

Numbering Resource Utilization in the United States

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Introduction

In recent years, a rapidly increasing demand for telephone numbers has required numerous area code splits, overlays, and number conservation measures. In this report, we summarize the first 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 as part of our ongoing assessment of the efficacy of numbering resource optimization measures. In general, the reported data show that, of the more than 800 million numbers held by carriers that reported, about 44% are assigned to subscribers and in active use, about 47% are available for use, and the remaining 9% are dedicated to administrative and other purposes.

Background

The United States uses ten-digit telephone numbers, which are organized in accordance with the North American Numbering Plan (NANP).¹ 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 in the United States.² Only 61 new codes were added through 1996. But the rate of activation has increased dramatically. In 1997 alone, 32 new area codes in the continental United States were activated. As the remaining supply of unused area codes is diminishing, and because a premature exhaust of the codes would impose massive costs on consumers, the Federal Communications 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 telephone number utilization twice a year. The information is being used to monitor the success of the Commission's numbering resource optimization measures and to develop new strategies to further increase the efficiency with which numbering resources are used in the United States.³

¹ The North American Numbering Plan is used in the United States and its territories, 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.

² "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).

³ 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*).

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.⁴ The data are filed with the North American Numbering Plan Administrator (NANPA).⁵ On August 1, carriers are required to report data as of June 30. The data for December 31 are required to be filed on February 1.⁶ In order to allow carriers to develop the proper reporting systems, the first filing date, which would have otherwise occurred on August 1, 2000, was postponed to September 15, 2000. The administrator has compiled the information submitted into a database and provided that database to the Commission.⁷ Thus, the information compiled in this brief report represents number utilization as of June 30, 2000 and reflects all submissions that the NANPA had received through October 23, 2000.

Historically, local telephone companies received numbers in blocks of 10,000.⁸ These blocks of 10,000 numbers are often called NXXs and are identifiable as the first three digits of a seven-digit telephone number.⁹ One of the recent efforts to improve the efficiency with which numbers are used is “pooling,” where carriers with blocks of 1,000 numbers (thousands-blocks)¹⁰ 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 NANPA to assign 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 determine the efficacy of telephone number

⁴ Carriers file their numbering information on FCC Form 502. This and most other FCC forms can be downloaded at <<http://www.fcc.gov/formpage.html>>.

⁵ The current NANPA is NeuStar, Inc.

⁶ *Numbering Resource Optimization*, Order, CC Docket No. 99-200, FCC 00-280 (rel July 31, 2000).

⁷ The NANPA’s database is continually updated because not all carriers file on time, and because carriers sometimes file updated information throughout the year.

⁸ One of the FCC’s optimization measures allows state public utility commissions (that have received delegated authority from the Commission) to require the NANPA to assign telephone numbers in blocks of 1,000 in areas where it is technologically feasible. *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).

⁹ A ten-thousand block is the block of 10,000 telephone numbers that have the same area code and the same NXX.

¹⁰ 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.

pooling. Carriers that meet a statutory definition of “rural telephone company”¹¹ 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 the initial data filing.¹² Where blocks of numbers were initially assigned to one carrier and then smaller blocks were reassigned 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.¹³ 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 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.

A number is considered to be assigned if a customer is actively using it. 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 circulation for a period of time after the end

¹¹ 47 U.S.C. § 153(37).

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

¹³ This means that sometimes more than one carrier can report utilization data for the same thousands-block (or ten-thousand 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 carriers that received those numbers from the NANPA. Not all carriers that received numbers from other carriers did so, however, so in the database, it appears that in some cases, more than one carrier has reported data for the same block of numbers. The recipient carrier is also required, of course, to report on any telephone numbers that it received from the NANPA.

user that last used it discontinues service. Administrative numbers include test numbers and other numbers used for network purposes. Available numbers are numbers that are generally available for assignment to customers.¹⁴

Analysis and Results

Table 1 shows the total quantity of telephone numbers reported 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 approximately 90,000 NXXs. As NANPA believes that over 130,000 NXXs have been assigned to United States carriers,¹⁵ the first round of information submitted through October 23, 2000 appears to have garnered usable information on about 70% of the numbering resources assigned to carriers in the United States. This information indicates that a substantial number of carriers had not provided information by October 23, 2000. As happens in any situation where hundreds of carriers attempt to deal with new reporting requirements, some clarifications of reporting instructions may be required and the quality and reliability of the data should improve in subsequent filings.

Among filing carriers, about 400 million telephone numbers are reported as being assigned and about that same number are reported to be available for assignment. Indeed, the quantity of numbers available for assignment slightly exceeds the number already assigned.

Table 2 presents utilization statistics for non-rural carriers. These carriers report at the thousands-block level. Table 3 presents statistics for rural carriers, which are generally required to report at the NXX level.¹⁶ As might be expected, overall utilization rates are reported to be lower in rural areas (24% of numbers are assigned) than in urban areas (46% reported assigned).

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 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. For each carrier type, the data were then divided into ten even groups (or deciles), and the lowest utilization rate for each group was reported. In Table 4, the

¹⁴ For precise definitions of these categories *see NRO Order, n.3.*

¹⁵ The NANPA lists the codes that have been assigned on their web site:
<http://www.nanpa.com/number_resource_info/co_code_assignments.html>.

¹⁶ *See 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, would be included in Table 2 rather than Table 3.

data are broken down between non-rural and rural carriers, followed by a summary of data for all carriers.

At least two insights can be drawn from these tables. First, for each carrier type, at least one company reported that all 10,000 numbers in an NXX were assigned. Thus, utilization rates as high as 100% were reported. It is difficult to achieve such rates, so the result probably indicates reporting difficulties that should be further examined. Second, many blocks of numbers are reported to be either totally unused or little used. For example, 70% of NXXs assigned to CLECs are less than 3% utilized.

Figures 1 through 8 focus on utilization rates when carriers report having more than one NXX 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.¹⁷

Figure 1 shows a scatter diagram of ILEC utilization rates¹⁸ as a function of the number of NXXs in a rate center. Wherever an ILEC reported more than one NXX in a rate center, the average utilization rate within that rate center was calculated. Figure 1 shows these points for each ILEC/rate center pair. Figure 1 also shows the regression line best fitting these points. It shows that, as ILECs need and obtain more NXXs within a rate center, the overall utilization rate of those NXXs increases.¹⁹

Figure 2 condenses the individual plot points shown in Figure 1 to show the average utilization rate across all instances where an ILEC reported the same number of NXXs within a rate center.²⁰ Figures 3 through 8 repeat the analysis for the other types of carriers and, although the present data do not lend themselves to similar trend analysis, they are presented as a starting point for future analysis.

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 NXXs for each carrier type does not add up to the total number of unique NXXs. This occurs when more than one carrier reports data for the same numbering resources. In addition, some carriers reported at the thousands-block level and other carriers reported at the NXX level for the same NXX. The total reported numbers column should ideally be divisible by 1,000 (or 10,000 in the case of a whole NXX), but it is not because

¹⁷ A rate center is a geographic area used to determine distances and prices for local and long distance calls.

¹⁸ For the purposes of these figures, utilization is narrowly defined as the number of telephone numbers assigned divided by the number of telephone numbers reported in that NXX.

¹⁹ 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.

²⁰ Again, some data has been clustered.

some carriers reported more or fewer than a thousand numbers for a thousands-block.²¹ The deciles for Table 4 were created separately for data where the carrier reported at the thousands-block level²² and for data where the carrier reported at the NXX level. The two data groups were then combined, and the process was repeated for the combined data. The rural carrier section of Table 4 shows that 70% of NXXs used by paging carriers are 100% utilized. This is a result of two paging carriers reporting anomalous data for hundreds of NXXs. In response to an inquiry, the carriers admitted that their data submissions were in error, and that more accurate information would be filed in the future. The companies also stated that in the future, they would be filing as non-rural carriers (and thus file at the thousands-block level, rather than at the NXX level). As these and other carriers refine their reporting ability, the quality of the database will improve over time.

Where numbers have been transferred from an ILEC to another carrier, these numbers have traditionally been 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 many 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 Form 502 submissions into the database, it creates a status code that classifies each submission as either accepted, conditionally accepted, rejected, or obsolete.²³ This analysis excludes any records from submissions that were rejected by the NANPA²⁴ or where the data were made obsolete by a superseding submission. Additionally, we excluded data from thousands blocks (or NXXs if appropriate) where the carrier reported that it had received numbers from another carrier.²⁵ We did this because of difficulty matching up thousands

²¹ There are other reasons for this as well, such as carriers reporting data for thousands blocks in which they received numbers from another carrier (but did not indicate so on their forms), coupled with the donating carrier either not reporting any utilization data for that thousands block, or the donating carrier reporting fewer assigned numbers in that thousands block than the recipient carrier.

²² Thousands blocks were rolled up into whole NXXs. NXXs were used only when a carrier reported data for all ten-thousand blocks.

²³ “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”.

²⁴ 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.

²⁵ Although it appears that some carriers did not report that their numbers came from another carrier, many did so.

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

The next filter worked as follows: where two or more different carriers reported data for a single thousands block (or NXX), the data from a filing that had been completely accepted was used in lieu of data from a filing that was conditionally accepted.²⁶ If there were still multiple records for the same block of numbers, then the record with the higher number of assigned telephone numbers 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 8 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 on Figures 1 through 8.

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.²⁷ These services use large quantities of numbers. 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 learn to dial the new area code.

²⁶ Some carriers submitted more than one report for the same thousands block or NXX. Under such circumstances, the record that contained the higher number of assigned telephone numbers was used.

²⁷ 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.

* * * *

Notes for Figures 1, 3, 5, and 7.

Whenever a carrier reported more than one NXX in a rate center, the graph shows that carrier's average utilization in that rate center. Some individual data points have been grouped into clusters to protect confidentiality.

* * * *

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; or 3) calling the Industry Analysis Division at (202) 418-0940.

Table 1
Number Utilization by Carrier Type

Carrier Type	Assigned 000's	Intermediate 000's	Reserved 000's	Aging 000's	Admin 000's	Available 000's	Total Reported Numbers (000's)	Unique NXXs
ILEC	287,453	13,626	14,554	15,566	5,864	203,670	540,733	53,602
CLEC	13,261	2,235	4,547	665	1,150	113,793	135,652	15,823
Cellular/PCS	52,645	3,796	1,260	4,278	1,383	60,580	123,942	14,683
Paging	25,822	3,772	841	2,389	18	29,230	62,072	10,175
Others	569	1	12	4	2	135	723	7,053
Total	379,750	23,430	21,214	22,902	8,418	407,408	863,121	88,404¹
ILEC	53.2%	2.5%	2.7%	2.9%	1.1%	37.7%	100%	
CLEC	9.8%	1.6%	3.4%	0.5%	0.8%	83.9%	100%	
Cellular/PCS	42.5%	3.1%	1.0%	3.5%	1.1%	48.9%	100%	
Paging	41.6%	6.1%	1.4%	3.8%	0.0%	47.1%	100%	
Others	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	
All carriers	44.0%	2.7%	2.5%	2.7%	1.0%	47.2%	100%	

Table 2
Detail of Number Utilization by Carrier Type: Non-rural Carriers

Carrier Type	Assigned 000's	Intermediate 000's	Reserved 000's	Aging 000's	Admin 000's	Available 000's	Total Reported Numbers (000's)	Unique NXXs
ILEC	276,252	11,950	13,452	14,490	5,444	154,898	476,485	47,686
CLEC	12,681	2,231	4,489	651	1,146	110,834	132,032	14,988
Cellular/PCS	51,499	3,696	1,212	4,217	1,361	58,587	120,572	14,331
Paging	19,616	3,772	836	2,094	18	28,562	54,898	10,078
Others	561	0	12	3	2	93	671	23
Totals	360,609	21,649	20,001	21,455	7,972	352,972	784,658	82,026¹
ILEC	58.0%	2.5%	2.8%	3.0%	1.1%	32.5%	100%	
CLEC	9.6%	1.7%	3.4%	0.5%	0.9%	83.9%	100%	
Cellular/PCS	42.7%	3.1%	1.0%	3.5%	1.1%	48.6%	100%	
Paging	35.7%	6.9%	1.5%	3.8%	0.0%	52.0%	100%	
Others	83.6%	0.0%	1.8%	0.5%	0.3%	13.8%	100%	
All above carriers	46.0%	2.8%	2.5%	2.7%	1.0%	45.0%	100%	

Table 3
Detail of Number Utilization by Carrier Type: Rural Carriers

Carrier Type	Assigned 000's	Intermediate 000's	Reserved 000's	Aging 000's	Admin 000's	Available 000's	Total Reported Numbers (000's)	Unique NXXs
ILEC	11,201	1,677	1,103	1,076	420	48,772	64,248	6,497
CLEC	581	3	58	14	4	2,959	3,620	1,248
Cellular/PCS	1,146	100	48	61	22	1,994	3,369	480
Paging	6,206	0	4	296	0	668	7,174	740
Others	8	1	0	1	0	42	52	108
Totals	19,141	1,780	1,213	1,446	446	54,436	78,463	8,444¹
ILEC	17.4%	2.6%	1.7%	1.7%	0.7%	75.9%	100%	
CLEC	16.0%	0.1%	1.6%	0.4%	0.1%	81.8%	100%	
Cellular/PCS	34.0%	3.0%	1.4%	1.8%	0.7%	59.2%	100%	
Paging	86.5%	0.0%	0.1%	4.1%	0.0%	9.3%	100%	
Others	15.2%	1.8%	0.1%	1.0%	0.1%	81.7%	100%	
All above carriers	24.4%	2.3%	1.5%	1.8%	0.6%	69.4%	100%	

Source: Numbering Resource Utilization/Forecast Reports data filed as of October 23, 2000.

Database roll-ups by Craig Stroup of Industry Analysis Division, FCC.

Figures may not add due to rounding.

¹ More than one type of carrier may have reported utilization data for the same NXX, so the number of unique NXXs for all the above carrier types may not equal to the sum of unique NXXs for each carrier type.

Table 4
NXX Utilization Rates by Carrier Type
As of June 30, 2000

Non-rural carriers (reported at the thousands-block level)				
NXXs sorted by descending utilization	ILECs	CLECs	Cellular/PCS	Paging
Maximum utilization rate reported	100.0%	100.0%	100.0%	100.0%
Lower bound of top 10% of NXXs	92.3%	30.0%	86.3%	61.0%
Lower bound of top 20% of NXXs	88.1%	8.4%	75.9%	36.1%
Lower bound of top 30% of NXXs	83.8%	2.5%	61.7%	20.3%
Lower bound of top 40% of NXXs	78.2%	1.0%	43.3%	11.6%
Lower bound of top 50% of NXXs	63.9%	0.2%	23.8%	6.7%
Lower bound of top 60% of NXXs	55.5%	0.3%	11.5%	3.8%
Lower bound of top 70% of NXXs	37.1%	0.0%	7.2%	2.1%
Lower bound of top 80% of NXXs	18.9%	0.0%	2.1%	0.8%
Lower bound of top 90% of NXXs	6.2%	0.0%	0.0%	0.1%
Minimum utilization rate reported	0.0%	0.0%	0.0%	0.0%

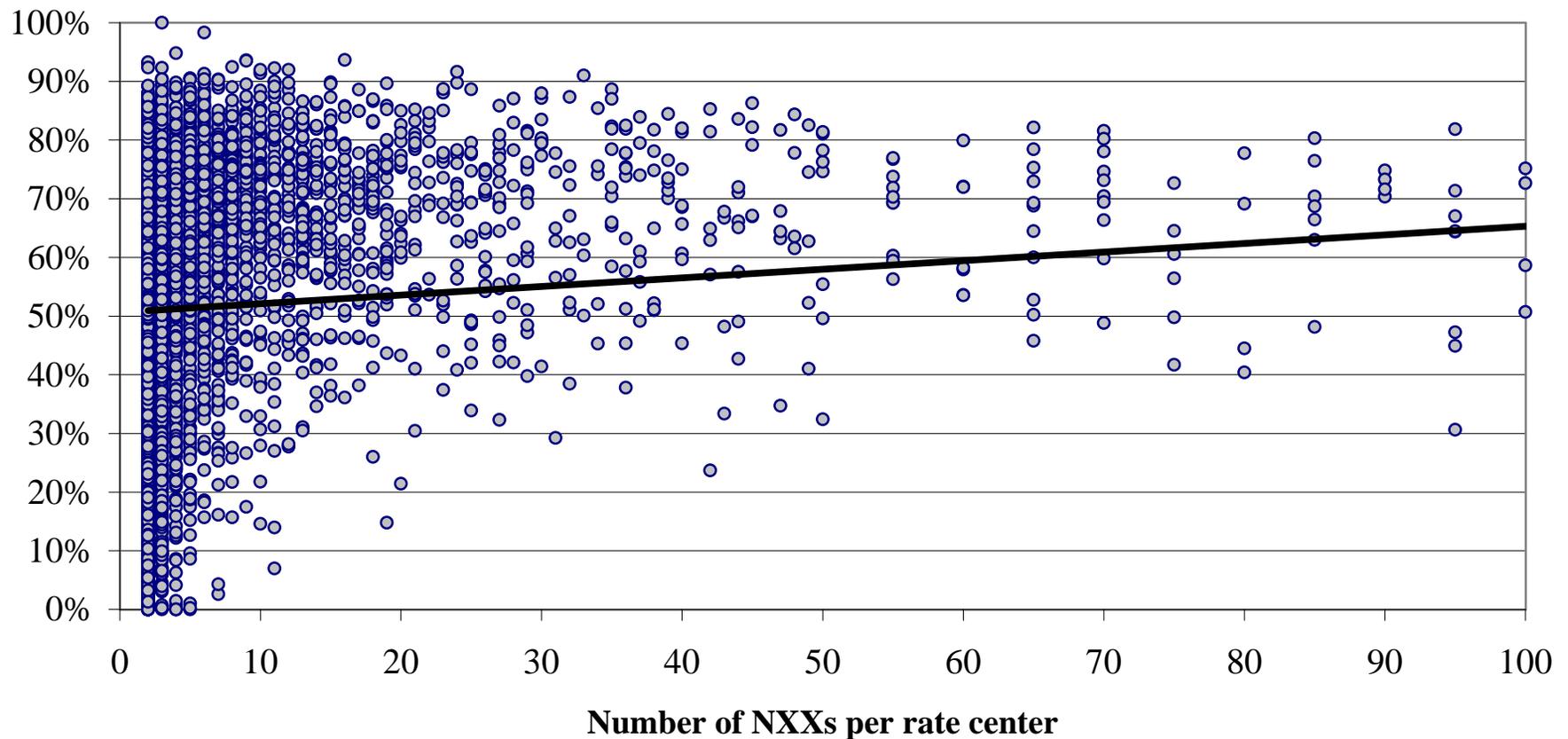
Rural carriers (reported at the NXX level)				
NXXs sorted by descending utilization	ILECs	CLECs	Cellular/PCS	Paging
Maximum utilization rate reported	100.0%	100.0%	100.0%	100.0%
Lower bound of top 10% of NXXs	55.0%	15.8%	78.0%	100.0%
Lower bound of top 20% of NXXs	31.1%	2.0%	61.4%	100.0%
Lower bound of top 30% of NXXs	18.0%	1.0%	31.0%	100.0%
Lower bound of top 40% of NXXs	11.6%	0.4%	11.6%	100.0%
Lower bound of top 50% of NXXs	8.0%	0.1%	5.5%	100.0%
Lower bound of top 60% of NXXs	5.4%	0.1%	3.2%	100.0%
Lower bound of top 70% of NXXs	3.6%	0.0%	1.6%	100.0%
Lower bound of top 80% of NXXs	2.3%	0.0%	0.4%	92.0%
Lower bound of top 90% of NXXs	1.1%	0.0%	0.0%	12.0%
Minimum utilization rate reported	0.0%	0.0%	0.0%	0.0%

All carriers				
NXXs sorted by descending utilization	ILECs	CLECs	Cellular/PCS	Paging
Maximum utilization rate reported	100.0%	100.0%	100.0%	100.0%
Lower bound of top 10% of NXXs	91.9%	36.6%	90.0%	94.7%
Lower bound of top 20% of NXXs	87.2%	10.6%	82.3%	70.0%
Lower bound of top 30% of NXXs	82.2%	3.0%	72.0%	54.9%
Lower bound of top 40% of NXXs	74.9%	0.9%	59.1%	43.3%
Lower bound of top 50% of NXXs	62.8%	0.2%	43.5%	33.1%
Lower bound of top 60% of NXXs	45.1%	0.0%	27.0%	23.9%
Lower bound of top 70% of NXXs	25.5%	0.0%	12.5%	14.3%
Lower bound of top 80% of NXXs	11.9%	0.0%	2.9%	5.5%
Lower bound of top 90% of NXXs	3.8%	0.0%	0.0%	0.2%
Minimum utilization rate reported	0.0%	0.0%	0.0%	0.0%

Source: Numbering Resource Utilization/Forecast Reports data filed as of October 23, 2000.
 Database roll-ups by Craig Stroup of Industry Analysis Division, FCC.

Note: As an example, "Lower bound of top 10% of NXXs" means the lowest reported utilization rate in the top 10% of the best used NXXs.

Figure 1
Utilization rates when ILECs have more than one
NXX in a rate center



See notes on page 8.

Figure 2
Utilization rates when ILECs have more than one NXX in a rate center (averages)

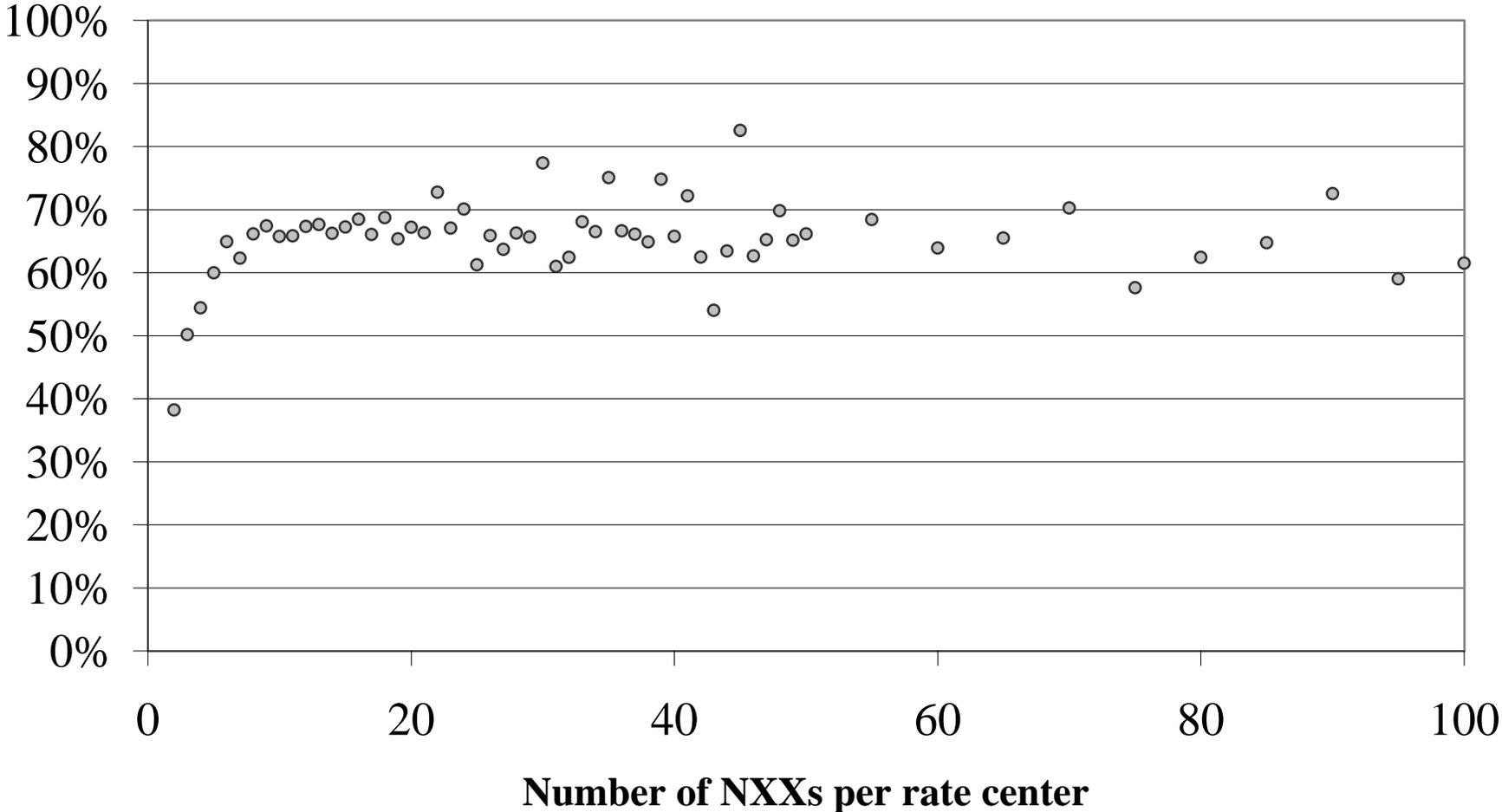
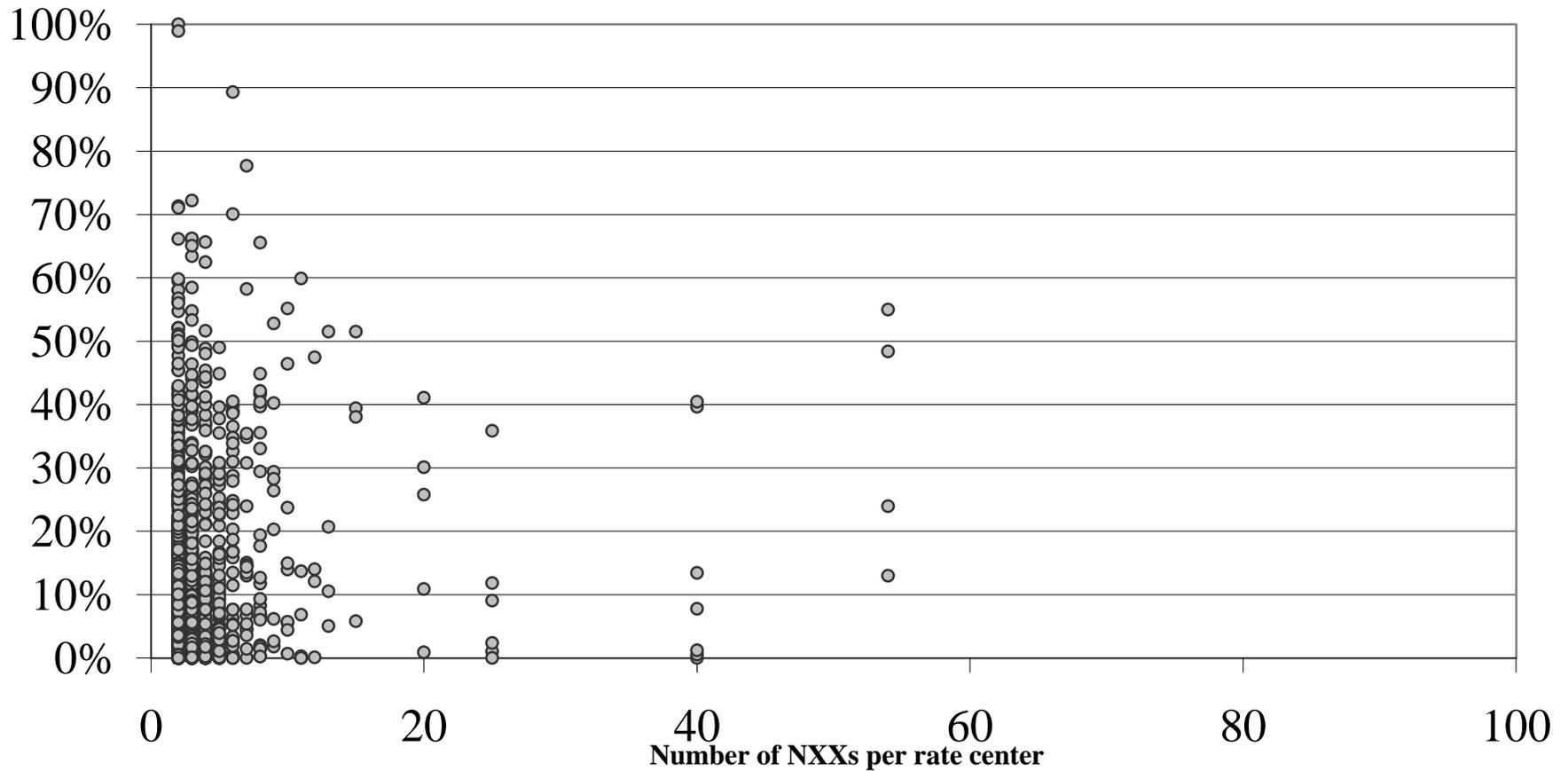


Figure 3
Utilization rates when CLECs have more than one NXX in a rate center



See notes on page 8.

Figure 4
Utilization rates when CLECs have more than one
NXX in a rate center (averages)

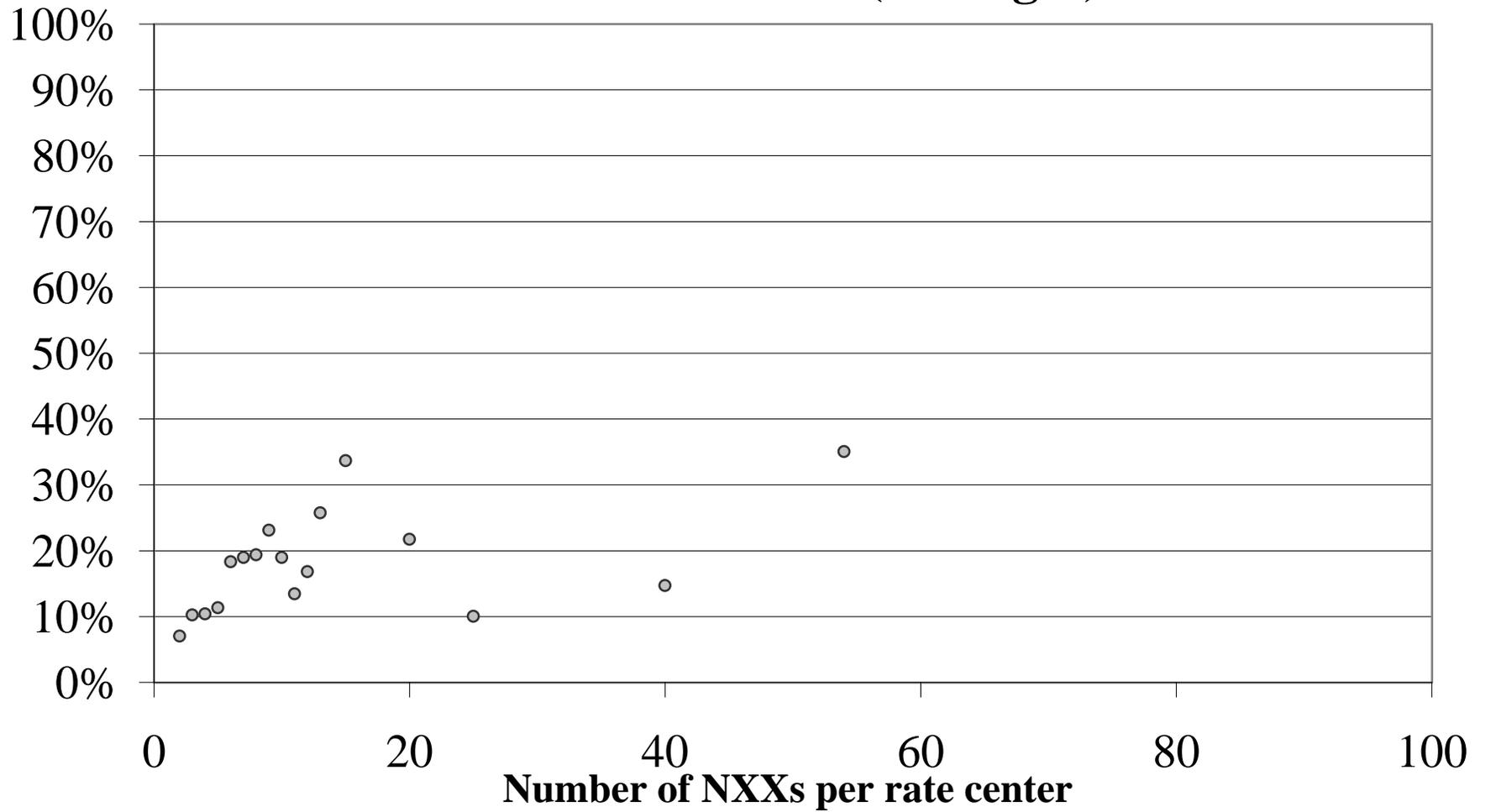
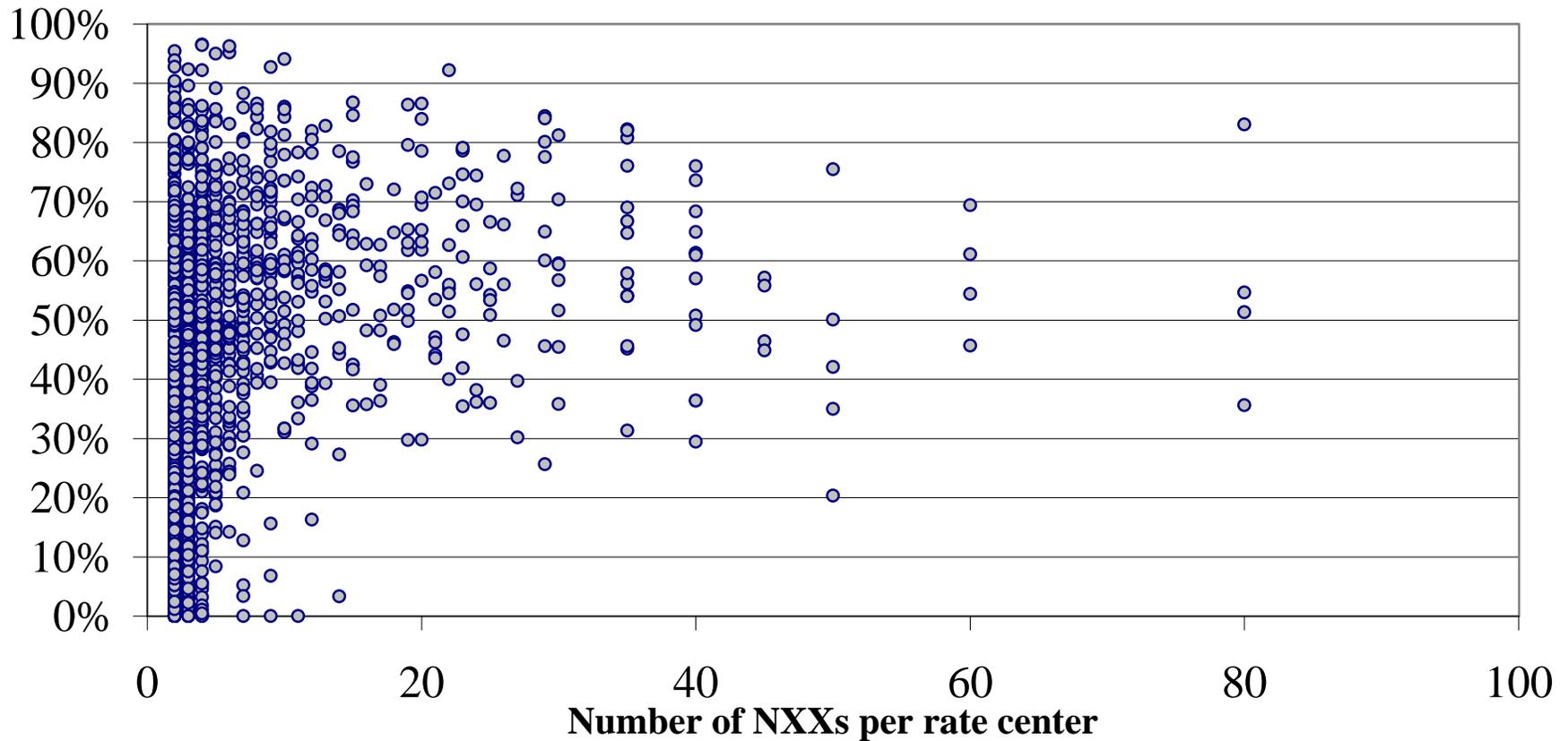


Figure 5
Utilization rates when Cellular/PCS carriers have more than one NXX in a rate center



See notes on page 8.

Figure 6
Utilization rates when Cellular/PCS companies have more than one
NXX per rate center (averages)

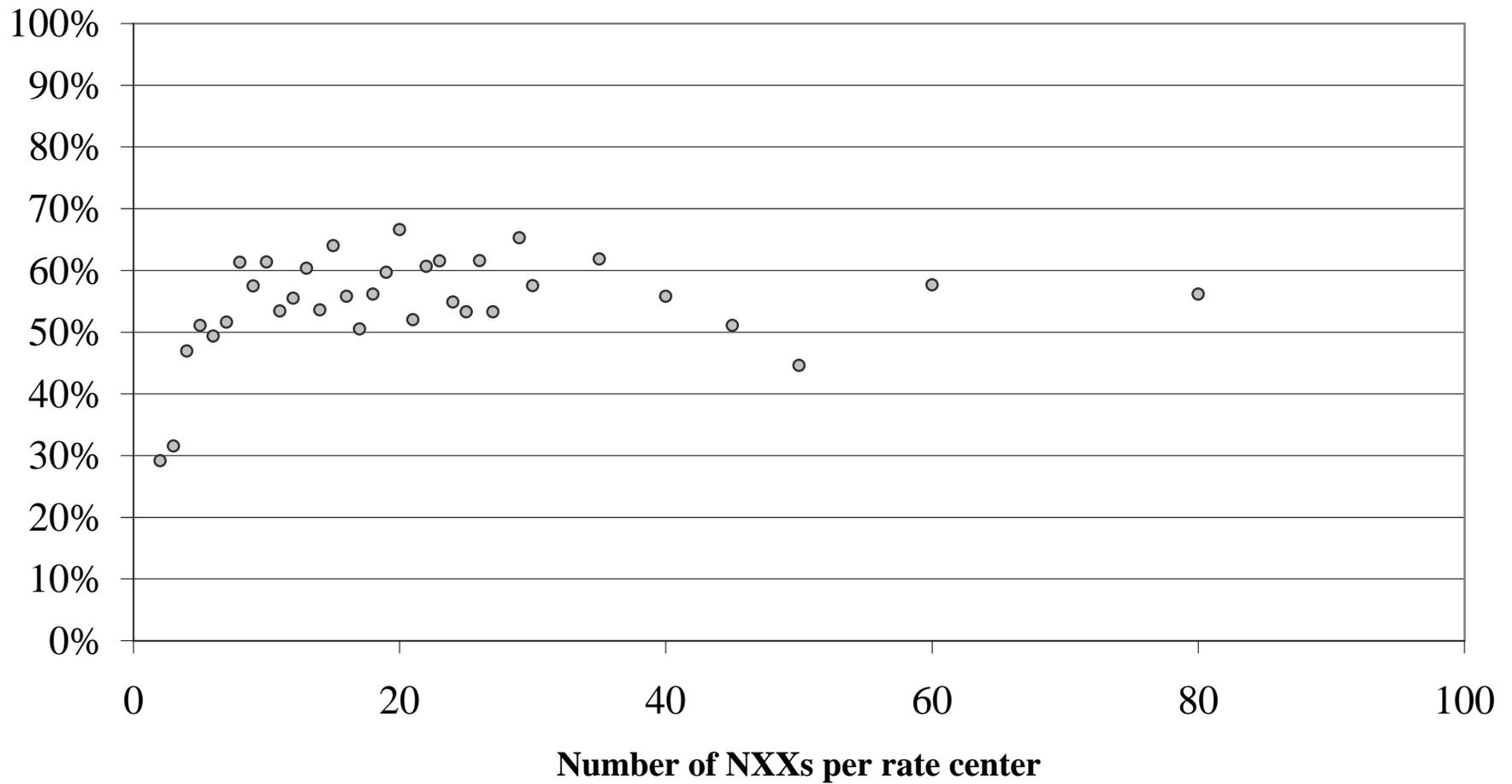
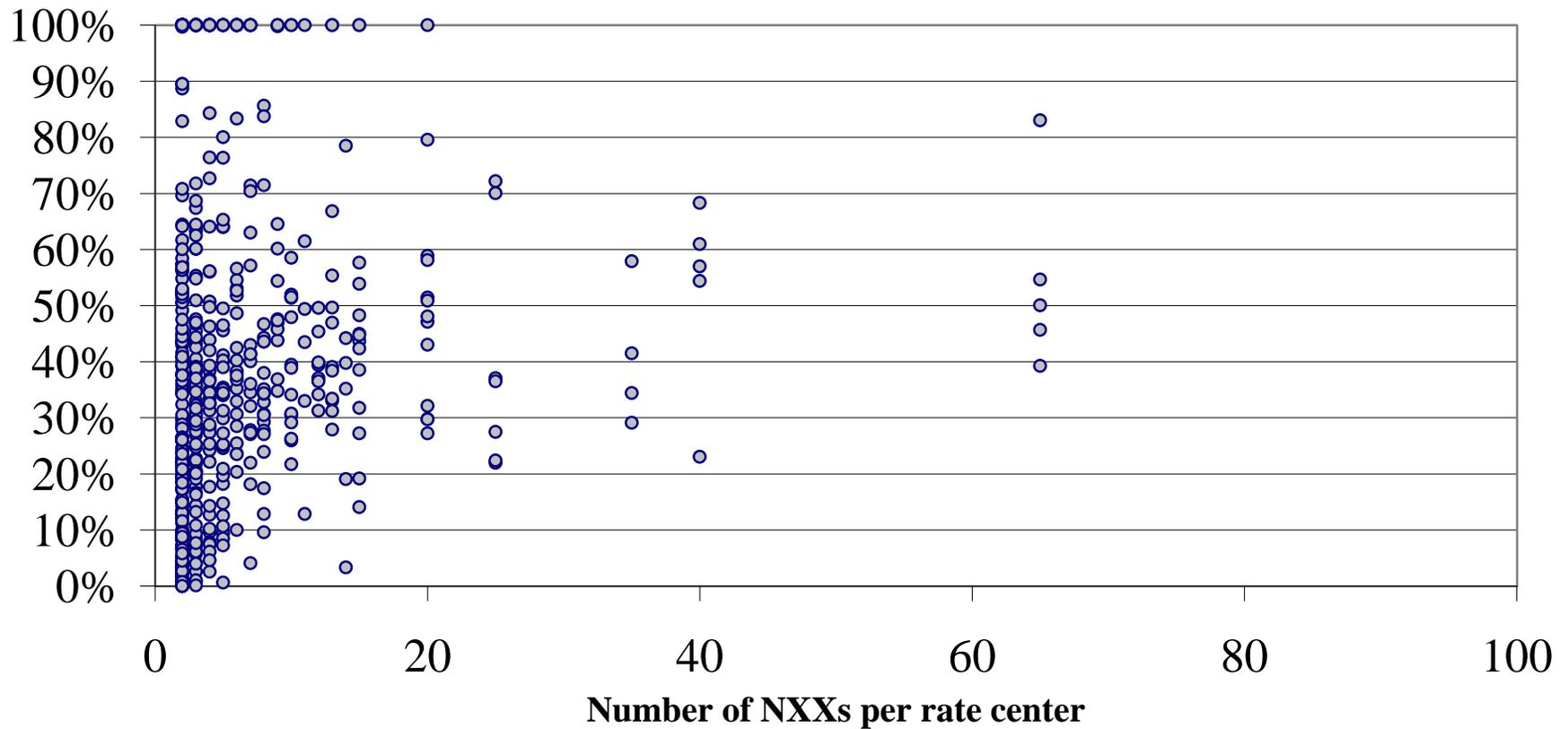
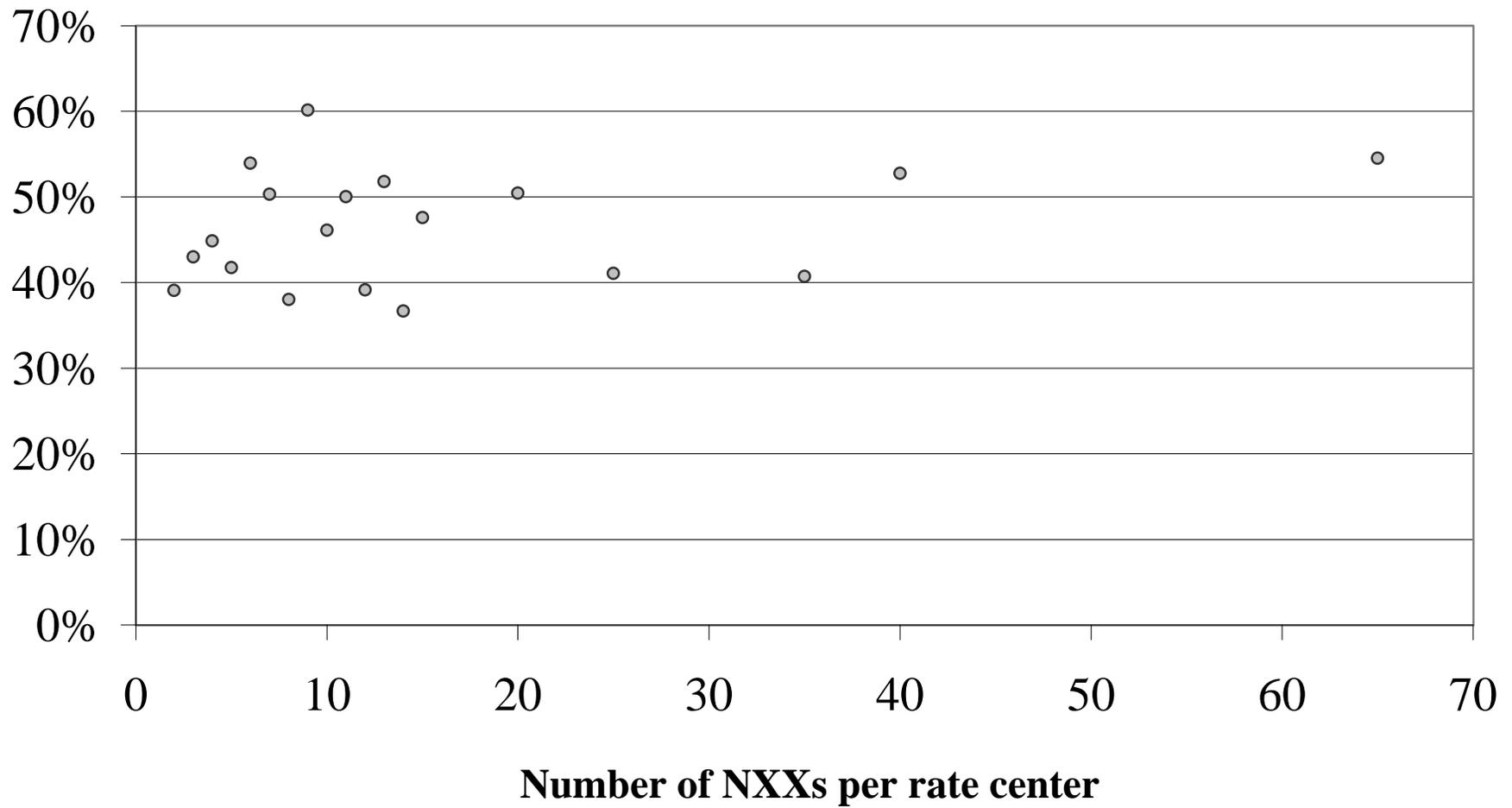


Figure 7
Utilization rates when paging companies
have more than one NXX per rate center



See notes on page 8.

Figure 8
Utilization rates when Paging companies have more than one NXX in a rate center (averages)



Customer Response

Publication: Numbering Resource Utilization in the United States

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?
- | | Excellent | Good | Satisfactory | Poor | No opinion |
|--|-----------|------|--------------|------|------------|
| | () | () | () | () | () |

4. How can this report be improved?

5. May we contact you to discuss possible improvements?

Name:

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To discuss this report, contact Craig Stoup at 202-418-0989 or < cstroup@fcc.gov >.		
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