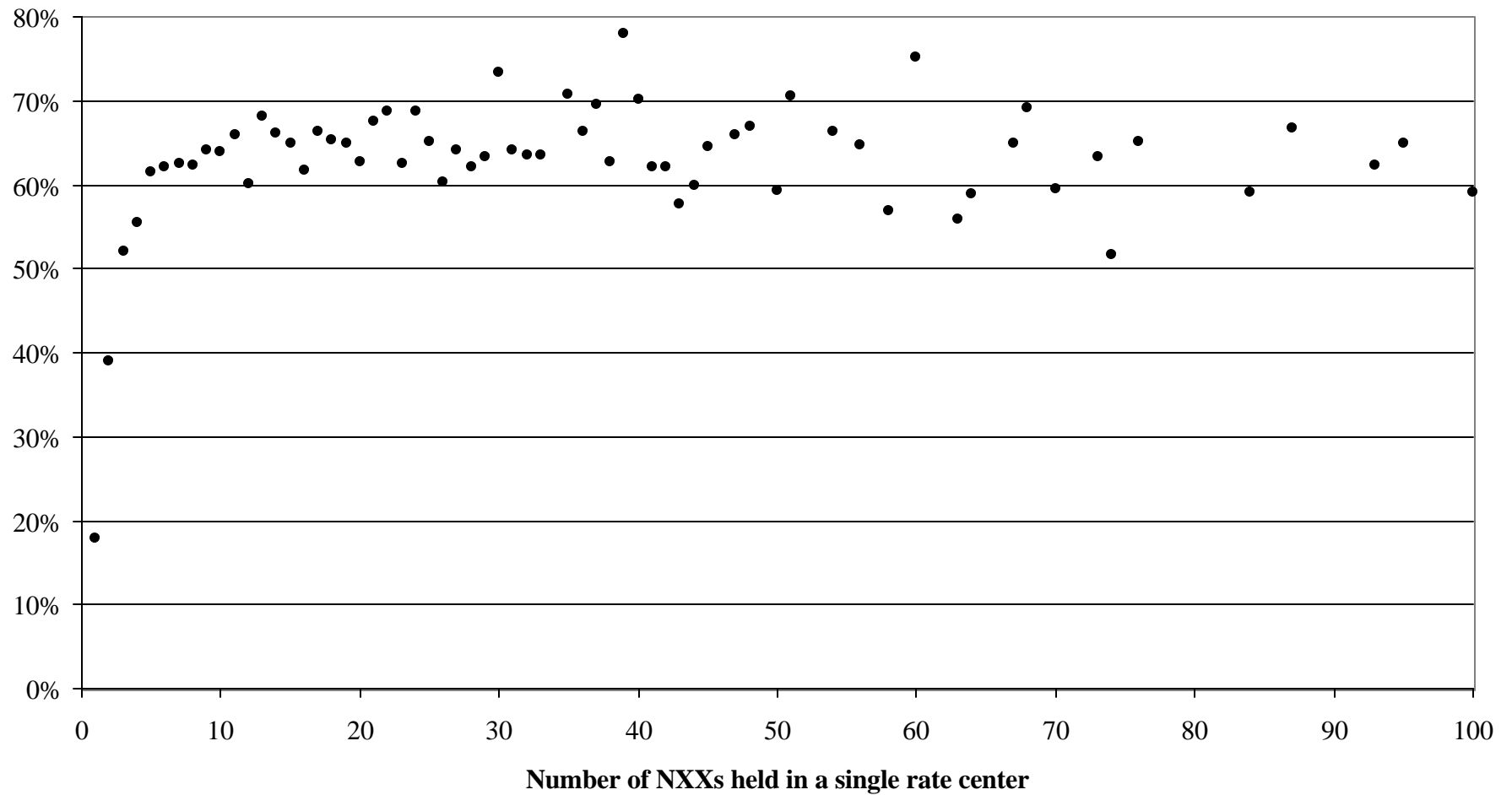
State	In One of the Nation's Top 100 MSAs <sup>2</sup>			Statewide		
	ILECs and CLECs	Cellular/PCS	Total	ILECs and CLECs	Cellular/PCS	Total
Alabama	1,097	225	1,322	3,526	1,390	4,916
Alaska	0	0	0	845	315	1,160
Arizona	1,626	845	2,471	2,001	1,273	3,274
Arkansas	663	182	845	1,752	876	2,628
California	30,281	4,182	34,463	34,777	4,811	39,588
Colorado	1,636	324	1,960	2,832	1,511	4,343
Connecticut	2,776	364	3,140	3,037	399	3,436
Delaware	524	39	563	1,349	56	1,405
District of Columbia	720	145	865	721	145	866
Florida	8,106	1,470	9,576	12,125	3,286	15,411
Georgia	5,444	424	5,868	8,445	1,479	9,924
Hawaii	400	56	456	777	169	946
Idaho	0	0	0	1,076	715	1,791
Illinois	7,111	1,367	8,478	11,996	2,389	14,385
Indiana	1,889	339	2,228	5,402	1,179	6,581
Iowa	91	9	100	1,990	1,431	3,421
Kansas	1,560	266	1,826	4,125	615	4,740
Kentucky	1,128	207	1,335	4,801	1,058	5,859
Louisiana	1,683	217	1,900	4,256	830	5,086
Maine	7	9	16	668	340	1,008
Maryland	7,491	531	8,022	8,101	732	8,833
Massachusetts	9,174	590	9,764	9,921	671	10,592
Michigan	8,213	1,118	9,331	12,412	2,014	14,426
Minnesota	2,116	338	2,454	3,422	896	4,318
Mississippi	65	1	66	2,209	946	3,155
Missouri	3,788	460	4,248	6,277	1,714	7,991
Montana	0	0	0	639	770	1,409
Nebraska	357	120	477	2,174	476	2,650
Nevada	1,198	242	1,440	1,541	261	1,802
New Hampshire	275	168	443	825	386	1,211
New Jersey	9,681	552	10,233	10,701	658	11,359
New Mexico	155	136	291	444	446	890
New York	9,958	1,206	11,164	12,124	1,813	13,937
North Carolina	3,348	746	4,094	5,661	2,174	7,835
North Dakota	77	19	96	394	570	964
Ohio	6,949	1,298	8,247	9,669	2,517	12,186
Oklahoma	2,039	179	2,218	3,579	846	4,425
Oregon	1,491	188	1,679	2,833	919	3,752
Pennsylvania	13,785	877	14,662	17,537	1,675	19,212
Rhode Island	1,579	101	1,680	1,985	131	2,116
South Carolina	1,797	473	2,270	2,854	1,345	4,199
South Dakota	77	21	98	459	710	1,169
Tennessee	2,180	265	2,445	4,992	1,016	6,008
Texas	16,678	2,175	18,853	23,666	4,120	27,786
Utah	902	236	1,138	1,589	943	2,532
Vermont	0	0	0	2,236	70	2,306
Virginia	4,276	724	5,000	6,129	1,520	7,649
Washington	3,419	633	4,052	5,047	1,594	6,641
West Virginia	85	42	127	1,852	383	2,235
Wisconsin	1,298	203	1,501	3,399	1,460	4,859
Wyoming	0	0	0	238	405	643
<b>Totals</b>	<b>179,193</b>	<b>24,312</b>	<b>203,505</b>	<b>271,410</b>	<b>58,448</b>	<b>329,858</b>

Source: Numbering Resource Utilization/Forecast forms filed with NeuStar, Inc. as of May 11, 2001.

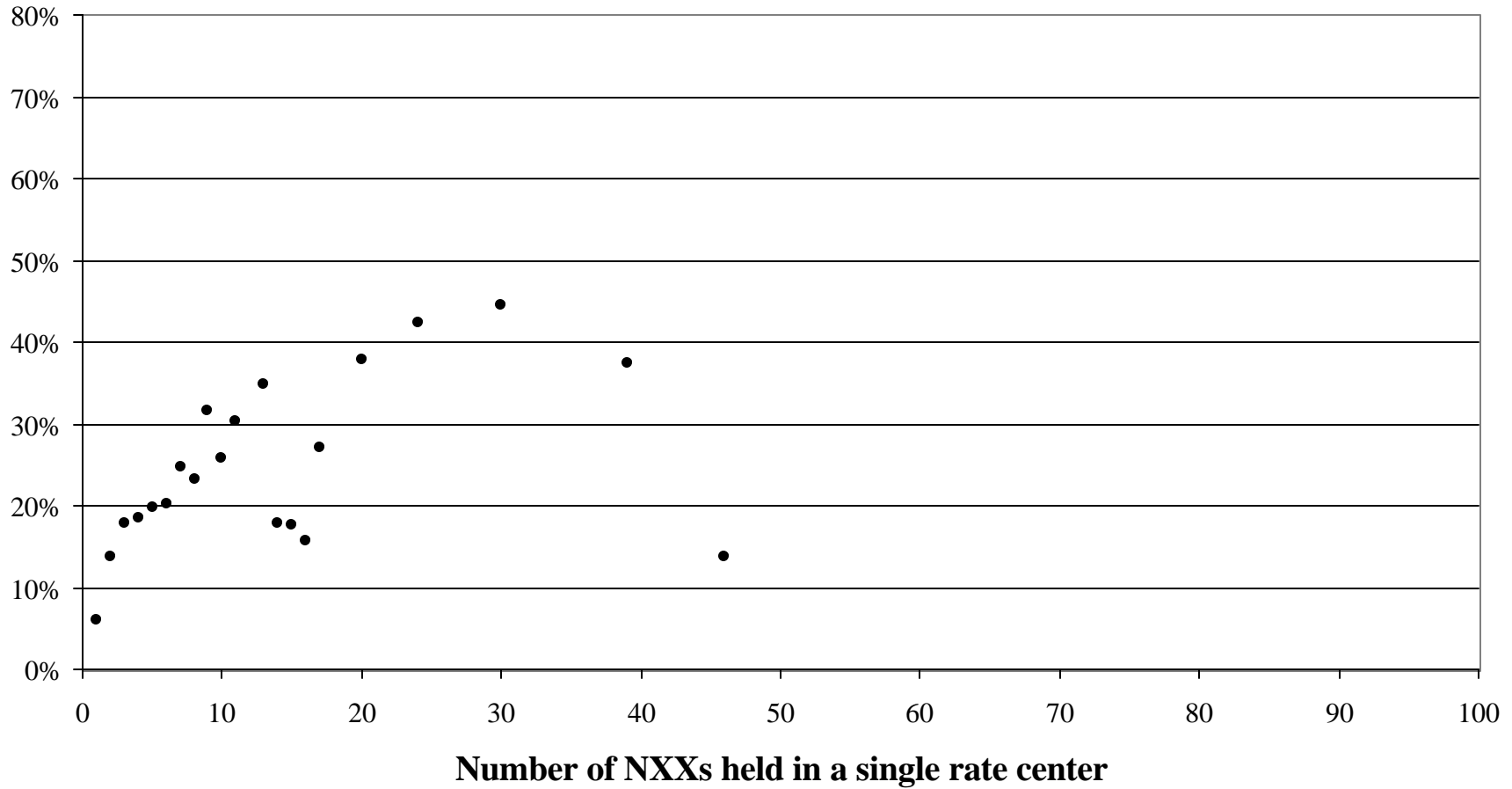
<sup>1</sup> Thousands-blocks can be donated to a pool if 90% of the numbers in the block are available. At least 90% of the numbers in these thousands-blocks are available, and therefore at least 90% of the numbers in these blocks are a subset of the numbers shown as available in Tables 1 through 3.

<sup>2</sup> The values shown in the MSA-related columns may be slightly understated. The number of poolable thousands-blocks in the MSA-related columns is derived from the carrier-submitted NRUF data. The LERG and other information was used to match rate center names with MSAs, so where carriers submitted incorrectly spelled rate center names, those thousands-blocks could not be counted as being in an MSA. The statewide numbers were derived from the NPA of the thousands-block.

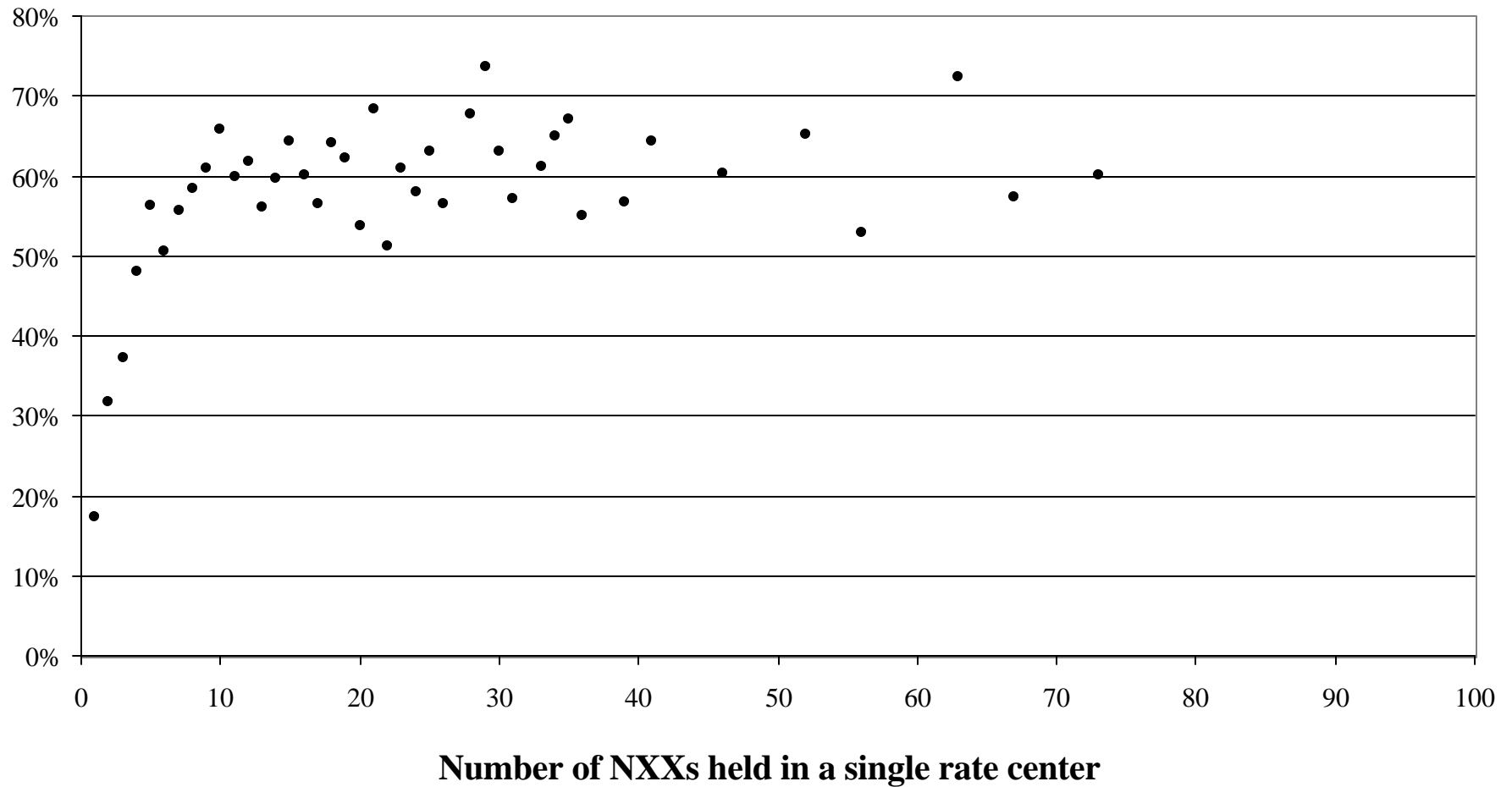
**Figure 1**  
**ILECs: Average Utilization Rates by**  
**Number of NXXs Held in a Single Rate Center**



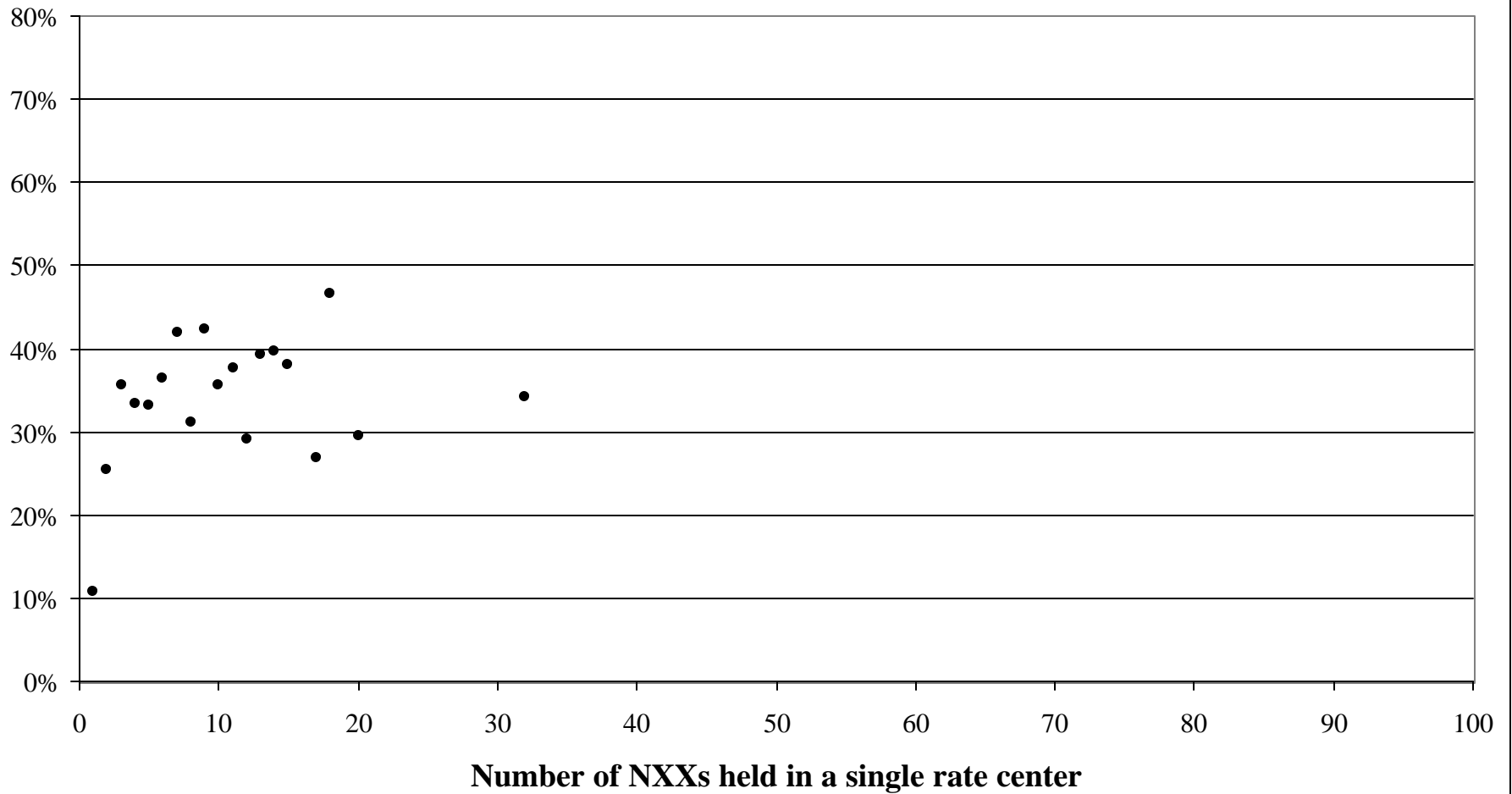
**Figure 2**  
**CLECs: Average Utilization Rates**  
**by Number of NXXs Held in a Single Rate Center**



**Figure 3**  
**Cellular/PCS Carriers: Average Utilization Rates by**  
**Number of NXXs Held in a Single Rate Center**



**Figure 4**  
**Paging Carriers: Average Utilization Rates by**  
**Number of NXXs Held in a Single Rate Center**



**Table 8**  
**Alternate Sources of NPA-NXX Assignments**

NPA-NXXs that Appear in	NRUF	NANPA	LERG	NXXs
All Three Databases NRUF, NANPA and LERG	4	4	4	106,812
Two of the Three Databases				
NRUF and NANPA	4	4		1,083
NANPA and LERG		4	4	8,151
NRUF and LERG	4		4	2,603
Only One Database				
NRUF	4			345
NANPA		4		5,639
LERG			4	1,699
Total NXXs in Database.	110,843	121,685	119,265	

Sources: December 31, 2000 NRUF database, as of May 11, 2001;  
 NANPA's NPA-NXX assignments database as of March 27, 2001;  
 and the LERG, as of January 2001.

Note: Compares geographic NPA-NXXs for the 50 United States and  
 the District of Columbia.

**Table 9**  
**Number Utilization Over Time When**  
**Same Carriers Reporting Same NXXs**

Carrier Type	June 2000	December 2000
ILEC	58.1%	59.3%
CLEC	8.9%	10.5%
Cellular/PCS	44.8%	50.7%
Paging	28.4%*	24.2%

\* This number is artificially high due to two large paging carriers reporting 100% utilization for virtually all their numbering resources. The carriers corrected this error when filing their December 2000 data.

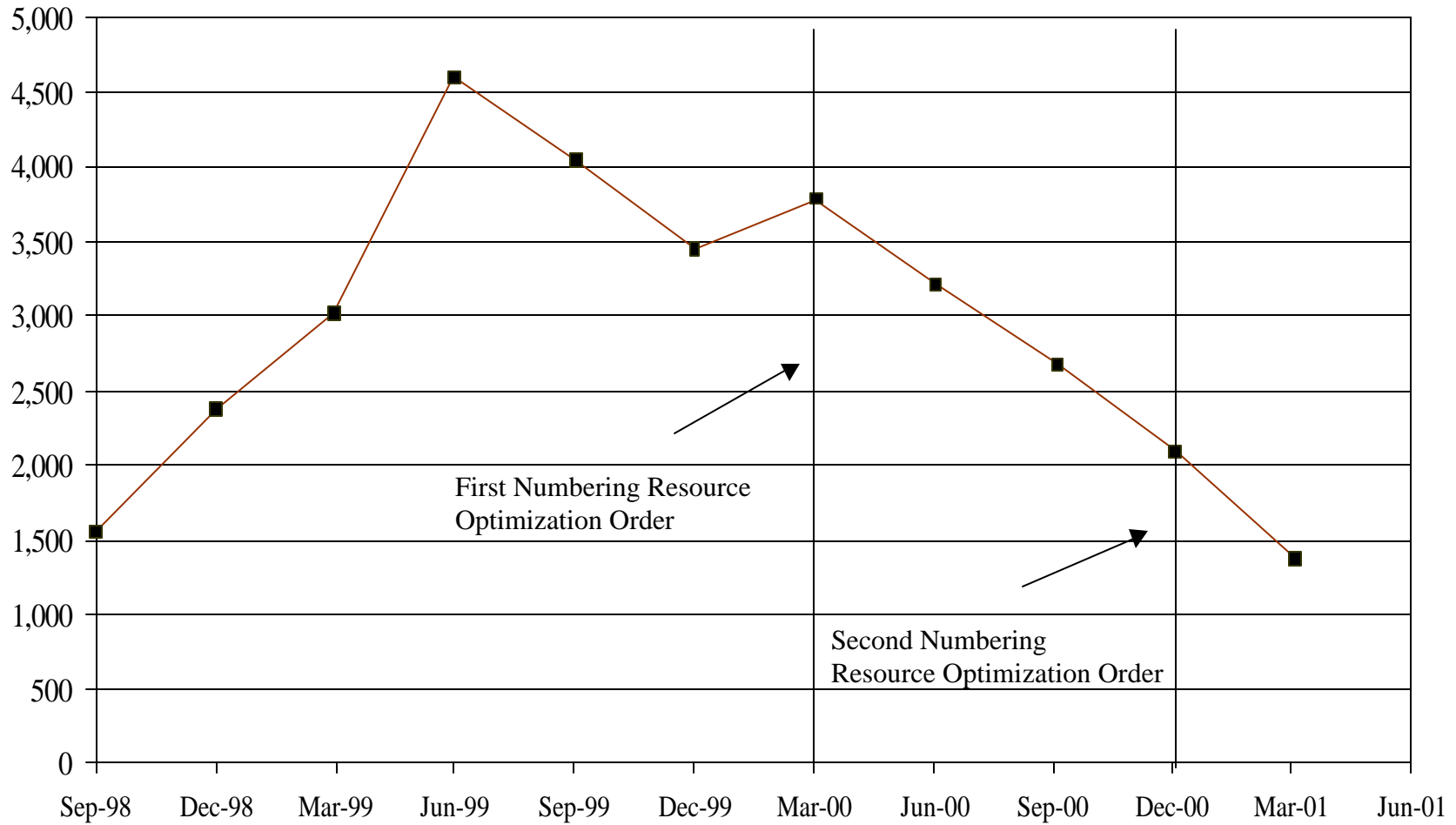
Source: Numbering Resource Utilization/Forecast Reports data filed with NeuStar, Inc. as of May 11, 2001.

**Table 10**  
**NPA-NXXs Assigned, Returned and Net Assignments**

Quarter	NPA-NXXs Assigned	NPA-NXXs Returned	Net Assignments
1998 Q3	1,554	0	1,554
1998 Q4	2,375	0	2,375
1999 Q1	3,019	0	3,019
1999 Q2	4,693	95	4,598
1999 Q3	4,202	164	4,038
1999 Q4	3,993	545	3,448
2000 Q1	4,552	775	3,777
FCC Issued First Numbering Resource Optimization Order			
2000 Q2	4,126	923	3,203
2000 Q3	3,497	818	2,679
2000 Q4	3,235	1,146	2,089
FCC Issued Second Numbering Resource Optimization Order			
2001 Q1	3,095	1,725	1,370

Source: NeuStar, Inc.

**Figure 5**  
**Net NXX Assignments by the NANPA**



Source: NANPA CO code assignments



## Customer Response

Publication: *Numbering Resource Utilization in the United States as of December 31, 2000.*

You can help us provide the best possible information to the public by completing this form and returning it to the Industry Analysis Division of the FCC's Common Carrier Bureau.

1. Please check the category that best describes you:
- Press
  - Current telecommunications carrier
  - Potential telecommunications carrier
  - Business customer evaluating vendors/service options
  - Consultant, law firm, lobbyist
  - Other business customer
  - Academic/student
  - Residential customer
  - FCC employee
  - Other federal government employee
  - State or local government employee
  - Other (please specify)

2. Please rate the report:
- |                      | Excellent | Good | Satisfactory | Poor | No opinion |
|----------------------|-----------|------|--------------|------|------------|
| Data accuracy        | ( )       | ( )  | ( )          | ( )  | ( )        |
| Data presentation    | ( )       | ( )  | ( )          | ( )  | ( )        |
| Timeliness of data   | ( )       | ( )  | ( )          | ( )  | ( )        |
| Completeness of data | ( )       | ( )  | ( )          | ( )  | ( )        |
| Text clarity         | ( )       | ( )  | ( )          | ( )  | ( )        |
| Completeness of text | ( )       | ( )  | ( )          | ( )  | ( )        |

3. Overall, how do you rate this report?
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|--|-----------|------|--------------|------|------------|
|  | ( )       | ( )  | ( )          | ( )  | ( )        |

4. How can this report be improved?

5. May we contact you to discuss possible improvements?

Name:

Telephone #:

To discuss this report, contact Craig Stoup at 202-418-0989 or < <a href="mailto:cstroup@fcc.gov">cstroup@fcc.gov</a> >.		
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